



Maeda - CREC - SELI Joint Venture

Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel

Monthly EM&A Report (June 2010)

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CONTENTS

EXEC	UTIVE	E SUMMARY	1
1	INTR	ODUCTION	3
2	PROJ	ECT INFORMATION	4
	2.1	Project Organization and Management Structure	4
	2.2	Construction Progress	4
	2.3	Mitigation Measures	4
	2.4	Status of License and Permit	4
3	SUM	MARY OF EM&A REQUIREMENT	5
	3.1	Air Quality	5
	3.2	Noise	9
	3.3	Water Quality	12
4	MONI	TORING RESULT	19
	4.1	Air Quality	19
	4.2	Noise	21
	4.3	Water Quality Monitoring	23
	4.4	Summary of Project-Related Exceedances	31
5	WAS	ΓΕ MANAGEMENT	32
6	NON-	COMPLIANCE AND DEFICIENCY	33
	6.1	Site Audit by ET	33
7	COMI	PLAINT	34
8		MARY OF NOTIFICATION OF SUMMONS, SUCCESSFUL	
	PROS	SECUTIONS AND CORRECTIVE ACTIONS	35
9	FUTU	IRE KEY ISSUE	36



TABLES

- Table 3-1 Air Quality Monitoring Equipment
- Table 3-2 Air Quality Monitoring Locations
- Table 3-3 Action & Limit Levels for Air Quality
- Table 3-4
 Event/Action Plan for Air Quality
- Table 3-5
 Noise Monitoring Equipment
- Table 3-6
 Noise Monitoring Locations
- Table 3-7Action & Limit Levels for Noise
- Table 3-8 Event/Action Plan for Noise
- Table 3-9
 Water Quality Monitoring Equipment
- Table 3-10
 Water Quality Monitoring Locations
- Table 3-11
 Action/Limit Levels for Water Quality
- Table 3-12 Event/Action Plan for Water Quality
- Table 4-1
 Air Quality Monitoring Results
- Table 4-2 Noise Monitoring Results
- Table 4-3 Summary of Exceedances for I-1
- Table 4-4 Summary of Exceedances for I-2
- Table 4-5 Summary of Exceedances for I-3
- Table 4-6 Water Quality Monitoring Results
- Table 4-7
 Summary of Project-Related Exceedances
- Table 5-1Waste Generated in June 2010
- Table 6-1Site Inspection by ET
- Table 7-1 Cumulative Statistic of Environmental Complaint
- Table 8-1 Cumulative Statistics of Notification of Summons and Successful Prosecutions

APPENDICES

- Appendix A Site Map and Works Area
- Appendix B Organization Chart
- Appendix C Construction Programme
- Appendix D Implementation Status of Environmental Mitigation Measures
- Appendix E Status of License and Permit
- Appendix F Calibration Certificates
- Appendix G Monitoring Locations
- Appendix H EM&A Schedule
- Appendix I Monitoring Results
- Appendix J Interim Notifications of Environmental Quality Limits Exceedances
- Appendix K Complaint Log



EXECUTIVE SUMMARY

- 1. Drainage Services Department (DSD) has awarded the contract for the Design and Construction of Tsuen Wan Drainage Tunnel (hereafter referred to as the "Project") to Maeda-CREC-SELI Joint Venture (MCSJV). MCSJV has appointed Hyder Consulting Limited (HCL) as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) works in accordance with the Environmental Monitoring and Audit Manual (EM&A Manual) and Environmental Permit (EP). Commencement of the construction work had been notified to the Environmental Protection Department (EPD) in January 2008. This Monthly EM&A Report summarises the EM&A works undertaken in June 2010.
- According to the EM&A Manual, there are four designated air quality monitoring locations, five designated noise monitoring locations and four water quality monitoring locations during the construction phase: (i) Sik Sik Yuen Ho Fung College (ASR 1, NSR 1 and Intake I-1); (ii) Hong Hoi Chee Hong Temple (ASR 3, NSR 3 and Intake I-2); (iii) Squatters (NSR 6 and Intake I-3); (iv) Beach Tower (Long Beach Gardens) (ASR 8, NSR 8 and Outfall O-1); and (v) Greenview Terrace (Block 1) (ASR 9, NSR 9 and Outfall O-1).
- 3. During the non restricted hours, major construction activities undertaken by the Contractor at TWDT included site cleaning and tidying at I-1, I-2, I-3 and Outfall; drilling and rock breaking for shaft excavation at I-3; temporary rock drilling and installation at I-3; pre-bored H-pile drilling for spiral ramp excavation at Outfall; structural steelwork erection for muck hopper and conveyor support at Outfall; excavation of man access shaft & vortex shaft at I-2; cascade and channel modification concrete structure works at I-1; installation of noise enclosure to gantry crane structure at I-2 and Outfall; pipe jacking installation at Portion G at I-2; assembly of TBM, TBM drilling of the tunnel at Outfall; and erection of site office at Outfall within the reporting month.
- 4. No exceedances have been recorded for air quality and noise monitoring during the reporting month.
- 5. Exceedances for water quality monitoring are summarized in the following table:

Parameter	Action Level Exceedance	Limit Level Exceedance
DO	Nil	Nil
Turbidity	Nil	Nil
SS	One recorded at I-2 on 9 June 2010.	One recorded at I-1 on 21 June 2010.

- 6. The status of waste generation in the reporting month are:
 - A total of 2971.5 m³ C&D material was disposed of to public fill at Tuen Mun. A quantity of 125.0 m³ and 275.0 m³ inert C&D materials were reused in the Contract and other Contracts respectively. Detail information could be referred to Section 5.1.1 of this report.
 - About 7.9 m³ general waste was disposed of to NENT Landfill;
 - About 400 kg paper/cardboard was recycled in the reporting month;



- No metals was generated in the reporting month;
- No plastic waste was disposed of in the reporting month; and
- No chemical waste was disposed of in the reporting month.
- 7. In this reporting month, two site inspections and one monthly site audit were carried out by ET and Independent Environmental Checker (IEC) respectively, to ensure proper implementation of environmental mitigation measures specified in the EM&A Manual and compliance with environmental legislation. All observations, which were recorded on the inspection checklists, were passed to the Contractor together with the ET's recommendations.
- 8. As advised by the Contractor and verified by ET:
 - No non-compliance regarding the site inspection was received in the reporting month;
 - No environmental complaint was received during the reporting month; and
 - No summons and prosecution was received in this reporting month.
- 9. The major construction works for the upcoming three months will be:
 - Site cleaning and tidying at I-1, I-2, I-3 and Outfall;
 - Erection of muck hopper and conveyor support steel structure at Outfall;
 - Drilling and excavation of man access shaft & vortex shaft at I-2;
 - Construction of approach channel structure at I-2;'
 - Cascade and channel modification concrete structure works at I-1;
 - Construction of skin wall at I-3;
 - Assembly of TBM, TBM drilling of the tunnel at Outfall;
 - Installation of noise enclosure at Outfall and I-2;
 - Pipe jacking installation at Portion G at I-2;
 - Mini-pile and pre-bored H-pile construction at Portion G at I-2;
 - Drilling and excavation of spiral ramp at Outfall;
 - Drilling and excavation of vortex shaft at I-3;



1 INTRODUCTION

- 1.1.1 The Drainage Services Department (DSD) proposed to construct a tunnel with an internal diameter of 6.5m and a length of 5.13km, with the purpose to alleviate the flooding risk in Tsuen Wan and Kwai Chung.
- 1.1.2 This project is a Designated Project under Schedule 2 Part I Category Q, of the Environmental Impact Assessment Ordinance (EIAO) as part of the proposed Tsuen Wan Drainage Tunnel (TWDT) passes underneath the existing Tai Mo Shan Country Park. An Environmental Impact Assessment (EIA) Study has therefore been undertaken to provide information on the nature and extent of environmental impacts arising from the construction and operation of the proposed designed project and related activities taking place concurrently. From the EIA the recommendations for monitoring contained herein, are made.
- 1.1.3 The Maeda-CREC-SELI Joint Venture (MCSJV) was awarded by DSD with the Contract Design and Construction of Tsuen Wan Drainage Tunnel.
- 1.1.4 Hyder was commissioned by the MCSJV as the Environmental Team (ET) to implement an EM&A program in accordance with the EM&A Manual. The proposed tunnel section flows from the junction of Shing Mun Road and Wo Yi Hop Road and discharges to south of Yau Kom Tau underneath Castle Peak Road as shown in Appendix A.
- 1.1.5 The construction works of the Project was commenced in January 2008. This is the twenty-seventh monthly EM&A report summarising the impact monitoring results and audit findings of the EM&A program in June 2010.



2 PROJECT INFORMATION

2.1 Project Organization and Management Structure

2.1.1 The organization chart and lines of communication with respect to the on-site environmental management are shown in Appendix B.

2.2 Construction Progress

- 2.2.1 The overall project programme from the detail design to completion of all civil works shall take approximately 54 months. The construction programme is presented in Appendix C.
- 2.2.2 The major construction activities undertaken in the reporting month were:
 - Site cleaning and tidying at I-1, I-2, I-3 and Outfall;
 - Drilling and rock breaking for shaft excavation at I-3;
 - Temporary rock dowel drilling and installation at I-3;
 - Pre-bored H-pile drilling for spiral ramp excavation at Outfall;
 - Structural steelwork erection for muck hopper and conveyor support at Outfall,
 - Excavation of man access shaft & vortex shaft at I-2;
 - Cascade and channel modification concrete structure works at I-1;
 - Installation of noise enclosure to gantry crane structure at I-2 and Outfall;
 - Pipe jacking installation at Portion G at I-2;
 - Assembly of TBM, TBM drilling of the tunnel at Outfall;
 - Erection of site office at Outfall.
- 2.2.1 No construction activities were undertaken for TWDT during the restricted hours.

2.3 Mitigation Measures

2.3.1 The implemented environmental mitigation measures and their statuses are given in Appendix D.

2.4 Status of License and Permit

2.4.1 A summary of relevant permits and licences for the Project is given in Appendix E.



3 SUMMARY OF EM&A REQUIREMENT

3.1 Air Quality

Air Quality Parameters

3.1.1 1-hour Total Suspended Particulates (TSP) levels are measured at the designated air monitoring locations in accordance with the EM&A Manual. Information such as date of monitoring, duration, weather condition, equipment used and monitoring results were recorded on the field data sheet developed for the Project. The monitoring results are presented in Section 4.

Monitoring Methodology

- 3.1.2 1-hour TSP monitoring is carried out under typical weather conditions (with no adverse weather such as typhoon signal or rain storm warning) three times every six days using High Volume Air Samplers (HVASs). Monitoring should be conducted in accordance with the standard sampling method as set out in High Volume Method for Total Suspended Particulates, Part 50 Chapter 1 Appendix B, Title 40 of the Code of Federal Regulations of the USEPA.
- 3.1.3 After each sampling, the filter paper loaded with dust is kept in a clean and tightly sealed plastic bag. The filter paper is then re-conditioned in desiccators for 24 hours before obtaining the weight under laboratory conditions.
- 3.1.4 The average concentrations of the TSP are calculated based on the following information obtained from monitoring:
 - Flow rate;
 - Weight of the filter paper before and after sampling; and
 - Sampling period indicated by the elapsed-time meter.
- 3.1.5 All samples should be kept in good condition (i.e. stored in sealed plastic bags, with brief description of the monitoring dates and locations) for a period of 6 months before disposal. Sample analysis is carried out by ALS Technichem (HK) Pty Limited (HOKLAS Registration Number 066).

Monitoring Equipment and Calibration

- 3.1.6 High Volume Air Samplers (HVASs) are used for 1-hour TSP monitoring to comply with the USEPA specifications in Appendix B Part 5 Reference Method for the Determination of Suspended Particulate matter in the Atmosphere (High-Volume Method) of the Code of Federal Regulation dated June 1, 1991.
- 3.1.7 All HVASs are calibrated before commencement of monitoring using standard orifice 5points calibration method with orifice calibrator to determine the actual flow rate of each HVAS. This shall be used for the calculation of the TSP level. Calibration Kit Model -TE5025A is used for calibration of the HVAS. Recalibration of the HVAS shall be carried out after motor maintenance, at least once every six months, which is about the



expected life of carbon brush. The air quality monitoring equipment used during the reporting month is shown in Table 3-1 below. The calibration certificates are included in Appendix F.

Equipment Type	Model	Serial Number	Calibration Orifice Number	Location
HVAS	BM2000HX	4994	1785	ASR 1
HVAS	BM2000HX	5875	1785	ASR 3
HVAS	TE5005X	1559	1785	ASR 8
HVAS	TE5005X	0646	1785	ASR 9

 Table 3-1
 Air Quality Monitoring Equipment

Monitoring Location

3.1.8 Four designated air quality-monitoring locations were identified in the contract specific EM&A manual. They are listed in Table 3-2 below and shown in Appendix G.

Monitoring Station ID	Name of Premises	Floor Level
ASR1	Sik Sik Yuen Ho Fung College	G/F
ASR3	Hong Hoi Chee Hong Temple	Podium
ASR8	Beach Tower (Long Beach Gardens)	G/F
ASR9	Greenview Terrace (Block 1)	G/F

Table 3-2 Air Quality Monitoring Locations

Action and Limit Levels

3.1.9 The Action and Limit Levels for the 1-hour TSP monitoring is shown in Table 3-3. In case exceedances of Action and/or Limit levels for air quality occur, Event Contingency Plans (ECPs) would be implemented. The ECPs for Action and Limit levels exceedances are shown in Table 3-4.

Otation	1-hr TSP Level in μg/m ³		
Station	Action Level	Limit Level	
ASR 1	307	500	
ASR 3	327	500	
ASR 8	337	500	
ASR 9	329	500	

Table 3-3 Action & Limit Levels for Air Quality



	ACTION				
EVENT	ET	IEC	SOR	CONTRACTOR	
ACTION LEVEL					
Exceedance for one sample	investigate the causes of	 Check monitoring data submitted by ET; Check Contractor's working method. 	Notify Contractor.	 Rectify any unacceptable practice; Amend working methods if appropriate. 	
Exceedance for two or more consecutive samples	 Inform IEC and SOR; Advise SOR on the effectiveness of the proposed remedial measures; Repeat measurements to confirm findings; 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ET on the effectiveness of the proposed remedial measures; Supervise Implementation of remedial measures. 	 Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented. 	 Submit proposals for remedial to SOR within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate. 	
LIMIT LEVEL Exceedance for o sample	ne • Identify source, investigate the causes of exceedance and propose remedial measures;	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and 	 Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working 	

Monthly EM&A Report (June 2010) Hyder Consulting Limited-Company Number 126012 k:\eb000364 tsuen wan drainage tunnel\f-reports\em&a report\2010\2010-06\eb000364r0402.doc



	ACTION			
EVENT	ET	IEC	SOR	CONTRACTOR
	 Inform IEC, SOR, Contractor and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and SOR informed of the results. 	 measures; Advise SOR on the effectiveness of the proposed remedial measures; 	measures properly implemented.	days of notification;Implement the agreed proposals;Amend proposal if appropriate.
	 Notify IEC, SOR, Contractor and EPD; Identify source; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Arrange meeting with IEC and SOR to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and SOR informed of the results; If exceedance stops, cease additional 	Contractor on the potential remedial actions; • Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise SOR accordingly; • Supervise the implementation of remedial measures.	the IEC, agree with	 agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by SOR until the exceedance is abated.

Table 3-4 Event/Action Plan for Air Quality



3.2 Noise

Noise Parameters

- 3.2.1 The construction noise level is measured in terms of equivalent A-weighted sound pressure level (L_{eq}) measured in decibels (dB(A)). Monitoring of $L_{eq(30 \text{ min})}$ is carried out at the noise monitoring locations on a weekly basis during normal construction working hours (0700-1900 hours from Monday to Saturday except public holidays). For all other time periods (i.e. restricted hours), $L_{eq(5 \text{ min})}$ would be employed for comparison with the Noise Control Ordinance (NCO) criteria if necessary.
- 3.2.2 The two statistical sound levels L₁₀ and L₉₀: the level exceeded for 10 and 90 percent of the time respectively, are also recorded during monitoring. Major noise sources observed, both on-site and off-site, are recorded on the field data sheet. All measurements are recorded to the nearest 0.1 dB(A) and presented in round numbers in this report. Results are presented in Section 4.

Monitoring Methodology

- 3.2.3 Sound level meters, which comply with the International Electrotechnical Commission Publication 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications as referred to the Technical Memorandum (TM) issued under the Noise Control Ordinance, are used. Noise levels for the A-weighted levels $L_{eq(30min)}$, L_{10} and L_{90} are measured throughout the impact monitoring. Average, by sound power, of six consecutive 5 minutes readings is used to provide $L_{eq(30 min)}$ for non-restricted hours (07:00-19:00 hours from Monday to Saturday except public holidays). A facade correction of 3dB(A) is applied to the measurements that are carried out under free field conditions.
- 3.2.4 During the impact monitoring, parameters such as dates, weather condition, equipment used, measurement results and major noise sources are recorded on the field data record sheet. Monitoring would not be carried out in the presence of fog, rain or strong wind with a steady speed exceeding 5 m/s. In relation to the monitored noise levels, other noise sources such as road traffic might make a significant contribution to the overall noise environment. Therefore, noise monitoring activities would take into account such influencing factors, which were not present during the baseline monitoring period.

Monitoring Equipment and Calibration

- Rion Precision Sound Level Meters of Type NA-27 and Type NL-18 in compliance with the International Electrotechnical Commission Publication 651: 1979 (Type 1) and 804: 1985 (Type 1) Specifications, stated in the Technical Memorandum (TM) issued under the NCO, are used for noise monitoring in this reporting month.
- 3.2.6 Prior to and following each noise measurement, the accuracy of the sound level meters is checked using an acoustic calibrators (Rion Type NC-73) generating a known sound pressure level at a known frequency. Measurements are considered as valid only if the calibration levels from before and after the noise measurement agrees to within 1.0 dB(A). The sound level meters and the calibrator are calibrated annually to ensure they perform to the same level of accuracy as stated in the manufacturer's specifications.



The noise monitoring equipment used during the reporting month is shown in Table 3-5 below. The calibration certificates are included in Appendix F.

Equipment Type	Manufacturer	Type Number	Serial Number	Location
Sound Level Meter	Rion	NA-27	00201194	NSR1, NSR3, NSR6, NSR8 and
Sound Level Meter	Rion	NL-18	00360030	NSR9
Sound Level Calibrator	Rion	NC-73	10786708	_
Sound Level Calibrator	Rion	NC-73	10997142	_

Table 3-5 Noise Monitoring Equipment

Monitoring Location

3.2.7 Five designated noise monitoring locations were identified in the contract specific EM&A manual. They are listed in Table 3-6 below and shown in Appendix G. All the locations below are in façade measurement.

Monitoring Station ID	Name of Premises	Floor Level
NSR1	Sik Sik Yuen Ho Fung College	G/F
NSR3	Hong Hoi Chee Hong Temple	Podium
NSR6	Squatters	G/F
NSR8	Beach Tower (Long Beach Gardens)	G/F
NSR9		Podium (up to 6 July2009)
	Greenview Terrace (Block 1)	Roof* (from 16 July 2009)

* The noise monitoring location of NSR9 had been adjusted at rooftop from 16 July 2009.

Table 3-6 Noise Monitoring Locations

Construction Groundborne Noise

3.2.8 Prediction of construction groundborne noise indicates the criteria will be achieved at most NSRs except exceedances are predicted at Hong Hoi Chee Hong Temple (NSR3) and Squatters (NSR6). It is recommended to restrict the TBM operation in non-restricted period (i.e. 0700 - 1900) at these NSRs. In order to ensure proper control of groundborne noise is executed by the contractor, a monitoring requirement is recommended at the Hong Hoi Chee Hong Temple at Intake 2 and Squatters at Intake 3 for compliance checking. According to the monitoring schedule, TBM operation will be carried out for about 3 months in the vicinity of Hong Hoi Chee Hong Temple at Intake 2 and Squatters at Intake 3. If groundborne noise criterion is exceeded, the monitoring shall continue daily until acceptance has been restored against the criterion. Otherwise the monitoring can be discontinued.



3.2.9 The criteria including Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (TM-Places) under the NCO stipulates that noise transmitted primarily through the structural elements of building, or buildings, shall be 10 dB(A) less than the relevant ANLs. Daytime groundborne construction noise criterion of 60 dB(A) therefore applies with reference to TM-EIAO 70 dB(A) criterion for schools and taking account of the minus 10 dB(A) requirement under the NCO TM-Places. Following the same principle for groundborne noise criteria, groundborne construction noise levels inside domestic premises relying on opened window for ventilation will be limited to 65 dB(A), with reference to the daytime airborne noise criterion of 75 dB(A) in accordance with TM-EIAO.

Action and Limit Levels

3.2.10 The Action and Limit levels for construction noise are defined in Table 3-7. If noncompliance of the criteria occurs, actions in accordance with the Action Plan in Table 3-8 would be carried out.

Time Period	Action	Limit
0700 – 1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)*
* Example of the delivery of the Party		

For educational establishments the limit level shall be 70dB(A) and reduced to 65dB(A) during examination periods between 0700-1900 hrs on normal weekdays.

Action

Event					
	ET Leader	IEC	SOR	Contractor	
Action Level	Notify IEC and the Contractor.	Review with analysed results submitted by	notification of	Submit noise mitigation proposals to	
	 Carry out investigation. Report the results of investigation to IEC and the Contractor. Discuss with the Contractor and formulate remedial measures. Increase monitoring 	 ET. Review the proposed remedial measures by the Contractor and advise SOR accordingly. Supervise the implement of remedial measures. 	to propose remedial measures for the analysed noise problem.	 Implement noise r mitigation proposals. 	
	 Increase monitoring frequency to check mitigation measures. 				
Limit Level	 Identify the source. Notify IEC, SOR, EPD and the Contractor. Repeat measurement 	the Contractor on the potential remedial	 Confirm receipt of notification of exceedance in writing. Notify the Contractor. Require the Contractor 	Submit proposals for	

Monthly EM&A Report (June 2010)

Hyder Consulting Limited-Company Number 126012

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Event	Action				
	ET Leader	IEC	SOR	Contractor	
	 to confirm findings. Increase monitoring frequency. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. Inform IEC, SOR, and EPD the causes & actions taken for the exceedances. Assess effectiveness of the Contractor's remedial actions and keep IEC, EPD and SOR informed of the results. If exceedance stops, cease additional monitoring. 	 Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise SOR accordingly. Supervise the implementation of remedial measures. 	to propose remedial measures for the analysed noise problem. • Ensure remedial measures are properly implemented. • If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated.	 Stop the relevant activity of works as determined by the SOR until the exceedance is abated 	

Table 3-8 Event/Action Plan for Noise

3.3 Water Quality

3.3.1 The water quality impact would be insignificant with the protection measures recommended in Section 5.6 of the EIA report. However in view of the sensitive nature of the rivers/streams and bathing beaches in the Study Area, it is suggested that a programme of monitoring should be established to confirm the mitigation measures are protecting these water bodies.

Water Quality Parameters

- 3.3.2 Monitoring for Dissolved Oxygen (DO), temperature, turbidity, pH and suspended solids (SS) should be undertaken at designated monitoring locations. It should be noted that DO, temperature, turbidity and pH should be measured in-situ whereas SS is assayed in a laboratory.
- 3.3.3 In association with the water quality parameters, other relevant data should also be measured, such as monitoring location/position, time, weather conditions, and any special phenomena and description of work underway at the construction site etc.



Monitoring Methodology

- 3.3.4 In accordance with the EM&A Manual, the water quality monitoring for all specified parameters shall be measured at all designated monitoring locations including control points at an interval of 3 days per week. DO, temperature, turbidity, pH and SS shall be undertaken at designated monitoring locations.
- 3.3.5 It should be noted that water samples for all monitoring parameters should be collected, stored, preserved and analysis according to Standard Methods, APHA 17 ed. and/or methods agreed by the Director of Environmental Protection.
- 3.3.6 Each sample shall be analysed in accordance with the APHA Standard Methods for the Examination of Water and Wastewater, 18th edition, or an equivalent method approved by the EPD. If an in-house or non-standard method is proposed, details of the method verification may require to be submitted to the EPD. In any circumstance, the sample testing should comply with a comprehensive quality assurance and quality control programme. The laboratory should be prepared to demonstrate the quality programmes to the EPD when requested.

Monitoring Equipment and Calibration

3.3.7 All the water samples collected should be transferred to clearly labelled and pre-cleaned sample containers with necessary preservatives immediately after collection. The sample containers should be provided by a HOKLAS accredited laboratory. Sufficient quantity of samples should be collected for all laboratory analyses. Following sampling, samples should be stored in a cool box at temperature of between 0 and 4°C, and transported to the laboratory within the sample retention time as advised by the laboratory under proper chain-of-custody system. The water quality monitoring equipment used during the reporting month is shown in Table 3-9 below.

Equipment Type	Manufacturer	Model	Quantity
pH Meter / DO / Temperature Meter	WTW	PH/Oxi 340i	1
DO Meter	YSI	YSI 58	1
Turbidimeter	EUTECH	TN-100	1

Table 3-9 Water Quality Monitoring Equipment

3.3.8 All pH meters, DO meters and turbidimeters shall be checked and calibrated prior to use. DO meters and turbidimeters shall be calibrated by a laboratory accredited under HOKLAS or any other international accreditation scheme, and subsequently recalibrated at 3 monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes shall be checked with certified standard solutions before each use. Wet bulb calibrations for all DO meters shall be carried out before measurement at each monitoring location. For the on-site calibration of field equipment, BS 127:1993, "Guide to field and on-site test methods for the analysis of waters" should be observed. The calibration certificates are included in Appendix F.



Monitoring Location

3.3.9 Four designated monitoring locations were identified in the contract specific EM&A Manual for water quality monitoring. While the construction of the outfall basin at the seashore has not been started, monitoring of marine water quality is only required during which the stilling basin is placed at the seashore area. These four monitoring stations are listed in Table 3-10 below and shown in Appendix G.

Name of Premises
Intake I-1
Control of Intake I-1
Intake I-2
Control of Intake I-2
Intake I-3
Control of Intake I-3
Outfall 1During Flood Tide and Ebb Tide
Control of Outfall O-1 During Flood Tide
Control of Outfall O-1 During Ebb Tide

The upper stream location (I-3-C) had been relocated from end of February 2009 due to coarse stone blockage.

Table 3-10 Water Quality Monitoring Locations

3.3.10 Note that there are two control stations for Outfall O-1, one for sampling during flood tide and one for sampling during ebb tide. Only one of those control stations for Outfall O-1 shall be sampled during each sampling. Control station to be sampled will be determined based on the tidal information provided by the Hong Kong Observatory.

Action and Limit Levels

3.3.11 The Action and Limit levels for water quality monitoring parameters are defined in Table 3-11. In case of any exceedance, appropriate actions will be undertaken in accordance with the Event and Action Plan as described in Table 3-12.



Parameters	Action	Limit
DO in mg/l	Surface & Middle	Surface & Middle
(Surface, Middle &	5%-ile of baseline data for surface	4mg/l except 5mg/l for FCZ or
Bottom)	and middle layer.	1%-ile of baseline data for surface and middle layer
	Bottom	Bottom
	5%-ile of baseline data for bottom layer.	2mg/l or 1%-ile of baseline data for bottom layer
SS in mg/l	95%-ile of baseline data or 120% of	99%-ile of baseline or 130% of
(depth-averaged)	upstream control station's SS at the same tide of the same day	upstream control station's SS at the same tide of the same day and specific sensitive receiver water quality requirements (e.g. required suspended solids levels for concerned sea water intakes)
Turbidity (Tby) in NTL (depth-averaged)	J 95%-ile of baseline data or 120% of upstream control station's Tby at the same tide of the same day	99%-ile of baseline or 130% of upstream control station's Tby at the same tide of the same day

- For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- For SS and Tby, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
- All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered as necessary.

 Table 3-11
 Action/Limit Levels for Water Quality



Event	ET Leader	IEC	SOR	Contractor
Action Level being exceeded by one sampling day	 Repeat in-situ measurement to confirm finding; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; and Repeat measurement on next day of exceedance. 	Contractor on the mitigation measures • Review proposals on mitigation measures submitted by Contractor and advise the SOR accordingly; and • Assess the	 the proposed mitigation measures and Make agreement on the mitigation measures to be implemented. 	compliance in
Action Level being exceeded by more than one consecutive sampling day	 Repeat in-situ measurement to confirm finding; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; and Repeat 	 Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SOR accordingly; and Assess the effectiveness of the implemented mitigation measures. 	 Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; and Assess the effectiveness of the implemented mitigation measures. 	 Inform the Engineer and confirm notification of the non- compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and SOR within 3 working days; and Implement the agreed mitigation measures.

Monthly EM&A Report (June 2010) Hyder Consulting Limited-Company Number 126012 k:\eb000364 tsuen wan drainage tunnel\f-reports\em&a report\2010\2010-06\eb000364r0402.doc



Event	ET Leader	IEC	SOR	Contractor
	measurement on next day of exceedance.			
Limit Level being exceeded by one sampling day	 Repeat in-situ measurement to confirm finding; Identify source(s) of impact; Inform IEC, Contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, SOR and Contractor; Ensure mitigation measures are implemented; and Increase the monitoring frequency to daily until no exceedance of Limit level. 	 Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SOR accordingly; and Assess the effectiveness of the implemented mitigation measures. 	 Discuss with IEC, ET and Contractor on the proposed mitigation measures; and Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; and Assess the effectiveness of the implemented mitigation measures. 	 Inform the Engineer and confirm notification of the non- compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and SOR and propose mitigation measures to IEC and SOR within 3 working days; and Implement the agreed mitigation measures.
Limit Level being exceeded by more than one consecutive sampling day	 Repeat in-situ measurement to confirm finding; Identify source(s) of impact; Inform IEC, Contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with 	 Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SOR accordingly; and Assess the effectiveness of the implemented mitigation 	 Discuss with IEC, ET and Contractor on the proposed mitigation measures; and Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of 	 Inform the SOR and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and SOR

Monthly EM&A Report (June 2010) Hyder Consulting Limited-Company Number 126012 k:\eb000364 tsuen wan drainage tunnel\f-reports\em&a report\2010\2010-06\eb000364r0402.doc



Event	ET Leader	IEC	SOR	Contractor
	 IEC, SOR and Contractor; Ensure mitigation measures are implemented; and Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. 	measures.	the implemented mitigation measures; and • Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit Level.	 and propose mitigation measures to IEC and SOR within 3 working days; Implement the agreed mitigation measures; and As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities.

Table 3-12 Event/Action Plan for Water Quality



4 MONITORING RESULT

4.1 Air Quality

4.1.1 The air quality monitoring schedule of the reporting period is given in Appendix H.

1-hr TSP Monitoring

4.1.2 Results of 1-hours TSP level are shown in Table 4-1. All measurements were recorded to the nearest 0.1μg/m³ and presented in round numbers in this report. Detail results including weather conditions, and graphical presentations are presented in Appendix I.

Station	Monitoring Date	Monitoring Result (μg/m3)	Action/Limit Levels (µg/m3)
		62.0	
	01-Jun-10	55.6	
		68.3	
		83.5	
	07-Jun -10	53.1	
		99.9	
		87.2	
	11-Jun-10	78.4	
		79.7	007/500
ASR 1		86.0	307/500
	17-Jun-10	89.8	
		48.0	
	 23-Jun-10	84.7	
		73.3	
		94.8	
		60.7	
	29-Jun-10	99.9	
		62.0	
		122.3	
	01-Jun -10	71.9	0.07/500
ASR 3		99.6	327/500
	07-Jun-10	74.4	

Monthly EM&A Report (June 2010)

Hyder Consulting Limited-Company Number 126012

k:\eb000364 tsuen wan drainage tunnel\f-reports\em&a report\2010\2010-06\eb000364r0402.doc



Station	Monitoring Date	Monitoring Result (μg/m3)	Action/Limit Level (µg/m3)
		55.5	
		105.9	
		138.7	
	11-Jun-10	126.1	
		65.6	
		78.2	
	17-Jun -10	69.3	
		65.6	
		89.5	
	23-Jun-10	71.9	
		81.9	
		92.0	
	29-Jun-10	132.4	
		83.2	
		75.6	
	01-Jun-10	246.9	
		198.3	
		153.8	
	07-June-10	105.2	
		103.9	
		128.2	
	11-Jun-10	209.1	
ASR 8		107.9	337/500
		176.7	
	17-Jun-10	89.0	
		98.5	
		105.2	
	23-Jun-10	75.6	
		58.0	
	29-Jun-10	121.4	
		97.1	

Monthly EM&A Report (June 2010) Hyder Consulting Limited-Company Number 126012 k:\eb000364 tsuen wan drainage tunnel\f-reports\em&a report\2010\2010-06\eb000364r0402.doc



Station	Monitoring Date	Monitoring Result (μg/m3)	Action/Limit Levels (μg/m3)
		64.8	
		94.3	
	01-Jun-10	152.3	
		172.5	
		103.8	
	07-Jun-10	95.7	
		87.6	
		95.7	
	11-Jun-10	122.6	
ASR 9		114.5	329/500
		165.8	
	17-Jun-10	71.4	
		57.9	
		133.4	
	23-Jun-10	68.7	
		62.0	
		146.9	
	29-Jun-10	93.0	
		63.3	

Note: *Italic* indicates the occurrence of exceedance of *Action level* **Bold** indicates the occurrence of exceedance of **Limit Level**

 Table 4-1
 Air Quality Monitoring Results

4.1.3 No project related exceedance was recorded in the reporting month.

4.2 Noise

4.2.1 The noise monitoring schedule of the reporting period is given in Appendix H. Results of measured noise level, in terms of Leq (30min), during the construction are shown in Table 4-2. All measurements including L10 and L90 are recorded to the nearest 0.1 dB(A) and presented in round numbers in this report. Detail results including weather conditions and graphical presentation are presented in Appendix I.

Station	Monitoring Date	L _{eq (30 min)} dB(A)	Limit Levels dB(A)
NSR 1**	01-Jun-10	64.9	70

Monthly EM&A Report (June 2010)

Hyder Consulting Limited-Company Number 126012

k:\eb000364 tsuen wan drainage tunnel\f-reports\em&a report\2010\2010-06\eb000364r0402.doc



Station	Monitoring Date	L _{eq (30 min)} dB(A)	Limit Levels dB(A)
	07-Jun-10	63.0	65
	17-Jun-10	63.2	65
	23-Jun-10	63.9	70
	29-Jun-10	63.4	70
	01-Jun-10	64.5	
	07-Jun-10	72.8	
NSR 3	17-Jun-10	66.9	
	23-Jun-10	67.9	
NSR 6	29-Jun-10	68.3	
	01-Jun-10	68.0	
	07-Jun-10	67.7	
	17-Jun-10	58.1	
	23-Jun-10	64.9	
	29-Jun-10	56.7	75
	01-Jun-10	64.8	
	07-Jun-10	63.8	
NSR 8	17-Jun-10	63.3	
	23-Jun-10	64.9	
	29-Jun-10	62.2	
	01-Jun-10	64.0	
	07-Jun-10	68.4	
NSR 9	17-Jun-10	63.9	
	23-Jun-10	68.1	
	29-Jun-10	65.0	

Table 4-2 Noise Monitoring Results

**Noise Limit level at NSR1 was reduced from 70 dB(A) to 65 dB(A) during examination periods between 2 and 18 June 2010.

4.2.2 No exceedances of Action and Limit Levels were recorded in our regular noise monitoring during the reporting month.



4.3 Water Quality Monitoring

4.3.1 The water quality monitoring schedule of the reporting period is given in Appendix H. Summaries of exceedances for water quality monitoring are provided in Table 4-3 to Table 4-5.

Parameter	Action Level Exceedance	Limit Level Exceedance
DO	Nil	Nil
Turbidity	Nil	Nil
SS	Nil	One recorded on 21 June 2010.
Total	Nil	1

Table 4-3 Summary of Exceedances for I-1

Parameter	Action Level Exceedance	Limit Level Exceedance
DO	Nil	Nil
Turbidity	Nil	Nil
SS	One recorded at I-2 on 9 June 2010.	Nil
Total	1	Nil

Table 4-4 Summary of Exceedances for I-2

Parameter	Action Level Exceedance	Limit Level Exceedance
DO	Nil	Nil
Turbidity	Nil	Nil
SS	Nil	Nil
Total	Nil	Nil

Table 4-5 Summary of Exceedances for I-3

- 4.3.2 Results of measured water quality parameters during the reporting month are shown in Table 4-6 and detailed results including weather conditions and graphical presentations are enclosed in Appendix I.
- 4.3.3 Two non-project related exceedances were recorded for the water quality monitoring within the reporting month.
- 4.3.4 The exceedance of Control Action Levels of SS (120% higher than I-2-C) recorded at I-2 on 9 June 2010 was below baseline Action/Limit Levels and was within the range of baseline SS concentration. Construction activities including site cleaning & tidying, erection of noise enclosure at vortex drop shaft and man access shaft, excavation, erection of working platform for mini-pile and pipe jacking were undertaken during the measurement and no direct disturbance was observed from the site. Thus, the

Hyder Consulting Limited-Company Number 126012

k: \eb000364 tsuen wan drainage tunnel\f-reports \em&a report\2010\2010-06 \eb000364r0402.doc



exceedance of SS levels recorded on 9 June 2010 at I-2 was considered to be contributed by natural variation and no action was therefore required.

- 4.3.5 The exceedance of Baseline Action Levels of SS recorded at I-1 on 21 June 2010 was slightly above baseline Limit Level and above the Control Limit Level. The measured value was still within the range of baseline SS concentration. Construction activities including general site cleaning and housekeeping; erect formwork for spiral ramp; strip off formwork for spiral ramp; rebar fixing for spiral ramp and erect scaffold working platform for spiral ramp were undertaken during the measurement and no direct disturbance was observed from the site. Thus, the exceedance of SS levels recorded on 21 June 2010 at I-1 was considered to be contributed by natural variation and no action was therefore required.
- 4.3.6 The above mentioned exceedances were considered as non project related, however, proper mitigation measures had been implemented during measurements. Details of the above mentioned investigations could be referred to the notifications of exceedances as enclosed in Appendix J, which have been provided to the IEC for review.

