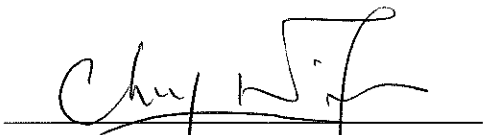
Harbour Area Treatment Scheme Stage 2A

Contract No. DC/2007/23, DC/2009/05, DE/2009/02 and DC/2009/17

Consolidated Monthly Environmental Monitoring and Audit Report March 2011

(Version 1.1)

Certified By



(Environmental Team Leader)

REMARKS:

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

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ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
DSD	Drainage Services Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan
SCISTW	Stonecutters Island Sewage Treatment Works
HATS	Harbour Area Treatment Scheme Stage 2A
CSAJV	China State -ATAL Joint Venture

EXECUTIVE SUMMARY

Introduction

1. This is the 16th Consolidated Environmental Monitoring and Audit (EM&A) Report summaries the key information of EM&A monthly reports for the following construction contracts at the Stonecutters Island Sewage Treatment Works (SCISTW) under the Project of Harbour Area Treatment Scheme Stage 2A (the Project) and prepared by Cinotech Consultants Limited, the Environmental Team (ET) for Contract no. DC/2009/17.

   - Contract no. DC/2007/23 – Construction of Sewage Conveyance System from North Point to Stonecutters Island;
   - Contract no. DC/2009/05 – Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW;
   - Contract no.DE/2009/02 – Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at SCISTW; and
   - Contract no. DC/2009/17 - Upgrading Works at Stonecutters Island Sewage Treatment Works – Sludge Dewatering Facilities.

2. The above-mentioned Contracts are under the same Environmental Permit (EP) No. EP-322/2008/E and separate ETs were appointed under each contract pursuant to Condition 2.1 of the EP.

3. This report is a contractual requirement under Contract No. DC/2009/17 to provide a consolidated monthly summary of the EM&A works at SCISTW for ease of reference. Each contract is administered under their respective contract by different project teams including the Engineer, the Engineer's Representatives, the Contractor, and the ET.

4. No amendment of the information in the EM&A reports for each individual contract was made in this consolidated monthly report.

5. This Report documents the findings of EM&A Works for the Project covering the period from 1 March 2011 to 31 March 2011.

6. The details of the EM&A for individual contracts can be found in the separate EM&A monthly reports. In case of ambiguity and discrepancy, the individual EM&A report shall prevail. The Executive Summaries and Web Sites for the individual contracts are shown below:

Table I Summary Table for Executive Summaries and Web Sites:

Contract no.	ES/Web Site	Details:
DC/2007/23	Executive Summary	At SCISTW, air quality monitoring station AM6 and noise monitoring station NM5 were monitored by ET for Contract no. DC/2007/23.
	Web Site	http://www.hats2a-ema.com/RP_EMA/DC200723/EM&A%20Report.html
DC/2009/05	Executive Summary	At SCISTW, air quality monitoring station AM7 and noise monitoring station NM6 were monitored by ET for Contract no. DC/2009/05.
	Web Site	http://www.hats2a-ema.com/RP_EMA/DC200905/EM&A%20Report.html

DE/2009/02	Executive Summary	At SCISTW, air quality monitoring station AM8 was monitored by ET for Contract no. DE/2009/02.
	Web Site	http://www.hats2a-ema.com/RP_EMA/DE200902/EM&A%20Report.html
DC/2009/17	Executive Summary	The air quality and noise monitoring stations under this contract were covered by other contracts at SCISTW. The monitoring data would be summarized in this monthly EM&A report.
	Web Site	http://www.hats2a-ema.com/RP_EMA/DC200917/EM&A%20Report.html

Environmental Monitoring Works

7. The environmental monitoring works were conducted by the ETs for the Contracts: DC/2007/23, DC/2009/05 and DE/2009/02 and no monitoring work is requested for DC/2009/17. Site audits were conducted once per week for each contract by their ETs.

8. Summary of the non-compliance of the reporting month is tabulated in Table II.

Table II Summary Table for Non-compliance Recorded in the Reporting Month

Monitored By	Monitoring Station	Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action Taken
			Action Level	Limit Level	Action Level	Limit Level	
DC/2007/23	AM6	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
DC/2009/05	AM7	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
DE/2009/02	AM8	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
DC/2007/23	NM5	Noise	0	0	0	0	N/A
DC/2009/05	NM6		0	0	0	0	N/A

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise

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

Key Information in the Reporting Month

12. Summary of key information in the reporting month is tabulated in **Table III**.

Table III Summary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Status of submissions under EP	1	Monthly Consolidation EM&A Report for Stonecutters Island Sewage Treatment Works for February 2011	Submitted to EPD on 17 March2011	No comment	---
Notifications of any summons & prosecutions received	0	--	N/A	N/A	---

Key Information in the EIA Report

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

1. INTRODUCTION

Background

1.1 Harbour Area Treatment Scheme (HATS) Stage 2A is a designated project (Register No. : AEIAR-121/2008). The Environmental Permit (Permit No. EP-322/2008/E) for the Project was issued on 24th November 2010 to the Drainage Services Department (hereinafter called the DSD) as the Permit Holder.

1.2 The general location plan for the Contracts: DC/2007/23, DC/2009/05, DE/2009/02 and DC/2009/17 are shown in **Figure 1**.

1.3 The environmental permit (EP) was issued for the whole HATS Stage 2A construction works. The ET for the Contract DC/2009/17 is contractually responsible for consolidating the key information from all monthly EM&A reports from the ETs of other Contracts at SCISTW into a single monthly summary for ease of reference.

1.4 The 1st to 11th consolidated monthly EM&A reports were prepared by Ove Arup & Partners Hong Kong Ltd (Arup) and submitted to EPD. From November 2010 onwards, the 12th and subsequent consolidated monthly EM&A report will be prepared and submitted by Cinotech Consultant Limited, the ET for the Contract DC/2009/17.

1.5 This is the 16th consolidated monthly EM&A report summarizing the EM&A works conducted for the Project at SCISTW from 1 to 31 March 2011.

1.6 The monthly EM&A reports for each contract were prepared and certified by separate ETs and subsequently verified by the Independent Environmental Checker (IEC) for the Project. All individual monthly EM&A Reports are provided in the Project Website.

Current Contracts at SCISTW

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

Contract no. DC/2007/23

- Construction of sewage conveyance system between Sai Ying Pun junction shaft an Stonecutters Island Sewage treatment Works;
- Construction of riser shaft at Stonecutters Island Sewage Treatment Works;
- Construction of Stage 2 Connecting Adit between the riser shaft and Stage 2 Main Pumping Station side chamber (by others) at Stonecutters Island Sewage Treatment works.

Contract no. DC/2009/05

- Construction of diaphragm wall, base slab and pile cap for the Main Pumping Station and its Inlet Chamber;
- Excavation within the diaphragm walls for the Main Pumping Station and its
- Inlet Chamber to founding levels;
- Piling works for the Main Pumping Station;
- Construction of Temporary launching shaft;
- Construction of Interconnection Tunnel with concrete lining between the Inlet
- Chamber of the Main Pumping Station and the existing Riser Shaft.

Contract no. DE/2009/02

- Construction of covers for flocculation tanks, prototype tanks, main distribution channels, sedimentation tanks, scum chambers and effluent drop structures
- Two deodourisation facilities;
- Piling Works of Foundation;
- Construction of Foundation for Deodourisation facilities;
- Erection of Structure of Control Room at DOU Foundation;
- Construction of public access road with footpath;
- Water main laying works;
- Associated ancillary works; and
- Tree transplanting, landscaping works; and all other works as required under the Contract.

Contract no. DC/2009/17

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

Project Organizations

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

Table 1.1 Key Project Contacts

Contract No.	DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17
Contract Title:	Construction of Sewage Conveyance System from North Point to Stonecutters Island;	Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW	Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at SCISTW.	Upgrading Works at Stonecutters Island Sewage Treatment Works – Sludge Dewatering Facilities
Consultant	Metcalf & Eddy – AECOM JV	Ove Arup & Partners HK Ltd	Ove Arup & Partners HK Ltd	Ove Arup & Partners HK Ltd
The Engineer	Keith Tsang (Tel:2605 6262)	S.Y.Chan (Tel: 2528 3031)	S.Y.Chan (Tel: 2528 3031)	S.Y.Chan (Tel: 2528 3031)
The Engineer Representative	Y.H. Fung (Tel: 3713 3100)	Ted Tang (Tel: 2990 6982)	Ted Tang (Tel: 2990 6982)	Ted Tang (Tel: 2990 6982)
ER's Coordinator	Dominic Lam (Tel: 9221 6319)	William Yu (Tel: 9705 9566)	William Yu (Tel: 9705 9566)	Natalie Kwok (Tel: 67948844)
Contractor	Gammon Construction Ltd	China State-Shanghai Tunnel Joint Venture	ATAL Engineering Ltd.	China State- ATAL Joint Venture
Site Agent	Max Ko (Tel: 9033 1292)	Ben Siu (Tel: 6432 1490)	Barry Lee (Tel:9025 2410)	Tong Wong (Tel: 23703166)
Environmental Officer	Leo Chow (Tel:9300 2013)	Holmes Wong (Tel: 6300 6117)	Mr. L.C. Wong (Tel: 9376 0414)	H.S.Lui (Tel: 9050 2212)

Contract No.	DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17
Environmental Team	Environmental Resources Management	AECOM Asia Co Ltd	Action- United Environmental services and Consulting	Cinotech Consultant Limited
Environmental Team Leader	Winnie Ko (Tel: 2271 3147)	Edith Ng (Tel: 3105 8525)	T.W.Tam (Tel: 2959 6059)	Priscilla Choy (Tel: 2151 2089)

Construction Programme

1.9 The construction program for the four Contracts at SCISTW are provided in **Appendix L**. Major construction works undertaken during the reporting month include:

Table 1.2 Construction Works in the Reporting Month

Contract No.	Construction Works in the Reporting Month
DC/2007/23	• Shaft sinking at Stonecutters Island Riser Shaft; and • Shaft sinking, Grouting and pumping test at Production Shaft.
DC/2009/05	• Construction of diaphragm wall at launching shaft region of interconnection tunnel; • Carrying out pumping test at the main pumping station and its inlet chamber and at launching shaft region of interconnection tunnel; • Carrying out toe grouting at the inlet chamber; • Pre-drilling for Mini-piles at the main pumping station; • Drainage works; • Capping beam construction at the main pumping station and its inlet chamber; and • Open excavation for the main pumping station and its inlet chamber and at launching shaft region of interconnection tunnel.
DE/2009/02	• Installation of FRP covers at Tank No. 2 and No. 17 • Pouring concrete for pile cap at DOU No. 1 • Delivery and installation of deodourization unit at DOU No. 1 • Excavation for pile cap construction at DOU No. 2
DC/2009/17	• 43, 66 and 19 piles at Portion 3, 4 and 5 respectively; • Erection of Contractor's site office at Portion C was in progress; • Erection of storage shed at Portion D and movement of ST2/DSD's storage materials to Portion D were substantially completed; and • Temporary Vehicle Washing Facilities at Silo No.4 was completed and pending for handover to ST2.

Summary of EM&A Requirements

1.10 The EM&A programme requires construction phase monitoring for air quality and construction noise, landscape and visual and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

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

1.12 This report summarized the monitoring results, observations, locations, equipment, period, for required monitoring parameter namely dust, noise levels, and audit works conducted for the Project from 1 March to 31 March 2011, and the methodology and QA/QC procedures of the monitoring parameters.

2. AIR QUALITY

Monitoring Requirements

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

Monitoring Locations

2.2 Three designated monitoring stations, AM6, AM7 and AM8 were selected for impact dust monitoring. Table 2.1 describes the air quality monitoring locations, which are also depicted in **Figure 1**.

Table 2.1 Locations for Air Quality Monitoring

Monitoring Station	Monitored under Contract No.	Location of Measurement
AM6	DC/2007/23	Works site boundary of DC/2007/23
AM7	DC/2009/05	North West Kowloon Sewage Pumping Station
AM8	DE/2009/02	Block A of Government Dockyard

Monitoring Equipment

2.3 Table 2.2 summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates could be refer to the monthly report for respective contracts.

Table 2.2 Air Quality Monitoring Equipment

Equipment	Model and Make		
Contract No.	DC/2007/23	DC/2009/05	DE/2009/02
Laser Dust Monitor	N/A*	Sibata Digital Dust Monitor (Model No. LD-3 and LD-3B)	TSI Dust Trak Model 8520/ Sibata LD-3 Laser Dust Meter
HVS Sampler	GMW GS-2310 (S/N1254)	Graseby Andersen Total Suspended Particulate Mass Flow Controlled Sampling System (Model No.GMWS2310)	Grasby Anderson GMWS 2310 HVS
Calibrator	CM-AIR-43(S/N9833620)	TEOM Monitor, Series 1400ab(For 1-hour TSP meter) TISCH Model TE-5025A(For HVS Sampler)	TISCH Model TE-5025A

N/A*: 1-hr TSP monitoring by DC/2007/23 was carried by using HVS sampler.

Monitoring Parameters, Frequency and Duration

2.4 Table 2.3 summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting period is shown in **Appendix B**.

Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration

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

Monitoring Methodology and QA/QC Procedure

2.5 The monitoring methodology, QA/QC procedure and copies of calibration certificates for monitoring equipments are presented in the monthly reports for Contracts DC/2007/23, DC/2009/05 and DE/2009/02.

Results and Observations

2.6 **Table 2.4** summaries the air quality monitoring results at AM6, AM7 and AM8 in reporting month.

Table 2.4 Summary of 1-hour and 24-hour TSP Monitoring Results in Reporting Month

Air Quality Monitoring Station	Average* μgm^{-3}	Range μgm^{-3}	Action Level μgm^{-3}	Limit Level μgm^{-3}
1 hour TSP				
AM6	188	154-228	346	500
AM7	81	65-92	322	
AM8	95	54-136	307	
24 hours TSP				
AM6	96	94-100	196	260
AM7	99	76-129	207	
AM8	92	35-154	158	

Note*: The average of 1-hour and 24-hour TSP result in μgm^{-3} is the arithmetic mean of the monitoring results in that reporting month.

2.7 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix G**.

2.8 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix G**.

2.9 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices C** and **D** respectively.

2.10 According to the field observations, the identified dust sources at the monitoring stations were mainly from loading of material, vehicles movement and construction works in site.

3. NOISE

Monitoring Requirements

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

Monitoring Locations

3.2 Noise monitoring was conducted at two designated monitoring stations as listed in Table 3.1. **Figure 1** shows the locations of these stations.

Table 3.1 Noise Monitoring Stations

Monitoring Station	Monitored under Contract No.	Location of Measurement
NM5	DC/2007/23	Near DSF Diving Rescue and Training Centre
NM6	DC/2009/05	Customs' Marine Base

Monitoring Equipment

3.3 Table 3.2 summarizes the noise monitoring equipment.

Table 3.2 Noise Monitoring Equipment

Equipment	Model No.	
Contract No.	DC/2007/23	DC/2009/05
Sound Level Meter	Rion NL-31 (S/N 00320533)	B&K (Model No. 2238; 2250L;2270) Rion NL-31
Calibrator	Rion NC-73 (S/N 10786708)	B&K (Model no. 4231) Rion NC-73

Monitoring Parameters, Frequency and Duration

3.4 Table 3.3 summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix B**.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Monitoring Stations	Parameter	Period	Frequency
NM5 NM6	L_{eq}(30 min.) dB(A)	0700-1900 hrs on weekdays	Once per week
	L_{eq}(5 min.) dB(A)	1900-2300 hrs on weekdays	
	L_{eq}(5 min.) dB(A)	0700-1900 hrs on Public Holiday	

Monitoring Methodology and QA/QC Procedures

3.5 The monitoring methodology, copies of calibration certificates for monitoring equipments and QA/QC procedure are presented in the monthly reports of the Contract DC/2007/23 and DC/2009/05.

Results and Observations

3.6 **Table 3.4** summaries the noise monitoring results at NM5 and NM6 in reporting month.

Table 3.4 Summary of Noise Monitoring Results in Reporting Month

For the time period 0700-1900 hrs. on weekdays			
Monitoring Station	Average, dB(A) L_{eq}(30 min.)	Range, dB(A) L_{eq}(30 min.)	Limit Level ,dB(A) L_{eq}(30 min.)
NM5	60.8*	59.1-63.2	75.0
NM6	70.7	67.9-72.4	
For the time period 1900-2300 hrs on weekdays			
NM6	62.3	61.3-63.0	70.0
For the time period 0700 – 1900 hrs on Public Holiday			
NM5	60.1*	58.5-61.2	70.0

Note*: The average of the dB(A) L_{eq} (30 min) is the arithmetic mean of the monitoring results in that reporting month.

3.7 All construction noise monitoring at two designated locations were conducted by their ETs as scheduled in the reporting month.

3.8 No Action/Limit Level exceedance was recorded in the reporting month. Summary of exceedance is presented in **Appendix G**.

3.9 Noise monitoring results and graphical presentations are shown in **Appendix E**.

3.10 The major noise sources identified at the designated noise monitoring stations were the traffic noise and those generated from construction activities.

4. ENVIRONMENTAL AUDIT

Site Audits

4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the each Project site.

4.2 Environmental site audits were conducted in the reporting month for each Contract is the following. No non-compliance was observed during the site audits.

Table 4.1 Summary of Date of Site Inspection

Contract No.	Date of Site Inspection
DC/2007/23	3, 10, 17, 24 and 31 March 2011
DC/2009/05	1, 8, 15, 22, 29 March 2011
DE/2009/02	7, 15, 21 and 28 March 2011
DC/2009/17	3, 10, 17, 24 and 31 March 2011

4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 11.10 of the EM&A Manual. No non-compliance was observed during the site inspections.

4.4 The summaries of site audits for 4 contracts are attached in **Appendix H**.

Review of Environmental Monitoring Procedures

4.5 The monitoring works conducted by the monitoring teams of respective Contracts and were inspected regularly by their ETs.

Status of Environmental Licensing and Permitting

4.6 All permits/licenses obtained for the each Contract are summarized in **Appendix F**.

Status of Waste Management

4.7 The amount of wastes generated by the activities of four contracts in the reporting month is the following:

Table 4.2 Summary of Amount of Waste Generated in Reporting Month

Contract	Inert C&D[1] Materials (Tonnes)	Other C&D[2] Waste (Tonnes)	Chemical Waste (000L)	Marine Deposit (m^3)		
				Type 1 (m^3)	Type 2 (m^3)	Type 3 (Tonnes)
DC/2007/23	14,914.85*	21.20*	0*	778*	0*	0
DC/2009/05	5,039.97	41.05	1600	0	0	0
DE/2009/02	60(m^3)	80(m^3)	0	0	0	0
DC/2009/17	4585.96	24.32	0	0	0	0

*: The amount of waste generated is from all sites in this Contract.
1: Inert C&D Materials includes Broken Concrete/Rock, Inert C&D waste reused in the Contract/other Project and those disposed to Public Fill.
2: Other C&D Waste includes Metals, Paper Cardboard packaging, plastic and other General Refuse.

4.8 The disposal location of wastes generated by the activities of four contracts is the following:

Table 4.3 Summary of Disposal Location of Waste Generated in Reporting Month

Contract No.	Disposal Location of Wastes in Report Month
DC/2007/23	Tuen Mun Area 38 Fill Bank, Tseung Kwan O Area 137 Fill Bank, Chai Wan Barging Point and SENT Landfill. Paper / cardboard packaging were sent to recycler for recycling. Marine deposits requiring type 1 marine deposit generated from the Project were disposed of at MP21 with the South Cheung Chau Spoil Disposal Area.
DC/2009/05	Tuen Mun Area 38 Fill Bank, Tseung Kwan O Area 137 Fill Bank, and NENT Landfill. Metals were collected by registered recycling collector. Chemical waste was collected by licensed chemical waste collector.
DE/2009/02	Tuen Mun Area 38 Fill Bank and NENT Landfill
DC/2009/17	Tuen Mun Area 38 Fill Bank and NENT Landfill.

4.9 The summaries of amount of waste generated in four contracts could be referred to respective monthly report.

Implementation Status of Environmental Mitigation Measures

4.10 Details of the implementation of mitigation measures for four contacts are provided in the **Appendix J**.

4.11 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations and recommendations for the Projects are summarized in **Appendix H**.

Implementation Status of Event Action Plans

4.12 The Event Action Plans for air quality and noise are presented in **Appendix I.**

1-hr TSP

4.13 No Action/Limit Level exceedance was recorded.

24-hr TSP

4.14 No Action/Limit Level exceedance was recorded.

Construction Noise

4.15 No Action/Limit Level exceedance was recorded.

Landscape and Visual

4.16 No non-compliance was recorded.

Summary of Complaints and Prosecutions

4.17 No environmental complaint and prosecution was received for four contracts in the reporting month.

4.18 There were no environmental complaint and prosecution received since the commencement of four contracts. The Complaint Log is presented in **Appendix K**.

5. FUTURE KEY ISSUES

Key Issues for the Coming Month

5.1 Key environmental issues in the coming month include:

- Generation of dust from stockpiles of excavated and dusty materials, unpaved site area and vehicle movement, roadworks, excavation works and loading and unloading dusty materials on-site;
- Noise from operation of equipment and machinery on-site;
- Storage of chemicals/fuel and chemical waste/waste oil on-site;
- Ponding water generated in pre-drillings;
- Drainage system should be well designed and maintained to prevent flooding and silty water getting into the public area during and after rainstorm;
- Silty surface runoff generated from the site area; and
- Silt and dust getting into the public area by the leaving site vehicles at the site exits without adequate wheel washing facilities.

Monitoring Schedule for the Next Month

5.2 The tentative environmental monitoring schedules for the next month are shown in **Appendix B**.

Construction Program for the Next Month

5.3 The tentative construction programs are provided in **Appendix L**.

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

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

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise Monitoring

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

Environmental Audit

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

Complaint and Prosecution

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

Recommendations

6.7 According to the environmental audit performed in the reporting month, the following recommendations were made:

Air Quality

- To prohibit any open burning on site;
- To regularly maintain the machinery and vehicles on site;
- To follow up any exceedance caused by the construction works; and
- To implement dust suppression measures on all haul roads, stockpiles, dried/unpaved surfaces and excavation/road breaking works.

Noise

- To inspect the noise sources inside the site;
- To follow up any exceedance caused by the construction works;
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers;
- To provide temporary noise barriers for operations of noisy equipment near the noise sensitive receivers in an appropriate location;
- To provide adequate lubricant on mechanical equipments to reduce frictional noise; and
- To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.

Water Quality

- To identify any discharge of wastewater from the construction site;
- To regularly maintain the sediment control measures after rainstorms; and
- To avoid water from accumulation on site and carry out larviciding against mosquito breeding for stagnant water when mosquito larvae are observed.

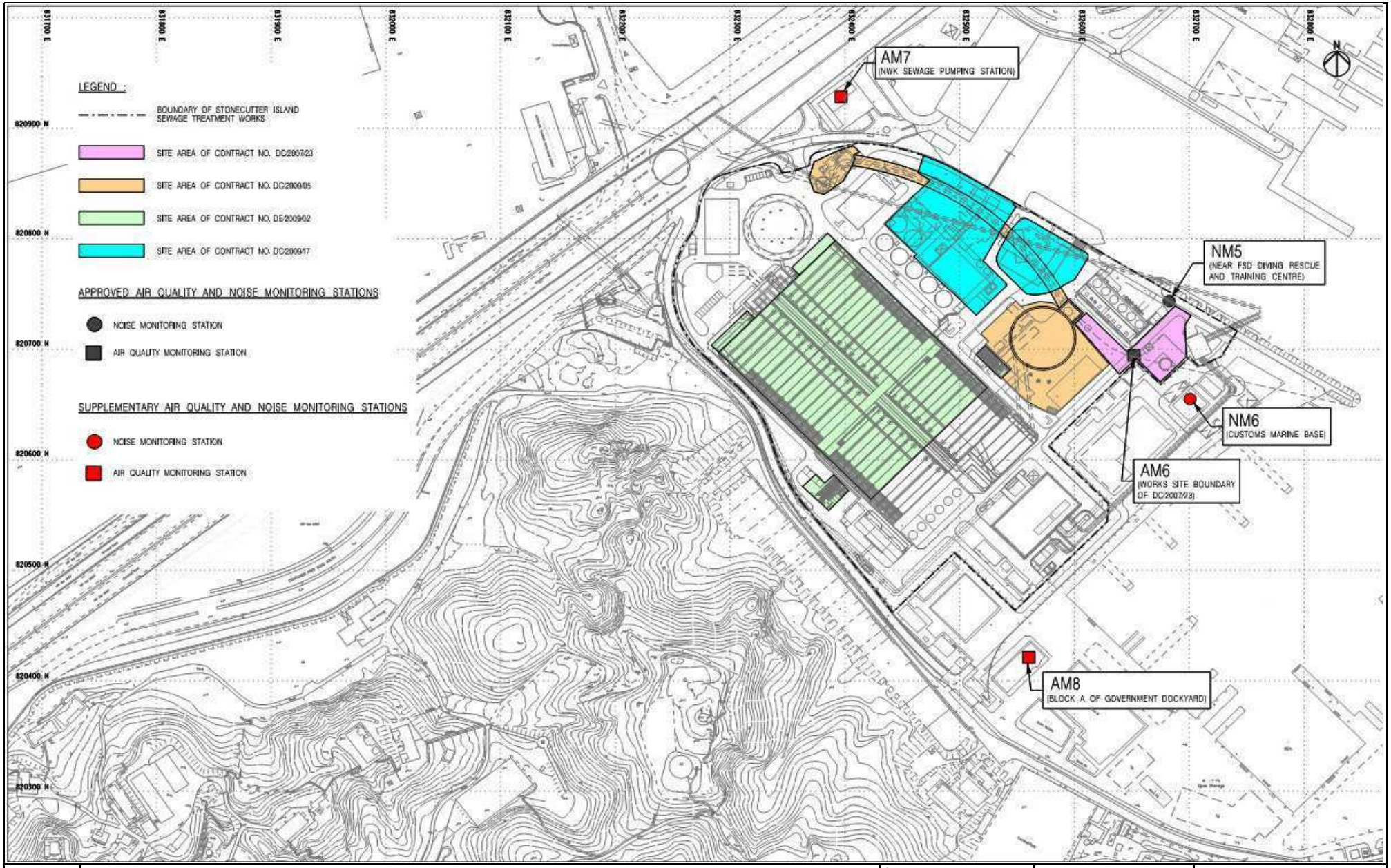
Waste/Chemical Management

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

Landscape and Visual

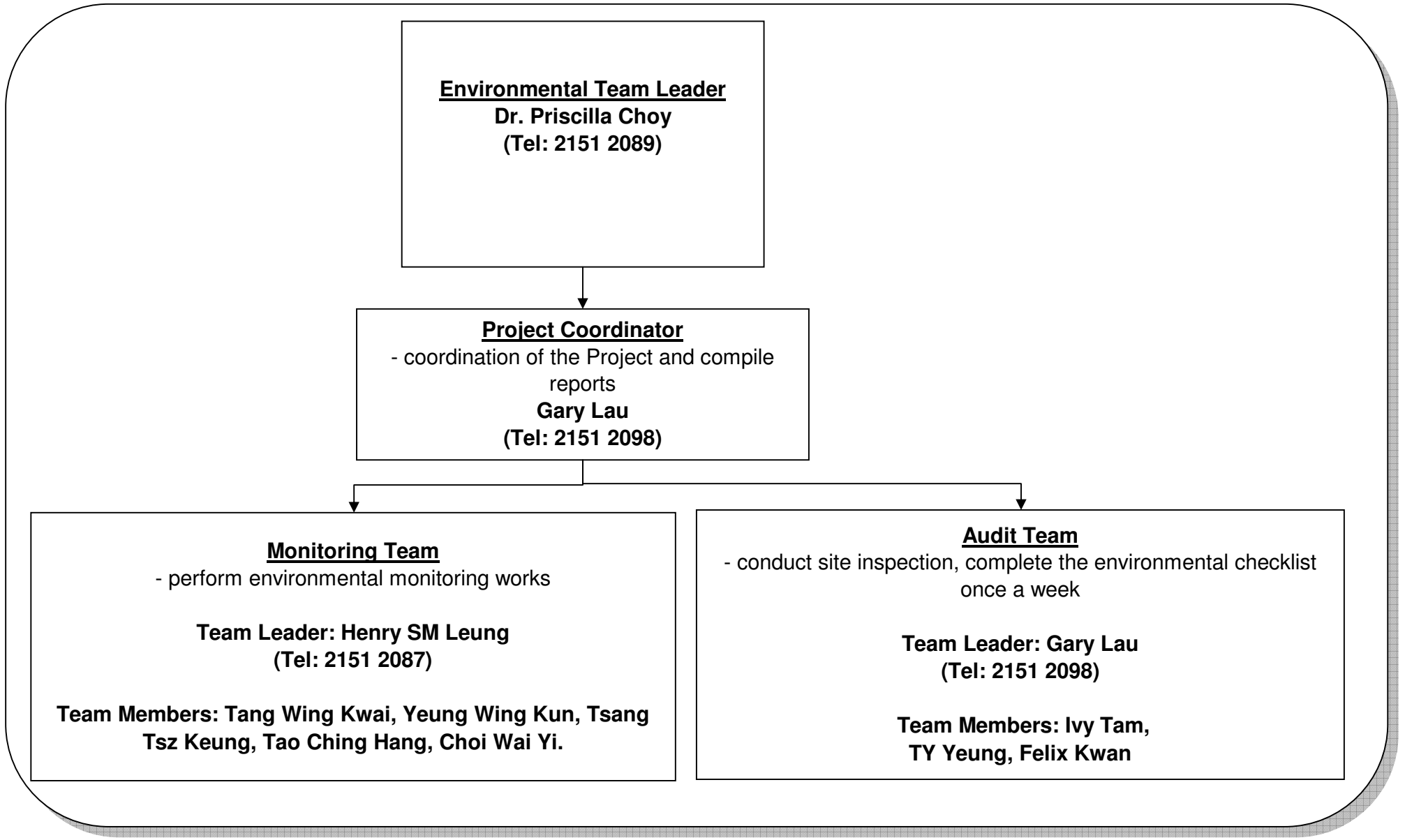
- To erect and maintain the protection fence around the retaining tree;and
- To avoid any heavy materials placed into tree protection zone.

FIGURES



Title	HATS 2A - Contract No. DC/2007/23, DC/2009/05, DE/2009/02 and DC/2009/17	Scale N.T.S	Project No. MA0063
	General Location Plan of the Project and Location of Air Quality and Noise Monitoring Stations	Date 11/2010	Figure 1

CINOTECH



Title: Contract No. DC/2009/17 HATS 2A - Sludge Dewatering Facilities at Stonecutters Island STW ET's Organization Chart	Scale: N.T.S	Project No.: MA0063	CINOTECH
	Date: Nov-10	Figure: 2	

APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR QUALITYAND NOISE QUALITY

Appendix A Action and Limit Levels

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

Monitoring Stations	Action Level ($\mu g/m^3$)		Limit Level ($\mu g/m^3$)	
	1-hour	24-hour	1-hour	24-hour
AM6	346	196	500	260
AM7	322	207	500	260
AM8	307	158	500	260

Table A-2 Action and Limit Level for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
NM5 NM6	0700-1900 hours on normal weekdays	When one documented complaint is received	75
	0700-2300 hours on holidays; and 1900-2300 hours on all other days		70
	2300-0700 hours of next day		55

APPENDIX B
ENVIRONMENTAL MONITORING SCHEDULES

DC/2007/23

Harbour Area Treatment Scheme Stage 2A

Construction of Sewage Conveyance System from North Point to Stonecutters Island

Impact Construction Noise Quality Monitoring Schedule

NM5 - A Location near the FSD Diving Rescue and Diving Training Centre near the Site Boundary

Monitoring Month : March 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Mar	2-Mar	3-Mar	4-Mar	5-Mar
		Noise Monitoring				
6-Mar	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar
Noise Monitoring (during daytime of sundays/ public holidays)	Noise Monitoring					
13-Mar	14-Mar	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
Noise Monitoring (during daytime of sundays/ public holidays)				Noise Monitoring		
20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar
Noise Monitoring (during daytime of sundays/ public holidays)			Noise Monitoring			
27-Mar	28-Mar	29-Mar	30-Mar	31-Mar		
Noise Monitoring (during daytime of sundays/ public holidays)		Noise Monitoring				

Monitoring Month : April 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Apr	2-Apr
3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	8-Apr	9-Apr
Noise Monitoring (during daytime of sundays/ public holidays)	Noise Monitoring	Ching Ming Festival				
10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr
Noise Monitoring (during daytime of sundays/ public holidays)				Noise Monitoring		
17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr
Noise Monitoring (during daytime of sundays/ public holidays)			Noise Monitoring		Good Friday	The Day Following Good Friday
24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr
Noise Monitoring (during daytime of sundays/ public holidays)	Easter Monday	Noise Monitoring				

DC/2007/23

Harbour Area Treatment Scheme Stage 2A

Construction of Sewage Conveyance System from North Point to Stonecutters Island

Impact Construction Air Quality Monitoring Schedule

AM6 - Works Site Boundary

Monitoring Month : March 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Mar	2-Mar	3-Mar	4-Mar	5-Mar
		1-hr and 24-hr Monitoring				
6-Mar	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar
	1-hr and 24-hr Monitoring				1-hr and 24-hr Monitoring	
13-Mar	14-Mar	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
				1-hr and 24-hr Monitoring		
20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar
			1-hr and 24-hr Monitoring			
27-Mar	28-Mar	29-Mar	30-Mar	31-Mar		
		1-hr and 24-hr Monitoring				

Monitoring Month : April 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Apr	2-Apr
3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	8-Apr	9-Apr
		Ching Ming Festival			1-hr and 24-hr Monitoring	
10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr
				1-hr and 24-hr Monitoring		
17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr
			1-hr and 24-hr Monitoring		Good Friday	The Day Following Good Friday
24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr
	Easter Monday	1-hr and 24-hr Monitoring				

DC/2009/05 - HATS Stage 2A Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW
Impact Air Quality and Noise Monitoring Schedule for March 2011 (Ver. 0) (NM 6 and AM7)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Mar	2-Mar	3-Mar	4-Mar	5-Mar
					24-hour TSP 1-hour TSP Noise	
6-Mar	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar
				24-hour TSP 1-hour TSP Noise		
13-Mar	14-Mar	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
			24-hour TSP 1-hour TSP Noise			
20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar
		24-hour TSP 1-hour TSP Noise				
27-Mar	28-Mar	29-Mar	30-Mar	31-Mar		
	24-hour TSP 1-hour TSP Noise					

DC/2009/05 - HATS Stage 2A Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW
Tentative Impact Air Quality and Noise Monitoring Schedule for April 2011 (Ver. 0) (NM6 and AM7)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Apr	2-Apr
						24-hour TSP 1-hour TSP
3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	8-Apr	9-Apr
		Public Holiday			24-hour TSP 1-hour TSP Noise	
10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr
				24-hour TSP 1-hour TSP Noise		
17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr
			24-hour TSP 1-hour TSP Noise		**Public Holiday**	**Public Holiday**
24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr
	Public Holiday	24-hour TSP 1-hour TSP Noise				

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Monitoring Schedule in Reporting Month

Date		Dust Monitoring	
		1-hour TSP	24-hour TSP
Tue	1-Mar-11	■	
Wed	2-Mar-11		■
Thu	3-Mar-11		
Fri	4-Mar-11		
Sat	5-Mar-11		
Sun	6-Mar-11		
Mon	7-Mar-11	■	
Tue	8-Mar-11		■
Wed	9-Mar-11		
Thu	10-Mar-11		
Fri	11-Mar-11		
Sat	12-Mar-11	■	
Sun	13-Mar-11		
Mon	14-Mar-11		■
Tue	15-Mar-11		
Wed	16-Mar-11		
Thu	17-Mar-11		
Fri	18-Mar-11	■	
Sat	19-Mar-11		■
Sun	20-Mar-11		
Mon	21-Mar-11		
Tue	22-Mar-11		
Wed	23-Mar-11		
Thu	24-Mar-11	■	
Fri	25-Mar-11		■
Sat	26-Mar-11		
Sun	27-Mar-11		
Mon	28-Mar-11		
Tue	29-Mar-11		
Wed	30-Mar-11	■	
Thu	31-Mar-11		■

Remarks: 1-hour TSP monitoring is conducted between 0700-1900 hours.

■	Monitoring Day
■	Sunday or Public Holiday

Tentative Monitoring Schedule in Forthcoming Month

Date		Dust Monitoring	
		1-hour TSP	24-hour TSP
Fri	1-Apr-11		
Sat	2-Apr-11		
Sun	3-Apr-11		
Mon	4-Apr-11		
Tue	5-Apr-11		
Wed	6-Apr-11		
Thu	7-Apr-11		
Fri	8-Apr-11		
Sat	9-Apr-11		
Sun	10-Apr-11		
Mon	11-Apr-11		
Tue	12-Apr-11		
Wed	13-Apr-11		
Thu	14-Apr-11		
Fri	15-Apr-11		
Sat	16-Apr-11		
Sun	17-Apr-11		
Mon	18-Apr-11		
Tue	19-Apr-11		
Wed	20-Apr-11		
Thu	21-Apr-11		
Fri	22-Apr-11		
Sat	23-Apr-11		
Sun	24-Apr-11		
Mon	25-Apr-11		
Tue	26-Apr-11		
Wed	27-Apr-11		
Thu	28-Apr-11		
Fri	29-Apr-11		
Sat	30-Apr-11		

Remarks: 1-hour TSP monitoring is conducted between 0700-1900 hours.