Station	Date	Temperature	DO (mg/L)	Action/Limit Level for DO (mg/L)	рН	Turbidity (NTU)	Action/Limit Level for Turbidity (NTU		Action/Limit Level for SS (mg/L)
I-1	02-Jun-10	22.00	7.97	3.42 / 3.34	7.23	9.64	9.75 / 12.47	4.25	8.85 / 10.17
	04-Jun-10	24.10	7.91		7.05	5.10	_	2.00	
	07-Jun-10	27.50	7.53		7.27	3.54	_	3.15	
	09-Jun-10	23.00	7.68		7.02	8.42	_	2.00	
	11-Jun-10	24.65	7.34		7.27	3.74	_	2.90	
	15-Jun-10	26.20	6.60		7.59	5.39	_	2.60	
	17-Jun-10	25.60	7.12		7.57	7.55	_	3.70	
	19-Jun-10	26.00	6.61		7.46	6.48	_	4.10	
	21-Jun-10	28.30	6.71		7.57	7.03	_	10.35	
	23-Jun-10	23.90	6.37		7.14	6.44	_	3.85	
	25-Jun-10	27.00	6.37		7.78	2.96	_	2.00	
	28-Jun-10	25.70	6.22		7.65	5.50	_	2.10	
	30-Jun-10	28.70	6.00		7.43	6.42		2.05	

Station	Date	Temperature	DO (mg/L)	Action/Limit Level for DO (mg/L)	рН	Turbidity (NTU)Action/Limit Level for Turbidity (NT		Action/Limit Level for SS (mg/L)
I-1-C	02-Jun-10	22.35	8.05	- / -	7.21	9.47	- / -	5.20	- / -
	04-Jun-10	23.95	7.90		7.02	5.25		2.00	
	07-Jun-10	27.95	7.48		7.26	3.68		2.90	
	09-Jun-10	23.50	7.75		7.05	8.64		2.00	
	11-Jun-10	24.35	7.28		7.25	3.81		2.65	
	15-Jun-10	26.05	6.68		7.50	8.18		7.25	
	17-Jun-10	25.50	7.05		7.61	7.71		4.65	
	19-Jun-10	25.75	6.54		7.41	6.65		4.10	
	21-Jun-10	28.50	6.66		7.61	7.12		6.50	
	23-Jun-10	24.00	6.45		7.16	6.58		3.30	
	25-Jun-10	26.60	6.50		7.84	3.45		2.35	
	28-Jun-10	25.25	6.13		7.61	5.40		2.00	
	30-Jun-10	28.60	6.07		7.40	6.58		3.70	

Station	Date	Temperature	DO (mg/L)	Action/Limit Level for DO (mg/L)	рН	Turbidity (N	TU)Action/Limit Level for Turbidity (NT		Action/Limit Level for SS (mg/L)
I-2	02-Jun-10	23.20	8.00	3.66 / 3.63	7.07	5.00	6.63 / 6.99	4.45	7.68 / 8.34
	04-Jun-10	24.00	8.02		7.12	2.22		2.00	
	07-Jun-10	27.20	7.58		7.40	2.03		2.00	
	09-Jun-10	24.00	7.68		7.07	4.26		2.55	
	11-Jun-10	24.90	7.08		7.40	1.77		2.45	
	15-Jun-10	26.20	6.86		7.66	1.93		2.00	
	17-Jun-10	25.95	6.81		7.48	1.89		2.00	
	19-Jun-10	26.00	6.51		7.56	2.54		2.00	
	21-Jun-10	28.00	6.44		7.50	2.11		2.00	
	23-Jun-10	23.00	5.48		7.21	6.19		3.30	
	25-Jun-10	27.50	6.13		7.52	3.08		2.80	
	28-Jun-10	26.30	6.13		7.54	4.54		5.20	
	30-Jun-10	28.10	6.15		7.25	2.58		2.50	

Station	Date	Temperature	DO (mg/L)	Action/Limit Level for DO (mg/L)	рН	Turbidity (NTU)Action/Limit Level for Turbidity (NTI		Action/Limit Level for SS (mg/L)
I-2-C	02-Jun-10	22.95	8.06	- / -	7.11	5.13	- / -	5.35	- / -
	04-Jun-10	24.30	8.02		7.10	2.28		2.45	
	07-Jun-10	27.00	7.55		7.41	2.10		2.00	
	09-Jun-10	23.90	7.63		7.11	4.30		2.00	
	11-Jun-10	25.00	7.08		7.33	1.81		3.70	
	15-Jun-10	26.25	6.89		7.62	1.97		2.00	
	17-Jun-10	26.10	6.88		7.50	1.91		2.00	
	19-Jun-10	25.90	6.58		7.50	2.62		2.00	
	21-Jun-10	28.20	6.52		7.52	2.17		2.05	
	23-Jun-10	23.20	5.58		7.30	6.30		3.50	
	25-Jun-10	27.30	6.29		7.51	3.17		2.95	
		26.00	6.11		7.56	4.83		5.05	
	30-Jun-10	28.00	6.20		7.23	2.64		2.60	

Station	Date	Temperature	DO (mg/L)	Action/Limit Level for DO (mg/L)	рН	Turbidity (NT	U)Action/Limit Level for Turbidity (NT		Action/Limit Level for SS (mg/L)
I-3	02-Jun-10	22.35	8.13	3.65 / 3.51	7.04	3.46	3.99 / 4.18	2.50	6.13 / 7.23
	04-Jun-10	24.00	8.06		7.17	3.49		2.00	
	07-Jun-10	27.35	7.35		7.22	2.08		2.35	
	09-Jun-10	24.00	7.78		7.15	2.36		2.00	
	11-Jun-10	25.50	6.73		7.47	3.12		2.00	
	15-Jun-10	26.60	6.91		7.64	2.01		2.00	
	17-Jun-10	25.30	7.00		7.63	2.12		2.00	
	19-Jun-10	26.40	6.35		7.60	1.87		2.00	
	21-Jun-10	28.00	6.48		7.51	1.84		2.00	
	23-Jun-10	22.80	5.49		7.20	3.22		5.55	
	25-Jun-10	27.15	6.14		7.58	2.74		2.05	
	28-Jun-10	26.60	6.44		7.61	3.61		2.00	
	30-Jun-10	28.60	6.42		7.18	2.40		2.95	

Station	Date	Temperature	DO (mg/L)	Action/Limit Level for DO (mg/L)	рН	Turbidity (NTI	U)Action/Limit Level for Turbidity (NTU)	SS (mg/L)	Action/Limit Level for SS (mg/L)
I-3-C	02-Jun-10	22.50	8.19	- / -	7.06	3.56	- / -	2.15	- / -
	04-Jun-10	24.10	8.12		7.15	3.51		2.00	
	07-Jun-10	27.00	7.22		7.20	2.08		2.00	
	09-Jun-10	23.75	7.74		7.08	2.49		2.00	
	11-Jun-10	25.20	6.84		7.45	3.15		2.00	
	15-Jun-10	26.00	7.01		7.61	2.12		2.00	
	17-Jun-10	25.50	7.03		7.62	2.16		2.00	
	19-Jun-10	26.20	6.42		7.61	1.94		2.00	—
	21-Jun-10	27.80	6.57		7.48	1.88		2.00	
	23-Jun-10	22.70	5.50		7.10	3.37		6.15	
	25-Jun-10	27.40	6.14		7.55	2.81		2.00	
	28-Jun-10	26.50	6.36		7.57	3.66		2.00	
	30-Jun-10	28.80	6.64		7.16	2.58		2.60	

Note: *Italic* indicates the occurrence of exceedance of *Action level*. **Bold** indicates the occurrence of exceedance of Limit level.

 Table 4-6
 Water Quality Monitoring Results



4.4 Summary of Project-Related Exceedances

4.4.1 Table 4-7 summarises the project-related exceedance results recorded in June 2010. Note that exceedances that are considered not related to the construction activities are not included in this table.

Environmental Monitoring	Total No. of Measurement	Action Level Exceedance	% of Action Level Exceedance	Limit Level Exceedance	% of Limit Level Exceedance
Air Quality	72	0	0	0	0
Noise	25	0	0	0	0
Water	78	0	0	0	0

Note: Exceedances that are considered not related to the construction activities are not included in this table.

 Table 4-7
 Summary of Project-Related Exceedances



5 WASTE MANAGEMENT

5.1.1 The status of waste management is summarized in Table 5-1 below.

Inert C&D Material Disposed of to Public Fill at Tuen Mun (m ³) Inert C&D Material Reused in other Contracts* (m ³) Metals Generated (kg) Paper / Cardboard Packaging (kg) Plastics (kg)	2971.5 275.0 Nil
Metals Generated (kg) Paper / Cardboard Packaging (kg)	
Paper / Cardboard Packaging (kg)	Nil
Plastics (kg)	400
	Nil
Chemical Waste (kg)	Nil
General Waste Disposed of to NENT Landfill (m ³)	7.9

* Other Contracts include DC/2007/17 and HY/2007/09.

Table 5-1 Waste Generated in June 2010



6 NON-COMPLIANCE AND DEFICIENCY

6.1 Site Audit by ET

6.1.1 ET has carried out two site inspections in the reporting month. All observations together with the appropriate recommended mitigation measures where necessary were recorded in the audit checklists that were passed to the Contractor. Major environmental deficiencies observed during site inspection/audits and recommendation, which were made by the ET, are summarised in_Table 6-1 below. No non-compliance was observed.

Inspection Date	Observation	Recommendation	Status
4 June 2010	 The water treatment system at Outfall was observed not function properly and the quality of the water discharge was required to improve. The chemicals were observed without drip tray at Outfall. 	 The Contractor was reminded to regular maintain the water treatment system and to ensure the system functional properly at Outfall. The Contractor was reminded to provide drip tray for the chemicals at Outfall. 	was checked and the water quality at the Outfall discharge point was improved as observed on 25
25 June 2010	1. The tarpaulin on exposed slope at I3 was observed broken.	2. The Contractor was reminded to provide the tarpaulin properly cover to minimize surface runoff.	 The slope at I-3 was found covered with tarpaulin properly on 5 July 2010. (Closed).

Table 6-1Site Inspection by ET



7 COMPLAINT

- 7.1.1 A complaint hotline at <u>9850 3241</u> of the Contractor has been established for the Project.
- 7.1.2 No environmental complaint was received during the reporting month. Details of the complaint investigation can be referred to Appendix K.
- 7.1.3 Cumulative statistics of environmental complaints are shown in Table 7-1.

Complaints Received in the Reporting Month Cumulative Number of Complaints

0	17

 Table 7-1
 Cumulative Statistic of Environmental Complaint



8 SUMMARY OF NOTIFICATION OF SUMMONS, SUCCESSFUL PROSECUTIONS AND CORRECTIVE ACTIONS

- 8.1.1 No summons and successful prosecution was received during the reporting month.
- 8.1.2 Cumulative statistics of Notification of Summons, Successful Prosecutions and Convictions are shown in Table 8-1.

Notification of St	ummons	Successful Pros	ecution	
June 2010	Cumulative	June 2010	Cumulative	
0	0	0	0	

Table 8-1 Cumulative Statistics of Notification of Summons and Successful Prosecutions



9 FUTURE KEY ISSUE

9.1.1

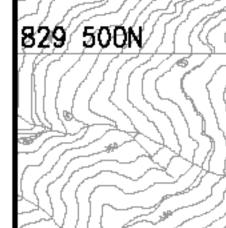
The forecast of construction works for the upcoming three months are:

- Site cleaning and tidying at I-1, I-2, I-3 and Outfall;
- Erection of muck hopper and conveyor support steel structure at Outfall;
- Drilling and excavation of man access shaft & vortex shaft at I-2;
- Construction of approach channel structure at I-2;'
- Cascade and channel modification concrete structure works at I-1;
- Construction of skin wall at I-3;
- Assembly of TBM, TBM drilling of the tunnel at Outfall;
- Installation of noise enclosure at Outfall and I-2;
- Pipe jacking installation at Portion G at I-2;
- Mini-pile and pre-bored H-pile construction at Portion G at I-2;
- Drilling and excavation of spiral ramp at Outfall;
- Drilling and excavation of vortex shaft at I-3;



Appendix A

Site Map and Works Area



829 000N

828 500N

828 000N

827 500N

827 000N

826 500N

826 000N

825 500N

APPROACH BEATH

825 000N

824 500N

SHEK LUNG KUNG

YAU KOM TAU

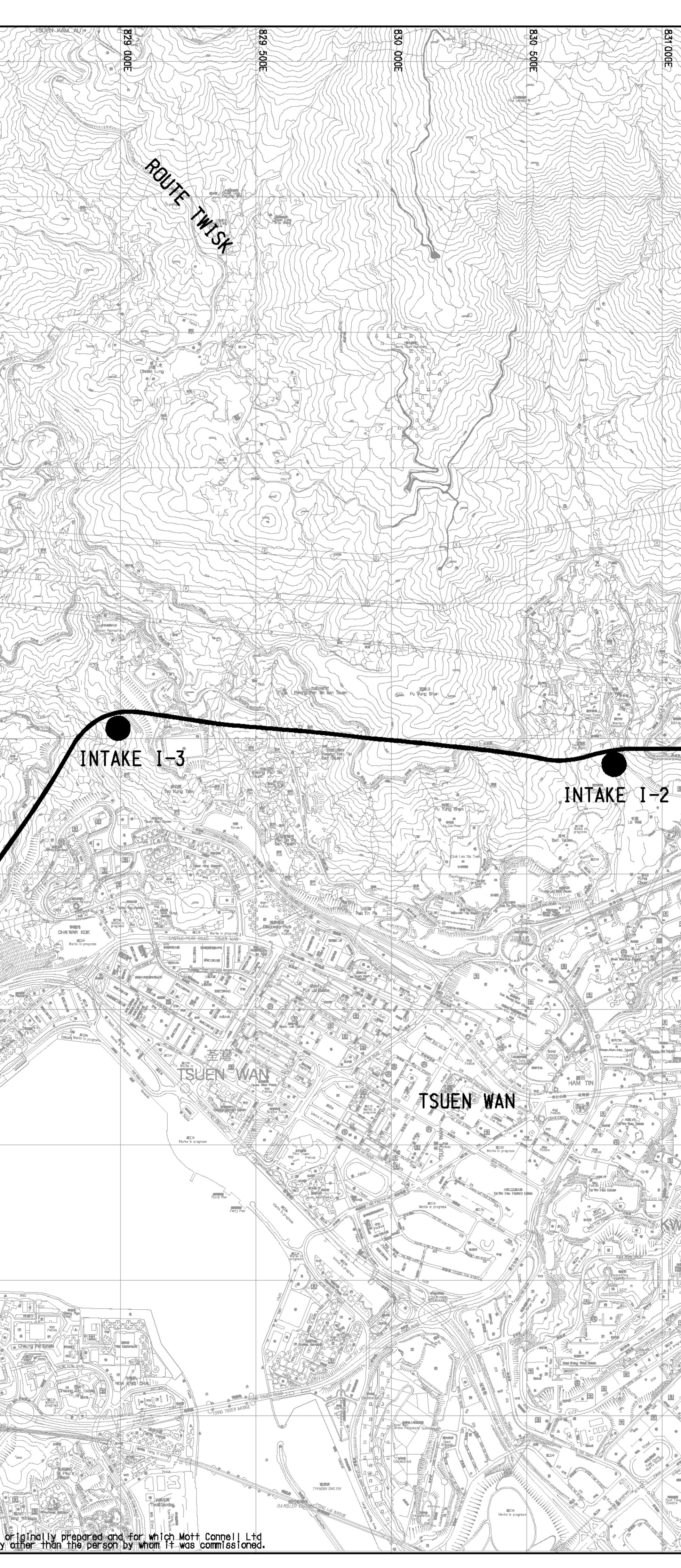
Pak Shek 194

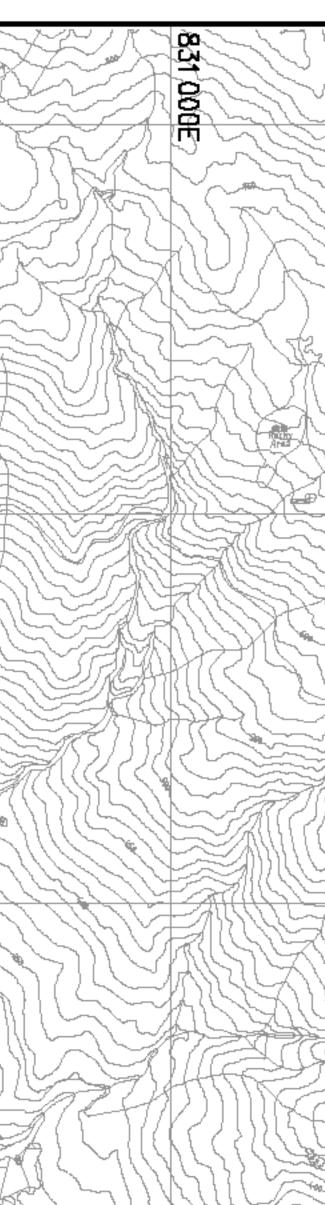
IS Y NORTH COAS Choung Shus Tap

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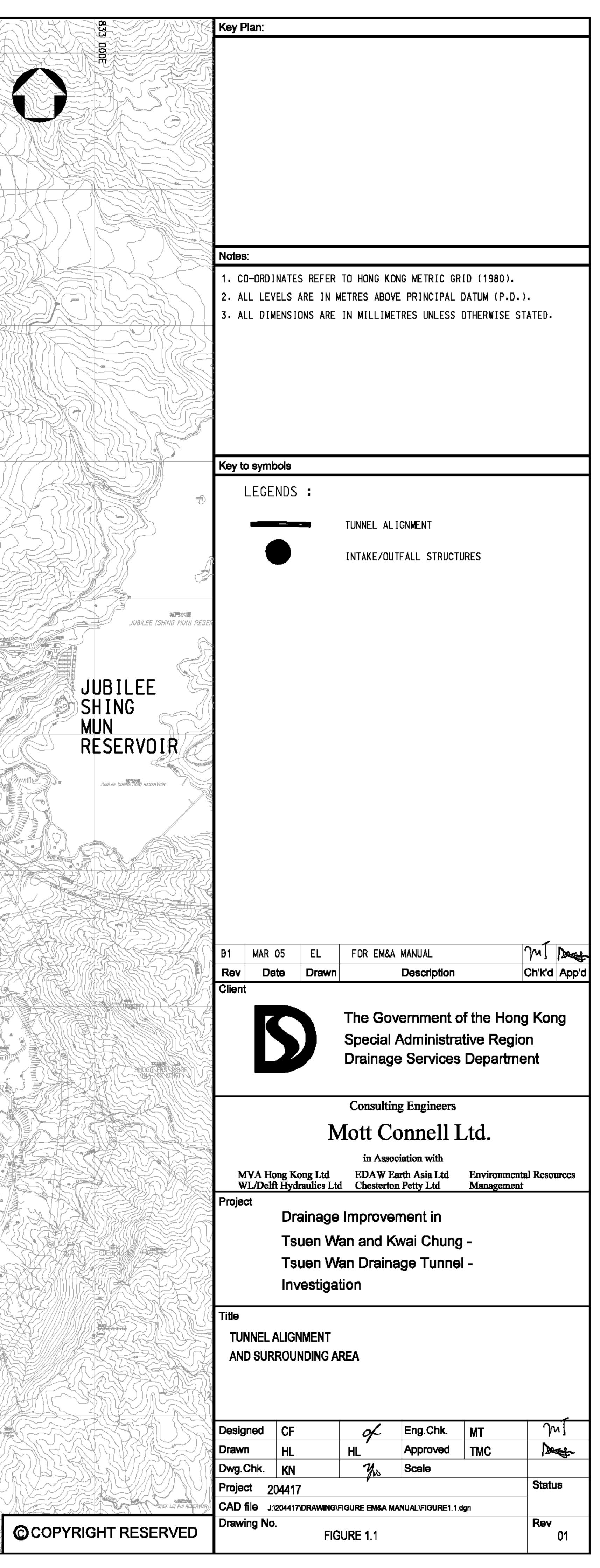
SHEUNG KIWA CHUNG





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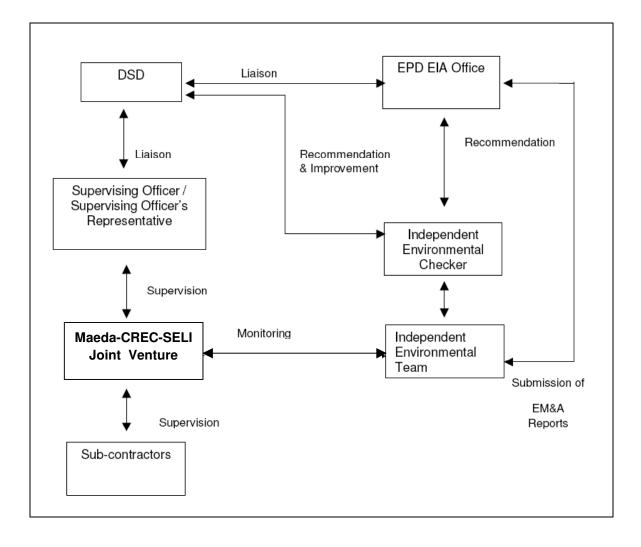
KWAI CHUNG





Appendix B

Organization Chart





Appendix C

Construction Programme

Monthly EM&A Report (June 2010) Hyder Consulting Limited-Company Number 126012 k:\eb000364 tsuen wan drainage tunnel\f-reports\em&a report\2010\2010-06\eb000364r0402.doc

Preliminaries Project Dates				NAME OF TAXABLE PARTY.	None of		and the second s		Float		
t Dates			1						Ħ		24.6
01R0000002	Tender Issue Date		0	D 26JUN07A		26JUN07A		2	023		
01R000004	Tender Closing Date		0	0 05OCT07A		05OCT07A		2			22
01R000006	Letter of Acceptance Issued Date		0	0 14DEC07A		14DEC07A		2	•		
01R000008	Contract Commencement Date		0	0 28DEC07A		28DEC07A		2		14 days after LOA	
01R0000010	Completion of Section 1 of the Works		0	0	07DEC12		18JAN13	8	-462	Contract completion date on 02/09/11	111
01R0000012	Completion of Section 2 of the Works		0	0	22MAR12		22MAR12	N	-239	Con ract completion date on 27/07/11 ◆	
01R0000014	Completion of Section 3 of the Works		0	0	23MAR12		23MAR12	2	-240	Conciract completion date on 27/07/11	
01R0000016	Completion of Section 4 of the Works		0	0	04FEB12		04FEB12	8	-192	Contract completion date on 27/07/11 +	
01R0000018	Completion of Section 5 of the Works		0	0	07DEC12		18JAN13	2	-485	Contract completion date on 10/08/11	
01R0000020	Completion of Section 6 of the Works		0	0	27JUL11		27JUL11	N	0	Contract completion date on 27/07/11 ◆	
01R0000022	Completion of Section 7 of the Works		0	0	07DEC13		18JAN14	2	-462	Contract completion date on 01/09/12	ate on 01/09/12 .
Possession of Area	Area										
01R00A0102	Possession Portion A - 90d of DOC		0	0 27FEB08A		27FEB08A		8		Permanent land allocation area was possessed on 19/03/08	9/03/08
01R00A0104	Handover of Section 1 of Works at Portion A	an A	0	0	22MAR12		22MAR12	~	-239		
01R00B0102	Possession of Portion B - 90d of DOC		0	0 07MAR08A		07MAR08A		~			
01R00B0104	Handover of Portion B		0	0	23MAR12		23MAR12	8	-240		
01R00C0102	Possession of Portion C - 90d of DOC		0	0 26MAR08A		26MAR08A		2			
01R00C0104	Handover of Portion C		0	0	04FEB12		04FEB12	2	-192		1
01R00D0102	Possession of Portion D on DOC		0	0 28DEC07A		28DEC07A		2			10
01R00D0104	Handover of Portion D		0	0	07DEC12		18JAN13	2	-485		•
01R00E0102	Possession of Portion E - 650d of DOC		0	0 07OCT09		07OCT09		2	0	•	
01R00E0104	Handover of Portion E		0	0	07DEC12		18JAN13	2	-462		•
01R00F0102	Possession of Portion F on DOC		0	0 28DEC07A		28DEC07A		2			
01R00F0104	Handover of Portion F		0	0	07DEC12	-15	18JAN13	2	-462		•
01R00G0102	Possession of Portion G - 700d of DOC		0	0 26NOV09		26NOV09		2	0		
01R00G0104	Handover of Portion G		0	0	11MAR11		11MAR11	2	175	•	
01R0010102	Possession of Portion I on DOC		0	0 28DEC07A		28DEC07A		2	•		5.
01R0010104	Handover of Portion I		0	0	07DEC12		18JAN13	2	-462		*
01R00J0102	Possession of Portion J		0	0 15MAR10		15MAR10		2	-268		
01R00J0104	Handover of Portion J		0	0	03SEP10		03SEP10	2	0	•	03
01R0H10102	Possession of Portion H1 on DOC		0	0 28DEC07A		28DEC07A		2			
01R0H10104	Handover of Portion H1		0	0	30DEC13	220	10FEB14	2	0		•
01R0H20102	Possession of Portion H2 - 300d of DOC		0	0 04NOV08A		04NOV08A		2			
Start Date	20JUN07		AD04	Mac	Maeda-CREC-SELI JV	SELI JV	Sheet 1 of 58	58		Addendum to Works Programma "WP04"	
Finish Date	30DEC13	carly bar		CONT	RACT NO.	CONTRACT NO. DC/2007/12				Revision	ed Approved
Data Date	28MAY09	Target Bar		Design	and Con	Design and Construction of		10AUG09		Works Program Revision "WP3D" Works Program Revision "WP3D"	
	220CT09 10:37	Progress Bar		Isuen Addendum to	Wan Drail Works P	Isuen Wan Drainage Tunnel ndum to Works Programme "WP04"	UP04"	04SEP09		WP3D-TBM Halft Speed at WSD Turnel#3	
Concerno C	© Drimon Contours	Critical Activity						070CT09		WP3E Wend	

Page 68 of 125

01R0H20104 Section of Wor	A 14 YO M A 14 YO M DOWN A 14 YO M DOWN A 1 MM										
ction of Wor	Handover of Portion H2	0	0		30DEC13	10FEB14	2	0			
	Section of Works - DOP to Completion										
01R1000202	S1-Works in Portions A to F except works in S2-7	1,308 1,308	1.2.5	28DEC07A	07DEC12 28DEC07A	7A 18JAN13	2	-462			1
	S1-Maintenance Period (365 days)	365	365	08DEC12	07DEC13 19JAN13	3 18JAN14	2	-462			
01R20A0206	S2-Slope Stabilization works within Portion A	1,247 1,247		27FEB08A	22MAR12 27FEB08A	8A 22MAR12	2	-239			
01R20A0208	S2-Maintenance Period (365 days)	365	365	23MAR12	22MAR13 23MAR12	2 22MAR13	2	-202			
01R30B0210	S3-Slope Stabilization works within Portion B	1,238 1,238	1,238 0	07MAR08A	23MAR12 07MAR08A	18A 23MAR12	0	-240			
01R30B0212	S3-Maintenance Period (365 days)	365		24MAR12	23MAR13 24MAR12	2 23MAR13	5	-203			
01R40C0214	S4-Slope Stabilization works within Portion C	1,219 1,219	÷	26MAR08A	04FEB12 26MAR08A	04FEB12	2	-192			
01R40C0216	S4-Maintenance Period (365 days)	365	365	05FEB12	03FEB13 05FEB12	2 03FEB13	2	-155	10		
01R50D0218	S5-Slope Stabilization works within Portion D	1,308	1,308 2	28DEC07A	07DEC12 28DEC07A	7A 18JAN13	2	-485			
01R50D0220	S5-Maintenance Period (365 days)	365	365	08DEC12	07DEC13 19JAN13	3 18JAN14	0	-462			
01R60G0222	S6-Works within Portion G	609	609	26NOV09	27JUL11 26NOV09	111022 B	2	0			
01R60G0224	S6-Maintenance Period (365 days)	365	365	28JUL11	26JUL12 28JUL11	1 26JUL12	5	37			
01R7000226	S7-Ladscape softworks & establishment works	1,673	1,673 2	28DEC07A	30NOV13 28DEC07A	11JAN14	8	-455			
01R7000228	S7-Maintenance Period (30 days)	30	30	01DEC13	30DEC13 12JAN14	4 10FEB14	2	-455	1		
cilities for th	Facilities for the SO as per ER 12										
01R0000302	Provide temporary accommodation	2	7	28DEC07A	15JAN08A 28DEC07A	15JAN08A	2		to the satisfactio	ction of the SO ER 12.3.1 refers	jrs
01R0000304	Design the SO's principle office	95	95	28DEC07A	28AUG08A 28DEC07A	17A 28AUG08A	2			47	
01R0000305	Erect Hoarding/Signboard/Gate/Fencing	35	35 2	28MAR08A	16MAR09A 28MAR08A	16MAR09A	-			at Potions H & I	
01R0000306	Erect SO's principle office in Portion H1/H2	100	100	100 19MAY08A	13SEP08A 19MAY08A	38A 13SEP08A	-		to the	3	
01R0000308	Provide secondary offices, directed by SO	64	64	14SEP08A	13JUN09 14SEP08A			276		1 Trees	fter the instruction
01R0000310	Provide transport for the SO as per App. ER,M	60	06	28DEC07A (02MAY08A 28DEC07A	17A 02MAY08A		J	CEER 12.4; 3 n		of DOC
01R0000311	Provide survey equipments as per App. ER,M	30	30	28DEC07A	19AUG08A 28DEC07A	17A 19AUG08A			within 1	11 month of DOCtemporary equipment provied on 18/02/08	uipment provied on 18/C
01R0000314	Maintain & Service the Principle Office	1,539	1,539	1,539 1,539 14SEP08A	30NOV13 14SEP08A	8A 11JAN14	8	0			
01R0000316	Maintain & Service the Secondary Office	1,495	1,495 1,495	280CT08A	30NOV13 280CT08A	1	2	0			
01R0000318	Maintain & Service the transportation	1,785	1,785	1,785 1,785 12JAN08A			2	0			
01R0000319	Maintain & Service the survey equipments	1,748 1,748		18FEB08A		۷	~	0			
01R0000372	Demolish & removal of Principle Office	30	30	01DEC13	30DEC13 12JAN14	4 10FEB14	2	0			
intractor's A	Contractor's Accommodation as per ER.B					Contraction (Contraction (Contr					
010001400	Desirn Contractoris main office	30	30	01FEB08A	19MAY08A 01FEB08A	8A 19MAY08A	0		to the satisfa	disfaction of SO	
0180001406	Maintain & service Contractor's office	1.597	1.1	LOBA	30NOV13 18JUL08A	8A 11JAN14	0	0			
0180001408	Demolish & removal of Contractor's main office	30		01DEC13	30DEC13 12JAN14	1	2	0			
018000141	Frect Contractor's main office in Portion H1	50*	50.	50° 19MAY08A	17JUL08A 19MAY08A	38A 17JUL08A	-		to the	to the satisfaction of the SO	
01R0001412	Construct base slab	10	10	10 19MAY08A	30MAY08A 19MAY08A	DBA 30MAY08A	1		••		
01R0001413	Install steel frames	13	12	31MAY08A	21JUN08A 31MAY08A	08A 21JUN08A	٣				
01R0001414	Install wall/roof panels, windows etc	ø	9	23JUN08A	30JUN08A 23JUN08A	8A 30JUN08A	-		-		
01R0001415	Install & E& M/ceiling/floor panels	80		02JUL08A	12JUL08A 02JUL08A	6A 12JUL08A	5				
01R0001416	Site clearance	-	+	14JUL08A	17JUL08A 14JUL08A	8A 17JUL08A	1		-		

Instant sufficiency in the superior of an intermediation of an intermediatina intermediation of an intermediation of an intermediatio	Install furmitures/internet & move in gramme & Monthly Report as per SCC 27 Prepare/Submit draft Works Programme SO's review/comment on draft Works Programme SO's approval on draft Works Programme SO's approval on draft Works Programme SO's approval of Revised Works Programme SO's Approval of the SO's consent Submit Proposed Quality System for SO's consent Submit Bareter Duality System for SO's consent Submit Bareter Duality System for SO's consent Submit Bareter Duality System for SO's consent Submit Proposed Quality System for SO's consent Submit Bareter Duality System For SO's consent Submit Barete	1,7	141 140 16 114 16 114 118 122 122 122 140	21/JULUBA 1/ 21DEC07A 1/ 23JAN08A 2/		-		
7 7 1	gramme & Monthly Report as per SCC 27 Prepare/Submit draft Works Programme SO's review/comment on draft Works Programme SO's review/comment on draft Works Programme Prepare/Submit draft Works Programme Prepare/Submit draft Works Programme SO's approval on draft Works Programme SO's approval on draft Works Programme SUbmit Revised Works Programme SUbmit Revised Works Programme So's Approval of Revised Works Programme Solomit draft Safety Plan Submit draft Safety Plan Submit draft Safety Plan Submit updated safety orgainiza. chart monthly Fulfil all relevant safety on Safety Plan Submit updated safety orgainiza. chart monthly Fulfil all relevant safety on Safety Plan Submit updated Safety orgainiza. chart monthly	1,7	140 141 145 145 145 183 140 113 140	21DEC07A 1- 23JAN08A 2-				
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Prepare/Submit fat: Month Reling Programme 24 22 24.4.MMOL RFEBIORA 2		1,7	24J 14D 16F 16F 28A 28A 22A 18J 18J 22J 22J	1 SEERORD 2	-	_	2	
Pregravity for submit to 3 short by a submit of 3 submit by a submit by		1,7	14D 16F 28A 28A 28A 02C 18J 18J 22J 22J			_	0	
Stor a pproval on darth Works Programme 14 14 16.FEB0.06 20MMEDIA 20MEDIA 2 305 2 3 SOr a spproval of fravisation 14 1 2-MUCORD 305EP00A 2 36 SOr a spproval of fravisation 1,77 1,77 1,77 1,77 1,77 2 2 36 3 Sort A pproval of Ravisation 1,75 1,77 2,77 2 2 3		1,7,1,7,1,7,1,7,1,7,1,7,1,7,1,7,1,7,1,7	16F 28A 228A 02C 18J 18J 22J 22J	03JAN08A 1	-		0	
Submit Revised Works Programme 14 14 2.8JU.060 305EP08A 2 305EP07A 205EP07A 205EP07A 205EP07A 203EP07A 203AP0AA 203EP07A 203EP07A 203EP07A 203EP07A 203EP07A 203EP07A 203EP07A 203EP07A 203AP0AA 203EP07A 203AP0A<	s s s	1,7	28A 02C 18J 22J 22J	28MAR08A 16	1		5	
SOS supported of Revised Works Programme 14 <td>s A A A A A A A A A A A A A A A A A A A</td> <td>1,7 1,7 1,8</td> <td>020 18J 22J</td> <td>30SEP08A 2</td> <td>-</td> <td>-</td> <td>N</td> <td></td>	s A A A A A A A A A A A A A A A A A A A	1,7 1,7 1,8	020 18J 22J	30SEP08A 2	-	-	N	
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Submit draft Setety Plan 1, / / / / / / / / / / / / / / / / / / /	as a s	1,1/2 1,1/2	140			+		
As per SOC 35 Ammin tent Safety Plan. Ammin Safety Safety Safety Plan. Ammin Safety Safety Safety Safety Safety Saf	S A A	1,7	140					
Image:	Submit draft Safety Plan Hold an ad hoc meeting with RE on Safety Plan Submit 6 copies of the Safety Plan Submit updated safety orgainiza. chart monthly Fulfil all relevant safety obligation S All Insurances Submit documents for all insurances are effected atem as per ER 9.3 Appoint a Quality Manager Submit proposed Quality System for SO's consent Submit QSSP for approval of the SO Maintain & update Quality System	1,7	140					
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e Safety Plan 35 35 14DEC07A 26FEB08A 12 34 34DEC07A 26FEB08A 2 364 ety obligation 1,747 1,747 20MAR08A 31DEC12 20MAR08A 18,JAN13 2 364 ety obligation 1,830 1,830 1,830 1,830 260EC07A 31DEC12 20MAR08A 18,JAN13 2 364 ety obligation 21 1,40 2,130 21DEC07A 21DEC07A 25DEC07A 18,JAN13 2 364 anaget 21 14 14 21AN08A 14DEC07A 22JAN08A 13JAN13 2 364 anaget 21 14 14 22JAN08A 14DEC07A 22JAN08A 13JAN13 2 364 anaget 21 21 14DEC07A 22JAN08A 14DEC07A 22JAN08A 13JAN13 2 364 anaget 21 22JAN08A 14DEC07A 22JAN08A 13JAN13 2 364 anality System	Submit 6 copies of the Safety Plan Submit updated safety orgainiza. chart monthly Fulfil all relevant safety obligation Insurances Submit documents for all insurances are effected Stem as per ER 9.3 Appoint a Quality Manager Submit proposed Quality System for SO's consent Submit a update Quality System	1,7	310	÷		ANOBA	2	within 7 days from the submission of DSP
By organizia: Chart monthly 1,747 1,747 1,747 1,747 1,747 20MAR08A 31DEC12 20MAR08A 18JAN13 2 364 4 ety obligation 1,830 1,830 1,830 1,830 1,830 28DEC07A 18JAN13 2 364 4 or all insurances are effected 21 21 21 21 21 21 21 21 2 364 4 4 or all insurances are effected 21 21 21 21 21 21 21 23 364 4	Submit updated safety orgainiza. chart monthly Fulfill all relevant safety obligation Sall Insurances Submit documents for all insurances are effected stem as per ER 9.3 Appoint a Quality Manager Submit proposed Quality System for SO's consent Submit QSSP for approval of the SO Maintain & update Quality System	1,7	140		1	-	2	within 35 days of LOA
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anager 14 14 28DEC07A 02JAN08A 20JAN08A 2 as per SCC 74 within 28 days of and yo proval of the SO as per SCC 74 within 28 days of and yo proval of the SO 28 28 24DEC07A 22JAN08A 24DEC07A 22JAN08A 20 within 28 days of and yo and yo proval of the SO 28 28 28 28 216C07A 22JAN08A 28DEC07A 14MAR08A 2 3 within 28 days of proval of the SO 28 28 28 28 28 28 216C07A 14MAR08A 2 3 <	stem as per ER 9.3 Appoint a Quality Manager Submit proposed Quality System for SO's consent Submit QSSP for approval of the SO Maintain & update Quality System	21	21 14DEC07A			EP08A	2	as per SCC9, SCC10 & SCC45
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Submit proposed Quality System for SO's consent 28 24 4EC07A 2JAN08A 14DEC07A 2JAN08A 2 Within 28 days Submit OSSP for approval of the SO 28	Submit proposed Quality System for SO's consent Submit QSSP for approval of the SO Maintain & update Quality System	14	280		8DEC07A 02J	ANOBA	2	as per SCC 74 within 14 days of DOC
Submit GSFP for approval of the SO 28 28 BEC07A 14MAR08A 2 34Mit avoid the SO Maintain & update Quality System 1,802 1,802 1,802 25JAN08A 31DEC12 25JAN08A 15JAN13 2 364 Maintain & update Quality System 1,802 1,802 25JAN08A 31DEC12 25JAN08A 15JAN13 2 364 Maintain & update Duality System 1,802 1,802 21,802 21,802 25JAN08A 15JAN13 2 364 444 Nominate Environmental Officer 14 </td <td>Submit QSSP for approval of the SO Maintain & update Quality System</td> <td>-</td> <td>140</td> <td></td> <td></td> <td>ANOBA</td> <td>2</td> <td>Ewithin 28 days of LOA</td>	Submit QSSP for approval of the SO Maintain & update Quality System	-	140			ANOBA	2	Ewithin 28 days of LOA
Maintain & update Quality System 1,802 1,802 1,802 1,802 1,802 1,802 1,802 1,802 1,802 1,802 1,802 1,802 25JAN08A 31DEC12 25JAN08A 18JAN13 2 364 Pertor Nominate Environmental Officer 14 14 14DEC07A 21DEC07A 21DEC07A 2 Pertor Peror Pertor Peror <td>Maintain & update Quality System</td> <td>╞</td> <td>28D</td> <td>-</td> <td>-</td> <td>AR08A</td> <td>2</td> <td>Ewithin 28 days of DOC</td>	Maintain & update Quality System	╞	28D	-	-	AR08A	2	Ewithin 28 days of DOC
Mominate Environmental Officer 14 14 14 BCO7A 21DEC07A 21DEC07A 21DEC07A 22 Peer Notes to Ten Establish a billing account for disposal 21 21 21 21 21 21AN08A 14DEC07A 21AN08A 2 Peer Notes to Ten Submit draft EMP 21 21 21 21 14DEC07A 02JAN08A 2 Peer Notes to Ten Submit draft EMP 21 21 21 21 21 22 2 Peer Notes to Ten Revise draft EMP within 7 days of SO's notice 21 14 04 04JAN08A 21FEB08A 04JAN08A 21FEB08A 2 Peer Notes to Ten Revise draft EMP within 7 days of SO's notice 14 0 04JAN08A 21FEB08A 21FEB08A 2 2 Peer Notes to Ten Revise draft EMP monthly 1,768 1,768 28JAN08A 31DEC12 28JAN08A 2 2 2 2 2 2 2 2 2 2 2 2 2		+	25.1		-	AN13	+-	
Nominate Environmental Officer141414 DEC07A21DEC07A21DEC07A21DEC07A221DEC07A22 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
14 14 14DEC07A 21DEC07A 14DEC07A 21DEC07A 23DEC07A 23DEC05A 23DEC05	at the second						3	
21 21 14DEC07A 02JAN08A 14DEC07A 02JAN08A 22 eper Notes to Ten 21 21 21 14DEC07A 02JAN08A 14DEC07A 02JAN08A 2 eper Notes to Ten 45 21 14DEC07A 02JAN08A 21FEB08A 04JAN08A 2 esper SCC69, within 21 45 45 45 14DEC07A 21FEB08A 04JAN08A 21FEB08A 23 esper SCC69 1,769 1,769 21,769 21,760 21FEB08A 14DEC07A 21FEB08A 18JAN13 2 364 21 21 14DEC07A 21FEB08A 14DEC07A 21AN08A 2 364 21 21 14DEC07A 21AN08A 18JAN13 2 364 21 21 21 14DEC07A 02JAN08A 18JAN08A 2 160 tapproval of tapprova	Nominate Environmental Officer	14	140			EC07A	2	tas per ER B.1 Clause 1.74A1(2)
21 21 14DEC07A 02JAN08A 14DEC07A 02JAN08A 14DEC07A 02JAN08A 21FEB08A 2 SCC69, within 21 14 14 14 04JAN08A 21FEB08A 21FEB08A 2 2 SCC69, within 21 45 45 14DEC07A 21FEB08A 14DEC07A 21FEB08A 2 as per SCC69 1,769 1,769 28JAN08A 31DEC12 28JAN08A 14DEC07A 21FEB08A 2 as per SCC69 21 21 14DEC07A 21FEB08A 14DEC07A 21FEB08A 18JAN13 2 364 21 21 21 14DEC07A 02JAN08A 14JAN08A 2 364 21 21 14DEC07A 02JAN08A 14JAN08A 2 364 365 21 21 21 14DEC07A 02JAN08A 14JAN08A 2 364 365 21 21 21 18JAN08A 02JAN08A 2 364 367 367 364	Establish a billing account for disposal	21	140	-		AND8A	2	ther Notes to Tenderer (AA)
14 14 04JAN08A 21FEB08A 04JAN08A 21FEB08A 21FEB08A 2 =as per SCC69 45 45 45 14DEC07A 21FEB08A 14DEC07A 21FEB08A 12 =as per SCC69 1,769 1,769 1,769 23JAN08A 31DEC12 28JAN08A 14DEC07A 21FEB08A 12 364 21 21 21 14DEC07A 02JAN08A 14DEC07A 02JAN08A 136 =as per SCC69 21 21 21 14DEC07A 02JAN08A 14DEC07A 02JAN08A 2 364 21 21 21 14DEC07A 02JAN08A 14DEC07A 02JAN08A 2 364 21 21 21 14DEC07A 14DEC07A 13JAN08A 2 40 the approval of the	Submit draft EMP	21	14[+		ANO8A	0	
45 45 45 14DEC07A 21FEB08A 14DEC07A 21FEB08A 2 Cas per SCC69, 1,769 1,769 21,769 31DEC12 28JAN08A 14DEC07A 21FEB08A 2 364 21 21 14DEC07A 02JAN08A 14DEC07A 02JAN08A 18JAN13 2 364 21 21 14DEC07A 02JAN08A 14DEC07A 02JAN08A 2 364 21 21 21 14DEC07A 02JAN08A 14DEC07A 02JAN08A 2 364 21 21 21 23 04 18JAN08A 2 2 4to tapproval of up to totaproval of up totaproval of up to totaproval of up to totaproval of up to totaproval of up to totaproval of up totaproval of	Bevice draft EMP within 7 days of SO's notice	14	04.			FBD8A	0	
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21 21 14DEC07A 02JAN08A 14DEC07A 02JAN08A 2 to the approval of the spinoval of t	Review/update/submit EMP monthly					AN13	-	
21 21 28DEC07A 18JAN03A 28DEC07A 18JAN03A 2 for approval of the SO ule 21 21 18JAN03A 31JAN03A 31JAN03A 2 for approval of the SO 37 37 37 11FEB03A 20MAR03A 11FEB03A 20MAR03A 2 for approval of the SO 20 20 20 20MAR03A 21FEB03A 20MAR03A 2 for approval of the SO	Employ IET	21	14			AN08A	2	to the approval of the SO
ule 21 21 18JAN08A 31JAN08A 31JAN08A 21AN08A 21AN08A 2 37 37 11FEB08A 20MAR08A 11FEB08A 20MAR08A 2 2 20 20 20 210 21MAR08A 28MAR08A 21MAR08A 2 2 2	Submit Baseline Monitoring Plan	21	28L			AN08A	2	the SO
37 37 11FEB08A 20MAR08A 11FEB08A 20MAR08A 2 20 20 20 21MAR08A 28MAR08A 2 2	Seek for EPD's Agreement on WQML & schedule	21	21 18JAN08A	31JAN08A 1		AN08A	2	
20 20 21MAR08A 28MAR08A 21MAR08A 28MAR08A 2	Carry out baseline monitoring	-	37 11FEB08A	20MAR08A 1		IAR08A	2	
	Prenare/submit reports for baseline monitoring	-	20 21MAR08A	-		IAROBA	2	for approval of the SO
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Page 70 of 125

2	Activity Description	Dur	Dur Dur	Start	Finish	Start	Finish	3 9	Float			
17R0000902	Fulfill all relevant environmental obligation	1,800	1,800 1,800	28DEC07A	31DEC12 28DEC07A 18JAN13	SDEC07A	18JAN13	2	364			
vation F	Excavation Permit/Utilities per SCC 54 & SCC 83											
01R0001002	Nominate IIUMS co-ordinator	7	17	14DEC07A	15JAN08A 14DEC07A		15JAN08A	2	i u	as per SCC83; v	as per SCC83; within 7 days of LOA	
01R0001004	SO approve IIUMS co-ordinator	14	14	16JAN08A	29FEB08A 16JAN08A	16JAN08A	29FEB08A	2	-	8		1
01R0001006	Submit brand name of UGS detection equipment	7	7	28DEC07A	18FEB08A 28DEC07A	SDEC07A	18FEB08A	2	-	as per ER.B1 1	159; within 7 days of DOC	
01R0001008	Utilities detection & report to the SO	21	21	29FEB08A	05APR08A 29FEB08A	SPEB08A	05APR08A	8		u		
01R0001010	Liaison with UUs	24	21	04JAN08A	29FEB08A 04JAN08A	14JAN08A	29FEB08A	8		n		
01R0001012	Apply XP for site entrance construction	2	2	21JAN08A	08MAR08A 21JAN08A	1JAN08A	08MAR08A	2		0		-
01R0001014	HyD process XP for site entrance construction	20	20	10MAR08A	28MAY08A 10MAR08A	IOMAR08A	28MAY08A	8	loes	U	ER.B1 1.18A3(1), not less than 17 working days	g days
01R0001016	HyD issue XP for site entrance construction	0	0		28MAY08A		28MAY08A	2		\$		
01R0001018	Apply XP for GI works at I-1 & I-2	-	٣	22APR08A	20MAY08A 22APR08A	22APR08A	20MAY08A	2				
01R0001020	HyD process XP for GI works at I-1 & I-2	30	30	23APR08A	26SEP08A 23APR08A	33APR08A	26SEP08A	8				
01R0001022	HyD issue XP for GI works at I-1 & I-2	0	0		26SEP08A		26SEP08A	÷		٠		
01R0001024	Apply XP for trial grout at Fault F1	÷	+	22APR08A	20MAY08A 2	22APR08A	20MAY08A	2		=		
01R0001026	HyD process XP for trial grout at Fault F1	30	30	23APR08A	22JUL08A 2	23APR08A	22JUL08A	2		1		
01R0001028	HyD issue XP for trial grout at Fault F1	0	0		22JUL08A		22JUL08A	Ŧ		•		
onstruc	Pre-construction Condition Survey											2
Preliminaries												
01R0001102	Appoint a Qualified Structural Engineer	30	30		19MAR08A 28DEC07A	28DEC07A	19MAR08A	2	-	as per ER. B1	1.61;	1
01R0001104	Submit nos. & extent of the affected EBS	30	99	28DEC07A	28DEC07A 19MAR08A 28DEC07A		19MAR08A	N		as per ER. B1	1.61; within 30 days of DOC	
PCS Stage 1 b	between I-1 & I-2											80
01R0001118	Carry out stg 1 PCS between I-1 & I-2	9	9	22APR08A	23APR08A 22APR08A	22APR08A	23APR08A	2				
01R0001120	Prepare/submit reports for stg 1 PCS bet I-1&I-2	60	60		22SEP08A 24APR08A	24APR08A	22SEP08A	2	2			
01R0001122	Review/accept reports for stg 1 PCS bet I-1&I-2	60	60	31MAY08A	20JAN09A 31MAY08A	31MAY08A	20JAN09A	2				
tage 1 b	PCS Stage 1 between H2 & H3											
01R0001130	Carry out stg 1 PCS between I-2 & I-3	2	5	25MAR08A		25MAR08A	30APR08A	2				
01R0001132	Prepare/submit reports for stg 1 PCS bet I-2&I-3	60	60	24APR08A		24APR08A		2	-			
01R0001134	Review/accept reports for stg 1 PCS bet I-2&I-3	60	60	24MAY08A	04FEB09A 24MAY08A	24MAY08A	04FEB09A	8				
PCS Stage 1 b	between I-3 & O-1											
01R0001142	Carry out stg 1 PCS between I-3 & O-1	ۍ ۱	5	25MAR08A	26MAR08A 25MAR08A	25MAR08A	26MAR08A	2				-
01R0001144	Prepare/submit reports for stg 1 PCS bet I-3&0-1	60	60	26MAR08A	11SEP08A 26MAR08A	26MAR08A	11SEP08A	N				
01R0001146	Review/accept reports for stg 1 PCS bet I-3&0-1	60	60		31MAY08A 04FEB09A 31MAY08A	31MAY08A	04FEB09A	N	+ 1	1		
PCS Stage 1 al	at vicinity of O-1											
	Carry out stg 1 PCS at vicinity of O-1	ນ	5		25MAR08A 29MAR08A 25MAR08A 29MAR08A	25MAR08A	29MAR08A	2				
01R0001108	Prepare/submit reports for stg 1 PCS at O-1	60	60	60 31MAR08A	10SEP08A 31MAR08A	31MAR08A	10SEP08A	N		1		
01R0001110	Review/accept reports for stg 1 PCS at O-1	60	60	60 27MAY08A	09FEB09A 27MAY08A	27MAY08A	09FEB09A	N				
stade 2 b	PCS Stage 2 between i-1 & I-2											
01R0001124	Carry out stg 2 PCS between I-1 & I-2	on ا	S	22APR08A	02JUN08A 22APR08A	22APR08A	02JUN08A	8				-
01R0001126	Prepare/submit reports for stg 2 PCS bet I-1&I-2	60	60	24APR08A	10JUN08A 24APR08A	24APR08A	10JUN08A	2		n		
		~~	00	A 11 INIONA	DOFERDOA 11 INDRA	V BUILDEN	OCCUDINA	¢				a S

Sheet 4 of 58

Page 71 of 125

	ß	5 30APR08A	07JUN08A 30APR08A	R08A 07JUN08A	JUN08A 2		1		
Prepare/submit reports for stg 2 PCS bet I-2&I-3 Review/accept reports for stg 2 PCS bet I-2&I-3	8 8	60 02MAY08A 60 13JUN08A	12JUN08A 02MAY08A 09FEB09A 13JUN08A	Y08A 12JUN08A V08A 09FEB09A	A 2 A 2				
Neen I-3 & O-1 Carry out stg 2 PCS between I-3 & O-1 Prepare/submit reports for stg 2 PCS bet I-3&O-1	5 09	5 09MAY08A 60 04JUN08A	13JUN08A 09MAY08A 18JUN08A 04JUN08A	Y08A 13JUN08A V08A 18JUN08A	0 0 0		u		
review accept reports to sig 2 roo bet room. clinity of 0-1 Carry out stg 2 PCS at vicinity of 0-1 Prepare/submit reports for stg 2 PCS at 0-1	8 13 8				_				
PIRCOULTION REVIEW ACCEPTING OF A STOUT OF A	3 33	9016	144 House and 1993				0"		
Pre-const. condition structural survey; I-2 01R0001158 Prepare/submit reports for EBS at I-2 01R0001160 Review/accept reports for EBS at I-2	58 58 F	1.4.4.4					0.0		
Pre-const. condition structural survey; I-3 01R0001162 Prepare/submit reports for EBS at I-3 01R0001164 Review/accept reports for EBS at I-3	28 28	28 28AUG08A 28 12JAN09A	a 10JAN09A 28AUG08A 24MAR09A 12JAN09A	G08A 10JAN09A V09A 24MAR09A	MA 2 9A 2		0		
Pre-const. condition structural survey: O-1 01R0001166 Prepare/submit reports for EBS at O-1 01R0001168 Review/accept reports for EBS at O-1 Pre-const. condition structural survey; Tunnel	58 58	28 28AUG08A 28 12JAN09A	28AUG08A 10JAN09A 28AUG08A 10JAN09A 12JAN09A 24MAR09A 12JAN09A 24MAR09A						
Prepare/submit reports for EBS along Tunnel alig Review/accept reports for EBS along Tunnel align	58	28 28AUG08A 28 16JAN09A	28AUG08A 15JAN09A 28AUG08A 16JAN09A 10JUN09 16JAN09A	G08A 15JAN09A N09A 10JUN09	N N	-16	0		
Appoint Traffic Consultant/Traffic Engineer Eng's Approval of Traffic Consultant Prepare/submit TTA Schemes (ingress & egress) Obtain endorsement of TTA schemes from TMLG Approval of TTA schemes by the Authorities Approval of TTA schemes by the Authorities	14 7 21 14 14	14 14DEC07A 7 28DEC07A 14 04JAN08A 21 04JE008A 14 02APR08A 14 02APR08A	03JAN08A 28FEB08A 31JAN08A 01APR08A 19APR08A 19APR08A	14DEC07A 03JAN08A 28DEC07A 03JAN08A 28DEC07A 28FEB08A 04JAN0BA 31JAN08A 04JAN0BA 31JAN08A 04JAN0BA 11JAN08A 01FEB08BA 01APR08A 02APR08A 19APR08A 02APR08A 19APR08A	8A 2 3A 2 3A 2 8A 2 8A 2 8A 2 8A 2		 This is a second of the second	heduled on 11/03/081st TMLG was held on ER.B1 1.15 (9) refers ER.B1 1.15 (9) refers	12/02/08
Management of Sub-contractors as per SCC 44 01R0001302 Submit a Sub-contractor Management Plan 01R0001304 Submit Outstretty the Undated SMP	30 30 1642 1642	14C	DEC07A 12JAN08A 14DEC07A 12JAN08A 14DEC07A 12JAN08A 14DEC07A 12JAN08A 14DEC07A 12JAN08A	COTA 12JAN08. L08A 18JAN13	2 2 8 2	364	ewithin 30 days of LOA		Per SCC 44 (*
Trees Siu Ho Wan as a New Tree Transplanting Area V0028-02 Receive V028 for new tree transplanting area	0				4		 Area Within Sul Ho Wan Sewage Treatment Works 	Sewage Treatment Work	

	Description	Dur	Dur	Start	Finish	Start	Finish	D FI	Float			
V0028-04	Preparation works for new T.T. area	20	20	8A	07SEP08A 18AUG08A		07SEP08A					
				-								
01R0001502	Appoint Landscape Specialist Contractor	14	14	14 14DEC07A	14JAN08A 14DEC07A		14JAN08A	2	0			
01R0001504	SO's Approval of Landscape Contractor	7	2	15JAN08A	28FEB08A 15JAN08A	1	28FEB08A	2	0			
01R0001506	Nominate competent person to oversee tree works	45	45.	14DEC07A	29JAN08A 14DEC07A	<u> </u>	29JAN08A	12	ERB	3 26.02A; w	ERB 26.02A; within 45 dyas of LOA	
01R0001510	Obtain Tree Removal Permit by Others	06	06	28DEC07A	06MAR08A 28DEC07A	-	06MAR08A	2	ER	1.5.3 (2);	ER 1.5.3 (2); within 3 mths from DOC	
01R0001512	Remove / Transplant Trees start	0	0	08SEP08A	ŏ	08SEP08A		2	10	ØER 1.5	ER 1.5 3(2) within 3 months from DOC	DOC
Survey												
01R0001602	Appoint Surveyors	14	14	28DEC07A	10JAN08A 28DEC07A		10JAN08A	2	•			
01R0001604	SO's Approval of Surveyor	7	2	11JAN08A	16APR08A 11JAN08A		16APR08A	2	0			
01R0001608	Initial Survey	28	28	18JAN08A	10MAR08A 18JAN08A	-	10MAR08A	÷	11			
01R0001610	Maintain & carry out survey works	1,378 1,378		23FEB08A	07DEC12 2:	23FEB08A	18JAN13	2	0			
Smart Card	System as per ER B.30											
01R0001802	Submit Smart Card Sys for SO's Approval	7	1	8DEC07A	28DEC07A 15JAN08A 28DEC07A		15JAN08A	2	As pi	er ER.B30	As per ER.B30 30.06(2)SOR.s approval obtained on 13/02/08	btained on 13/02/08
01R0001804	Install & start Operating Smart-Card System	60	60	60 28DEC07A	23FEB08A 28DEC07A	-	23FEB08A	2	n			
01R0001806	Operate & Maintain Smart-Card System	1,771	1.771 1.771	25FEB08A	30NOV13 25FEB08A		11JAN14	2	0			
remen	Procurement of Sub-contractor											
0010001001	Condi Dicensed	G.	Ug		27MAPD64 28ALIG084		27MAP/19A	0				
0150001904	Spoil Dispusal	3					DE IL INDRA	4 0		of herrene	Kin i pa	
1300		8	0	400004	VOONOCO			v (awainen in	-	
01R0001910	Re-bar Supply	8	8	14DEC0/A	30MAY08A 14DECU/A	-	SUMAYUSA	N		awarded to	2	
01R0001912	Soil Nailing	60	99	28DEC07A	02APR08A 28DEC07A		02APR08A	5	0 	Geotech Eng		
01R0001914	H-piling Works	6	8	4DEC07A	90 14DEC07A 09MAY08A 14DEC07A		09MAY08A	7		awarded to I	Hin Wing	
01R0001916	Fabrication of Pre-cast Lining	80	80	02JUN08A	05JAN09A 02JUN08A		05JAN09A	2				
01R0001920	Drainage/Road Works for Access Road at I-3	60	60	08AUG08A	03NOV08A 08AUG08A		D3NOV08A	2		King Shing	Sning	
01R0001922	Temp. steel decking over Shing Mun Nullah at I-1	80	66	14DEC07A	25APR08A 14DEC07A		25APR08A	2		awarded to L	Long Faith	
01R0001924	Design/Install Communication System	344	344	28JUN08A	26JUN09 2	28JUN08A	26JUN09		356			
01R0001925	Design/install Flow Monitoring Devices	78	78	14JUL08A	01AUG08A 14JUL08A	1.3	01AUG08A	2		awarded	awarded to Soldata	
01R0001936	Procurement & delivery of Communication System	180	180	06DEC09	03JUN10 06DEC09		03JUN10		356			
01R0001938	Procurement/delivery of Flow Measurement Devices	120	120	110CT09	07FEB10 1	110CT09	07FEB10	2 5	501		1	
01R0018A02	Supply TBM/Main Tunnel Construction	2	2	14DEC07A	21DEC07A 14DEC07A		21DEC07A	2	awad	awaded to Seli		
01R0018A04	Security	17	17	17DEC07A	02JAN08A 17DEC07A		02JAN08A	2	-			
01R0018A06	Progress Photo/Vedio	25	25	29DEC07A	22JAN08A 29DEC07A		22JAN08A	3				
01R0018A08	Webpage/Physical Model/3D Animation	48	48	48 14DEC07A	14FEB08A 14DEC07A		14FEB08A	2	awa	awarded to Inte	elibuild	
01R0018A10	Hoarding/Fencing Erection	60	60	04JAN08A	03MAR08A 04JAN08A	1.00	03MAR08A	2	-aw	awarded to Ch	h Yau	
01R0018A12	Erection of Contractor's Office	67	67	28DEC07A	03MAR08A 28DEC07A	-	03MAR08A	2	me aw	awarded to Mir	ing Kee	
01R0018A14	Remote Control CCTV	60	60	60 04JAN08A	03MAR08A 04JAN08A	1	03MAR08A	2	aw.	awarded to Pil		
01R0018A16	Concrete Supply	45	45	14DEC07A	11MAR08A 14DEC07A		11MAR08A	N	HA I	Anderson		
01R0018A18	Geotechnical Instrumentation	60	60	15JAN08A	14MAR08A 15JAN08A	1	14MAR08A	2	we aw	awarded to Soldata	oldata	
						L	日本の日日の日本	10.000				

Sheet 6 of 58

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Page 73 of 125

Internet (2) Internet (2)<	٩	Activity Description	Dod	Dur Dur	AD04 Start	AD04 Finish	Clean	WP3D Finish		Float	8	6002	2010	011	012 2013
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	018A22	Site Clearance	60	60		25MAR08A 26	SJAN08A	25MAR08A	N		awarded to	King Shing			
63 Carry for fail fail fail fail fail fail fail fail	018A24	Erection of SOR's Office	95	95		05APR08A 02	2JAN08A	05APR08A	2		awarded to				
Busine Sympositic Symposint Sympositi Sympositic Sympositic Sympositic Symp	018A26	Carry out Grout Trial at Fault F1	6	06	02APR08A	30JUN08A 02	2APR08A	30JUN08A	2		awarded				
000 Destruction (Sin Wild) 0 0 0.10000000 0.100000 0.1000000 0.1000000 0.1000000 0.10000000 0.100000000 0.1000000000 0.100000000000000000000000000000000000	018A28	Design/Fabricate Segmental Lining Mould	6	06		21JUL08A 23	3APR08A	21JUL08A	10		awarded	I to Korea M	ould		
0.00 Support (according and (according according a	018A30	Construction of Skin Walls	66	06		03JAN09A 2	1JUL08A	03JAN09A	2		M		ction	82	
64 5800 01 Chromone 50 61 Chromone 21 Chromone 22 Chr	018A32	Design/Fabricate/Supply/Install Conveyor Belt	06	06		05JAN09A 14	4JUL08A	05JAN09A	2						100
0.00 Control of Super Pinform 0.00 Control Pinform 0.00 Control Pinform 0.00 Control Oper Pinform 0.00 Control Pinform Control Pinform	018A34	Supply of Locomotive	6	06	14JUL08A	100CT08A 14	4JUL08A	100CT08A	7		Scho	na			
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	018A36	Excavation Works at I-1	60	60		21JAN09A 28	BAUG08A	21JAN09A	6		a	ded to C			
0 Controller of Self Internet 2 3<	018A38	Construction of Steel Platform at O-1	5	50		14MAR09A 28	BAUG08A	14MAR09A	7		1				100
According Construction of Tex National Control Display of Tex National Control <th< td=""><td>018A40</td><td>Construction of Steel Platform at I-2</td><td>20</td><td>50</td><td></td><td>27DEC08A 28</td><td>SAUG08A</td><td>27DEC08A</td><td>~</td><td></td><td>Ch</td><td>~</td><td></td><td></td><td></td></th<>	018A40	Construction of Steel Platform at I-2	20	50		27DEC08A 28	SAUG08A	27DEC08A	~		Ch	~			
444 Communication of Subgrade Structures 70 7 7 7 7 2 <td>018A42</td> <td>Pre-excavation Grouting for Shaft Excavation</td> <td>60</td> <td>60</td> <td></td> <td>11MAR09A 28</td> <td>SAUG08A</td> <td>11MAR09A</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	018A42	Pre-excavation Grouting for Shaft Excavation	60	60		11MAR09A 28	SAUG08A	11MAR09A	2						
4000 Communication by (COD 81-2) 233 240/050h 260/050h 260/050h <td>018A46</td> <td>Excavation/Construction of TBM Launching Chamber</td> <td>20</td> <td>70</td> <td></td> <td>18DEC08A 28</td> <td>SAUG08A</td> <td>18DEC08A</td> <td>2</td> <td></td> <td>US</td> <td>-</td> <td></td> <td></td> <td></td>	018A46	Excavation/Construction of TBM Launching Chamber	20	70		18DEC08A 28	SAUG08A	18DEC08A	2		US	-			
0.00 Dearling formation by RCD at 1,3 D	018A48	Construction of Subgrade Structure at I-1	333	333		-	BAUG08A	26JUL09	2	186					
6.25 Decondent/Construction of Shaftwork (Channelss) 90 91 24.0000A SMMMORD A 2 MMMORD A MMMORD A <t< td=""><td>018A50</td><td>Shaft Excavation by RCD at I-2</td><td>6</td><td>06</td><td></td><td>26NOV08A 28</td><td>3AUG08A</td><td>26NOV08A</td><td>2</td><td></td><td>Lon</td><td>go Piling</td><td></td><td></td><td>2002 2004</td></t<>	018A50	Shaft Excavation by RCD at I-2	6	06		26NOV08A 28	3AUG08A	26NOV08A	2		Lon	go Piling			2002 2004
646 Construction of Hopper et C.1 90 91 24M/GGA 3-M/MGA	018A52	Excavation/Construction of Shafts/Adits/Chambers	06	06	28AUG08A	26MAR09A 28	3AUG08A	26MAR09A	N			5			
66.6 3 autoria di Sjata Ramp	018A54	Construction of Hopper at O-1	6	06		31JAN09A 28	BAUG08A	31JAN09A	2		in a	warded to Mi	littech	-	
636 Open Cut Ecconation 6 Construction at 13 0 3 2 AUOG0A 5 AUOG0A 5 AUOG0A 5 AUOG0A 5 AUOG0A 5 AU 5 AU 640 1 Image 7 Au 7 Au 7 Au 7 Au 7 Au 7 Au 641 1 Unred Class Management System (TMS) 90 90 2 AUOG0A 2 AUNC0A 2 AUNC0A 2 AU 7 Au 642 Supply of Ral Treex. 90 90 2 AUOG0A 2 AUNC0A 2 AUNC0A 2 Au 643 2 AUO 2 AU 2 AUOG0A 2 AUNC0A 2 AUNC0A 2 AU 2 AU 644 6400 V 2 AUNC0A 2 AUNC0A 2 AUNC0A 2 AUNC0A 2 AUNC0A 2 AUNC0A 7 AU Maal Vicina 2 AU 2 AUNC0A 2 AUNC0A 2 AUNC0A 2 AUNC0A 2 AUNC0A 2 AUNC0A 7 AU Maal Vicina 2 AUNC0A	018A56	Suttering of Spiral Ramp	233				BAUG08A	26JUL09	6	200		-			
0000 Image frames/and system (TUMS) 23 23 234U0034 534U0034 534U0034 534U0034 534U0034 534U0034 534U0334 534U0334 534U0334 534U0334 534U0334 534U0334 534U0334 534U033 534U0334 534U033 534U0334 534U033 534U133 5 545 61 0 0 0 0 234U03 265E903 104 2 166 74 Finaling Vindia <t td=""> Finaling Vindia<t td=""> 2</t></t>	118A58	Open Cut Excavation & Construction at I-3	90	06		02MAY09A 28		02MAY09A	0			-			
off Turnel Data Management System (TDMS) 90 02 24MC06A 50AFF06A 23ML06AB 23ML06AB <td>118A60</td> <td>Lining Formworks for Underground Structures</td> <td>233</td> <td>233</td> <td></td> <td></td> <td></td> <td>05AUG09</td> <td>2</td> <td>137</td> <td></td> <td></td> <td></td> <td></td> <td>5.03</td>	118A60	Lining Formworks for Underground Structures	233	233				05AUG09	2	137					5.03
AB2 Supply of Fail Tack. 500 27000000000000000000000000000000000000	18A61	Tunnel Data Management System (TDMS)	66	90		03APR09A 28		03APR09A	N						
646 Supply of Agregata 720 275 285 3.41U03 254.1013 254.1013 254.10	118A62	Supply of Rail Track	66	06		26MAR09A 28	8AUG08A	26MAR09A	7						
6000000000000000000000000000000000000	18A64	Supply of Aggregate	120				SFEB09A	28JUL09	N	-64		₽			
AT0 Meal Works Meal Works <td>18A68</td> <td>Construct Box Culvert/Cascade/Spiral Ramp at O-1</td> <td>200</td> <td></td> <td></td> <td></td> <td>SFEB09A</td> <td>16SEP09</td> <td></td> <td>566</td> <td></td> <td>ŀ</td> <td></td> <td></td> <td></td>	18A68	Construct Box Culvert/Cascade/Spiral Ramp at O-1	200				SFEB09A	16SEP09		566		ŀ			
472 Preparation from the Undained from the U	18A70	Metal Works	200	200				160CT09	N	593					
474 Finishing Works 250 250 251	18A72	Pipe Jacking Works at Lo Wai	250					16OCT09	ы	301					
Submit Contractor's Management Team 0 0 10JAN0BA 10JAN0BA 2 Per SCC 74 383 Submit Photographer for Monthly Progress Photo 0 0 2JAN0BA 2JAN0BA 2 APPer SCC 74 383 Insult Photographer for Monthly Progress Photo 0 0 2JAN0BA 2JAN0BA 2 APPer SCC 74 383 Insult PhotoGrapher for Monthly Progress Photo 0 2JAN0BA 2BIAN0BA 2 APPer SCC 74 383 Insult PhotoGrapher for Monthly Progress Photo 0 0 2JAN0BA 2BIAN0BA 2 APPer SCC 74 383 Presentation of TDMS to SOR/Employer, ER 4.4.6 6 0 0 1NOV11 0FEB12 2DEC11 2 MAY0B 2 MAY0BA	18A74	Finishing Works	250	-	28FEB09A	_		05DEC09	3	549					200
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Ito 0 28JAN03A 28JAN13A 28JAN13 27JAN13 28JAN13 27JAN13 28JAN13 27JAN13 28JAN13 27JAN13 28JAN13 27JAN13 28JAN13 27JAN13 28JAN13	01928	Submit Contractor's Management Team	0	0				10JAN08A	N	•	er SCC 74				
0 30 30 28FEB09A 29MAY09 28FEB09A 29MAY09 28FEB09A 29MAY09 20MAY09A 20MAY08A 20MAY08A 20MAY08A 17FEB13 2 29B 20MA 20MA <t< td=""><td>01930</td><td>Submit Photographer for Monthly Progress Photo</td><td>0</td><td>0</td><td>28JAN08A</td><td></td><td>SJANOBA</td><td></td><td>2</td><td></td><td>er ER10.7</td><td></td><td></td><td>8</td><td>1000</td></t<>	01930	Submit Photographer for Monthly Progress Photo	0	0	28JAN08A		SJANOBA		2		er ER10.7			8	1000
I.4.6 6 5 27MAR09A 06MAY09A 27MAR09A 06MAY09A 2 unnel excavation-fresentation of the TDMS to the S0 & DSD bero Jal 90 90 11NOV11 08FEB12 23DEC11 21MAR12 2 691 most excavation-fresentation of the TDMS to the S0 & DSD bero 90 90 90 11NOV11 08FEB12 23DEC11 21MAR13 13JAN13 18APR13 2 289 ER4.4.12 30 90 90 08DEC12 06JAN13 13JAN13 17FEB13 2 358 ER4.4.12 as per ER4.4.12 7 30 08DEC12 06JAN13 13JAN13 17FEB13 2 358 ER4.4.12 as per ER4.4.12 7 7 7 7 7 2 358 ER4.4.12 as per ER4.4.12 6 6 12APR08A 17FEB13 2 358 ER4.4.12 as per ER4.4.12 7 2 2 3 2 3 2 2 2 2 2	01932	Install Project Signboards at Potions A,B,C & D	30	30	28FEB09A	29MAY09 28	SFEB09A	29MAY09	N						
Jal 30 90 11NOV11 08FEB12 23DEC11 21MAR12 2 691 90	01934	Presentation of TDMS to SOR/ Employer, ER 4.4.6	Q	Ø	27MAR09A	D6MAYD9A 27	7MAR09A	06MAY09A	2	auun	l excavation		n of the TDMS	to the SO &	DSD before
90 90 08DEC12 07MAR13 19JAN13 18APR13 2 298 as per ER4.4.12m 30 30 08DEC12 06JAN13 19JAN13 17FEB13 2 358 as per ER4.4.12m 7 7 7 7 7 7 7 7 21 21 07APR08A 20AUG08A 07APR08A 20AUG08A	01940	Prepare/submit Operation & Maintenance Manual	6	6	11NOV11		3DEC11	21MAR12	N	691				Sa	er ER4.4.11
30 30 08DEC12 06JM13 19JM13 17FEB13 2 368 1 1 21 21 07AP08A 20AUG08A 07APR08A 20AUG08A 20AUG08A 2 adlP adlP adlP adlP 60 60 22MAY08A 130CT08A 20AUG08A 2 adlP	01942	Prepare/submit As-built Drawings	6	06	08DEC12	07MAR13 19	9JAN13	18APR13	N	298					4.4.12
7 21 21 07APR08A 20AUG08A 07APR08A 20AUG08A 2 2 7 1 1 1 1 1 1 1 1 </td <td>01944</td> <td>Produce 2 documentary video for tunnel</td> <td>30</td> <td>30</td> <td>08DEC12</td> <td>06JAN13 19</td> <td>9JAN13</td> <td>17FEB13</td> <td>3</td> <td>358</td> <td></td> <td></td> <td></td> <td></td> <td>BER 4.4.13</td>	01944	Produce 2 documentary video for tunnel	30	30	08DEC12	06JAN13 19	9JAN13	17FEB13	3	358					BER 4.4.13
offs at Portion A (I-1) Z1 Z1 Z1 Z1 Z1 Z1 Z2 Z2 <td>struction</td> <td>Risk Assessment (CRA) as per ER 7</td> <td></td>	struction	Risk Assessment (CRA) as per ER 7													
Prepare/submit PCRA for works at I-1 21 21 07APR08A 20AUG08A 20AUG08A 2 Temperely submit DC review & certify PCRA for works at I-1 60 60 22MAY08A 13OCT08A 20AUG08A 2 TemPerely submit SOR review & accept PCRA at works at I-1 60 60 22MAY08A 13OCT08A 25SEP08A 2 2 2 GEO review & accept PCRA at works at I-1 50 60 12MAY08A 25SEP08A 2 2 2 GEO review/agree PCRA 28 210CT08A 03DEC08A 2 2 2 2 2 orks at Portion B (I-2) 28 210 210CT08A 03DEC08A 2	A for Works	s at Portion A (I-1)													
DC review & certify PCRA for works at I-1 60 60 22MAY08A 13OCT08A 23MAY08A 13OCT08A 2 ************************************	PCRA2	Prepare/submit PCRA for works at I-1	21	21	07APR08A	20AUG08A 07		20AUG08A	2		Ins AIP sul	nuission			
SOR review & accept PCRA at works at I-1 60 60 12MAY08A 25SEP08A 12MAY08A 2 7 7 GEO review/agree PCRA 28 310CT08A 09DEC08A 310CT08A 09DEC08A 2 7 7 orks at Portion B (I-2) 21 21 14APR08A 20AUG08A 14APR08A 20AUG08A 2 7 7	PCRA4	DC review & certify PCRA for works at I-1	60	60	22MAY08A	13OCT08A 22	2MAY08A	130CT08A	N		I				
GEO review/agree PCRA 28 28 310CT08A 09DEC08A 310CT08A 09DEC08A 2	PCRA6	SOR review & accept PCRA at works at I-1	60	60	12MAY08A		2MAY08A	25SEP08A	2		1		3	-	
orks at Portion B (I-2) Prepare/submit PCRA for works at I-2 21 21 14APR08A 20AUG08A 14APR08A 20AUG08A 2	PCRA8	GEO review/agree PCRA	28	28				09DEC08A	2		ER.				155) A 1
Prepare/submit PCRA for works at I-2 21 21 14APR08A 20AUG08A 14APR08A 20AUG08A 20AUG08A 2	A for Works	s at Portion B (I-2)													
	DPCRB2	Prepare/submit PCRA for works at I-2	21	21	14APR08A	20AUG08A 14	4APR08A	20AUG08A	2		Ins AIP sul	mission		1 K	13/34

Page 74 of 125

Sheet 7 of 58

01R00PCRB4 DC review & certify PCRA for w 01R00PCRB5 SOR review & accept PCRA at 01R00PCRB6 SOR review & accept PCRA at 01R00PCRB5 GEO review/agree PCRA PCRA for Works at Portion C (1-3) 01R00PCRC2 Prepare/submit PCRA for works 01R00PCRC4 DC review & accept PCRA at 01R00PCRC5 SOR review & accept PCRA at 01R00PCRC6 DC review & accept PCRA at 01R00PCRC8 DC review & accept PCRA at 01R00PCRC8 DC review & accept PCRA at 01R00PCRC9 DC review & accept PCRA at 01R00PCR09 DC review & accept PCRA at 01R00PCR04 DC review & accept PCRA at 01R00PCR05 Prepare/submit PCRA for works 01R00PCR05 SOR review & accept PCRA at 01R00PCR05 Prepare/submit PCRA for main 01R00PCR5 Prepare/submit PCRA for main	DC review & certify PCRA for works at I-2 SOR review & accept PCRA at works at I-2 GEO review/acree PCRA	99 69	60 22MAY08A	A 130CT08A 22MAY08A							
orts orts	iew & accept PCRA at works at I-2 iew/acree PCRA	80				130CT08A	7				
orts orts	iew/agree PCRA	3	60 22MAY08A	A 25SEP08A 22MAY08A		25SEP08A	2		1		
orts orts		28	28 31OCT08A	A 09DEC08A 310CT08A		09DEC08A	2		ER C	. 7.6.4	
orts orts	m C (I-3)										
orks orks	Prepare/submit PCRA for works at I-3	21	21 01APR08A	A Z0AUG08A 01APR08A	-	20AUG08A	2		AIP subn	ission	
orts orts	DC review & certify PCRA for works at I-3	60	60 21MAY08A	A 130CT08A 21MAY08A		13OCT08A	2		1		
orks or the state of the state	SOR review & accept PCRA at works at I-3	60	60 21MAY08A	A 255EP08A 21MAY08A		25SEP08A	2				
orks	GEO review/agree PCRA	28	28 31OCT08/	310CT08A 09DEC08A 310CT08A	E	09DEC08A	N	12-10	ER C	. 7.6.4	
orts	m D/E (0-1)										
orks	Prepare/submit PCRA for works at O-1	21	21 01APR08A	A 20AUG08A 01APR08A	1.1	20AUG08A	2		AIP subn	uission	
orks	DC review & certify PCRA for works at 0-1	60	60 21MAY08A	A 130CT08A 21MAY08A		130CT08A	0		1		
orks	SOR review & accept PCRA at works at 0-1	60	60 12MAY08A	A 25SEP08A 12MAY08A		25SEP08A	101		1		
orks	GEO review/agree PCRA	58	28 31OCT08	28 310CT08A 09DEC08A 310CT08A		09DEC08A	101		ER C	. 7.6.4	
	on F/J (Main Tunnel)										
	Prepare/submit PCRA for main tunnel works	21	21 09JUN08A	A 23APR09A 09JUN08A		23APR09A	2			uP submission	
	DC review & certify PCRA for main tunnel works	60	60 14JUL08A	60NUL80	14JUL0BA	08JUN09	ہ، ا	-77-	Į		
01R00PCRF6 SOR revi	SOR review & accept PCRA for main tunnel works	60	60 16JUL08A	16JUN09	16JUL08A	16JUN09	2	-78			
01R00PCRF8 GEO revi	GEO review/agree PCRA	28	28 28FEB09A	A 09JUN09 28FEB09A		60NNL60	2	0		ER Cl. 7.6.4	
DCRA for Works at Portion A (I-1)	vn A (i-1)										
01R00DCRA2 Prepare/s	Prepare/submit DCRA for works at I-1	14	14 020CT08A	A 270CT08A 020CT08A		270CT08A	2		DDA s	DDA submission	
01R00DCRA4 DC reviev	DC review & certify DCRA for works at I-1	21	21 28OCT08A	A 17FEB09A 28OCT08A		17FEB09A	2		1		
01R00DCRA6 SOR revi	SOR review & accept DCRA at works at I-1	49	49 05NOV08A	A 26MAR09A 05NOV08A	1	26MAR09A	2		1		
01R00DCRA8 GEO revi	GEO review/agree DCRA	28	28 28FEB09A	A 27MAR09A 28FEB09A		27MAR09A	2		E R	R Cl. 7.6.4	
DCRA for Works at Portion B (I-2)	on B (i-2)										
01R00DCRB2 Prepare/s	Prepare/submit DCRA for works at I-2	14	14 14OCT08A	00NUL20	140CT08A	02JUN09	2	0		DDA, submission	
01R00DCRB4 DC reviev	DC review & certify DCRA for works at I-2	21	21 05DEC08A	A 09JUN09 05DEC08A		60NUL60	2	0	1		
01R00DCRB6 SOR revi	SOR review & accept DCRA at works at I-2	49	49 10DEC08A	A 16JUN09 10DEC08A		16JUN09	8	7			
01R00DCRB8 GEO revi	GEO review/agree DCRA	28	28 10JUN09	07JUL09 10JUN09		07JUL09	2	0		ER Cl. 7.6.4	
DCRA for Works at Portion C (I-3)	on C (I-3)							N			
01R00DCRC2 Prepare/s	Prepare/submit DCRA for works at I-3	4	14 14OCT08A	03JUN09	14OCT08A	03JUN09	2	-59		DDA. submission	
01R00DCRC4 DC reviev	DC review & certify DCRA for works at I-3	2	21 31OCT08A	10JUN09	310CT08A	10JUN09	۲ ۵	-59			
01R00DCRC6 SOR revi	SOR review & accept DCRA at works at I-3	49	49 07NOV08A	17JUN09	07NOV08A	17JUN09	7	-59	1		
01R00DCRC8 GEO revi	GEO review/agree DCRA	28	28 11JUN09	08JUL09	11JUN09	08JUL09	2	0		ER Cl. 7.6.4	
DCRA for Works at Portion D/E (0-1)	M D/E (0-1)										
01R00DCRD2 Prepare/s	Prepare/submit DCRA for works at 0-1	14	14 03NOV08A	A 03JUN09 03NOV08A		03JUN09	2	-157		DDA submission	
01R00DCRD4 DC reviev	DC review & certify DCRA for works at O-1	21	21 15NOV08A	10JUN09	15NOV08A	10JUN09	2 -157	57			
01R00DCRD6 SOR revi	SOR review & accept DCRA at works at 0-1	49	49 15NOV08A	A 17JUN09 15NOV08A		17JUN09	2 -157	57			
	GEO review/agree DCRA	28	28 11JUN09	08JUL09 11JUN09		08JUL09	2	0		ER CI. 7.6.4	
DCRA for Works at Portion F/J (Main Tunnel)	n F/J (Main Tunnel)										
01R00DCRF2 Prepare/s	Prepare/submit DCRA for main tunnel works	21	21 14MAR09A	A 23JUN09 14MAR09A	-	23JUN09	2	-78		MDDA submission	
01R00DCRF4 DC reviev	DC review & certify DCRA for main tunnel works	21	21 24JUN09	14JUL09	24JUN09	14JUL09		-78			
01R00DCRF6 SOR revi	SOR review & accept DCRA for main tunnel works	49	49 24JUN09	11AUG09	24JUN09	11AUG09		-78			
01R00DCRF8 GEO revi	GEO review/agree DCRA	28	28 15JUL09	11AUG09	15JUL09	11AUG09	2	0		ER CI. 7.6.4	