	Monitoring Day
	Sunday or Public Holiday

APPENDIX C
1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

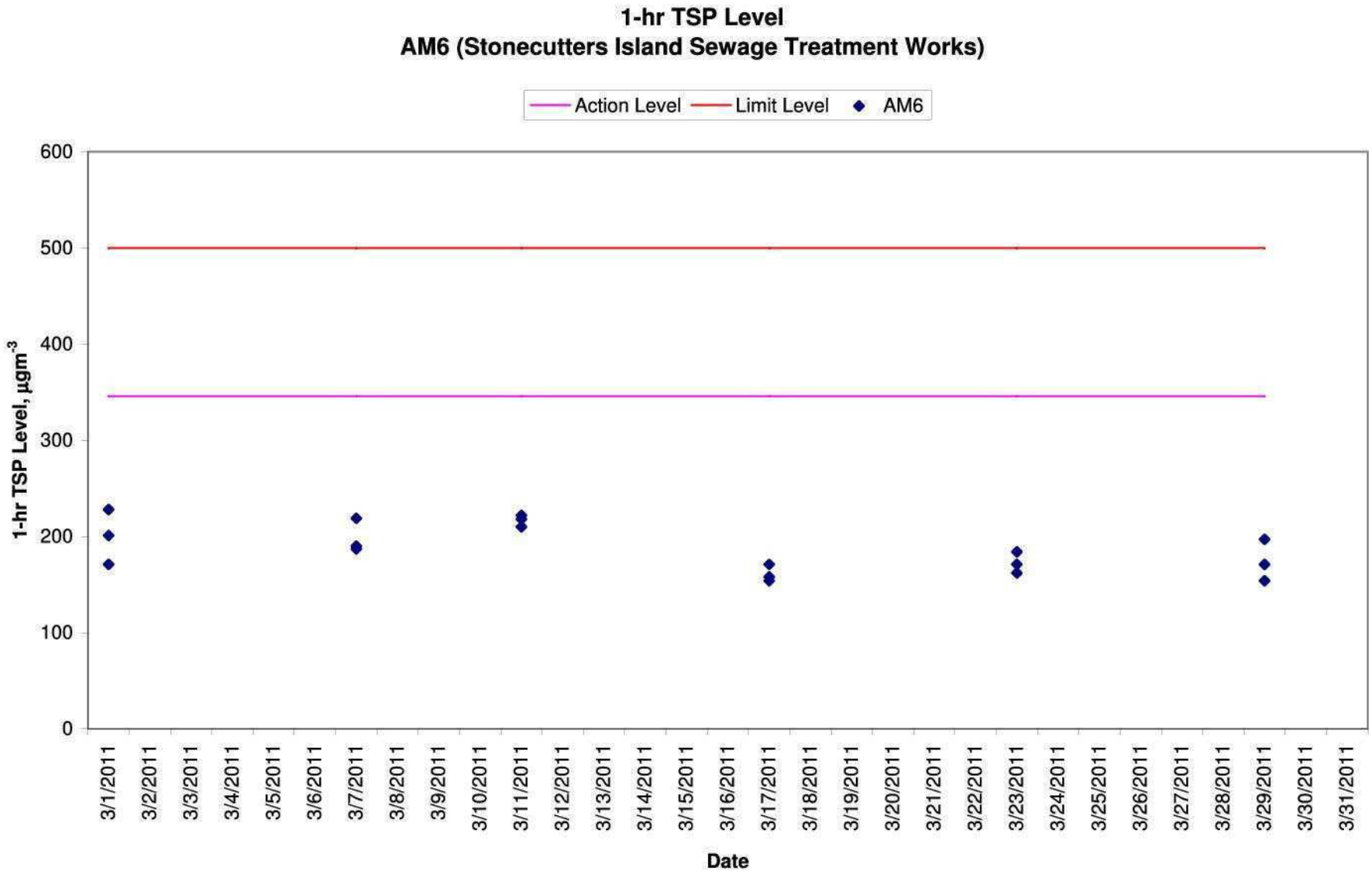
Appendix C - 1-hour TSP Monitoring Results and Graphical Presentations

1-hour TSP Monitoring Results

Station AM6

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 (°C)	Wind Speed * (m/s)	Sampler ID	Filter ID
1-Mar-11	13:30	14:30	Fine	171	346	500	Construction work in progress	21	<5	1254	8246
	14:32	15:32	Fine	228	346	500	Construction work in progress	21	<5	1254	8247
	15:34	16:34	Fine	201	346	500	Construction work in progress	21	<5	1254	8323
7-Mar-11	13:10	14:10	Sunny	219	346	500	Construction work in progress	19	<5	1254	8325
	14:12	15:12	Sunny	187	346	500	Construction work in progress	19	<5	1254	8326
	15:14	16:14	Sunny	190	346	500	Construction work in progress	19	<5	1254	8327
11-Mar-11	13:00	14:00	Cloudy	218	346	500	Construction work in progress	17	<5	1254	8329
	14:02	15:02	Cloudy	222	346	500	Construction work in progress	17	<5	1254	8330
	15:04	16:04	Cloudy	210	346	500	Construction work in progress	17	<5	1254	8331
17-Mar-11	14:40	15:40	Cloudy	158	346	500	Construction work in progress	16	<5	1254	8333
	15:42	16:42	Cloudy	171	346	500	Construction work in progress	16	<5	1254	8334
	16:44	17:44	Cloudy	154	346	500	Construction work in progress	16	<5	1254	8335
23-Mar-11	13:35	14:45	Fine	171	346	500	Construction work in progress	16	<5	1254	8474
	14:37	15:37	Fine	162	346	500	Construction work in progress	16	<5	1254	8475
	15:39	16:34	Fine	184	346	500	Construction work in progress	16	<5	1254	8476
29-Mar-11	13:00	14:00	Sunny	171	346	500	Construction work in progress	18	<5	1254	8474
	14:02	15:02	Sunny	154	346	500	Construction work in progress	18	<5	1254	8479
	15:04	16:04	Sunny	197	346	500	Construction work in progress	18	<5	1254	8480
			Min.	**154**							
			Max.	**228**							
			Average	**188**							

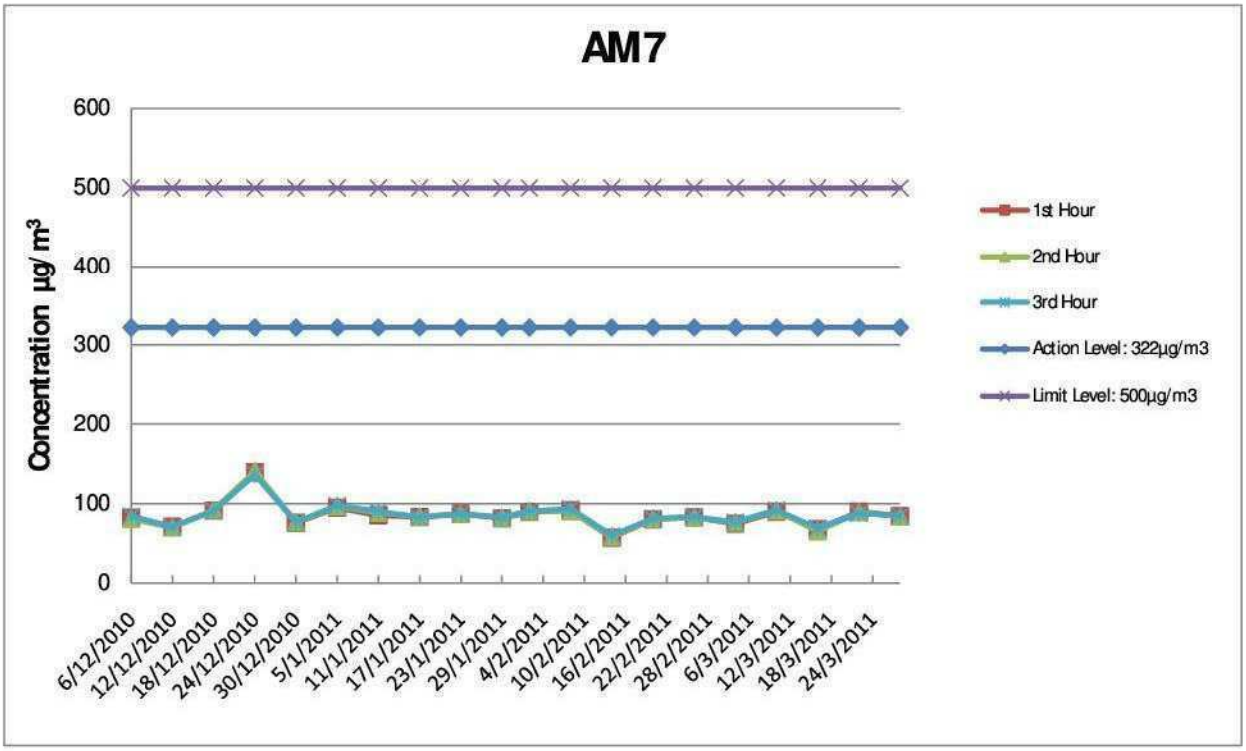
* Wind Speed data is presented in the Meteorological Data table


1-hr TSP Level
AM6 (Stonecutters Island Sewage Treatment Works)
Action Level
Limit Level
AM6
1-hr TSP Level, µgm-3
600
500
400
300
200
100
0
3/1/2011
3/2/2011
3/3/2011
3/4/2011
3/5/2011
3/6/2011
3/7/2011
3/8/2011
3/9/2011
3/10/2011
3/11/2011
3/12/2011
3/13/2011
3/14/2011
3/15/2011
3/16/2011
3/17/2011
3/18/2011
3/19/2011
3/20/2011
3/21/2011
3/22/2011
3/23/2011
3/24/2011
3/25/2011
3/26/2011
3/27/2011
3/28/2011
3/29/2011
3/30/2011
3/31/2011
Date

Appendix C - 1-hour TSP Monitoring Results and Graphical Presentations

1-hour TSP Monitoring Results at Station AM7 (Rooftop of West Kowloon No.2 Sewage Pumping Station)

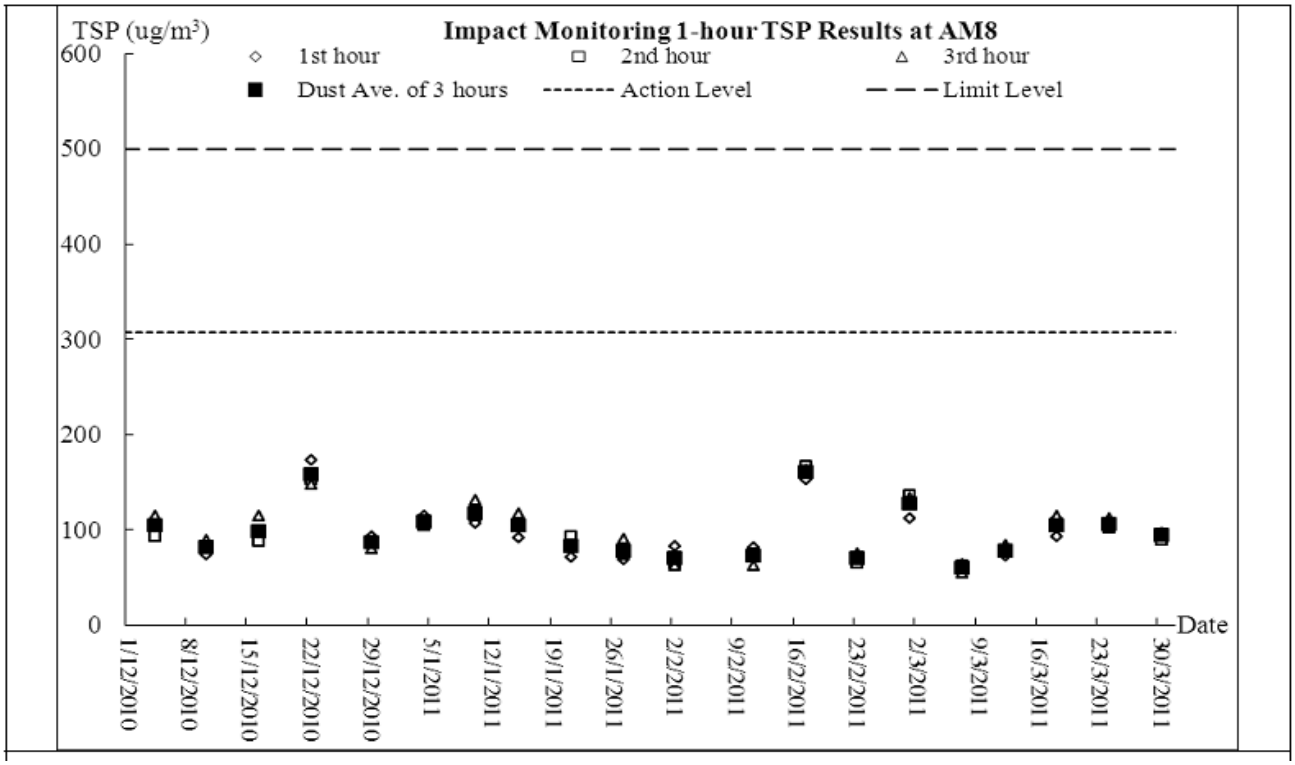
Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / *Observations / Remarks*	Mean Temperature (°C)	Mean Wind Speed (km/h)	Sampler ID	Filter ID
4-Mar-11	11:10	12:10	Sunny	***75***	322	500	Dust from Project site, traffic emission and dust from other construction sites	16.9		A005-08a	-
	13:10	14:10	Sunny	***76***							
	14:10	15:10	Sunny	***77***							
10-Mar-11	13:30	14:30	Sunny	***90***	322	500	Dust from Project site, traffic emission and dust from other construction sites	16.9		A005-08a	-
	14:30	15:30	Sunny	***91***							
	15:30	16:30	Sunny	***92***							
16-Mar-11	10:13	11:13	Sunny	***68***	322	500	Dust from Project site, traffic emission and dust from other construction sites	15.9		A005-12a	-
	11:13	12:13	Sunny	***65***							
	13:23	14:23	Sunny	***69***							
22-Mar-11	9:22	10:22	Fine	***90***	322	500	Dust from Project site, traffic emission and dust from other construction sites	19.7		A005-12a	-
	10:22	11:22	Fine	***89***							
	11:22	12:22	Fine	***87***							
28-Mar-11	10:13	11:13	Fine	***84***	322	500	Dust from Project site, traffic emission and dust from other construction sites	16.9		A005-12a	-
	13:00	14:00	Fine	***83***							
	14:00	15:00	Fine	***85***							
			Min.	**65**							
			Max.	**92**							
			Average	**81**							



AECOM	HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW	SCALE	N.T.S.	DATE	Apr-11
		CHECK	ENFL	DRAWN	LCHC
	Graphical Presentation of 1-hour TSP Monitoring Results	JOB NO.	60143571	APPENDIX No. C	Rev. -

Summary of 1-hour TSP Monitoring Results – AM8 as Monitored by DE/2009/02

1-hour TSP (μg/m³)				
Date	Start Time	1st hour measured	2nd hour measured	3rd hour measured
1-Mar-11	11:07	112	136	133
7-Mar-11	11:02	63	62	54
12-Mar-11	14:02	72	77	84
18-Mar-11	13:07	92	107	114
24-Mar-11	14:18	103	101	112
30-Mar-11	11:08	94	89	97
Average (Range)		**95 (54-136)**		



APPENDIX D
24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

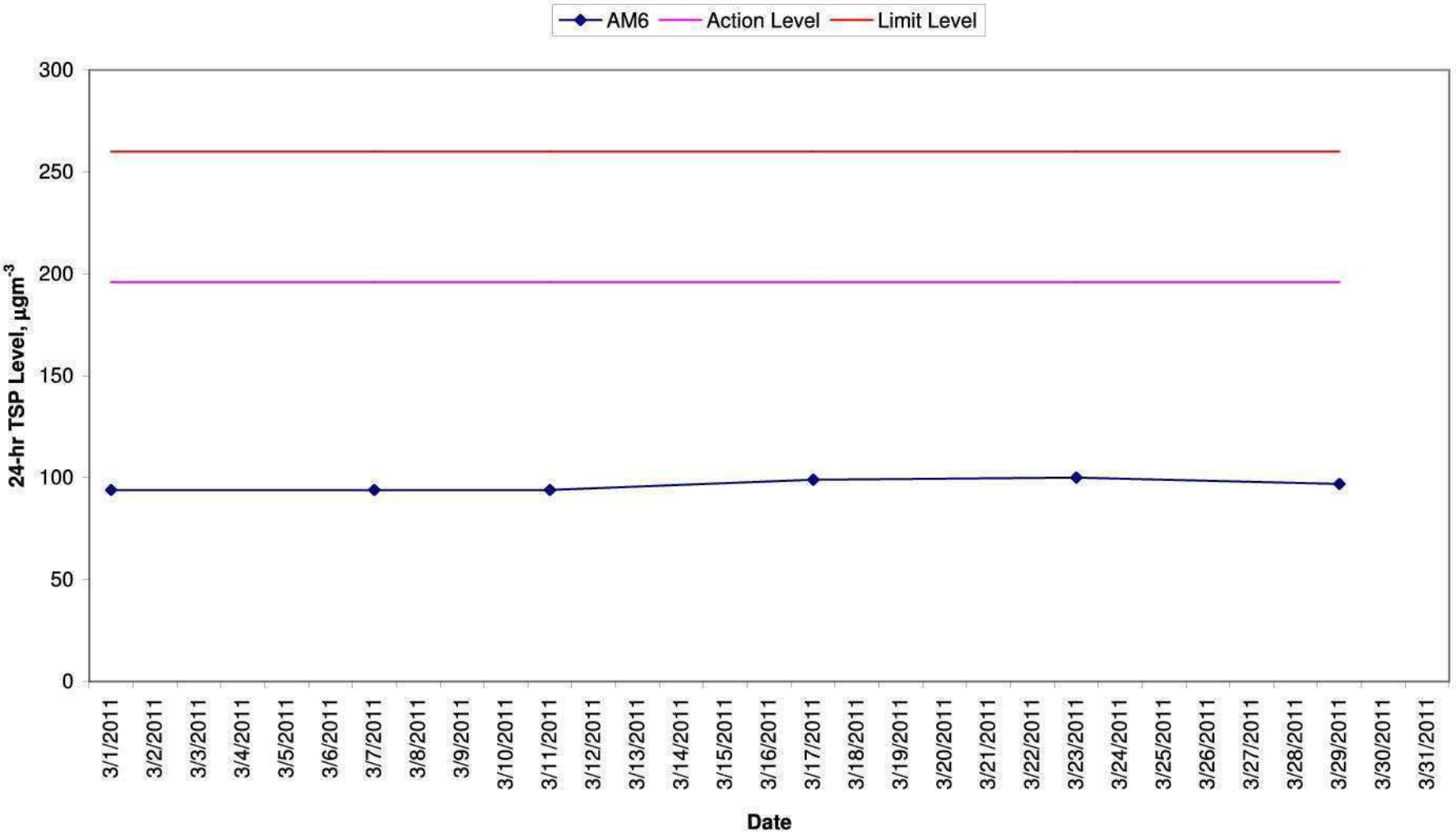
Appendix D - 24-hour TSP Monitoring Results and Graphical Presentations

24-hour TSP Monitoring Results

Station AM6

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)		ID	ID
1-Mar-11	16:36	2-Mar-11	16:36	Fine	2.8497	3.0119	7707.03	7731.03	24.00	1.20	1.20	1.20	94	196	260	Construction work in progress	1254	8324
7-Mar-11	16:16	8-Mar-11	16:16	Sunny	2.8590	3.0211	7734.03	7758.03	24.00	1.20	1.20	1.20	94	196	260	Construction work in progress	1254	8328
11-Mar-11	16:06	12-Mar-11	16:06	Cloudy	2.8298	2.9928	7761.03	7785.03	24.00	1.20	1.20	1.20	94	196	260	Construction work in progress	1254	8332
17-Mar-11	17:46	18-Mar-11	17:46	Cloudy	2.8490	3.0202	7788.03	7812.03	24.00	1.20	1.20	1.20	99	196	260	Construction work in progress	1254	8336
23-Mar-11	14:40	24-Mar-11	14:40	Fine	2.8494	3.0177	7815.03	7839.03	24.00	1.17	1.17	1.17	100	196	260	Construction work in progress	1254	8477
29-Mar-11	16:06	30-Mar-11	16:06	Sunny	2.8246	2.9878	7842.03	7866.03	24.00	1.17	1.17	1.17	97	196	260	Construction work in progress	1254	8481
												Min.	94					
												Max.	100					
												Average	96					

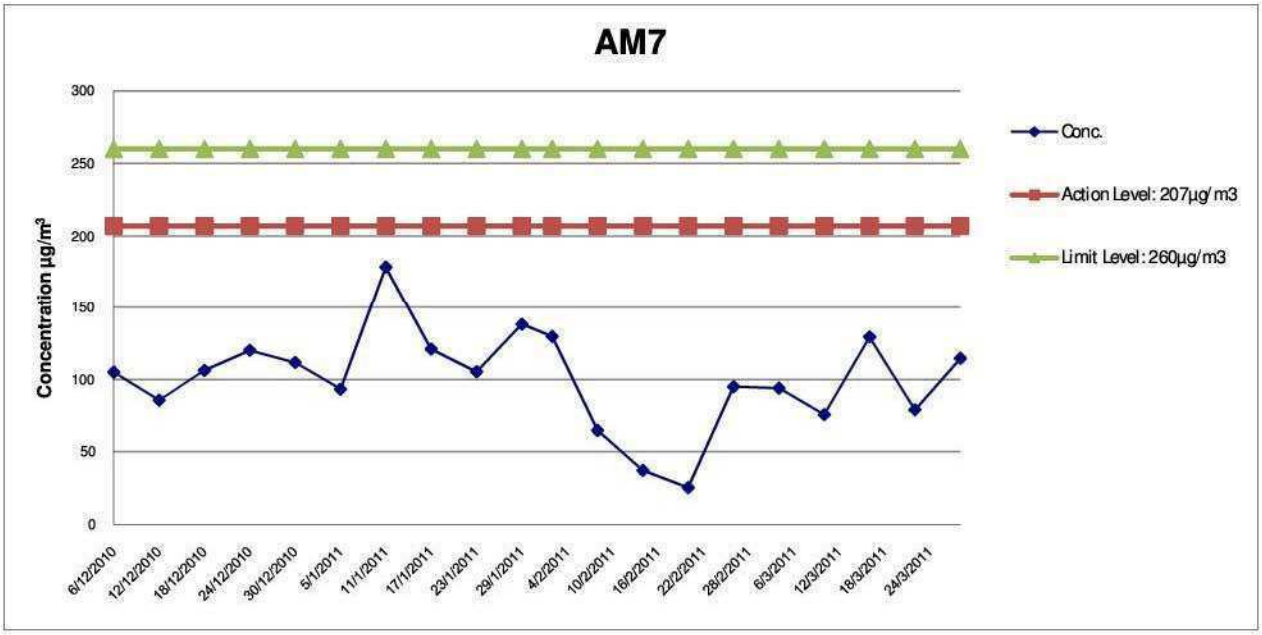
24-hr TSP Level
AM6 (Stonecutters Island Sewage Treatment Works)



Appendix D - 24-hour TSP Monitoring Results and Graphical Presentations

24-hour TSP Monitoring Results at Station AM7 (Rooftop of West Kowloon No.2 Sewage Pumping Station)

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)			
3-Mar-11	16:00	4-Mar-11	16:00	Sunny	2.7813	2.9636	7508.86	7532.86	24.00	1.3470	1.3470	1.3470	94	207	260	Dust from Project site, traffic emission and dust from other construction sites	A.001.53T	12243
9-Mar-11	16:00	10-Mar-11	16:00	Sunny	2.7848	2.9317	7532.86	7556.86	24.00	1.3470	1.3470	1.3470	76	207	260	Dust from Project site, traffic emission and dust from other construction sites	A.001.53T	12248
15-Mar-11	16:00	16-Mar-11	16:00	Fine	2.7728	3.0237	7566.86	7590.86	24.00	1.3470	1.3470	1.3470	129	207	260	Dust from Project site, traffic emission and dust from other construction sites	A.001.53T	12297
21-Mar-11	16:00	22-Mar-11	16:00	Fine	3.6143	3.7672	7590.86	7614.86	24.00	1.3430	1.3430	1.3430	79	207	260	Dust from Project site, traffic emission and dust from other construction sites	A.001.53T	12314
27-Mar-11	16:00	28-Mar-11	16:00	Fine	3.6084	3.8285	7614.86	7638.86	24.00	1.3340	1.3340	1.3340	115	207	260	Dust from Project site, traffic emission and dust from other construction sites	A.001.53T	12331
												Min.	76					
												Max.	129					
												Average	99					

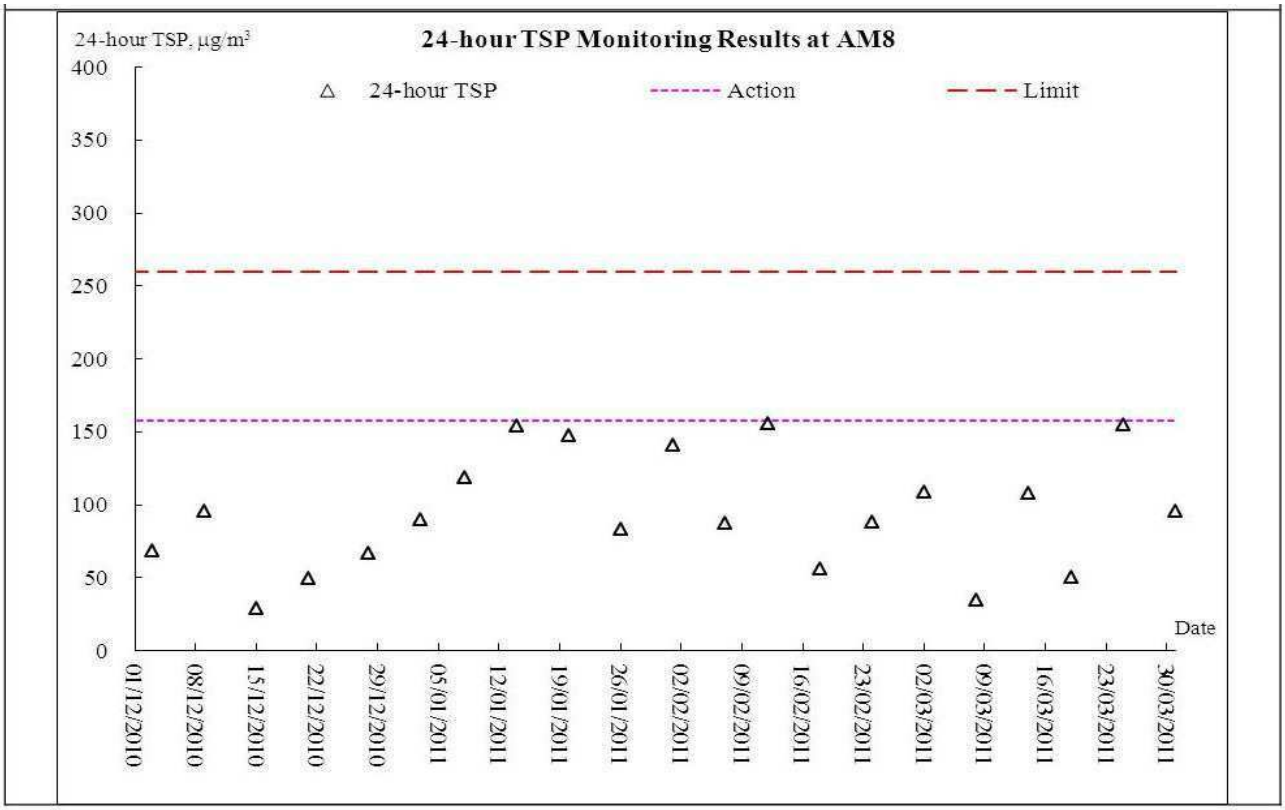


AECOM	HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW	SCALE	N.T.S.	DATE	Apr-11
		CHECK	ENFL	DRAWN	LCHC
	Graphical Presentation of 24-hour TSP Monitoring Results	JOB NO.	60143571	APPENDIX No. D	Rev. -

AUES

Summary of 24-hour TSP Monitoring Results – AM8 as Monitored by DE/2009/02

DATE	SAMPLE NUMBER	ELAPSED TIME INITIAL	ELAPSED TIME FINAL	ELAPSED TIME (min)	MIN CHART READING	MAX CHART READING	AVG CHART READING	AVG TEMP (oC)	STANDARD AVG PRESS (hPa)	STANDARD FLOW RATE (m3/min)	STANDARD AIR VOLUME (std m3)	INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST 24-hour TSP IN AIR (ug/m^3)
2-Mar-11	23379	9400.93	9424.87	1436.40	33	36	34.5	18.3	1017.5	0.93	1338	2.8079	2.9533	0.1454	109
8-Mar-11	23378	9424.87	9449.18	1458.60	30	34	32.0	15.5	1020.4	0.86	1259	2.8084	2.852	0.0436	35
14-Mar-11	23438	9449.18	9472.85	1420.20	32	36	34.0	22.4	1014.6	0.91	1290	2.8111	2.9497	0.1386	107
19-Mar-11	23437	9472.85	9496.79	1436.40	36	40	38.0	16.7	1013.4	1.04	1488	2.7908	2.8658	0.0750	50
25-Mar-11	23459	9496.79	9520.73	1436.40	36	40	38.0	17.4	1023.2	1.04	1494	2.769	2.9997	0.2307	154
31-Mar-11	23531	9520.73	9544.71	1438.80	30	37	33.5	18.9	1018.5	0.90	1297	2.8083	2.932	0.1237	95



APPENDIX E
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix E - Noise Monitoring Results and Graphical Presentations

Daytime Noise Monitoring Results

Station NM5

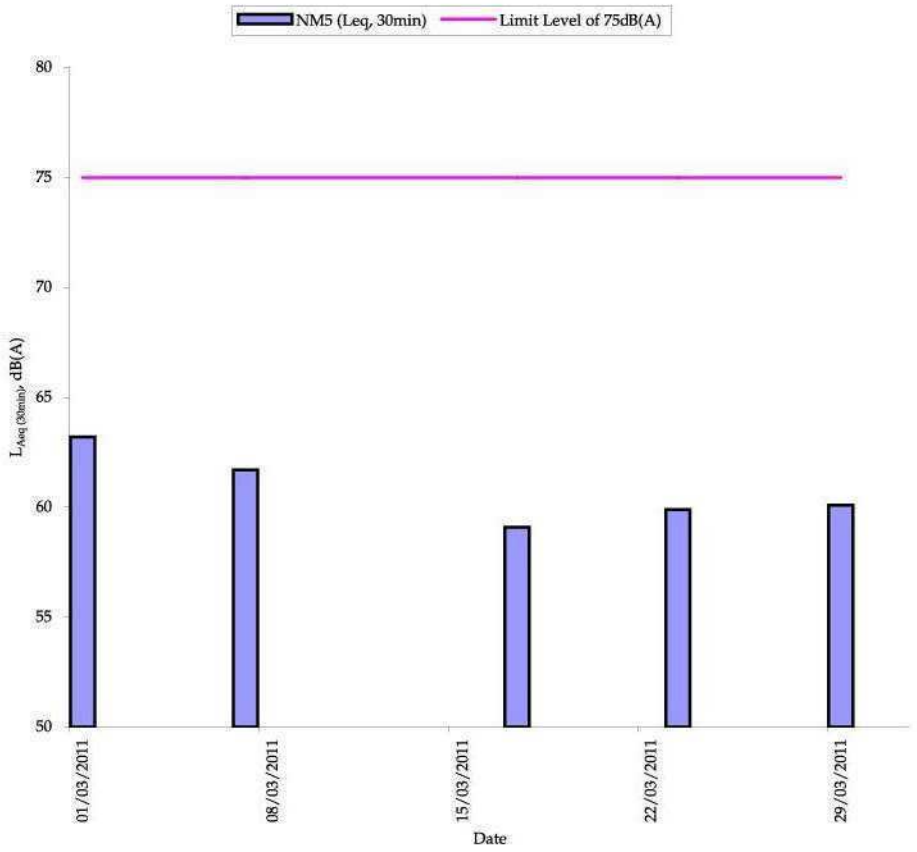
Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
1-Mar-11	16:00	16:30	Fine	63.2	64.1	62.4	Generator, drill rig, exavator	Aircraft noise, traffic noise	-	21	<5	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
7-Mar-11	15:10	15:40	Sunny	61.7	63.4	60.0	Generator, excavator, dump truck	Aircraft noise, traffic noise	-	19	<5	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
17-Mar-11	16:00	16:30	Cloudy	59.1	60.3	57.6	Generator, excavator, dump truck	Aircraft noise, traffic noise	-	16	<5	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
23-Mar-11	16:00	16:30	Cloudy	59.9	64.4	62.5	Generator, excavator, dump truck	Aircraft noise, traffic noise	-	16	<5	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
29-Mar-11	14:05	14:35	Sunny	60.1	63.7	61.9	Generator	Aircraft noise, traffic noise	-	18	<5	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)
			Min.	**59.1**									
			Max.	**63.2**									

Restricted Hours Noise Monitoring Results

Station NM5

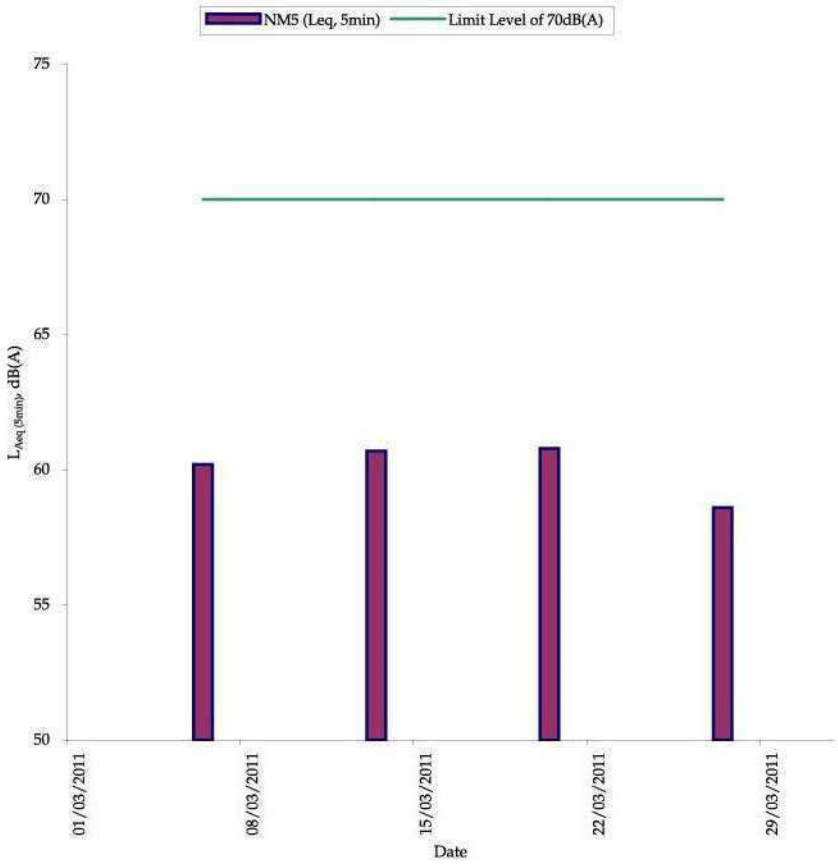
Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s)	Remarks	Temp. (°C)	Wind Speed	Noise Meter Model / ID	Calibrator Model / ID	Compliance (Y/N)
				Leq	L10	L90								
6-Mar-11	16:40	16:45	Fine	60.0	61.6	58.6	Generator, no construction activities	Aircraft noise, traffic noise	-	20	0.3	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)	Y
	16:45	16:50	Fine	60.3	61.8	58.5			-					
	16:50	16:55	Fine	60.4	61.7	58.7			-					
	16:40	16:55	Fine	60.2	61.7	58.6			-					
13-Mar-11	16:00	16:05	Sunny	60.9	62.7	58.8	Generator, no construction activities	Aircraft noise, traffic noise	-	21	0.3	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)	Y
	16:05	16:10	Sunny	60.6	62.6	58.4			-					
	16:10	16:15	Sunny	60.6	62.3	58.6			-					
	16:00	16:15	Sunny	60.7	62.5	58.6			-					
20-Mar-11	15:35	15:40	Cloudy	60.8	62.3	59.1	Generator, no construction activities	Traffic noise and birds	-	20	0.3	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)	Y
	15:40	15:45	Cloudy	60.6	62.0	59.0			-					
	15:45	15:50	Cloudy	61.2	62.6	59.3			-					
	15:35	15:50	Cloudy	60.8	62.3	59.1			-					
27-Mar-11	16:00	16:05	Fine	58.6	63.7	61.5	Generator, no construction activities	Aircraft noise, traffic noise		14	0.3	RION- NL31 (S/N 00320533)	RION - NC73 (S/N 10786708)	Y
	16:05	16:05	Fine	58.8	63.3	61.7								
	16:10	16:15	Fine	58.5	63.0	60.8								
	16:00	16:15	Fine	58.6	63.3	61.4								
			Min.	**58.5**										
			Max.	**61.2**										

Normal Weekdays Noise Monitoring Results at NM5 ($L_{eq, 30min}$)



Remark:
- 75dB(A) was adopted as the Limit Level during normal weekdays in the reporting period

Restricted Hours Noise Monitoring Results at NM5 ($L_{eq, 5min}$)



Remark:
- 70dB(A) was adopted as the Limit Level during restricted hours in the reporting period

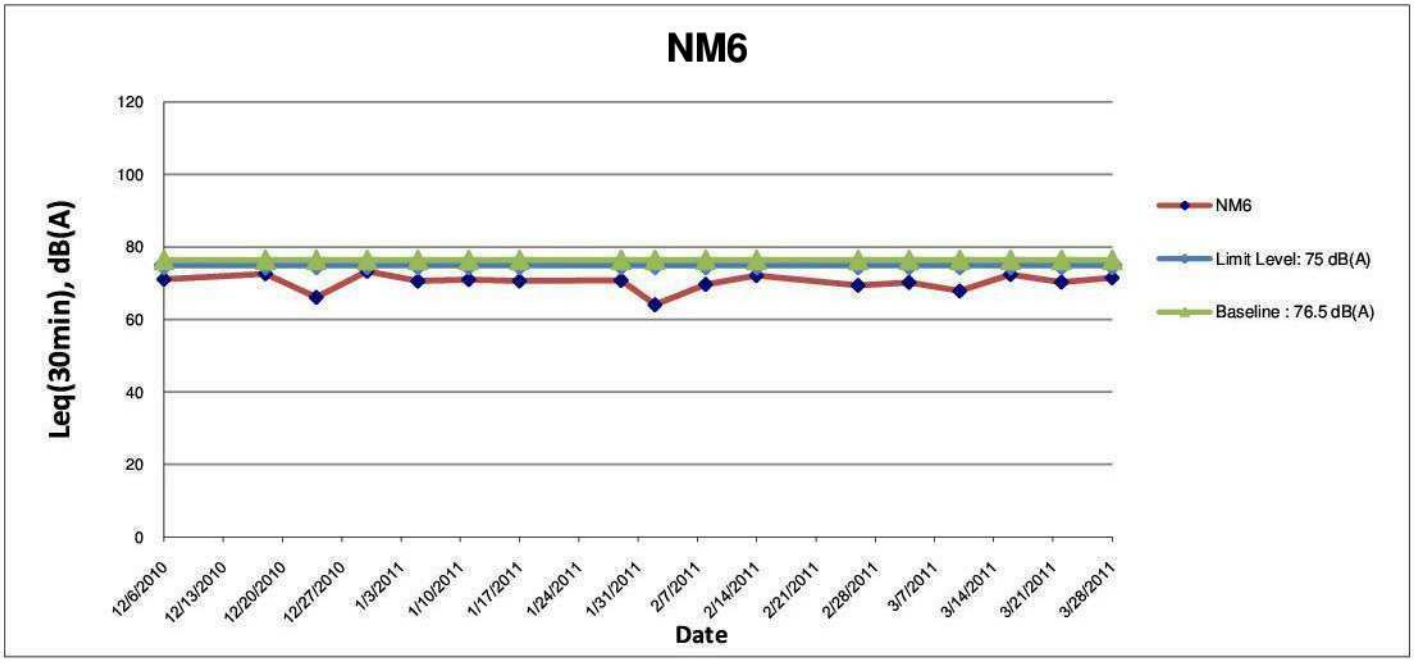
Appendix E - Noise Monitoring Results and Graphical Presentations

Location : NM6 Customs' Marine Base (Block H of Government Dockyard) Rooftop

Daytime (07:00-19:00 hrs) Noise Monitoring Results on Normal Weekdays

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min+			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Mean Temp. (°C)	Mean Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
4-Mar-11	10:00	10:30	Sunny	70.2	72.0	68.0	excavation in process and crane in operation	other construction site nearby	-	16.9	<5 m/s	Rion NL-31	Rion NC-73
10-Mar-11	14:30	15:00	Sunny	67.9	70.0	66.5	excavation in process and crane in operation	other construction site nearby	-	16.9	<5 m/s	Rion NL-31	Rion NC-73
16-Mar-11	10:49	11:19	Cloudy	72.4	74.4	68.9	excavation in process and crane in operation	other construction site nearby	-	15.9	<5 m/s	B&K 2270	B&K 4231
22-Mar-11	11:03	11:33	Fine	70.3	72.5	65.5	excavation in process and crane in operation	other construction site nearby		19.7	<5 m/s	B&K 2238	B&K 4231
28-Mar-11	14:00	14:30	Fine	71.5	73.5	67.5	excavation in process and crane in operation	other construction site nearby	-	16.9	<5 m/s	B&K 2238	B&K 4231
			Min.	**67.9**									
			Max.	**72.4**									

+ - Façade measurement



AECOM	HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW	SCALE	N.T.S.	DATE	Apr-11
		CHECK	ENFL	DRAWN	LCHC
	Graphical Presentation of Daytime Noise Monitoring Results on Normal Weekdays	JOB NO.	60143571	APPENDIX No. E	Rev. -

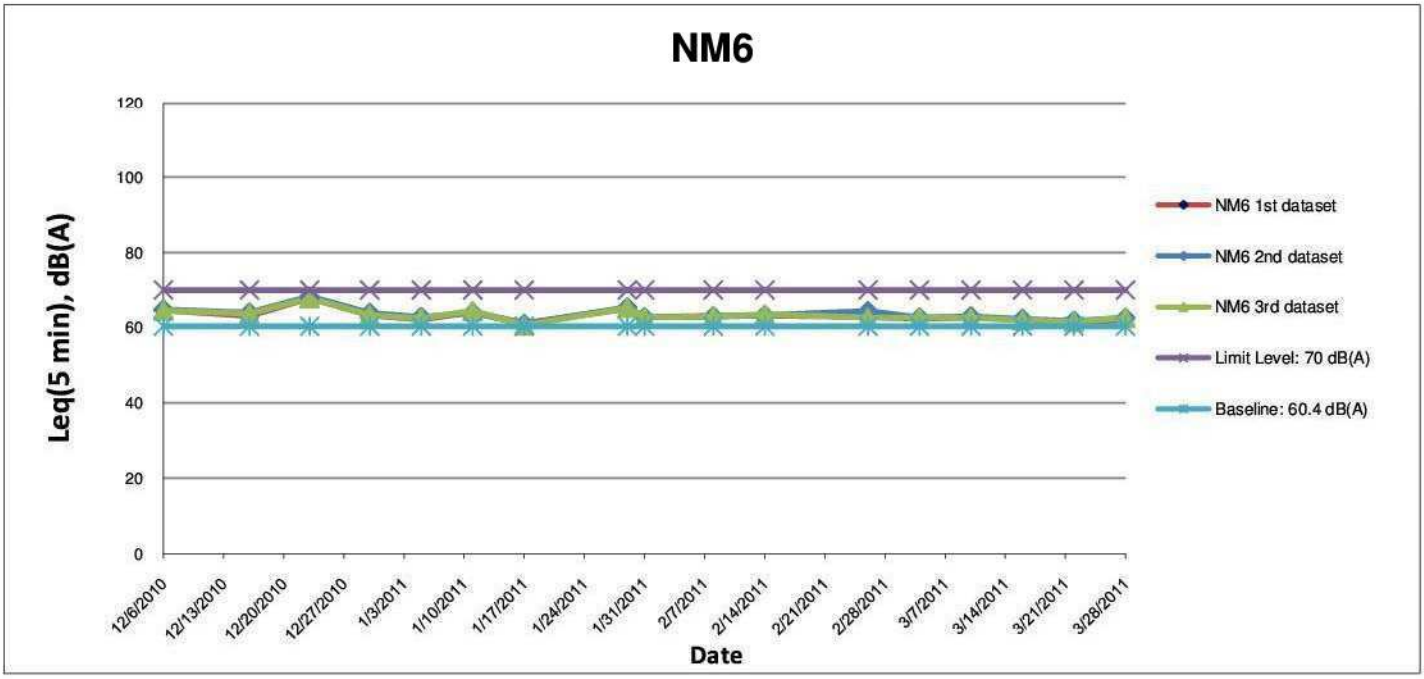
Appendix E - Noise Monitoring Results and Graphical Presentations

Location : NM6 Customs' Marine Base (Block H of Government Dockyard) Rooftop

Evening time (19:00-23:00 hrs) Noise Monitoring Results on Normal Weekdays

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min+			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Mean Temp. (°C)	Mean Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
4-Mar-11	19:43	19:48	Fine	62.4	63.0	61.9	excvation in process	other construction site nearby; traffic noise from nearby	-	16.9	<5 m/s	B&K 2250L	B&K 4231
	19:48	19:53		62.7	63.8	61.6							
	19:53	19:58		62.7	64.1	61.6							
10-Mar-11	19:02	19:07	Fine	62.8	63.8	62.1	excvation in process	other construction site nearby; traffic noise from nearby	-	16.9	<5 m/s	B&K 2250L	B&K 4231
	19:07	19:12		63.0	63.5	62.4							
	19:12	19:17		62.6	63.2	62.1							
16-Mar-11	19:03	19:08	Fine	62.1	62.9	61.2	excvation in process	other construction site nearby; traffic noise from nearby	-	15.9	<5 m/s	B&K 2270	B&K 4231
	19:08	19:13		62.3	63.3	61.4							
	19:13	19:18		62.0	62.7	61.3							
22-Mar-11	19:29	19:34	Fine	61.3	61.8	60.8	excvation in process	other construction site nearby; traffic noise from nearby	-	19.7	<5 m/s	B&K 2270	B&K 4231
	19:34	19:39		61.8	62.4	61.3							
	19:39	19:44		61.6	62.1	61.1							
28-Mar-11	19:18	19:23	Fine	62.1	62.5	61.5	excvation in process	other construction site nearby; traffic noise from nearby	-	16.9	<5 m/s	B&K 2238	B&K 4231
	19:23	19:28		62.6	63.5	61.5							
	19:28	19:33		62.6	63.0	61.5							
			Min.	**61.3**									
			Max.	**63.0**									

+ - Façade measurement



AECOM	HATS Stage 2A - Construction of Interconnection Tunnel and Diaphragm Wall for Main Pumping Station at SCISTW	SCALE	N.T.S.	DATE	Apr-11
		CHECK	ENFL	DRAWN	LCHC
	Graphical Presentation of Evening Noise Monitoring Results on Normal Weekdays	JOB NO.	60143571	APPENDIX No. E	Rev. -

APPENDIX F
ENVIRONMENTAL PERMITS AND LICENSES

APPENIDX F –Environmental Permits and Licenses

Table F.1 Summary of Environmental Licensing and Permit Status for Contract DC/2007/23

Permit No.	Valid Period		Details	Status
	From	To		
Wastewater Discharge License				
WT00005069-2009	11/8/2010	31/10/2014	Location: Stonecutters Island Production Shaft and Riser Shaft	Valid
Chemical Waste Producer Registration				
5213-269-G2449-07	--	--	Location: Stonecutters Island Production Shaft and Riser Shaft	Valid
Construction Noise Permit				
GW-RW0971-10	1/11/2010	30/4/2011	Location: Stonecutters Island Production Shaft and Riser Shaft	Superceded by GW-RW0689-10
GW-RW0689-10	2//3/2011	31/8/2011	Location: Stonecutters Island Production Shaft and Riser Shaft	Valid

Table F.2 Summary of Environmental Licensing and Permit Status for Contract DC/2009/05

Permit No.	Valid Period		Details	Status
	From	To		
Wastewater Discharge Licence				
WT00005755-2010	27/4/2010	31/1/2015	Discharge of Construction Runoff from Contract DC/2009/05	Valid
Registered Chemical Waste Producer				
WPN5213-269-C3572-01	23/10/2009	N/A	Whole Construction Site for Contract DC/2009/05	Valid
Waste Charges A/C: 7009440	N/A	N/A	Whole Construction Site for Contract DC/2009/05	Valid
Air Pollution Control Ordinance				
NA notification	09/11/09	19/12/11	Whole Construction Site for Contract DC/2009/05	Valid
Construction Noise Permit				
GW-RW0386-10	04/08/10	01/02/11	Construction Site at Portion 2 (launching shaft) for ContractDC/2009/05	Expired
GW-RW0505-10	07/10/10	05/04/11	Construction Site at Portion 2, 3 and 4 for Contract DC/2009/05	Valid
GW-RW0556-10	01/11/10	30/04/11	Construction Site at Portion 3 and 4 for Contract DC/2009/05	Valid
GW-RW0007-11	11/01/11	04/04/11	Construction Site at Portion 3 and 4 for Contract DC/2009/05	Valid
(Marine Dumping Permit (Excavated Sediment Requiring Typ1 – Open Sea Disposal)				
EP/MD/11-153	18/4/2011	17/10/2011	Excavated material from Construction Site at Portion 2, 3 and 4 for Contract DC/2009/05	Valid

Table F.3 Summary of Environmental Licensing and Permit Status for Contract DE/2009/02

Permit No.	Valid Period		Details	Status
	From	To		
Wastewater Discharge Licence				
WT00006432-2010	--	30/4/2015	--	Valid
Registered Chemical Waste Producer				
5213-269-A2605-01	--	--	--	Valid
Construction Noise Permit				
GW-RW0551-10	1/11/2010	30/4/2011	--	Valid
Air Pollution Control Ordinance				
NA Notification	N/A	N/A	Notified EPD on 9 March 2010	N/A
Billing Account for Disposal of Construction Waste				
A/C No:7009673	N/A	N/A	Approved by EPD on 9 November 2009	N/A

Table F.4 Summary of Environmental Licensing and Permit Status for Contract DC/2009/17

Permit No.	Valid Period		Details	Status
	From	To		
Water Discharge Licence				
WT00007763-2010	22/10/2010	31/10/2015	Location: Portion 5	Valid
Water Discharge Licence				
WT00007921-2010	23/11/2010	30/11/2015	Location: Portion C	Valid
Water Discharge Licence				
Ref:322921	3/12/2010	31/12/2015	Location: Portion 3&4	Valid
Registered Chemical Waste Producer				
5213-239-C3388-02	19/10/2010	N/A	Major chemical waste types are: Spent battery, waste mechanical oil and spent lubricant.	Valid
Billing Account for Disposal of Construction Waste				
A/C No. 7011408	16/9/2010	N/A	N/A	Valid
Notification of Works Under APCO				
Ref:321235	7/9/2010	N/A	--	Valid
Construction Noise Permit				
GW-RW0665-10	20/12/2010	19/6/2011	N/A	Valid

APPENDIX G
SUMMARY OF EXCEEDANCE

APPENIDX G – SUMMARY OF EXCEEDANCE

Reporting Month: March 2011

a) Exceedance Report for 1-hr TSP (NIL)

b) Exceedance Report for 24-hr TSP (NIL)

c) Exceedance Report for Construction Noise (NIL)

APPENDIX H
SITE AUDIT SUMMARY

7.6 ENVIRONMENTAL SITE INSPECTION

Weekly site inspections were carried out by the representatives of the Contractor, Engineer and the ET. Site inspections were conducted on 3, 10, 17, 24, and 31 March 2011. There was no non-compliance recorded during the site inspections.

Major findings and recommendations are summarized as follows:

Riser Shaft

- On 3 March, oil leakage problem of a RP machinery near the entrance of the riser shaft still exists. In order to prevent further leakage of oil, the Contractor is recommended to provide a bigger oil tray beneath the machinery, as well as investigate and rectify the leakage problem.
- On 10 March, some sand was observed scattered along the access path to the riser shaft. The Contractor was recommended to remove the sand immediately for better housekeeping. The drainage along the southern site boundary of the production shaft was observed to be rather full of mud and muddy water. The Contractor is recommended to clear the mud to avoid blockage as soon as possible.

Production Shaft

- On 3 March, excavated sand was observed to be piled up high inside a half-opened noise enclosure at north of the shaft without any cover. The Contractor is recommended to cover the sand with tarpaulin sheets to avoid dust.
- On 10 March, the drainage along the southern site boundary of the production shaft was observed to be rather full of mud and muddy water. The Contractor is recommended to clear the mud to avoid blockage as soon as possible.

7.7 ENVIRONMENTAL NON-CONFORMANCE

7.7.1 *Summary of Monitoring Exceedance*

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

No exceedance of the Action and Limit Levels of construction noise was recorded at monitoring stations during the reporting period.

7.7.2 *Summary of Environmental Non-Compliance*

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

7.7.3 *Summary of Environmental Complaint*

No complaint was received during the reporting period. The cumulative complaint log is shown in *Annex G7*.

5 ENVIRONMENTAL SITE INSPECTION AND AUDIT

5.1 Site Inspection

5.1.1 Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. In the reporting month, 5 site inspections were carried out on 1, 8, 15, 22 and 29 March 2011. Particular observations are described below.

5.1.2 The Contractor has rectified all observations as identified during environmental site inspection in the reporting month within agreed time frame.

5.1.3 Air Quality Impact

- Fugitive dust emission was observed when breaking works were carrying out in main pumping station works area. The Contractor was advised to provide regular water spraying in the breaking works area to minimize the dust impacts.

5.1.4 Construction Noise Impact

- Nil.

5.1.5 Water Quality Impact

- Insufficient preventative measure was provided at the part of the site boundaries in inlet chamber works area to collect/confine the surface run-off from works area. The Contractor was recommended to provide bunds/sand bags/channels at the site boundaries of the works area, cover up the gullies or other equivalent measures to avoid any surface run-off or wastewater from construction works flowing outside the works area. Also, the Contractor was reminded to review the temporary drainage systems within the works area regularly to ensure any wastewater from works area were treated properly prior to discharge.

- Accumulation of silty surface run-off was observed within launching shaft works area (Portion 2) although pumping system was provided within the works area. The Contractor was recommended to provide effective pumping and drainage systems for removal of surface run-off from the works area to avoid any surface run-off or wastewater from construction works flowing outside the works area. The Contractor was reminded that any wastewater from works area should be treated properly prior to discharge.

5.1.6 Chemical and Waste Management

- Chemical containers and oil drums placed in main pumping station works area were found stored without provision of drip trays. The Contractor is advised to provide drip trays or equivalent measures to oil drums and chemical containers stored within the works area to retain any chemical or oil leakage.

- Oil stains on ground and oil leakage from drill rig working in the main pumping station works area were observed. The Contractor should repair the drill rig and provide tarpaulin sheet temporarily or drip tray to retain the oil leakage. The oil stains should be cleared and disposed of as chemical waste.

- Sand bags had been provided at the boundaries of oil drums storage area in Portion 2. The Contractor should improve the oil drum storage area by shotcreting the bunds in order to retain any oil leakage properly.

5.1.7 Landscape

- It was observed that the part of the protective nettings installed for screening of the existing trees and shrubs and demarcating the protection zone in launching shaft works area (Portion 2) was sagged. Also, the provision of barriers demarcating the protection zone in the Portion 2 area was undergoing by the Contractor. The Contractor was reminded to rectify the nettings and properly re-instate the barriers for proper demarcation of the protection zone to prevent possible damage to the retained trees and shrubs. The Contractor should also properly maintain the protective measures within the works area.

6 SITE INSPECTION

According to the Project Environmental Monitoring and Audit Manual, the environmental site inspection should be formulated by the ET Leader. Regular environmental site inspections had been carried out by the ET to confirm the environmental performance. **Four** site inspections were carried out on **7, 15, 21 and 28 March 2011** with the Representatives of the Engineer and the Contractor to evaluate the site environmental performance in this Reporting Month. No non-compliance was noted.

Observations for the site inspections and monthly audit within this Reporting Month are summarized in ***Table 6-1*** and inspection checklist is attached in ***Annex M***.

Table 6-1 Observations for weekly site inspection in the Reporting Month

Date	Findings / Deficiencies	Follow-Up Status
7 March 2011	• C&D waste cumulated on site was observed at DOU1, housekeeping should be improved to maintain the site area clean and tidy. • Free standing chemical container without drip tray was observed at DOU2, the contractor was reminded to provide drip tray for all chemical container.	The deficiencies were improved as observed during the site inspection on 15 March 2011.
15 March 2011	• Stagnant water cumulated at DOU2 was observed, the contractor was reminded to clean to prevent mosquito breeding.	The deficiency was improved as observed during the site inspection on 21 March 2011.
21 March 2011	• C&D waste cumulated on site was observed at DOU1, housekeeping should be improved to maintain the site area clean and tidy.	The deficiency was improved as observed during the site inspection on 28 March 2011.
28 March 2011	• Dust generation was observed at DOU2, water spraying should be applied for the breaking activities to minimize dust generation. • As a reminder, C&D waste at DOU1 should be disposed regularly.	The deficiencies were improved as observed during the site inspection on 4 April 2011.

4. ENVIRONMENTAL AUDIT

Site Audits

4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

4.2 Environmental site audits were conducted on 3, 10, 17, 24 and 31 March 2011 for the Project. No non-compliance was observed during the site audits.

4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.

4.4 The summaries of site audits are attached in **Appendix G**.

Review of Environmental Monitoring Procedures

4.5 The monitoring works conducted by the monitoring teams of Contracts DC/2007/23 and DC/2009/05. The monitoring procedures were reviewed by their respective ETs.

Status of Environmental Licensing and Permitting

4.6 All permits/licenses obtained for the Contract DC/2009/17 are summarized in **Table 4.1**.

Table 4.1 Summary of Environmental Licensing and Permit Status for Contract DC/2009/17

Permit No.	Valid Period		Details	Status
	From	To		
Water Discharge License				
WT00007763-2010	22/10/2010	31/10/2015	Location: Portion 5	Valid
WT00007921-2010	23/11/2010	30/11/2015	Location: Portion C	Valid
WT00007982-2010	3/12/2010	31/12/2015	Location: Portion 3&4	Valid
Registered Chemical Waste Producer				
5213-239-C3388-02	19/10/2010	N/A	Major chemical waste types are: Spent battery, waste mechanical oil and spent lubricant.	Valid
Billing Account for Disposal of Construction Waste				
A/C No.7011408	16/09/2010	14/9/2011	N/A	Valid
Notification of Works Under APCO				
Ref:321235	7/09/2010	N/A	--	Valid
Construction Noise Permit				
GW-RW0665-10	20/12/2010	19/6/2011	N/A	Valid

Status of Waste Management

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

Implementation Status of Environmental Mitigation Measures

4.8 Details of the implementation of mitigation measures are provided in the **Appendix J.**

4.9 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations and recommendations for the Projects are summarized in **Table 4.2.**

Table 4.2 Observations and Recommendations of Site Audit

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	**3/3/2011 O-01**	Accumulation of silty water was observed at Portion 4. The Contractor was reminded to clear regularly to prevent spillage.	The silt was collected at Portion 4 and desilted before discharge.
	3/3/2011 O-03	To provide wheels washing facilities and drainage system at Portion D.	Wheels washing facilities was provided by the Contractor while the drainage system will be followed up with item 110310-O04.
	10/3/2011 O-04	To provide sedimentation tank at Portion D to desilt the water from wheels washing.	The situation was observed outstanding and remarked as item 110317-O05 on 17-03-11.
	10/3/2011 O-05	Silty water and sediment were observed spillage at the site boundary at Portion 3 and 5. The Contractor was reminded to provide addition sand bags to prevent the spillage get into the gully.	Addition bund was set up at boundary of the Portion 3 and at the gully outside the Portion 5 to prevent the silty water spillage
	17/3/2011 O-01	To provide sand bags at the bottom of the barriers of Portion 5 to prevent silty water spillage.	The concrete bund was set up at the boundary of Portion 5 by the Contractor.
	17/3/2011 O-02	Accumulation of stagnant water was observed at Portion 4. The Contractor was reminded to clear it more regularly.	Stagnant water in Portion 4 was cleared by the Contractor.
	17/3/2011 O-03	To clear the sediment in the silt retention pond more regularly to prevent flooding in rainy season.	The silt in the retention pond was cleared by the Contractor.
	17/3/2011 O-05	To provide sedimentation tank at Portion D to desilt the water from wheels washing.	The situation was observed outstanding and remarked as item 110324-O01on 24-03-11.
	24/3/2011 O-01	To provide sedimentation tank or proper drainage system at Portion D to desilt the water from wheels washing.	The water from wheels washing at Portion D was pumped for desilting before discharge.
	24/3/2011 R-01	To provide proper desilting facilities at Portion 5 before the operation of wheels washing facility.	The water generated from the wheels washing facility at Portion 5 was diverted to Portion 3 for desilting before discharge.

	31/3/2011 O-01	Mud and stagnant water was accumulated at Portion 3 near the sea side. The Contractor was reminded to clear it to prevent run-off in wet season.	The accumulated mud and stagnant water was cleared in Portion 3 by the Contractor.
	31/3/2011 O-02	To clear the sediment in the site retention pond (Portion 4).	The sediment in the site retention pond in Portion 4 was cleared by the Contractor.
Air Quality	**--**	--	--
Waste/ Chemical Management	**3/3/2011 O-02**	To clear the oil in drip tray in Portion 4.	The situation was observed outstanding and remarked as item 110310-O01 on 10-03-11.
	10/3/2011 O-01	Refuse ad stagnant water was observed in the drip tray of Portion 4. The Contractor was reminded to clear it regularly and also seal the drip tray to prevent spillage of silty water.	Refuse and stagnant water in the drip tray were removed by the Contractor
	10/3/2011 O-02	To provide drip tray to equipments at Portion 3 to prevent oil leakage.	As advised by the Contractor, fuel is not required for this equipment, hence, no oil leakage would be occurred and this item is closed.
	10/3/2011 O-03	To remove the materials other than Chemical waste in Chemical storage area at Portion3.	Materials other than chemical waste in Chemical Waste storage area was removed by the Contractor.
	17/3/2011 O-04	To improve the waste sorting practice in Portion D.	The waste disposed of in the recycling bin was found match to the recycling bin.
	24/3/2011 O-02	Oily water was observed under the tank at Potion 4. The Contractor was reminded to remove it as chemical waste.	The Oily water was removed by the Contractor.
	31/3/2011 O-03	Improper disposal of general refuse/chemical waste were observed. The Contractor was reminded to improve the site tidiness.	The general refuse and chemical waste in Portion D was cleared by the Contractor.
Landscape and Visual	**--**	--	--
Permit/ Licences	**10/3/2011 O-06**	To display the Noise permit at the entrance of Portion 4.	The Noise permit was displayed at the entrance of Portion 4 by the Contractor.

Implementation Status of Event Action Plans

4.10 The Event Action Plans for air quality and noise are presented in **Appendix I.**

1-hr TSP

4.11 No Action/Limit Level exceedance was recorded.

24-hr TSP

4.12 No Action/Limit Level exceedance was recorded.

Construction Noise

4.13 No Action/Limit Level exceedance was recorded.

APPENDIX I
EVENT ACTION PLANS

APPENDIX I – Event / Action Plans

Table I-1 Event / Action Plan For Air Quality

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

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring			
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Table I-2 Event / Action Plan For Construction Noise

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

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring		until the exceedance is abated	the ER until the exceedance is abated

APPENDIX J
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)

APPENDIX J IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract			
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17
A	**Air Quality**					
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	<>	^	^	^
	Vehicle washing facilities should be provided at every vehicle exit point.			^	^	^
	The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore.			^	^	^
	Where a site boundary adjoins a road, streets or other areas accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit.			N/A	^	N/A
	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.			^	*	^
	Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.			^	^	^
	Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs			^	^	^
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.			^	^	^
	Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.			^	^	^
	Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides.			^	^	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract			
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17
	Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.			^	^	^
3.74	Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.	All construction sites		^	^	^
B	**Airborne Noise**					
4.56–4.61	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	^	^	^	^
4.67	Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.		^	^	^	^
	Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.		^	^	^	^
	Mobile plant, if any, shall be sited as far away from NSRs as possible.		^	^	^	^
	Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum.		^	^	^	^
4.67	Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.		^	^	^	^
	Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.		^	^	^	^
C	**Water Quality**					
6.349 to 6.375	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All construction sites	^	#	^	^
6.376	Effluent Discharge There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO.		<>	^	^	*

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract			
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17
	The discharge quality must meet the requirements specified in the discharge licence. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing saltwater intakes.					
6.377	Accidental Spillage of Chemicals Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.		<>	#	^	^
6.378	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		<>	^	^	*
6.379	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: • 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,		^	^	^	*

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract			
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17
	to avoid accidents. • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.					
6.380	Construction Works in Close Proximity of Storm Drains or Seafront To minimize the potential water quality impacts from the construction works located at or near any watercourse, the practices outlined below should be adopted where applicable. • The use of less or smaller construction plants may be specified to reduce the disturbance to the storm water courses or marine environment. • Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works. • Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. • Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers. • Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable. • Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea.	All construction sites	^	#	^	*
D	**Waste Management**					
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction	All construction sites	^	^	^	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract			
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17
	sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.					
9.109	All waste materials should be segregated into categories covering: • excavated materials suitable for reuse on-site; • excavated materials suitable for public filling facilities; • remaining C&D waste for landfill; • chemical waste; and • general refuse for landfill.	All construction sites	^	^	^	*
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals;		^	N/A	^	*
	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.		^	^	*	*
	Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.		^	^	^	^
	Any unused chemicals or those with remaining functional capacity shall be recycled.		^	^	^	^
	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.		^	#	^	^
9.115	Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.		^	^	^	^
	Training of site personnel in proper waste management and chemical waste handling procedures.		^	^	^	^
9.115	Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials.		^	^	^	^
	Provision of sufficient waste disposal points and regular		^	^	^	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract			
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17
	collection of waste.					
	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.		^	^	^	^
9.125	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage"	All construction sites	^	^	^	^
9.131	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.		^	^	^	^
9.133	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.		*	^	^	^
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		^	^	^	^
9.137	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the		^	^	^	*

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract			
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17
	approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.					
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.		^	^	^	N/A
E	**Terrestrial Ecology**					
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction sites	^	^	^	N/A
10.95	Dust control practices such as regular watering, complete coverage of any aggregate or dusty material storage piles, and re-schedule of dusty activities during high-wind conditions as well as other measures recommended in Section 3 of EIA, should be implemented.		^	#	^	^
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		^	^	^	^
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		^	#	^	N/A
10.98	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.		^	#	^	^
F	**Landscape and Visual**					
Table 13.7	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	All construction sites	<>	N/A	^	^
	Existing trees to be retained on site should be carefully protected during construction.		<>	#	^	^
	Trees unavoidably affected by the works should be transplanted where practical.		<>	^	^	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract			
			DC/2007/23	DC/2009/05	DE/2009/02	DC/2009/17
	Compensatory tree planting should be provided to compensate for felled trees.		<>	N/A	^	^
	Control of night-time lighting.		<>	^	^	^
Table 13.7	Erection of decorative screen hoarding compatible with the surrounding setting.	All construction sites	<>	N/A	^	N/A
G	**Marine Ecology**					
11.135	To minimize the potential indirect impacts on water quality from construction site runoff and various construction activities, the practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.	All construction sites	^	#	^	^
H	**Hazard to Life**					
14A.201	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	Exact location will be determined on construction site by the engineer	^	^	^	^

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

APPENDIX K
COMPLAINT LOG

APPENDIX K – COMPLAINT LOG

Reporting Month: March 2011

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

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

APPENDIX L
CONSTRUCTION PROGRAMME

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp
HATS Stage 2A - Contract DC/2007/23					
Stonecutters Island STW Production Shaft					
Preliminaries Works					
SCPS10070	SCPS: Construct/Install Blast Protection	2	22SEP10	24SEP10	0
SCPS10075	SCPS: Site Inspection from Mines	1	25SEP10	25SEP10	0
SCPS10080	SCPS: Issue Blasting Permit	1	27SEP10	27SEP10	0
EBS, Env. & Geotechnical Instrumentations					
Markers/LMPs/Others(Same note as Piez.)					
SCPS0391	SCPS: Install GS Markers (17 Nos.)	74	01SEP09A	01FEB10	85
SCPS0393	SCPS: JointSurvey&EstablishBaseline Readings GSM	14	02FEB10	20FEB10	0
Piezometers(Nearby PTW or PS covered in this Installn)					
SCPS0375	SCPS: BH907 Piezometer Baseline Establishment	26	10NOV09A	23JAN10	95
SCPS0381	SCPS: BH908 Piezometer Baseline Establishment	26	10NOV09A	27JAN10	73
SCPS0387	SCPS: BH906 Piezometer Baseline Establishment	26	15JAN10A	06FEB10	40
Electrical & Mechanical Installations					
SCPS0620	SCPS: Installation Works for 11KV Application	60	08APR10	18JUN10	0
SCPS0625	SCPS: 11 KV Connection & Power On	4	19JUN10	23JUN10	0
Marine Dumping Permit					
SCPS0370	SCPS: Request for Disposal Site&Get Permit	24	02JAN10A	05FEB10	38
Diaphragm Wall					
SCPS0279	SCPS: Excavate 3rd Panel to Formation Level	12	16JAN10A	20JAN10	92
SCPS0281	SCPS: 3rd Panel Desanding & Preparation Works	4	21JAN10	25JAN10	0
SCPS0282	SCPS: Grouting Works Phase 1	45	21JAN10	17MAR10	0
SCPS0283	SCPS: 3rd Panel Rebar Cage Installation	3	26JAN10	28JAN10	0
SCPS0285	SCPS: 3rd Panel Concreting Works	1	29JAN10	29JAN10	0
SCPS0287	SCPS: Excavate 4th Panel to Formation Level	23	30JAN10	01MAR10	0
SCPS0289	SCPS: 4th Panel Desanding & Preparation Works	9	02MAR10	11MAR10	0
SCPS0291	SCPS: 4th Panel Rebar Cage Installation	6	12MAR10	18MAR10	0
SCPS0292	SCPS: Grouting Works Phase 2	45	18MAR10	11MAY10	0
SCPS0293	SCPS: 4th Panel Concreting Works	1	19MAR10	19MAR10	0
SCPS0297	SCPS: Excavate 5th Panel to Formation Level	8	20MAR10	29MAR10	0
SCPS0299	SCPS: 5th Panel Desanding & Preparation Works	3	30MAR10	01APR10	0
SCPS0301	SCPS: 5th Panel Rebar Cage Installation	2	02APR10	03APR10	0
SCPS0303	SCPS: 5th Panel Concreting Works	1	06APR10	06APR10	0
SCPS0307	SCPS: Excavate 6th Panel to Formation Level	23	07APR10	04MAY10	0
SCPS0309	SCPS: 6th Panel Desanding & Preparation Works	9	05MAY10	14MAY10	0
SCPS0310	SCPS: Grouting Works Phase 3	50	12MAY10	10JUL10	0
SCPS0311	SCPS: 6th Panel Rebar Cage Installation	6	15MAY10	21MAY10	0
SCPS0313	SCPS: 6th Panel Concreting Works	1	22MAY10	22MAY10	0
SCPS0317	SCPS: Excavate 7th Panel to Formation Level	8	24MAY10	01JUN10	0
SCPS0319	SCPS: 7th Panel Desanding & Preparation Works	3	02JUN10	04JUN10	0
SCPS0321	SCPS: 7th Panel Rebar Cage Installation	2	05JUN10	07JUN10	0
SCPS0323	SCPS: 7th Panel Concreting Works	1	08JUN10	08JUN10	0
SCPS0327	SCPS: Excavate 8th Panel to Formation Level	8	09JUN10	18JUN10	0
SCPS0329	SCPS: 8th Panel Desanding & Preparation Works	3	19JUN10	22JUN10	0
SCPS0331	SCPS: 8th Panel Rebar Cage Installation	2	23JUN10	24JUN10	0
SCPS0333	SCPS: 8th Panel Concreting Works	1	25JUN10	25JUN10	0
SCPS0335	SCPS: Install Dewatering Wells for Pump-test	12	05JUL10	17JUL10	0
SCPS0337	SCPS: Pumping Test	6	19JUL10	24JUL10	0
SCPS0338	SCPS: Submission of Pumping Test Report	6	26JUL10	31JUL10	0
SCPS0341	SCPS: Demobilization	6	26JUL10	31JUL10	0
Shaft Excavation					
SCPS0500	SCPS: Construct Capping Beam & Shaft Collar	12	26JUL10	07AUG10	0
SCPS0510	SCPS: Initial Excavation of Shaft (7m)	4	09AUG10	12AUG10	0
SCPS0520	SCPS: Set-Up Equipment for Shaft Sink	12	13AUG10	26AUG10	0
SCPS0525	SCPS: Erect Noise Enclosure at Shaft Top	12	13AUG10	26AUG10	0
SCPS0530	SCPS: Excavate Soil & Ring Beams (50m)	22	27AUG10	21SEP10	0
SCPS0575	SCPS: Probe, Grout, D&B Rock, Muck Out (87m)	100	28SEP10	26JAN11	0
SCPS0640	SCPS: Construct Sump at Shaft Bottom	2	27JAN11	28JAN11	0
SCPS0665	SCPS: Erect Tunnel Hoist & Muck Out System	10	29JAN11	12FEB11	0
Backfill, Reinstatement & Landscaping					
SCPS0910	SCPS: Backfill Shaft (20%)	8	12SEP13	21SEP13	0
SCPS0920	SCPS: Backfill Shaft (40%)	8	23SEP13	02OCT13	0
SCPS0930	SCPS: Backfill Shaft (60%)	8	03OCT13	11OCT13	0
SCPS0940	SCPS: Backfill Shaft (80%)	8	12OCT13	22OCT13	0
SCPS0950	SCPS: Backfill Shaft (100%)	8	23OCT13	31OCT13	0
SCPS0960	SCPS: Reinstatement Around PS Area	12	01NOV13	14NOV13	0
SCPS0970	SCPS: Demobilise Clear Area	6	15NOV13	21NOV13	0
SCPS0975	SCPS: Complete All Works at SCI PS (KD-11)	0		21NOV13	0
SCPS0980	SCPS: Landscaping & Planting Works	60	22NOV13*	20JAN14	0
SCPS0990	SCPS: Period of Establishment Works	360	21JAN14	15JAN15	0
SCPS1000	SCPS: End of Establishment Period	0		15JAN15	0

Start Date	31JUL09
Finish Date	15JAN15
Data Date	20JAN10
Run Date	01FEB10 10:42

Early Bar
Progress Bar
Critical Activity

WPU7 Sheet 1 of 1

Habour Area Treatment Scheme Stage 2A
Contract No. DC/2007/23 - Construction of Sewage Conveyance from North Point to Stonecutters Island Programme

Annex G8 Construction Programme for the Project

Gammon

Date	Revision	Checked	Approved

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp
HATS Stage 2A - Contract DC/2007/23					
Stonecutters Island STW Riser Shaft					
Marine Dumping Permit					
SCRS0370	SCRS: Request for Disposal Site&Get Permit	24	05JAN10A	06FEB10	33
Diaphragm Wall					
SCRS0287	SCRS: Excavate 4th Panel to Formation Level	7	09JAN10A	23JAN10	50
SCRS0289	SCRS: 4th Panel Desanding & Preparation Works	3	25JAN10	27JAN10	0
SCRS0291	SCRS: 4th Panel Rebar Cage Installation	2	28JAN10	29JAN10	0
SCRS0293	SCRS: 4th Panel Concreting Works	1	30JAN10	30JAN10	0
SCRS0295	SCRS: Excavate 5th Panel to Formation Level	7	01FEB10	08FEB10	0
SCRS0297	SCRS: 5th Panel Desanding & Preparation Works	3	09FEB10	11FEB10	0
SCRS0299	SCRS: 5th Panel Rebar Cage Installation	2	12FEB10	13FEB10	0
SCRS0301	SCRS: 5th Panel Concreting Works	1	18FEB10	18FEB10	0
SCRS0303	SCRS: Excavate 6th Panel to Formation Level	7	19FEB10	26FEB10	0
SCRS0305	SCRS: 6th Panel Desanding & Preparation Works	3	27FEB10	02MAR10	0
SCRS0306	SCRS: Grouting Works Phase 1	40	03MAR10	19APR10	0
SCRS0307	SCRS: 6th Panel Rebar Cage Installation	2	03MAR10	04MAR10	0
SCRS0309	SCRS: 6th Panel Concreting Works	1	05MAR10	05MAR10	0
SCRS0311	SCRS: Excavate 7th Panel to Formation Level	7	06MAR10	13MAR10	0
SCRS0313	SCRS: 7th Panel Desanding & Preparation Works	3	15MAR10	17MAR10	0
SCRS0315	SCRS: 7th Panel Rebar Cage Installation	2	18MAR10	19MAR10	0
SCRS0317	SCRS: 7th Panel Concreting Works	1	20MAR10	20MAR10	0
SCRS0319	SCRS: Excavate 8th Panel to Formation Level	7	22MAR10	29MAR10	0
SCRS0321	SCRS: 8th Panel Desanding & Preparation Works	3	30MAR10	01APR10	0
SCRS0323	SCRS: 8th Panel Rebar Cage Installation	2	02APR10	03APR10	0
SCRS0325	SCRS: 8th Panel Concreting Works	1	06APR10	06APR10	0
SCRS0327	SCRS: Excavate 9th Panel to Formation Level	7	07APR10	14APR10	0
SCRS0329	SCRS: 9th Panel Desanding & Preparation Works	3	15APR10	17APR10	0
SCRS0331	SCRS: 9th Panel Rebar Cage Installation	2	19APR10	20APR10	0
SCRS0332	SCRS: Grouting Works Phase 2	40	21APR10	07JUN10	0
SCRS0333	SCRS: 9th Panel Concreting Works	1	21APR10	21APR10	0
SCRS0335	SCRS: Excavate 10th Panel to Formation Level	7	22APR10	29APR10	0
SCRS0337	SCRS: 10th Panel Desanding & Preparation Works	3	30APR10	04MAY10	0
SCRS0339	SCRS: 10th Panel Rebar Cage Installation	2	05MAY10	06MAY10	0
SCRS0341	SCRS: 10th Panel Concreting Works	1	07MAY10	07MAY10	0
SCRS0343	SCRS: Excavate 11th Panel to Formation Level	7	08MAY10	15MAY10	0
SCRS0345	SCRS: 11th Panel Desanding & Preparation Works	3	17MAY10	19MAY10	0
SCRS0347	SCRS: 11th Panel Rebar Cage Installation	2	20MAY10	21MAY10	0
SCRS0349	SCRS: 11th Panel Concreting Works	1	22MAY10	22MAY10	0
SCRS0351	SCRS: Excavate 12th Panel to Formation Level	7	24MAY10	31MAY10	0
SCRS0353	SCRS: 12th Panel Desanding & Preparation Works	3	01JUN10	03JUN10	0
SCRS0355	SCRS: 12th Panel Rebar Cage Installation	2	04JUN10	05JUN10	0
SCRS0356	SCRS: Grouting Works Phase 3	40	08JUN10	26JUL10	0
SCRS0357	SCRS: 12th Panel Concreting Works	1	07JUN10	07JUN10	0
SCRS0359	SCRS: Excavate 13th Panel to Formation Level	7	09JUN10	15JUN10	0
SCRS0361	SCRS: 13th Panel Desanding & Preparation Works	3	17JUN10	19JUN10	0
SCRS0365	SCRS: 13th Panel Concreting Works	1	23JUN10	23JUN10	0
SCRS0366	SCRS: 13th Panel Rebar Cage Installation	2	21JUN10	22JUN10	0
SCRS0367	SCRS: Excavate 14th Panel to Formation Level	7	24JUN10	02JUL10	0
SCRS0369	SCRS: 14th Panel Desanding & Preparation Works	3	03JUL10	05JUL10	0
SCRS0371	SCRS: 14th Panel Rebar Cage Installation	2	07JUL10	08JUL10	0
SCRS0373	SCRS: 14th Panel Concreting Works	1	09JUL10	09JUL10	0
SCRS0380	SCRS: Install Dewatering Wells for Pump-test	12	20JUL10	02AUG10	0
SCRS0390	SCRS: Pumping Test	6	03AUG10	09AUG10	0
SCRS0392	SCRS: Submission of Pumping Test Report	6	10AUG10	16AUG10	0
SCRS0394	SCRS: Demobilization for D'wall	6	10AUG10	16AUG10	0
Shaft Excavation					
SCRS0400	SCRS: Construct Capping Beam & Shaft Collar	6	17AUG10	23AUG10	0
SCRS0410	SCRS: Excavate Soil & Ring Beams (58.4m)	42	24AUG10	13OCT10	0
SCRS0420	SCRS: Construct Levelling Pad	3	14OCT10	18OCT10	0
SCRS0430	SCRS: Pre-excavation Grout for Raise Bore	90	19OCT10	02FEB11	0
SCRS0440	SCRS: In-fill Concrete for Pilot Hole	12	07FEB11	19FEB11	0
Raised Boring					
SCRS0700	SCRS: Rig Up Hole 1	5	07AUG12	11AUG12	0
SCRS0710	SCRS: Pilot Drill 140 mtrs	16	13AUG12	30AUG12	0
SCRS0720	SCRS: Attach reamer and Collar	3	31AUG12	03SEP12	0
SCRS0730	SCRS: Ream 90 metres @ 3.5 mtr dia	35	04SEP12	16OCT12	0
SCRS0740	SCRS: Lower Reamer and Remove	3	17OCT12	19OCT12	0
SCRS0750	SCRS: De Rig Raise borer	5	20OCT12	26OCT12	0
Lower Shaft Construction					
SCRS0835	SCRS: Blinding Layer & Base Slab for LS	6	27OCT12	02NOV12	0
SCRS0840	SCRS: Bank shunt concreting	18	03NOV12	23NOV12	0
SCRS0875	SCRS: Constru Venti-Shft to Tun Invert -136.5mPD	9	24NOV12	04DEC12	0
SCRS0885	SCRS: Install System Form for LS -136.5mPD	9	05DEC12	14DEC12	0
SCRS0935	SCRS: Construct Transition & Vert Shaft -136mPD	15	15DEC12	03JAN13	0
SCRS0940	SCRS: Construct Shaft -136 to -30.5mPD	55	04JAN13	12MAR13	0
Upper Shaft Construction					
SCRS0975	SCRS: Construct Vert Shft to Tun Invert -30.5mPD	9	13MAR13	22MAR13	0
SCRS0995	SCRS: Install System Form for LS -30.5mPD	9	23MAR13	02APR13	0
SCRS1045	SCRS: Construct Upper Shaft	36	03APR13	16MAY13	0
SCRS1065	SCRS: Clear Area & Install Multi-Part Cover	3	17MAY13	20MAY13	0
Miscellaneous Works					
SCRS2010	SCRS: Install E&M Services	18	21MAY13	10JUN13	0
SCRS2020	SCRS: Reinstatement & Clear RS Area	12	11JUN13	25JUN13	0
SCRS2025	SCRS: Complete All Works at SCI RS (KD-11)	0		25JUN13	0
SCRS2030	SCRS: Landscaping & Planting Works	60	08SEP13*	06NOV13	0

Start Date	31JUL09
Finish Date	15JAN15
Data Date	29JAN10
Run Date	01FEB10 10:50

Early Bar
Progress Bar
Critical Activity

WPU7 Sheet 1 of 2

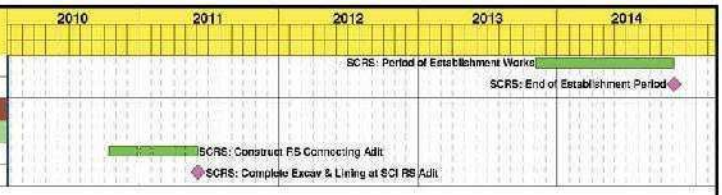
Habour Area Treatment Scheme Stage 2A
Contract No. DC/2007/23 - Construction of Sewage Conveyance from North Point to Stonecutters Island Programme

Annex G8 Construction Programme for the Project

Gammon

Date	Revision	Checked	Approved

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp
SCRS2060	SCRS: Period of Establishment Works	360	07NOV13	01NOV14	0
SCRS2070	SCRS: End of Establishment Period	0		01NOV14	0
Connecting Adit					
SCRS2040	SCRS: Construct RS Connecting Adit	192	14OCT10	03JUN11	0
SCRS2050	SCRS: Complete Excav & Lining at SCI RS Adit	0		03JUN11	0



Start Date	31JUL09
Finish Date	15JAN15
Data Date	29JAN10
Run Date	01FEB10 10:50

Early Bar
Progress Bar
Critical Activity

WPU7 Sheet 2 of 2

Habour Area Treatment Scheme Stage 2A
Contract No. DC/2007/23 - Construction of Sewage Conveyance from North Point to Stonecutters Island
Programme

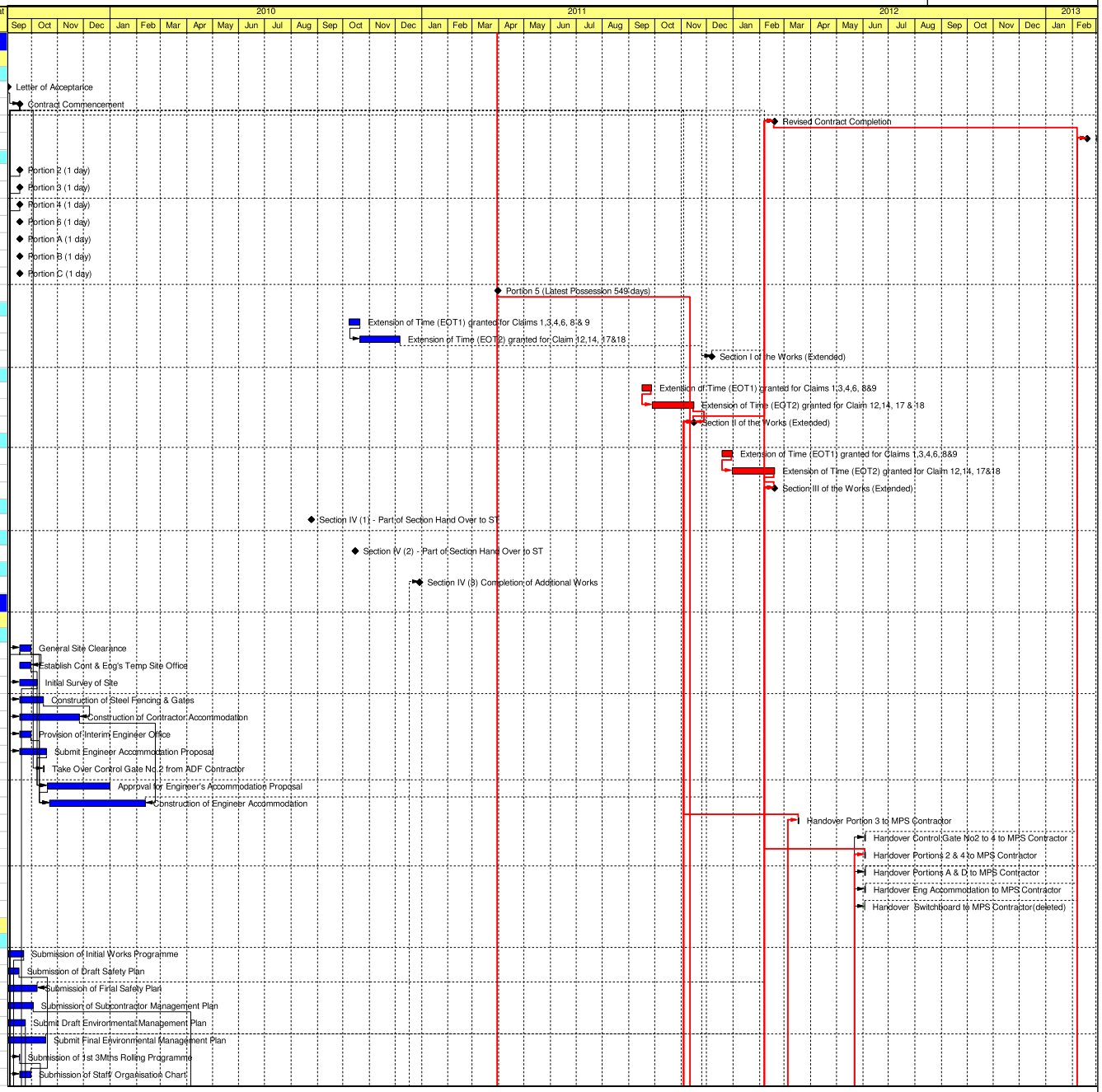
Annex G8 Construction Programme for the Project

Gammon

Date	Revision	Checked	Approved

Harbour Area Treatment Scheme Stage 2A Construction of Interconnection Tunnel & D. Wall - Main Pumping Station at Stonecutters Island

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
Key Dates								
(For All Works Under the Contract)								
General								
KD-1000	Letter of Acceptance	0	03-Sep-09		03-Sep-09 A		0	
KD-2000	Contract Commencement	0	17-Sep-09		17-Sep-09 A		0	
KD-2500	Revised Contract Completion	0		18-Feb-12		18-Feb-12*	0	0
KD-2600	Revised End of Maintenance Period	0		18-Feb-13		18-Feb-13	0	0
Portion Handover								
KD-6000	Portion 2 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6100	Portion 3 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6200	Portion 4 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6400	Portion B (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6500	Portion A (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6600	Portion B (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6700	Portion C (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD-6300	Portion 5 (Latest Possession 549 days)	0	19-Mar-11		31-Mar-11*		0	-12
Section I of the Works (387 days)								
KD-3010	Extension of Time (EOT1) granted for Claims 1,3,4,6,	11	08-Oct-10	20-Oct-10	08-Oct-10 A	20-Oct-10 A	0	
KD-3020	Extension of Time (EOT2) granted for Claim 12,14, 1	47	21-Oct-10	06-Dec-10	21-Oct-10 A	06-Dec-10 A	0	
KD-3000	Section I of the Works (Extended)	0		31-Dec-10		07-Dec-11 A	0	
Section II of the Works (730 days)								
KD-4010	Extension of Time (EOT1) granted for Claims 1,3,4,6,	10	16-Sep-11	27-Sep-11	16-Sep-11*	27-Sep-11	10	0
KD-4020	Extension of Time (EOT2) granted for Claim 12,14, 1	49	28-Sep-11	15-Nov-11	28-Sep-11	15-Nov-11	49	0
KD-4000	Section II of the Works (Extended)	0		15-Nov-11		15-Nov-11*	0	0
Section III of the Works (823 days)								
KD-5010	Extension of Time (EOT1) granted for Claims 1,3,4,6,	11	19-Dec-11	30-Dec-11	19-Dec-11*	30-Dec-11	11	0
KD-5020	Extension of Time (EOT2) granted for Claim 12,14, 1	50	31-Dec-11	18-Feb-12	31-Dec-11	18-Feb-12	50	0
KD-5000	Section III of the Works (Extended)	0		18-Feb-12		18-Feb-12*	0	0
Section IV (1) of the Additional Works (131 days								
KD-5030	Section IV (1) - Part of Section Hand Over to ST	0		25-Aug-10		25-Aug-10 A	0	
Section IV (2) of the Additional Works (199 days								
KD-5040	Section IV (2) - Part of Section Hand Over to ST	0		15-Oct-10		15-Oct-10 A	0	
Section IV (3) of the Addtional Works (199 days)								
KD-5050	Section IV (3) Completion of Additional Works	0		30-Dec-10		30-Dec-10 A	0	
Preliminaries and General Requirement								
General Requirement								
General								
PG/00020	General Site Clearance	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A	0	
PG/00030	Establish Cont & Eng's Temp Site Office	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A	0	
PG/00040	Initial Survey of Site	21	17-Sep-09	07-Oct-09	17-Sep-09 A	07-Oct-09 A	0	
PG/00050	Construction of Steel Fencing & Gates	28	17-Sep-09	14-Oct-09	17-Sep-09 A	14-Oct-09 A	0	
PG/00060	Construction of Contractor Accommodation	71	17-Sep-09	26-Nov-09	17-Sep-09 A	26-Nov-09 A	0	
PG/00070	Provision of Interim Engineer Office	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A	0	
PG/00080	Submit Engineer Accommodation Proposal	32	17-Sep-09	18-Oct-09	17-Sep-09 A	18-Oct-09 A	0	
PG/00110	Take Over Control Gate No.2 from ADF Contractor	1	15-Oct-09	15-Oct-09	15-Oct-09 A	15-Oct-09 A	0	
PG/00090	Approval for Engineer's Accommodation Proposal	80	19-Oct-09	31-Dec-09	19-Oct-09 A	31-Dec-09 A	0	
PG/00100	Construction of Engineer Accommodation	125	22-Oct-09	11-Feb-10	22-Oct-09 A	11-Feb-10 A	0	
PG/00120	Handover Portion 3 to MPS Contractor	1	24-Feb-12	24-Feb-12	17-Mar-12	17-Mar-12	1	-121
PG/00130	Handover Control Gate No2 to 4 to MPS Contractor	1	11-Apr-12	11-Apr-12	03-Jun-12	03-Jun-12	1	260
PG/00140	Handover Portions 2 & 4 to MPS Contractor	1	11-Apr-12	11-Apr-12	03-Jun-12	03-Jun-12	1	-106
PG/00150	Handover Portions A & D to MPS Contractor	1	11-Apr-12	11-Apr-12	03-Jun-12	03-Jun-12	1	260
PG/00160	Handover Eng Accommodation to MPS Contractor	1	11-Apr-12	11-Apr-12	03-Jun-12	03-Jun-12	1	260
PG/00170	Handover Switchboard to MPS Contractor(deleted)	0	11-Apr-12	11-Apr-12	03-Jun-12	03-Jun-12	0	261
Submission, Approvals and Permits								
General								
PG/00220	Submission of Initial Works Programme	19	03-Sep-09	21-Sep-09	03-Sep-09 A	21-Sep-09 A	0	
PG/00260	Submission of Draft Safety Plan	14	03-Sep-09	16-Sep-09	03-Sep-09 A	16-Sep-09 A	0	
PG/00270	Submission of Final Safety Plan	35	03-Sep-09	07-Oct-09	03-Sep-09 A	07-Oct-09 A	0	
PG/00290	Submission of Subcontractor Management Plan	30	03-Sep-09	02-Oct-09	03-Sep-09 A	02-Oct-09 A	0	
PG/00300	Submit Draft Environmental Management Plan	21	03-Sep-09	23-Sep-09	03-Sep-09 A	23-Sep-09 A	0	
PG/00310	Submit Final Environmental Management Plan	45	03-Sep-09	17-Oct-09	03-Sep-09 A	17-Oct-09 A	0	
PG/00250	Submission of 1st 3Mths Rolling Programme	14	17-Sep-09	17-Sep-09	17-Sep-09 A	17-Sep-09 A	0	
PG/00280	Submission of Staff/ Organisation Chart	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A	0	