sical Model			and the second se	Since State	1 CONTRACT	1000	FUISIN)	Float					
01R0002302 F	Physical Models & Other Material Display													
0002302 F									F					
0002304 F	Prepare/submit a physical models	255			27NOV08A 15FEB08A		27NOV08A	01	1	2	to the acceptan	acceptance of the SO		
rnet Websit	Prepare/submit a 3-D animation model	308	308	15FEB08A	27FEB09A 15FEB08A		27FEB09A	~			to he accep	tance of the SOas	he acceptance of the SOas per ER's Note 4.4.9	
	Internet Website as per ER 4.4.7													
01R0002402	Propose the design of web page	30	30	28DEC07A	09FEB08A 28DEC07A		09FEB08A	2		within 1 month	th from DOC			
	Produce the web page for approval of SO	211	211 1	211 10MAR08A	19FEB09A 10MAR08A		19FEB09A	N			within 2 mon	nin 2 months from DOC		
	SO's approval of web page	30	30	02JUN08A	24FEB09A 02JUN08A		24FEB09A	2						_
	Submit updated web pages monthly	1,433 1,433		25FEB09A	30NOV13 25FEB09A		11JAN14	2	30	8				up-
ledule of Mi	Schedule of Milestones for Cost Centre No. 1R													
										15				
01R0002501	1R 1: On provision of SO's Accommodation	0	0		13SEP08A		13SEP08A	N	-	accom		nodation for accupation as per	er App. ER.M	
	1R 2; On providing documents of effected CWI	0	0		03JAN08A		03JAN08A	N	•	Acare of the work	vortes insuran	s insurance has been effected	3	
	1R 3; On providing documents of effected TPI	0	0		03JAN08A		03JAN08A	2		Std party insura		nce has been effected		
	1R 4: On Pproviding documents of effected PII	0	0		03JAN08A		03JAN08A	0		P. I. Insurance	ce has been effected	effected.		
	1R 5; On delivery of all Land Transport for SO	0	0		02MAY08A		02MAY08A	.01		Iand transp		pert delivered for use of the SO	00	
01R0002506	1R 6; On install. of computer facilities for SO	0	0		13SEP08A		13SEP08A	N		♦comput		er facilities for use of the SO		
	1R 7; On accept. of detailed CRA incl. PCS	0	0		11AUG09		11AUG09	2	1,602		detail	Adetailed CRA incl. pre-condition survey	andition survey	
01R0002508	1R 8; On acceptance of Physical Model by the SO	0	0		27NOV08A		27NOV08A	2		¢	Pphysical mode	cal model completed as per ER 4.4.8	ER 4.4.8	
01R0002509	1R 9; On acceptance of 3-D Animation Model	0	0		27FEB09A		27FEB09A	2			♦3 D animat	D animation model completed as per ER 4.4.9	ed as per ER 4.4.9	
	1R 10; On satisf. operation of CCTV for 3 mth	0	0		17JUN09		17JUN09	100	1,657D 8	as per ER 4.4.10	310	Mor 3 mths of the remote CCTV intalled in	CTV intalled in	
01R0002511	1R 11; On acceptance of O&MM	0	0		08FEB12	. v	21MAR12	N	691		O&MM comp	MM completed as per ER 4.4.11	د ج	
01R0002512	1R 12; On acceptance of as-built drwgs.	0	0		07MAR13		18APR13	2	298		puilt	built drwgs. completed as per ER 4.4.124	as per ER 4.4.12	
01R0002513	1R 13; On acceptance of T.R/Video/Brouchure	0	0		06JAN13		17FEB13	~	358	tunnel report & v	& vedeo & bi	edeo & brocher submitted as perER 4.4.13*	s perER 4.4.13	
01R0002514	1R 14; On complete all wks for 3 mth frm DOC	0	0		27MAR08A		27MAR08A	8	1	of all obligation	gations by thi	ons by this C.S. 3-mths from DOC	DOC	
01R0002515	1R 15; On complete all wks for 6 mth frm DOC	0	0		27JUN08A		27JUN08A	8	-	 of all oblig 	bligations by	ations by this CS 6 mths from DOC	m DOC	
01R0002516	1R 15; On complete all wks for 9 mth frm DOC	0	0		25SEP08A		25SEP08A	2		of a	all coligations	of all obligations by this CS 9 mths from DOC	from DOC	
01R0002517	1R 17; On complete all wks for 12 mth frm DOC	0	0		27DEC08A		27DEC08A	2		•	of all obligation	I obligation by this CS 12 mths frm DOC	ths frm DOC	
	1R 18; On complete all wks for 15 mth fm DOC	0	ō		27MAR09A		27MAR09A	2			o df all oblig	f all obligations by this CS 15 mths frm DOC	5 mths frm DOC	
01R0002519	1R 19; On complete all wks for 18 mth frm DOC	0	0		26JUN09		26JUN09		1,163		of all ol	oligations by this C	♦ of all obligations by this CS 18 mths frm DOC	
01R0002520	1R 20; On complete all wks for 21 mth frm DOC	0	0		25SEP09		25SEP09		1,072		◆of al	I obligations by this	of all obligations by this CS 21 mths frm DOC	
01R0002521	1R 21; On complete all wks for 24 mth frm DOC	0	0		26DEC09		26DEC09	2	980		ð	of all obligations by	Pof all obligations by this CS 24 mths frm DOC	ç
01R0002522	1R 22; On complete all wks for 27 mth frm DOC	0	0		27MAR10		27MAR10	3	889			of all obligations	of all obligations by this CS 27 mths frm DOC	DOC
01R0002523	1R 23; On complete all wks for 30 mth frm DOC	0	0		26JUN10		26JUN10	2	798			of all obligatic	of all obligations by this CS 30 mths frm DO	m DO
	1R 24; On complete all wks for 33 mth frm DOC	0	0		25SEP10		25SEP10	2	707			◆of all oblig	Pof all obligations by this CS 33 mths frm	is frm
	1R 25; On complete all wks for 36 mth frm DOC	0	0		26DEC10		26DEC10	2	615			of all of	of all obligations by this CS 36 mths	mths f
	1R 26; On complete all wks for 39 mth frm DOC	0	0		27MAR11		27MAR11	2	524			of al	of all obligations by this CS 39 mth	39 mth
01R0002527	1R 27; On complete all wks for 42 mth frm DOC	0	0		26JUN11		26JUN11	2	433			Ŷ	Of all obligations by this CS 42	S 42 1
01R0002528	1R 28; On complete all wks for 45 mth frm DOC	0	0		25SEP11		25SEP11	2	342 0	of all obligations	this by this CS	by this CS 45 mths frm DOC I	•	
	1R 29; On issuance of completion certificates	0	0		04JAN13		15FEB13	8	360			of completion except Section 7-	(cept Section 7	
01R0002530	1R 30; On complete all wks for 3 mth frm CMP	0	0		08MAR13		19APR13	2	297		of all oblig	ations 3 mths frm [of all obligations 3 mths frm DOM excl. Sec. 7	

01R0002531 01R0002532									
01R0002532	1R 31; On complete all wks for 6 mth fm CMP	0	D		07JUN13	191	19JUL13	2 206	of
	1R 32; On complete all wks for 9 mth frm CMP	0	0		06SEP13	180	180CT13	2 115	of all obligations 9 mths frm DOM excl. Sec. 7
11KUUU2333	1R 33; On issuance of maintenance certificate	0	0	6)	30DEC13	10F	10FEB14	2 0	certificate
chedule of	Schedule of Milectones for Cost Centre No. 16R								
16R7003001	16R 1: On completion of landscape wks: Portion A	0	0	0	01MAR12	010	01MAR12	2 669	
16R7003002	16R 2: On completion of landscape wks; Portion B	0	0	5	16MAR12	16N	16MAR12	2 654	*
16R7003003	16R 3; On completion of landscape wks; Portion C	0	0		28JAN12	28.	28JAN12	2 702	
16R7003004	16R 4; On completion of landscape wks; Portion D	0	0	0	30NOV12	11.	11JAN13	2 395	
16R7003005	16R 5; On completion of establish wks; Portion A	0	0	0	01MAR13	010	01MAR13	2 304	
16R7003006	16R 6; On completion of establish wks; Portion B	0	0	-	16MAR13	16 N	16MAR13	2 289	
16R7003007	16R 7; On completion of establish wks; Portion C	0	0		27JAN13	27J	27JAN13	2 337	
16R7003008	16R 8; On completion of establish wks; Portion D	0	0		30NOV13	111	11JAN14	2 30	
Schedule of I	Schedule of Milestones for Cost Centre No. 17R								
17R0003101	17R 1; On complet of all wks for 3 mth frm DOC	0	0	2	27MAR08A	27N	27MAR08A	2	 of all safety & env. obligations 3 mths frm DOC
17R0003102	17R 2; On complet of all wks for 6 mth frm DOC	0	0	7	27JUN08A	27J	27JUN08A	2	◆of all safely & env. obligations 6 mths frm DOC
17R0003103	17R 3; On complet of all wks for 9 mth frm DOC	0	0	7	26SEP08A	265	26SEP08A	2	◆of all safey & env. obligations 9 mths frm DOC
17R0003104	17R 4; On complet of all wks for 12 mth frm DOC	0	0	2	27DEC08A	27L	27DEC08A	2	Of all safety & env. obligations 12 mths frm DOC
17R0003105	17R 5; On complet of all wks for 15 mth fm DOC	0	0	2	27MAR09A	27N	27MAR09A	2	of all safety & env. obligations 15 mths fm DOC
17R0003106	17R 6; On complet of all wks for 18 mth frm DOC	0	0		27JUN09	15J	15JUL09	2 1,647	ot
17R0003107	17R 7; On complet of all wks for 21 mth frm DOC	0	0		26SEP09	14C	14OCT09	2 1,556	↓ of
17R0003108	17R 8; On complet of all wks for 24 mth frm DOC	0	0		26DEC09	13.1	13JAN10	2 1,465	¢of
17R0003109	17R 9; On complet of all wks for 27 mth frm DOC	0	0		28MAR10	15/	15APR10	2 1,373	
17R0003110	17R 10; On complet all wks for 30 mth frm DOC	0	0		01NUL72	15.1	15JUL10	2 1,282	¢.
17R0003111	17R 11; On complet all wks for 33 mth frm DOC	0	0		26SEP10	14(140CT10	2 1,191	of all safety & env. obligations 33 mths fr
17R0003112	17R 12; On complet all wks for 36 mth frm DOC	0	0	. 4	26DEC10	13,	13JAN11	2 1,100	Of all safety & env. obligations 36 mt
17R0003113	17R 13; On complet all wks for 39 mth frm DOC	0	0	. 1	28MAR11	15/	15APR11	2 1,008	
17R0003114	17R 14; On complet all wks for 42 mth frm DOC	0	0		27JUN11	15,	15JUL11	2 917	♦ of all safety & env. obligations
17R0003115	17R 15; On complet all wks for 45 mth frm DOC	0	0		26SEP11	140	140CT11		
17R0003116	17R 16; On complet all wks for 48 mth frm DOC	0	0		26DEC11	13,	13JAN12	2 735	of all safety & env
17R0003117	17R 17; On complet of all wks for 3 mth frm CMP	0	0		08MAR13	19/	19APR13	2 297	
17R0003118	17R 18; On complet of all wks for 6 mth frm CMP	0	0		07JUN13	19,	19JUL13	-	of all safety & env.
17R0003119	17R 19; On complet of all wks for 9 mth frm CMP	0	0		07SEP13	19(190CT13	2 114	of all safety & ehv. obligations 9 mths frm DOMexcluding Set
17R0003120	17R 20; On issuance of maintenance certificate	0	O		30DEC13	10F	10FEB14	2 0	certificate
Design/Desi	Design/Design Check for Permanent Works								
Project -wide Packages	Packages								
Project Design Plan (PDP)	Plan (PDP)								
02L10D0102	Employ Independent Designer	2	7 14D	14DEC07A 2	20DEC07A 14DEC07A		20DEC07A	2	
02L10D0104	Prepare & submit Project Design Plan (PDP)	28	28 14D	EC07A	26FEB08A 14DEC07A		26FEB08A	2	per ER 5.4.1. within 28 days of LOA
02L10D0106	SO's review & comment on PDP	28	28 27F	EB08A	18MAR08A 27FEB08A		18MAR08A	3	
02L10D0108	Provide further information of (PDP)	28	28 19M	AR08A	21AUG08A 19MAR08A		21AUG08A	2	

Q	Activity	Dur	Dur Dur	Start	Finish	Start	Finish		Float						ŀ
011000110	SO approves PDP	4		14MAY08A	04SEP08A 14MAY08A	177	04SEP08A	2		0				-	122
02L10D0112	Employ Independent Design Checker	4	14	28DEC07A	01FEB08A 28DEC07A		01FEB08A	2	0						
02L10D0114	Approval of Design Checker by the SO	28	28	02FEB08A	28FEB08A 02FEB08A		28FEB08A	2	-						
Design for Con	Design for Communication System														
02L1FE0102	Design preparation for the AIP submission	15	15	27JUN09	11JUL09 27	27JUN09	11JUL09	2	356		•				
02L1FE0103	Design (AIP) submission for the DC's approval	-	1	13JUL09	13JUL09 13	13JUL09	13JUL09	÷	288					3	
02L1FE0104	Design (AIP) certification by the Design Checker	28	28	14JUL09	10AUG09 14	14JUL09	10AUG09	7	356		•				
02L1FE0106	Design (AIP) submission for the SO's approval	-	*	13JUL09	13JUL09 13	13JUL09	13JUL09	÷	294						
02L1FE0108	Design (AIP) review by the SO	60	60	21JUL09	18SEP09 21	21JUL09	18SEP09	8	356	_	0				
02L1FE0110	AIP submission for rel. authorities' approval		-	13JUL09	13JUL09 13	13JUL09	13JUL09	-	321		-			-	
02L1FE0112	Design (AIP) review by the rel. authorities	28	28	21JUL09	17AUG09 21	21JUL09	17AUG09	2	387		9				
02L1FE0114	Obtain rel. authorities's approval for AIP	T	*	18AUG09	18AUG09 18	18AUG09	18AUG09	-	315		=1				2
02L1FE0116	Obtain SO's consent for design (AIP)	0	0		19SEP09		19SEP09	8	356		•				100
02L1FE0118	Design preparation for the DDA submission	30	30	28AUG09	26SEP09 28	28AUG09	26SEP09	~	356					2.0	
02L1FE0119	Design (DDA) submission for the DC's approval	-	~	28SEP09	28SEP09 28	28SEP09	28SEP09	-	288					Ĵ.	
02L1FE0120	Design (DDA) certification by the Design Checker	28	28	29SEP09	260CT09 28	29SEP09	260CT09	N	356						
02L1FE0122	Design (DDA) submission for the SO's approval	-	-	28SEP09	28SEP09 28	28SEP09	28SEP09	-	293						Sife.
02L1FE0124	Design (DDA) review by the SO	60	60	060CT09	04DEC09 06	06OCT09	04DEC09	~	356	1-					
021 1FE0126	DDA submission for rel authorities' approval		*	28SEP09	28SEP09 28	28SEP09	28SEP09	-	319						12
021 1FE0128	Design (DDA) review by the rel. authorities	28	28	06OCT09		06OCT09	02NOV09	~	388						
021 1FE0130	Obtain rel authorities's annroval for DDA	•	-	03NOV09	03NOV09 03NOV09	3NOV09	03NOV09	-	316					1	123
					USDECTO		05DEC/00		356			•	Į	5	2
UZLIFEUISZ	UDIAIN SU'S CONSENT IOT GESIGN (UUA)	Ð	D				030000	4	3						82
Design for Flov	Design for Flow Measurement System								1					-	
02L1FE0202	Design preparation for the AIP submission	0	0		11MAY09A		11MAY09A	N	T						
02L1FE0203	Design (AIP) submission for the DC's approval	-		29MAY09		9MAY09	29MAY09	***	410						12
02L1FE0204	Design (AIP) certification by the Design Checker	28	28	30MAY09	26JUN09 30	30MAY09	26JUN09	N	502						
02L1FE0206	Design (AIP) submission for the SO's approval	-		12MAY09A	12MAY09A 12MAY09A	2MAY09A	12MAY09A	-			-				
02L1FE0208	Design (AIP) review by the SO	60	60	13MAY09A	24JUL09 13	13MAY09A	24JUL09	~	502		1				
02L1FE0210	AIP submission for rel. authorities' approval	-	F .	29MAY09	29MAY09 28	29MAY09	29MAY09	۲	432						
02L1FE0212	Design (AIP) review by the rel. authorities	28	28	06JUN09	0370100 00	06JUN09	03JUL09	7	522					- 2	
02L1FE0214	Obtain rel. authorities's approval for AIP	77	-	04JUL09	04JUL09 04	04JUL09	04JUL09	-	427					_	
02L1FE0216	Obtain SO's consent for design (AIP)	0	0		25JUL09	3	25JUL09	2	502		•				
02L1FE0218	Design preparation for the DDA submission	30	30	03JUL09	01AUG09 03	03JUL09	01AUG09	2	502					-	2
02L1FE0219	Design (DDA) submission for the DC's approval	7		03AUG09	03AUG09 03	03AUG09	03AUG09		410						
02L1FE0220	Design (DDA) certification by the Design Checker	28	28	04AUG09	31AUG09 04	04AUG09	31AUG09	2	501		11				
02L1FE0222	Design (DDA) submission for the SO's approval	-		03AUG09	03AUG09 03AUG09	3AUG09	03AUG09	-	416		-			3	2
02L1FE0224	Design (DDA) review by the SO	60	60	11AUG09	090CT09 1	11AUG09	09OCT09	2	501		0				
02L1FE0226	DDA submission for rel. authorities' approval	-	-	03AUG09	03AUG09 00	03AUG09	03AUG09		440		~				100
02L1FE0228	Design (DDA) review by the rel. authorities	28	28	11AUG09	07SEP09 11AUG09	1AUG09	07SEP09	2	533						51
02L1FE0230	Obtain rel. authorities's approval for DDA		-	08SEP09	08SEP09 08	08SEP09	08SEP09	-	431		-				
	Obtain design (DDA) annroval from the SO	c	0		100CT09		100CT09	2	501					-	

Sheet 11 of 58

Page 78 of 125

	Description	Dur	Dur	Start	Finish Start	t Finish	9	Float				
ackages fo	Design Packages for Works in Portion A											
el Decking D	Temp. Steel Decking Design Over Shing Mun Nullah											
02L1AA0102 Design	Design preparation by the Designer	14	14	22FEB08A	15MAY08A 22FEB08A	BA 15MAY08A	2		8			
02L1AA0104 Design	Design certification by the Design Checker	14	4	16MAY08A	26MAY08A 16MAY08A	38A 26MAY08A	2					
02L1AA0106 Design	Design submission for the SO's approval	-	-	26MAY08A	26MAY08A 26MAY08A	38A 26MAY08A	1		-	-		
02L1AA0108 Design	Design review by the SO	21	21	27MAY08A	30JUN08A 27MAY08A		2					
02L1AA0110 Obtain	Obtain design approval from the SO	0	0		30JUN08A	30JUN08A	2		•			
in for Spiral F	ELS Design for Spiral Ramp/Cascade/Box Culvert											
02L1AA0202 Design	Design preparation for the DDA submission	158	158	02MAY08A	16FEB09A 02MAY08A	38A 16FEB09A	8			n		-
02L1AA0203 Design	Design submission for the DC's approval	2	2	10JUL08A	17FEB09A 10JUL08A	8A 17FEB09A	-			n		
02L1AA0204 Design	Design (DDA) certification by the Design Checker	30	30	11JUL08A	17FEB09A 11JUL08A	8A 17FEB09A	0			n		
	Desian (DDA) submission for the SO's approval	2	N	12AUG08A	17FEB09A 12AUG08A	38A 17FEB09A	5		-			
	Design (DDA) review by the SO	89		13AUG08A	14MAR09A 13AUG08A	38A 14MAR09A	1 2			Π		
	SO submit design (DDA) for approval of GEO	-	-	03FEB09A	03MAR09A 03FEB09A	9A 03MAR09A	- 1			1	7 days after ICE certification	tion
	Design (DDA) review/approval by the GEO	28	28	04MAR09A	31MAY09 04MAR09A	09A 31MAY09	2	0		T	0	
	Obtain SO's consent for design (DDA)	0	0		24MAR09A	24MAR09A	2		101	٠		
Temp. Platform Design for H-Piling	for H-Piling											
021 1AA0302 Design	Design preparation by the Designer	15	15	04JAN10*	18JAN10 04JAN10	0* 18JAN10	0	330			**	
	Design submission for the DC's approval	-	-	19JAN10	19JAN10 19JAN10	0 19JAN10	-	269		1.		
	Design certification by the Design Checker	28	28	20JAN10		0 16FEB10	2	330			-	3 8
	Design submission for the SO's approval	-	-	19JAN10	-		•	269	2 -			
	Desirtn review hv the SO	42	42	20JAN10	02MAR10 20JAN10	0 02MAR10	2	330		• •	11	
	Obtain design approval from the SO	0	0		02MAR10		2	330	. 2		\$	
Box C	Cascade & Box Culver Design for Portion A	5										
02L1AA0402 Design	Design preparation for the AIP submission	30	30	02JUN08A	28FEB09A 02JUN08A	38A 28FEB09A	2			1		
	Design (AIP) submission for the DC's approval	9	3	12JUL08A	02MAR09A 12JUL08A	8A 02MAR09A	+			1		
	Design (AIP) certification by the Design Checker	243	243	14JUL08A	18MAR09A 14JUL08A	18MAR09A	4 2			1 ¹	ICE on 17/09/092nd ICE cert	ICE cert on 02/12/08
	Design (AIP) submission for the SO's approval	2	N	15JUL08A	19MAR09A 15JUL08A	RA 19MAR09A	-		1	Π		
	Design (AIP) review by the SO	66	66	16JUL08A	20MAR09A 16JUL08A	BA 20MAR09A	A 2			Π		
	AIP submission for rel. authorities' approval	÷		14JUL08A	19AUG08A 14JUL08A	IBA 19AUG08A	-		0			
	Design (AIP) review by the rel. authorities	28	28	15JUL08A	12NOV08A 15JUL08A	12NOV08A	4 2			14		
	Obtain rel. authorities's approval for AIP	ंजन	-	03NOV08A	12NOV08A 03NOV08A	08A 12NOV08A	-					
02L1AA0420 Obtain	Obtain SO's consent for design (AIP)	0	0		20MAR09A	20MAR09A	A 2			٠		
	Design preparation for the DDA submission	30	30	21MAR09A	12JUN09 21MAR09A	09A 12JUN09	2	124		Ħ		
	Design (DDA) submission for the DC's approval	-	-	13JUN09	13JUN09 13JUN09	09 13JUN09	٣	105				
	Design (DDA) certification by the Design Checker	28	28	14JUN09	11JUL09 14JUN09	09 11JUL09	8	126				
-	Design (DDA) submission for the SO's approval	-	-	13JUN09	13JUN09 13JUN09	09 13JUN09	-	103				
02L1AA0428 Design	Design (DDA) review by the SO	99	66	14JUN09	18AUG09 14JUN09	09 18AUG09	8	124				
	DDA submission for rel. authorities' approval	-	-	20JUN09	60NULOS 60NULOS	00 20JUN09	-	128				
	Design (DDA) review by the rel authorities	28	28	21JUN09	18JUL09 21JUN09	00 18JUL09	2	155				
	Obtain rel. authorities's approval for DDA	-	-	2010109	2010L09 2010L09	19 20JUL09	**	129				
			1		00011007		c 	101				

Page 79 of 125

Sheet 12 of 58

j.	Description	Dur Dur	ur Start	Finish	Start	Finish	E	Float			
ct Access	Impact Assessment on WSD Wo YIp Hop V. S. P. H.										
02L1AA0502	Design preparation for the DDA submission	30	30 02MAY08A	A 26FEB09A 02MAY08A	152	26FEB09A	2				
02L1AA0503	Design (DDA) submission for the DC's approval	-	1 26JUN08A	A 27FEB09A 26JUN08A		27FEB09A	-				
02L1AA0504	Design (DDA) certification by the Design Checker	60	60 27JUN08A	A 11MAR09A 27JUN08A		11MAR09A	2			1st ICE cert on 02/12/08	_
02L1AA0506	Design (DDA) submission for the SO's approval	N	2 14JUL08A	A 24MAR09A 14JUL08A		24MAR09A	÷				
02L1AA0508	Design (DDA) review by the SO	99	66 15JUL08A	A 31MAR09A 15JUL08A		31MAR09A	2				
02L1AA0510	DDA submission for rel, authorities' approval	2	2 10JUL08A	A 14MAR09A 10JUL08A		14MAR09A	÷				
02L1AA0512	Design (DDA) review by the rel. authorities		28 14JUL08A	A 31MAY09 14JUL08A		31MAY09	2	0			
021 1AA0514	Obtain rel. authorities's approval for DDA	+	1 01JUN09	01JUN09 01JUN09		01JUN09		0			
02L1AA0520	Obtain SO's consent for design (DDA)	0	0	31MAR09A		31MAR09A	2			•	
oorany Pla	Temporary Platform for Pipe Piling										_
02L1AA0602	Design preparation by the Designer	11	11 21JUL08A	A 23AUG08A 21JUL08A		23AUG08A	2				
02L1AA0603	Design submission for the DC's approval	÷	1 01AUG08A	A 25AUG08A 01AUG08A		25AUG08A	÷				
02L1AA0604	Design certification by the Design Checker	21	21 02AUG08A	A 26SEP08A 02AUG08A	1	26SEP08A	N	200	8		110
02L1AA0606	Design submission for the SO's approval	Ŧ	1 08AUG08A	A 27SEP08A 08AUG08A	1.00	27SEP08A	-				_
02L1AA0608	Design review by the SO	28	28 09AUG08A	A 17OCT08A 09AUG08A	P	17OCT08A	2	144	0		_
02L1AA0610	Obtain design approval from the SO	0	0	17OCT08A		17OCT08A	N		•		
DOTATV WC	Temporary Works Design for Retrieval of TBM										
02L1AA0702	Design preparation by the Designer	30	30 28FEB09A	A 22JUN09 28FEB09A	-	22JUN09	N	139			_
02L1AA0703	Design submission for the DC's approval	-	1 23JUN09	23JUN09	23JUN09	23JUN09	٢	115			
02L1AA0704	Design certification by the Design Checker	28	28 24JUN09	21JUL09	24JUN09	21JUL09	N	139			
02L1AA0706	Design submission for the SO's approval	٠	1 23JUN09	23JUN09	23JUN09	23JUN09	÷	115			
02L1AA0708	Design review by the SO	42	42 24JUN09	9 04AUG09 24JUN09		04AUG09	-	139			
02L1AA0710	Obtain design approval from the SO	0	0	04AUG09		04AUG09	N	139		•	
Dorary Dra	Temporary Drainage Management Plan for Portion A							1			
02L1AA0802	TDMP preparation by the Designer	208 2	208 18AUG08A	3A 23MAY09A 18AUG08A		23MAY09A	0				
021 1AA0804	TDMP submission for the DC's approval	2	2 24SEP08A	A 25MAY09A 24SEP08A		25MAY09A	~				
021 1AA0806	TDMP certification by the Design Checker	28		03JUN09	24OCT08A	03JUN09	0	142			
02L1AA0808	TDMP submission for the SO's approval	2	2 05NOV08A	04JUN09	05NOV08A	04JUN09		165			_
02L1AA0810	TDMP review by the SO	06	90 05NOV08A	16JUL09	05NOV08A	16JUL09	2	192			_
02L1AA0812	TDMP submission for DSD's approval		1 04JUN09	04JUN09	04JUN09	04JUN09	1 2.	119			
02L1AA0814	TDMP review by the DSD	96	90 05JUN09	02SEP09	06JUN09	02SEP09	2	144			
02L1AA0816	Obtain DSD's approval for DDA	÷	1 03SEP09	03SEP09	03SEP09	03SEP09	-	117			_
02L1AA0818	Obtain SO's consent for TDMP	0	0	03SEP09		03SEP09	N	144		*	
technical	Geotechnical Instrumentation Stg 1 for GL Works										
3DL1AAG102	Design preparation by the Designer	14	14 22FEB08A	IA 28APR08A 22FEB08A		28APR08A	2				
3DL1AAG104	Design certification by the Design Checker	7	7 29APR08A	3A 16JUN08A 29APR08A		16JUN08A	0		B		
3DL1AAG106	Design submission for the SO's approval	-	1 10MAY08A	3A 10MAY08A 10MAY08A		10MAY08A	-				
3DL1AAG108	Design review by the SO	14	14 12MAY08A	3A 28AUG08A 12MAY08A		28AUG08A	2		l		
3DL1AAG110	Obtain design approval from the SO	0	0	28AUG08A		28AUG08A	2		٠		
3DL1AAG112	Install Geotechnical Instruments	ø	6 26MAY08A	3A 26MAY08A 26MAY08A		26MAY08A	Ţ				
				a set to a set of a set of a set of a							0

Sheet 13 of 58

Page 80 of 125

Geotechnical Instrumentation Stg 2 for Deep Exc.				FIRIS DIAL	FINSI	11 11	Float			
Design preparation by the Designer	14	14 01DEC08A		24FEB09A 01DEC08A	24FEB09A	2		0		
Design certification by the Design Checker	7	7 15DEC08A		25FEB09A 15DEC08A	25FEB09A	2		U		
Design submission for the SO's approval	-	1 07JAN	JAN09A 25FEI	25FEB09A 07JAN09A	25FEB09A	-		0		
	28	28 08JAN09A	1.000	24MAR09A 08JAN09A	24MAR09A	2		0		
Obtain design approval from the SO	0	0	24MAR09A	R09A	24MAR09A	2		٥		
Install Geotechnical Instruments	28	28 09FEB09A	309A 04JUN09	N09 09FEB09A	04JUN09	-	0			
	9	6 18FEB09A	1	25MAR09A 18FEB09A	25MAR09A	2		13		
Monitor/report Geotechnical Instrumentation	1,643 11,643	A3 02JUN08A	-	04FEB13 02JUN08A	04FEB13	2	•			
Design Packages for Works in Portion B										
							4			
Design preparation by the Designer	15	15 24MAR08A		09MAY08A 24MAR08A 09MAY08A	09MAY08A	2	-			
Design certification by the Design Checker	14	14 10MAY08A		08AUG08A 10MAY08A	08AUG08A	2				
Design submission for the SO's approval	-	1 21MAY08A		08AUG08A 21MAY08A		-		8		
	21	21 22MAY08A		25SEP08A 22MAY08A	-	2				
Obtain design approval from the SO	0			P08A	-	2		•		
Design preparation by the Designer	22	22 04AUC	308A 11DE	22 04AUG08A 11DEC08A 04AUG08A	11DEC08A	2		0		
Design submission for the DC's approval	~	2 11DEC08A	-	12FEB09A 11DEC08A	12FEB09A	~		0		
Design certification by the Design Checker	14	14 12DEC08A		25FEB09A 12DEC08A	25FEB09A	2	1	0		
Design submission for the SO's approval	2	2 12DEC08A		25FEB09A 12DEC08A	25FEB09A	.		U		
	21	21 13DEC08A		11MAR09A 13DEC08A	11MAR09A	2		0		
Obtain design approval from the SO	0	0	11MA	11MAR09A	11MAR09A	~		\$		
TDMP preparation by the Designer	313	313 05MAY08A	Y08A 21MA	21MAR09A 05MAY08A	21MAR09A	2				
TDMP submission for the DC's approval	2	2 05AUG08A	308A 23MA	23MAR09A 05AUG08A	23MAR09A	Ŧ				2023
TDMP certification by the Design Checker	213	213 06AUG08A		13APR09A 06AUG08A	13APR09A	10	-			
TDMP submission for the SO's approval	8	2 24SEP08A	-	14APR09A 24SEP08A	14APR09A	4-	-	l		
	6	90 25SEP08A	P08A 03JUN09	IN09 25SEP08A	03JUN09	2 -2	-210	I		
TDMP submission for DSD's approval	-	1 23SEP08A		23SEP08A 23SEP08A	23SEP08A	-		1		
	06	90 24SEP08A		04JUN09 24SEP08A	04JUN09	2 -2	-211			
Obtain DSD's approval for DDA	-	1 05JUN09		05JUN09 05JUN09	05JUN09	1 -168	68			
	0	0	05JL	02JUN09	60NUL20	2 -2	-211	•		
Temp. Support Design for MAA/MAS/VDS/DC							-			
Design preparation for the AIP submission	272	272 02JUN08A		19MAR09A 02JUN08A	19MAR09A	2				
Design (AIP) submission for the DC's approval	2	2 11JUL08A	12.2	20MAR09A 11JUL08A	20MAR09A					
Design (AIP) certification by the Design Checker	60	60 12JUL08A		04APR09A 12JUL08A	04APR09A	2				
Design (AIP) submission for the SO's approval	2	2 24JUL08A		06APR09A 24JUL08A	06APR09A	-	-			
	99	66 25JUL08A	15	11MAY09A 25JUL08A	11MAY09A	2				
AIP submission for rel. authorities' approval	**	1 12JUL08A		12JUL08A 12JUL08A	12JUL08A	T		1	2.4	
Design (AIP) review by the rel. authorities	28	28 14JUL08A		10NOV08A 14JUL08A	10NOV08A	2		0		
Obtain rel. authorities's approval for AIP	-	1 11NOV08A		11NOV08A 11NOV08A	11NOV08A	F				
SO submit design (AIP) for approval of GEO		1 JONAVOG		PUYANPC PUYANPC	29MAY09	÷	c			

	Description		, Dur	Start	LINISH	Start	FILISIA		Float
02L1BB0518	Design (AIP) review/approval by the GEO	28	28	30MAY09	26JUN09 30MAY09	AAY09	26JUN09	2	0
02L1BB0520	Obtain SO's consent for design (AIP)	0	0		11MAY09A		11MAY09A	7	
02L1BB0522	Design preparation for the DDA submission	30	30	28MAY09	26JUN09 280	28MAY09	26JUN09	2	0
02L1BB0523	Design (DDA) submission for the DC's approval	-	-	27JUN09	27JUN09 27J	27JUN09	27JUN09	57	0
02L1BB0524	Design (DDA) certification by the Design Checker	28	28	28JUN09	25JUL09 28J	28JUN09	25JUL09	2	÷
02L1BB0526	Design (DDA) submission for the SO's approval		-	27JUN09	27JUN09 27J	60NUL72	27JUN09	÷	0
02L1BB0528	Design (DDA) review by the SO	99	66	28JUN09	01SEP09 28J	28JUN09	01SEP09	2	0
02L1BB0530	DDA submission for rel. authorities' approval	-		04JUL09	04JUL09 04J	04JUL09	04JUL09	T	26
02L1BB0532	Design (DDA) review by the rel. authorities	28	28	05JUL09	01AUG09 05J	05JUL09	01AUG09	2	31
02L1BB0534	Obtain rel. authorities's approval for DDA	-	2	03AUG09	03AUG09 03/	03AUG09	03AUG09	•	26
02L1BB0536	SO submit design (DDA) for approval of GEO	-		03AUG09	03AUG09 03AUG09	AUG09	03AUG09	٣	0
02L1BB0538	Design (DDA) review/approval by the GEO	28	28	04AUG09	31AUG09 04/	04AUG09	31AUG09	8	0
02L1BB0540	Obtain SO's consent for design (DDA)	0	0		02SEP09		02SEP09	2	0
. Support	Temp. Support Design for MA and MAMT Connection								
02L1BB0602	Design preparation for the AIP submission	110	110	09JUN08A	001000 001	09JUN08A	60NULZO	2	0
02L1BB0603	Design (AIP) submission for the DC's approval		э с	18MAY09A	29MAY09 18h	18MAY09A	29MAY09	÷	S
02L1BB0604	Design (AIP) certification by the Design Checker	28	28	19MAY09A	14JUN09 19h	19MAY09A	14JUN09	2	0
02L1BB0606	Design (AIP) submission for the SO's approval	-	5.	03JUN09	LEO BONULED	60NULEO	60NULEO	÷	0
02L1BB0608	Design (AIP) review by the SO	99	66	04JUN09	08AUG09 04J	04JUN09	08AUG09	2	0
02L1BB0610	AIP submission for rel. authorities' approval		æ	60NULEO	03JUN09 03	03JUN09	03JUN09	*-	30
02L1BB0612	Design (AIP) review by the rel. authorities	28	28	04JUN09	01JUL09 04J	04JUN09	01JUL09	2	36
02L1BB0614	Obtain rel. authorities's approval for AIP	-	**	02JUL09	02JUL09 02J	02JUL09	02JUL09	-	31
02L1BB0616	SO submit design (AIP) for approval of GEO			22JUN09	22JUN09 22J	22JUN09	22JUN09	*	0
02L1BB0618	Design (AIP) review/approval by the GEO	28	28	23JUN09	20JUL09 23	23JUN09	20JUL09	2	0
02L1BB0620	Obtain SO's consent for design (AIP)	0	0		09AUG09		09AUG09	2	0
02L1BB0622	Design preparation for the DDA submission	30	30	18JUL09	16AUG09 18.	18JUL09	16AUG09	N	0
02L1BB0623	Design (DDA) submission for the DC's approval			17AUG09	17AUG09 17AUG09	4UG09	17AUG09	-	0
02L1BB0624	Design (DDA) certification by the Design Checker	28	28	18AUG09	14SEP09 18/	18AUG09	14SEP09	N	0
02L1BB0626	Design (DDA) submission for the SO's approval	-	-	17AUG09	17AUG09 17AUG09	AUG09	17AUG09	-	0
02L1BB0628	Design (DDA) review by the SO	66	66	18AUG09	220CT09 18/	18AUG09	220CT09	2	0
02L1BB0630	DDA submission for rel. authorities' approval	5	1	24AUG09	24AUG09 24/	24AUG09	24AUG09	•	27
02L1BB0632	Design (DDA) review by the rel. authorities	28	28	25AUG09	21SEP09 25/	25AUG09	21SEP09	N	31
02L1BB0634	Obtain rel. authorities's approval for DDA		-	22SEP09	22SEP09 22	22SEP09	22SEP09	-	25
02L1BB0636	SO submit design (DDA) for approval of GEO	-	-	22SEP09	22SEP09 22	22SEP09	22SEP09	٠	0
02L1BB0638	Design (DDA) review/approval by the GEO	28	28	23SEP09	200CT09 23	23SEP09	200CT09	2	0
02L1BB0640	Obtain SO's consent for design (DDA)	0	0		230CT09		230CT09	2	0
anent Des	Permanent Design for MAA/MAS/VDS/DC								
02L1BB0702	Design preparation for the AIP submission	285	5 285	02JUN08A	02JUN09 02JUN08A	NUN08A	02JUN09	01	0
02L1BB0703	Design submission for the DC's approval	21	2	23JUL08A	03JUN09 23.	23JUL08A	03JUN09	-	0
02L1BB0704	Design (AIP) certification by the Design Checker	60	60	24JUL08A	19JUN09 24.	24JUL08A	19JUN09	N	0
02L1BB0706	Design (AIP) submission for the SO's approval	2	0	04JUL08A	03JUN09 04.	04JUL08A	03JUN09	-	1
02L1BB0708	Design (AIP) review by the SO	66	66	05JUL08A	19JUN09 05JUL08A	JUL08A	19JUN09	2	- -
					CONTRACTOR AND	Contraction of the local division of the loc	Martin Children	2	