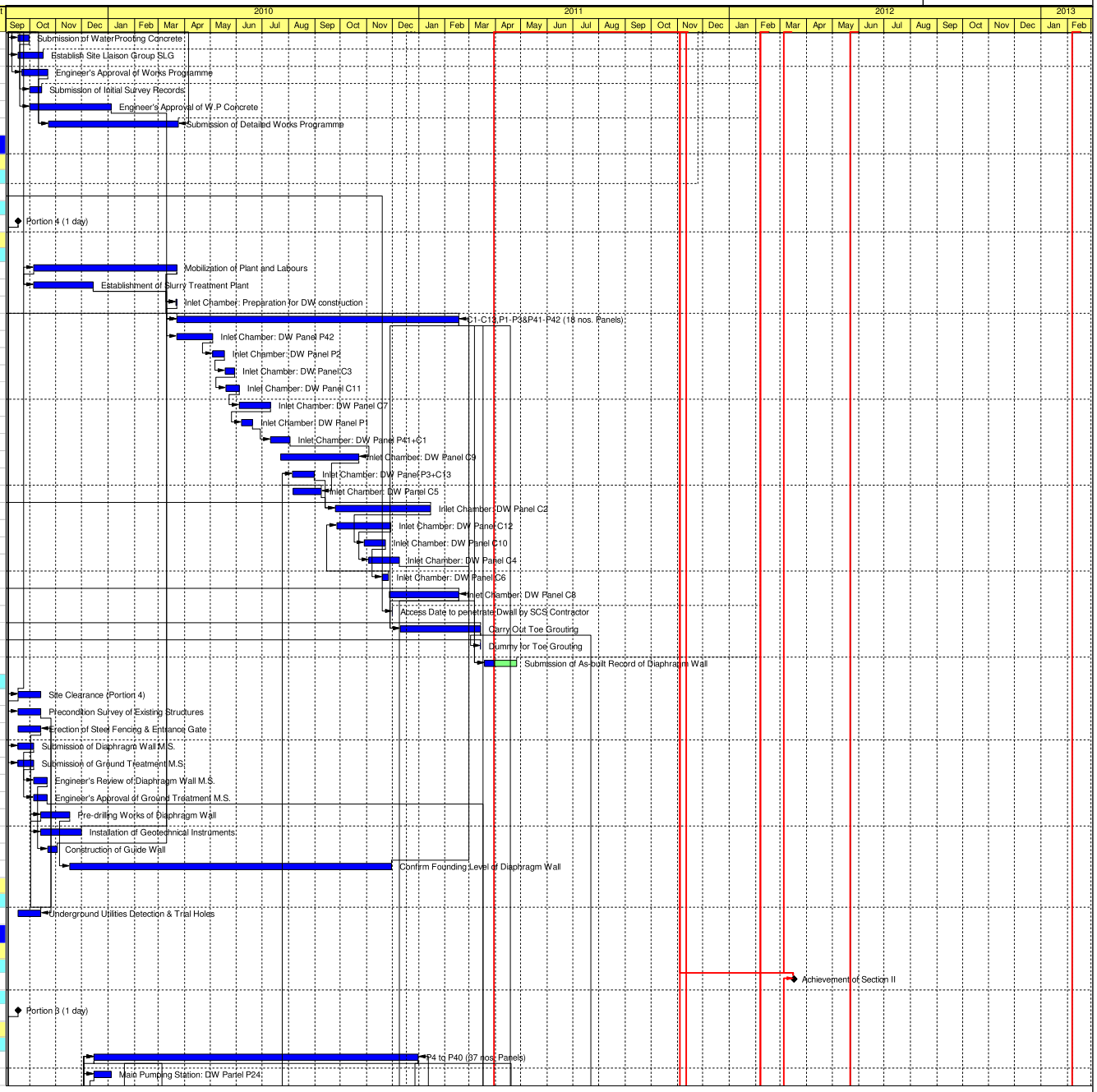
Actual Work | Critical Remaining Work | Remaining Work | Milestone

Monthly Progress Update - 31 March 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Mar-11	Monthly update March 2011		CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
PG/00330	Submission of WaterProofing Concrete	14	17-Sep-09	30-Sep-09	17-Sep-09 A	30-Sep-09 A	0	
PG/00350	Establish Site Liaison Group SLG	30	17-Sep-09	16-Oct-09	17-Sep-09 A	16-Oct-09 A	0	
PG/00230	Engineer's Approval of Works Programme	31	22-Sep-09	22-Oct-09	22-Sep-09 A	22-Oct-09 A	0	
PG/00320	Submission of Initial Survey Records	14	01-Oct-09	14-Oct-09	01-Oct-09 A	14-Oct-09 A	0	
PG/00340	Engineer's Approval of W.P Concrete	135	01-Oct-09	04-Jan-10	01-Oct-09 A	04-Jan-10 A	0	
PG/00240	Submission of Detailed Works Programme	150	23-Oct-09	24-Mar-10	23-Oct-09 A	24-Mar-10 A	0	
Section 1								
(For All Works Under the Contract)								
Key Dates								
KD3000	Achievement of Section I	0		30-Jan-11		07-Dec-07 A	0	
Portion Handover								
KD6200	Portion 4 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
Inlet Chamber								
Diaphragm Wall								
S1/02040	Mobilization of Plant and Labours	130	06-Oct-09	22-Mar-10	06-Oct-09 A	22-Mar-10 A	0	
S1/02050	Establishment of Slurry Treatment Plant	60	06-Oct-09	14-Dec-09	06-Oct-09 A	14-Dec-09 A	0	
S1/02070	Inlet Chamber: Preparation for DW construction	1	22-Mar-10	22-Mar-10	22-Mar-10 A	22-Mar-10 A	0	
S1/02060	C1-C13,P1-P3&P41-P42 (18 nos. Panels)	129	23-Mar-10	06-Jan-11	23-Mar-10 A	17-Feb-11 A	0	
S1/02080	Inlet Chamber: DW Panel P42	13	23-Mar-10	03-May-10	23-Mar-10 A	03-May-10 A	0	
S1/02090	Inlet Chamber: DW Panel P2	14	04-May-10	17-May-10	04-May-10 A	17-May-10 A	0	
S1/02100	Inlet Chamber: DW Panel C3	10	18-May-10	29-May-10	18-May-10 A	29-May-10 A	0	
S1/02110	Inlet Chamber: DW Panel C11	10	19-May-10	04-Jun-10	19-May-10 A	04-Jun-10 A	0	
S1/02120	Inlet Chamber: DW Panel C7	10	04-Jun-10	10-Jul-10	04-Jun-10 A	10-Jul-10 A	0	
S1/02130	Inlet Chamber: DW Panel P1	4	07-Jun-10	19-Jun-10	07-Jun-10 A	19-Jun-10 A	0	
S1/02140	Inlet Chamber: DW Panel P41+C1	13	11-Jul-10	02-Aug-10	11-Jul-10 A	02-Aug-10 A	0	
S1/02150	Inlet Chamber: DW Panel C9	13	23-Jul-10	22-Oct-10	23-Jul-10 A	22-Oct-10 A	0	
S1/02170	Inlet Chamber: DW Panel P3+C13	13	05-Aug-10	31-Aug-10	05-Aug-10 A	31-Aug-10 A	0	
S1/02160	Inlet Chamber: DW Panel C5	13	06-Aug-10	08-Sep-10	06-Aug-10 A	08-Sep-10 A	0	
S1/02180	Inlet Chamber: DW Panel C2	13	25-Sep-10	07-Jan-11	25-Sep-10 A	15-Jan-11 A	0	
S1/02210	Inlet Chamber: DW Panel C12	4	27-Sep-10	29-Nov-10	27-Sep-10 A	29-Nov-10 A	0	
S1/02190	Inlet Chamber: DW Panel C10	4	29-Oct-10	22-Nov-10	29-Oct-10 A	22-Nov-10 A	0	
S1/02220	Inlet Chamber: DW Panel C4	4	03-Nov-10	09-Dec-10	03-Nov-10 A	09-Dec-10 A	0	
S1/02200	Inlet Chamber: DW Panel C6	4	19-Nov-10	26-Nov-10	19-Nov-10 A	26-Nov-10 A	0	
S1/02230	Inlet Chamber: DW Panel C8	4	27-Nov-10	07-Jan-11	27-Nov-10 A	17-Feb-11 A	0	
S1/02280	Access Date to penetrate Dwall by SCS Contractor	2	30-Jan-11	01-Feb-11	01-Dec-10 A	01-Dec-10 A	0	
S1/02260	Carry Out Toe Grouting	48	10-Dec-10	29-Jan-11	10-Dec-10 A	14-Mar-11 A	0	
S1/02262	Dummy for Toe Grouting	0	30-Jan-11	30-Jan-11	15-Mar-11 A	15-Mar-11 A	0	
S1/02270	Submission of As-built Record of Diaphragm Wall	28	08-Jan-11	08-Feb-11	20-Mar-11 A	26-Apr-11	27	296
Initial Works / Associated Submission								
S1/01020	Site Clearance (Portion 4)	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S1/01030	Precondition Survey of Existing Structures	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S1/01040	Erection of Steel Fencing & Entrance Gate	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S1/01070	Submission of Diaphragm Wall M.S.	14	17-Sep-09	05-Oct-09	17-Sep-09 A	05-Oct-09 A	0	
S1/01090	Submission of Ground Treatment M.S.	14	17-Sep-09	05-Oct-09	17-Sep-09 A	05-Oct-09 A	0	
S1/01080	Engineer's Review of Diaphragm Wall M.S.	14	06-Oct-09	21-Oct-09	06-Oct-09 A	21-Oct-09 A	0	
S1/01100	Engineer's Approval of Ground Treatment M.S.	14	06-Oct-09	21-Oct-09	06-Oct-09 A	21-Oct-09 A	0	
S1/01050	Pre-drilling Works of Diaphragm Wall	28	14-Oct-09	16-Nov-09	14-Oct-09 A	16-Nov-09 A	0	
S1/01120	Installation of Geotechnical Instruments	40	14-Oct-09	30-Nov-09	14-Oct-09 A	30-Nov-09 A	0	
S1/01110	Construction of Guide Wall	28	22-Oct-09	02-Nov-09	22-Oct-09 A	02-Nov-09 A	0	
S1/01060	Confirm Founding Level of Diaphragm Wall	135	17-Nov-09	30-Nov-10	17-Nov-09 A	30-Nov-10 A	0	
Utilities and Services								
General								
S1/01000	Underground Utilities Detection & Trial Holes	14	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
Section 2								
(For All Works Under the Contract)								
Key Dates								
KD4000	Achievement of Section II	0		23-Feb-12		16-Mar-12	0	-123
Portion Handover								
KD6100	Portion 3 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
Main Pumping Station								
Diaphragm Wall								
S2/03550	P4 to P40 (37 nos. Panels)	234	15-Dec-09	31-Dec-10	15-Dec-09 A	31-Dec-10 A	0	
S2/03560	Main Pumping Station: DW Panel P24	21	15-Dec-09	04-Jan-10	15-Dec-09 A	04-Jan-10 A	0	



Actual Work | Critical Remaining Work | Remaining Work | Milestone

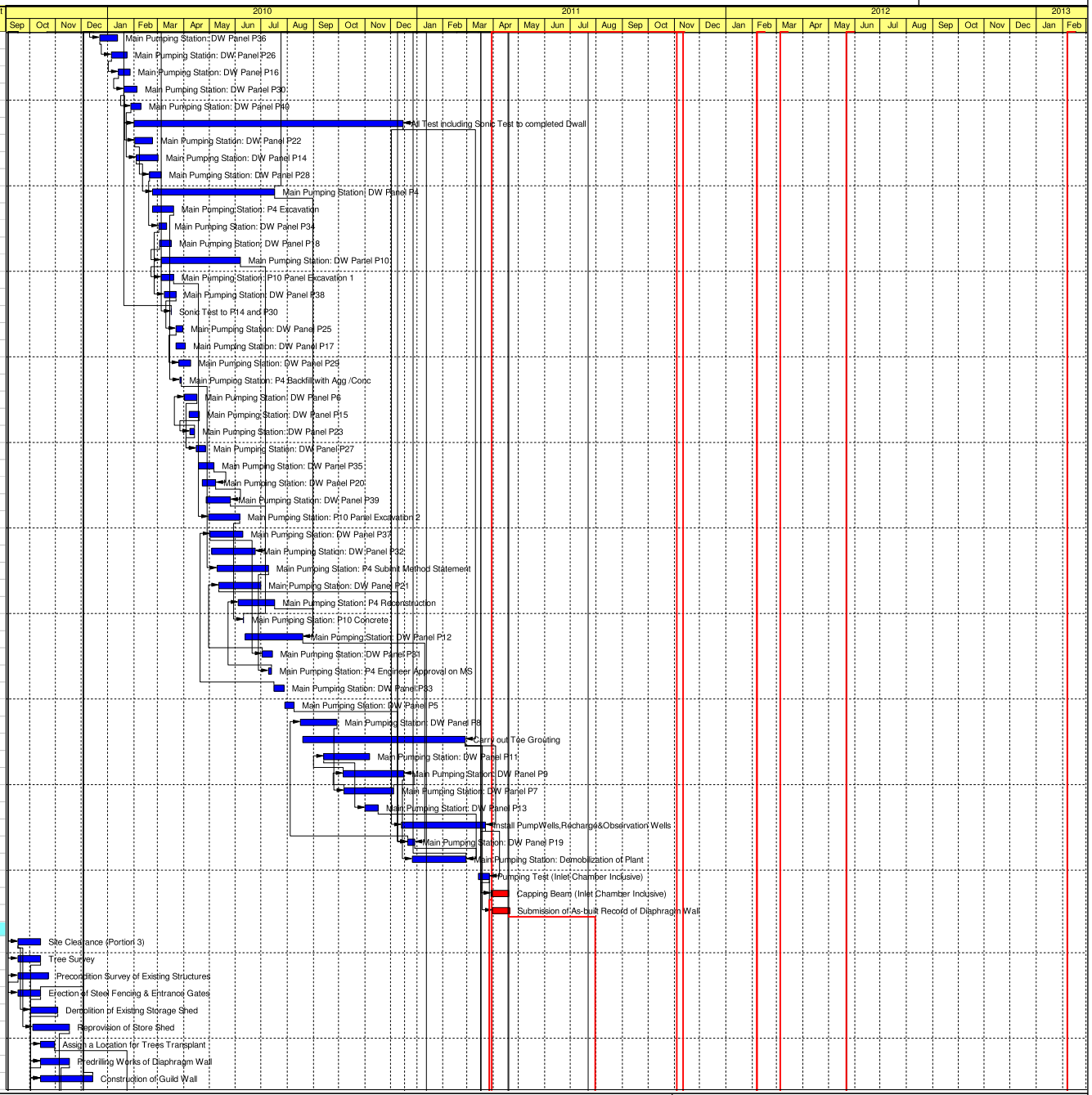
Monthly Progress Update - 31 March 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Mar-11	Monthly update March 2011		CL

Harbour Area Treatment Scheme Stage 2A Construction of Interconnection Tunnel & D. Wall - Main Pumping Station at Stonecutters Island

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
S2/03570	Main Pumping Station: DW Panel P36	21	23-Dec-09	12-Jan-10	23-Dec-09 A	12-Jan-10 A	0	
S2/03580	Main Pumping Station: DW Panel P26	19	05-Jan-10	23-Jan-10	05-Jan-10 A	23-Jan-10 A	0	
S2/03590	Main Pumping Station: DW Panel P16	14	14-Jan-10	27-Jan-10	14-Jan-10 A	27-Jan-10 A	0	
S2/03600	Main Pumping Station: DW Panel P30	16	20-Jan-10	04-Feb-10	20-Jan-10 A	04-Feb-10 A	0	
S2/03610	Main Pumping Station: DW Panel P40	13	28-Jan-10	09-Feb-10	28-Jan-10 A	09-Feb-10 A	0	
S2/04030	All Test including Sonic Test to completed Dwall	75	01-Feb-10	15-Dec-10	01-Feb-10 A	15-Dec-10 A	0	
S2/03620	Main Pumping Station: DW Panel P22	18	02-Feb-10	23-Feb-10	02-Feb-10 A	23-Feb-10 A	0	
S2/03630	Main Pumping Station: DW Panel P14	22	04-Feb-10	01-Mar-10	04-Feb-10 A	01-Mar-10 A	0	
S2/03640	Main Pumping Station: DW Panel P28	15	19-Feb-10	05-Mar-10	19-Feb-10 A	05-Mar-10 A	0	
S2/03810	Main Pumping Station: DW Panel P4	141	23-Feb-10	17-Jul-10	23-Feb-10 A	17-Jul-10 A	0	
S2/03820	Main Pumping Station: P4 Excavation	25	23-Feb-10	19-Mar-10	23-Feb-10 A	19-Mar-10 A	0	
S2/03650	Main Pumping Station: DW Panel P34	10	02-Mar-10	11-Mar-10	02-Mar-10 A	11-Mar-10 A	0	
S2/03660	Main Pumping Station: DW Panel P18	15	03-Mar-10	17-Mar-10	03-Mar-10 A	17-Mar-10 A	0	
S2/03780	Main Pumping Station: DW Panel P10	116	05-Mar-10	06-Jun-10	05-Mar-10 A	06-Jun-10 A	0	
S2/03782	Main Pumping Station: P10 Panel Excavation 1	15	05-Mar-10	19-Mar-10	05-Mar-10 A	19-Mar-10 A	0	
S2/03670	Main Pumping Station: DW Panel P38	14	09-Mar-10	22-Mar-10	09-Mar-10 A	22-Mar-10 A	0	
S2/04020	Sonic Test to P14 and P30	1	17-Mar-10	17-Mar-10	17-Mar-10 A	17-Mar-10 A	0	
S2/03680	Main Pumping Station: DW Panel P25	16	23-Mar-10	30-Mar-10	23-Mar-10 A	30-Mar-10 A	0	
S2/03690	Main Pumping Station: DW Panel P17	8	23-Mar-10	02-Apr-10	23-Mar-10 A	02-Apr-10 A	0	
S2/03700	Main Pumping Station: DW Panel P29	10	26-Mar-10	09-Apr-10	26-Mar-10 A	09-Apr-10 A	0	
S2/03830	Main Pumping Station: P4 Backfill with Agg /Conc	3	27-Mar-10	29-Mar-10	27-Mar-10 A	29-Mar-10 A	0	
S2/03720	Main Pumping Station: DW Panel P6	16	02-Apr-10	16-Apr-10	02-Apr-10 A	16-Apr-10 A	0	
S2/03730	Main Pumping Station: DW Panel P15	10	07-Apr-10	19-Apr-10	07-Apr-10 A	19-Apr-10 A	0	
S2/03710	Main Pumping Station: DW Panel P23	10	08-Apr-10	13-Apr-10	08-Apr-10 A	13-Apr-10 A	0	
S2/03740	Main Pumping Station: DW Panel P27	15	15-Apr-10	26-Apr-10	15-Apr-10 A	26-Apr-10 A	0	
S2/03750	Main Pumping Station: DW Panel P35	10	18-Apr-10	06-May-10	18-Apr-10 A	06-May-10 A	0	
S2/03760	Main Pumping Station: DW Panel P20	10	23-Apr-10	08-May-10	23-Apr-10 A	08-May-10 A	0	
S2/03770	Main Pumping Station: DW Panel P39	10	27-Apr-10	25-May-10	27-Apr-10 A	25-May-10 A	0	
S2/03784	Main Pumping Station: P10 Panel Excavation 2	20	30-Apr-10	05-Jun-10	30-Apr-10 A	05-Jun-10 A	0	
S2/03890	Main Pumping Station: DW Panel P37	8	02-May-10	09-Jun-10	02-May-10 A	09-Jun-10 A	0	
S2/03790	Main Pumping Station: DW Panel P32	15	04-May-10	24-Jun-10	04-May-10 A	24-Jun-10 A	0	
S2/03840	Main Pumping Station: P4 Submit Method Statement	21	10-May-10	09-Jul-10	10-May-10 A	09-Jul-10 A	0	
S2/03910	Main Pumping Station: DW Panel P21	8	12-May-10	30-Jun-10	12-May-10 A	30-Jun-10 A	0	
S2/03860	Main Pumping Station: P4 Reconstruction	18	04-Jun-10	17-Jul-10	04-Jun-10 A	17-Jul-10 A	0	
S2/03786	Main Pumping Station: P10 Concrete	4	10-Jun-10	10-Jun-10	10-Jun-10 A	10-Jun-10 A	0	
S2/03870	Main Pumping Station: DW Panel P12	15	12-Jun-10	19-Aug-10	12-Jun-10 A	19-Aug-10 A	0	
S2/03900	Main Pumping Station: DW Panel P31	8	02-Jul-10	14-Jul-10	02-Jul-10 A	14-Jul-10 A	0	
S2/03850	Main Pumping Station: P4 Engineer Approval on MS	6	10-Jul-10	13-Jul-10	10-Jul-10 A	13-Jul-10 A	0	
S2/03880	Main Pumping Station: DW Panel P33	8	16-Jul-10	28-Jul-10	16-Jul-10 A	28-Jul-10 A	0	
S2/03930	Main Pumping Station: DW Panel P5	8	29-Jul-10	09-Aug-10	29-Jul-10 A	09-Aug-10 A	0	
S2/03800	Main Pumping Station: DW Panel P8	15	16-Aug-10	28-Sep-10	16-Aug-10 A	28-Sep-10 A	0	
S2/04050	Carry out Toe Grouting	75	19-Aug-10	14-Jan-11	19-Aug-10 A	27-Feb-11 A	0	
S2/03960	Main Pumping Station: DW Panel P11	8	13-Sep-10	06-Nov-10	13-Sep-10 A	06-Nov-10 A	0	
S2/03950	Main Pumping Station: DW Panel P9	8	06-Oct-10	16-Dec-10	06-Oct-10 A	16-Dec-10 A	0	
S2/03940	Main Pumping Station: DW Panel P7	8	07-Oct-10	04-Dec-10	07-Oct-10 A	04-Dec-10 A	0	
S2/03970	Main Pumping Station: DW Panel P13	8	01-Nov-10	16-Nov-10	01-Nov-10 A	16-Nov-10 A	0	
S2/04080	Install PumpWells,Recharge&Observation Wells	21	14-Dec-10	15-Feb-11	14-Dec-10 A	23-Mar-11 A	0	
S2/03920	Main Pumping Station: DW Panel P19	8	21-Dec-10	30-Dec-10	21-Dec-10 A	30-Dec-10 A	0	
S2/03980	Main Pumping Station: Demobilization of Plant	5	27-Dec-10	31-Dec-10	27-Dec-10 A	28-Feb-11 A	0	
S2/04090	Pumping Test (Inlet Chamber Inclusive)	21	16-Feb-11	08-Mar-11	15-Mar-11 A	28-Mar-11 A	0	
S2/04070	Capping Beam (Inlet Chamber Inclusive)	20	15-Jan-11	08-Feb-11	30-Mar-11 A	19-Apr-11	20	-113
S2/04100	Submission of As-built Record of Diaphragm Wall	21	15-Jan-11	08-Feb-11	31-Mar-11	20-Apr-11	21	-9
Initial Works / Associated Submission								
S2/03120	Site Clearance (Portion 3)	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S2/03130	Tree Survey	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S2/03160	Precondition Survey of Existing Structures	30	17-Sep-09	23-Oct-09	17-Sep-09 A	23-Oct-09 A	0	
S2/03170	Erection of Steel Fencing & Entrance Gates	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S2/03150	Demolition of Existing Storage Shed	30	02-Oct-09	03-Nov-09	02-Oct-09 A	03-Nov-09 A	0	
S2/03230	Reprovision of Store Shed	28	05-Oct-09	16-Nov-09	05-Oct-09 A	16-Nov-09 A	0	
S2/03140	Assign a Location for Trees Transplant	14	14-Oct-09	30-Oct-09	14-Oct-09 A	30-Oct-09 A	0	
S2/03180	Predrilling Works of Diaphragm Wall	30	14-Oct-09	16-Nov-09	14-Oct-09 A	16-Nov-09 A	0	
S2/03200	Construction of Guild Wall	52	14-Oct-09	14-Dec-09	14-Oct-09 A	14-Dec-09 A	0	



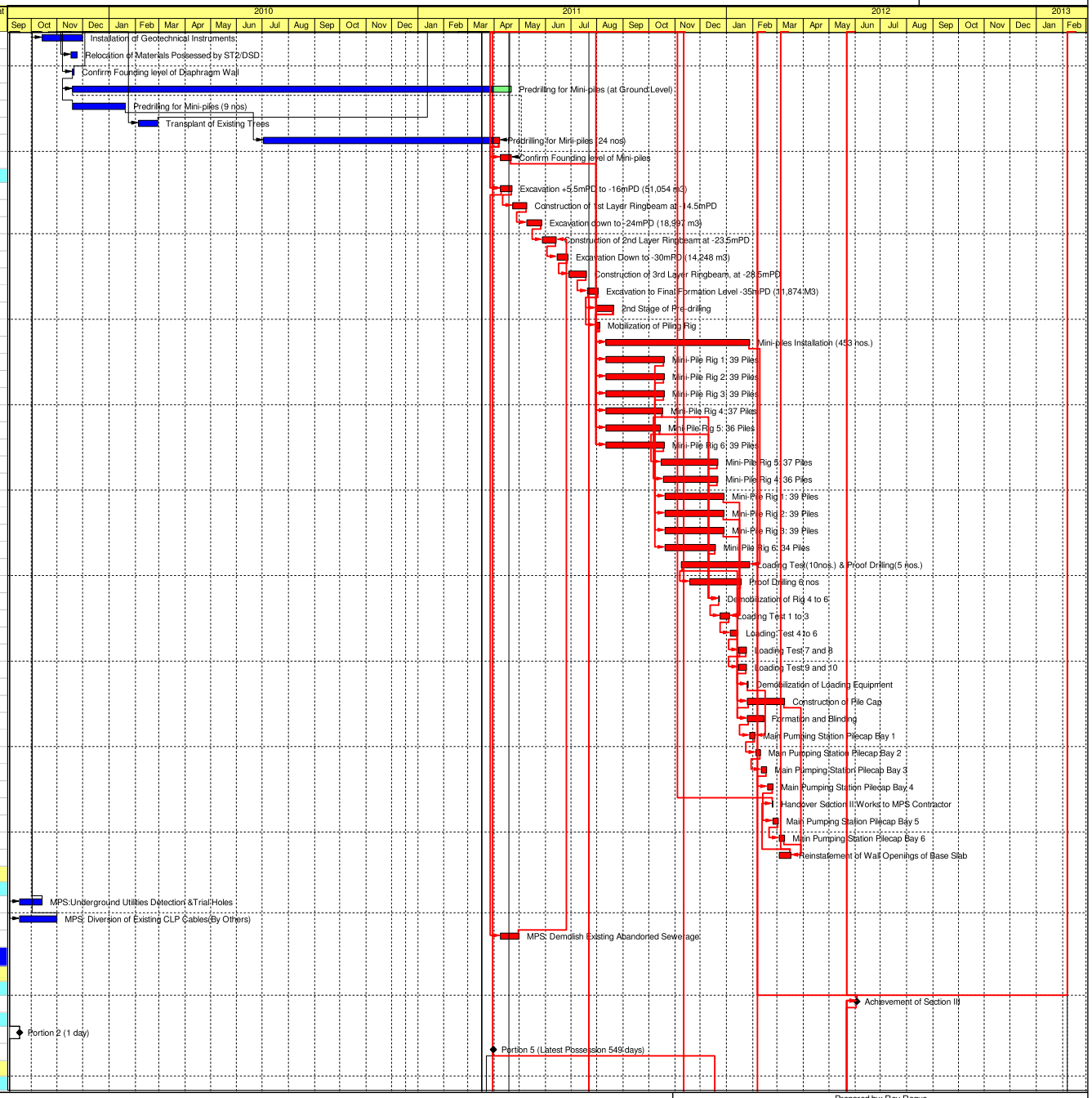
Actual Work | Critical Remaining Work | Remaining Work | Milestone

Monthly Progress Update - 31 March 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Mar-11	Monthly update March 2011		CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
S2/03210	Installation of Geotechnical Instruments	45	14-Oct-09	30-Nov-09	14-Oct-09 A	30-Nov-09 A	0	
S2/03220	Relocation of Materials Possessed by ST2/DSD	8	17-Nov-09	24-Nov-09	17-Nov-09 A	24-Nov-09 A	0	
S2/03190	Confirm Founding level of Diaphragm Wall	14	19-Nov-09	20-Nov-09	19-Nov-09 A	20-Nov-09 A	0	
S2/03250	Predrilling for Mini-piles (at Ground Level)	200	19-Nov-09	14-Mar-11	19-Nov-09 A	21-Apr-11	18	9
S2/03260	Predrilling for Mini-piles (9 nos)	51	19-Nov-09	20-Jan-10	19-Nov-09 A	20-Jan-10 A	0	
S2/03240	Transplant of Existing Trees	7	05-Feb-10	27-Feb-10	05-Feb-10 A	27-Feb-10 A	0	
S2/03270	Predrilling for Mini-piles (24 nos)	60	02-Jul-10	28-Feb-11	02-Jul-10 A	07-Apr-11	6	-101
S2/03280	Confirm Founding level of Mini-piles	12	01-Mar-11	14-Mar-11	08-Apr-11	21-Apr-11	12	-9
Other Works								
S2/05020	Excavation +5.5mPD to -16mPD (51,054 m3)	15	09-Mar-11	23-Mar-11	08-Apr-11	22-Apr-11	15	-121
S2/05030	Construction of 1st Layer Ringbeam at -14.5mPD	17	24-Mar-11	09-Apr-11	23-Apr-11	09-May-11	17	-121
S2/05040	Excavation down to -24mPD (18,997 m3)	18	10-Apr-11	27-Apr-11	10-May-11	27-May-11	18	-121
S2/05050	Construction of 2nd Layer Ringbeam at -23.5mPD	17	28-Apr-11	14-May-11	28-May-11	13-Jun-11	17	-121
S2/05060	Excavation Down to -30mPD (14,248 m3)	14	15-May-11	28-May-11	14-Jun-11	27-Jun-11	14	-121
S2/05070	Construction of 3rd Layer Ringbeam, at -28.5mPD	22	29-May-11	19-Jun-11	28-Jun-11	19-Jul-11	22	-121
S2/05080	Excavation to Final Formation Level -35mPD (11,874	14	20-Jun-11	03-Jul-11	20-Jul-11	02-Aug-11	14	-121
S2/05410	2nd Stage of Pre-drilling	22	30-Jun-11	21-Jul-11	30-Jul-11	20-Aug-11	22	-121
S2/05100	Mobilization of Piling Rig	6	30-Jun-11	05-Jul-11	30-Jul-11	04-Aug-11	6	-109
S2/05090	Mini-piles Installation (453 nos.)	169	22-Jul-11	06-Jan-12	11-Aug-11	28-Jan-12	169	-121
S2/05110	Mini-Pile Rig 1: 39 Piles	70	22-Jul-11	29-Sep-11	11-Aug-11	19-Oct-11	70	-115
S2/05130	Mini-Pile Rig 2: 39 Piles	70	22-Jul-11	29-Sep-11	11-Aug-11	19-Oct-11	70	-115
S2/05150	Mini-Pile Rig 3: 39 Piles	70	22-Jul-11	29-Sep-11	11-Aug-11	19-Oct-11	70	-115
S2/05170	Mini-Pile Rig 4: 37 Piles	68	22-Jul-11	27-Sep-11	11-Aug-11	17-Oct-11	68	-115
S2/05190	Mini-Pile Rig 5: 36 Piles	65	22-Jul-11	24-Sep-11	11-Aug-11	14-Oct-11	65	-115
S2/05210	Mini-Pile Rig 6: 39 Piles	70	22-Jul-11	29-Sep-11	11-Aug-11	19-Oct-11	70	-112
S2/05200	Mini-Pile Rig 5: 37 Piles	68	25-Sep-11	01-Dec-11	15-Oct-11	21-Dec-11	68	-115
S2/05180	Mini-Pile Rig 4: 36 Piles	65	28-Sep-11	01-Dec-11	18-Oct-11	21-Dec-11	65	-115
S2/05120	Mini-Pile Rig 1: 39 Piles	69	30-Sep-11	08-Dec-11	20-Oct-11	28-Dec-11	69	-115
S2/05140	Mini-Pile Rig 2: 39 Piles	69	30-Sep-11	08-Dec-11	20-Oct-11	28-Dec-11	69	-115
S2/05160	Mini-Pile Rig 3: 39 Piles	69	30-Sep-11	08-Dec-11	20-Oct-11	28-Dec-11	69	-115
S2/05220	Mini-Pile Rig 6: 34 Piles	60	30-Sep-11	28-Nov-11	20-Oct-11	18-Dec-11	60	-112
S2/05240	Loading Test(10nos.) & Proof Drilling(5 nos.)	80	19-Oct-11	06-Jan-12	08-Nov-11	28-Jan-12	80	-121
S2/05250	Proof Drilling 6 nos	60	29-Oct-11	27-Dec-11	18-Nov-11	18-Jan-12	60	-115
S2/05230	Demobilization of Rig 4 to 6	2	02-Dec-11	03-Dec-11	22-Dec-11	23-Dec-11	2	-115
S2/05260	Loading Test 1 to 3	10	05-Dec-11	14-Dec-11	24-Dec-11	04-Jan-12	10	-115
S2/05270	Loading Test 4 to 6	10	15-Dec-11	24-Dec-11	05-Jan-12	14-Jan-12	10	-115
S2/05280	Loading Test 7 and 8	10	25-Dec-11	03-Jan-12	15-Jan-12	24-Jan-12	10	-115
S2/05290	Loading Test 9 and 10	10	25-Dec-11	03-Jan-12	15-Jan-12	24-Jan-12	10	-115
S2/05300	Demobilization of Loading Equipment	2	04-Jan-12	05-Jan-12	25-Jan-12	26-Jan-12	2	-115
S2/05310	Construction of Pile Cap	45	03-Jan-12	16-Feb-12	25-Jan-12	09-Mar-12	45	-121
S2/05320	Formation and Blinding	20	03-Jan-12	22-Jan-12	25-Jan-12	13-Feb-12	20	-121
S2/05330	Main Pumping Station Pilecap Bay 1	7	06-Jan-12	12-Jan-12	28-Jan-12	03-Feb-12	7	-121
S2/05340	Main Pumping Station Pilecap Bay 2	7	13-Jan-12	19-Jan-12	04-Feb-12	10-Feb-12	7	-121
S2/05350	Main Pumping Station Pilecap Bay 3	7	20-Jan-12	26-Jan-12	11-Feb-12	17-Feb-12	7	-121
S2/05360	Main Pumping Station Pilecap Bay 4	7	27-Jan-12	02-Feb-12	18-Feb-12	24-Feb-12	7	-121
S2/05400	Handover Section II Works to MPS Contractor	1	02-Feb-12	02-Feb-12	24-Feb-12	24-Feb-12	1	-99
S2/05370	Main Pumping Station Pilecap Bay 5	7	03-Feb-12	09-Feb-12	25-Feb-12	02-Mar-12	7	-121
S2/05380	Main Pumping Station Pilecap Bay 6	7	10-Feb-12	16-Feb-12	03-Mar-12	09-Mar-12	7	-121
S2/05390	Reinstatement of Wall Openings of Base Slab	14	10-Feb-12	23-Feb-12	03-Mar-12	16-Mar-12	14	-121
Utilities and Services								
General								
S2/03010	MPS:Underground Utilities Detection &Trial Holes	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S2/03020	MPS: Diversion of Existing CLP Cables(By Others)	36	17-Sep-09	31-Oct-09	17-Sep-09 A	31-Oct-09 A	0	
S2/03040	MPS: Demolish Existing Abandoned Sewerage	18	09-Mar-11	29-Mar-11	08-Apr-11	30-Apr-11	18	-63
Section 3								
(For All Works Under the Contract)								
Key Dates								
KD5000	Achievement of Section III	0		10-Apr-12		02-Jun-12	0	-106
Portion Handover								
KD6000	Portion 2 (1 day)	0	17-Sep-09		17-Sep-09 A		0	
KD6300	Portion 5 (Latest Possession 549 days)	0	19-Mar-11		31-Mar-11*		0	-12
General Requirement								
General								



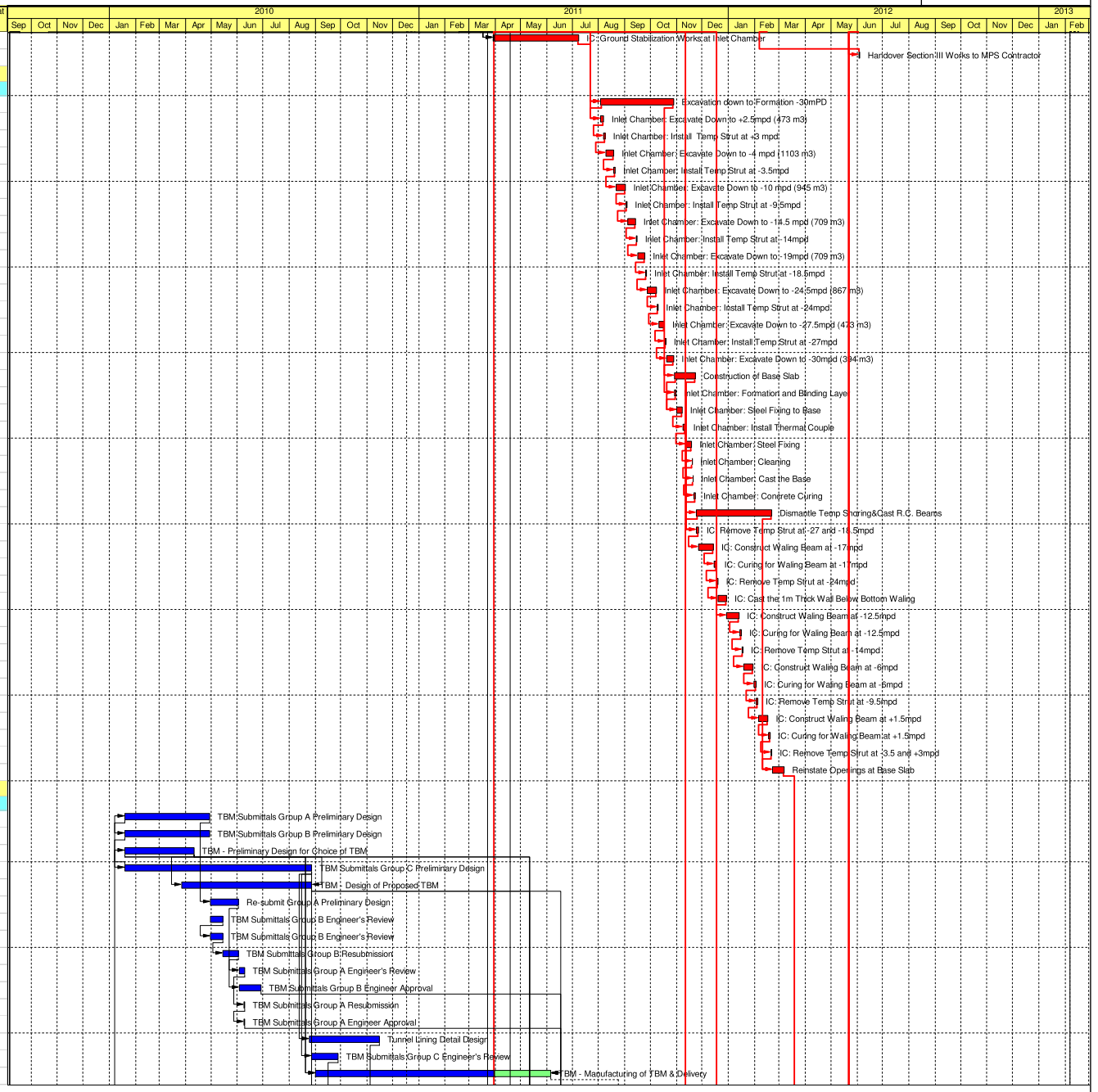
Actual Work | Critical Remaining Work | Remaining Work | Milestone