Sheet 15 of 58

Page 82 of 125

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02L1BB0712	Design (AIP) review by the rel. authorities	28	28	04JUL08A	08JUN09 04J	04JUL08A	60NUL80	2	10			100	
02L1BB0714	Obtain rel. authorities's approval for AIP	-	T	60NUL60	LEO EONULEO	BONNEO	60NULEO	-	6				
02L1BB0716	SO submit design (AIP) for approval of GEO	-	-	27JUN09	27JUN09 27J	27JUN09	27JUN09	-	0				
02L1BB0718	Design (AIP) review/approval by the GEO	28	28	28JUN09	25JUL09 28J	28JUN09	25JUL09	2	0				8
02L1BB0720	Obtain SO's consent for design (AIP)	0	0		20JUN09		20JUN09	2	-	•			33
02L1BB0722	Design preparation for the DDA submission	30	30	17NOV08A	27JUN09 17N	17NOV08A	27JUN09	2	-	1	-	000	55
02L1BB0723	Design submission for the DC's approval	5	-	29JUN09			29JUN09	-	0				
02L1BB0724	Design (DDA) certification by the Design Checker	28	28	30JUN09	27JUL09 30J	30JUN09	27JUL09	~	0			-	
02L1BB0726	Design (DDA) submission for the SO's approval	÷		29JUN09	29JUN09 29J	29JUN09	29JUN09	m	269				
02L1BB0728	Design (DDA) review by the SO	66	99	SONULOS	03SEP09 30J	BONNFOE	03SEP09	2	332	0			22
02L1BB0730	DDA submission for rel. authorities' approval	-	-	29JUN09	29JUN09 29J	29JUN09	29JUN09	-	299				
02L1BB0732	Design (DDA) review by the rel. authorities	28	28	607NF20	03AUG09 07J	07JUL09	03AUG09	2	363			13	28
02L1BB0734	Obtain rel. authorities's approval for DDA	-	-	04AUG09	04AUG09 04A	04AUG09	04AUG09	-	294				1
02L1BB0736	SO submit design (DDA) for approval of GEO	-	-	04AUG09	04AUG09 04AUG09		04AUG09	-	0				
02L1BB0738	Design (DDA) review/approval by the GEO	28	28	05AUG09	01SEP09 05AUG09		01SEP09	2	0				
02L1BB0740	Obtain SO's consent for design (DDA)	0	0		04SEP09		04SEP09	2	332	•			
nt Des	Permanent Design for MA and MA/MT Connection								T			81	28
02L1BB0802	Design preparation for AIP submission	66	60	09JUN08A	17JUN09 093	09JUN08A	17JUN09	2	120		2		2.5
02L1BB0803	Design (AIP) submission for the DC's approval	2	2	30JUN08A	18JUN09 30J	30JUN08A	18JUN09	-	100		6		
02L1BB0804	Design (AIP) certification by the Design Checker	28	28	24JUL08A	06JUL09 24J	24JUL08A	06JUL09	2	120			13	83
02L1BB0806	Design (AIP) submission for the SO's approval	2	2	25JUL08A	_		07JUL09	-	102				3
02L1BB0808	Design (AIP) review by the SO	66	99	26JUL08A	11AUG09 26J		11AUG09	8	120				
02L1BB0810	AIP submission for rel. authorities' approval	-	٣	25JUL08A	07AUG08A 25JUL08A		07AUG08A	-					
02L1BB0812	Design (AIP) review by the rel. authorities	28	28	26JUL08A	13JUL09 26J	26JUL08A	13JUL09	8	148				23
02L1BB0814	Obtain rel. authorities's approval for AIP	÷	٣	14JUL09	14JUL09 14J	14JUL09	14JUL09	٣	124				1
02L1BB0816	SO submit design (AIP) for approval of GEO	-	T	14JUL09	14JUL09 14J	14JUL09	14JUL09	٣	100				÷.
02L1BB0818	Design (AIP) review/approval by the GEO	28	28	15JUL09	11AUG09 15J	15JUL09	11AUG09	2	120				
02L1BB0820	Obtain SO's consent for design (AIP)	0	0		12AUG09		12AUG09	2	120	•			
02L1BB0822	Design preparation for the DDA submission	30	30	21JUL09	19AUG09 21J	21JUL09	19AUG09	2	120				3
02L1BB0823	Design (DDA) submission for the DC's approval	-	25	20AUG09	20AUG09 20A	20AUG09	20AUG09	-	101		5		
02L1BB0824	Design (DDA) certification by the Design Checker	28	28	21AUG09	17SEP09 21A	21AUG09	17SEP09	2	122	-			5
02L1BB0826	Design (DDA) submission for the SO's approval	+	7	20AUG09	20AUG09 20A	20AUG09	20AUG09	-	100				
02L1BB0828	Design (DDA) review by the SO	99	99	21AUG09	250CT09 21A	21AUG09	250CT09	2	120		-		1
02L1BB0830	DDA submission for rel. authorities' approval		2	20AUG09	20AUG09 20A	20AUG09	20AUG09	Ψ.	129		-		5
02L1BB0832	Design (DDA) review by the rel. authorities	28	28	28AUG09	24SEP09 28A	28AUG09	24SEP09	2	151				3
02L1BB0834	Obtain rel. authorities's approval for DDA	+	٣	25SEP09	25SEP09 25S	25SEP09	25SEP09	-	120				٩.
02L1BB0836	SO submit design (DDA) for approval of GEO	L	-	25SEP09	25SEP09 25S	25SEP09	25SEP09	-	98		3		
02L1BB0838	Design (DDA) review/approval by the GEO	28	28	26SEP09	230CT09 26S	26SEP09	230CT09	2	122				
02L1BB0840	Obtain SO's consent for design (DDA)	0	0		260CT09		260CT09	2	120	•			
em.	ELS for Perm. Approach Channel Construction												
02L1BB0902	Design preparation by the Designer	14	14	01AUG09*	14AUG09 01AUG09*		14AUG09	2	86				-
02L1BB0903	Design submission for the DC's approval	-	-	15AUG09	15AUG09 15AUG09		15AUG09	-	70				1
02L1BB0904	Design certification by the Design Checker	28	28	16AUG09	12SEP09 16AUG09		12SEP09	2	86				1

	Activity	and a	Dur Aur	Start Start	Finish	Start	Finish		Float					
021 1BR0906	Design submission for the SO's approval	-	1	15AUG09	Ø	15AUG09	15AUG09	-	70			-		
02L1BB0908	Design review by the SO	42	42	16AUG09	26SEP09 1	16AUG09	26SEP09	2	86		Ð			ter.
02L1BB0910	Obtain design approval from the SO	0	0		26SEP09		26SEP09	N	86		٠			-
Platform for R	Platform for RCD Operation (Air Vent Shaft)													÷
02L1BB1602	Prepare design/method statement	9	G	22NOV08A	01DEC08A 22NOV08A	2NOV08A	01DEC08A			-				
02L1BB1604	Submit design/method statement to Design Checker	т. —	٣	02DEC08A	23DEC08A 02DEC08A	2DEC08A	23DEC08A	-		-				
02L1BB1606	Certify design/m.s. by Design Checker	2	7	03DEC08A	24DEC08A 03DEC08A	3DEC08A	24DEC08A	N		•				22
02L1BB1608	Submit design/m.s. to SO	-	٣	24DEC08A	24DEC08A 24DEC08A	4DEC08A	24DEC08A	÷						
02L1BB1610	Design/m.s. review by SO	14	14	25DEC08A	11MAR09A 25DEC08A	5DEC08A	11MAR09A	8		1				
02L1BB1612	Obtain design/m.s. approval from the SO	0	0		11MAR09A		11MAR09A	-		•				123
Temporary Wo	Temporary Works for Air Vent Shaft Construction													4
02L1BB1702	Prepare design/method statement	21	21	03NOV08A	16DEC08A 03NOV08A		16DEC08A			n				23
02L1BB1704	Submit design/method statement to Design Checker	-	-	17DEC08A	17DEC08A 17DEC08A	7DEC08A	17DEC08A	÷			_			
02L1BB1706	Certify design/m.s. by Design Checker	4	14	18DEC08A	23JAN09A 18DEC08A	8DEC08A	23JAN09A	2		8				
02L1BB1708	Submit design/m.s. to SO		~	23JAND9A	23JAN09A 23JAN09A	ARNO9A	23JAN09A	-		-				
02L1BB1710	Design/m.s. review by SO	2	2	24JAN09A	23MAR09A 24JAN09A	AJAN09A	23MAR09A	2		1				
02L1BB1712	Obtain design/m.s. approval from the SO	0	0		23MAR09A		23MAR09A			v				13
Permanet Des	Permanet Design for Air Vent Shaft													
02L1BB1802	Prepare design/method statement	26	26	05NOV08A	26 05NOV08A 11DEC08A 05NOV08A 11DEC08A	5NOV08A	11DEC08A	÷		0				11
02L1BB1804	Submit design/method statement to Design Checker	-	-	1 12DEC08A	12DEC08A 12DEC08A	2DEC08A	12DEC08A	÷		-		0		
02L1BB1806	Certify design/m.s. by Design Checker	21	21	13DEC08A	24MAR09A 13DEC08A	3DEC08A	24MAR09A	2						
02L1BB1808	Submit design/m.s. to SO	Ŧ		17DEC08A	24MAR09A 17DEC08A	7DEC08A	24MAR09A	÷						1
02L1BB1810	Design/m.s. review by SO	42	42	18DEC08A	31MAY09 18DEC08A	8DEC08A	31MAY09	2	150					20
02L1BB1812	Submit design to rel. authorities	٣		25MAR09A	25MAR09A 25MAR09A	5MAR09A	25MAR09A	*						
02L1BB1814	Obtain design approval from rel. authorities	28	28	01MAR09A	28MAY09 01MAR09A	11MAR09A	28MAY09	N	153					
02L1BB1816	Obtain design/m.s. approval from the SO	0	0		30MAY09		30MAY09	+	125		•			
ELS Design fo	ELS Design for Construction of Vortex Shaft													1
02L1BB1902	Design preparation by the Designer	25	25	23FEB09A	1 1 4 1	23FEB09A	02JUN09	2	-205			-		33
02L1BB1904	Design submission for the DC's approval	٣	×	60NN(20	03JUN09	03JUN09	03JUN09	-	-163					
02L1BB1906	Design certification by the Design Checker	28	28	04JUN09	01JUL09 (04JUN09	0170109	N	-205					
02L1BB1908	Design submission for the SO's approval	-	-	60NULE0	_	60NULE0	03JUN09		-157					
02L1BB1910	Design review by the SO	42	42	11JUN09		11JUN09	15JUL09		-205					
02L1BB1912	Obtain design approval from the SO	0	0		15JUL09		15JUL09	N	-205		•			
Geotechnical	Geotechnical Instrumentation Stg 1 for GL Works													10
3DL1BBG102	Design preparation by the Designer	4	14	22FEB08A	05MAY08A 22FEB08A	2FEB08A	05MAY08A	2		-		_		
3DL1BBG104	Design certification by the Design Checker	7	7	06MAY08A	29AUG08A 06MAY08A	GMAY08A	29AUG08A	2]				153
3DL1BBG106	Design submission for the SO's approval	*	5	10MAY08A	10MAY08A 10MAY08A	0MAY08A	10MAY08A	-	[
3DL1BBG108	Design review by the SO	14	14	12MAY08A	14JUL08A 12MAY08A	ZMAY08A	14JUL08A	N		1				
3DL1BBG110	Obtain design approval from the SO	0	0		14JUL08A		14JUL08A	N		•				
3DL1BBG112	Install Geotechnical Instruments	9	9	11JUN08A	19JUL08A 11JUN08A	1JUN08A	19JUL08A	÷		8				
3DL1BBG114	Baseline Monitoring	14	14	21JUL08A	26JUL08A 21JUL08A	21JUL08A	26JUL08A	N		-				
Geotechnical	Geotechnical Instrumentation Stg 2 for Deep Exc.													1
3DL1BBG202	Design preparation by the Designer	40	40	31AUG08A	40 31AUG08A 240CT08A 31AUG08A 240CT08A	11AUG08A	240CT08A	N		1				

Page 84 of 125

Sheet 17 of 58

	nescription				Finish		Finish		Float						-
3DL1BBG204 Design	Design certification by the Design Checker	14	14 24		02DEC08A 240		02DEC08A	~							-
3DL1BBG206 Design	Design submission for the SO's approval	٣	1 05				02DEC08A	T .		0					112
3DL1BBG208 Design	Design review by the SO	28	28 06	06NOV08A	_	06NOV08A	10JUN09	e pi	-114		1				-
3DL1BBG210 Obtain o	Obtain design approval from the SO	0	0		10JUN09		10JUN09	2	-114		•				
3DL1BBG212 Install G	Install Geotechnical Instruments	12	12 14	14MAR09A	27MAR09A 14MAR09A		27MAR09A								
3DL1BBG214 Baseline	Baseline Monitoring	14	14 1	11JUN09	24JUN09 11JUN09		24JUN09	2	-114		1994				22
3DL1BBG216 Moniton	Monitor/report Geotechnical Instrumentation	1,587 1,587		28JUL08A	31DEC12 28JUL08A		31DEC12	2	0						-
ackages for	Design Packages for Works in Portion C		Ť												348
Piling Platform for H-nile Wall A	e Wall A												5		
02L1CC0002 Design	Design preparation by the Designer	15	15 12	12MAY08A	27JUN08A 12MAY08A		27JUN08A	2		a					22
	Design certification by the Design Checker	14		1	03JUL08A 22MAY08A		03JUL08A	2	Ĩ	0					18
	Design submission for the SO's approval	2-		-	04JUL08A 04.	- and the second	04JUL08A	-	+	-		t)			1
	Design review by the SO	14		-	29JULOBA 05JUL08A	1	29JUL08A	2		0					
	Obtain design approval from the SO	0			29JUL08A	1	29JUL08A	2	1	•					
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	attiliation of Access Iver	UX	10 20					•	1	1					
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	Design submission for the DC's approval	-		UZDECU8A			UZDECU8A	-				-			8
02L1CC0104 Design	Design certification by the Design Checker	4	14 03	BDEC08A	03DEC08A 08DEC08A 03DEC08A	1	08DEC08A	2	İ	270					8
02L1CC0106 Design	Design submission for the SO's approval		1.00	09DEC08A (09DEC08A 09DEC08A		09DEC08A	-		=					
02L1CC0108 Design	Design review by the SO	28	28 10	10DEC08A	23MAR09A 10DEC08A		23MAR09A	2		1					
02L1CC0110 Obtain	Obtain design approval from the SO	0	0		23MAR09A		23MAR09A	2							-
orm fo	e Wall B				-										
02L1CC0202 Design	Design preparation by the Designer	15	15 0	02JUL09*	16JUL09 02JUL09*		16JUL09	2	179		-		100		100
	Design submission for the DC's approval	~	-	17JUL09	17JUL09 17,	17JUL09	17JUL09	-	147		-				
	Design certification by the Design Checker	28	28	18JUL09	14AUG09 18JUL09		14AUG09	2	179		-	2			10
	Design submission for the SO's approval	-	*	17JUL09	17JUL09 17.	17JUL09	17JUL09	-	147						1
	Design review by the SO	42	42.1	18JUL09	28AUG09 18	18JUL09	28AUG09	2	179		13				
	Obtain design approval from the SO	0	0		28AUG09		28AUG09	0	179		\$				
port Design	Temp. Support Design for MAA/MAS/VDS/DC/AVS														10.50
02L1CC0302 Design	Design preparation for the AIP submission	103	103 20	26JUND8A	D9MAY09A 26JUN08A		D9MAY09A	N			1				
02L1CC0303 Design	Design (AIP) submission for the DC's approval	3	2 23	23DEC08A	15MAY09A 23DEC08A		15MAY09A	÷		1	11				
02L1CC0304 Design	Design (AIP) certification by the Design Checker	28	28 24	24DEC08A	19MAY09A 24DEC08A		19MAY09A	2		0	11				
	Design (AIP) submission for the SO's approval	~	2 23	23DEC08A	19MAY09A 23DEC08A		19MAY09A	-			11				- 2015
02L1CC0308 Design	Design (AIP) review by the SO	99	66 24	24DEC08A	23JUN09 24	24DEC08A	23JUN09	2	-141		1				
	AIP submission for rel. authorities' approval	-	5	29MAY09	29MAY09 29	29MAY09	29MAY09	-	-115						1
	Design (AIP) review by the rel. authorities	28	28 3	30MAY09	26JUN09 30	30MAY09	26JUN09	N	-145						
	Obtain rel. authorities's approval for AIP	-	-	27JUN09	27JUN09 27	27JUN09	27JUN09	-	-118			•			
	SO submit design (AIP) for approval of GEO	+-		29MAY09		29MAY09	29MAY09	-	0				4		
	Design (AIP) review/approval by the GEO	28		30MAY09	1		26JUN09	2	0	1					
	Obtain SO's consent for design (AIP)	0			-		29JUN09	2	-146		4				
	Design preparation for the DDA submission	30	30	60NUL70	06JUL09 07	60NULTO	06JUL09	2	-146		181				in a
	Design (DDA) submission for the DC's approval	F	-	07JUL09	07JUL09 07	07JUL09	07JUL09	3 77	-114		-			28154-9	23
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Float	-117	-146	-85	-116	-95	0	0	-146	-		0	0	0	0	30	36	31	0	0	0	0	0	0	73	88	98	118	95	0	0	88						0		18	15		19	0
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Finish	07JUL09	11SEP09	07JUL09	11AUG09	12AUG09	12AUG09	09SEP09	12SEP09			30MAY09	15JUN09	04JUN09	09AUG09	04JUN09	02JUL09	03JUL09	23JUN09	21JUL09	10AUG09	17AUG09	18AUG09	15SEP09	18AUG09	230CT09	25AUG09	22SEP09	23SEP09	23SEP09	210CT09	230CT09		04MAY09A		19MAY09A	19MAY09A	16JUN09	28FEB09A	28MAY09	29MAY09	28FEB09A	28MAY09	17JUN09
Start	07JUL09	08JUL09	07JUL09	15JUL09	12AUG09	12AUG09	13AUG09			NUGUSA	05MAY09A	06MAY09A	04JUN09	05JUN09	04JUN09	60NUL20	03JUL09	23JUN09	24JUN09		IULO9	AUG09	19AUG09	18AUG09	19AUG09	25AUG09	26AUG09	23SEP09	23SEP09	24SEP09	6		NN08A	DCT08A	DCT08A	VOV08A	06NOV08A	28FEB09A	AAR09A	29MAY09	28FEB09A	01MAR09A	
	_	-		-	509 12/			-		18/			· · · · · · · · · · · · · · · · · · ·							309	17AUG09 19JUL09	18AUG09 18AUG09	191 19/								T09		04MAY09A 26JUN08A	05MAY09A 110CT08A	19MAY09A 13OCT08A	19MAY09A 05NOV08A		09A 28F	28MAY09 01MAR09A		09A 28F		109
Finish	07JUL09	11SEP09	0170L09	11AUG09	12AUG09	12AUG09	09SEP09	12SEP09		03300	30MAY09	15JUN09	04JUN09	09AUG09	04JUN09	02JUL09	03JUL09	23JUN09	21JUL09	10AUG09	17AUC	18AUC	15SEP09	18AUG09	230CT09	25AUG09	22SEP09	23SEP09	23SEP09	210CT09	230CT09		04MAY	OSMAY	19MAY	19MAY	16JUN09	28FEB09A	28MA	29MAY09	28FEB09A	28MAY09	17JUN09
Start	07JUL09	08JUL09	07JUL09	15JUL09	12AUG09	12AUG09	13AUG09			18AUGU8A	05MAY09A	06MAY09A	04JUN09	05JUN09	04JUN09	05JUN09	03JUL09	23JUN09	24JUN09		19JUL09	18AUG09	19AUG09	18AUG09	19AUG09	25AUG09	26AUG09	23SEP09	23SEP09	24SEP09			26JUN08A	110CT08A	130CT08A	05NOV08A	06NOV08A	28FEB09A	28 01MAR09A	29MAY09	28FEB09A	01MAR09A	
Dur Dur	-	99	-	28	•	-	28	0				28	-	99		28	٣	-	28	0	30		28	Τ	99	-	28	-	-	28	0		103	2	28	4	99	-	28	٣		28	0
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Description	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)	Temp. Support Design for MA and MA/MI Connection	Design preparation for the AIP submission	Design (AIP) submission for the DC's approval	Design (AIP) certification by the Design Checker	Design (AIP) submission for the SO's approval	Design (AIP) review by the SO	AIP submission for rel. authorities' approval	Design (AIP) review by the rel. authorities	Obtain rel. authorities's approval for AIP	SO submit design (AIP) for approval of GEO	Design (AIP) review/approval by the GEO	Obtain SO's consent for design (AIP)	Design preparation for the DDA submission	Design submission for the DC's approval	Design (DDA) certification by the Design Checker	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)	Permanent Design for MAA/MAS/VDS/DC/AVS	Design preparation for the AIP submission	Design submission for the DC's approval	Design (AIP) certification by the Design Checker	Design (AIP) submission for the SO's approval	Design (AIP) review by the SO	AIP submission for rel. authorities' approval	Design (AIP) review by the rel. authorities	Obtain rel. authorities's approval for AIP	SO submit design (AIP) for approval of GEO	Design (AIP) review/approval by the GEO	Obtain SO's consent for design (AIP)
9	02L1CC0326	02L1CC0328	02L1CC0330	02L1CC0332	02L1CC0334	02L1CC0336	02L1CC0338	02L1CC0340	Temp. Suppor	02L1CC0402	02L1CC0403	02L1CC0404	02L1CC0406	02L1CC0408	02L1CC0410	02L1CC0412	02L1CC0414	02L1CC0416	02L1CC0418	02L1CC0420	02L1CC0422	02L1CC0423	02L1CC0424	02L1CC0426	02L1CC0428	02L1CC0430	02L1CC0432	02L1CC0434	02L1CC0436	02L1CC0438	02L1CC0440	Permanent De	02L1CC0502	02L1CC0503	02L1CC0504	02L1CC0506	02L1CC0508	02L1CC0510	02L1CC0512	02L1CC0514	02L1CC0516	02L1CC0518	02L1CC0520

2	Description	Dur	Dur	Start	Finish	Start	Finish	9	Float		
02L1CC0522	Design preparation for the DDA submission	30	30 0	30 09MAR09A	24JUN09 091	¥6	24JUN09	2	0	T.	-
02L1CC0523	Design submission for the DC's approval	•	-	25JUN09	25JUN09 25.	25JUN09 2	25JUN09	-	0		
02L1CC0524	Design (DDA) certification by the Design Checker	28	28	26JUN09	23JUL09 26.	26JUN09	23JUL09	2	0		
02L1CC0526	Design (DDA) submission for the SO's approval		5	25JUN09	25JUN09 25.	25JUN09	25JUN09	-	152		
02L1CC0528	Design (DDA) review by the SO	66	66	26JUN09	30AUG09 26.	26JUN09	30AUG09	2	183	11	
02L1CC0530	DDA submission for rel. authorities' approval	٣	τ.	02JUL09	02JUL09 02	02JUL09 0	02JUL09	-	177		
02L1CC0532	Design (DDA) review by the rel. authorities	28	28	03JUL09	30JUL09 03.	03JUL09	30JUL09	2	214		
02L1CC0534	Obtain rel. authorities's approval for DDA	÷	-	31JUL09	31JUL09 31.	31JUL09	31JUL09	-	174		
02L1CC0536	SO submit design (DDA) for approval of GEO		-	31JUL09	31JUL09 31.	31JUL09	31JUL09	-	0		
02L1CC0538	Design (DDA) review/approval by the GEO	28	28	01AUG09	28AUG09 01/	01AUG09	28AUG09	2	0		
02L1CC0540	Obtain SO's consent for design (DDA)	0	0		31AUG09		31AUG09	2	183	•	
Permanent De	Permanent Design for MA and MA/MT Connection										0.33
02L1CC0602	Design preparation for the AIP submission	84	84	01JUL08A	17JUN09 01JUL08A		17JUN09	2	0	1	
02L1CC0603	Design (AIP) submission for the DC's approval	2	2	25JUL08A	18JUN09 25JUL08A		18JUN09	-	0		
02L1CC0604	Design (AIP) certification by the Design Checker	28	58	26JUL08A	06JUL09 26	26JUL08A (06JUL09	3	0		
02L1CC0606	Design (AIP) submission for the SO's approval	2	2	26JUL08A	07JUL09 26.	26JUL08A	07JUL09	्य	0		
02L1CC0608	Design (AIP) review by the SO	99	99	28JUL08A	08AUG09 28.	28JUL08A (08AUG09	2	0	1	
02L1CC0610	AIP submission for rel. authorities' approval	5		25JUL08A	08AUG08A 25JUL08A		08AUG08A	•			
02L1CC0612	Design (AIP) review by the rel. authorities	28	28	26JUL08A	13JUL09 26.	26JUL08A	13JUL09	2	24		
02L1CC0614	Obtain rel. authorities's approval for AIP		5	14JUL09	14JUL09 14.	14JUL09	14JUL09	-	21		
02L1CC0616	SO submit design (AIP) for approval of GEO	÷	٣	14JUL09	14JUL09 14,		14JUL09		0		
02L1CC0618	Design (AIP) review/approval by the GEO	28	28	15JUL09	11AUG09 15.	15JUL09	11AUG09	2	0		
02L1CC0620	Obtain SO's consent for design (AIP)	0	0		09AUG09		09AUG09	2	0		
02L1CC0622	Design preparation for the DDA submission	30	30	18JUL09	16AUG09 18JUL09		16AUG09	2	0		
02L1CC0623	Design (DDA) submission for the DC's approval	-	-	17AUG09	17AUG09 17/	17AUG09	17AUG09	•	0		
02L1CC0624	Design (DDA) certification by the Design Checker	28	28	18AUG09	14SEP09 18/	18AUG09	14SEP09	3	0		
02L1CC0626	Design (DDA) submission for the SO's approval	-	-	17AUG09	17AUG09 17/	17AUG09	17AUG09	÷	419		
02L1CC0628	Design (DDA) review by the SO	66	66	18AUG09	220CT09 18/	18AUG09	220CT09	~	515		
02L1CC0630	DDA submission for rel. authorities' approval		٣	24AUG09	24AUG09 24	24AUG09	24AUG09	-	442		
02L1CC0632	Design (DDA) review by the rel. authorities	28	28	25AUG09	21SEP09 25	25AUG09	21SEP09	2	546		
02L1CC0634	Obtain rel. authorities's approval for DDA	+	-	22SEP09			22SEP09	•	442		
02L1CC0636	SO submit design (DDA) for approval of GEO	*	-	22SEP09	22SEP09 22		22SEP09	-	0		
02L1CC0638	Design (DDA) review/approval by the GEO	28	28	23SEP09	200CT09 23	23SEP09	200CT09	2	0		
02L1CC0640	Obtain SO's consent for design (DDA)	0	0		230CT09		230CT09	2	515	*	
Boulder Asses	Boulder Assessment & Design for Stabili. Measure										
02L1CC0702	Boulder Surevey	30	30	02JUN08A	15AUG08A 02JUN08A		15AUG08A	-			1.11
02L1CC0704	Prepare/submit boulder surevey report	25	25	14JUL08A	05SEP08A 14JUL08A		05SEP08A	•			
02L1CC0706	SO review boulder survey report	14	14 0	06SEP08A	19SEP08A 06SEP08A		19SEP08A	8			
Temporary Dr	Temporary Drainage Management Plan										
02L1CC0802	TDMP preparation by the Designer	14	14 (14 04AUG08A	03SEP08A 04AUG08A		03SEP08A	2			
02L1CC0803	TDMP submission for the DC's approval	-	-	1.00	08SEP08A 08SEP08A		08SEP08A	-			
02L1CC0804	TDMP certification by the Design Checker	28	28 (10DEC08A 09SEP08A		10DEC08A	2			
100000	TDMD submission for the CO's approved	(•	ALL ALL AND ALL ALL ALL ALL ALL ALL ALL ALL ALL AL	A DOTO TO A DOOT OF		NOCOLUMN.	,	ļ	I	

Sheet 20 of 58

Page 87 of 125

TDMP review by the SO	06	90 21OCT08A	08A 08JAN09A 21OCT08A	DCT08A 08JAN09A	2	0	
TDMP submission for DSD's approval	} . -	210	210CT08A				
TDMP review by the DSD	06	220			2	11	
Obtain DSD's approval for DDA	-	1 08JAN09A	APPANDER 08JAN09A	9A 08JAN09A	-		
Obtain SO's consent for TDMP	10	0	08JAN09A	08JAN09A	2	•	
ELS for Permanent Approach Channel Construction							
Design preparation by the Designer	15	15 03AUG09*	09* 17AUG09 03AUG09*	09* 17AUG09	2 406		
Design submission for the DC's approval	*	1 18AUG09	09 18AUG09 18AUG09	18AUG09	1 330		
Design certification by the Design Checker	28	28 19AUG09	09 15SEP09 19AUG09	15SEP09	2 406		
Design submission for the SO's approval	÷	1 18AUG09	09 18AUG09 18AUG09	39 18AUG09	1 330		
Design review by the SO	42	42 19AUG09	09 29SEP09 19AUG09	09 29SEP09	2 406		
Obtain design approval from the SO	0	0	29SEP09	29SEP09	2 406		
Instrumentation Stg 1 for GL Works							
Design preparation by the Designer	14	14 22FEB08A	18A 29APR08A 22FEB08A	8A 29APR08A	2	0	
Design certification by the Design Checker	2	7 30APR08A	38A 26MAY08A 30APR08A	ISA 26MAY08A	2		
Design submission for the SO's approval	1	1 10MAY08A	38A 26MAY08A 10MAY08A	38A 26MAY08A	F		
Design review by the SO	14	14 12MAY08A	38A 14JUL08A 12MAY08A	38A 14JUL08A	8	0	
Obtain design approval from the SO	0	0	14JUL08A	14JUL08A	2	•	
Install Geotechnical Instruments	19	19 24JUN08A	18A 09AUG08A 24JUN08A	8A 09AUG08A	-		
Baseline Monitoring	4	14 26JUL08A	8A 16AUG08A 26JUL08A	8A 16AUG08A		•	
Geotechnical Instrumentation Sto 2 for Deen Exc.		-	-				
Design preparation by the Designer	60	60 28AUG0	60 28AUG08A 04NOV08A 28AUG08A 04NOV08A	38A 04NOV08A	2	0	
Design certification by the Design Checker	14	14 11NOV08A	0105A 0105C08A 11NOV08A	38A 01DEC08A	2		
Design submission for the SO's approval	2	2 04NOV0	04NOV08A 02DEC08A 04NOV08A	38A 02DEC08A			
Design review by the SO	28	28 05NOV08A	38A 11JUN09 05NOV08A	38A 11JUN09	2 -76		
Obtain design approval from the SO	0	0	11JUN09	11JUN09	2 -76		
Install Geotechnical Instruments	8	18 14MAR09A	39A 18JUN09 14MAR09A	99A 18JUN09	1 -58	1	
Baseline Monitoring	4	14 19JUN09	09 02JUL09 19JUN09	9 02JUL09	2 -74		
Monitor/report Geotechnical Instrumentation	1,566 1,	1,566 18AUG08A	38A 31DEC12 18AUG08A	31DEC12	2 0		
Design Packages for Works in Portion D							
Temp. Access Rd Design at P. D; +14mPD to +69mPD							
Design preparation by the Designer	14	14 17JAN08A	08A 16APR08A 17JAN08A	8A 16APR08A	N	0	
Design certification by the Design Checker	150	150 17APR08A	38A 13SEP08A 17APR08A	13SEP08A	N	1	
Design submission for the SO's approval	N	2 25APR08A	38A 24SEP08A 25APR08A	18A 24SEP08A			
Design review by the SO	80	90 26APR08A	38A 04FEB09A 26APR08A	38A 04FEB09A	2	1	
Design review by GEO	28	28 23JUN08A	08A 29NOV08A 23JUN08A	8A 29NOV08A	2		
Obtain design approval from the SO	0	0	04FEB09A	04FEB09A	2	•	
Boulder Assessment & Design for Stabili. Measure							
Boulder Surevey	14	14 03APR0	03APR08A 11APR08A 03APR08A	11APR08A	F	14	
Prepare/submit boulder surevey report	25	25 12APR08A	38A 26MAY08A 12APR08A	38A 26MAY08A	T	0	
SO review boulder survey report	14	14 27MAY08A		08A 16JUN08A	2	-	
Site Formation Design; +69mPD to +40mPD							
	1.00	A ATIANT	ANDONAL ADDOOR 17 IANIOR 10 ADDOOR	ANDRORAT AS	0	1	

nesciphica			Unic	Finish Start			Float			
Design certification by the Design Checker	150	150	17APR08A	150 17APR08A 14NOV08A 17APR08A	A 14NOV08A	2				
Design submission for the SO's approval	8	2	25APR08A	14NOV08A 25APR08A	A 14NOV08A	-		I		
Design review by the SO	6	90 2	26APR08A	04DEC08A 26APR08A	A 04DEC08A	2				
Obtain design approval from the SO	0	0		04DEC08A	04DEC08A	2		•		
Site Formation Design; +40mPD to +24mPD										
Design preparation by the Designer	120	120 14AP	R08A	09MAY09A 14APR08A	A DOMAYODA	8				
Design certification by the Design Checker	145	145 0	05MAY08A	15MAY09A 05MAY08A	A 15MAY09A	2				
Design submission for the SO's approval	2	2	10MAY08A	16MAY09A 10MAY08A	A 16MAY09A	٣				24
Design review by the SO	8	90 1	12MAY08A	03JUN09 12MAY08A	60NULEO A	2	-201			
Obtain design approval from the SO	0	0		60NULE0	60NULEO	N	-201			2
Desian: +24mPD to 14mPD										
Design preparation by the Designer	60	60 2	28AUG08A	23APR09A 28AUG08A	A 23APR09A	8				
Design submission for the DC's approval	2	2	16JAN09A	24APR09A 16JAN09A	A 24APR09A					8
Design certification by the Design Checker	28		1	15MAY09A 19JAN09A	A 15MAY09A	2				1
Design submission for the SO's approval	2	2	02FEB09A	15MAY09A 02FEB09A	A 15MAY09A			1	1	
Design review by the SO	83	63 (03FEB09A	18JUN09 03FEB09A	A 18JUN09	2	-213			
Design review by GEO	28	28	28MAY09	24JUN09 28MAY09	24JUN09	2	0	C		
Obtain design approval from the SO	0	0		18JUN09	18JUN09	2	-213			
TBM Launching Chamber Design										
Design (AIP) preparation by the Designer	381	381 2	21APR08A	11MAY09A 21APR08A	A 11MAY09A	2				
Design (AIP) submission for the DC's approval	m	6	28JUL08A	12MAY09A 28JUL08A	4 12MAY09A	-				1
Design (AIP) certification by the Design Checker	37	37 2	21AUG08A	13MAY09A 21AUG08A	IA 13MAY09A	2				
Design (AIP) submission for the SO's approval	3	e	28JUL08A	13MAY09A 28JUL08A	A 13MAY09A				1	
Design (AIP) review by the SO	280	280	29JUL08A	19MAY09A 29JUL08A	A 19MAY09A	8				
AIP submission for rel. authorities' approval	-	7	28AUG08A	28AUG08A 28AUG08A	IA 28AUG08A	T		-		
Design (AIP) review by the rel. authorities	28	28	28FEB09A	27MAR09A 28FEB09A	A 27MAR09A	2				
Obtain rel. authorities's approval for AIP	0	0		19MAY09A	19MAY09A	F			*	
SO submit Design (AIP) for approval of GEO		2	28FEB09A	28FEB09A 28FEB09A	A 28FEB09A					
Design (AIP) review/approval by the GEO	28	28 0	01MAR09A	28MAY09 01MAR09A	9A 28MAY09	2	-176			
Obtain SO's consent for design (AIP)	0	0		19MAY09A	19MAY09A	8				
Design preparation for the DDA submission	30	30 0	07MAR09A	05JUN09 07MAR09A	90 05JUN09	3	-183			
Design (DDA) submission for the DC's approval		-	60NUL80	60NUL30 90NUL30	06JUN09	۲	-142			0
Design (DDA) certification by the Design Checker	28	28	60NUL70	04JUL09 07JUN09	04JUL09	8	-180			
Design (DDA) submission for the SO's approval	-	٣	60NUC90	001000 001000	06JUN09	Ŧ	-144			
Design (DDA) review by the SO	99	66	60NUL70	11AUG09 07JUN09	11AUG09	2	-183			
DDA submission for rel. authorities' approval	-	T	13JUN09	13JUN09 13JUN09	13JUN09	•	0			
Design (DDA) review by the rel. authorities	28	28	14JUN09	11JUL09 14JUN09	11JUL09	2	+			8
Obtain rel. authorities's approval for DDA	-	-	13JUL09	13JUL09 13JUL09	13JUL09	-	0			
SO submit design (DDA) for approval of GEO	-	-	13JUL09	13JUL09 13JUL09	13JUL09		0			
Design (DDA) review/approval by the GEO	28	28	14JUL09	10AUG09 14JUL09	10AUG09	2	0			
Obtain SO's consent for design (DDA)	0	0		12AUG09	12AUG09	2	-183		•	
Design properties he the Designer	119	119	28FEB09A	26JUN09 28FEB09A	A 26JUN09	2	-212			1

	Description	- Inc	Dur .	Start	LEDO USULA	L'AURSEN	1	FIGHT		
02L1DD0803	Design submission for the DC's approval	-	÷	27JUN09	60NUL72 60NUL72	27JUN09	-	-169	-	0
02L1DD0804	Design certification by the Design Checker	28	28	28JUN09	25JUL09 28JUN09	25JUL09	8	-212		
02L1DD0806	Design submission for the SO's approval	-	-	27JUN09	27JUN09 27JUN09	27JUN09	*	-169		
02L1DD0808	Design review by the SO	42	42	28JUN09	08AUG09 28JUN09	08AUG09	2	-212		
02L1DD0810	Obtain design approval from the SO	0	0		08AUG09	08AUG09	2	-212	•	
Steel Platform Design	Design									3
02L1DD0902	Design preparation by the Designer	82	82 0	02JAN09A	24MAR09A 02JAN09A	24MAR09A	2		1	
02L1DD0903	Design submission for the DC's approval	-	7	25MAR09A	25MAR09A 25MAR09A	25MAR09A	**			
02L1DD0904	Design certification by the Design Checker	28	28 2	26MAR09A	08JUN09 26MAR09A	60NUL80	2	-194	1	
02L1DD0906	Design submission for the SO's approval	-	-	60NUL60	60NUL20 20NUL20	60NUL80	÷	-153		
02L1DD0908	Design review by the SO	42	42	10JUN09	21JUL09 10JUN09	21JUL09	N	-194		
02L1DD0910	Obtain design approval from the SO	0	0		21JUL09	21JUL09	2	-194	•	7
head Gan	Overhead Gantry Support & Noise Enclosure Design									
02L1DD1002	Design preparation by the Designer	82	82 0	02JAN09A	14JUN09 02JAN09A	14JUN09	2	-157	1	
02L1DD1003	Design submission for the DC's approval	-		15JUND9	15JUN09 15JUN09	15JUN09	-	-124		
02L1DD1004	Design certification by the Design Checker	28	28	16JUN09	13JUL09 16JUN09	13JUL09	N	-157		
02L1DD1006	Design submission for the SO's approval	-		15JUN09	1.00	15JUN09	-	-124	-	
02L1DD1008	Design review by the SO	42	42	16JUN09	27JUL09 16JUN09	27JUL09	0	-157		
02L1DD1010	Obtain design approval from the SO	0	0		27JUL09	27JUL09	0	-157	•	
Design fo	ELS Design for Solral Ramo & Vehicular Access									
02L1DD1102	Design preparation for the AIP submission	30	30	28MAY09	26JUN09 28MAY09	26JUN09	2	130		
02L1DD1103	Design (DDA) submission for the DC's approval	-	-	27JUN09	27JUN09 27JUN09	27JUN09	-	109		
02L1DD1104	Design (DDA) certification by the Design Checker	28	28	28JUN09	25JUL09 28JUN09	25JUL09	2	132	0	
02L1DD1106	Design (DDA) submission for the SO's approval	F	-	27JUN09	27JUN09 27JUN09	27JUN09	~	107		
02L1DD1108	Design (DDA) review by the SO	99	99	28JUN09	01SEP09 28JUN09	01SEP09	2	130		
02L1DD1110	DDA submission for rel. authorities' approval	-	-	04JUL09	04JUL09 04JUL09	04JUL09	÷	134		
02L1DD1112	Design (DDA) review by the rel. authorities	28	28	05JUL09	01AUG09 05JUL09	01AUG09	2	160	C	
02L1DD1114	Obtain rel. authorities's approval for DDA	-	Ŧ	03AUG09	03AUG09 03AUG09	03AUG09	-	131		
02L1DD1116	SO submit design (DDA) for approval of GEO	-	-	03AUG09	03AUG09 03AUG09	03AUG09	÷	110		
02L1DD1118	Design (DDA) review/approval by the GEO	28	28	04AUG09	31AUG09 04AUG09	31AUG09	2	131	•	
02L1DD1120	Obtain SO's consent for design (DDA)	0	0		02SEP09	02SEP09	2	130	•	
Design fo	ELS Design for Box Culvert & Open Channel									
02L1DD1202	Design preparation for the AIP submission	30	30	27JUN09	26JUL09 27JUN09	26JUL09	2	1,550	ū	
02L1DD1203	Design (DDA) submission for the DC's approval	-	-	27JUL09	27JUL09 27JUL09	27JUL09	-	1,260		
02L1DD1204	Design (DDA) certification by the Design Checker	28	28	28JUL09	24AUG09 28JUL09	24AUG09	2	1,551		
02L1DD1206	Design (DDA) submission for the SO's approval	÷	-	27JUL09	27JUL09 27JUL09	27JUL09	-	1,259	-	
02L1DD1208	Design (DDA) review by the SO	99	99	28JUL09	010CT09 28JUL09	01OCT09	2	1,550		
02L1DD1210	DDA submission for rel. authorities' approval	-	-	03AUG09	03AUG09 03AUG09	03AUG09	-	1,285		7
02L1DD1212	Design (DDA) review by the rel. authorities	28	28	04AUG09	31AUG09 04AUG09	31AUG09	2	1,581		
02L1DD1214	Obtain rel. authorities's approval for DDA		-	01SEP09	01SEP09 01SEP09	01SEP09	-	1,283		
02L1DD1216	SO submit design (DDA) for approval of GEO	Ŧ		01SEP09	01SEP09 01SEP09	01SEP09	***	1,260		
02L1DD1218	Design (DDA) review/approval by the GEO	28	28	02SEP09	29SEP09 02SEP09	29SEP09	2	1,552		
		c	c			ODCTOCO	c	1 770	•	