Monthly Progress Update - 31 March 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Mar-11	Monthly update March 2011		CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
S3/06010	IC: Ground Stabilization Works at Inlet Chamber	100	09-Mar-11	16-Jun-11	29-Mar-11 A	08-Jul-11	100	-48
S3/06020	Handover Section III Works to MPS Contractor	1	11-Apr-12	11-Apr-12	03-Jun-12	03-Jun-12	1	-106
Inlet Chamber								
General								
S3/06120	Excavation down to Formation -30mPD	87	04-Jul-11	28-Sep-11	03-Aug-11	28-Oct-11	87	-73
S3/06130	Inlet Chamber: Excavate Down to +2.5mpd (473 m3)	4	04-Jul-11	07-Jul-11	03-Aug-11	06-Aug-11	4	-73
S3/06140	Inlet Chamber: Install Temp Strut at +3 mpd	2	08-Jul-11	09-Jul-11	07-Aug-11	08-Aug-11	2	-73
S3/06150	Inlet Chamber: Excavate Down to -4 mpd (1103 m3)	10	10-Jul-11	19-Jul-11	09-Aug-11	18-Aug-11	10	-73
S3/06160	Inlet Chamber: Install Temp Strut at -3.5mpd	2	20-Jul-11	21-Jul-11	19-Aug-11	20-Aug-11	2	-73
S3/06170	Inlet Chamber: Excavate Down to -10 mpd (945 m3)	12	22-Jul-11	02-Aug-11	21-Aug-11	01-Sep-11	12	-73
S3/06180	Inlet Chamber: Install Temp Strut at -9.5mpd	2	03-Aug-11	04-Aug-11	02-Sep-11	03-Sep-11	2	-73
S3/06190	Inlet Chamber: Excavate Down to -14.5 mpd (709 m3	10	05-Aug-11	14-Aug-11	04-Sep-11	13-Sep-11	10	-73
S3/06200	Inlet Chamber: Install Temp Strut at -14mpd	2	15-Aug-11	16-Aug-11	14-Sep-11	15-Sep-11	2	-73
S3/06210	Inlet Chamber: Excavate Down to -19mpd (709 m3)	9	17-Aug-11	25-Aug-11	16-Sep-11	24-Sep-11	9	-73
S3/06220	Inlet Chamber: Install Temp Strut at -18.5mpd	2	26-Aug-11	27-Aug-11	25-Sep-11	26-Sep-11	2	-73
S3/06230	Inlet Chamber: Excavate Down to -24.5mpd (867 m3)	12	28-Aug-11	08-Sep-11	27-Sep-11	08-Oct-11	12	-73
S3/06240	Inlet Chamber: Install Temp Strut at -24mpd	2	09-Sep-11	10-Sep-11	09-Oct-11	10-Oct-11	2	-73
S3/06250	Inlet Chamber: Excavate Down to -27.5mpd (473 m3)	7	11-Sep-11	17-Sep-11	11-Oct-11	17-Oct-11	7	-73
S3/06260	Inlet Chamber: Install Temp Strut at -27mpd	2	18-Sep-11	19-Sep-11	18-Oct-11	19-Oct-11	2	-73
S3/06270	Inlet Chamber: Excavate Down to -30mpd (394 m3)	9	20-Sep-11	28-Sep-11	20-Oct-11	28-Oct-11	9	-73
S3/06280	Construction of Base Slab	26	29-Sep-11	24-Oct-11	29-Oct-11	23-Nov-11	26	-73
S3/06290	Inlet Chamber: Formation and Blinding Layer	3	29-Sep-11	01-Oct-11	29-Oct-11	31-Oct-11	3	-73
S3/06300	Inlet Chamber: Steel Fixing to Base	7	02-Oct-11	08-Oct-11	01-Nov-11	07-Nov-11	7	-73
S3/06310	Inlet Chamber: Install Thermal Couple	4	09-Oct-11	12-Oct-11	08-Nov-11	11-Nov-11	4	-73
S3/06320	Inlet Chamber: Steel Fixing	7	13-Oct-11	19-Oct-11	12-Nov-11	18-Nov-11	7	-73
S3/06330	Inlet Chamber: Cleaning	1	20-Oct-11	20-Oct-11	19-Nov-11	19-Nov-11	1	-73
S3/06340	Inlet Chamber: Cast the Base	1	21-Oct-11	21-Oct-11	20-Nov-11	20-Nov-11	1	-73
S3/06350	Inlet Chamber: Concrete Curing	3	22-Oct-11	24-Oct-11	21-Nov-11	23-Nov-11	3	-73
S3/06400	Dismantle Temp Shoring&Cast R.C. Beams	88	25-Oct-11	20-Jan-12	24-Nov-11	21-Feb-12	88	-73
S3/06410	IC: Remove Temp Strut at -27 and -18.5mpd	3	25-Oct-11	27-Oct-11	24-Nov-11	26-Nov-11	3	-73
S3/06420	IC: Construct Waling Beam at -17mpd	18	28-Oct-11	14-Nov-11	27-Nov-11	14-Dec-11	18	-73
S3/06430	IC: Curing for Waling Beam at -17mpd	3	15-Nov-11	17-Nov-11	15-Dec-11	17-Dec-11	3	-73
S3/06440	IC: Remove Temp Strut at -24mpd	2	18-Nov-11	19-Nov-11	18-Dec-11	19-Dec-11	2	-73
S3/06450	IC: Cast the 1m Thick Wall Below Bottom Waling	9	20-Nov-11	28-Nov-11	20-Dec-11	29-Dec-11	9	-73
S3/06460	IC: Construct Waling Beam at -12.5mpd	14	29-Nov-11	12-Dec-11	30-Dec-11	13-Jan-12	14	-73
S3/06470	IC: Curing for Waling Beam at -12.5mpd	3	13-Dec-11	15-Dec-11	14-Jan-12	16-Jan-12	3	-73
S3/06480	IC: Remove Temp Strut at -14mpd	2	16-Dec-11	17-Dec-11	17-Jan-12	18-Jan-12	2	-73
S3/06490	IC: Construct Waling Beam at -6mpd	12	18-Dec-11	29-Dec-11	19-Jan-12	30-Jan-12	12	-73
S3/06500	IC: Curing for Waling Beam at -6mpd	3	30-Dec-11	01-Jan-12	31-Jan-12	02-Feb-12	3	-73
S3/06510	IC: Remove Temp Strut at -9.5mpd	2	02-Jan-12	03-Jan-12	03-Feb-12	04-Feb-12	2	-73
S3/06520	IC: Construct Waling Beam at +1.5mpd	12	04-Jan-12	15-Jan-12	05-Feb-12	16-Feb-12	12	-73
S3/06530	IC: Curing for Waling Beam at +1.5mpd	3	16-Jan-12	18-Jan-12	17-Feb-12	19-Feb-12	3	-73
S3/06540	IC: Remove Temp Strut at -3.5 and +3mpd	2	19-Jan-12	20-Jan-12	20-Feb-12	21-Feb-12	2	-73
S3/06600	Reinstate Openings at Base Slab	14	21-Jan-12	03-Feb-12	22-Feb-12	06-Mar-12	14	-73
Interconnection Tunnel								
Detail Design								
S3/07320	TBM Submittals Group A Preliminary Design	111	19-Jan-10	29-Apr-10	19-Jan-10 A	29-Apr-10 A	0	
S3/07360	TBM Submittals Group B Preliminary Design	111	19-Jan-10	29-Apr-10	19-Jan-10 A	29-Apr-10 A	0	
S3/07400	TBM - Preliminary Design for Choice of TBM	63	19-Jan-10	10-Apr-10	19-Jan-10 A	10-Apr-10 A	0	
S3/07420	TBM Submittals Group C Preliminary Design	111	19-Jan-10	27-Aug-10	19-Jan-10 A	27-Aug-10 A	0	
S3/07410	TBM - Design of Proposed TBM	119	27-Mar-10	27-Aug-10	27-Mar-10 A	27-Aug-10 A	0	
S3/07325	Re-submit Group A Preliminary Design	47	30-Apr-10	02-Jun-10	30-Apr-10 A	02-Jun-10 A	0	
S3/07365	TBM Submittals Group B Engineer's Review	47	30-Apr-10	14-May-10	30-Apr-10 A	14-May-10 A	0	
S3/07370	TBM Submittals Group B Engineer's Review	36	30-Apr-10	14-May-10	30-Apr-10 A	14-May-10 A	0	
S3/07380	TBM Submittals Group B Resubmission	19	15-May-10	02-Jun-10	15-May-10 A	02-Jun-10 A	0	
S3/07330	TBM Submittals Group A Engineer's Review	36	03-Jun-10	09-Jun-10	03-Jun-10 A	09-Jun-10 A	0	
S3/07390	TBM Submittals Group B Engineer Approval	16	03-Jun-10	28-Jun-10	03-Jun-10 A	28-Jun-10 A	0	
S3/07340	TBM Submittals Group A Resubmission	19	09-Jun-10	09-Jun-10	09-Jun-10 A	09-Jun-10 A	0	
S3/07350	TBM Submittals Group A Engineer Approval	16	09-Jun-10	09-Jun-10	09-Jun-10 A	09-Jun-10 A	0	
S3/07850	Tunnel Lining Detail Design	90	25-Aug-10	15-Nov-10	25-Aug-10 A	15-Nov-10 A	0	
S3/07430	TBM Submittals Group C Engineer's Review	36	27-Aug-10	27-Sep-10	27-Aug-10 A	27-Sep-10 A	0	
S3/07460	TBM - Manufacturing of TBM & Delivery	235	01-Sep-10	03-Jun-11	01-Sep-10 A	05-Jun-11	67	6



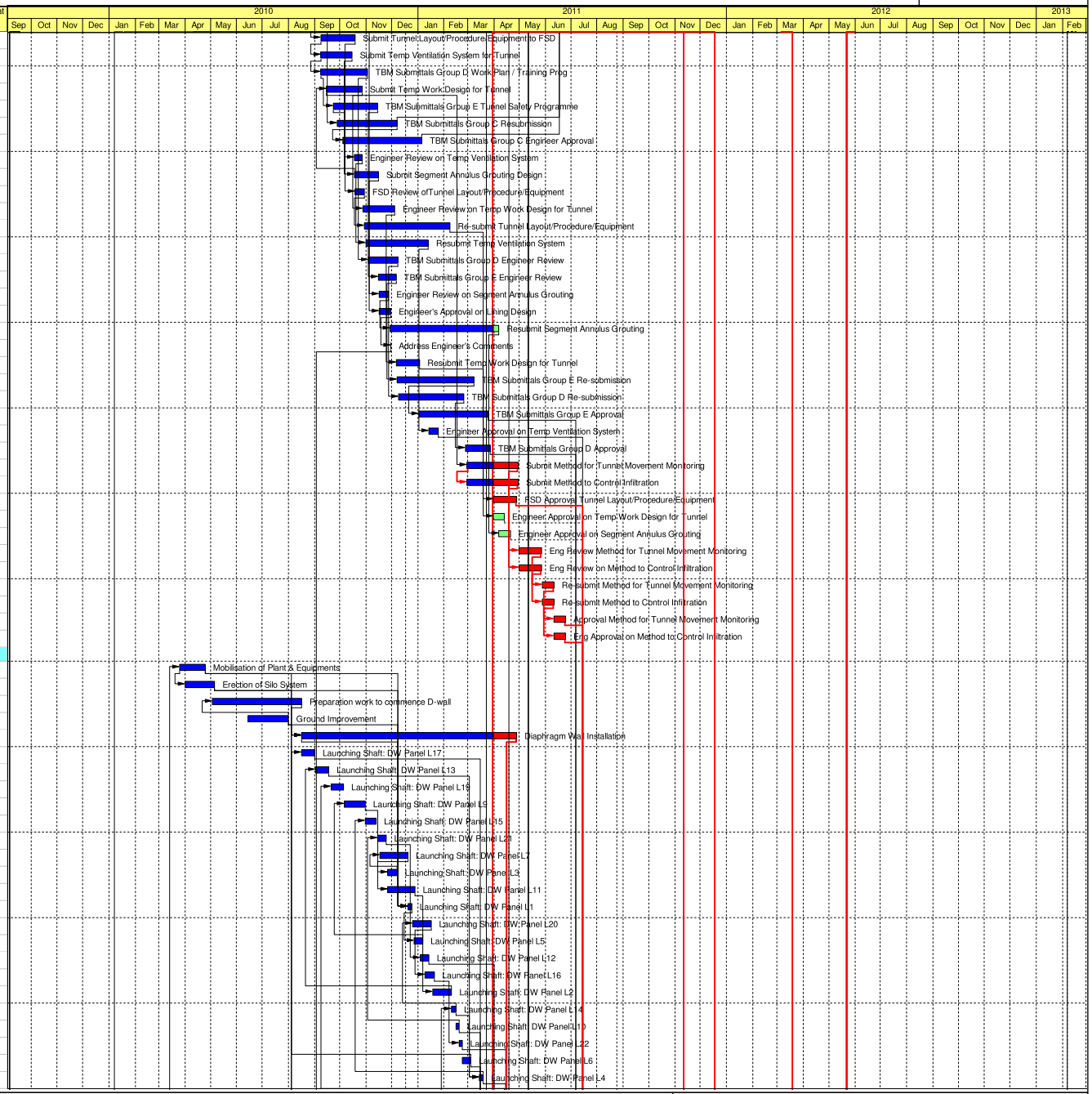
Actual Work | Critical Remaining Work | Remaining Work | Milestone

Monthly Progress Update - 31 March 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Mar-11	Monthly update March 2011		CL

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
S3/07470	Submit Tunnel Layout/Procedure/Equipment to FSD	60	08-Sep-10	18-Oct-10	08-Sep-10 A	18-Oct-10 A	0	
S3/07510	Submit Temp Ventilation System for Tunnel	60	08-Sep-10	15-Oct-10	08-Sep-10 A	15-Oct-10 A	0	
S3/07610	TBM Submittals Group D Work Plan / Training Prog	60	08-Sep-10	02-Nov-10	08-Sep-10 A	02-Nov-10 A	0	
S3/07730	Submit Temp Work Design for Tunnel	60	31-Dec-10	04-Mar-11	15-Sep-10 A	27-Oct-10 A	0	
S3/07650	TBM Submittals Group E Tunnel Safety Programme	60	23-Sep-10	14-Nov-10	23-Sep-10 A	14-Nov-10 A	0	
S3/07440	TBM Submittals Group C Resubmission	19	28-Sep-10	07-Dec-10	28-Sep-10 A	07-Dec-10 A	0	
S3/07450	TBM Submittals Group C Engineer Approval	16	04-Oct-10	13-Jan-11	04-Oct-10 A	06-Jan-11 A	0	
S3/07520	Engineer Review on Temp Ventilation System	28	18-Oct-10	27-Oct-10	18-Oct-10 A	27-Oct-10 A	0	
S3/07690	Submit Segment Annulus Grouting Design	60	18-Oct-10	15-Nov-10	18-Oct-10 A	15-Nov-10 A	0	
S3/07480	FSD Review ofTunnel Layout/Procedure/Equipment	28	19-Oct-10	29-Oct-10	19-Oct-10 A	29-Oct-10 A	0	
S3/07740	Engineer Review on Temp Work Design for Tunnel	28	05-Mar-11	01-Apr-11	28-Oct-10 A	05-Dec-10 A	0	
S3/07490	Re-submit Tunnel Layout/Procedure/Equipment	60	30-Oct-10	25-Feb-11	30-Oct-10 A	08-Feb-11 A	0	
S3/07530	Resubmit Temp Ventilation System	21	01-Nov-10	06-Jan-11	01-Nov-10 A	13-Jan-11 A	0	
S3/07620	TBM Submittals Group D Engineer Review	28	03-Nov-10	08-Dec-10	03-Nov-10 A	08-Dec-10 A	0	
S3/07660	TBM Submittals Group E Engineer Review	28	15-Nov-10	06-Dec-10	15-Nov-10 A	06-Dec-10 A	0	
S3/07700	Engineer Review on Segment Annulus Grouting	28	16-Nov-10	27-Nov-10	16-Nov-10 A	27-Nov-10 A	0	
S3/07860	Engineer's Approval on Lining Design	18	16-Nov-10	30-Nov-10	16-Nov-10 A	30-Nov-10 A	0	
S3/07710	Resubmit Segment Annulus Grouting	14	29-Nov-10	06-Jan-11	29-Nov-10 A	06-Apr-11	7	12
S3/07870	Address Engineer's Comments	20	30-Nov-10	30-Nov-10	30-Nov-10 A	30-Nov-10 A	0	
S3/07750	Resubmit Temp Work Design for Tunnel	14	02-Apr-11	15-Apr-11	07-Dec-10 A	03-Jan-11 A	0	
S3/07670	TBM Submittals Group E Re-submission	14	07-Dec-10	12-Jan-11	07-Dec-10 A	09-Mar-11 A	0	
S3/07630	TBM Submittals Group D Re-submission	14	09-Dec-10	12-Jan-11	09-Dec-10 A	25-Feb-11 A	0	
S3/07680	TBM Submittals Group E Approval	14	13-Jan-11	26-Jan-11	02-Jan-11 A	25-Mar-11 A	0	
S3/07540	Engineer Approval on Temp Ventilation System	14	07-Jan-11	20-Jan-11	14-Jan-11 A	25-Jan-11 A	0	
S3/07640	TBM Submittals Group D Approval	14	13-Jan-11	26-Jan-11	26-Feb-11 A	28-Mar-11 A	0	
S3/07770	Submit Method for Tunnel Movement Monitoring	60	31-Dec-10	04-Mar-11	28-Feb-11 A	29-Apr-11	30	-53
S3/07810	Submit Method to Control Infiltration	60	31-Dec-10	04-Mar-11	28-Feb-11 A	29-Apr-11	30	-53
S3/07500	FSD Approval Tunnel Layout/Procedure/Equipment	28	26-Feb-11	25-Mar-11	31-Mar-11	27-Apr-11	28	-3
S3/07760	Engineer Approval on Temp Work Design for Tunnel	14	16-Apr-11	29-Apr-11	31-Mar-11	13-Apr-11	14	19
S3/07720	Engineer Approval on Segment Annulus Grouting	14	07-Jan-11	20-Jan-11	07-Apr-11	20-Apr-11	14	12
S3/07780	Eng Review Method for Tunnel Movement Monitoring	28	05-Mar-11	01-Apr-11	30-Apr-11	27-May-11	28	-53
S3/07820	Eng Review on Method to Control Infiltration	28	05-Mar-11	01-Apr-11	30-Apr-11	27-May-11	28	-53
S3/07790	Re-submit Method for Tunnel Movement Monitoring	14	02-Apr-11	15-Apr-11	28-May-11	10-Jun-11	14	-53
S3/07830	Re-submit Method to Control Infiltration	14	02-Apr-11	15-Apr-11	28-May-11	10-Jun-11	14	-53
S3/07800	Approval Method for Tunnel Movement Monitoring	14	16-Apr-11	29-Apr-11	11-Jun-11	24-Jun-11	14	-53
S3/07840	Eng Approval on Method to Control Infiltration	14	16-Apr-11	29-Apr-11	11-Jun-11	24-Jun-11	14	-53
Launching Shaft Construction								
S3/08020	Mobilisation of Plant & Equipments	24	25-Mar-10	24-Apr-10	25-Mar-10 A	24-Apr-10 A	0	
S3/08030	Erection of Silo System	24	01-Apr-10	05-May-10	01-Apr-10 A	05-May-10 A	0	
S3/08038	Preparation work to commence D-wall	14	03-May-10	16-Aug-10	03-May-10 A	16-Aug-10 A	0	
S3/08035	Ground Improvement	40	14-Jun-10	31-Jul-10	14-Jun-10 A	31-Jul-10 A	0	
S3/08040	Diaphragm Wall Installation	120	16-Aug-10	06-Mar-11	16-Aug-10 A	27-Apr-11	28	-106
S3/08160	Launching Shaft: DW Panel L17	5	16-Aug-10	01-Sep-10	16-Aug-10 A	01-Sep-10 A	0	
S3/08120	Launching Shaft: DW Panel L13	5	02-Sep-10	17-Sep-10	02-Sep-10 A	17-Sep-10 A	0	
S3/08180	Launching Shaft: DW Panel L19	5	20-Sep-10	05-Oct-10	20-Sep-10 A	05-Oct-10 A	0	
S3/08070	Launching Shaft: DW Panel L9	5	06-Oct-10	30-Oct-10	06-Oct-10 A	30-Oct-10 A	0	
S3/08140	Launching Shaft: DW Panel L15	5	31-Oct-10	12-Nov-10	31-Oct-10 A	12-Nov-10 A	0	
S3/08200	Launching Shaft: DW Panel L21	5	14-Nov-10	24-Nov-10	14-Nov-10 A	24-Nov-10 A	0	
S3/08090	Launching Shaft: DW Panel L7	5	17-Nov-10	20-Dec-10	17-Nov-10 A	20-Dec-10 A	0	
S3/08080	Launching Shaft: DW Panel L3	5	26-Nov-10	07-Dec-10	26-Nov-10 A	07-Dec-10 A	0	
S3/08100	Launching Shaft: DW Panel L11	5	26-Nov-10	28-Dec-10	26-Nov-10 A	28-Dec-10 A	0	
S3/08050	Launching Shaft: DW Panel L1	12	20-Dec-10	24-Dec-10	20-Dec-10 A	24-Dec-10 A	0	
S3/08240	Launching Shaft: DW Panel L20	5	26-Dec-10	21-Feb-11	26-Dec-10 A	17-Jan-11 A	0	
S3/08060	Launching Shaft: DW Panel L5	5	31-Dec-10	04-Jan-11	28-Dec-10 A	07-Jan-11 A	0	
S3/08210	Launching Shaft: DW Panel L12	5	30-Jan-11	07-Feb-11	04-Jan-11 A	14-Jan-11 A	0	
S3/08250	Launching Shaft: DW Panel L16	5	22-Feb-11	26-Feb-11	10-Jan-11 A	21-Jan-11 A	0	
S3/08110	Launching Shaft: DW Panel L2	5	05-Jan-11	09-Jan-11	19-Jan-11 A	10-Feb-11 A	0	
S3/08230	Launching Shaft: DW Panel L14	5	13-Feb-11	17-Feb-11	10-Feb-11 A	15-Feb-11 A	0	
S3/08190	Launching Shaft: DW Panel L10	5	25-Jan-11	29-Jan-11	15-Feb-11 A	19-Feb-11 A	0	
S3/08260	Launching Shaft: DW Panel L22	5	27-Feb-11	03-Mar-11	19-Feb-11 A	23-Feb-11 A	0	
S3/08150	Launching Shaft: DW Panel L6	5	15-Jan-11	19-Jan-11	23-Feb-11 A	04-Mar-11 A	0	
S3/08130	Launching Shaft: DW Panel L4	5	10-Jan-11	14-Jan-11	15-Mar-11 A	19-Mar-11 A	0	



Actual Work | Critical Remaining Work | Remaining Work | Milestone

Monthly Progress Update - 31 March 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Mar-11	Monthly update March 2011		CL

Harbour Area Treatment Scheme Stage 2A Construction of Interconnection Tunnel & D. Wall - Main Pumping Station at Stonecutters Island

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
S3/08170	Launching Shaft: DW Panel L8	14	20-Jan-11	24-Jan-11	28-Mar-11 A	13-Apr-11	13	-99
S3/08220	Launching Shaft: DW Panel L18	14	08-Feb-11	12-Feb-11	13-Apr-11	27-Apr-11	14	-99
S3/08270	Launching Shaft: Demobilization of Plant	3	04-Mar-11	06-Mar-11	27-Apr-11	30-Apr-11	3	-99
S3/08280	All Test including Sonic Test to completed Dwall	24	07-Mar-11	30-Mar-11	28-Apr-11	21-May-11	24	-106
S3/08320	Excavation & Construction of Temp Base Slab	90	07-Mar-11	04-Jun-11	28-Apr-11	26-Jul-11	90	-106
S3/08330	LS: Excavation to 500mm Below Top Ring Beam (116	2	07-Mar-11	08-Mar-11	28-Apr-11	29-Apr-11	2	-103
S3/08340	LS: Construct Top Ring Beam at +5.5mpd	10	09-Mar-11	18-Mar-11	30-Apr-11	09-May-11	10	-103
S3/08350	LS: Excavation to 500mm Below Top Ring Beam (5,1	20	19-Mar-11	07-Apr-11	10-May-11	29-May-11	20	-103
S3/08360	LS: Construct Middle Ring Beam at -16.45mpd	15	08-Apr-11	22-Apr-11	30-May-11	13-Jun-11	15	-103
S3/08370	LS: Excavation to 500mm Below Middle Ring Beam (1	10	23-Apr-11	02-May-11	14-Jun-11	23-Jun-11	10	-103
S3/08380	LS: Construct Middle Ring Beam at -23.05mpd	15	03-May-11	17-May-11	24-Jun-11	08-Jul-11	15	-103
S3/08390	LS: Excavation Below Bottom Ring Beam (604 m3)	5	18-May-11	22-May-11	09-Jul-11	13-Jul-11	5	-103
S3/08400	LS: Formation and Blinding	6	23-May-11	28-May-11	14-Jul-11	19-Jul-11	6	-103
S3/08410	LS: Construct Base Slab	7	29-May-11	04-Jun-11	20-Jul-11	26-Jul-11	7	-103
S3/08420	Dummy	0	05-Jun-11	05-Jun-11	27-Jul-11	27-Jul-11	0	-103
Bored Tunnel								
S3/08520	Production of Lining Form	60	15-Sep-10	02-Jan-11	15-Sep-10 A	02-Apr-11	3	-71
S3/08530	Inspection and modification of Lining Form	14	03-Jan-11	16-Jan-11	03-Apr-11	16-Apr-11	14	-71
S3/08540	Initial Casting for Precast Segment Lining	40	17-Jan-11	01-Mar-11	17-Apr-11	26-May-11	40	-71
S3/08600	Soil Improvement for TBM Retrieving	60	07-Mar-11	20-May-11	30-Apr-11	16-Jul-11	60	9
S3/08640	Soil Improvement for TBM Launch/ Ground freezing	150	04-Apr-11	31-Aug-11	22-May-11	18-Oct-11	150	-80
S3/08550	Casting for Pre-cast Segment Lining	226	26-Feb-11	09-Oct-11	23-May-11	05-Jan-12	226	-71
S3/08560	Precast Segment Lining for ch0 to ch90	76	26-Feb-11	12-May-11	23-May-11	06-Aug-11	76	-59
S3/08610	Surface Preparation (Muck Pit&Crawler Crane)	67	27-May-11	01-Aug-11	18-Jul-11	22-Sep-11	67	-85
S3/08620	Dome,Ringbeam&Backthrust Wall Construction	40	05-Jun-11	14-Jul-11	27-Jul-11	04-Sep-11	40	-85
S3/08630	Preparation inside Launching Shaft	75	05-Jun-11	18-Aug-11	27-Jul-11	09-Oct-11	75	-85
S3/08570	Precast Segment Lining for ch90 to ch170	80	13-May-11	31-Jul-11	07-Aug-11	25-Oct-11	80	-59
S3/08645	Establish Plant for TBM Excavation	45	15-Jul-11	28-Aug-11	05-Sep-11	19-Oct-11	45	-85
S3/08650	TBM Assembly	45	18-Jul-11	31-Aug-11	05-Sep-11	19-Oct-11	45	-85
S3/08710	Initial Drive (50m)	34	01-Sep-11	04-Oct-11	20-Oct-11	22-Nov-11	34	-85
S3/08580	Precast Segment Lining for ch170 to ch236	70	01-Aug-11	09-Oct-11	26-Oct-11	05-Jan-12	70	-59
S3/08720	Convert to Main Drive	21	05-Oct-11	25-Oct-11	23-Nov-11	13-Dec-11	21	-85
S3/08730	Main Drive (34m)	15	26-Oct-11	14-Nov-11	14-Dec-11	29-Dec-11	15	-85
S3/08740	Main Drive (102m)	40	15-Nov-11	24-Dec-11	30-Dec-11	08-Feb-12	40	-85
S3/08750	Main Drive (50m)	20	25-Dec-11	17-Jan-12	09-Feb-12	28-Feb-12	20	-85
S3/08760	Preparation Works for TBM Breakthrough	19	16-Jan-12	03-Feb-12	17-Feb-12	06-Mar-12	19	-73
S3/08770	Post Condition Survey for Bored Tunnel	21	18-Jan-12	07-Feb-12	29-Feb-12	20-Mar-12	21	-32
S3/08780	Dismantle TBM	30	18-Jan-12	16-Feb-12	29-Feb-12	29-Mar-12	30	-85
S3/08790	Removing Sleeper&Rail,Cleaning Works	14	17-Feb-12	08-Mar-12	30-Mar-12	12-Apr-12	14	-69
S3/08800	Connection Joints with Inlet Chamber	21	29-Feb-12	20-Mar-12	11-Apr-12	01-May-12	21	-81
S3/08810	Final Touching Up&Cleaning of Inlet Chamber	21	21-Mar-12	10-Apr-12	18-Apr-12	08-May-12	21	-81
S3/08820	Submission of As-built Record for Bored Tunnel	30	21-Mar-12	19-Apr-12	18-Apr-12	17-May-12	30	277
Initial Works / Associated Submission								
S3/07020	Site Clearance (Portion 2)	14	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S3/07030	Relocation of Existing Car Park	30	17-Sep-09	23-Oct-09	17-Sep-09 A	23-Oct-09 A	0	
S3/07060	Erection of Chain Link Fence	21	17-Sep-09	13-Oct-09	17-Sep-09 A	13-Oct-09 A	0	
S3/07080	Submission of Launching Shaft Design	145	17-Sep-09	15-Mar-10	17-Sep-09 A	15-Mar-10 A	0	
S3/07110	Proposed TTM for Gate No.4	30	17-Sep-09	23-Oct-09	17-Sep-09 A	23-Oct-09 A	0	
S3/07040	Underground Utilities Detection&Trial Holes	21	08-Oct-09	02-Nov-09	08-Oct-09 A	02-Nov-09 A	0	
S3/07120	Approval of Proposal for Gate No.4	90	24-Oct-09	19-Feb-10	24-Oct-09 A	19-Feb-10 A	0	
S3/07070	Ground Investigation Works	30	19-Nov-09	26-Nov-09	19-Nov-09 A	26-Nov-09 A	0	
S3/07050	Transplant of Existing Trees	21	01-Feb-10	04-Feb-10	01-Feb-10 A	04-Feb-10 A	0	
S3/07090	Approval of Launching Shaft Design	45	16-Mar-10	26-May-10	16-Mar-10 A	26-May-10 A	0	
S3/07100	Construction of Guide Wall	21	26-Mar-10	03-May-10	26-Mar-10 A	03-May-10 A	0	
S3/07130	Construction of Gate No.4	21	12-Jul-10	31-Jul-10	12-Jul-10 A	31-Jul-10 A	0	
S3/07140	Obtain As-built Pile Record from STDF Contractor	6	19-Mar-11	25-Mar-11	04-Apr-11	11-Apr-11	6	62
S3/07150	Review Piling Record Against Tunnel Alignment	6	26-Mar-11	01-Apr-11	12-Apr-11	18-Apr-11	6	62
Mined Tunnel								
S3/09020	Vertical Jet Grout for Mined Tunnel Construction	80	07-Jun-11	13-Sep-11	27-Jul-11	03-Nov-11	80	381
S3/09060	Vertical Drill at D-Wall	30	08-Jun-11	07-Jul-11	30-Jul-11	28-Aug-11	30	-106
S3/09030	Drill Horizontal Freezing \ Jet Grout	30	14-Jun-11	13-Jul-11	05-Aug-11	03-Sep-11	30	-75
S3/09070	Set Up Station for Freezing\ Jet Grout at D-Wall	56	08-Jul-11	01-Sep-11	29-Aug-11	23-Oct-11	56	-106

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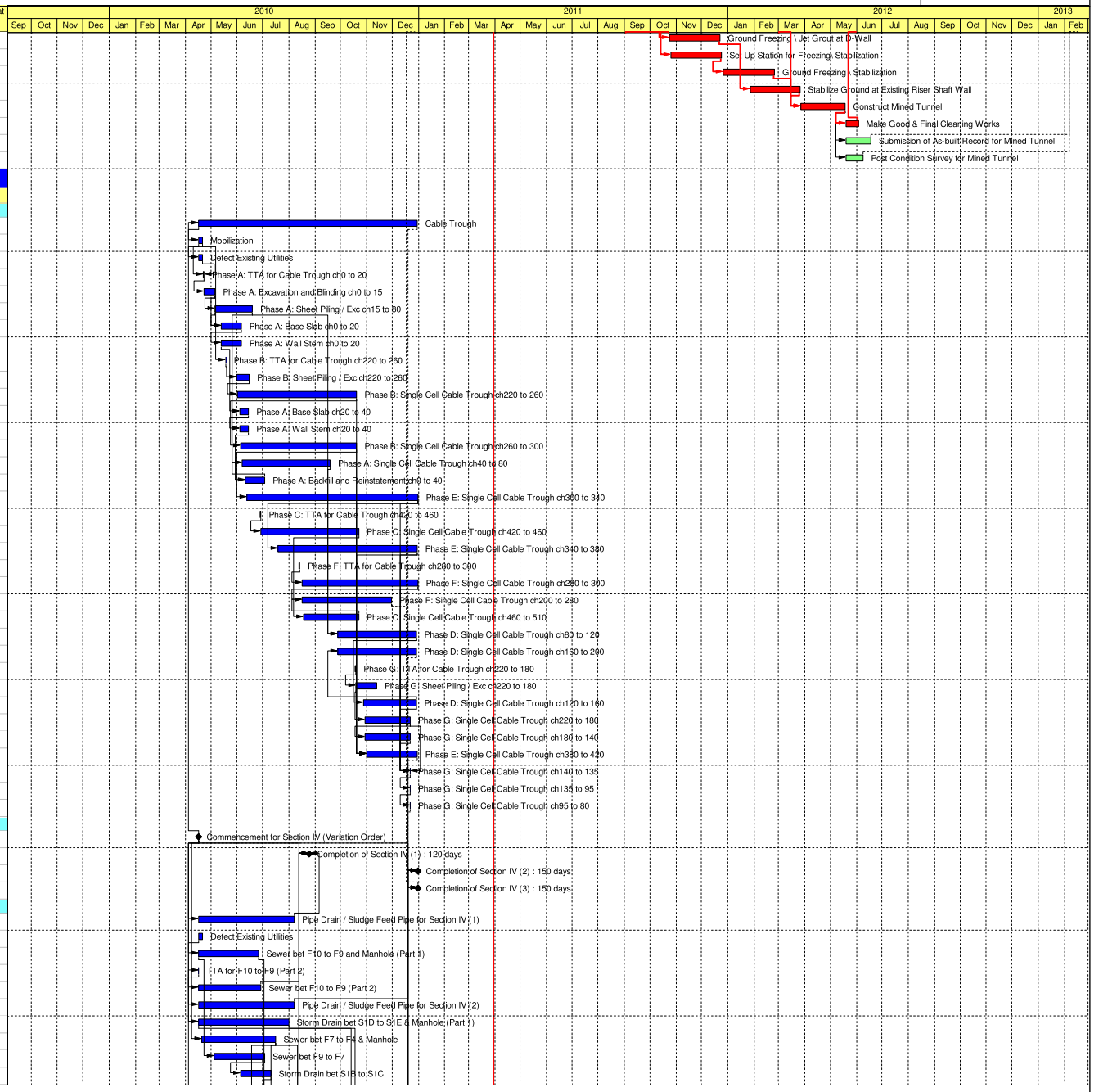
Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
S3/09080	Ground Freezing \ Jet Grout at D-Wall	60	02-Sep-11	31-Oct-11	24-Oct-11	22-Dec-11	60	-106
S3/09040	Set Up Station for Freezing\ Stabilization	60	04-Sep-11	02-Nov-11	26-Oct-11	24-Dec-11	60	-75
S3/09050	Ground Freezing \ Stabilization	60	03-Nov-11	01-Jan-12	26-Dec-11	24-Feb-12	60	-75
S3/09090	Stabilize Ground at Existing Riser Shaft Wall	60	04-Dec-11	01-Feb-12	27-Jan-12	26-Mar-12	60	-106
S3/09110	Construct Mined Tunnel	53	02-Feb-12	25-Mar-12	27-Mar-12	18-May-12	53	-106
S3/09120	Make Good & Final Cleaning Works	15	26-Mar-12	09-Apr-12	19-May-12	02-Jun-12	15	-106
S3/09130	Submission of As-built Record for Mined Tunnel	30	26-Mar-12	24-Apr-12	19-May-12	17-Jun-12	30	246
S3/09140	Post Condition Survey for Mined Tunnel	21	26-Mar-12	15-Apr-12	19-May-12	08-Jun-12	21	255
Supplementary Agreement								
Utilities and Services								
Cable Works								
V1/02020	Cable Trough	150	16-Apr-10	09-Jan-11	16-Apr-10 A	31-Dec-10 A	0	
V1/02030	Mobilization	6	16-Apr-10	21-Apr-10	16-Apr-10 A	21-Apr-10 A	0	
V1/02035	Detect Existing Utilities	6	16-Apr-10	21-Apr-10	16-Apr-10 A	21-Apr-10 A	0	
V1/02040	Phase A: TTA for Cable Trough ch0 to 20	1	22-Apr-10	22-Apr-10	22-Apr-10 A	22-Apr-10 A	0	
V1/02050	Phase A: Excavation and Blinding ch0 to 15	5	23-Apr-10	05-May-10	23-Apr-10 A	05-May-10 A	0	
V1/02055	Phase A: Sheet Piling / Exc ch15 to 80	30	06-May-10	18-Jun-10	06-May-10 A	18-Jun-10 A	0	
V1/02060	Phase A: Base Slab ch0 to 20	6	13-May-10	05-Jun-10	13-May-10 A	05-Jun-10 A	0	
V1/02070	Phase A: Wall Stem ch0 to 20	5	13-May-10	05-Jun-10	13-May-10 A	05-Jun-10 A	0	
V1/02190	Phase B: TTA for Cable Trough ch220 to 260	1	18-May-10	18-May-10	18-May-10 A	18-May-10 A	0	
V1/02200	Phase B: Sheet Piling / Exc ch220 to 260	14	31-May-10	15-Jun-10	31-May-10 A	15-Jun-10 A	0	
V1/02210	Phase B: Single Cell Cable Trough ch220 to 260	14	01-Jun-10	19-Oct-10	01-Jun-10 A	19-Oct-10 A	0	
V1/02080	Phase A: Base Slab ch20 to 40	4	04-Jun-10	14-Jun-10	04-Jun-10 A	14-Jun-10 A	0	
V1/02090	Phase A: Wall Stem ch20 to 40	4	04-Jun-10	14-Jun-10	04-Jun-10 A	14-Jun-10 A	0	
V1/02215	Phase B: Single Cell Cable Trough ch260 to 300	14	05-Jun-10	19-Oct-10	05-Jun-10 A	19-Oct-10 A	0	
V1/02110	Phase A: Single Cell Cable Trough ch40 to 80	14	07-Jun-10	18-Sep-10	07-Jun-10 A	18-Sep-10 A	0	
V1/02100	Phase A: Backfill and Reinstatement ch0 to 40	6	10-Jun-10	03-Jul-10	10-Jun-10 A	03-Jul-10 A	0	
V1/02220	Phase E: Single Cell Cable Trough ch300 to 340	14	12-Jun-10	31-Dec-10	12-Jun-10 A	31-Dec-10 A	0	
V1/02250	Phase C: TTA for Cable Trough ch420 to 460	1	28-Jun-10	28-Jun-10	28-Jun-10 A	28-Jun-10 A	0	
V1/02260	Phase C: Single Cell Cable Trough ch420 to 460	25	29-Jun-10	22-Oct-10	29-Jun-10 A	22-Oct-10 A	0	
V1/02230	Phase E: Single Cell Cable Trough ch340 to 380	14	19-Jul-10	01-Jan-11	19-Jul-10 A	31-Dec-10 A	0	
V1/02280	Phase F: TTA for Cable Trough ch280 to 300	1	13-Aug-10	13-Aug-10	13-Aug-10 A	13-Aug-10 A	0	
V1/02290	Phase F: Single Cell Cable Trough ch280 to 300	30	16-Aug-10	31-Dec-10	16-Aug-10 A	31-Dec-10 A	0	
V1/02300	Phase F: Single Cell Cable Trough ch200 to 280	47	16-Aug-10	30-Nov-10	16-Aug-10 A	30-Nov-10 A	0	
V1/02270	Phase C: Single Cell Cable Trough ch460 to 510	25	18-Aug-10	22-Oct-10	18-Aug-10 A	22-Oct-10 A	0	
V1/02120	Phase D: Single Cell Cable Trough ch80 to 120	14	28-Sep-10	29-Dec-10	28-Sep-10 A	29-Dec-10 A	0	
V1/02140	Phase D: Single Cell Cable Trough ch160 to 200	14	28-Sep-10	29-Dec-10	28-Sep-10 A	29-Dec-10 A	0	
V1/02340	Phase G: TTA for Cable Trough ch220 to 180	1	18-Oct-10	18-Oct-10	18-Oct-10 A	18-Oct-10 A	0	
V1/02350	Phase G: Sheet Piling / Exc ch220 to 180	14	19-Oct-10	12-Nov-10	19-Oct-10 A	12-Nov-10 A	0	
V1/02130	Phase D: Single Cell Cable Trough ch120 to 160	14	28-Oct-10	29-Dec-10	28-Oct-10 A	29-Dec-10 A	0	
V1/02360	Phase G: Single Cell Cable Trough ch220 to 180	14	30-Oct-10	22-Dec-10	30-Oct-10 A	22-Dec-10 A	0	
V1/02370	Phase G: Single Cell Cable Trough ch180 to 140	14	30-Oct-10	22-Dec-10	30-Oct-10 A	22-Dec-10 A	0	
V1/02240	Phase E: Single Cell Cable Trough ch380 to 420	21	01-Nov-10	02-Jan-11	01-Nov-10 A	31-Dec-10 A	0	
V1/02380	Phase G: Single Cell Cable Trough ch140 to 135	0	22-Dec-10	22-Dec-10	22-Dec-10 A	22-Dec-10 A	0	
V1/02390	Phase G: Single Cell Cable Trough ch135 to 95	0	22-Dec-10	22-Dec-10	22-Dec-10 A	22-Dec-10 A	0	
V1/02400	Phase G: Single Cell Cable Trough ch95 to 80	0	22-Dec-10	22-Dec-10	22-Dec-10 A	22-Dec-10 A	0	
Key Dates								
KD7000	Commencement for Section IV (Variation Order)	0	16-Apr-10		16-Apr-10 A		0	
KD7100	Completion of Section IV (1) : 120 days	0		25-Aug-10		25-Aug-10 A	0	
KD7200	Completion of Section IV (2) : 150 days	0		31-Dec-10		31-Dec-10 A	0	
KD7300	Completion of Section IV (3) : 150 days	0		31-Dec-10		31-Dec-10 A	0	
Pipe Works								
V1/01120	Pipe Drain / Sludge Feed Pipe for Section IV (1)	120	16-Apr-10	07-Aug-10	16-Apr-10 A	07-Aug-10 A	0	
V1/01125	Detect Existing Utilities	6	16-Apr-10	21-Apr-10	16-Apr-10 A	21-Apr-10 A	0	
V1/01130	Sewer bet F10 to F9 and Manhole (Part 1)	46	16-Apr-10	26-Jun-10	16-Apr-10 A	26-Jun-10 A	0	
V1/01200	TTA for F10 to F9 (Part 2)	1	16-Apr-10	16-Apr-10	16-Apr-10 A	16-Apr-10 A	0	
V1/01210	Sewer bet F10 to F9 (Part 2)	31	16-Apr-10	28-Jun-10	16-Apr-10 A	28-Jun-10 A	0	
V1/01235	Pipe Drain / Sludge Feed Pipe for Section IV (2)	150	16-Apr-10	07-Aug-10	16-Apr-10 A	07-Aug-10 A	0	
V1/01300	Storm Drain bet S1D to S1E & Manhole (Part 1)	90	16-Apr-10	31-Jul-10	16-Apr-10 A	31-Jul-10 A	0	
V1/01240	Sewer bet F7 to F4 & Manhole	52	20-Apr-10	16-Jul-10	20-Apr-10 A	16-Jul-10 A	0	
V1/01140	Sewer bet F9 to F7	35	05-May-10	03-Jul-10	05-May-10 A	03-Jul-10 A	0	
V1/01150	Storm Drain bet S1B to S1C	14	05-Jun-10	10-Jul-10	05-Jun-10 A	10-Jul-10 A	0	



Actual Work | Critical Remaining Work | Remaining Work | Milestone

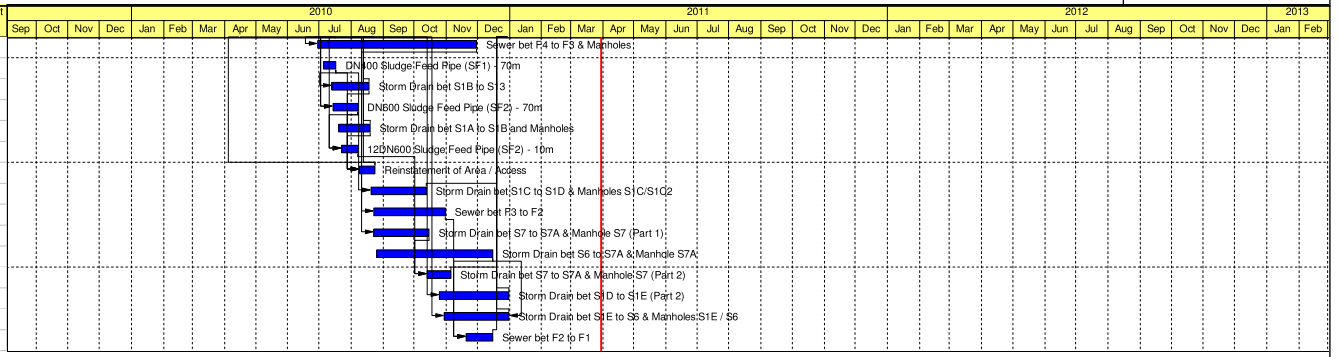
Monthly Progress Update - 31 March 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Mar-11	Monthly update March 2011		CL

Harbour Area Treatment Scheme Stage 2A Construction of Interconnection Tunnel & D. Wall - Main Pumping Station at Stonecutters Island

Activity ID	Activity Name	Orig Dur	Target Start	Target Finish	Start	Finish	Rem Dur	Total Float
V1/01250	Sewer bet F4 to F3 & Manholes	50	30-Jun-10	30-Nov-10	30-Jun-10 A	30-Nov-10 A	0	
V1/01170	DN400 Sludge Feed Pipe (SF1) - 70m	8	05-Jul-10	17-Jul-10	05-Jul-10 A	17-Jul-10 A	0	
V1/01180	Storm Drain bet S1B to S13	32	13-Jul-10	18-Aug-10	13-Jul-10 A	18-Aug-10 A	0	
V1/01160	DN600 Sludge Feed Pipe (SF2) - 70m	8	14-Jul-10	07-Aug-10	14-Jul-10 A	07-Aug-10 A	0	
V1/01220	Storm Drain bet S1A to S1B and Manholes	31	20-Jul-10	19-Aug-10	20-Jul-10 A	19-Aug-10 A	0	
V1/01260	12DN600 Sludge Feed Pipe (SF2) - 10m	22	23-Jul-10	07-Aug-10	23-Jul-10 A	07-Aug-10 A	0	
V1/01190	Reinstatement of Area / Access	7	09-Aug-10	23-Aug-10	09-Aug-10 A	23-Aug-10 A	0	
V1/01290	Storm Drain bet S1C to S1D & Manholes S1C/S1C2	56	20-Aug-10	12-Oct-10	20-Aug-10 A	12-Oct-10 A	0	
V1/01270	Sewer bet F3 to F2	24	23-Aug-10	30-Oct-10	23-Aug-10 A	30-Oct-10 A	0	
V1/01330	Storm Drain bet S7 to S7A & Manhole S7 (Part 1)	50	23-Aug-10	15-Oct-10	23-Aug-10 A	15-Oct-10 A	0	
V1/01320	Storm Drain bet S6 to S7A & Manhole S7A	45	26-Aug-10	15-Dec-10	26-Aug-10 A	15-Dec-10 A	0	
V1/01340	Storm Drain bet S7 to S7A & Manhole S7 (Part 2)	38	13-Oct-10	05-Nov-10	13-Oct-10 A	05-Nov-10 A	0	
V1/01305	Storm Drain bet S1D to S1E (Part 2)	56	25-Oct-10	31-Dec-10	25-Oct-10 A	31-Dec-10 A	0	
V1/01310	Storm Drain bet S1E to S6 & Manholes S1E / S6	52	30-Oct-10	31-Dec-10	30-Oct-10 A	31-Dec-10 A	0	
V1/01350	Sewer bet F2 to F1	24	20-Nov-10	15-Dec-10	20-Nov-10 A	15-Dec-10 A	0	



Actual Work | Critical Remaining Work | Remaining Work | Milestone

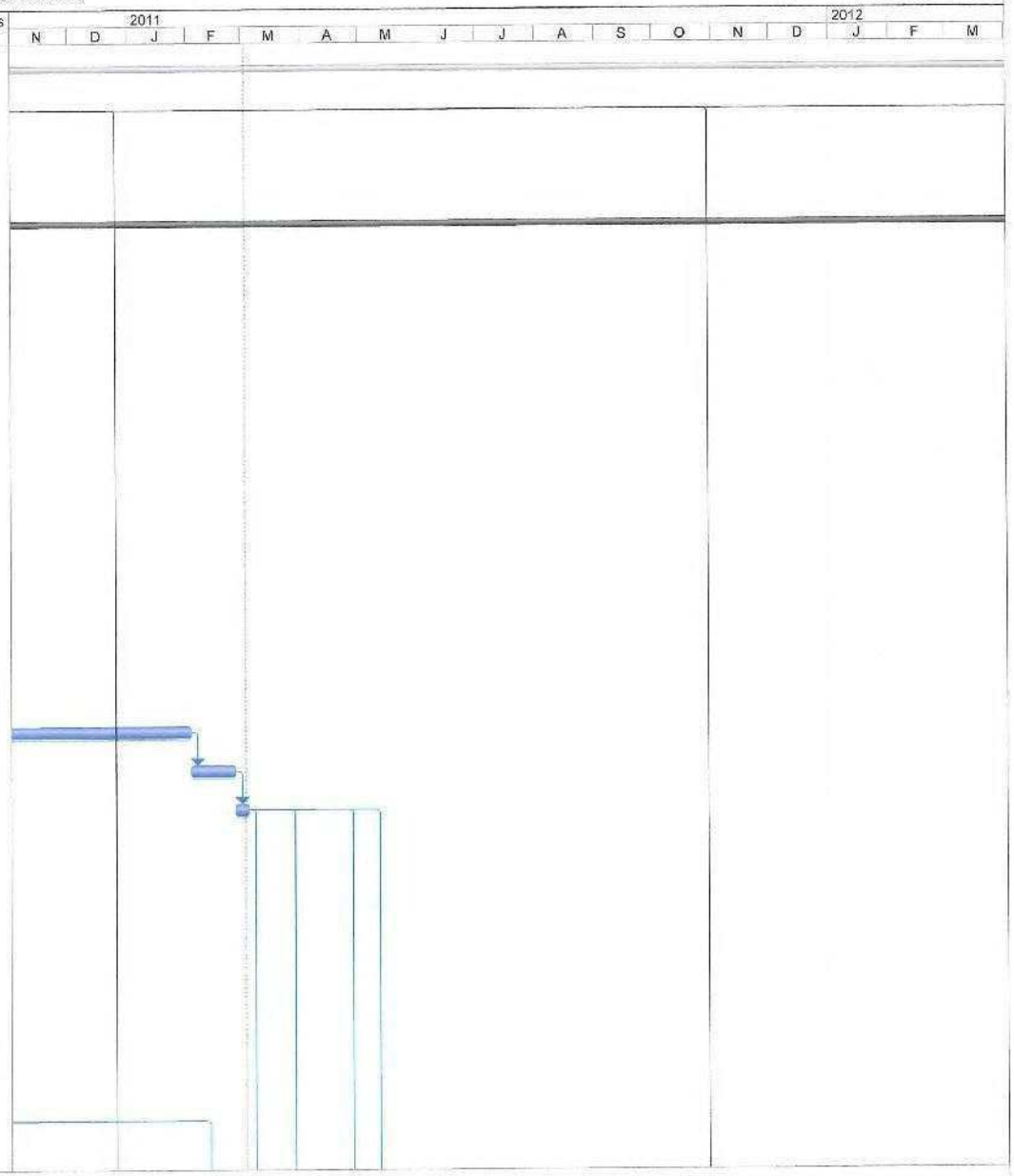
Monthly Progress Update - 31 March 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-Mar-11	Monthly update March 2011		CL

Three Months Rolling Programme for Contract No. DE/2009/02
Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Feb11 to Apr11)
(Revision 0)

ID	WBS	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors
0	0	0	**DE/2009/02 Contract Duration**	**972 d**	**30/10/09**	**30/10/09**	**27/6/12**	**27/6/12**	**0 d**	**0 d**	
1	1	1	Project Commencement Date	0 d	30/10/09	30/10/09	30/10/09	30/10/09	0 d	0 d	
2	2	2	**Site Preparation**	**67 d**	**30/10/09**	**30/10/09**	**4/1/10**	**27/6/12**	**45 d**	**45 d**	
13	3	3	Submission of ICE Certified Detailed Design	0 d	27/1/10	27/1/10	27/1/10	27/6/12	882 d	882 d	1FS+80 d
14	4	4	**Preliminary and Detailed Design Submission**	**948 d**	**30/10/09**	**30/10/09**	**26/5/12**	**27/6/12**	**0 d**	**0 d**	
15	4.1	4.1	Preparation of Preliminary Design Submission and Submit to the Engineer	20 d	30/10/09	30/10/09	18/11/09	15/11/09	0 d	0 d	1
16	4.2	4.2	First review and comment Preliminary Design by the Engineer	14 d	19/11/09	19/11/09	2/12/09	2/12/09	0 d	0 d	15
17	4.3	4.3	Revise Preliminary Design (PD) Submission	14 d	3/12/09	3/12/09	16/12/09	16/12/09	0 d	0 d	16
18	4.4	4.4	Review and Approval of revised PD by the Engineer	14 d	17/12/09	17/12/09	30/12/09	30/12/09	0 d	0 d	17
19	4.5	4.5	Preparation of Detailed Design (DD) Submission	24 d	31/12/09	31/12/09	23/1/10	23/1/10	0 d	0 d	16,18
20	4.6	4.6	Obtain of ICE Certificate of DD Submission and Submit to the Engineer	3 d	24/1/10	24/1/10	26/1/10	26/1/10	0 d	0 d	19
21	4.7	4.7	First review and comment DD by the Engineer	30 d	27/1/10	27/1/10	25/2/10	25/2/10	0 d	0 d	20
22	4.8	4.8	Revise DD Submission & obtain ICE Certificate and Submit to the Engineer	30 d	26/2/10	26/2/10	27/3/10	27/3/10	0 d	0 d	21
23	4.9	4.9	Review and Approval of revised DD by the Engineer	21 d	28/3/10	28/3/10	17/4/10	17/4/10	0 d	0 d	22
24	4.10	4.10	Preparation of Preliminary General Building Plan (GBP) Design Submission	90 d	1/12/10	1/12/10	11/5/10	19/5/10	0 d	8 d	1FS+104 d
25	4.11	4.11	Obtain ICE Certificate of Preliminary GBP Submission and Submit to the Engineer	14 d	12/5/10	12/5/10	25/5/10	2/6/10	0 d	8 d	24
26	4.12	4.12	First review and comment Preliminary GBP Design by the Engineer	90 d	26/5/10	26/5/10	23/8/10	31/5/10	0 d	9 d	25
27	4.13	4.13	Review Preliminary GBP Design Submission	183 d	24/8/10	24/8/10	2/2/11	24/3/11	0 d	50 d	26
28	4.14	4.14	Review and Approval of Detailed GBP Design by the Engineer	23 d	3/2/11	3/2/11	25/2/11	16/4/11	0 d	50 d	27
29	4.15	4.15	Obtain of Final ICE Certificate of Detailed GBP Submission and Submit to the Engineer	7 d	26/2/11	26/2/11	4/3/11	23/4/11	3 d	50 d	28
30	4.16	4.16	Preparation of Preliminary Foundation Design Submission and Method Statement	21 d	5/2/10	5/2/10	25/2/10	3/3/10	0 d	8 d	104
31	4.17	4.17	Obtain ICE Certificate of Preliminary Foundation Design Submission and Method Statement and Submit to the Engineer	14 d	26/2/10	26/2/10	11/3/10	17/3/10	0 d	8 d	30
32	4.18	4.18	First review and comment Preliminary Foundation Design by the Engineer	15 d	12/3/10	12/3/10	26/3/10	1/5/10	0 d	36 d	31
33	4.19	4.19	Revise Preliminary Foundation Design Submission and Method statement	14 d	27/3/10	27/3/10	9/4/10	15/5/10	0 d	36 d	32
34	4.20	4.20	Obtain ICE Certificate of Revised Foundation Design Submission and Method Statement and Submit to the Engineer	14 d	10/4/10	10/4/10	23/4/10	29/5/10	0 d	36 d	33
35	4.21	4.21	Review and Approval of revised Foundation Design and Method Statement by the Engineer	14 d	24/4/10	24/4/10	7/5/10	17/6/10	7 d	41 d	34
36	4.22	4.22	Preparation of Pile Load Test Method Statement and Submit to the Engineer	14 d	25/5/10	25/5/10	7/6/10	13/10/10	0 d	36 d	34FS+123 d
37	4.23	4.23	Review and Approval of Pile Load Test Method Statement	14 d	8/6/10	8/6/10	21/6/10	27/10/10	0 d	36 d	36
38	4.24	4.24	Preparation of method statement of construction of pile cap and control room and Submit to the Engineer	14 d	22/9/10	22/9/10	5/10/10	26/2/11	0 d	144 d	37



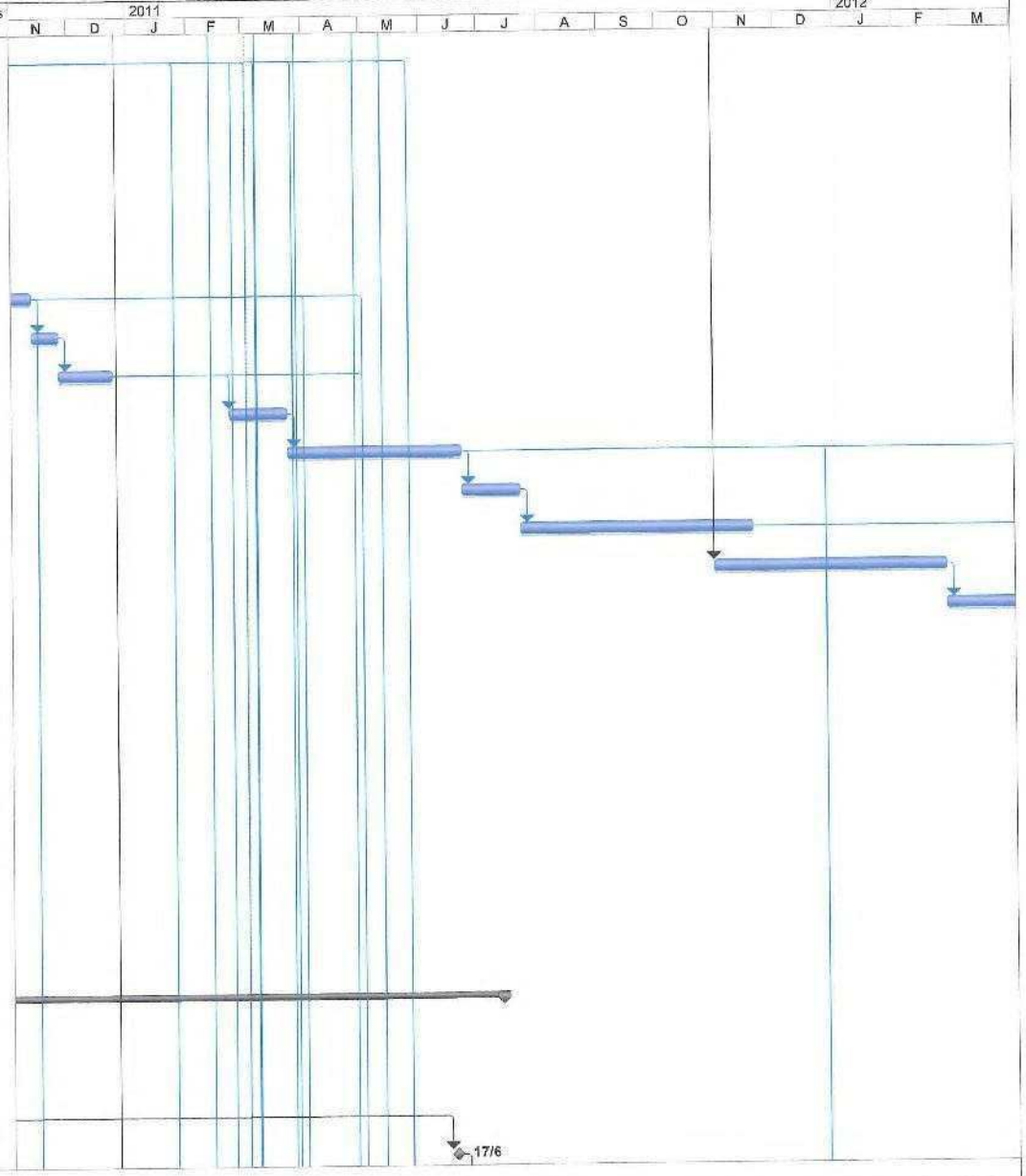
Contract No. DE/2009/02
Revision: 0
Date: 28 Feb 2010

Task | Progress | Summary | External Tasks | Group By Summary
Critical Task | Milestone | Split | Project Summary | Deadline

ATAL Engineering Limited

Three Months Rolling Programme for Contract No. DE/2009/02
Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Feb11 to Apr11)
(Revision 0)

ID	WBS	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors
39	4.25	4.25	Review and Approval of method statement of construction of pile cap and cntrl room	14 d	6/10/10	6/10/10	19/10/10	12/2/11	97 d	144 d	38
40	4.26	4.26	Preparation of Preliminary Odour Duct Bridge Design Submission	60 d	18/4/10	18/4/10	16/6/10	19/10/10	0 d	124 d	23
41	4.27	4.27	Obtain ICE Certificate of Preliminary Odour Duct Bridge Design Submission and Submit to the Engineer	14 d	17/9/10	17/9/10	30/9/10	1/11/10	0 d	124 d	40
42	4.28	4.28	First review and comment Preliminary Odour Duct Bridge Design Submission	30 d	1/7/10	1/7/10	30/7/10	1/12/10	0 d	124 d	41
43	4.29	4.29	Review Preliminary Odour Duct Bridge Design Submission	60 d	31/7/10	31/7/10	28/9/10	30/1/11	0 d	124 d	42
44	4.30	4.30	Obtain ICE Certificate of Revised Odour Duct Bridge Design Submission and Submit to the Engineer	14 d	29/9/10	29/9/10	12/10/10	13/2/11	0 d	124 d	43
45	4.31	4.31	Review and Approval of Revised Odour Duct Bridge Design Submission	30 d	13/10/10	13/10/10	11/11/10	15/3/11	0 d	124 d	44
46	4.32	4.32	Preparation of method statement of erection of odour duct bridge (TTA included) and Submit to the Engineer	14 d	12/11/10	12/11/10	25/11/10	19/5/11	0 d	172 d	45
47	4.33	4.33	Review and Approval of method statement of erection of odour duct bridge (TTA included)	25 d	25/11/10	25/11/10	23/12/10	28/5/11	0 d	156 d	46
48	4.34	4.34	Preparation of Commissioning Test Plan and Submit to the Engineer	30 d	22/2/11	22/2/11	23/3/11	16/10/11	0 d	207 d	47FS+60 d
49	4.35	4.35	Review and Approval of Commissioning Test Plan by the Engineer	60 d	24/3/11	24/3/11	21/5/11	14/1/12	0 d	207 d	48
50	4.36	4.36	Preparation of Training Plan and Submit to the Engineer	30 d	22/6/11	22/6/11	21/7/11	13/2/12	0 d	207 d	49
51	4.37	4.37	Review and Approval of Training Plan by the Engineer	120 d	22/7/11	22/7/11	18/11/11	12/8/12	207 d	207 d	50
52	4.38	4.38	Preparation of As-built drawings and Submit to the Engineer	120 d	30/10/11	30/10/11	26/2/12	29/3/12	0 d	52 d	1FS+730 d
53	4.39	4.39	Review and Approval of As-built drawings	60 d	27/2/12	27/2/12	26/5/12	27/6/12	32 d	32 d	52
54	5	5	**Equipment Submission and Approval**	**156 d**	**3/12/09**	**3/12/09**	**6/5/10**	**15/11/11**	**0 d**	**0 d**	
55	5.1	5.1	Odour Containment System (FRP Cover) - Prototype	30 d	3/12/09	3/12/09	1/1/10	1/1/10	0 d	0 d	16
56	5.2	5.2	Odour Containment System (FRP Cover) - Other Covers / walkway	60 d	15/1/10	15/1/10	4/4/10	26/2/11	0 d	328 d	16FS+43 d
57	5.3	5.3	Deodourizing System	70 d	15/1/10	15/1/10	25/3/10	26/2/11	10 d	338 d	16FS+43 d
58	5.4	5.4	LV Switchboard	80 d	15/1/10	15/1/10	4/4/10	23/2/11	0 d	325 d	16FS+43 d
59	5.5	5.5	Modification proposal of SCADA System	90 d	6/2/10	6/2/10	6/5/10	15/11/11	0 d	558 d	16FS+65 d
60	5.6	5.6	FRP Ductwork and Support	70 d	6/2/10	6/2/10	16/4/10	4/5/10	0 d	15 d	16FS+68 d
61	5.7	5.7	CCTV System	90 d	29/1/10	29/1/10	28/4/10	22/7/10	0 d	85 d	16FS+67 d
62	5.8	5.8	Electrical Accessories	60 d	6/3/10	6/3/10	6/5/10	17/6/11	0 d	468 d	16FS+95 d
63	6	6	**Statutory Submission and Inspection**	**483 d**	**16/3/10**	**16/3/10**	**11/7/11**	**31/3/12**	**264 d**	**264 d**	
64	6.1	6.1	Preparation of revised FS Plan including DG goods store application	28 d	16/3/10	16/3/10	12/4/10	22/10/11	0 d	588 d	16FS+75 d
65	6.2	6.2	Approval of revised FS Plan including DG goods store application by FSD	45 d	13/4/10	13/4/10	27/5/10	6/1/12	136 d	585 d	64
66	6.3	6.3	Submission of Form 501 for FS Inspection	0 d	11/10/10	11/10/10	11/10/10	2/7/11	0 d	264 d	65
67	6.4	6.4	First FS Inspection	0 d	17/6/11	17/6/11	17/6/11	8/3/12	0 d	264 d	66FS+250 d



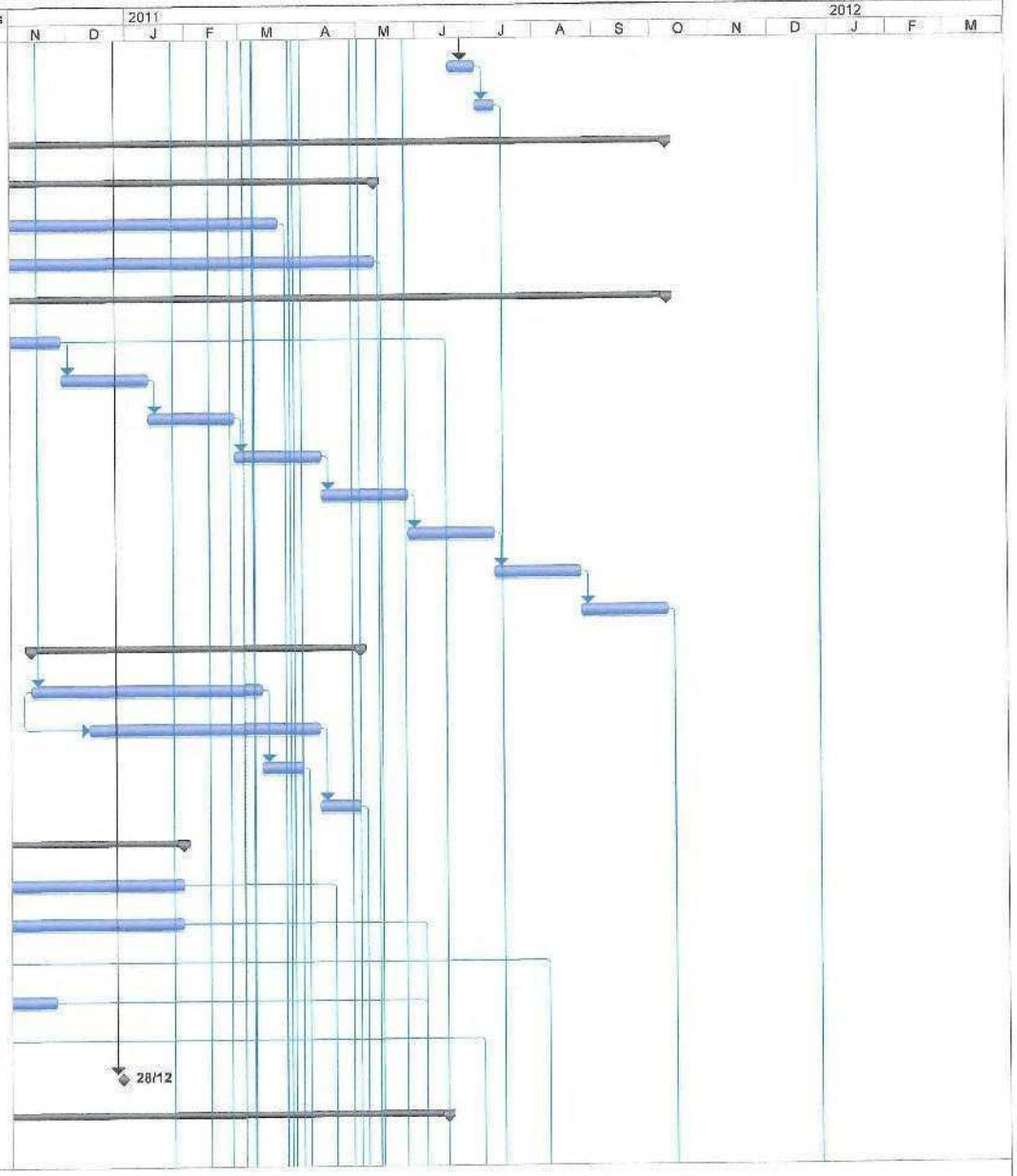
Contract No. DE/2009/02
Revision: 0
Date: 28 Feb 2010

Task | Progress | Summary | External Tasks | Group By Summary
Critical Task | Milestone | Split | Project Summary | Deadline

ATAL Engineering Limited

Three Months Rolling Programme for Contract No. DE/2009/02
Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Feb11 to Apr11)
(Revision 0)

ID	WBS	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors
68	6.5	6.5	Defect rectification following to the First FS Inspection	14 d	13/9/11	19/9/11	1/7/11	27/9/12	0 d	264 d	67
69	6.6	6.6	Final FS Inspection and Issue of FS Certificate	10 d	2/7/11	2/7/11	11/7/11	31/3/12	0 d	264 d	68
70	7	7	Equipment Manufacturing, Factory Testing, Shipment and Delivery other than FRP Covers & Accessories for Containment System	552 d	5/4/10	5/4/10	8/10/11	15/2/12	130 d	130 d	
71	7.1	7.1	**Deodourization System**	400 d	5/4/10	5/4/10	9/5/11	31/12/11	206 d	206 d	
72	7.1.1	7.1.1	Deodourization System (DOU2)	350 d	5/4/10	5/4/10	20/3/11	31/12/11	0 d	286 d	57,56
73	7.1.2	7.1.2	Deodorization System (DOU1)	400 d	5/4/10	5/4/10	9/5/11	1/12/11	0 d	206 d	57,55
74	7.2	7.2	**FRP Ductwork and Support**	380 d	14/10/10	14/10/10	8/10/11	25/10/11	18 d	18 d	
75	7.2.1	7.2.1	FRP Ductwork and Support (33-45)	45 d	14/10/10	14/10/10	27/11/10	15/12/10	0 d	18 d	80FS+180 d
76	7.2.2	7.2.2	FRP Ductwork and Support (21-31)	45 d	28/11/10	28/11/10	11/1/11	28/1/11	0 d	18 d	75
77	7.2.3	7.2.3	FRP Ductwork and Support (9-19)	45 d	12/1/11	12/1/11	25/2/11	15/3/11	0 d	18 d	76
78	7.2.4	7.2.4	FRP Ductwork and Support (1-7)	45 d	26/2/11	26/2/11	11/4/11	29/4/11	0 d	18 d	77
79	7.2.5	7.2.5	FRP Ductwork and Support (2-8)	45 d	12/4/11	12/4/11	26/5/11	13/6/11	0 d	18 d	78
80	7.2.6	7.2.6	FRP Ductwork and Support (10-20)	45 d	27/5/11	27/5/11	10/7/11	28/7/11	0 d	18 d	79
81	7.2.7	7.2.7	FRP Ductwork and Support (22-32)	45 d	11/7/11	11/7/11	24/8/11	11/9/11	0 d	18 d	80
82	7.2.8	7.2.8	FRP Ductwork and Support(34-46)	45 d	25/8/11	25/8/11	8/10/11	29/10/11	0 d	18 d	81
83	7.3	7.3	**Odour Duct Bridge**	171 d	12/11/10	12/11/10	1/5/11	11/9/11	73 d	73 d	
84	7.3.1	7.3.1	Fabrication of individual parts of Odour Duct Bridge at DOU1	120 d	12/11/10	12/11/10	11/3/11	23/5/11	0 d	73 d	45
85	7.3.2	7.3.2	Fabrication of individual parts of Odour Duct Bridge at DOU2	120 d	12/12/10	12/12/10	10/4/11	21/6/11	0 d	133 d	84SS+30 d
86	7.3.3	7.3.3	Shipment and Delivery of Odour Duct Bridge at DOU1	21 d	12/5/11	12/5/11	1/6/11	13/6/11	0 d	73 d	84
87	7.3.4	7.3.4	Shipment and Delivery of Odour Duct Bridge at DOU2	21 d	11/6/11	11/6/11	1/5/11	11/5/11	0 d	133 d	85
88	7.4	7.4	**Electrical and Building Services Equipment**	300 d	5/4/10	5/4/10	29/1/11	15/2/12	216 d	216 d	
89	7.4.1	7.4.1	LV Switchboard (DOU1)	300 d	5/4/10	5/4/10	29/1/11	15/2/12	122 d	392 d	58
90	7.4.2	7.4.2	LV Switchboard (DOU2)	300 d	5/4/10	5/4/10	29/1/11	1/12/11	125 d	278 d	58
91	7.4.3	7.4.3	Modification proposal of SCADA System	150 d	7/5/10	7/5/10	3/12/10	14/2/12	308 d	488 d	59
92	7.4.4	7.4.4	CCTV System	210 d	29/4/10	29/4/10	24/11/10	4/8/11	192 d	192 d	51
93	7.4.5	7.4.5	Electrical Accessories	120 d	7/5/10	7/5/10	3/8/10	15/12/11	143 d	488 d	52
94	8	8	Completion of Filings and Concrete Base Slabs for the Two Deodourisation Units	0 d	28/12/09	28/12/09	28/12/09	27/6/12	547 d	547 d	1FS+425 d
95	9	9	**Civil Construction**	535 d	28/12/09	28/12/09	15/6/11	26/10/11	0 d	0 d	
96	9.1	9.1	**Condition Survey**	80 d	28/12/09	28/12/09	17/3/10	17/3/10	0 d	0 d	



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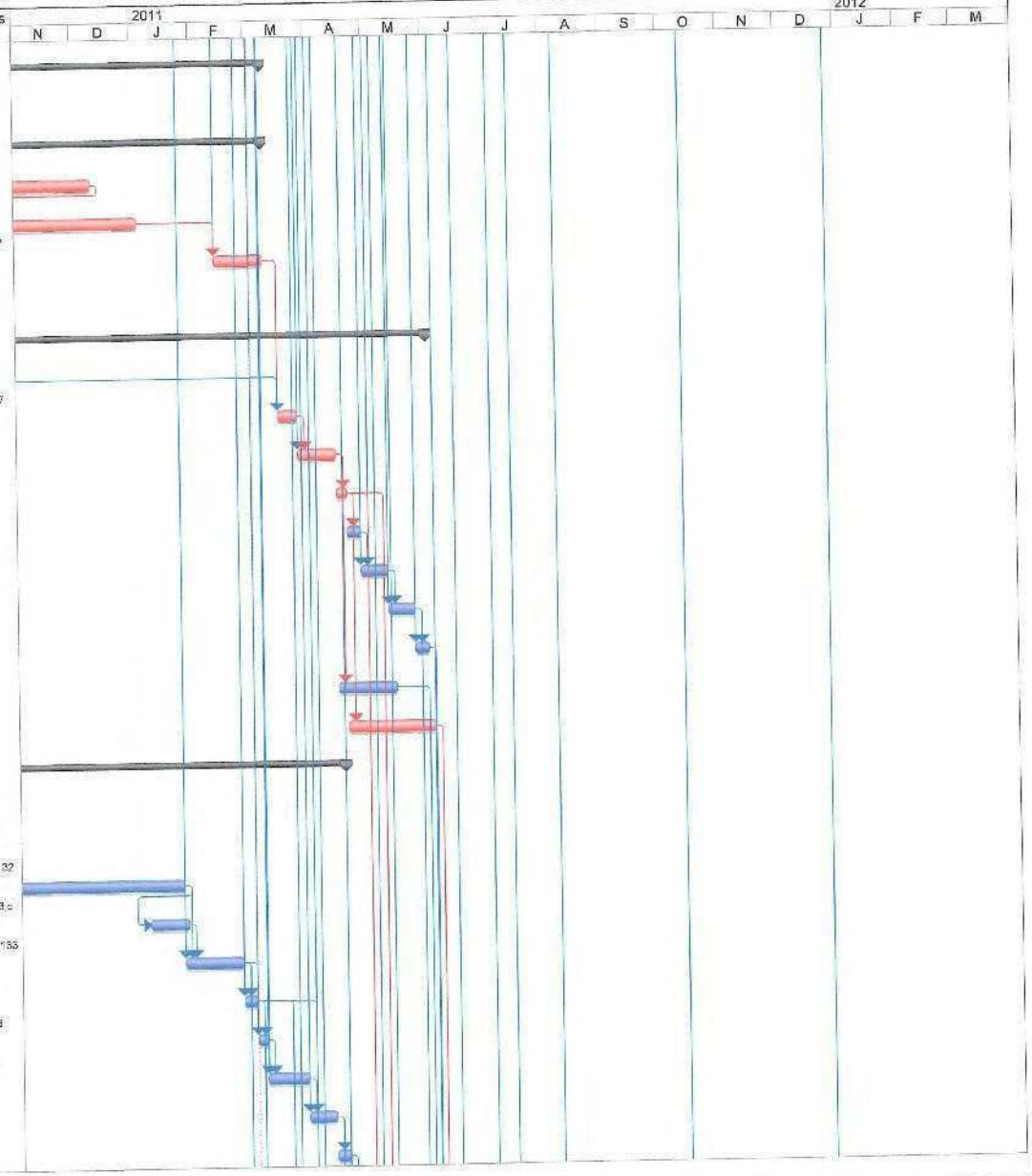
ATAL Engineering Limited

Three Months Rolling Programme for Contract No. DE/2009/02

Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Feb11 to Apr11)

(Revision 0)

ID	WBS	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors
102	9.2	9.2	**Piling Works**	429 d	5/1/10	5/1/10	9/3/11	9/3/11	0 d	0 d	
103	9.2.1	9.2.1	**Pre-drilling Works**	77 d	5/1/10	5/1/10	22/3/10	9/6/10	6 d	6 d	
108	9.2.2	9.2.2	**Main Piling Work at DOU2**	357 d	18/3/10	18/3/10	9/3/11	9/3/11	0 d	0 d	
109	9.2.2.1	9.2.2.1	Pre-core Drilling	268 d	18/3/10	18/3/10	10/12/10	10/12/10	0 d	0 d	101,105,31
110	9.2.2.2	9.2.2.2	Pile Installation & Grouting	200 d	18/6/10	18/6/10	3/1/11	3/1/11	0 d	0 d	109FS-176 d,31,35
111	9.2.2.3	9.2.2.3	Load Test (4% of the total) at DOU2	25 d	13/2/11	13/2/11	9/3/11	9/3/11	0 d	0 d	110FS+40 d,37
112	9.2.3	9.2.3	**Main Piling Work at DOU1**	169 d	13/5/10	13/5/10	28/10/10	25/2/11	120 d	120 d	
116	9.3	9.3	**Construction of Concrete Plinth for DOU2**	519 d	30/12/09	30/12/09	1/6/11	4/6/11	3 d	3 d	
117	9.3.1	9.3.1	Underground Utility Survey at DOU2	7 d	30/12/09	30/12/09	5/1/10	31/1/11	391 d	391 d	128SS
118	9.3.2	9.3.2	Excavation including temporary works and safety measures	10 d	17/3/11	17/3/11	25/3/11	25/3/11	0 d	0 d	111FS+7 d,117
119	9.3.3	9.3.3	Pile Cap	20 d	27/3/11	27/3/11	15/4/11	15/4/11	0 d	0 d	118,39
120	9.3.4	9.3.4	Concrete Plinth	5 d	16/4/11	16/4/11	20/4/11	20/4/11	0 d	0 d	119
121	9.3.5	9.3.5	Backfill to Ground Level	7 d	21/4/11	21/4/11	27/4/11	30/4/11	0 d	3 d	120
122	9.3.6	9.3.6	Pour 2a - Wall of Control Room	14 d	28/4/11	28/4/11	11/5/11	14/5/11	0 d	3 d	39,29,121
123	9.3.7	9.3.7	Pour 2b - Roof of Control Room	14 d	12/5/11	12/5/11	26/5/11	28/5/11	0 d	9 d	122,39,29
124	9.3.8	9.3.8	Block work wall of Control Room and Finishing works	7 d	26/5/11	26/5/11	1/6/11	4/6/11	3 d	3 d	123,39
125	9.4	9.4	Watermain laying works	30 d	16/4/11	16/4/11	15/5/11	4/6/11	20 d	20 d	119
126	9.5	9.5	Reinstatement of road and drainage	45 d	21/4/11	21/4/11	4/6/11	4/6/11	0 d	0 d	120
127	9.6	9.6	**Construction of Concrete Plinth for DOU1**	475 d	30/12/09	30/12/09	18/4/11	4/6/11	47 d	47 d	
128	9.6.1	9.6.1	Underground Utility Survey at DOU1	7 d	30/12/09	30/12/09	5/1/10	16/4/10	0 d	101 d	9FS+17 d
129	9.6.2	9.6.2	**Tree transplant**	50 d	5/1/10	5/1/10	24/2/10	15/6/10	111 d	111 d	7FS+30 d
133	9.6.3	9.6.3	Diversion of underground utilities including concrete service duct	270 d	30/4/10	30/4/10	26/1/11	12/3/11	0 d	47 d	18FS+120 d,132
134	9.6.4	9.6.4	Excavation including temporary works and safety measures	20 d	7/1/11	7/1/11	25/1/11	17/3/11	3 d	50 d	115,133FS-18 d
135	9.6.5	9.6.5	Pile Cap	33 d	25/1/11	25/1/11	23/2/11	11/4/11	0 d	47 d	134FS-5 d,39,133
136	9.6.6	9.6.6	Concrete Plinth	7 d	24/2/11	24/2/11	2/3/11	18/4/11	0 d	47 d	135,39
137	9.6.7	9.6.7	Backfill to Ground Level	9 d	3/3/11	3/3/11	7/3/11	23/4/11	0 d	47 d	135,39,136
138	9.6.8	9.6.8	Pour 1a - Wall of Control Room	21 d	8/3/11	8/3/11	29/3/11	14/5/11	0 d	47 d	39,29,137
139	9.6.9	9.6.9	Pour 2b - Roof of Control Room	14 d	29/3/11	29/3/11	11/4/11	26/5/11	0 d	47 d	138,29
140	9.6.10	9.6.10	Block work wall of Control Room and Finishing works	7 d	12/4/11	12/4/11	18/4/11	4/6/11	43 d	47 d	139



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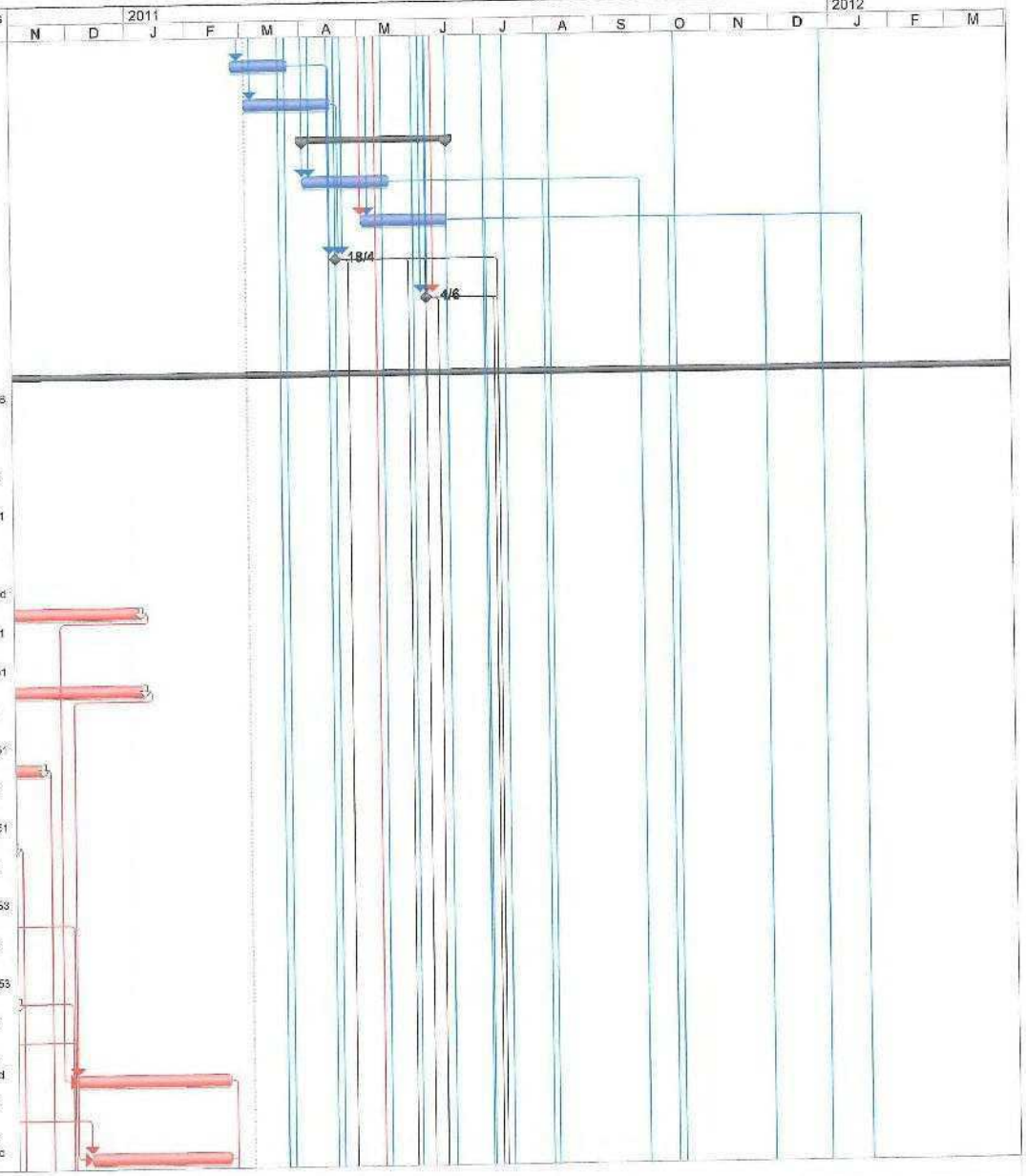
(Revision 0)