Temporary Drainage Management Plan	ment Plan											
02L1DD1302 TDMP prepar	TDMP preparation by the Designer	225	225 (05MAY08A	27MAR09A	27MAR09A 05MAY08A	27MAR09A	2				
02L1DD1303 TDMP submis	TDMP submission for the DC's approval	2	2	08AUG08A	29MAY09	29MAY09 08AUG08A	29MAY09	-	10			
02L1DD1304 TDMP certific	TDMP certification by the Design Checker	28	28	09AUG08A	60NUL30	09AUG08A	60NUL30	2	12			
02L1DD1306 TDMP submis	TDMP submission for the SO's approval	2	2	08AUG08A	60NUL80	08AUG08A	08JUN09	-	16	1		
02L1DD1308 TDMP review by the SO	by the SO	06	06	08AUG08A	04JUL09	08AUG08A	04JUL09	0	12			
02L1DD1310 TDMP submis	TDMP submission for DSD's approval	÷	-	17NOV08A	17NOV08A	17NOV08A 17NOV08A	17NOV08A	-	1			
02L1DD1312 TDMP review by the DSD	by the DSD	06	60	18NOV08A	16JUL09	18NOV08A	16JUL09	0	0	1		
02L1DD1314 Obtain DSD's	Obtain DSD's approval for DDA	÷	-	17JUL09	17JUL09	17JUL09	17JUL09	-	0			
02L1DD1316 Obtain SO's c	Obtain SO's consent for TDMP	0	0		17JUL09		17JUL09	2	0			
cal Instrumentatio	Geotechnical Instrumentation Stg 1 for GL Works											
3DL1DDG102 Design prepar	Design preparation by the Designer	14	14	22FEB08A	24APR08A	24APR08A 22FEB08A	24APR08A	2		8		
3DL1DDG104 Design certific	Design certification by the Design Checker	7	~	25APR08A	16JUN08A	16JUN08A 25APR08A	16JUN08A	2		8		
3DL1DDG106 Design submi	Design submission for the SO's approval	-	-	25APR08A	16JUN08A	16JUN08A 25APR08A	16JUN08A	-		0		
3DL1DDG108 Design review by the SO	v by the SO	14	44	26APR08A	14JUL08A	14JUL08A 26APR08A	14JUL08A	2		0		
3DL1DDG110 Obtain design	Obtain design approval from the SO	0	0		14JUL08A		14JUL08A	2		٠		
3DL1DDG112 Install Geotec	Install Geotechnical Instruments	10	10	04JUN08A	05JUL08A	05JUL08A 04JUN08A	05JUL08A	-		a		
		14	14	18JUN08A	09JUL08A	09JUL08A 18JUN08A	09JUL08A	2	Ī	•		
ical Instrumentation	Geotechnical Instrumentation Sta 2 for Deep Exc.	-										
3DL1DDG202 Design prepar	Design preparation by the Designer	14	4	28MAY09*	60NUL01	10JUN09 28MAY09*	10JUN09	2	195			
3DL1DDG204 Design certific	Design certification by the Design Checker	14	4	11JUN09	24JUN09	11JUN09	24JUN09	2	195			
3DL1DDG206 Design submi	Design submission for the SO's approval		٣	11JUN09	11JUN09	11JUN09	11JUN09	-	163			
3DL1DDG208 Design review by the SO	v by the SO	28	28	12JUN09	031UL09	12JUN09	0370100	2	195		10	
3DL1DDG210 Obtain design	Obtain design approval from the SO	0	0		03JUL09		0370100	2	195		•	
3DL1DDG212 Install Geotec	Install Geotechnical Instruments	18	0	10JUL09	30JUL09	10JUL09	30JUL09	-	161			
3DL1DDG214 Baseline Monitoring	itoring	14	4	31JUL09	13AUG09 31JUL09	31JUL09	13AUG09	3	195			
3DL1DDG216 Monitor/report	Monitor/report Geotechnical Insturmentatation	1,605 1,605	605	10JUL08A	31DEC12	10JUL08A	31DEC12	2	0			
ackages for Wo	Design Packages for Works in Portion F											
Main Tunnel Design												
02L1FF0102 Design prepar	Design preparation for the AIP submission	414	414	08FEB08A	27MAR09A	27MAR09A 08FEB08A	27MAR09A	2				
02L1FF0103 Design (AIP)	Design (AIP) submission for the DC's approval	3	2	02MAY08A	27MAR09A	27MAR09A 02MAY08A	27MAR09A	٣				
02L1FF0104 Design (AIP)	Design (AIP) certification by the Design Checker	28	28	03MAY08A	27MAR09A	27MAR09A 03MAY08A	27MAR09A	2				
02L1FF0106 Design (AIP)	Design (AIP) submission for the SO's approval		-	10JUL08A	27MAR09A 10JUL08A	10JUL08A	27MAR09A	٣				
02L1FF0108 Design (AIP)	Design (AIP) review by the SO	99	99	11JUL08A	60NULE0	03JUN09 11JUL08A	03JUN09	2	-176			
02L1FF0110 AIP submissio	AIP submission for rel. authorities' approval	5	-	08JUL08A	08JUL08A	08JUL08A 08JUL08A	08JUL08A	Ξ.		-		2
02L1FF0112 Design (AIP)	Design (AIP) review by the rel. authorities	28	28	09JUL08A	05MAR09A 09JUL08A		05MAR09A	2				
02L1FF0114 Obtain rel. au	Obtain rel. authorities's approval for AIP	÷	-	06MAR09A	06MAR09A	06MAR09A 06MAR09A	06MAR09A	π.				2
02L1FF0116 SO submit de	SO submit design (AIP) for approval of GEO	5	-	29MAY09	29MAY09	29MAY09	29MAY09	-	0			-111
02L1FF0118 Design (AIP)	Design (AIP) review/approval by the GEO	28	28	30MAY09	26JUN09	30MAY09	26JUN09	2	0			
	Obtain SO's consent for design (AIP)	0	0		04JUN09		04JUN09	8	-176			
	Design preparation for the DDA submission	90	30	04NOV08A	11JUN09	04NOV08A	11JUN09	2	-176	1		
02L1FF0123 Design (DDA)	Design (DDA) submission for the DC's approval	-	-	12JUN09	12JUN09	12JUN09	12JUN09	-	-138			SY:
	Design (DDA) contification by the Design Checker	ac	ac	13.II INDO	10.11.11.09	13.JUN09	10 11 11 00	0	-176			

Description	Dur Dur		Start	-	Start	Finish		Float					
Design (DDA) submission for the SO's approval	-	-	12JUN09	12JUN09 12	12JUN09	12JUN09	÷	-136					
Design (DDA) review by the SO	29	56	16JUN09	10AUG09 16	16JUN09	10AUG09	2	-176					
DDA submission for rel. authorities' approval	-	+-	19JUN09	19JUN09 15	19JUN09	19JUN09	٢	-121		_			
Design (DDA) review by the rel. authorities	28	28	20JUN09	17JUL09 20	20JUN09	17JUL09	3	-152		18			
Obtain rel. authorities's approval for DDA	F	-	18JUL09	18JUL09 18	18JUL09	18JUL09	*-	-123		-			
SO submit design (DDA) for approval of GEO	Ŧ		13JUL09	13JUL09 13	13JUL09	13JUL09	-	-140		-			
Design (DDA) review/approval by the GEO	28	28	14JUL09	10AUG09 14	14JUL09	10AUG09	8	-176					
Obtain SO's consent for design (DDA)	0	0		11AUG09		11AUG09	2	-176		٠			
Impact Assessment on WSD Yau Kam Tau WTW													
Design preparation for the DDA submission	60	60	29APR08A	30JUN08A 29APR08A	BAPR08A	30JUN08A	5					-	
Design (DDA) submission for the DC's approval	-	-	03JUL08A	03JUL08A 03JUL08A	SJULOBA	03JUL08A			_				
Design (DDA) certification by the Design Checker	260	260	04JUL08A	18MAR09A 04JUL08A	4JUL08A	18MAR09A	7			to be endor	be endorsed by All Reservior Panel	servior Pan	hel Engineer
Design (DDA) submission for the SO's approval	•	-	15JUL08A	18MAR09A 15JUL08A	5JUL08A	18MAR09A	-						
Design (DDA) review by the SO	99	99	16JUL08A	31MAR09A 16JUL08A	SJUL08A	31MAR09A	~						
DDA submission for rel. authorities' approval	٣		10JUL08A	02APR09A 10JUL08A	DULOBA	02APR09A							
Design (DDA) review by the rel. authorities	28	28	11JUL08A	10JUN09 11	11JUL08A	10JUN09	~	0		1			
Obtain rel. authorities's approval for DDA	~	-	11JUN09	11 BONUC11	11JUN09	11JUN09	-	0					
Obtain SO's consent for design (DDA)	0	0		31MAR09A		31MAR09A	N			•			
Impact Assessment on WSD Tai Lam Chung WT No. 3								7					
Design preparation for the DDA submission	32	32	14APR08A	27JUN08A 14APR08A	4APR08A	27JUN08A	2						
Design submission for the DC's approval	T	-	27JUN08A	27JUN08A 27JUN08A	7JUN08A	27JUN08A	-						
Design (DDA) certification by the Design Checker	285	285	28JUN08A	08JUN09 28	28JUN08A	60NUL80	2	0	Į	to be en	to be endorsed by All	All Reservior Panel Engineer	Panel Er
Design (DDA) submission for the SO's approval	~	-	15JUL08A	15JUL08A 15JUL08A	5JUL08A	15JUL08A	-						
Design (DDA) review by the SO	99	99	16JUL08A	13JUL09 16	16JUL08A	13JUL09	2	0		ł			
DDA submission for rel. authorities' approval	-	-	10JUL08A	10JUL08A 10JUL08A	0JUL08A	10JUL08A	-						
Design (DDA) review by the rel. authorities	28	28	11JUL08A	15JUN09 11	11JUL08A	15JUN09	2	28		11-		1	
Obtain rel. authorities's approval for DDA	÷	•	16JUN09	· · · · ·	16JUN09	16JUN09	-	23		_			
SO submit design (DDA) for approval of GEO	•		16JUN09	16JUN09 16	16JUN09	16JUN09	-	0				14	
Design (DDA) review/approval by the GEO	28	28	17JUN09	14JUL09 17	17JUN09	14JUL09	2	0		-			
Obtain SO's consent for design (DDA)	0	0		14JUL09		14JUL09	7	0		•			
Impact Assessment on KCRC West Rail Tunnel													_
Design preparation for the DDA submission	30	30	28APR08A	26JUN08A 28APR08A		26JUN08A	2						
Design submission for the DC's approval	•	-	26JUN08A	26JUN08A 26JUN08A	SJUN08A	26JUN08A	-		-				
Design (DDA) certification by the Design Checker	90	06	27JUN08A	02APR09A 27JUN08A	7JUN08A	02APR09A	2						
Design (DDA) submission for the SO's approval	2	N	15JUL08A	03APR09A 15JUL08A	5JUL08A	03APR09A	-						
Design (DDA) review by the SO	267	267	16JUL08A	08JUN09 16	16JUL08A	08JUN09	2	133		1			
DDA submission for rel. authorities' approval	-	-	14JUL08A	14JUL08A 14JUL08A	4JUL08A	14JUL08A	*		-				
Design (DDA) review by the rel. authorities	28	28	15JUL08A	11MAR09A 15JUL08A	5JUL08A	11MAR09A	2						
Obtain rel. authorities's approval for DDA	-	Ŧ	12MAR09A	11MAR09A 12MAR09A	2MAR09A	11MAR09A	-						
SO submit design (DDA) for approval of GEO	σ	-	29MAY09	29MAY09 29	29MAY09	29MAY09	-	97					
Design (DDA) review/approval by the GEO	28	28	30MAY09	26JUN09 30	30MAY09	26JUN09	2	115					
	1.27/1	1					•	1.1		4			

Sheet 25 of 58

Page 92 of 125

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ssment on WS	Impact Assessment on WSD Tsuen Wan Reservoir G.										
Design pret	Design preparation for the DDA submission	30	30 05	05MAY08A	02JUL08A 05MAY08A	Y08A 02JUL08A	38A 2		0		
Design sub	Design submission for the DC's approval	***	1	03JUL08A	03JUL08A 03JUL08A	08A 03JUL08A	1 18A 1				
Design (DD	Design (DDA) certification by the Design Checker	260	260 04	04JUL08A 0	01APR09A 04JUL08A	-08A 01APR09A	09A 2		Ĩ	be endorsed by All Reservior Panel Engineer	I Engi
Design (DD	Design (DDA) submission for the SO's approval	2	2 15	15JUL08A 0	01APR09A 15JUL08A	-08A 01APR09A	09A 1				
Design (DD	Design (DDA) review by the SO	60	60 16	16JUL08A	16JUN09 16JUL08A	-08A 16JUN09	09 2	221			
DDA submi	DDA submission for rel. authorities' approval	-	1	10JUL08A	10JUL08A 10JUL08A	-08A 10JUL08A	-				
Design (DD	Design (DDA) review by the rel. authorities	28	28 1	11JUL08A	10JUN09 11JUL08A	08A 10JUN09	09 2	226			
Obtain rel.	Obtain rel. authorities's approval for DDA		-	11JUN09	11JUN09 11JUN09	409 11JUN09					
Obtain SO's	Obtain SO's consent for design (DDA)	0	0		17JUN09	17JUN09	09 2	221			
Grout Trial at Foult Zone F1											
MS prepare	MS preparation for the DDA submission	12	12 02M		YOBA ZOMAYOBA OZMAYOBA	YO8A 20MAY08A	08A 2				
Ms (DDA) s	Ms (DDA) submission for the SO's approval	-	1 21	21MAY08A 2	21MAY08A 21MAY08A	Y08A 21MAY08A	08A 1				
MS (DDA)	MS (DDA) review by the SO	24	24 22		17JUL08A 22MAY08A		08A 2		0		
Obtain SO's	Obtain SO's consent for MS (DDA)	0	0		17JUL08A				•		
Geotechnitical Instrumentation	tion										
Design pret	Design preparation by the Designer	60	60 28AL	1G08A	23JAN09A 28AUG08A	G08A 23JAN09A	09A 2		1		
Decino car	Design cartification by the Design Charles	14	10 44	NOOA	ADDIAD AC DOMINICE			105			
Design cen	Design communication for the CO's annound	t o				21.	4				
nne lifican		4		Ven	NULT VENUNIN		ç				
nesign revi		90			VAUNALES SUNUCOS			ngl-			
DDA submi	DDA submission for rel. authorities' approval	-									
Design (DD	Design (DDA) review by the rel. authorities	56	Contraction of the local division of the loc	15MAR09A		-					
Obtain rel.	Obtain rel. authorities's approval for DDA	-	1 2	24JUL09	24JUL09 24JUL09		1	-156			
Obtain desi	Obtain design approval from the SO	0	0		24JUL09	24JUL09	39 2	-194			
Install geotu	Install geotechnical instrumentsation	90	90 2	25JUL09	10NOV09 25JUL09	00 10NOV09	1 00	-156		1	
Baseline Monitoring	onitoring	4	14 1	11NOV09	24NOV09 11NOV09	V09 24NOV09	09 2	-188			
Maintain/m	Maintain/monitor geotechnical instrumentation	1,200 1,	1,200 2	25NOV09	08MAR13 25NOV09	V09 08MAR13	13 2	-188			
kages for M	Design Packages for Works in Portion G				Contraction of the						
Drainage Impact Assessment	Int										
Quatation a	Quatation and award consultant	24	24 2	22JUN09*	20JUL09 22JUN09*	409* 20JUL09	1	182			
Prepare pre	Prepare preliminary DIA report	36	36 2	21JUL09	31AUG09 21JUL09	.09 31AUG09	1	182	in f		
Prepare fine	Prepare final DIA report	12	12 0	01SEP09	14SEP09 01SEP09	P09 14SEP09	09 1	182			
Submission	Submission of DIA report to SOR/DSD	*-	-	15SEP09	15SEP09 15SEP09	P09 15SEP09	1 1	186			
SOR/DSD r	SOR/DSD review/comment DIA report	28	28 2	22SEP09	190CT09 22SEP09	P09 19OCT09	09 2	227			
Revise DIA	Revise DIA incorporating comments	12	12 2	200CT09	03NOV09 200CT09	T09 03NOV09	1 60,	182			
SOR/DSD r	SOR/DSD review/approve DIA report	21	21 0	04NOV09	24NOV09 04NOV09	V09 24NOV09	2 60,	227			
Obtain cons	Obtain consent from SOR and DSD	0	0		24NOV09	24NOV09	09 2	227		•	
m Design for	Temp. Platform Design for H-Piling at Portion G		1								
Design prep	Design preparation for the DDA submission	30	30 2	21JUL09	19AUG09 21JUL09	-09 19AUG09	09 2	261			
Design (DD	Design (DDA) submission for the DC's approval	-	1 2(20AUG09 20AUG09		-				
Design (DD	Design (DDA) certification by the Design Checker	28		1609		1	09 2				
Design (DD	Design (DDA) submission for the SO's approval	-	1 2	20AUG09	20AUG09 20AUG09	G09 20AUG09		210			

Page 93 of 125

Sheet 26 of 58

	Activity Description	Dur	Dur	Start	Finish	Start	Finish	Ő	Float			
	DDA submission for rel. authorities' approval	-		27AUG09	27AUG09 2	27AUG09	27AUG09	-	228	-	75	
	Design (DDA) review by the rel. authorities	28	28	28AUG09	24SEP09 2	28AUG09	24SEP09	2	284		13	
l –	Obtain rel. authorities's approval for DDA	-		25SEP09	25SEP09 2	25SEP09	25SEP09	*	226		-	
	Obtain design (DDA) approval from the SO	0	0		18OCT09		18OCT09	2	261		٠	
5	ELS Design for Pipe Jacking at Portion G											
	Design preparation for the DDA submission	15	15	20AUG09	03SEP09 20AUG09	20AUG09	03SEP09	2	284			
	Design (DDA) submission for the DC's approval	-		04SEP09	04SEP09 (04SEP09	04SEP09	÷	229			_
T	Design (DDA) certification by the Design Checker	28	28	05SEP09	020CT09 (05SEP09	02OCT09	2	286		8	
	Design (DDA) submission for the SO's approval	÷	-	04SEP09	04SEP09 (04SEP09	04SEP09	-	228			
1	Design (DDA) review by the SO	58	58	05SEP09	01NOV09	05SEP09	01NOV09	2	284		11	
11	DDA submission for rel. authorities' approval	•	1	11SEP09	11SEP09	11SEP09	11SEP09	÷	246		-	
	Design (DDA) review by the rel. authorities	28	28	12SEP09	09OCT09	12SEP09	09OCT09	2	307		13	
11	Obtain rel. authorities's approval for DDA	÷		100CT09	100CT09 100CT09	100CT09	100CT09	-	248			ii You
1	Obtain design (DDA) approval from the SO	0	0		02NOV09		02NOV09	~	284		٠	
	Schedule of Milestones for Cost Centre No. 2L											
	2L 1; On submission of PDP to the SO	0	0		10JAN08A		10JAN08A	~	٠			
1	2L 2; On acception of PDP by the SO	0	0		04SEP08A		04SEP08A	N		•		1
	2L 3; On submission of AIP to the SO; Portion A	0	0		12MAY09A		12MAY09A	N			•	
1	2L 4; On acceptance of AIP by the SO, Portion A	0	0		25JUL09		25JUL09	N	1,619		•	
1	2L 5; On subumission of DDA to the SO; Portion A	0	0		28SEP09		28SEP09	2	1,554		٠	
1	2L 6; On acceptance of DDA by the SO; Portion A	0	0		100CT09		100CT09	2	1,542		•	2
í –	2L 7; On submission of AIP to the SO; Portion B	0	0		607NF20		607NC00	2	1,637		\$	
	2L 8; On acceptance of AIP by the SO; Portion B	0	0		12AUG09		12AUG09	0	1,601		\$	
1	2L 9; On submission of DDA to the SO; Portion B	0	0		28SEP09		28SEP09	2	1,554		•	
i	2L 10; On acceptance of DDA by the SO; Portion B	0	0		260CT09		26OCT09	2	1.526		٠	
1	2L 11; On submission of AIP to the SO; Portion C	0	0		25JUL09		25JUL09	2	1,619		\$	
1	2L 12; On acceptance of AIP by the SO; Portion C	0	0		10AUG09		10AUG09	2	1,603		\$	
1.	2L 13; On submission of DDA to the SO; Portion C	0	0		28SEP09		28SEP09	2	1,554		٠	
1	2L 14; On acceptance of DDA by the SO; Portion C	0	0		230CT09		230CT09	2	1,529	Ī	\$	
1	2L 15; On acceptance of AIP by the SO; Portion D	0	0		25JUL09		25JUL09	2	1,619		•	
	2L 16; On acceptance of DDA by the SO; Portion D	0	0		10OCT09		100CT09	2	1,542		•	
11	2L 17; On submission of AIP to the SO; Portion F	0	0		13JUL09		13JUL09	2	1,631		•	
	2L 18: On acceptance of AIP by the SO; Portion F	o	0		19SEP09		19SEP09	2	1,563		•	
	2L 19: On submission of DDA to the SO; Portion F	0	0		28SEP09		28SEP09	2	1,554		٠	
1	2L 20. On acceptance of DDA by the SO; Portion F	0	0		05DEC09		05DEC09	N	1,486		\$	-
	2L 21; On acceptance of AIP by the SO; Portion G	0	0		27MAY09		27MAY09	~	1,678		•	lane 1
	2L 22; On acceptance of DDA by the SO; Portion G	0	0		24NOV09		24NOV09	2	1,497		•	
	21 22: On completion of all works under this OC	C	C		DANON/DO		PANOV/09	, ,	1 497		\$	

Sheet 27 of 58

Page 94 of 125

Intellist 23/UL08A	3JUL08A 2 3JUL08A 1 4AUG08A 1 4AUG08A 1 3JUL08A 1 4AUG08A 1 1 Inor the design of pre-excavation grouting at F1 3AUC08A 1 1 Inor the design of pre-excavation grouting at F1 SNOV08A 1 1 Juing at F14ELB27 ZNOV08A 1 Janosta 2 Janosta 2 <
ad advice 0 0 23JUL08A 23LUL08A 24SEP08<	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1
Hyb issue XP Hyb issue XP Control Contro Control Control	2 1 1 1 1 Ifor the design of pre-excavation grouting at F1 1 1 1 1 2 1 2 1 2 1 1 1 1 1
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unement 30 30 14DEC07A 12JAN08A 14DEC07A 12JAN08A 9 252 252 21DEC07A 28SEP08A 21DEC07A 28SEP08A 7 7 040CT08A 080CT08A 040CT08A 080CT08A 080CT08A 9 21 21 090CT08A 24DEC07A 24DEC08A 080CT08A 9 30 30 06JUL09* 0AUG09 07AUG09 07AUG09 9 30 06JUL09* 0AUG09 07AUG09 07AUG09 07AUG09 9 30 06JUL09* 0AUG09 04AUG09 04SEP09 04SEP09 9 5 24 080UG09 04SEP09 04SEP09 04SEP09 103 & Lubrication 24 24 080UG09 04SEP09 04SEP09 103 & Lubrication 7 7 7 05SEP09 04SEP09 04SEP09 104 & Lossen 04SEP09 04SEP09 04SEP09 04SEP09 04SEP09 104 & Lossen 14	
unement 30 30 14DEC07A 12JAN06A 14DEC07A 12JAN06A 9 252 252 21DEC07A 285EP08A 12JAN06A 12JAN06A 9 252 252 21DEC07A 285EP08A 12DEC07A 285EP08A 1 7 7 040CT08A 805CT08A 805CT08A 805CT08A 1 21 21 090CT08A 285EP08A 24DEC07A 285EP08A 1 21 21 090CT08A 805CT08A 805CT08A 805CT08A 9 60JUL09* 0AJUG09 6JUL09* 0AJUG09 6JUG09 07AUG09 9 30 6JUL09* 0A3UG09 6JUG09 07AUG09 07AUG09 9 30 6JUL09* 0A3EP09 07AUG09 07AUG09 07AUG09 9 3 3 06JUL09* 04SEP09 07AUG09 07AUG09 9 6 6 05SEP09 05SEP09 05SEP09 07AUG09 1 <t< td=""><td></td></t<>	
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TBM dismounting & packing 21 21 050CT08A 24DEC08A	
TBM TBM TBM shipment to Hong Kong 30 30 06JUL09* 04AUG09 05AUG09 07AUG09 04AUG09 04AUG09 04AUG09 04AUG09 04AUG09 04AUG09 07AUG09 04AUG09 04A	2 -161
TBM shipment to Hong Kong 30 30 06JUL09* 04AUG09 04AUG09 04AUG09 04AUG09 0AUG09	2 -161
TBM arriving Portion I 3 3 0.5AUG09 0.5AUG09 0.7AUG09	1 -130
Destuffing Containers/Clearning & Ubrication 24 24 044000 045EP00 <	1 -130
Sembly/Test & Commis. at Portion I 7 7 0.655EP09 125EP09 655EP09 125EP09 655EP09 125EP09 125EP09 125EP09 125EP09 135EP09 245EP09 245EP0	
Cutterhead 7 7 0 055EP09 125EP09 125EP09 125EP09 125EP09 125EP09 125EP09 115EP09 155EP09 245EP09	
Bearing 6 6 6 055EP09 115EP09 055EP09 115EP09 Backup #1 6 6 6 125EP09 185EP09 185EP09 185EP09 Backup #2 5 5 145EP09 185EP09 185EP09 185EP09 Backup #3 5 5 5 145EP09 185EP09 185EP09 Backup #3 5 5 5 145EP09 185EP09 185EP09 Backup #4 5 5 145EP09 185EP09 185EP09 245EP09 Backup #4 5 5 195EP09 245EP09 245EP09 245EP09 Backup #5 5 5 195EP09 255EP09 305EP09 305EP09 Backup #7 5 5 255EP09 305EP09 305EP09 305EP09 Backup #8 7 5 5 200CT09 050CT09 050CT09 050CT09 Backup #9 5 5 050CT09 050CT09 050CT09	2SEP09 1 -130 1 -130
Backup #1 6 6 125EP09 185EP09 185EP09 185EP09 Backup #2 5 5 145EP09 185EP09 185EP09 185EP09 Backup #3 5 5 5 145EP09 185EP09 185EP09 185EP09 Backup #3 5 5 5 195EP09 245EP09 245EP09 245EP09 Backup #4 5 5 5 195EP09 245EP09 245EP09 245EP09 Backup #5 5 5 195EP09 245EP09 265EP09 305EP09 Backup #6 5 5 5 5 255EP09 305EP09 305EP09 Backup #7 5 5 5 255EP09 305EP09 305EP09 305EP09 Backup #8 5 5 5 200709 200709 2050709 305EP09 Backup #9 5 5 0 200709 0800709 1400709 1400709 Backup #10 5 5	1SEP09 1 -129
Backup # 2 5 5 145EP09 185EP09 185EP09 185EP09 Backup # 3 5 5 195EP09 245EP09 245EP09 245EP09 Backup # 4 5 5 195EP09 245EP09 245EP09 245EP09 Backup # 4 5 5 195EP09 245EP09 245EP09 245EP09 Backup # 5 5 5 195EP09 245EP09 265EP09 305EP09 Backup # 5 5 5 5 255EP09 305EP09 305EP09 305EP09 Backup # 5 5 5 5 255EP09 305EP09 305EP09 305EP09 Backup # 7 5 5 5 200C109 080CT09 080CT09 080CT09 Backup # 9 5 5 090CT09 080CT09 080CT09 080CT09 080CT09 Backup # 10 5 5 090CT09 040CT09 090CT09 140CT09	+
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Backup # 4 5 5 195EP09 245EP09 245EP09 245EP09 245EP09 245EP09 245EP09 305EP09	4SEP09 1 -122
Baackup # 5 5 5 5 255EP09 305EP09	4SEP09 1 -121
Backup # 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 0	-
Backup # 7 5 5 0.20CT09 0.80CT09 0.80CT0	00SEP09 1 -121
Backup # 8 5 5 020CT09 080CT09 080CT09 080CT09 140CT09	IBOCT09 1 -80
Backup #9 5 5 0.90CT09	BOCT09 1 -77
Backup # 10 5 5 5 09OCT09 14OCT09 09OCT09	40CT09 1 -79
	140CT09 1 -76 I
3AL1FT0370 Backup # 11 5 5 150CT09 200CT09 150CT09 200CT09	:00CT09 1 -78
3AL1FT0375 Backup # 12 5 5 150CT09 200CT09 150CT09 200CT09 200CT09	:00CT09 1 -75 1
TBM Transport from Portion I to Outfall	
01/02/20/20/20/20/20/20/20/20/20/20/20/20/	2JAN10 1 -219
3AL1FT0415 Shield # 1 1 04JAN10 04JAN10 04JAN10 04JAN10 04JAN10	MJAN10 1 -210
3AL1FT0425 Shield # 2 1 1 06JAN10 05JAN10	5JAN10 1 -210
3AL1FT0435 Bearing 1 1 06JAN10 06JAN10 06JAN10 06JAN10 06JAN10	6JAN10 1 -210
1 1 07JAN10 07JAN10 07JAN10 07JAN10	17JAN10 1 -210

	Description	JIII D		CIERC	Finish dian	Finish		Float		
3AL1FT0455	Conveyor	-	-	08JAN10	08JAN10 08JAN10	08JAN10	-	-210		
3AL1FT0465	Backup # 1		-	09JAN10	09JAN10 09JAN10	011010	۰ ۲	-210		
3AL1FT0475	Backup # 2	r -	-	11JAN10	11JAN10 11JAN10	11JAN10	-	-208		
3AL1FT0485	Backup # 3	-	÷	12JAN10	12JAN10 12JAN10	12JAN10	-	-206		
3AL1FT0495	Backup # 4		-	13JAN10	13JAN10 13JAN10	13JAN10	ۍ	-206		
3AL1FT0505	Backup # 5	•	-	29JAN10	29JAN10 29JAN10	29JAN10	N.	-219		
3AL1FT0515	Backup # 6	r	-	30JAN10	30JAN10 30JAN10	30JAN10	- -	-219		
3AL1FT0525	Backup # 7	-	-	27MAR10	27MAR10 27MAR10	27MAR10	-	-218		
3AL 1FT0535	Backup # 8	-	٣	31MAR10	31MAR10 31MAR10	31MAR10	F	-218		
3AL1FT0545	Backup # 9		۰.	08APR10	08APR10 08APR10	08APR10		-218		
3AL1FT0555	Backup # 10	5	-	12APR10	12APR10 12APR10	12APR10	-	-218		
3AL1FT0565	Backup # 11		~	15APR10	15APR10 15APR10	15APR10	-	-218		
3AL1FT0575	Backup # 12	3 85	۲	19APR10	19APR10 19APR10	19APR10	-	-218		
facture	Manufacture Pre-cast Lining/Delivery									
ental Lin	Segmental Lining Mould									
3AL1FTSM02	Procure sub-contract for segmental mould	0	0		21JUL08A	21JUL08A	7		•	
3AL1FTSM04	Prepare shop drwgs for segmental mould	60	60	02FEB09A	05MAR09A 02FEB09A	05MAR09A	2		-	
3AL1FTSM06	Fabrication of segmental mould	06	6	06MAR09A	16MAY09A 06MAR09A	A 16MAY09A	N		8	
3AL1FTSM08	Inspection in Korea	2	2	18MAY09A	20MAY09A 18MAY09A	A 20MAY09A	2			
3AL1FTSM10	Painting & packing	2	2	21MAY09A	27MAY09A 21MAY09A	A 27MAY09A	N			
3AL1FTSM12	Delivery of segmental moulds to HKG	7	2	28MAY09	03JUN09 28MAY09	60NULEO	2	-107		
ast Segm	Pre-cast Segmental Lining									
3AL1FT0404	Prepare/submit QA/QC System	30	30	12JAN09A	04MAR09A 12JAN09A	04MAR09A	13			
3AL1FT0410	SO approve QA/QC system	28	28	05MAR09A	06JUN09 05MAR09A	A 06JUN09	-	80 90 90		
3AL1FT0412	Approval of Tunnel Linig Design	0	0		11AUG09	11AUG09	N	-176		
3AL1FT0416	Manufactur of segments	330	330	12AUG09		20SEP10	٢	-143 gs/day	-143 gs/day i.e. 1 pour/c	ay when the Total 3176 rings, 1 ring = 5 segments
3AL1FT0418	Delivery of Segments	400	400	02JAN10	12MAY11 02JAN10	12MAY11		-200	-	menter a meek befor
3AL1FTSL02	Procure sub-contract for segment lining	0	0		05JAN09A	05JAN09A	-		•	
ech Ins	Geotech Instrumetation at WSD Tunnel Using PPE									
od Staten	Method Statement to Install G.I. Works									
3AL1FTMS02	Prepare method statement	69	69	12MAR09A	26MAR09A 12MAR09A	A 26MAR09A	÷	1	••	
3AL1FTMS04	Method statement endorsement by ICE & APRE	30	8	29MAY09A	03JUL09 29MAY09A	A 03JUL09	-	-68		
3AL1FTMS08	Method statement endorsement by LD	18	18	04JUL09	24JUL09 04JUL09	24JUL09	Ŧ	-68		
3AL1FTMS12	Method statement endorsement by SOR	12	12	25JUL09	07AUG09 25JUL09	07AUG09	-	-68		
3AL1FTMS14	Method statement endorsement by WSD	24	24	08AUG09	04SEP09 08AUG09	04SEP09	-	-68		
3AL1FTMS24	Application for electrical power	45	45	22DEC09*	18FEB10 22DEC09*	18FEB10	٢	-188		
d Kau Ai	At Ting Kau Air Valve House									
3AL1WT3B02	Arrange WSD to open the valve house	÷	-	19MAR10	19MAR10 19MAR10	19MAR10	-	-219		
3AL1WT3B12	Set up exhoust fans & arrange temp. electricity	Ю	ო	20MAR10	23MAR10 20MAR10	23MAR10	-	-219		
3AL1WT3B22	Arrange 2 nrs. set of water pumps	2	2	24MAR10	25MAR10 24MAR10	25MAR10	۲	-219		to lower down the water level
3AL1WT3B32	Remove the air vent pipe (DN250)	21	2	26MAR10	27MAR10 26MAR10	27MAR10	~	-219		following water tunnel shut down
			İ							

Sheet 29 of 58

Page 96 of 125

3AL1WT3B52 3AL1WT3B62							And and a second	1	F MARK)						
	Connect exhaust fan to valve shaft	m	ŝ	30MAR10	01APR10 30	30MAR10	01APR10	-	-219						
	Connect new vent pipe to exhaust fan(s)	0	N	07APR10	08APR10 07	07APR10	08APR10	-	-219		-				
	Test and commission exhaust fan(s)	n		09APR10	12APR10 09APR10	APR10	12APR10	-	-219				1.2	88	
paration Work	Preparation Works at Chai Wan Kok Shaft													233	
3AL1FTCT02	Install electricity take off, switch board &	4	4	27MAR10	31MAR10 27	27MAR10	31MAR10	-	-219		stemp d	stemp dwon transformer	mer		
	Install waste reception/disposal area	÷		13MAR10	13MAR10 13MAR10	MAR10	13MAR10	-	-219				1.0	8	
3AL1FTCT22	Install toilet and shower	e	m	11MAR10	13MAR10 11MAR10	MAR10	13MAR10	-	-219		्याः		8	3	
3AL1FTCT32	Set up generatior, two 2" water pumps	2		30MAR10	31MAR10 30MAR10	MAR10	31MAR10	-	-219					8	
	UU detection	m	m	15MAR10	17MAR10 15MAR10	SMAR10	17MAR10	-	-219				2.22		
3AL1FTCW04	Excavate to lower platform apprx. 0.5m-1m	2		18MAR10	19MAR10 18MAR10	MAR10	19MAR10	-	-219		-				
3AL1FTCW06	Set out & align sheet piling	-		20MAR10	20MAR10 20	20MAR10	20MAR10	-	-219					5	
3AL1FTCW08	Install sheet piles & excavate to install rails	4	4	22MAR10	25MAR10 22	22MAR10	25MAR10	-	-219				14	23	
3AL1FTCW10	Excavate to the bottom of DN1200 pipe	e	m	26MAR10	29MAR10 26	26MAR10	29MAR10	-	-219		-				
3AL1FTCW12	Lay conrete blinding to pit	2	N	30MAR10	31MAR10 30	30MAR10	31MAR10	-	-219		-			W.	
3AL1FTCW14	ICE checking	7	- -	01APR10	01APR10 01	01APR10	01APR10	-	-219				1		
3AL1FTCW16	WSD Tunnel Shut Down Period	131	131*	26MAR10	03SEP10 26	26MAR10	03SEP10	-	0		M	WSD approval in 2 months advance	in 2 month	s advan	ance
3AL1FTCW18	WSD Tunnel #3 commences shut down	-		01APR10	01APR10 01	01APR10	01APR10	-	-219						
3AL1FTCW20	Cut & clean invert and inner face of DN1200	-	-	07APR10	07APR10 07	07APR10	07APR10	-	-219						
3AL1FTCW22	Plug DN1200 pipe at the face near valve house	٣	T	08APR10	08APR10 08APR10	3APR10	08APR10	-	-219						
3AL1FTCW24	Fabricate trolly & trial	4	4	09APR10	13APR10 09	09APR10	13APR10	-	-219 petent per	letent person authorizes entryinclude 24 hrs ventilation before man entry $\boldsymbol{\delta}$	entryinclude	24 hrs ventil	ation befor	e man e	n entry &
3AL1FTCW26	Install longituditual tensioned wire	2	3	14APR10	15APR10 14APR10	APR10	15APR10		-219		-				
3AL1FTCW36	Temporary plug main tunnel to form air seal	2		16APR10	17APR10 16APR10	SAPR10	17APR10	-	-219					233	
Works In Aqueduct	ict.										-			838	
3AL1FTAD04	Install instruments	56	56	19APR10	25JUN10 19APR10	3APR10	25JUN10	-	-219		-				
3AL1FTAD06	Inspection	π	-	26JUN10		26JUN10	26JUN10		-219				23	1	
	TBM crossing affected 120m section	12	1.1	28JUN10	12JUL10 28	28JUN10	12JUL10	-	-219		-				
3AL1FTAD10	De-install instruments	32	32	13JUL10	18AUG10 13JUL10	3JUL10	18AUG10	-	0					2	
Demobilisation													723	-	
3AL1FTAE04	Remove trolley system	1	-	19AUG10	19AUG10 19AUG10	9AUG10	19AUG10	-	0	110	1			55	
3AL1FTAE14	Remove the plug at Ting Kau	2	1.11	20AUG10	21AUG10 20AUG10	DAUG10	21AUG10	-	0		-				
3AL1FTAE24	Remove ventilation system, reinstate T.K. valve	e	m	23AUG10	25AUG10 23AUG10	3AUG10	25AUG10	-	0		- (
3AL1FTAE34	Remove temporary portal at junction	-	Ŧ	26AUG10	26AUG10 26AUG10	SAUG10	26AUG10	-	0		-	-		3	
Reinstatement Works	lorks														
3AL1FTRS02	Reinstate opening at Chai Wan Kok	2	2	27AUG10	03SEP10 27AUG10	7AUG10	03SEP10	-	0		-				
3AL1FTRS04	WSD Tunnel #3 re-operates	1	F	03SEP10	03SEP10 03SEP10	3SEP10	03SEP10	-	0				-		
M Assembly	FBM Assembly & Initial Driving; Day Time Work												-		
M Assembly/T	TBM Assembly/Test & Commiss. at Outfall														
3AL1FT0605	Cutterhead	e	ø	04JAN10	06JAN10 04JAN10	1JAN10	06JAN10	-	-219	-					
3AL1FT0615	Shield (bottom)	4	4	01/AN10	11JAN10 07	01/JAN10	11JAN10	-	-219					53	
3AL1FT0625	Bearing	Ŧ	-	12JAN10	12JAN10 12	12JAN10	12JAN10	-	-219						5700
3AL1FT0635	Erector & Conveyor Belt	3	n	13JAN10	15JAN10 13	13JAN10	15JAN10	<u>ः</u>	-219		-				
3AL1FT0645	Shield (top)	4	4	16JAN10	20JAN10 16	16JAN10	20JAN10	-	-219		-		10 10 10		-
3AL1FT0655	Backup # 1	8	ю	21JAN10	23JAN10 21JAN10	01NAU10	23JAN10	•	-219						