ID	WBS	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors
141	9.7	9.7	Watermain laying works	30 d	24/2/11	24/2/11	25/3/11	4/5/11	24 d	71 d	136
142	9.8	9.8	Reinstatement of road and drainage	45 d	3/3/11	3/3/11	10/4/11	4/6/11	49 d	49 d	136
143	9.9	9.9	**Erection of Odour Bridge**	76 d	2/4/11	2/4/11	15/6/11	26/10/11	73 d	73 d	
144	9.9.1	9.9.1	Odour Bridge connecting DOU1	45 d	2/4/11	2/4/11	15/5/11	26/7/11	0 d	73 d	45,86,47,136
145	9.9.2	9.9.2	Odour Bridge connecting DOU2	45 d	2/5/11	2/5/11	15/6/11	26/10/11	0 d	133 d	45,87,47,120
146	10	10	**Site Availability of the Plinth and Control Room for DOU1**	0 d	18/4/11	18/4/11	18/4/11	5/6/11	0 d	47 d	140,141,142
147	11	11	**Site Availability of the Plinth and Control Room for DOU2**	0 d	4/6/11	4/6/11	4/6/11	5/6/11	0 d	0 d	124,125,126
148	12	12	Completion of Installation of Prototype Covers on Tank 43	0 d	31/3/10	31/3/10	31/3/10	27/6/12	819 d	819 d	1FS+153 d
149	13	13	**Delivery and Installation of FRP Covers & Accessories for Containment System**	845 d	14/1/10	14/1/10	7/5/12	7/5/12	0 d	0 d	
150	13.1	13.1	Delivery and Manufacture of Sedimentation Tank No.43	34 d	14/1/10	14/1/10	18/2/10	18/2/10	0 d	0 d	16,65FS+12 d,18
151	13.2	13.2	Installation and Testing of Containment System of Sedimentation Tank No.43	62 d	27/1/10	27/1/10	29/3/10	29/3/10	0 d	0 d	150FS-21 d
152	13.3	13.3	Delivery and Manufacture of Sedimentation Tank No.33	30 d	30/3/10	30/3/10	28/4/10	28/4/10	0 d	0 d	151,28FS-19 d
153	13.4	13.4	Installation and Testing of Containment System of Sedimentation Tank No.33	66 d	10/5/10	10/5/10	14/7/10	14/7/10	0 d	0 d	152FS+11 d,151
154	13.5	13.5	Delivery and Manufacture of Sedimentation Tank No.35	31 d	19/4/10	19/4/10	19/5/10	19/5/10	0 d	0 d	152FS-10 d
155	13.6	13.6	Installation and Testing of Containment System of Sedimentation Tank No.35	221 d	30/5/10	30/5/10	5/1/11	5/1/11	0 d	0 d	151,154FS-10 d
156	13.7	13.7	Delivery and Manufacture of Sedimentation Tank No.37	27 d	10/5/10	10/5/10	5/6/10	5/6/10	0 d	0 d	154FS-10 d,151
157	13.8	13.8	Installation and Testing of Containment System of Sedimentation Tank No.37	195 d	25/6/10	25/6/10	7/1/11	7/1/11	0 d	0 d	156FS+20 d,151
158	13.9	13.9	Delivery and Manufacture of Sedimentation Tank No.39	33 d	27/5/10	27/5/10	28/6/10	28/6/10	0 d	0 d	150FS-10 d
159	13.10	13.10	Installation and Testing of Containment System of Sedimentation Tank No.39	120 d	19/7/10	19/7/10	15/11/10	15/11/10	0 d	0 d	158FS+20 d,151
160	13.11	13.11	Delivery and Manufacture of Sedimentation Tank No.41	21 d	19/6/10	19/6/10	9/7/10	9/7/10	0 d	0 d	158FS-10 d
161	13.12	13.12	Installation and Testing of Containment System of Sedimentation Tank No.41	94 d	30/7/10	30/7/10	31/10/10	31/10/10	0 d	0 d	160FS+20 d,151
162	13.13	13.13	Delivery and Manufacture of Sedimentation Tank No.21	33 d	30/8/10	30/8/10	1/8/10	1/8/10	0 d	0 d	160FS-10 d
163	13.14	13.14	Installation and Testing of Containment System of Sedimentation Tank No.21	66 d	22/8/10	22/8/10	26/10/10	26/10/10	0 d	0 d	162FS+20 d,153
164	13.15	13.15	Delivery and Manufacture of Sedimentation Tank No.23	30 d	18/7/10	18/7/10	19/8/10	19/8/10	0 d	0 d	162FS-15 d
165	13.16	13.16	Installation and Testing of Containment System of Sedimentation Tank No.23	87 d	27/8/10	27/8/10	1/11/10	1/11/10	0 d	0 d	164FS+10 d,153
166	13.17	13.17	Delivery and Manufacture of Sedimentation Tank No.25	27 d	2/9/10	2/9/10	28/9/10	28/9/10	0 d	0 d	164FS-15 d
167	13.18	13.18	Installation and Testing of Containment System of Sedimentation Tank No.25	79 d	2/12/10	2/12/10	18/2/11	18/2/11	0 d	0 d	166FS+10 d,165FS-35 d
168	13.19	13.19	Delivery and Manufacture of Sedimentation Tank No.27	32 d	14/8/10	14/8/10	14/9/10	14/9/10	0 d	0 d	166FS-15 d
169	13.20	13.20	Installation and Testing of Containment System of Sedimentation Tank No.27	72 d	9/12/10	9/12/10	18/2/11	18/2/11	0 d	0 d	168FS+30 d,157FS-30 d



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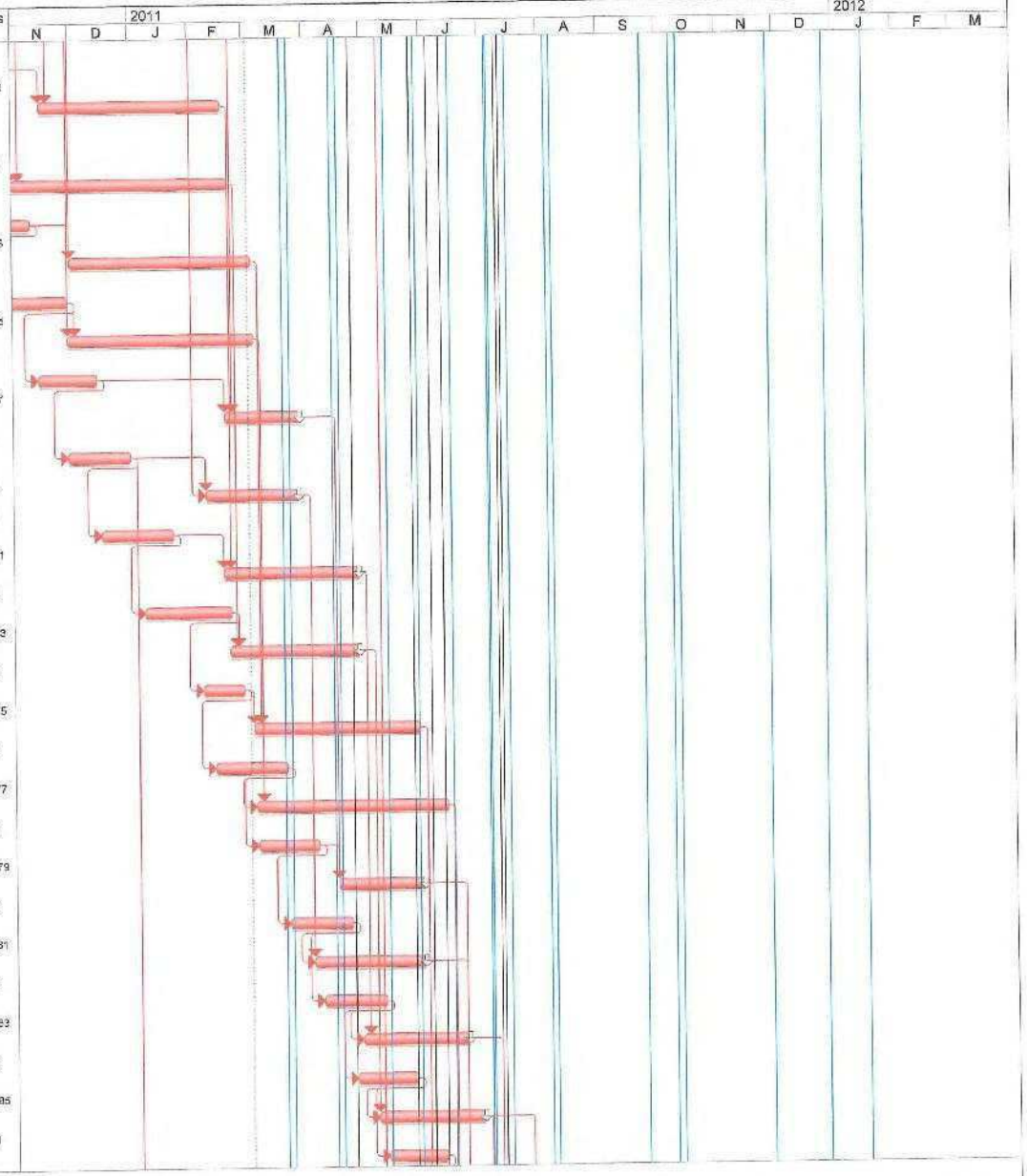
(Revision 0)

ID	WBS	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors
170	13.21	13.21	Delivery and Manufacture of Flocculation Tank No.1	42 d	31/8/10	31/8/10	11/10/10	11/10/10	0 d	0 d	168FS-15 d
171	13.22	13.22	Installation and Testing of Containment System of Flocculation Tank No.1	94 d	16/11/10	16/11/10	17/2/11	17/2/11	0 d	0 d	170FS+10 d,155
172	13.23	13.23	Delivery and Manufacture of Flocculation Tank No.3	30 d	27/9/10	27/9/10	26/10/10	26/10/10	0 d	0 d	170FS-15 d
173	13.24	13.24	Installation and Testing of Containment System of Flocculation Tank No.3	112 d	1/11/10	1/11/10	20/2/11	20/2/11	0 d	0 d	172FS+5 d,161
174	13.25	13.25	Delivery and Manufacture of Sedimentation Tank No.17	30 d	12/10/10	12/10/10	10/11/10	10/11/10	0 d	0 d	172FS-15 d
175	13.26	13.26	Installation and Testing of Containment System of Sedimentation Tank No.17	54 d	1/12/10	1/12/10	4/3/11	4/3/11	0 d	0 d	174FS-20 d,155
176	13.27	13.27	Delivery and Manufacture of Sedimentation Tank No.18	34 d	27/10/10	27/10/10	29/11/10	29/11/10	0 d	0 d	174FS-15 d
177	13.28	13.28	Installation and Testing of Containment System of Sedimentation Tank No.18	99 d	30/11/10	30/11/10	5/3/11	5/3/11	0 d	0 d	176,165FS-10 d
178	13.29	13.29	Delivery and Manufacture of Flocculation Tank No.2	30 d	15/11/10	15/11/10	14/12/10	14/12/10	0 d	0 d	176FS-15 d
179	13.30	13.30	Installation and Testing of Containment System of Flocculation Tank No.2	39 d	19/2/11	19/2/11	29/3/11	26/3/11	0 d	0 d	178FS-20 d,167
180	13.31	13.31	Delivery and Manufacture of Flocculation Tank No.4	32 d	30/11/10	30/11/10	31/12/10	31/12/10	0 d	0 d	178FS-15 d
181	13.32	13.32	Installation and Testing of Containment System of Flocculation Tank No.4	48 d	9/2/11	9/2/11	28/3/11	28/3/11	0 d	0 d	180FS+15 d,169FS-10 d
182	13.33	13.33	Delivery and Manufacture of Sedimentation Tank No.13	37 d	17/12/10	17/12/10	22/1/11	22/1/11	0 d	0 d	180FS-15 d
183	13.34	13.34	Installation and Testing of Containment System of Sedimentation Tank No.13	70 d	18/2/11	18/2/11	28/4/11	28/4/11	0 d	0 d	182FS-20 d,171
184	13.35	13.35	Delivery and Manufacture of Sedimentation Tank No.15	49 d	8/1/11	8/1/11	21/2/11	21/2/11	0 d	0 d	182FS-15 d
185	13.36	13.36	Installation and Testing of Containment System of Sedimentation Tank No.15	67 d	21/2/11	21/2/11	28/4/11	28/4/11	0 d	0 d	184FS-20 d,173
186	13.37	13.37	Delivery and Manufacture of Flocculation Tank 6	21 d	7/2/11	7/2/11	27/2/11	27/2/11	0 d	0 d	184FS-15 d
187	13.38	13.38	Installation and Testing of Containment System of Flocculation Tank 6	68 d	5/3/11	5/3/11	29/5/11	29/5/11	0 d	0 d	186FS-20 d,175
188	13.39	13.39	Delivery and Manufacture of Flocculation Tank 8	37 d	13/2/11	13/2/11	21/3/11	21/3/11	0 d	0 d	186FS-15 d
189	13.40	13.40	Installation and Testing of Containment System of Flocculation Tank 8	96 d	6/3/11	6/3/11	12/6/11	12/6/11	0 d	0 d	188FS-20 d,177
190	13.41	13.41	Delivery and Manufacture of Sedimentation Tank No.11	31 d	7/3/11	7/3/11	6/4/11	6/4/11	0 d	0 d	188FS-15 d
191	13.42	13.42	Installation and Testing of Containment System of Sedimentation Tank No.11	49 d	17/4/11	17/4/11	31/5/11	31/5/11	0 d	0 d	190FS+10 d,179
192	13.43	13.43	Delivery and Manufacture of Sedimentation Tank No.9	32 d	23/3/11	23/3/11	25/4/11	23/4/11	0 d	0 d	190FS-15 d
193	13.44	13.44	Installation and Testing of Containment System of Sedimentation Tank No.9	58 d	4/4/11	4/4/11	31/5/11	31/5/11	0 d	0 d	192FS-20 d,181
194	13.45	13.45	Delivery and Manufacture of Flocculation Tank 5	32 d	9/4/11	9/4/11	10/5/11	10/5/11	0 d	0 d	192FS-15 d
195	13.46	13.46	Installation and Testing of Containment System of Flocculation Tank 5	66 d	29/4/11	29/4/11	22/6/11	22/6/11	0 d	0 d	194FS-20 d,183
196	13.47	13.47	Delivery and Manufacture of Flocculation Tank 6	31 d	26/4/11	26/4/11	26/5/11	26/5/11	0 d	0 d	194FS-15 d
197	13.48	13.48	Installation and Testing of Containment System of Flocculation Tank 7	55 d	7/5/11	7/5/11	30/6/11	30/6/11	0 d	0 d	196FS-20 d,185
198	13.49	13.49	Delivery and Manufacture of Sedimentation Tank No.29	30 d	12/5/11	12/5/11	10/6/11	10/6/11	0 d	0 d	196FS-15 d



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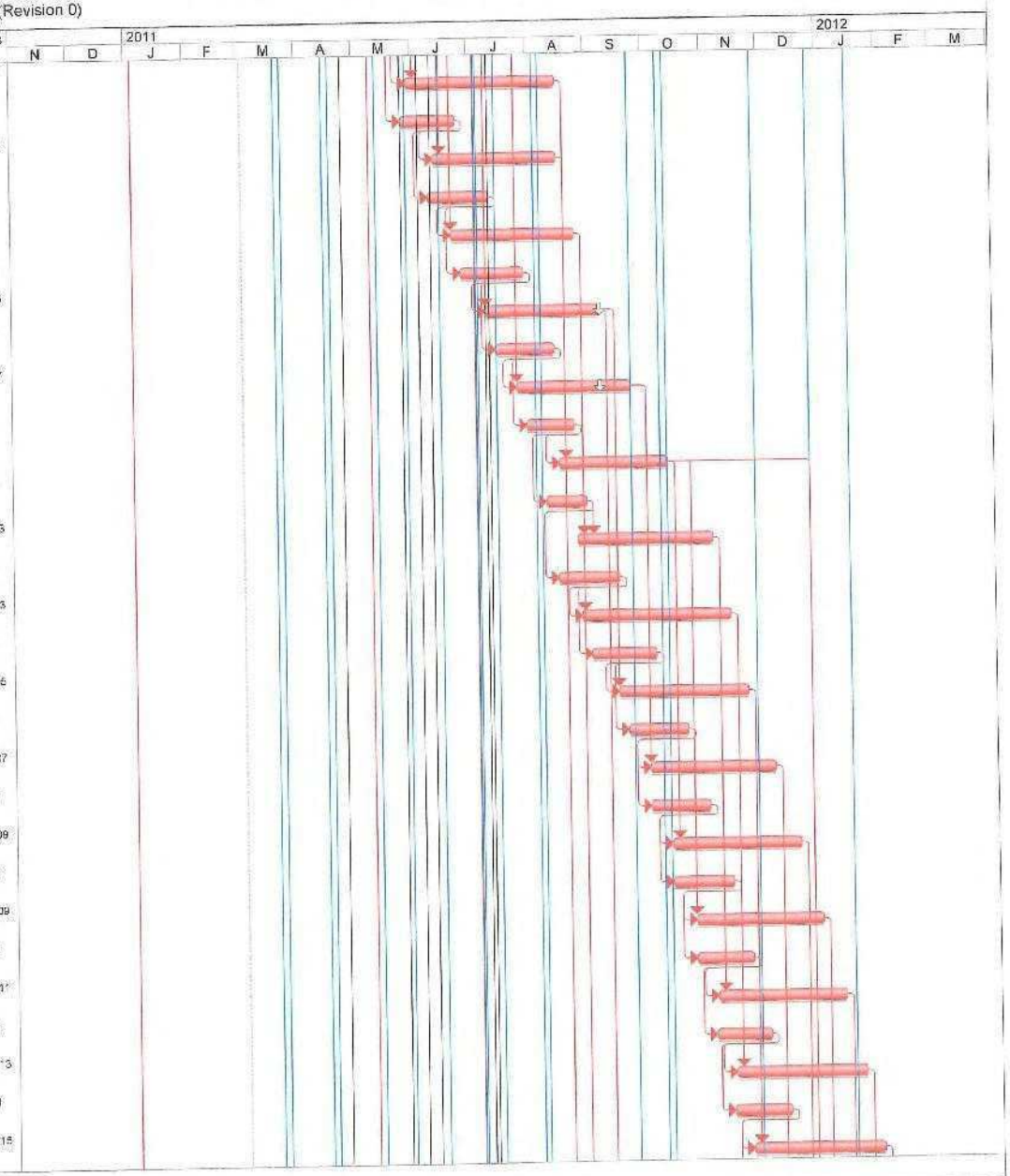
199	13.50	13.50	Installation and Testing of Containment System of Sedimentation Tank No.29	79 d	30/5/11	30/5/11	15/8/11	15/8/11	0 d	0 d	198FS-20 d,197
200	13.51	13.51	Delivery and Manufacture of Sedimentation Tank No.31	29 d	27/5/11	27/5/11	24/6/11	24/6/11	0 d	0 d	198FS-15 d
201	13.52	13.52	Installation and Testing of Containment System of Sedimentation Tank No.31	65 d	13/6/11	13/6/11	16/8/11	15/8/11	0 d	0 d	200FS-20 d,199
202	13.53	13.53	Delivery and Manufacture of Sedimentation Tank No.45	32 d	10/6/11	10/6/11	11/7/11	11/7/11	0 d	0 d	200FS-15 d
203	13.54	13.54	Installation and Testing of Containment System of Sedimentation Tank No.45	66 d	22/6/11	22/6/11	25/8/11	25/8/11	0 d	0 d	202FS-20 d,191,193
204	13.55	13.55	Delivery and Manufacture of Sedimentation Tank No.36	33 d	27/6/11	27/6/11	29/7/11	29/7/11	0 d	0 d	202FS-15 d
205	13.56	13.56	Installation and Testing of Containment System of Sedimentation Tank No.36	80 d	10/7/11	10/7/11	7/9/11	7/9/11	0 d	0 d	204FS-20 d,195
206	13.57	13.57	Delivery and Manufacture of Sedimentation Tank No.38	31 d	15/7/11	15/7/11	14/8/11	14/8/11	0 d	0 d	204FS-15 d
207	13.58	13.58	Installation and Testing of Containment System of Sedimentation Tank No.38	80 d	28/7/11	26/7/11	23/9/11	7/9/11	0 d	-16 d	206FS-20 d,197
208	13.59	13.59	Delivery and Manufacture of Prototype near Tank No.33	25 d	31/7/11	31/7/11	24/8/11	24/8/11	0 d	0 d	206FS-15 d
209	13.60	13.60	Installation and Testing of Containment System of Prototype near Tank No.33	57 d	17/8/11	17/8/11	12/10/11	12/10/11	0 d	0 d	208FS-20 d,199 207
210	13.61	13.61	Delivery and Manufacture of Sedimentation Tank No.22	21 d	10/9/11	10/9/11	30/9/11	30/9/11	0 d	0 d	208FS-15 d
211	13.62	13.62	Installation and Testing of Containment System of Sedimentation Tank No.22	71 d	25/8/11	25/8/11	4/11/11	4/11/11	0 d	0 d	210FS-20 d,205
212	13.63	13.63	Delivery and Manufacture of Sedimentation Tank No.24	32 d	16/9/11	16/9/11	16/9/11	16/9/11	0 d	0 d	210FS-15 d
213	13.64	13.64	Installation and Testing of Containment System of Sedimentation Tank No.24	78 d	25/8/11	25/8/11	13/11/11	13/11/11	0 d	0 d	212FS-20 d,203
214	13.65	13.65	Delivery and Manufacture of Sedimentation Tank No.29	34 d	2/9/11	2/9/11	5/10/11	5/10/11	0 d	0 d	212FS-15 d
215	13.66	13.66	Installation and Testing of Containment System of Sedimentation Tank No.26	98 d	16/9/11	16/9/11	22/11/11	22/11/11	0 d	0 d	214FS-20 d,206
216	13.67	13.67	Delivery and Manufacture of Sedimentation Tank No.26	31 d	21/9/11	21/9/11	21/10/11	21/10/11	0 d	0 d	214FS-15 d
217	13.68	13.68	Installation and Testing of Containment System of Sedimentation Tank No.28	65 d	2/10/11	2/10/11	6/12/11	6/12/11	0 d	0 d	216FS-20 d,207
218	13.69	13.69	Delivery and Manufacture of Sedimentation Tank No.30	31 d	2/10/11	2/10/11	1/11/11	1/11/11	0 d	0 d	216FS-20 d
219	13.70	13.70	Installation and Testing of Containment System of Sedimentation Tank No.30	65 d	13/10/11	13/10/11	19/12/11	19/12/11	0 d	0 d	218FS-20 d,209
220	13.71	13.71	Delivery and Manufacture of Sedimentation Tank No.32	32 d	13/10/11	13/10/11	13/11/11	13/11/11	0 d	0 d	218FS-20 d
221	13.72	13.72	Installation and Testing of Containment System of Sedimentation Tank No.32	67 d	25/10/11	25/10/11	30/12/11	30/12/11	0 d	0 d	220FS-20 d,209
222	13.73	13.73	Delivery and Manufacture of Sedimentation Tank No.10	30 d	25/10/11	25/10/11	23/11/11	23/11/11	0 d	0 d	220FS-20 d
223	13.74	13.74	Installation and Testing of Containment System of Sedimentation Tank No.10	68 d	5/11/11	5/11/11	11/1/12	11/1/12	0 d	0 d	222FS-20 d,211
224	13.75	13.75	Delivery and Manufacture of Sedimentation Tank No.12	29 d	4/11/11	4/11/11	2/12/11	2/12/11	0 d	0 d	222FS-20 d
225	13.76	13.76	Installation and Testing of Containment System of Sedimentation Tank No.12	59 d	14/11/11	14/11/11	2/1/12	2/1/12	0 d	0 d	224FS-20 d,213
226	13.77	13.77	Delivery and Manufacture of Sedimentation Tank No.14	30 d	13/11/11	13/11/11	12/12/11	12/12/11	0 d	0 d	224FS-20 d
227	13.78	13.78	Installation and Testing of Containment System of Sedimentation Tank No.14	69 d	28/11/11	28/11/11	30/1/12	30/1/12	0 d	0 d	226FS-20 d,215



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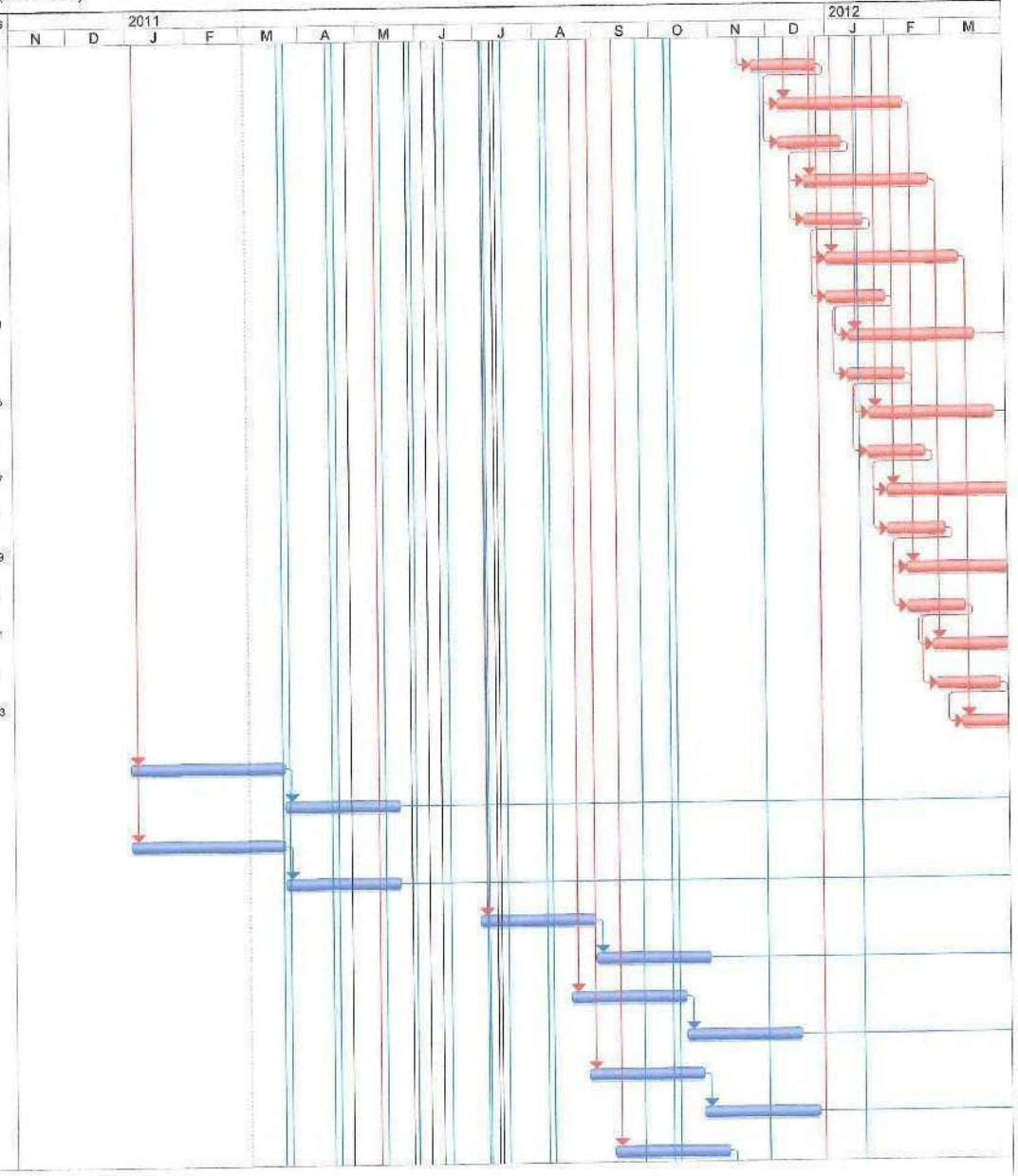
ATAL Engineering Limited

Three Months Rolling Programme for Contract No. DE/2009/02

Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Feb11 to Apr11)

(Revision 0)

ID	WBS	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors
228	13.79	13.79	Delivery and Manufacture of Sedimentation Tank No.16	34 d	23/11/11	23/11/11	28/12/11	26/12/11	0 d	0 d	226FS-20 d
229	13.80	13.80	Installation and Testing of Containment System of Sedimentation Tank No.16	55 d	7/12/11	7/12/11	9/2/12	9/2/12	0 d	0 d	228FS-20 d,217
230	13.81	13.81	Delivery and Manufacture of Sedimentation Tank No.18	33 d	7/12/11	7/12/11	9/1/12	9/1/12	0 d	0 d	228FS-20 d
231	13.82	13.82	Installation and Testing of Containment System of Sedimentation Tank No.18	65 d	20/12/11	20/12/11	22/2/12	22/2/12	0 d	0 d	230FS-20 d,219
232	13.83	13.83	Delivery and Manufacture of Sedimentation Tank No.20	31 d	20/12/11	20/12/11	19/1/12	19/1/12	0 d	0 d	230FS-20 d
233	13.84	13.84	Installation and Testing of Containment System of Sedimentation Tank No.20	89 d	31/12/11	31/12/11	9/3/12	9/3/12	0 d	0 d	232FS-20 d,221
234	13.85	13.85	Delivery and Manufacture of Prototype near Tank No.34	31 d	31/12/11	31/12/11	30/1/12	30/1/12	0 d	0 d	232FS-20 d
235	13.86	13.86	Installation and Testing of Containment System of Prototype near Tank No.34	65 d	12/1/12	12/1/12	15/3/12	15/3/12	0 d	0 d	234FS-20 d,223
236	13.87	13.87	Delivery and Manufacture of Sedimentation Tank No.34	30 d	11/1/12	11/1/12	9/2/12	9/2/12	0 d	0 d	234FS-20 d
237	13.88	13.88	Installation and Testing of Containment System of Sedimentation Tank No.34	65 d	22/1/12	22/1/12	26/3/12	26/3/12	0 d	0 d	236FS-20 d,225
238	13.89	13.89	Delivery and Manufacture of Sedimentation Tank No.44	30 d	21/1/12	21/1/12	19/2/12	15/2/12	0 d	0 d	236FS-20 d
239	13.90	13.90	Installation and Testing of Containment System of Sedimentation Tank No.44	85 d	31/1/12	31/1/12	5/4/12	5/4/12	0 d	0 d	238FS-20 d,227
240	13.91	13.91	Delivery and Manufacture of Sedimentation Tank No.48	30 d	31/1/12	31/1/12	29/2/12	29/2/12	0 d	0 d	238FS-20 d
241	13.92	13.92	Installation and Testing of Containment System of Sedimentation Tank No.48	66 d	10/2/12	10/2/12	15/4/12	15/4/12	0 d	0 d	240FS-20 d,229
242	13.93	13.93	Delivery and Manufacture of Sedimentation Tank No.40	30 d	10/2/12	10/2/12	10/3/12	10/3/12	0 d	0 d	240FS-20 d
243	13.94	13.94	Installation and Testing of Containment System of Sedimentation Tank No.40	66 d	23/2/12	23/2/12	28/4/12	28/4/12	0 d	0 d	242FS-20 d,231
244	13.95	13.95	Delivery and Manufacture of Sedimentation Tank No.42	33 d	25/2/12	25/2/12	28/3/12	28/3/12	0 d	0 d	242FS-15 d
245	13.96	13.96	Installation and Testing of Containment System of Sedimentation Tank No.42	60 d	9/3/12	9/3/12	7/5/12	7/5/12	0 d	0 d	244FS-20 d,233
246	13.97	13.97	Delivery and Manufacture of Main Distribution Channel (33-45)	60 d	1/1/11	1/1/11	21/3/11	8/3/12	0 d	353 d	180
247	13.98	13.98	Installation and Testing of Containment System of Main Distribution Channel (33-45)	60 d	22/3/11	22/3/11	20/5/11	7/5/12	353 d	353 d	246
248	13.99	13.99	Delivery and Manufacture of Main Distribution Channel (21-31)	60 d	1/1/11	1/1/11	21/3/11	8/3/12	0 d	353 d	180
249	13.100	13.100	Installation and Testing of Containment System of Main Distribution Channel (21-31)	60 d	22/3/11	22/3/11	20/5/11	7/5/12	353 d	353 d	248
250	13.101	13.101	Delivery and Manufacture of Main Distribution Channel (1-19)	60 d	1/7/11	1/7/11	29/8/11	6/3/12	0 d	192 d	197
251	13.102	13.102	Installation and Testing of Containment System of Main Distribution Channel (1-19)	60 d	30/8/11	30/8/11	28/10/11	7/5/12	192 d	192 d	250
252	13.103	13.103	Delivery and Manufacture of Main Distribution Channel (22-32)	60 d	17/8/11	17/8/11	15/10/11	8/3/12	0 d	145 d	199
253	13.104	13.104	Installation and Testing of Containment System of Main Distribution Channel (22-32)	60 d	19/10/11	19/10/11	14/12/11	7/5/12	145 d	145 d	252
254	13.105	13.105	Delivery and Manufacture of Main Distribution Channel (34-46)	50 d	26/8/11	26/8/11	24/10/11	8/3/12	0 d	136 d	203
255	13.106	13.106	Installation and Testing of Containment System of Main Distribution Channel (34-46)	60 d	25/10/11	25/10/11	23/12/11	7/5/12	136 d	136 d	254
256	13.107	13.107	Delivery and Manufacture of Main Distribution Channel (2-20)	60 d	8/9/11	8/9/11	8/11/11	8/3/12	0 d	123 d	205



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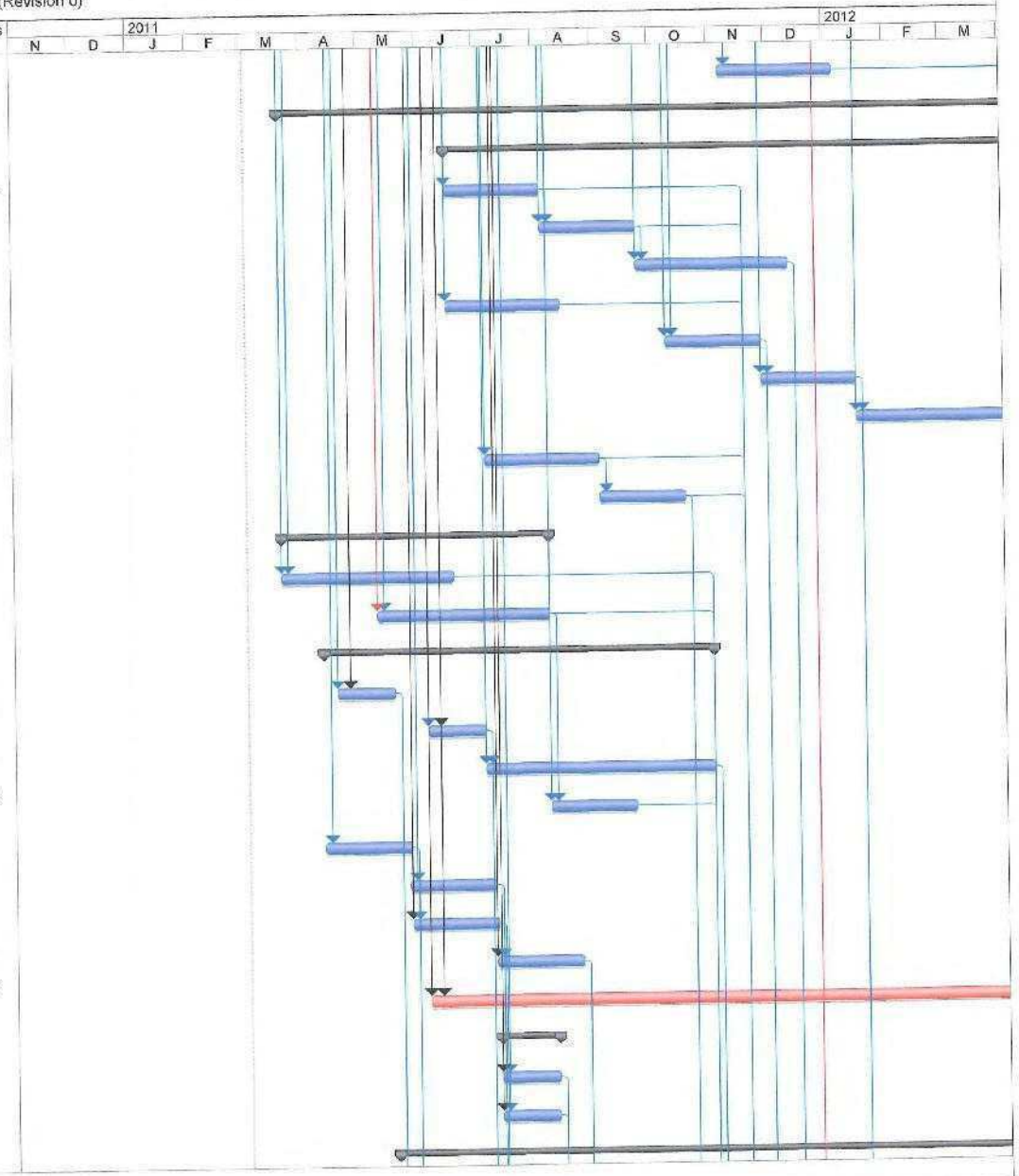
ATAL Engineering Limited

Three Months Rolling Programme for Contract No. DE/2009/02

Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Feb11 to Apr11)

(Revision 0)

ID	WBS	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors
257	13.10	13.10	Installation and Testing of Containment System of Main Distribution Channel (2-22)	60 d	7/11/11	7/11/11	5/5/12	7/5/12	123 d	123 d	256
258	14	14	**Site Installation**	**465 d**	**21/3/11**	**21/3/11**	**27/6/12**	**27/6/12**	**0 d**	**0 d**	
259	14.1	14.1	**FRP Ductwork**	**295 d**	**16/6/11**	**16/6/11**	**5/4/12**	**23/4/12**	**18 d**	**18 d**	
260	14.1.1	14.1.1	Sedimentation Tank (33-45, Odd Number)	60 d	16/6/11	16/6/11	4/8/11	15/12/11	0 d	133 d	7FS+30 d,144FS+30 d
261	14.1.2	14.1.2	Sedimentation Tank (9 -31, Odd Number)	60 d	5/8/11	5/8/11	23/9/11	3/2/12	0 d	133 d	260,144
262	14.1.3	14.1.3	Flocculation Tank (Odd Number)	60 d	24/9/11	24/8/11	12/12/11	23/4/12	0 d	133 d	261,144
263	14.1.4	14.1.4	Main Distribution Channel (Odd Number)	60 d	16/8/11	16/8/11	14/6/11	25/10/11	73 d	73 d	144FS+30 d
264	14.1.5	14.1.5	Sedimentation Tank (34 -46, Even Number)	50 d	9/10/11	9/10/11	27/12/11	15/12/11	0 d	18 d	253,82,145
265	14.1.6	14.1.6	Sedimentation Tank (10 -32, Even Number)	60 d	28/11/11	28/11/11	16/1/12	3/2/12	0 d	18 d	264,145
266	14.1.7	14.1.7	Flocculation Tank (Even Number)	60 d	17/1/12	17/1/12	5/4/12	25/4/12	0 d	18 d	255,145
267	14.1.8	14.1.8	Main Distribution Channel (Even Number)	80 d	6/7/11	6/7/11	3/9/11	23/3/12	0 d	202 d	145FS+20 d
268	14.1.9	14.1.9	Inlet Works	45 d	4/9/11	4/9/11	18/10/11	7/5/12	0 d	202 d	267
269	14.2	14.2	**Deodorization System**	**140 d**	**21/3/11**	**21/3/11**	**7/8/11**	**14/2/12**	**191 d**	**191 d**	
270	14.2.1	14.2.1	Deodourization System No. 2	80 d	21/3/11	21/3/11	18/6/11	30/3/12	27 d	286 d	136,72
271	14.2.2	14.2.2	Deodourization System No. 1	90 d	10/5/11	10/5/11	7/8/11	29/2/12	0 d	206 d	120,73
272	14.3	14.3	**Electrical Installation**	**204 d**	**12/4/11**	**12/4/11**	**1/11/11**	**30/3/12**	**150 d**	**150 d**	
273	14.3.1	14.3.1	LV Switchboard at DOU1	30 d	19/4/11	19/4/11	18/5/11	16/3/12	0 d	303 d	89,146
274	14.3.2	14.3.2	LV Switchboard at DOU2	30 d	5/9/11	5/9/11	4/7/11	1/12/11	0 d	150 d	90,147
275	14.3.3	14.3.3	Cabling Laying and Termination for DOU and SCADA	120 d	5/7/11	5/7/11	1/11/11	30/3/12	0 d	150 d	93,274
276	14.3.4	14.3.4	Modification of SCADA System	45 d	8/8/11	8/8/11	21/9/11	30/3/12	41 d	191 d	91,271,270
277	14.3.5	14.3.5	Earthing Installation at DOU1	45 d	12/4/11	12/4/11	26/5/11	15/1/12	0 d	234 d	138
278	14.3.6	14.3.6	Earthing Installation at DOU2	45 d	26/5/11	26/5/11	9/7/11	15/1/12	0 d	180 d	123
279	14.3.7	14.3.7	Lightning Installation at DOU1	45 d	27/5/11	27/5/11	10/7/11	29/2/12	0 d	234 d	146,277
280	14.3.8	14.3.8	Lightning Installation at DOU2	45 d	10/7/11	10/7/11	23/8/11	29/2/12	0 d	190 d	147,278
281	14.4	14.4	CCTV System and associated cabling work	360 d	5/8/11	5/8/11	29/5/12	29/5/12	0 d	0 d	92,147,146
282	14.5	14.5	**BS Installation**	**30 d**	**12/7/11**	**12/7/11**	**10/8/11**	**30/4/12**	**264 d**	**264 d**	
283	14.5.1	14.5.1	Building Services and FS Equipment Installation at DOU1	30 d	12/7/11	12/7/11	10/8/11	30/4/12	0 d	264 d	145,59
284	14.5.2	14.5.2	Building Services and FS Equipment Installation at DOU2	30 d	12/7/11	12/7/11	10/8/11	30/4/12	0 d	264 d	147,69
285	14.6	14.6	**Testing and Commissioning**	**391 d**	**19/5/11**	**19/5/11**	**12/6/12**	**12/6/12**	**0 d**	**0 d**	



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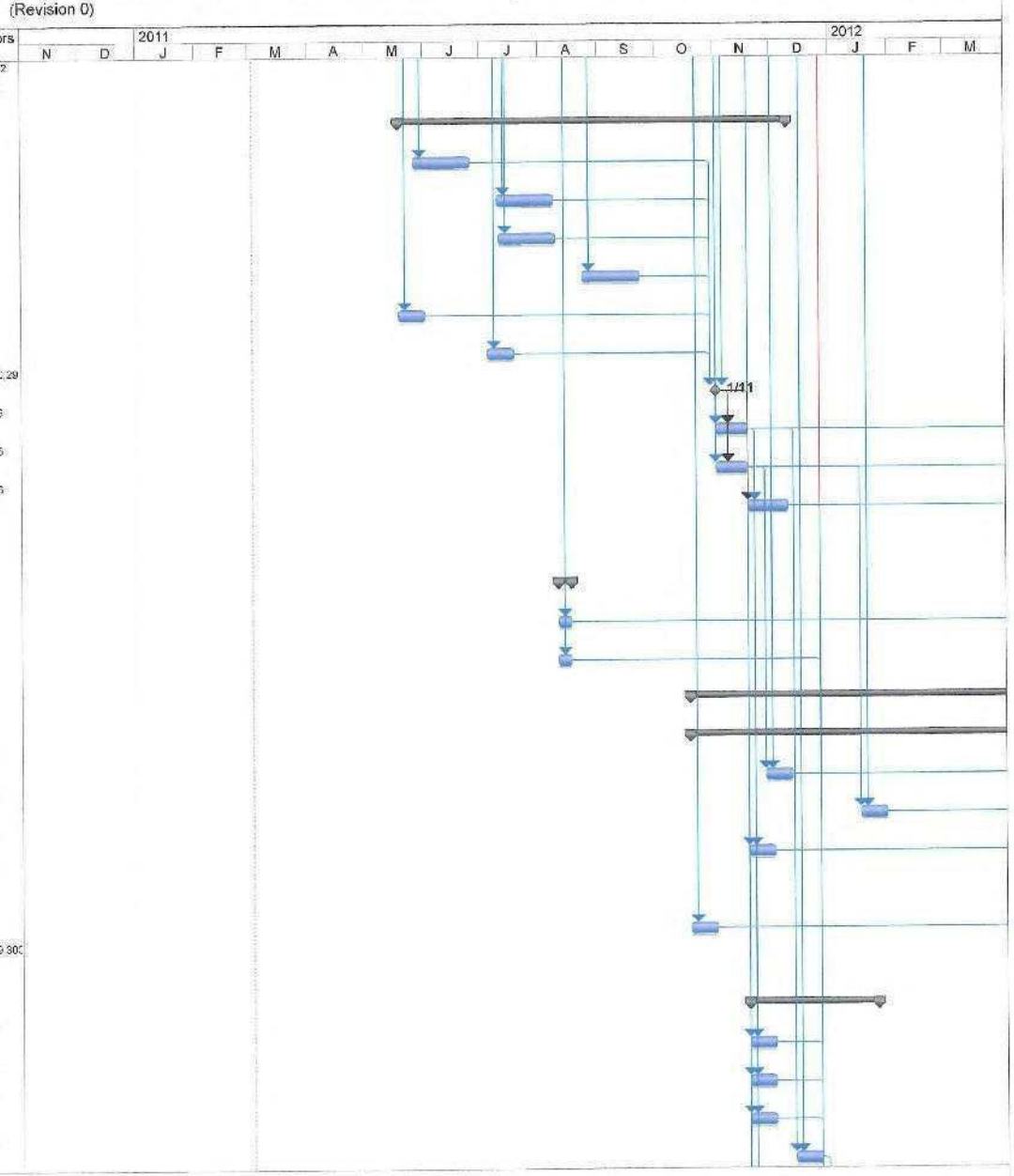
Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Feb11 to Apr11)
(Revision 0)

ID	WBS	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors
286	14.6.1	14.6.1	Overall Testing and Commissioning of Containment System	30 d	9/5/12	9/5/12	6/6/12	6/6/12	0 d	0 d	245,235FS+52 d,237FS+42 d,239FS+32
287	14.6.2	14.6.2	**Electrical Installation**	**205 d**	**19/5/11**	**19/5/11**	**9/12/11**	**7/5/12**	**150 d**	**150 d**	
288	14.6.2.1	14.6.2.1	Earthing Installation at DOU1	30 d	27/6/11	27/6/11	25/8/11	30/3/12	129 d	279 d	277
289	14.6.2.2	14.6.2.2	Earthing Installation at DOU2	30 d	10/7/11	10/7/11	8/8/11	30/3/12	85 d	235 d	278
290	14.6.2.3	14.6.2.3	Lightning Installation at DOU1	30 d	11/7/11	11/7/11	9/8/11	30/3/12	84 d	234 d	279
291	14.6.2.4	14.6.2.4	Lightning Installation at DOU2	30 d	24/8/11	24/8/11	22/9/11	30/3/12	40 d	190 d	280
292	14.6.2.5	14.6.2.5	LV Switchboard at DOU1	14 d	19/5/11	19/5/11	1/6/11	30/3/12	153 d	333 d	273
293	14.6.2.6	14.6.2.6	LV Switchboard at DOU2	14 d	5/7/11	5/7/11	18/7/11	30/3/12	106 d	256 d	274
294	14.6.2.7	14.6.2.7	Power Energization	0 d	1/11/11	1/11/11	1/11/11	31/3/12	0 d	150 d	50,256,289,290,29
295	14.6.2.8	14.6.2.8	Deodourization System No. 2	17 d	2/11/11	2/11/11	18/11/11	15/4/12	0 d	150 d	294,270,276
296	14.6.2.9	14.6.2.9	Deodourization System No. 1	17 d	2/11/11	2/11/11	18/11/11	15/4/12	0 d	150 d	294,271,276
297	14.6.2.10	14.6.2.10	SCADA System	21 d	19/11/11	19/11/11	9/12/11	7/5/12	17 d	150 d	294,295,296
298	14.6.3	14.6.3	CCTV System	14 d	30/5/12	30/5/12	12/6/12	12/6/12	0 d	0 d	251
299	**14.6.4**	**14.6.4**	**BS & FS Installation**	**7 d**	**11/8/11**	**11/8/11**	**17/8/11**	**7/5/12**	**264 d**	**264 d**	
300	14.6.4.1	14.6.4.1	Building Services and FS Equipment Installation at DOU2	7 d	11/8/11	11/8/11	17/8/11	7/5/12	264 d	264 d	284
301	14.6.4.2	14.6.4.2	Building Services and FS Equipment Installation at DOU1	7 d	11/8/11	11/8/11	17/8/11	7/5/12	114 d	264 d	283
302	**14.7**	**14.7**	**System Performance Test**	**253 d**	**19/10/11**	**19/10/11**	**27/6/12**	**27/6/12**	**0 d**	**0 d**	
303	**14.7.1**	**14.7.1**	**Deodourization System No. 1**	**232 d**	**19/10/11**	**19/10/11**	**6/6/12**	**6/6/12**	**0 d**	**0 d**	
304	14.7.1.1	14.7.1.1	Sedimentation Tank (34 -46, Even Number)	14 d	28/11/11	28/11/11	11/12/11	7/5/12	148 d	148 d	299,264
305	14.7.1.2	14.7.1.2	Sedimentation Tank (10 -32, Even Number)	14 d	17/1/12	17/1/12	30/1/12	7/5/12	98 d	98 d	265,296
306	14.7.1.3	14.7.1.3	Main Distribution Channel (Even Number)	14 d	19/11/11	19/11/11	2/12/11	7/5/12	157 d	157 d	266,267
307	14.7.1.4	14.7.1.4	Flocculation Tank (Even number)	14 d	6/4/12	6/4/12	19/4/12	7/5/12	18 d	18 d	266,268
308	14.7.1.5	14.7.1.5	Inlet Works	14 d	15/10/11	15/10/11	1/11/11	7/5/12	188 d	188 d	268
309	14.7.1.6	14.7.1.6	Final DOU1 System Acceptance Test	30 d	8/5/12	8/5/12	6/6/12	6/6/12	0 d	0 d	307,308,297,49,300
310	**14.7.2**	**14.7.2**	**Deodourization System No. 2**	**68 d**	**19/11/11**	**19/11/11**	**25/1/12**	**6/6/12**	**133 d**	**133 d**	
311	14.7.2.1	14.7.2.1	Sedimentation Tank (33-45, Odd Number)	14 d	19/11/11	19/11/11	2/12/11	7/5/12	24 d	157 d	260,295
312	14.7.2.2	14.7.2.2	Sedimentation Tank (9 -31, Odd Number)	14 d	19/11/11	19/11/11	2/12/11	7/5/12	24 d	157 d	261,295
313	14.7.2.3	14.7.2.3	Main Distribution Channel (odd number)	14 d	19/11/11	19/11/11	2/12/11	7/5/12	24 d	157 d	263,295
314	14.7.2.4	14.7.2.4	Flocculation Tank (odd number)	14 d	13/12/11	13/12/11	26/12/11	7/5/12	0 d	133 d	262,295



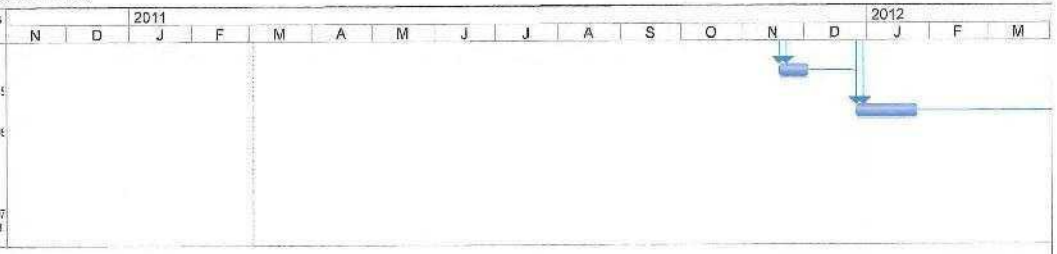
Contract No. DE/2009/02
Revision: 0
Date: 28 Feb 2010

Task | Progress | Summary | External Tasks | Group By Summary
Critical Task | Milestone | Split | Project Summary | Deadline

ATAL Engineering Limited

Three Months Rolling Programme for Contract No. DE/2009/02
Provision of Covers and Deodourisation Facilities to the Existing Sedimentation Tanks at Stonecutters Island Sewage Treatment Works (Feb11 to Apr11)
(Revision 0)

ID	WBS	WBS	Task Name	Duration	Early Start	Start	Finish	Late Finish	Free Slack	Total Slack	Predecessors
315	14.7.2.5	14.7.2.5	Inlet Works	14 d	19/11/11	19/11/11	2/12/11	7/9/12	24 d	167 d	295,258
316	14.7.2.6	14.7.2.6	Final DOU2 System Acceptance Test	30 d	27/12/11	27/12/11	25/1/12	6/8/12	133 d	133 d	312,49,301,313,315
317	14.7.3	14.7.3	Training of Employer's Staff	15 d	13/6/12	13/6/12	27/6/12	27/9/12	0 d	0 d	51,295,256,297,299
318	14.7.4	14.7.4	Overall Acceptance Test for Covers and Air Extraction System	21 d	7/8/12	7/8/12	27/8/12	27/9/12	0 d	0 d	315,49,300,286
319	15	15	Project Substantial Completion Date	0 d	27/8/12	27/8/12	27/8/12	27/8/12	0 d	0 d	39,316,298,1FS+97 d,8,12,53,317,318

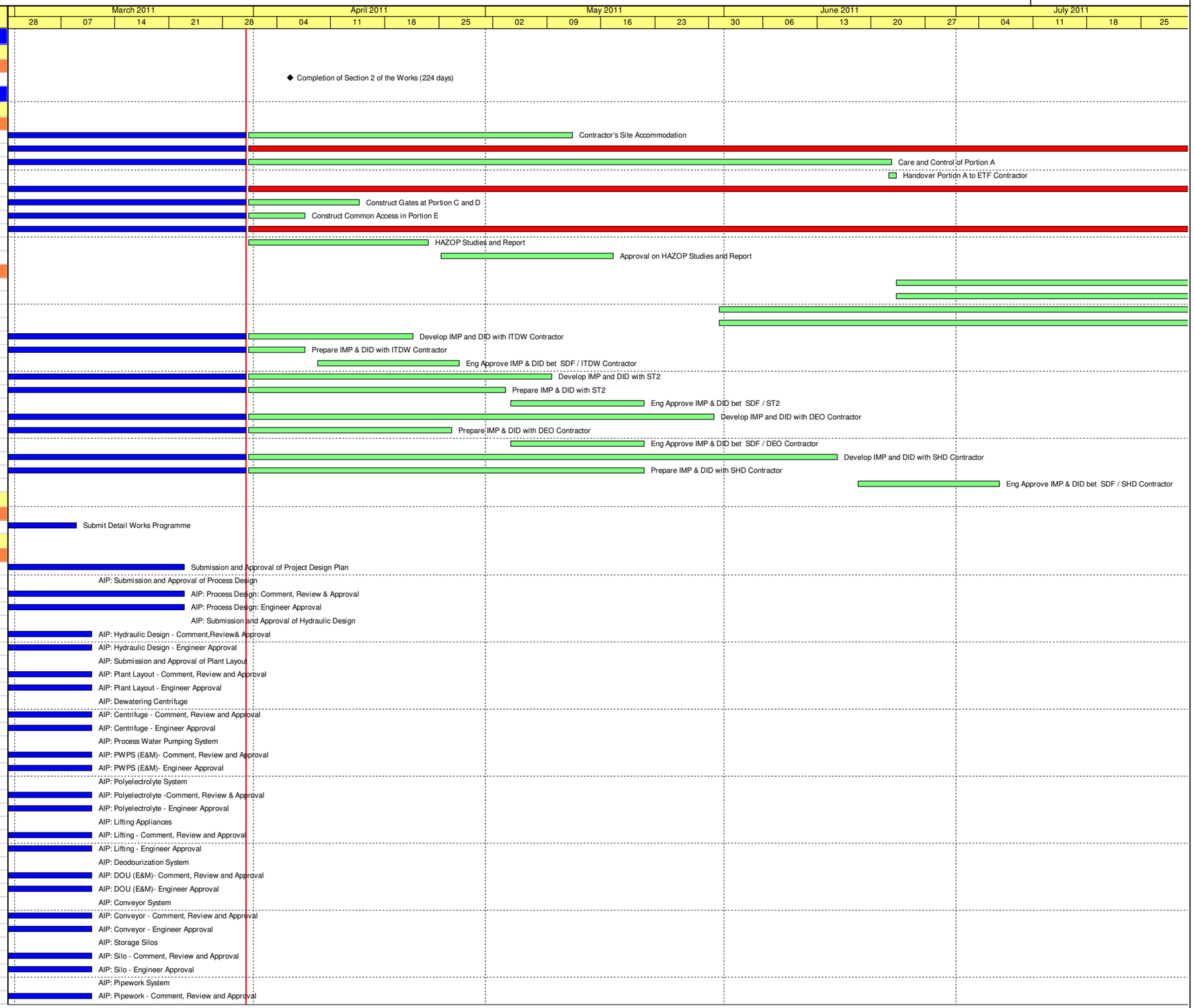


Contract No. DE/2009/02
Revision: 0
Date: 28 Feb 2010

Task | Progress | Summary | External Tasks | Group By Summary
Critical Task | Milestone | Split | Project Summary | Deadline

ATAL Engineering Limited

Activity ID	Activity Name	Orig Dur	Start	Finish	Rem Dur
Key Date					
Contract Dates					
Commencement and Completion					
KD000050	Completion of Section 2 of the Works (224 days)	0		05-Apr-11*	0
Preliminaries and General Requirement					
Contract Dates					
Initial Works					
PG000140	Contractor's Site Accommodation	60	16-Feb-11 A	12-May-11	31
PG000190	Environmental Impact Monitoring	1339	22-Nov-10 A	18-May-16	1340
PG000220	Care and Control of Portion A	302	25-Aug-10 A	22-Jun-11	84
PG000230	Handover Portion A to ETF Contractor	1	22-Jun-11	23-Jun-11	1
PG000260	Maintenance and Upkeeping of Portion D	2094	25-Aug-10 A	18-May-16	1876
PG000270	Construct Gates at Portion C and D	12	25-Feb-11 A	14-Apr-11	10
PG000290	Construct Common Access in Portion E	42	20-Oct-10 A	07-Apr-11	6
PG000300	Maintenance and Security in Portion E	2094	25-Aug-10 A	18-May-16	1876
PG000410	HAZOP Studies and Report	18	31-Mar-11	23-Apr-11	18
PG000420	Approval on HAZOP Studies and Report	18	25-Apr-11	17-May-11	18
Interface and Liaison					
PG000340	Develop IMP and DID with ETF Contractor	75	23-Jun-11	21-Sep-11	75
PG000342	Prepare IMP & DID with ETF Contractor	60	23-Jun-11	02-Sep-11	60
PG000350	Develop IMP and DID with MPS Contractor	75	31-May-11	27-Aug-11	75
PG000352	Prepare IMP & DID with MPS Contractor	60	31-May-11	10-Aug-11	60
PG000360	Develop IMP and DID with ITDW Contractor	75	20-Sep-10 A	21-Apr-11	16
PG000362	Prepare IMP & DID with ITDW Contractor	60	20-Sep-10 A	07-Apr-11	6
PG000364	Eng Approve IMP & DID bet SDF / ITDW Contractor	15	09-Apr-11	27-Apr-11	15
PG000370	Develop IMP and DID with ST2	75	28-Oct-10 A	09-May-11	30
PG000372	Prepare IMP & DID with ST2	60	28-Oct-10 A	03-May-11	25
PG000374	Eng Approve IMP & DID bet SDF / ST2	15	04-May-11	21-May-11	15
PG000380	Develop IMP and DID with DEO Contractor	75	28-Oct-10 A	30-May-11	47
PG000382	Prepare IMP & DID with DEO Contractor	60	28-Oct-10 A	26-Apr-11	20
PG000384	Eng Approve IMP & DID bet SDF / DEO Contractor	15	04-May-11	21-May-11	15
PG000390	Develop IMP and DID with SHD Contractor	75	24-Dec-10 A	15-Jun-11	60
PG000392	Prepare IMP & DID with SHD Contractor	60	24-Dec-10 A	21-May-11	40
PG000394	Eng Approve IMP & DID bet SDF / SHD Contractor	15	18-Jun-11	06-Jul-11	15
General Submission					
Commencement and Completion					
PG000530	Submit Detail Works Programme	60	04-Sep-10 A	09-Mar-11 A	0
Design of Permanent Work					
Design Submission and Approval					
DP001110	Submission and Approval of Project Design Plan	74	25-Aug-10 A	23-Mar-11 A	0
DP001200	AIP: Submission and Approval of Process Design	179	25-Sep-10 A	11-Mar-11 A	0
DP001215	AIP: Process Design: Comment, Review & Approval	63	23-Nov-10 A	23-Mar-11 A	0
DP001260	AIP: Process Design: Engineer Approval	14	24-Feb-11 A	23-Mar-11 A	0
DP001300	AIP: Submission and Approval of Hydraulic Design	179	25-Sep-10 A	23-Mar-11 A	0
DP001315	AIP: Hydraulic Design - Comment,Review& Approval	63	24-Nov-10 A	11-Mar-11 A	0
DP001360	AIP: Hydraulic Design - Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP001400	AIP: Submission and Approval of Plant Layout	179	25-Sep-10 A	11-Mar-11 A	0
DP001415	AIP: Plant Layout - Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP001460	AIP: Plant Layout - Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP003000	AIP: Dewatering Centrifuge	199	25-Sep-10 A	11-Mar-11 A	0
DP003015	AIP: Centrifuge - Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP003060	AIP: Centrifuge - Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP003200	AIP: Process Water Pumping System	209	25-Sep-10 A	11-Mar-11 A	0
DP003215	AIP: PWPS (E&M)- Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP003260	AIP: PWPS (E&M)- Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP003400	AIP: Polyelectrolyte System	209	25-Sep-10 A	11-Mar-11 A	0
DP003415	AIP: Polyelectrolyte -Comment, Review & Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP003460	AIP: Polyelectrolyte - Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP003600	AIP: Lifting Appliances	163	25-Sep-10 A	11-Mar-11 A	0
DP003615	AIP: Lifting - Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP003660	AIP: Lifting - Engineer Approval	12	24-Feb-11 A	11-Mar-11 A	0
DP003800	AIP: Deodourization System	169	25-Sep-10 A	11-Mar-11 A	0
DP003815	AIP: DOU (E&M)- Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP003860	AIP: DOU (E&M)- Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP004000	AIP: Conveyor System	193	25-Sep-10 A	11-Mar-11 A	0
DP004015	AIP: Conveyor - Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP004060	AIP: Conveyor - Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP004200	AIP: Storage Silos	204	25-Sep-10 A	11-Mar-11 A	0
DP004215	AIP: Silo - Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP004260	AIP: Silo - Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP004400	AIP: Pipework System	239	25-Sep-10 A	11-Mar-11 A	0
DP004415	AIP: Pipework - Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0



Actual Work ◆ Milestone
Remaining Work
Critical Remaining Work

Three Months Rolling Programme - 01 April 2011 to 30 June 2011

Prepared by: Rey Roque

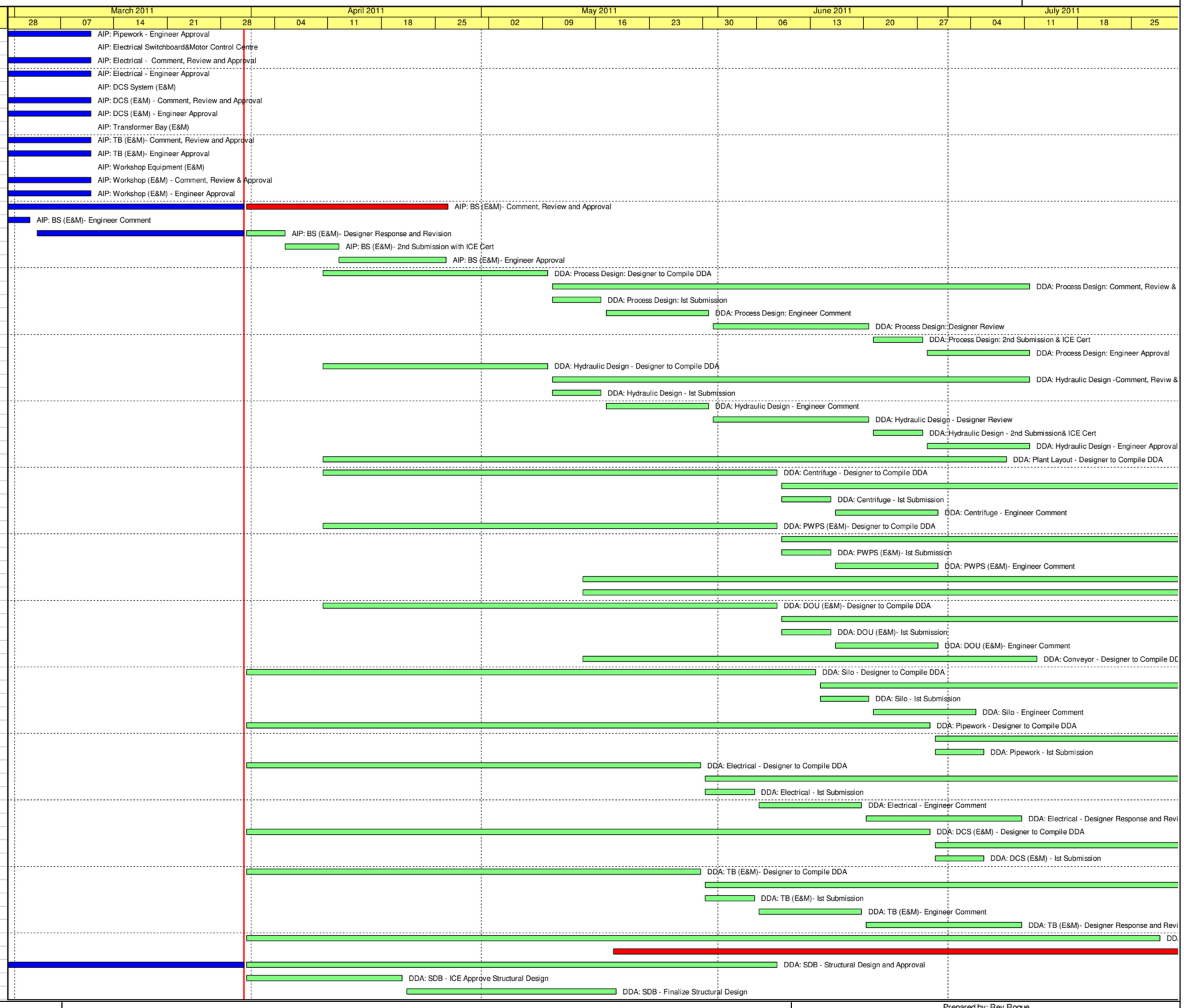
Date	Revision	Checked	Approved
31-March-11	Three Months Rolling Programme	TW	CL

DC2009/17 March 2011 update

Harbour Area Treatment Scheme Stage 2A - Upgrading Works at Stonecutters Island Sewage Treatment Works - Sludge Dewatering Facilities

31-Mar-11 10:37

Activity ID	Activity Name	Orig Dur	Start	Finish	Rem Dur
DP004460	AIP: Pipework - Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP004600	AIP: Electrical Switchboard&Motor Control Centre	209	25-Sep-10 A	11-Mar-11 A	0
DP004615	AIP: Electrical - Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP004660	AIP: Electrical - Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP004800	AIP: DCS System (E&M)	227	25-Sep-10 A	11-Mar-11 A	0
DP004815	AIP: DCS (E&M) - Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP004860	AIP: DCS (E&M) - Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP005000	AIP: Transformer Bay (E&M)	209	25-Sep-10 A	11-Mar-11 A	0
DP005015	AIP: TB (E&M)- Comment, Review and Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP005060	AIP: TB (E&M)- Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP005200	AIP: Workshop Equipment (E&M)	191	25-Sep-10 A	11-Mar-11 A	0
DP005215	AIP: Workshop (E&M) - Comment, Review & Approval	63	23-Nov-10 A	11-Mar-11 A	0
DP005260	AIP: Workshop (E&M) - Engineer Approval	14	24-Feb-11 A	11-Mar-11 A	0
DP005415	AIP: BS (E&M)- Comment, Review and Approval	63	02-Feb-11 A	26-Apr-11	27
DP005430	AIP: BS (E&M)- Engineer Comment	14	15-Feb-11 A	03-Mar-11 A	0
DP005440	AIP: BS (E&M)- Designer Response and Revision	21	04-Mar-11 A	05-Apr-11	5
DP005450	AIP: BS (E&M)- 2nd Submission with ICE Cert	7	05-Apr-11	12-Apr-11	7
DP005460	AIP: BS (E&M)- Engineer Approval	14	12-Apr-11	26-Apr-11	14
DP006010	DDA: Process Design: Designer to Compile DDA	30	10-Apr-11	09-May-11	30
DP006015	DDA: Process Design: Comment, Review & Approval	63	10-May-11	11-Jul-11	63
DP006020	DDA: Process Design: Ist Submission	7	10-May-11	16-May-11	7
DP006030	DDA: Process Design: Engineer Comment	14	17-May-11	30-May-11	14
DP006040	DDA: Process Design: Designer Review	21	31-May-11	20-Jun-11	21
DP006050	DDA: Process Design: 2nd Submission & ICE Cert	7	21-Jun-11	27-Jun-11	7
DP006060	DDA: Process Design: Engineer Approval	14	28-Jun-11	11-Jul-11	14
DP006210	DDA: Hydraulic Design - Designer to Compile DDA	30	10-Apr-11	09-May-11	30
DP006215	DDA: Hydraulic Design -Comment, Reviw & Approval	63	10-May-11	11-Jul-11	63
DP006220	DDA: Hydraulic Design - Ist Submission	7	10-May-11	16-May-11	7
DP006230	DDA: Hydraulic Design - Engineer Comment	14	17-May-11	30-May-11	14
DP006240	DDA: Hydraulic Design - Designer Review	21	31-May-11	20-Jun-11	21
DP006250	DDA: Hydraulic Design - 2nd Submission& ICE Cert	7	21-Jun-11	27-Jun-11	7
DP006260	DDA: Hydraulic Design - Engineer Approval	14	28-Jun-11	11-Jul-11	14
DP006410	DDA: Plant Layout - Designer to Compile DDA	90	10-Apr-11	08-Jul-11	90
DP006610	DDA: Centrifuge - Designer to Compile DDA	60	10-Apr-11	08-Jun-11	60
DP006615	DDA: Centrifuge - Comment, Review and Approval	63	09-Jun-11	10-Aug-11	63
DP006620	DDA: Centrifuge - Ist Submission	7	09-Jun-11	15-Jun-11	7
DP006630	DDA: Centrifuge - Engineer Comment	14	16-Jun-11	29-Jun-11	14
DP006810	DDA: PWPS (E&M)- Designer to Compile DDA	60	10-Apr-11	08-Jun-11	60
DP006815	DDA: PWPS (E&M)- Comment, Review and Approval	63	09-Jun-11	10-Aug-11	63
DP006820	DDA: PWPS (E&M)- Ist Submission	7	09-Jun-11	15-Jun-11	7
DP006830	DDA: PWPS (E&M)- Engineer Comment	14	16-Jun-11	29-Jun-11	14
DP007010	DDA: Polyelectrolyte - Designer to Compile DDA	90	14-May-11	11-Aug-11	90
DP007210	DDA: Lifting - Designer to Compile DDA	90	14-May-11	11-Aug-11	90
DP007410	DDA: DOU (E&M)- Designer to Compile DDA	60	10-Apr-11	08-Jun-11	60
DP007415	DDA: DOU (E&M)- Comment, Review and Approval	63	09-Jun-11	10-Aug-11	63
DP007420	DDA: DOU (E&M)- Ist Submission	7	09-Jun-11	15-Jun-11	7
DP007430	DDA: DOU (E&M)- Engineer Comment	14	16-Jun-11	29-Jun-11	14
DP007610	DDA: Conveyor - Designer to Compile DDA	60	14-May-11	12-Jul-11	60
DP007810	DDA: Silo - Designer to Compile DDA	75	31-Mar-11	13-Jun-11	75
DP007815	DDA: Silo - Comment, Review and Approval	63	14-Jun-11	15-Aug-11	63
DP007820	DDA: Silo - Ist Submission	7	14-Jun-11	20-Jun-11	7
DP007830	DDA: Silo - Engineer Comment	14	21-Jun-11	04-Jul-11	14
DP008010	DDA: Pipework - Designer to Compile DDA	90	31-Mar-11	28-Jun-11	90
DP008015	DDA: Pipework - Comment, Review and Approval	63	29-Jun-11	30-Aug-11	63
DP008020	DDA: Pipework - Ist Submission	7	29-Jun-11	05-Jul-11	7
DP008210	DDA: Electrical - Designer to Compile DDA	60	31-Mar-11	29-May-11	60
DP008215	DDA: Electrical - Comment, Review and Approval	63	30-May-11	31-Jul-11	63
DP008220	DDA: Electrical - Ist Submission	7	30-May-11	05-Jun-11	7
DP008230	DDA: Electrical - Engineer Comment	14	06-Jun-11	19-Jun-11	14
DP008240	DDA: Electrical - Designer Response and Revision	21	20-Jun-11	10-Jul-11	21
DP008410	DDA: DCS (E&M) - Designer to Compile DDA	90	31-Mar-11	28-Jun-11	90
DP008415	DDA: DCS (E&M) - Comment, Review and Approval	63	29-Jun-11	30-Aug-11	63
DP008420	DDA: DCS (E&M) - Ist Submission	7	29-Jun-11	05-Jul-11	7
DP008610	DDA: TB (E&M)- Designer to Compile DDA	60	31-Mar-11	29-May-11	60
DP008615	DDA: TB (E&M) - Comment, Review and Approval	63	30-May-11	31-Jul-11	63
DP008620	DDA: TB (E&M)- Ist Submission	7	30-May-11	05-Jun-11	7
DP008630	DDA: TB (E&M)- Engineer Comment	14	06-Jun-11	19-Jun-11	14
DP008640	DDA: TB (E&M)- Designer Response and Revision	21	20-Jun-11	10-Jul-11	21
DP008810	DDA: Workshop (E&M) - Designer to Compile DDA	120	31-Mar-11	28-Jul-11	120
DP009010	DDA: BS (E&M)- Designer to Compile DDA	90	18-May-11	15-Aug-11	90
DP024035	DDA: SDB - Structural Design and Approval	175	02-Nov-10 A	08-Jun-11	70
DP024050	DDA: SDB - ICE Approve Structural Design	21	31-Mar-11	20-Apr-11	21
DP024061	DDA: SDB - Finalize Structural Design	28	21-Apr-11	18-May-11	28



Actual Work ◆ Milestone

Remaining Work

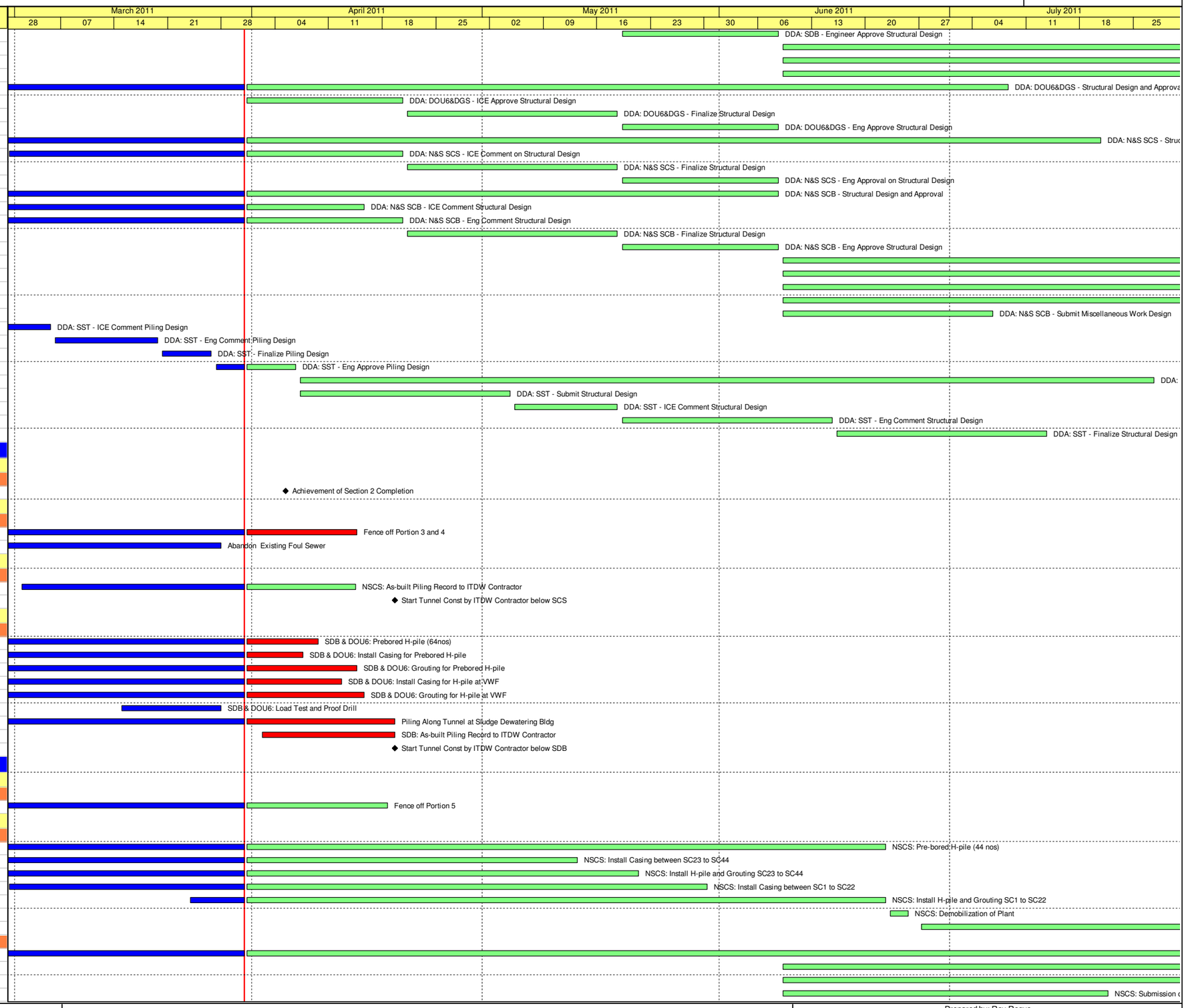
Critical Remaining Work

Three Months Rolling Programme - 01 April 2011 to 30 June 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-March-11	Three Months Rolling Programme	TW	CL

Activity ID	Activity Name	Orig Dur	Start	Finish	Rem Dur
DP024062	DDA: SDB - Engineer Approve Structural Design	21	19-May-11	08-Jun-11	21
DP024065	DDA: SDB - Bldg/ Architectural Design & Approval	250	09-Jun-11	13-Feb-12	250
DP024070	DDA: SDB - Submit Building Work Design	110	09-Jun-11	26-Sep-11	110
DP024100	DDA: SDB - Submit Architecture Design	110	09-Jun-11	26-Sep-11	110
DP025200	DDA: DOU6&DGS - Structural Design and Approval	158	02-Nov-10 A	08-Jul-11	100
DP025220	DDA: DOU6&DGS - ICE Approve Structural Design	21	31-Mar-11	20-Apr-11	21
DP025240	DDA: DOU6&DGS - Finalize Structural Design	28	21-Apr-11	18-May-11	28
DP025250	DDA: DOU6&DGS - Eng Approve Structural Design	21	19-May-11	08-Jun-11	21
DP026200	DDA: N&S SCS - Structural Design and Approval	158	25-Oct-10 A	20-Jul-11	112
DP026220	DDA: N&S SCS - ICE Comment on Structural Design	21	28-Feb-11 A	20-Apr-11	21
DP026240	DDA: N&S SCS - Finalize Structural Design	28	21-Apr-11	18-May-11	28
DP026250	DDA: N&S SCS - Eng Approval on Structural Design	21	19-May-11	08-Jun-11	21
DP027110	DDA: N&S SCB - Structural Design and Approval	151	29-Nov-10 A	08-Jun-11	70
DP027130	DDA: N&S SCB - ICE Comment Structural Design	21	04-Jan-11 A	15-Apr-11	16
DP027140	DDA: N&S SCB - Eng Comment Structural Design	21	06-Jan-11 A	20-Apr-11	21
DP027150	DDA: N&S SCB - Finalize Structural Design	28	21-Apr-11	18-May-11	28
DP027160	DDA: N&S SCB - Eng Approve Structural Design	21	19-May-11	08-Jun-11	21
DP027200	DDA: N&S SCB - Bldg / Archi Design and Approval	236	09-Jun-11	30-Jan-12	236
DP027210	DDA: N&S SCB - Submit Building Work Design	75	09-Jun-11	22-Aug-11	75
DP027310	DDA: N&S SCB - Submit Architecture Design	75	09-Jun-11	22-Aug-11	75
DP027500	DDA: N&S SCB - Mis Work Design and Approval	126	09-Jun-11	12-Oct-11	126
DP027510	DDA: N&S SCB - Submit Miscellaneous Work Design	28	09-Jun-11	06-Jul-11	28
DP028130	DDA: SST - ICE Comment Piling Design	7	25-Feb-11 A	05-Mar-11 A	0
DP028140	DDA: SST - Eng Comment Piling Design	14	06-Mar-11 A	19-Mar-11 A	0
DP028150	DDA: SST - Finalize Piling Design	7	20-Mar-11 A	26-Mar-11 A	0
DP028160	DDA: SST - Eng Approve Piling Design	7	27-Mar-11 A	06-Apr-11	7
DP028200	DDA: SST - Structural Design and Approval	112	07-Apr-11	27-Jul-11	112
DP028210	DDA: SST - Submit Structural Design	28	07-Apr-11	04-May-11	28
DP028220	DDA: SST - ICE Comment Structural Design	14	05-May-11	18-May-11	14
DP028230	DDA: SST - Eng Comment Structural Design	28	19-May-11	15-Jun-11	28
DP028240	DDA: SST - Finalize Structural Design	28	16-Jun-11	13-Jul-11	28
Section 2 of the Works					
Completion					
Commencement and Completion					
S2000010	Achievement of Section 2 Completion	0		05-Apr-11*	0
Utilities Diversion					
Initial Works					
S2000100	Fence off Portion 3 and 4	30	20-Nov-10 A	14-Apr-11	10
S2000220	Abandon Existing Foul Sewer	18	19-Nov-10 A	28-Mar-11 A	0
Northern Sludge Cake Silo					
Piling Works					
S2000460	NSCS: As-built Piling Record to ITDW Contractor	12	02-Mar-11 A	14-Apr-11	10
S2000470	Start Tunnel Const by ITDW Contractor below SCS	0	19-Apr-11		0
Sludge Dewatering Building and DOU6					
Piling Works					
S2000540	SDB & DOU6: Prebored H-pile (64nos)	92	27-Dec-10 A	09-Apr-11	7
S2000542	SDB & DOU6: Install Casing for Prebored H-pile	60	27-Dec-10 A	07-Apr-11	6
S2000544	SDB & DOU6: Grouting for Prebored H-pile	60	27-Dec-10 A	14-Apr-11	10
S2000546	SDB & DOU6: Install Casing for H-pile at VWF	36	20-Jan-11 A	12-Apr-11	8
S2000548	SDB & DOU6: Grouting for H-pile at VWF	36	24-Jan-11 A	15-Apr-11	11
S2000550	SDB & DOU6: Load Test and Proof Drill	16	15-Mar-11 A	28-Mar-11 A	0
S2000556	Piling Along Tunnel at Sludge Dewatering Bldg	108	27-Dec-10 A	19-Apr-11	14
S2000560	SDB: As-built Piling Record to ITDW Contractor	12	02-Apr-11	19-Apr-11	12
S2000570	Start Tunnel Const by ITDW Contractor below SDB	0	19-Apr-11		0
Section 3 of the Works					
Completion					
Initial Works					
S3000080	Fence off Portion 5	18	12-Oct-10 A	18-Apr-11	13
Northern Sludge Cake Silo					
Piling Works					
S3000230	NSCS: Pre-bored H-pile (44 nos)	133	28-Jan-11 A	22-Jun-11	66
S3000232	NSCS: Install Casing between SC23 to SC44	66	28-Jan-11 A	13-May-11	32
S3000234	NSCS: Install H-pile and Grouting SC23 to SC44	66	28-Jan-11 A	21-May-11	39
S3000236	NSCS: Install Casing between SC1 to SC22	66	28-Feb-11 A	30-May-11	46
S3000238	NSCS: Install H-pile and Grouting SC1 to SC22	66	24-Mar-11 A	22-Jun-11	66
S3000239	NSCS: Demobilization of Plant	3	23-Jun-11	25-Jun-11	3
S3000240	NSCS: Load Test and Proof Drill for Piles	30	27-Jun-11	01-Aug-11	30
Structure					
S3000246	NSCS: Remaining Piling and Structure	565	28-Jan-11 A	01-Mar-13	571
S3000250	NSCS: Procurement and Delivery of Steelwork	75	09-Jun-11	05-Sep-11	75
S3000252	NSCS: Shop Drawing Submission and Approval	90	09-Jun-11	23-Sep-11	90
S3000253	NSCS: Submission of Shop Drawing	36	09-Jun-11	21-Jul-11	36



Actual Work ◆ ◆ Milestone

Remaining Work

Critical Remaining Work

Three Months Rolling Programme - 01 April 2011 to 30 June 2011

Prepared by: Rey Roque

Date	Revision	Checked	Approved
31-March-11	Three Months Rolling Programme	TW	CL

DC2009/17 March 2011 update

Harbour Area Treatment Scheme Stage 2A - Upgrading Works at Stonecutters Island Sewage Treatment Works - Sludge Dewatering Facilities

31-Mar-11 10:37

Activity ID	Activity Name	Orig Dur	Start	Finish	Rem Dur
E&M Works					
S3000640	NSCS: Design, Supply and Delivery of Sludge Container	138	19-Mar-11 A	03-Jun-11	42
S3000670	NSCS: Design Submission for the Sludge Container	40	19-Mar-11 A	11-May-11	42
S3000680	NSCS: Engineer Approval on SLudge Container	21	12-May-11	04-Jun-11	21
S3000710	NSCS: Construct and Tested of Sludge Container (1st Batch)	50	08-Jun-11	05-Aug-11	50
Sludge Dewatering Building and DOU6					
Piling Works					
S3001170	SDB: Remaining Piles and Testing	174	08-Feb-11 A	26-Sep-11	146
S3001180	SDB: Prebored H-pile (66 nos)	133	10-Feb-11 A	12-Jul-11	82
S3001182	SDB: Install Casing for H-pile Grid1-8, Grid E-F	128	08-Feb-11 A	19-Jul-11	88
S3001184	SDB: Grouting for Prebored H-pile	128	11-Feb-11 A	28-Jul-11	96
S3001186	SDB: Install Casing for H-pile Grid9-14,Grid A-B	128	14-Mar-11 A	05-Aug-11	102
S3001188	SDB: Grouting for Prebored H-pile	113	21-Mar-11 A	17-Aug-11	113
Structure					
S3001201	SDB: Remaining Piling, Structure and Finishes	479	24-Mar-11 A	30-Oct-12	473
Sludge Storage Tank 6 and 7					
Piling Works					
S3005130	SST: Confirm Founding Level for Piles	18	05-Oct-10 A	19-Mar-11 A	0
S3005140	SST: Prebored H-pile (44 nos)	104	24-Feb-11 A	17-Jun-11	62
S3005150	SST: Install Casing for H-pile	94	24-Feb-11 A	14-Jun-11	58
S3005160	SST: Grouting for Prebored H-pile	94	04-Mar-11 A	04-Jul-11	75
Structure					
S3005505	Piling and Structure for Sludge Storage Tank	349	24-Feb-11 A	26-Mar-12	293
Section 5 of the Works					
Southern Sludge Cake Silo					
Structure					
S5003102	SSCS: Shop Drawing Submission and Approval	90	09-Jun-11	23-Sep-11	90
S5003103	SSCS: Submit Shop Drawing	36	09-Jun-11	21-Jul-11	36

Actual Work
Remaining Work
Critical Remaining Work
Milestone

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