3 2.8.4M10 2.6.M10 2.7.M10 3 2.6.M10 2.7.M10 3 2.6.M10 6 0	•	Activity Description	D04 M	Dur	Start	Finish Start	Finish		Float	
Biology #1 Comment of a commen	3AL1FT0665		-	~	5JAN10		27JAN10	5	-219	
Rick of ministration range 1 0	3AL1FT0675	Backup # 3	m		8JAN10		30JAN10	Υ.	-219	
Bololio # 4 3 3 27EB10 27EB1 27EB10 27EB100 27EB10 27EB100	3AL1FT0685	Test & commission stage 1	9		1FEB10		06FEB10	2	-219	
Biology # 5 Concerning # 5 Concerning # 5 Concerning # 5 Concerning # 5 Concerning # 5 Concerning # 1 Concerning	3AL1FT0695	Backup # 4	ო		4FEB10		26FEB10	-	-199	
Biologe #5 Soundsind <	3AL 1FT0705	Backup # 5	e		7FEB10		02MAR10	-	-199	
Backer # 7 3	3AL1FT0715	Backup # 6	e	_	3MAR10	05MAR10 03MAR10		-	-199	
Bacong # 8 Bacong # 8 Bacong # 1 Bacong # 8 Bacong # 1	3AL 1FT0725	Backup # 7	m		9MAR10			-	-218	
Buskup # 1 Buskup # 1 C 2000000000000000000000000000000000000	3AL1FT0735	Backup # 8	n	-	1APR10		-	-	-218	
Backup # 10 Backup # 10 S = 0 Sub-RFI	3AL1FT0745	Backup # 9	ę		9APR10		12APR10	-	-218	
Backup # 11 Backup # 1 23, 1, 0, 0, 1 2, 1, 0, 0, 1 2, 1, 0, 0 1 2, 0 Resulty # 1 Eaccup # 1 2, 0 2, 0, 0, 0 1 2, 0 According Day Time Work According Day Time Bit Time More Accordin Day Time Bit Time More Accordin Day Ti	3AL1FT0755	Backup # 10	ę		3APR10		15APR10	-	-218	
Image: Image:	3AL1FT0765	Backup # 11	ε		6APR10		19APR10	-	-218	
I est a commision stage 2 12 224PR10 07MX10 234PR10 07MX10 1 218 Abellengine Work 15 6 6 6FEB10 17FEB10 1 219 TBM advences: CHISOR4 6	3AL 1FT0775	Backup # 12	ო		0APR10		22APR10	-	-218	
Oracing: Day Time Work Image	3AL1FT0785	Test & commission stage 2	12		3APR10	07MAY10 23APR10		-	-218	
Tell advances Chi constraint Constraint <thconstant< th=""> Constant Const</thconstant<>	TBM Initial Ad	Ivacing; Day Time Work								
TBM advances: CHORD CAPRID CAPRID CAPRID C 1 2/3 1 2/3 TIM stop to intadirem. items TIM stop to intadirem. items 10 10 Z7APRID SAMAYID 1 2/3 1 2/3 IM stop to intadirem. items 10 0 10 Z7APRID SAMAYID 1 2/3 TBM storenes: CHMSS Tumel # 3 40 40 0 0 10MAYID 24.01 1 2/3 TBM advances: CHMSS Tumel # 3 2 3.01UL 1 1 2/3 1 2/3 TBM advances: CHM35-4250 5 3.01UL 0 1 2.01UL 2.01UL 1 2.13 1 2.23 2.3 2.4 2.3 2.4	3AL1FT0704	TBM advancing; Ch. 5098 to Ch. 5084	ω		8FEB10		17FEB10	-	-219	
Item tem tem tem tem tem tem tem tem tem	3AL1FT0708	TBM advances; CH5084-4963	54		8FEB10			-	-219	
Image: Inclusion of the second state of the	3AL1FT0720	TBM stop to install rem, items	10		7APR10			٢	-219	
Inductor Inductor	Main Tunne	I Works; Day & Night Work								
TEM advances: CH465-4415 (b wSD Tunnel # 3) 40 40 10MAY10 23.UN10 12.31 2.10 1 1	TBM Advancir	ng upto Crossing WSD Tunnel # 3								
TEM crossing WSD Turnel # 3, CH4t15-4265 12 24.UU:10 7.JUL:10 1 2:06 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 1 2:16 1 1 2:16 1 1 2:16 1 1 2:16 1 1 2:16 1 1 2:16 1 2:16 1 2:16 1 2:16 1 2:16 1 1 2:16 1 1 1 2:16 1 1 1 2:16 1	3AL1FT0816	TBM advances; CH4963-4415 (to WSD Tunnel # 3)	40		OMAY10	26JUN10 10MAY10		÷	-219	
Ing upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image upto Breakthreugh Image Unto Baultio Image Latentes	3AL1FT0818	TBM crossing WSD Tunnel # 3; CH4415- 4295	12	-	8JUN10		12JUL10	-	-219	
IBM advances: CH205-4250 5 1 3JUL10 1 7JUL10 1 2JUL10 2 JUL10 1 2JUL10 2 JUL10 1 2JUL10 2 JUL10 3 JUL11 2 JUL11 <	TBM Advancit	ng upto Breakthrough							200	
TBM advances: FG CH4260-4220 2 1 aJUL10 2JUL10 6AUU10 1 -219 1 -219 1 -219 1 -219 1 -219 1 -219 1 -219 1 -219 1 -219 1 -219 1 -219 1 -219 1 -219 1 -219 1 -1	3AL1FT0819	TBM advances; CH4295-4250	IJ		3JUL10		17JUL10	-	-219	
TBM advances; CH4220.3940 14 14 14 14 14 14 12 1JUL10 65d(610 1 -219 Nucleion Vacuation TBM advances; CH3940-3560 24 24 66J010 25SEP10 66JU510 25SEP10 1 -219 Nucleion 4 TBM advances; CH3940-3560 24 24 65SEP10 65C110 1 -219 Nucleion 4 TBM advances; CH2860-1250 32 38 68NOV10 15EB11 1JJUN11 1 2739 Nucleion 4 Desembly & demobilization of TBM 50 13JUN11 16EB11 1JJUN11 1 2739 Intake 1/3 (CH1370-1250) Desembly & demobilization of TBM 50 13JUN11 16AU11 1	3AL1FT0820	TBM advances; P6 CH4250-4220	2		19JUL10		20JUL10	-	-219	
TBM advances, CH3940-3660 24 24 24 06AUG10 02SEP10 1 219 P5 (5m) %CRC W TBM advances CH3560-2970 40 40 332E710 200710 1 219 1 219 TBM advances CH3560-2970 13 13 230C110 68N0V10 230C110 61 219 1 219 TBM advances CH2560-1250 83 80N0V10 135E11 1.1JUN11 18FE11 1 219 1 219 Desembly denomizes CH1500-00 83 80 13JUN11 19FE11 1.1JUN11 1 219 1 1 219 Desembly denomization of TBM 50 50 13JUN11 19FE11 1.1JUN11 1 2 1 1 2 1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 2 1 1	3AL1FT0822	TBM advances; CH4220-3940	4		21JUL10		05AUG10	-	-219	Icriterion 1
TBM advances CH3560-2970 40 40 03SEP10 20SCT10 03SEP10 220CT10 1 219 Intake L2 (Ch3160-3100) Pp (10) TBM advances; WSD WS Reservior CH2970-2860 13 13 230CT10 68N0V10 18FB11 1 -219 Intake L2 (Ch3160-3100) Pp (10) TBM advances; CH2860-1250 83 68N0V10 18FB11 1 -219 Intake L3 (Ch3160-3100) Pp (10) TBM advances; CH2860-1250 83 08N0V10 18FB11 1 -219 Intake L3 (CH370-1250) Desembly & demobilization of TBM 50 51 3JUN11 19FEB11 1 -219 Intake L3 (CH370-1250) Back grouting (daytime) 67 50 50 13JUN11 10AUG11 1 -219 Intake L3 (CH1370-1250) Back grouting (daytime) 61 11JUG11 20CT11 1 -219 Intake L3 (CH1370-1250) Back grouting (abytime) 60 60 11JUG11 20CT11 1 -219 Installation of communication system (Daytime) 60 11JUG11 20CT11	3AL1FT0824	TBM advances; CH3940-3560	24		6AUG10			-	-219	P5 (5m) KCRC WRTL Tunnel Protection Area ch39
TBM advances; WSD WS Reservicr CH2970-2660 13 13 23OCT10 68nOV10 13 219 Intake I3 219 TBM advances; CH2860-1250 83 83 08NOV10 18FEB11 1 -219 Intake I3 -219 TBM advances; CH2860-1250 83 83 08NOV10 18FEB11 1.JUN11 1 -219 TBM advances; CH2860-1250 83 83 08NOV10 18FEB11 1.JUN11 1 -219 Desembly & demobilization of TBM 50 60 1.JUN11 10AUG11 1 -219 Desembly & demobilization of TBM 50 52 0.JUN11 10AUG11 1 -219 Desembly & demobilization of TBM 50 60 1.JUU11 10AUG11 1 -219 Desembly & demobilization of TBM 60 60 1.JUU11 10AUG11 200711 1 -219 Desembly & demobilization of TBM 61 61 1.JUU11 200711 1 -61 Desembly emaintence access at Plantenci 63	3AL1FT0826	TBM advances CH3560-2970	40		3SEP10	220CT10 03SEP10	220CT10	-	-219	Intake I-2 (Ch3160-3100) P4 (10m) & P3 (50m)
TBM advances; CH2860-1250 E3 68NOV10 18FEB11 1.1UN11 1 219 Intake I3 (CH1370-1250) TBM advances; CH1260-0 91 91 91 91 19FEB11 1.1UN11 1 219 Desembly & demobilization of TBM 50 50 13JUN11 10AUG11 1 219 Desembly & demobilization of TBM 50 50 13JUN11 10AUG11 1 219 Back grouting (daytime); CH5100-00 382 382 04MAR10 18JUN11 1 20 Complete maintennee access & dry weather channel 60 61 11AUG11 22OCT11 1 2 246 Installation of communication system (Daytime) 2 2 11AUG11 22OCT11 1 54 Testing & Commissioning; daytime 2 2 11AUG11 22OCT11 1 54 Testing & Communication system (Daytime) 2 0 11AUG11 22OCT11 1 54 Testing & Contractor serve notice for Works completion 7 0 0<	3AL1FT0828	TBM advances; WSD WS Reservior CH2970-2860	13		30CT10			-	-219	
IBM advances: CH12600 B1 B1 13UN11 15FEB11 11JUN11 1 219 Desembly & demobilization of TBM 50 50 13JUN11 10AUG11 13JUN11 1 219 Back grouting (daytine): CH5100-00 382 382 04MR10 13JUN11 10AUG11 1 -219 Back grouting (daytine): CH5100-00 382 382 04MR10 13JUN11 1 -210 Complete maintence access & dry weather channel 60 61 11AUG11 220CT11 1 -2	3AL1FT0830	TBM advances; CH2860-1250	83		8NOV10			-	-219	5
Desembly & demobilization of TBM 50 50 13JUN11 10AUG11 10AUG11 1 -114 Back grouting (daytime): CH5100-00 382 382 04MAR10 18JUN11 10AUG11 1 -20 Complete maintence access & dry weather channel 60 60 11AUG11 22OCT11 1 -64 Installation of communication system (Daytime) 60 60 11AUG11 22OCT11 1 -64 Installation of communication system (Daytime) 60 60 11AUG11 22OCT11 1 -64 Installation of communication system (Daytime) 60 60 11AUG11 22OCT11 1 -64 Installation of communication system (Daytime) 7 7 08DEC12 14DG11 22OCT11 1 -64 Handover of Portion F 7 7 08DEC12 14DEC12 18JN13 25JN13 2 0 Mideover of Portion F 7 7 07DEC12 04JN13 25JN13 2 0 Mideover of Portion F 7 <td>3AL1FT0832</td> <td>TBM advances; CH1250-0</td> <td>91</td> <td></td> <td>9FEB11</td> <td>1</td> <td>11JUN11</td> <td>-</td> <td>-219</td> <td>F2(20m), P2(25m), P1(10m) & F</td>	3AL1FT0832	TBM advances; CH1250-0	91		9FEB11	1	11JUN11	-	-219	F2(20m), P2(25m), P1(10m) & F
Back grouting (daytime); CH5100-00 382 382 04MAR10 18JUN11 04MAR10 1 -20 -0 -0 Complete maintennce access & dry weather channel 60 60 11AUG11 220CT11 1 -50 -0 -0 Installation of communication system (Daytime) 60 60 11AUG11 220CT11 1 -64 -0 -64 Testing & Commissioning daytime 28 28 10NOV12 07DEC12 18JUN13 2 -64 -0 -64 Installation of communication system (Daytime) 7 7 0 07DEC12 18JUN13 2 -64 <td< td=""><td>3AL1FT0890</td><td>Desembly & demobilization of TBM</td><td>50</td><td></td><td>3JUN11</td><td></td><td>10AUG11</td><td>~</td><td>-114</td><td></td></td<>	3AL1FT0890	Desembly & demobilization of TBM	50		3JUN11		10AUG11	~	-114	
Complete maintennce access & dry weather channel 60 60 114UG11 220CT11 1 64 Installation of communication system (Daytime) 60 60 114UG11 220CT11 1 -64 Testing & Commissioning: daytime 28 28 10NOV12 07DEC12 18JAN13 2 -422 Testing & Commissioning: daytime 28 28 10NOV12 07DEC12 18JAN13 2 -422 Handover of Portion F 7 7 08DEC12 14DEC12 14JAN13 2 2 0 Solsues completion F 0 0 0 07DEC12 18JAN13 2 0 0 1 -375 Solsues completion F 21 15DEC12 14JEC12 14JEC13 14JEC13 2 0 <td>3AL1FT0892</td> <td>Back grouting (daytime); CH5100-00</td> <td>382</td> <td></td> <td>4MAR10</td> <td></td> <td></td> <td>·-</td> <td>-20</td> <td>1.79m3/m, W/C=44%, W=590kg</td>	3AL1FT0892	Back grouting (daytime); CH5100-00	382		4MAR10			·-	-20	1.79m3/m, W/C=44%, W=590kg
Installation of communication system (Daytime) 60 60 11AUG11 220CT11 1 -64 Testing & Commissioning: daytime 28 28 10N0Y12 07DEC12 18JAN13 2 -462 Testing & Commissioning: daytime 28 10N0Y12 07DEC12 18JAN13 2 -462 Contractor serve notice for Works completion 7 7 08DEC12 14DEC12 18JAN13 2 -462 Handover of Portion F 0 0 0 0 0 16JAN13 2 -60 So issues completion certificate 21 121 14DEC12 04JAN13 2 -60 So issues completion certificate 21 21 15FEB13 2 0 -7 0 So issues completion certificate 21 15FEB13 2 0 -7 0 Milestones for Cost Centre No. Gar 2 34JN13 2 0 -7 0 Milestones for Cost Centre No. Gar 1	3AL1FT0894	Complete maintennce access & dry weather channel	60		1AUG11			×-	-64	
Testing & Commissioning; daytime 28 20NU12 07DEC12 18JAN13 2 -462 Contractor serve notice for Works completion 7 7 08DEC12 14JEC12 13JAN13 2 -462 Handover of Portion F 0 0 0 1 4JDEC12 14JEC12 14JEN13 2 0 SO issues completion certificate 21 21 12 14JEC12 04JAN13 26JAN13 2 0 SO issues completion certificate 21 21 15FEB13 2 0 0 0 IMIESTORES FOR Cost Centre No. 63R 1 15FEB13 2 0	3AL1FT0896	Installation of communication system (Daytime)	60		1AUG11			-	-64	
Contractor serve notice for Works completion 7 7 0 8DEC12 14DEC12 14JAN13 2 0 Handover of Portion F 0 0 0 0 0 0 14DEC12 14JAN13 2 0 1 -375 So issues completion certificate 21 15DEC12 04JAN13 1 -375 1 -375 So issues completion certificate 21 15DEC12 04JAN13 1 -375 1 -375 Image: So issues completion certificate 21 15DEC12 04JAN13 1 -375 - <td>3AL1FT0898</td> <td>Testing & Commissioning; daytime</td> <td>28</td> <td></td> <td>0NOV12</td> <td>_</td> <td>18JAN13</td> <td>2</td> <td>-462</td> <td></td>	3AL1FT0898	Testing & Commissioning; daytime	28		0NOV12	_	18JAN13	2	-462	
Handover of Portion F 0 0 0 0 0 0 0 18JAN13 1 -375 -375 SO issues completion certificate 21 21 15DEC12 04JAN13 15FEB13 2 0 -	3AL1FT0902	Contractor serve notice for Works completion	7	7 0	8DEC12	_	25JAN13	0	0	
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of Milestones for Cost Centre No. 6aR 0 0 31MAR10 2 6aR 1; On completion of grouting at P7 0 0 131MAR10 2 6aR 2; On completion of grouting at F6c 0 0 110MAY10 2	3AL1FT0906	SO issues completion certificate	21		5DEC12		15FEB13	2	0	
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6aR 1; On completion of grouting at P7 0 0 0 31MAR10 31MAR10 2 6aR 2; On completion of grouting at F6c 0 0 0 19MAY10 2									1	
6aR 2; On completion of grouting at F6c 0 0 19MAY10 2	6AR1FT0902	6aR 1; On completion of grouting at P7	0	0		31MAR10	31MAR10		1,370	
1	6AR1FT0904	6aR 2; On completion of grouting at F6c	0	0		19MAY10	19MAY10		1,321	

Sheet 31 of 58

Page 98 of 125

		•	•		•		•				*	CH 2865-2970 Tsuen Wan West Service Reservior G	*	•	*	•	•			•		•	•	•	•		•		Wunder this Cost Centre				*	•	•	•	*	*	•	*	•	•
				-					-	1.00			~		_	~	10					-	-								•	•								1.0		
ID Float	2 1,313	2 1,294	2 1,262	2 1,262	2 1,256	2 1,250	2 1,262	2 1,259	2 1,242	2 1,213	2 1,180	2 1,150	2 1,143	2 1,130	2 1,104	2 1,043	2 1,005	2 978	2 954	2 952	2 951	2 950	2 949	2 948	2 947	2 945	2 944	2 943	2 926		2	2	2 1,606	2 1,333	2 1,322	2 1,300	2 1,277	2 1,251	2 1,235	2 1,215	2 1,195	2 1,165
	27MAY10	15JUN10	17JUL10	17JUL10	23JUL10	29JUL10	17JUL10	20JUL10	06AUG10	04SEP10	07OCT10	06NOV10	13NOV10	26NOV10	22DEC10	21FEB11	31MAR11	27APR11	21MAY11	23MAY11	24MAY11	25MAY11	26MAY11	27MAY11	28MAY11	30MAY11	31MAY11	01JUN11	18JUN11		19JAN08A	080CT08A	07AUG09	07MAY10	18MAY10	09JUN10	02JUL10	28JUL10	13AUG10	02SEP10	22SEP10	220CT10
Start																														ŀ												
Finish	27MAY10	15JUN10	17JUL10	17JUL10	23JUL10	29JUL10	17JUL10	2010110	06AUG10	04SEP10	07OCT10	06NOV10	13NOV10	26NOV10	22DEC10	21FEB11	31MAR11	27APR11	21MAY11	23MAY11	24MAY11	25MAY11	26MAY11	27MAY11	28MAY11	30MAY11	31MAY11	01JUN11	18JUN11		19JAN08A	080CT08A	07AUG09	07MAY10	18MAY10	01NUL00	02JUL10	28JUL10	13AUG10	02SEP10	22SEP10	220CT10
Start																																										
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Dur	o	o	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
Description	6aR 3; On completion of grouting at F6b	6aR 4; On completion of grouting at F6a	6aR 5; On completion of grouting at WSD T. 3	6aR 6; On completion of 20% grout by Ith at P6	6aR 7; On completion of 40% grout by Ith at P6	6aR 8; On completion of 60% grout by Ith at P6	6aR 9; On completion of 80% grout by Ith at P6	6aR 10, On completion of grouting works at P6	6aR 11; On completion of grouting wks at P5	6aR 12; On completion of grouting wks at P4	6aR 13. On completion of grouting wks at P3	6aR 14; On completion of grouting wks at WSD's	6aR 15; On completion of grouting wks at F5	6aR 16; On completion of grouting wks at F4	6aR 17; On completion of grouting wks at F3	6aR 18; On completion of grouting wks at F2	6aR 19; On completion of grouting wks at P2	6aR 20; On completion of grouting wks at P1	6aR 21; On completion of 10% grout by Ith at F1	6aR 22; On completion of 20% grout by Ith at F1	6aR 23; On completion of 30% grout by Ith at F1	6aR 24; On completion of 40% grout by Ith at F1	6aR 25; On completion of 50% grout by Ith at F1	6aR 26; On completion of 60% grout by Ith at F1	6aR 27; On completion of 70% grout by Ith at F1	6aR 28; On completion of 80% grout by Ith at F1	6aR 29, On completion of 90% grout by Ith at F1	6aR 30; On completion of grouting works at F1	6aR 31; On completion of all works under this CC	Schedule of Milestones for Cost Centre No. 3aL	3aL 1; On providing evidence of procuring TBM	3aL 2; On providing evidence of TBM Factory Test	3aL 3; On delivery of all parts of TBM to the Si	3aL 4; On completion of site comm. & test. of TB	3aL 5; On completion of 5% perm. tunnel lining	3aL 6; On completion of 10% perm. tunnel lining	3aL 7; On completion of 15% perm. tunnel lining	3aL 8; On completion of 20% perm. tunnel lining	3aL 9; On completion of 25% perm. tunnel lining	3aL 10; On completion of 30% perm. tunnel lining	3aL 11; On completion of 35% perm. tunnel lining	3aL 12: On completion of 40% perm. tunnel lining
	6AR1FT0906	6AR1FT0908	6AR1FT0910	6AR1FT0912	6AR1FT0914	6AR1FT0916	6AR1FT0918	6AR1FT0920	6AR1FT0922	6AR1FT0924	6AR1FT0926	6AR1FT0928	6AR1FT0930	6AR1FT0932	6AR1FT0934	6AR1FT0936	6AR1FT0938	6AR1FT0940	6AR1FT0942	6AR1FT0944	6AR1FT0946	6AR1FT0948	6AR1FT0950	6AR1FT0952	6AR1FT0954	6AR1FT0956	6AR1FT0958	6AR1FT0960	6AR1FT0970	Schedule of	3AL1FT1002	3AL1FT1004	3AL1FT1006	3AL1FT1008	3AL1FT1010	3AL1FT1012	3AL1FT1014	3AL1FT1016	3AL1FT1018	3AL1FT1020	3AL1FT1022	3AL1FT1024

		•	•	•	•	•	•	•		•	*	•	Odry weather flow channel	•	within this cost centre		Pgeotechnical instruments	installed instruments for 12 months from DOC	Ninstalled instruments for 24 months from DOC	 installed instruments for 36 months free 	tents for 48 months from DOC	monitoring for installed instruments	flow measurement devices at Portion A	asurement devices for Portion BI	flow medsurement devices for Portion CI	flow measurement devices for Portion D	flow monitoring to issue of Maint. Certificate	nuder this cost centre													
																	¢	installed instr	•		installed instruments for		flow measuremen	flow measuremen	flow measuremen	flow measurem						•	8					8	8		
Float	1,146	1,131	1,116	1,097	1,081	1,066	1,047	1,026	1,004	977	954	933	800	800	388		1,511		1,465	1,100	735	297	732	679	702	622	23	23													
	0 2	0 2	0	0 2	2	2	2	1	2	1 2	4	2	4	1 2	3		9 2	8A 2	9	0	1	3 2	-	2	2		-	4				8A 1	8A 1	-		0	8A 1	3A 1	8A 1	3A 1	4
CENN Hainsh	10NOV10	25NOV10	10DEC10	29DEC10	14JAN11	29JAN11	17FEB11	10MAR11	01APR11	28APR11	21MAY11	11JUN11	220CT11	220CT11	18JAN13		10NOV09	27DEC08A	26DEC09	26DEC10	26DEC11	08MAR13	29DEC11	20FEB12	28JAN12	17APR12	18JAN14	18JAN14				19MAY08A	11AUG0				26MAY08A	31JUL08A	11AUG08A	25JUL08A	
WP3D Start																													-				ИАУО8А		19MAR08A	19APR08A	APR08A	MAY08A	MAY08A	NN08A	A 00141 11
Finish	10NOV10	25NOV10	10DEC10	29DEC10	14JAN11	29JAN11	17FEB11	10MAR11	01APR11	28APR11	21MAY11	11JUN11	220CT11	220CT11	07DEC12		10NOV09	27DEC08A	26DEC09	26DEC10	26DEC11	08MAR13	29DEC11	20FEB12	28JAN12	17APR12	07DEC13	07DEC13				19MAY08A	20MAY08A 11AUG08A 20MAY08A 11AUG08A		זק	19/	26MAY08A 21APR08A	31JUL08A 13MAY08A	11AUG08A 23MAY08A	25JUL08A 23JUN08A	
er of	10NG	25NC	1006	29DE	14J/	29JA	17FE	10M/	01AF	28AF	21M	1111	220(220(07Df		10NG	27DE	26DI	26DI	26D(08M	29DI	20FI	28J/	17AI	07DI	07DI				19M/	3A 11AL		3A	3A					t
Start Start																																	20MAY08		19MAR08A	19APR08A	21APR08A	13MAY08A	23MAY08A	23JUN08A	
MP3D Dur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0				0	20	1	0	0	30	9	18	ω	1
Dod	0	0	0	o	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0				0	20	-	0	0	30	ω	18	φ	ſ
Activity Description	3aL 13; On completion of 45% perm. tunnel lining	3aL 14; On completion of 50% perm. tunnel lining	3aL 15, On completion of 55% perm. tunnel lining	3aL 16; On completion of 60% perm. tunnel lining	3aL 17; On completion of 65% perm. tunnel lining	3aL 18; On completion of 70% perm. tunnel lining	3aL 19; On completion of 75% perm. tunnel lining	3aL 20; On completion of 80% perm. tunnel lining	3aL 21; On completion of 85% perm. tunnel lining	3aL 22; On completion of 90% perm. tunnel lining	3aL 23; On completion of 95% perm. tunnel lining	3aL 24; On completion of perm. tunnel lining	3aL 25; On completion of maint. access/flow chan	3aL 26; On completion of provision of communic.	3aL 27; On completion of all works under this CC	Schedule of Milestones for Cost Centre No. 3dL	3dL 1; On complet. of install geo instrrument.	3dL 2; Maint./monit. geo. inst. for 12 mth	3dL 3; Maint./monitor geo. inst. for 24	3dL 4; Maint./monitor geo. inst. for 36	3dL 5; Maint./monitor geo. inst. for 48	3dL 6; On completion of maint. & monit. of geo.	3dL 7; On installation of FMD at Portion A	3dL 8; On installation of FMD at Portion B	3dL 9; On installation of FMD at Portion C	3dL 10; On installation of FMD at Portion D	3dL 11; On completion of maint. & monit. of FMD	3dL 12; On completion of all works under this CC	Construction of Intake I-1	Works	VO#07; Transperant Hoarding at H1	Receive VO7 for transparent hoarding	Procure/prepare/install transparent hoarding		Possession of site	Obtain TTA (ingress & egress) approval	Site clearance	Obtain tree	Hoarding erection enclosing the Site	Site entrance construction	
Q	3AL1FT1026	3AL1FT1028	3AL1FT1030	3AL1FT1032	3AL1FT1034	3AL1FT1036	3AL1FT1038	3AL1FT1040	3AL1FT1042	3AL1FT1044	3AL1FT1046	3AL1FT1048	3AL1FT1050	3AL1FT1052	3AL1FT1054	Schedule of	3DL10T1202	3DL10T1204	3DL10T1206	3DL10T1208	3DL10T1210	3DL10T1212	3DL10T1214	3DL10T1216	3DL10T1218	3DL10T1220	3DL10T1222	3DL10T1224	Constructio	Preliminary Works	VO#07; Trans	V0007-02	V0007-04		01R1AI1102	01R1AI1104	01R1AI1106	01R1AI1108	01R1AI1110	01R1AI1112	

Sheet 33 of 58

Page 100 of 125

01R1AI1116 01R1AI1118		INC INC	IT STAT	FIRISH STAT	FINISH	ID Float				
01R1AI1118	Erect SOR's secondary site office	g	6 28AUG08A	03SEP08A 28AUG08A	A 03SEP08A	Ŧ				19801
	Footing for temp. bridge span over Shing M. Nul.	26	26 10JUN08A	16JUL08A 10JUN08A	16JUL08A	+	8			
01R1AI1120	Decking for temp. bridge span over Shing M. Nul.	5	13 17JUL08A	01AUG08A 17JUL08A	01AUG08A					
01R1AI1122	Install remote control CCTV as per ER 4.4.10	12	12 04SEP08A	18SEP08A 04SEP08A	18SEP08A	-	•			88
16R1AI1101	Tree Identification & Report	44	14 14MAR08A	01APR08A 14MAR08A	A 01APR08A	2	-			
16R7AI1102	1st tree pruning for small 3 nos. trees	÷	1 03JUN08A	O3JUN08A 03JUN08A	03JUN08A	-	-			
16R7AI1104	2nd tree pruning for small 3 nos. trees	*	1 04JUL08A	04JUL08A 04JUL08A	04JUL08A	÷				
16R7AI1106	Final pruning & uplifting of 3 nos. small trees	2	2 08SEP08A	09SEP08A 08SEP08A	09SEP08A	÷				
16R7AI1108	Confirm location for trees to be transplanted	51	51 02APR08A	27AUG08A 02APR08A	V 27AUG08A	-				
16R7AI1114	One stg transplant for big 4 nos. big trees	σ	9 11FEB09A	19FEB09A 11FEB09A	19FEB09A	1	23			
Permanent S	Permanent Soil Nailing Works									
11R2AI1302	Erect working platform & mobilization	00	8 17MAY08A	24MAY08A 17MAY08A	A 24MAY08A	-	-			
11R2AI1304	Install test nails & proof loading test, 2 nos.	ø	8 24JUN08A	08JUL08A 24JUN08A	08JUL08A	-				
11R2AI1306	Soil nailing for A to C rows; 69 nos.	9	16 02JUL08A	14JUL08A 02JUL08A	14JUL08A	2	•			
11R2AI1308	Soil nailing for D to F rows; 71 nos.	29	29 15JUL08A	05SEP08A 15JUL08A	05SEP08A	-				
11R2AI1310	Constrcut soil nail heads; 140 nos.	8	22 19JUL08A	06SEP08A 19JUL08A	06SEP08A	4	8		30	
11R2AI1312	Demobilization	e	3 08SEP08A	10SEP08A 08SEP08A	10SEP08A	1	-			
Construction	Construction of Spiral Ramp & Cascade									
Additional GI V	Additional GI Woks to Fnalize Design									
AGIA-02	Drill for 5 nos, additional GI works	21	21 09SEP08A	09SEP08A 04OCT08A 09SEP08A 04OCT08A	040CT08A	1	•			
Temp. Pipe-pile cofferdam	le cofferdam								22	
04L1A11202	Erect piling platform	43	43 22OCT08A	24DEC08A 220CT08A	A 24DEC08A	•				
04L1A11203	Mobilization & set up piling rig	ო	3 300CT08A	01NOV08A 300CT08A	A 01NOV08A	Ţ				
04L1AI1204	Install 273 mm dia. temp. pipe piles; 144 nos.	43	43 08NOV08A	08NOV08A 05JAN09A 08NOV08A	A OSJANO9A	F			33	315
04L1AI1226	Demobilize all plant and materials	9	6 06JAN09A	13JAN09A 06JAN09A	13JAN09A	1				
Excavate +104	Excavate +104.0 to +100.5mPD; Row 7									
04L1AI1402	Mobilization	Ŧ	1 23FEB09A	23FEB09A 23FEB09A	23FEB09A	1				
04L1AI1404	Bulk excavation; soil (155m3)	4	4 24FEB09A	27FEB09A 24FEB09A	27FEB09A		-			251
04L1AI1406	Install test tie-back & proof load test	4	4 28FEB09A	04MAR09A 28FEB09A	04MAR09A	Ŧ				200
04L1AI1408	Install tie backs/wailing & shortcrete	4	4 03MAR09A	03MAR09A 06MAR09A 03MAR09A 06MAR09A	A DEMAROSA	÷	All and			
Excavate +100	Excavate +100.5 to +99.0mPD; Rows 1 & 8									
04L1AI1410	Bulk excavation; soil (219m3)	N	2 07MAR09A	07MAR09A 09MAR09A 07MAR09A 09MAR09A	A O9MAR09A	F				
04L1AI1412	Install tie backs/wailing & shorcrete	9	6 10MAR09A	10MAR09A 16MAR09A 10MAR09A 16MAR09A	A 16MAR09A	F				
Excavate +99.0	Excavate +99.0 to +96.5mPD; Rows 2, 9 & 18									
04L1AI1414	Bulk excavation; soil (710m3)	ო	3 17MAR09A	IAR09A 19MAR09A 17MAR09A 19MAR09A	A 19MAR09A					
04L1AI1416	Install test tie-back & proof load test	4	4 26MAR09A	26MAR09A 01APR09A 26MAR09A	A 01APR09A	-			24	100
04L1AI1418	Install tie backs/wailing & shortcrete	9	6 23MAR09A	23MAR09A 28MAR09A 23MAR09A	A 28MAR09A	F				
Excavate +96.	Excavate +96.5 to +95.0mPD; Rows3, 10 & 19									
04L1AI1420	Bulk excavation; soil (721m3)	ო	3 30MAR09A	04APR09A 30MAR09A 04APR09A	A 04APR09A					
04L1AI1422	Install tie backs/wailing & shortcrete	4	4 02APR09A	20APR09A 02APR09A	A 20APR09A	+		1		

Sheet 34 of 58

Page 101 of 125

Course 4, 11.8, 20 Solid (70 (100) 3										The second second second second second second second second second second second second second second second se		And and a state of the state of	A REAL PROPERTY AND A REAL	A REAL PROPERTY OF A REAL PROPER	
Ame Ame <td>Powerto 405</td> <td>14-104 0 mDD: Doute 4 11 2 20</td> <td></td> <td>100</td> <td></td>	Powerto 405	14-104 0 mDD: Doute 4 11 2 20												100	
Install the back/shortshorts/shorts/shorts/shorts/shorts/shorts/shorts/shorts	1011404	Bulk excertation: soil (701m3)	e			1RAPRO9A DEAPE	-	PROSA			••				
Add De Saminal Samina	1 11424	Lantall tic hockstunition & shoreta	o u					DPDGA	• -			11			
	0741141		2						-				-	NP26	
Install is election, all (2014) 4 4 2 AbryGook (EMAYCORA) 1 1 321 OF 25.3EPPC for 23 Install is election, all (2014) 5 2 (24PCGOS) (EMAYCORA) 1 <td>Savale + 44.</td> <td>0 to + 33.UTTPLI; KOWS 3, 12, 16, 216,24</td> <td></td> <td></td> <td></td> <td>and the second second</td> <td></td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Savale + 44.	0 to + 33.UTTPLI; KOWS 3, 12, 16, 216,24				and the second second			2						
Intelline tenedoxading Ext	1AI1428	Bulk excavation; soil (818m3)	4			LIAPHKUBA ZUAPI	-	APHUSA	-		•				
Intall to beact/amiling a shoredet 5 5 2 a 24AF03A 1 (AMYOSA) 1 (AMYOSA) <th< td=""><td>1AI1430</td><td>Install test tie-back & proof load test</td><td>4</td><td></td><td>1APR09A</td><td>16MAY09A 21API</td><td></td><td>AAY09A</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	1AI1430	Install test tie-back & proof load test	4		1APR09A	16MAY09A 21API		AAY09A	-						
S300 Conception with an object of	1AI1432	Install tie backs/wailing & shorcrete	ى س		1APR09A	16MAY09A 21API		AYO9A	-		E 3				_
Built encodence S CuMAVORA IBMAVORA IBMAVORA IBMAVORA IBMAVORA IBMAVORA IBMAVORA IBMAVORA IBMAVORA IBMAVORA I I S2510 F11 mBC Reconsultive (ac) (3,2,1,2,2,3) 2 2 19,000005 20,0000000 20,0000000 20,00000000 20,000000000 20,000000000 20,00000000000000000000000000000000000	avate +93.	0 to +92.6mPD; Row 22													
Install fiel backshowling & short cetter 2 2 1 SMAYOSA 27MAYOSA 1 1 1 23.5 Get Shift (25.1) 5.10 (25.10) 6.10 (25.10) 6.10 (25.10) 1 <	1AI1434	Bulk excavation; soil (423m3) & rock (52m3)	n	30	4MAY09A	18MAY09A 04MA	Y09A 18N	AYO9A	÷	r.					
S2.5 10 91.1mPC; Rouse 6, 13.16, 17.8.3 S2.5 10 91.1mPC; Rouse 6, 13.16, 17.8.3 S3.MAYOSA S1.MAYOSA	1AI1436	Install tie backs/wailing & shorcrete	2	2 1	9MAY09A	27MAY09A 19MA	Y09A 27N	AYO9A	-					1955	
Main Constraint Constraint <td>COT Officie</td> <td>5 to 01 1mDD. Douise 6 13 16 17232</td> <td></td>	COT Officie	5 to 01 1mDD. Douise 6 13 16 17232													
Insultanti lead (2 min) and (2 min	TCL AIPAP	2 10 21. IIIILD, KOWS 8, 13, 10, 11 0423								-	-				
Insultable Insulta	1AI1438	Bulk excavation; soil (1002m3) & rock (342m3)	80	80		Z3MAY09A 06MA		AAYU9A	-	-			-	1.4.4	
	1AI1440	Install test tie-back & proof load test	4	4		25MAY09A 08MA		AYO9A	-					100	
91.1 Co B6.5mPC): Rows 14.17 8.25 91.1 Co B6.5mPC): Rows 14.17 8.25 91.1 Co B6.5mPC): Rows 17.2 mC 91.1 Co B6.5mPC) 91.1 Co B6.5mPC) 91.2 mC 91.2 mC <td>1AI1442</td> <td>Install tie backs/wailing & shorcrete</td> <td>4</td> <td>4</td> <td>8MAY09A</td> <td>Z7MAY09A 18MA</td> <td></td> <td>AAY09A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	1AI1442	Install tie backs/wailing & shorcrete	4	4	8MAY09A	Z7MAY09A 18MA		AAY09A							
	194 etere	-													
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	1411444		12		8MAY09A	AM81 60UUL10	L10 A60Y	0N09	-	0				245	
BASE TORE STREPT Control	11446	Install tic books (in a shorest	! •		BONI II CO		100 051	INDO	÷	10					
BIS to R8.mIPL: Rows 12 a 28 R. <	AI 1440		t		00000000			2000		4				2000	1
	avate +89.	5 to 88.5mPD; Rows 15 & 26													_
Install te backswaling & shorrenete 3 1 1 1 2 2 1 1 2 2 2 2 1 1 2	AI1448	Bulk excavation; soil (269m3) & rock (690m3)	o	111	60NUL30	16JUN09 06JUI		60ND	_	N				100	
B6.5 to 71.5mPD; Fowe 27 to 31 S6: up for dewatering 3	AI1450	Install tie backs/wailing & shorcrete	ო		17JUN09	10L71 60NUL61		60NU	-	N	3				
Set up for dewatering Eq. (a) Colunos Colunos </td <td>avate +88.</td> <td>5 to 71.5mPD; Rows 27 to 31</td> <td></td>	avate +88.	5 to 71.5mPD; Rows 27 to 31													
Rock excaverient/mucking outlemp, support 168 168 30,UN09 19,JAN10 1 22 37,Tml social nof Veritocular Access Cast base slab 6 20,JAN10 26,EB10 1 22 37,Tml social 22 Cast base slab 6 6 20,AN10 26,FEB10 26,FEB10 1 22 Cast base slab 12 12 10,FEB10 26,FEB10 1 22 Cast base slab 12 12 10,FEB10 26,FEB10 1 22 Cast base slab 12 12 10,FEB10 26,FEB10 1 22 Cast base slab 12 12 12 27,PB10 16 1 22 Cast base slab 13 13 27,PMR10 27,PB10 1 22 22 Cast tamp up to +76,51mPD 15 15 13,MMR10 1/MMR10 1 22 Cast tamp up to +76,51mPD 15 16 16 12 27,PB10 1 22 <tr< td=""><td>1A11442</td><td>Set up for dewatering</td><td>œ</td><td></td><td>20JUN09</td><td>29JUN09 20JUN</td><td></td><td>60NU</td><td></td><td>N</td><td>_</td><td></td><td>3</td><td></td><td></td></tr<>	1A11442	Set up for dewatering	œ		20JUN09	29JUN09 20JUN		60NU		N	_		3		
In of Vehiucular Access In of Vehiucular Access In of Vehiucular Access In of Vehiucular Access In of Vehiucular Access In of Vehiucular Access In of Vehiucular Access In of Vehiucular Access In of Vehiucular Access In of Vehiucular Access In of Vehiucular Access In of Vehiucular Access In of Salar In of Sala	1AI1444	Rock excavation/mucking out/temp. support	168		30JUN09	19JAN10 30JU		AN10			1m3 sol	15,089m3 rock(@90m3/day v	ith 2 work	c fron
Cast base slab Cast base slab Cast base slab 2.2 2.04N10 2.6JN10 2.6JN10 2.6JN10 2.6JN10 2.6JN10 2.2JN10 0.6 EB010 1 2.2J Cast valis Cast valis 12 12 12 10 FEB10 25/SH10 1 22 Cast valis Cast valis 12 12 12 10 FEB10 25/FEB10 1 22 Cast valis Cast valis 12 <	strucion o	if Vehiucular Access													
Cast wells Cast wells Cast wells Curve of slab 1 22 ZUAN10 69FEB10 1 22 Cast roof slab Cast roof slab 12 12 10FEB10 26FEB10 15 12 275EB10 15 22 Cast roof slab Cast roof slab 12 12 27FEB10 15 15 13MAR10 26FEB10 1 22 Cast ramp up to +8651mPD 15 15 13MAR10 21APR10 1 22 Cast ramp up to +8651mPD 15 15 31MAR10 21APR10 1 22 Cast ramp up to +8651mPD 15 15 31MAR10 21APR10 1 22 Cast ramp up to 88.01mPD 15 15 31MAR10 21MAY10 21APR10 1 22 Cast ramp up to 88.01mPD 15 15 17JUN10 23MAY10 1 22 Cast ramp up to 88.01mPD 15 15 17JUN10 23MU10 1 22 Cast ramp up to 88.01mPD 2	AI1452	Cast base slab	9		20JAN10	26JAN10 20JAN		AN10		N					
Cast root slab 12 12 10 26 10 26 1 -22 <t< td=""><td>A11454</td><td>Cast walls</td><td>12</td><td></td><td>27JAN10</td><td>09FEB10 27JAP</td><td></td><td>EB10</td><td>-</td><td>2</td><td></td><td></td><td></td><td></td><td></td></t<>	A11454	Cast walls	12		27JAN10	09FEB10 27JAP		EB10	-	2					
In of Spiral Ramp Structure In of Spiral Ramp Structure <t< td=""><td>AI1456</td><td>Cast roof slab</td><td>12</td><td></td><td>10FEB10</td><td>26FEB10 10FE</td><td></td><td>EB10</td><td>-</td><td>N</td><td></td><td></td><td></td><td></td><td></td></t<>	AI1456	Cast roof slab	12		10FEB10	26FEB10 10FE		EB10	-	N					
Ocast base slab 1 12 12 27FEB10 12MAR10 27FEB10 12MAR10 1 -22 Cast base slab Cast base slab 1 1 1 22 1 2 1 2 1 2 2 1 2 2 1 2 2 2 1 2 <	1	of Saint Dama Standard				-									
Occast rando up to +76.51mPD 1 1 1 1 2 Cast rando up to +86.10mPD 1 1 1 1 22 Cast rando up to +86.10mPD 1 1 1 1 22 Cast rando up to +86.10mPD 1 1 1 22 Cast rando up to +86.10mPD 1 1 1 22 Cast rando up to 89.41mPD 1 1 1 22 Cast rando up to 89.41mPD 1 1 1 1 22 Cast rando up to 89.41mPD 1 1 1 1 22 Cast rando up to 98.01mPD 1 1 1 1 22 Cast rando up to 98.01mPD 1 1 1 1 22 Cast rando up to 98.01mPD 1 1 1 1 22 Cast rando up to 98.01mPD 1 1 1 1 22 Backfill spiral range to 98.01mPD 1 1 1 22 Cast rando up to 98.01mPD	5	Cast hase slah	40	10	27FFB10	12MAR10 27FE		AAR 10		0					
Cast ramp up to +86.0 mPD Cast ramp up to +86.0 mPD Cast ramp up to +86.1 mPD Cast ramp up to +86.1 mPD Cast ramp up to +86.1 mPD Cast ramp up to +86.1 mPD Cast ramp up to +86.1 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 89.4 mPD Cast ramp up to 98.0 mPD Cast ramp up to 98.0 mPD Cast ramp up to 98.0 mPD Cast ramp up to 98.0 mPD Cast ramp up to 4102.31 mPD Cast ramp ramp ramp r	A A LA ADA		i t		12MAD10	SOMAPIO 13MA		AD10		0	La		ł		
Cost ramp up to 465.10mPD 15 15 22APT10 10MAY10 1 222 Cast ramp up to 86.11mPD 15 15 11MAY10 28MAY10 1 222 Cast ramp up to 86.41mPD 15 15 11MAY10 28MAY10 1 222 Cast ramp up to 89.71mPD 15 15 11MAY10 28MAY10 1 -22 Cast ramp up to 98.01mPD 15 15 15 15/UN10 28MAY10 1 -22 Cast ramp up to 98.01mPD 15 15 15 17/UN10 05/UL10 1 -22 Cast ramp up to +102.31mPD 15 15 07/UL10 22JUL10 05/UL10 1 -22 Backfill spiral ramp: 2466m3 @ 200m3/day 13 23JUL10 05JUL10 1 103 Construct RC spiral ramp top 13 13 23JUL10 07/UG10 1 103 Or of Cast ade Structure 15 17 23JUL10 05/UL10 24/UG10 1 103 Or of tat as is if i	1011406	Cast ramp up to 1.0 communic	2 L		31MAR10	21APR10 31MA		PR10							
Cast ramp up to 89.41mPD 15 15 15 15 15 11MAY10 28MAY10 1 -22 Cast ramp up to 89.71mPD 15 15 15 15 17JUN10 28MAY10 1 -22 Cast ramp up to 98.01mPD 15 15 15 15JUN10 05JUL10 17JUN10 1 -22 Cast ramp up to 98.01mPD 15 15 05JUL10 05JUL10 23JUL10 1 -22 Cast ramp up to +102.31mPD 15 15 05JUL10 2JUL10 2JUL10 1 -22 Cast ramp up to +102.31mPD 15 15 05JUL10 2JUL10 2JUL10 1 -22 Cast ramp up to +102.31mPD 13 13 23JUL10 05JUL10 1 103 Construct RC spiral ramp: 2456m3@ 200m3/day 15 15 07AUG10 2JUL10 1 -22 Construct RC spiral ramp top cast base slass 12 12 2JUL10 07AUG10 1 -22 Cost walls st lift cast base slass 12 12 2JUL10 05AUG10 1 -22 </td <td>1011108</td> <td>Cast rame up to +85 10mPD</td> <td>15</td> <td></td> <td>22APR10</td> <td>10MAY10 22AP</td> <td></td> <td>1AY10</td> <td></td> <td>0</td> <td></td> <td></td> <td>1</td> <td></td> <td></td>	1011108	Cast rame up to +85 10mPD	15		22APR10	10MAY10 22AP		1AY10		0			1		
Cast ramp up to 93.11mPD 15 15 15 15 15 15 15 15 15 15 15 15 15 17 17 17 1 -22 Cast ramp up to 98.01mPD 15 15 15 15 15 15 15 17 17 1 -22 Cast ramp up to +102.31mPD 15 15 15 05JUL10 05JUL10 05JUL10 1 -22 Cast ramp up to +102.31mPD 15 15 05JUL10 22JUL10 05JUL10 1 -22 Backfil spiral ramp: 2496m3 200m3/day 13 13 23JUL10 05JUL10 22JUL10 1 -22 Construct RC spiral ramp top 15 15 07AUG10 24UG10 1 103 Or Cascade Structure 15 15 07AUG10 24UG10 1 103 05UL10 1 22 Or Cast base slabs Cast base slabs 12 12 23JUL10 05AUG10 1 -22 0 Cast valls 1st lift 200m down from soffit 18 18	1011410	Cast ramp up to 80.41mPD	5 tî		11MAY10	28MAY10 11MA		1AY10	-						
Cast ramp up to 98.01mPD 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 17JUN10 05JUL10 1 -22 Cast ramp up to +102.31mPD 15 15 15 05JUL10 22JUL10 05JUL10 1 -22 Backfil spiral ramp: 2496m3 200m3/day 13 13 23JUL10 05JUL10 22JUL10 1 -22 Construct RC spiral ramp: 2496m3 200m3/day 15 15 07AUG10 23JUL10 06AUG10 1 103 On of Cascade Structure 15 15 07AUG10 24UG10 07AUG10 1 103 Or of Cascade Structure 12 12 23JUL10 05AUG10 1 103 Cast base slabs 12 12 23JUL10 05AUG10 1 -22 Cast walls 1st lift 268 walls 16 16 23JUL10 1 -22 Cast walls 2nd lift, 200mm down from soffit 18 16 23JUL10 1 22 22 Cast walls 2nd li	C14410		ų			45 NIN10 29MA		1 IN10	-				1		
Cast ramp up to 90.0 mmr U Cast ramp up to 90.0 mmr U Cast ramp up to 110.31mPD Cast ramp up to 110.32mL10 Cast ramp up	A1412		2 4					11140	-	4 0			-		
Cast ramp up to +102.31mPD 15 15 05 ubuL10 22JUL10 06JUL10 22JUL10 1 -22 Backfill spiral ramp; 2496m3@200m3/day 13 13 23JUL10 06AUG10 1 103 @ m3/5minutes Construct RC spiral ramp top 15 15 15 07AUG10 24AUG10 24AUG10 1 103 @ m3/5minutes of Cascade Structure 15 15 15 07AUG10 24AUG10 24AUG10 1 103 @ m3/5minutes of Cascade Structure 12 12 23JUL10 05AUG10 24AUG10 1 103 Cast base slabs 1 -22 Cast base slabs 18 18 05AUG10 25AUG10 05AUG10 1 -22 Cast walls 1st lift -22 Cast walls 2nd lift, 200mm down from soffit 18 18 77AUG10 165EP10 1 -22 Cast roof slabs 16 16 175EP10 090CT10 1 -22 22	1AI1414		0							8			1	100	
Backfill spiral ramp; 2496m3@ 200m3/day 13 13 23JUL10 06AUG10 1 103 @ fm3/5ninutes Construct RC spiral ramp top 15 15 75UG10 24UG10 24UG10 1 103 @ fm3/5ninutes on of Cascade Structure 15 15 07AUG10 24AUG10 24AUG10 1 103 @ fm3/5ninutes Cast base slabs 12 12 12 23JUL10 05AUG10 24AUG10 1 -22 Cast base slabs 18 18 06AUG10 26AUG10 06AUG10 1 -22	1AI1416	Cast ramp up to +102.31mPD	15	. 1	06JUL10	22JUL10 06JUI		UL10		N		4			
Construct RC spiral ramp top 15 15 07JUG10 24JUG10 1 103 1 103 on of Cascade Structure 12 12 12 12 23JUL10 05AUG10 1 103 1 103 1 103 1 103 1 103 1 103 1 103 1 103 1 103 1 103 1 103 1 103 1 103 1 103 1 103 1 103 1	1AI1418	Backfill spiral ramp; 2496m3 @ 200m3/day	13		23JUL10	06AUG10 23JUL		NUG10	-	33		ninutes			
On of Cascade Structure 12 12 23JUL10 05AUG10 1 Cast base slabs 12 12 23JUL10 05AUG10 05AUG10 1 Cast base slabs 18 18 06AUG10 26AUG10 26AUG10 1 Cast walls 1st lift 18 18 27AUG10 16SEP10 1 1 Cast walls 2nd lift, 200mm down from soffit 18 18 17SEP10 090CT10 15SEP10 1	1AI1420	Construct RC spiral ramp top	15		07AUG10	24AUG10 07AU		NUG10	_	13					
Cast base slabs 12 12 23JUL10 05AUG10 1 Cast walls 1st lift 18 18 06AUG10 26AUG10 26AUG10 1 Cast walls 1st lift 18 18 06AUG10 26AUG10 26AUG10 1 Cast walls 2nd lift, 200mm down from soffit 18 18 27AUG10 16SEP10 16SEP10 1 Cast roof slabs 18 18 17SEP10 09OCT10 17SEP10 09OCT10 1	Istruction	of Cascade Structure													27115
Cast walls 1st lift 18 06AUG10 26AUG10 26AUG10 1 Cast walls 2nd lift, 200mm down from soffit 18 18 27AUG10 16SEP10 16SEP10 1 Cast roof slabs 18 18 17SEP10 090CT10 15SEP10 1		Cast base slabs	12		23JUL10	05AUG10 23JUL		VUG10	-	N		-		100	
Cast walls 2nd lift, 200mm down from soffit 18 27AUG10 16SEP10 16SEP10 1 Cast roof slabs 18 18 17SEP10 090CT10 15SEP10 1	1AI1474	Cast walls 1st lift	60		06AUG10	26AUG10 06AU		NUG10		2					
Cast roof slabs 18 17SEP10 09OCT10 17SEP10 09OCT10 1	1AI1476	Cast walls 2nd lift, 200mm down from soffit	60		27AUG10			SEP10	H	N		191			
	1AI1478	Cast roof slabs	8	18	17SEP10	090CT10 17SE		DCT10	-	2			-		

	Description	Dur Dur	Dur	Start	Finish Start	Finish	9	Float	
Dismantie & R	Removal of TBM								
04L1AI1458	Backfill & form cranage platform	24	24 1	110CT10	08NOV10 110CT10	08NOV10	-	-22	
04L1AI1460	TBM break through	0	0			11JUN11*	-	-195	
04L1AI1461	Dissembly & demobilization of TBM	50	50. 1	13JUN11	10AUG11 13JUN11	10AUG11	-	-195	
04L1A11462	Cast lower base slab	12	12 0	06JUL10	19JUL10 06JUL10	19JUL10	-	-19	before TBM retrieval
struction e	Construction of Box Culvert Structure								
04L1AI1463	Cast upper base	g	9	11AUG11	17AUG11 11AUG11	17AUG11	1	-195	
04L1AI1464	Cast walls 1st lift	18	18 1	18AUG11	07SEP11 18AUG11	07SEP11		-195	after retrieval of TBM & gantry crane#
04L1AI1466	Cast walls 2nd lift, 200mm down from soffit	18	18 0	08SEP11	29SEP11 08SEP11	29SEP11		-195	
04L1AI1468	Cast roof slabs	9	18 3	30SEP11	220CT11 30SEP11	220CT11		-195	
04L1AI1470	Backfill & compaction above box culvert, ~13m	22	22 2	240CT11	17NOV11 240CT11	17NOV11	-	-195	
fication	Modification of Existing Channel in Dry Season								
nel Modit	Channel Modification (Varied)Works (Civil Works)								
07R1A1502	Break wall & slab at pipe pile location	00	8 02	02NOV09*	10NOV09 02NOV09*	* 10NOV09	-	20	
07R1AI1504	Set up pipe pile rig	e	3 1	11NOV09	13NOV09 11NOV09	13NOV09	٣	70	
07R1AI1506	Install pipe piles (30n*12m)	10	10 1	14NOV09	25NOV09 14NOV09	25NOV09	-	70	
07R1AI1508	Break existing masonry wall	4	4	26NOV09	30NOV09 26NOV09	30NOV09	τ.	70	
07R1AI1510	PC blcok/sand back bund wall for water diversion	2	2 0	01DEC09	02DEC09 01DEC09	02DEC09	٣	70	
07R1AI1512	Cut existing slab	÷-	0 +-	03DEC09	03DEC09 03DEC09	03DEC09	¥-	70	
07R1AI1514	Demolish Wo Yi Hop Nullah wall & slab	9	8	04DEC09	10DEC09 04DEC09	10DEC09	٣	70	
07R1AI1518	Construct WYH Nullah wall below slab	Q	6	11DEC09	17DEC09 11DEC09	17DEC09	٣	20	
07R1A11520	Backfill & SRT behind wall below slab	18	18 1	18DEC09	11JAN10 18DEC09	011AN10	F	70	
07R1AI1522	Demolish Shing Mun Nullah wall with struts	ø	9	12JAN10	18JAN10 12JAN10	18JAN10	P	70	
07R1AI1524	Demolish Shing Mun Nullah slab	4	4	19JAN10	22JAN10 19JAN10	22JAN10	Ψ.	02	
07R1AI1626	Construct slab	Ø	80	23JAN10	01FEB10 23JAN10	01FEB10	τ.	20	
07R1AI1628	Construct wall for WYH Nullah	10	10	02FEB10	12FEB10 02FEB10	12FEB10	-	02	
07R1AI1630	Construct wall for SM Nullah	10	10	17FEB10	27FEB10 17FEB10		-	20	
07R1AI1632	Assoc. RC works for trash grill & stop slogs	18	18 0	01MAR10			•	20	
07R1AI1634	Mass concrete infill	n	3 2	22MAR10	24MAR10 22MAR10	24MAR10	٣	20	
07R1AI1636	PC block & san bag bund wall	e	3	25MAR10	27MAR10 25MAR10	27MAR10	-	70	
nel Modi	Channel Modification Works (Steel Works)								
07R1AI150T	Install steelworks, Phase 3	36	36 0	01NOV11*	12DEC11 01NOV11*	- 12DEC11	-	-143	
Piling Works									
Works A	Piing Works Along Crest Plarform								
11R2AI1202	Erect piling platform for upper piles	42	12	22SEP10	07OCT10 22SEP10	07OCT10	iπ.	103	
11R2A11204	Mobilize piling rig & set up	ω	9	08OCT10	140CT10 080CT10	140CT10	٣	103	
11R2A1206	350mm dia. pre-bored H-piles (upper); 36 nos.	36	36 1	150CT10	26NOV10 15OCT10	26NOV10	۰	103	all the the the the test of the test of the test of the test of the test of the test of the test of the test of the test of te
11R2AI1208	Demobilize piling rig	g	9	27NOV10	03DEC10 27NOV10	03DEC10	÷.	103	
	Crest Platform								
11R2AI1210	Excavate & hack off grout	ø	8	04DEC10	13DEC10 04DEC10	13DEC10	۲	103	
11R2A11212	Construct skin wall	12	12 1	14DEC10	29DEC10 14DEC10	29DEC10	÷-	103	
					010-1000 111100	C PARTICUS CONTRACTOR	1000	10000	

Sheet 36 of 58

Page 103 of 125

	103	103			35 Percent and the second and the se	35		-	-195	956				8	-195			-183 150nos. climber, 200nos. woodland#63nos. trees, 2072nos.	-181	-143	-118		ofor Ce	41 • for Cascade at Intake I-1			for Cascad			648 within this Cost Centre				ds	•		44			66 Aspiral ramp at Intake I-1
Float	1	1 10		1 -195	1 -195	1 -195		1 -195	ب ۲	1 -195	1	1 -195		1 -195	-	2	2	-	2		2 -1		2 1,645	2 1,441	2 1,403		-	2		2 6		-			2 1,557	2 1,489	2 1,441		2 1,307	2 1,266
Finish	13JAN11	27JAN11		24NOV11	02JAN12	09JAN12		16JAN12	02FEB12	11FEB12	16FEB12	01MAR12		15MAR12	22MAR12	29MAR12	19APR12	01MAR12	01MAR13	29DEC11	28DEC12		29JUN09	19JAN10	26FEB10	26AUG10	09OCT10	220CT11	220CT11	22MAR12	No. of Street, or Stre		12DEC11	29JUN09	25SEP09	02DEC09	19JAN10	21APR10	02JUN10	13JUL10
Start	10JAN11	JAN11		18NOV11	25NOV11	03JAN12		10JAN12	17JAN12	03FEB12	13FEB12	FEB12		03FEB12	17FEB12	23MAR12	30MAR12	27JAN12	02MAR12	13DEC11	30DEC11																			
Finish	13JAN11 10	27JAN11 14JAN11		24NOV11 18	02JAN12 25	09JAN12 03		16JAN12 10	02FEB12 17	11FEB12 03	16FEB12 13	01MAR12 17FEB12		 15MAR12 03	_	-	19APR12 30	01MAR12 27	01MAR13 02		28DEC12 30		29JUN09	19JAN10	26FEB10	26AUG10	090CT10	220CT11	220CT11	22MAR12			12DEC11	29JUN09	25SEP09	02DEC09	19JAN10	21APR10	02JUN10	13JUL10
Start	10JAN11	14JAN11		1BNOV11	25NOV11	03JAN12		10JAN12	17JAN12	03FEB12	13FEB12	17FEB12		03FEB12	17FEB12	23MAR12	30MAR12	27JAN12	02MAR12	13DEC11	30DEC11						ľ)													
Dur	4 1(12 1		6 18	29 25			6		0	4	12 1		36 0		7 20	21 30	30 2	365 02	12 1	365 31		0	0	0	0	0	0	0	0	1		0	0	0	0	0	0	0	0
a ma	4	12		g	29	9		9	12	œ	4	12		36	30	7	21	30	365	12	365		0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0
Activity Description	Backfill & construct U-channel	Fix rebar/ erect fwk/concrete ramp	Above Inclined Access Ramp	Mobilize piling rig & set up	350mm dia. pre-bored H-piles (lower); 29 nos.	Demobilize piling rig	Inclined Access Ramp	Excavate & hack off grout	Construct skin wall	Construct capping beam	Backfill & construct U-channel	Fix rebar/erect fwk/concrete ramp	Remaining Works Prior to Handover	Finishing & reinstatement works; Portion A	Pre-handover inspections and remedial works	Contractor serve notice for Works completion	SO issues completion certificate	Landscaping works at Portion A	Establishment Works at Portion A	Install flow measurement devices at Intake I-1	Maintain & monitor flow monitoring	Schedule of Milestones for Cost Center No. 4L	4L 1; On completion of 50% excavation	4L 2; On completion of excavation	4L 3; On completion of 25% concreting	4L 4; On completion of 50% concreting	4L 5; On completion of 75% concreting	4L 6; On completion of Cascade	4L 7; On completion of connecting BC	4L 8; On completion of all works under this CC	Schedule of Milestones for Cost Centre No. 7R		7R 1; On completion of trash grills	7R 2; On completion of 25% excavation	7R 3; On completion of 50% excavation	7R 4; On completion of 75% excavation	7R 5; On completion of all excavation	7R 6; On completion of spiral ramp to +80mPD	7R 7; On completion of spiral ramp to +90mPD	7R 8; On completion of spiral ramp to +100mPD
<u>0</u>	11R2AI1216	11R2AI1218	9	11R2AI1220	11R2AI1222	11R2AI1224			11R2A11228	11R2AI1230	11R2A11232	11R2AI1234	Remaining W	07R1AI1606	07R1AI1608	07R1AI1610	07R1AI1612	16R7AI1602	16R7AI1604	3DL1A11602	3DL1A1604	Schedule of I	04L1AI1802	04L1A11804	04L1AI1806	04L1A11808	04L1A11810	04L1AI1812	04L1AI1814	04L1AI1816	Schedule of		07R1AI1902	07R1AI1904	07R1AI1906	07R1AI1908	07R1AI1910	07R1AI1912	07R1AI1914	07R1AI1916

	0	0	24AUG10	24AUG10	2 1,224		◆at Intake I-1
7R 10; On completion of all works under this CC	0	0	22MAR12	22MAR12	10.0		under this Cost Centre
Schedule of Milestones for Cost Centre No. 11R							
11R 1: On completion of soil nailing works	0	0	06SEP08A	06SEP08A	2	◆at Intake I-1	
11R 2; On completion of piling at platform	0	0	26NOV10	26NOV10	2 1,130		wwall at platform at Intake I-1
11R 3, On completion of piling at branch access	0	0	02JAN12	02JAN12	2 728	wal at bra	at branch access at intake I-1 I
11R 4; On completion of all works under this CC	0	0	03DEC10	03DEC10	2 1,123		Wunder this Cost Centre
Construction of Intake I-2							
Additional GI Works to Finalize Design							
Erect platform/mibilization & set up GI rig	m		12SEP08A 16SEP08A 12SEP08A	16SEP08A	-	-	
Drill 3 nos. GI holes for Intake Structures	22 2	22 17SEP08A	17SEP08A 03NOV08A 17SEP08A	03NOV08A	Ŧ	0	
Drill 1 hole for Intersection with Main Tunnel	12	12 11NOV08A	24NOV08A 11NOV08A 24NOV08A	24NOV08A			
Diversion of CLP Overhead Cable							
Temporary diversion of CLP overhead cable	30 3	30 02SEP08A	02SEP08A 17OCT08A 02SEP08A	17OCT08A	2	11	
100mm Watermain							
Temporary Diversion of 100mm dia. Watermain	64* 64	4- 03OCT08A	64* 03OCT08A 05DEC08A 03OCT08A 05DEC08A	05DEC08A	2	0	
Issue VO35 for temp. diversion	-	1 03OCT08A	030CT08A 030CT08A	03OCT08A	-	-	
Preparation works	26 2	26 04OCT08A	040CT08A 04NOV08A 040CT08A		+	•	
Install steel support	e	3 05NOV08A	07NOV08A 05NOV08A	07NOV08A	÷	-	
Lay new watermain	N	2 08NOV08A			-	•	
Obtain ICE certificate for temp. support	0	0	19NOV08A		-	•	
Pressure test	7				-		
Sterilise new pipe & take water sample	m	3 22NOV08A	25NOV08A 22NOV08A	25NOV08A	-		
Watermain connection by WSD	6	10 26NOV08A	26NOV08A 05DEC08A 26NOV08A	05DEC08A	2		
VO #11; Transperant Hoarding at I-2							
Receive VO11 for transparent hoarding	0	0	14JUL08A	14JUL08A	-	•	
Procure/prepare/install transparent hoarding	51 5	51 15JUL08A	13SEP08A 15JUL08A	13SEP08A	-		
VO#32; Replace Hoarding by Chain Link Fence							
Receive VO-32 for replacing hoarding by CLF	0	0	16SEP08A		-	•	
Procure/prepare/install transparent hoarding	51	51 17SEP08A	17NOV08A 17SEP08A	17NOV08A	-	0	
Dressession of Dortion R -904 of DOC	c	0 JEMARDRA	DEMARORA		0	•	
Ohtain TTA (ingress & egress) approval	0		19APR08A	19APR08A	2	•	
Site clearance		30 02MAY08A	-	1	-		
Frect hoarding	-			10.0			
Install remote contorl CCTV as per ER 4.4.10				10.00			
Tree transplanting; 1 no.	Į			1	-	1	
Stream Diversion/Approach Channel/H-Pile Wall			Contractory of the				
Revised Layout of Pile Wall at I-2							
Deceived V/OOD for revised lawart of ails until	c		10 11 080	1011080		•	

g	Activity Description	D04	D04 WP3D	AD04 Start	AD04	Start	WP3D Finish	C	Total				ì		ì
	intrincin				VANICOPA 44 ILI 00A	A ULL DO A	VOULIVE	٩.		E					
V0022-04	SOR confirmed to demolish exit. ret. wall	38	-	11JULUBA	Z1AUGU8A	1JULU6A	ZIAUGUBA	-	1					_	12
VO022-06	Demolish existing retaining wall	-	-	13SEP08A	13SEP08A 13SEP08A	3SEP08A	13SEP08A	-	1		14				
V0022-16	Reinstate piling platform	2	0	16SEP08A	17SEP08A 16SEP08A	6SEP08A	17SEP08A	-		-					2
se 1; Const	Phase 1; Construct 550 dia. H-pile Wall										_			_	
12R3BI2202	Form temp. access ramp along west side of stream	44	44	10JUN08A	31JUL08A 10JUN08A	A80NULO	31JUL08A	٢		n					31
12R3BI2204	Additional SI & engineering works	26	26	25AUG08A	24SEP08A 25AUG08A	5AUG08A	24SEP08A	۲							576
12R3BI2206	Mobilize piling rig & set up	ß	5	25SEP08A	30SEP08A 25SEP08A	SSEP08A	30SEP08A	÷							
12R3BI2208	Construct piles 1 to 18	13	13	020CT08A	170CT08A 020CT08A	12OCT08A	17OCT08A	**		•					-81
12R3BI2210	Piling works stopped by the SOR	80	80	180CT08A	270CT08A 180CT08A	80CT08A	270CT08A	-							1
12R3Bl2212	Construct piles 19-58	28	28	280CT08A	26NOV08A 280CT08A	380CT08A	26NOV08A	-		0					
12R3Bl2214	SOR's instruction to delet pile 59	0	0		02DEC08A		02DEC08A	÷		•					
12R3Bl2216	Demobilize piling rig	4	4	03DEC08A	06DEC08A 03DEC08A	13DEC08A	06DEC08A	÷							
12R3BI2218	Construct skin wall/caping beam/u-channel	±0,	*02	25JUN09	15SEP09 2	25JUN09	15SEP09	-	80		1 28	nos; @ 750mm c/c	mm c/c		
12R3BI2220	Excavate for skin wall, 4 bays	18	18	25JUN09	16JUL09 2	25JUN09	16JUL09	-	80						
12R3Bl2222	Construct for skin wall; 4 bays	24	24	17JUL09	13AUG09 1	17JUL09	13AUG09	æ	80						8
12R3BI2224	Construct capping beam; 4 bays	16	16	14AUG09	01SEP09 1	14AUG09	01SEP09	۰	80		-				33
12R3BI2226	Construct drainage; 4 bays	12	12	02SEP09	15SEP09 02SEP09	12SEP09	15SEP09	÷	80		•				2
se 1: Const	Phase 1; Construct Dry Weather Flow Channel														
08R1BJ2202	Excavate for new low flow channel	9	G	27MAR09A	03APR09A 27MAR09A	7MAR09A	03APR09A	-	-						12
08R1BI2204	Construct new low flow channel	9	ø	11JUN09	17JUN09 11JUN09	1JUN09	17JUN09	•	-196		-				3
08R3BI2208	Remove blcock wall/excavate for gantry footing	12	12	18JUN09	02JUL09 1	18JUN09	02JUL09	-	-196						
08R3BI2212	Construct PC bund wall to protect gantry footing	9	9	03JUL09	0870109 0	03JUL09	607NF60	-	-196		-				33
se 2; Const	Phase 2; Construct Approach Channel West								Ĩ						
08R1B12218	Construct temp. concrete block bund	12	12	02NOV09*	14NOV09 02NOV09*	12NOV09*	14NOV09	e	43			provision of water pump	water pump.		
08R1BI2220	Excavate for western portion guide wall & slab	12	12	16NOV09	28NOV09 1	16NOV09	28NOV09	*	43						3
08R1BI2222	Construct western portion of guide wall & slab	50	50	30NOV09	29JAN10 3	30NOV09	29JAN10	-	43	-		0			2.1
08R1BI2224	Remove concrete block bund	9	9	30JAN10	05FEB10	30JAN10	05FEB10	•	43	255					-
se 3; Const	Phase 3: Construct Approach Channel North								-						23
08R1BI2226	Construct temp. concrete block bund	9	9	01NOV10*	06NOV10 01NOV10*	01NOV10	06NOV10	-	22				provision of water pump	ater pump	88
08R1Bl2228	Excavate for L-shaped retaining wall	12	12	08NOV10	20NOV10 08NOV10	01VOV10	20NOV10	•	22						
08R1BI2230	Construct L-shaped retaining wall	18	18	22NOV10	11DEC10 2	22NOV10	11DEC10	~	22	4					5.5
08R1BI2232	Excavate eastern portion of guide wall & slab	12	12	13DEC10	28DEC10	13DEC10	28DEC10	5 72	22			-			
08R1BI2234	Construction of boulder traps; 7nos.	24	24	29DEC10	26JAN11	29DEC10	26JAN11	-	22			-			
08R1BI2236	Construct eastern portion of guide wall & slab	24	24	27JAN11	26FEB11 2	27JAN11	26FEB11	1	22				8	22.1	
08R1BI2240	Remove temp. concrete blcok bund	9	ω	28FEB11	05MAR11 2	28FEB11	05MAR11	5 -	22				-		8
se 4 - Cons	Phase 4 - Construct Remaining Appr. Channel														
08R1BI2242	Remove gantry crane & steel deck	18	18	16DEC11	10JAN12	16DEC11	10JAN12	.	-196						1
08R1BI2244	Excavation for remaining approach channel	12	12	11JAN12	27JAN12	11JAN12	27JAN12	~	-196						
08R1BI2246	Construct remaining approach channel	24	24	28JAN12	24FEB12 2	28JAN12	24FEB12	-	-196						5.5
08R1BI2248	Close out last section of guide wall	12	12	25FEB12	09MAR12 25FEB12	25FEB12	09MAR12	τ	-196						-201
	Construct track and		ç	OCCERT10	CLAAMPO	25FFR13	CLONNOO.		-196	-					

Sheet 39 of 58

Page 106 of 125

Description Data Step Internation Data Step Internation State Internation			WVán Kei										following chanel diversion to west								provision of TTA	11	Iprovision of TTA													Ifollowing consent from the SOR						lincluding 1 wk concrete strength	50 m
Initial Data Data Finish Start Finish	Float							-175	-196	-196	200		-196	-196		-196	-196	-196	1								-196	-196	-196	-196	96-	96-	96	96-	-96	-96	-96			-50		-50	
pilon Dur Start Finish Start haft 2 <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>Ŧ</td> <td>-</td> <td>-</td> <td>F</td> <td></td> <td>-</td> <td></td> <td>-</td> <td>-</td> <td></td> <td>7</td> <td>-</td> <td>-</td> <td></td> <td>-</td> <td></td> <td></td> <td>*</td> <td></td> <td>-</td> <td></td>			-	-	-	Ŧ	-	-	F		-		-	-		7	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			*		-	
ption Dut Dut Stant haft 24 20-N09A sing 12 27EB0A sing 12 12 27EB0A sing 12 12 27EB0A sing 12 12 27E00A sing 12 12 27E00A sing 12 12 27M30A sing 12 12 27M30A sing 12 12 27M30A sing 12 12 27M30A dosue 25 25 04M30A dosue 27 2 10,0109 dosue 27 37 13,0109 find 37 3 1,001109 find 44days 36 7 10,01109 find 44days 36 2 001000 find 13 27 2 10,01109 find 13 2 10,01000	LUISU		21FEB09A	26FEB09A	12MAR09A			3010109	07SEP09	29OCT09	2010027		11JUL09	24AUG09		23MAR10	17NOV11	15DEC11		27DEC08A	06JAN09A	13MAR09A		100		25APR09A	04JUN09	24JUN09	607NF00	607NF60	14NOV09	29DEC09	06JAN10	20FEB10	24FEB10	27FEB10	27MAR10			14AUG09		28AUG09	
nath ann ann hath 24 20-N09A sing 12 24 20-N09A sing 12 12 27FB09A ss 12 12 27MAR09A ss 12 12 27MAR09A ss 12 12 27MAR09A dosure 12 12 27MAR09A dosure 13 13 13UU09 ss 30 110V11 1 m @ 4m/ 4days 5 5 13UU09 ss 30 110V11 1 m @ 4m/ 4days 5 6 100V10 ss 13 2 2 2 ss 13 2	LINC		20JAN09A	23FEB09A	27FEB09A	13MAR09A	27MAR09A	-		08SEP09	הסטרביים		10JUL09	13JUL09		300CT09	11NOV11	11NOV11		08DEC08A	29DEC08A	A 07JAN09A	A 14MAR09A	A 20MAR09A	21MAR09A		~~~													1070109		15AUG09	
puon out out out haft 24 24 4 s 12 12 12 12 s 12 12 12 12 s 12 12 12 12 s 25 25 25 25 and shaft 37 37 37 37 f 7 37 37 37 s 30 30 30 30 und shaft 54 54 54 54 s 30 31 31 31 31 und shaft 55 5 32 32 32 oncrete 11 17 17 17 17 17 infult 31 31 32 32 32 32 infult 12 12 12 12 12	LUISU		21FEB09A	11-20				1	-	290CT09	5000100		11JUL09	24AUG09		23MAR10	17NOV11	15DEC11								25APR09A	- 1	24JUN09	0870109	-		29DEC09	06JAN10	20FEB10	24FEB10								
ption Due Due </td <td>Start</td> <td></td> <td>20JAN09A</td> <td>23FEB09A</td> <td>27FE</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>- 1</td> <td>13JUL09</td> <td></td> <td>_</td> <td></td> <td>1001</td> <td>_</td> <td></td> <td>_</td> <td>_</td> <td></td> <td>1.254</td> <td></td> <td></td> <td>101</td> <td></td> <td>154</td> <td></td>	Start		20JAN09A	23FEB09A	27FE		1						- 1	13JUL09															_		1001	_		_	_		1.254			101		154	
haft s s s s s s s s s s s s s s s s s s s			24	4	12	12	12	25	12	4	74		2	37		1.1	9	30		15	9	54	2	e	-	0	31	1	12	0	12	36	9	36	e	e	24			31		12	
Description Construct & nos. mini piles Erect timber platform for mini piles Construct 6 nos. mini piles Erect timber platform for mini piles Erect timber platform for mini piles Construct 6 nos. mini piles Erect timber platform for mini piles Erect timber platform for mini piles Excavation of footing/pile caps Install steel deck Construction of footing/pile caps Install steel deck Construct footing for gantry crane and Install gantry crane & noise enclosure Install gantry crane & noise enclosure Install gantry crane & noise enclosure Construction of Vortex Shaft Setting up Probing & curtain grouting around shaft Construction of Vortex Shaft Setting up Ereconstruction of Vortex Shaft Excavate shaft, +99mPD to +65mPD (30m) Set up for lining construction Construct permanent lining; 30m @ 4m/ 4days Construct Air Went Shaft Enlarge the platform for RCD operation Bore shaft with RCD; 37.5m @1m/day Construct Air Went Shaft Construct Air Went Shaft Probings & set up RCD for excavation Bore shaft with RCD; 37.5m @1m/day Construct Air Went Shaft Perparation works for casting concrete Damage found on installed steel liner Preparation works for casting concrete Damage found on installed steel liner Feretion of gantry crane Erection of gantry crane Set up sliding system Install steel casing Survey checking & capping concrete Preparation & concreting Construct Upstand wall Construct Upstand wall Construct Ban Access Shaft Probing & curtain grouting around shaft Construct Han Access Shaft Froding & curtain grouting around shaft Froding & curtain grouting around shaft Construct Hons, gantry footings	Dur		24	4	12	12	12	25	12	40	74		N	37		118	9	30		15	9	54	5	ю	Ŧ	0	31	17	12	0	12	36	9	36	e	3	24			31		12	
	Construct Vortex/Drob Shaft	antry Crane/Noise Enclosure	Construct 8 nos. mini piles	Erect timber platform for mini piling	Construct 6 nos. mini piles	Excavation for footing/pile caps	Construction of footing/pile caps	Install steel deck	Construct footing for gantry crane	Consultor rooming for gaming coarted	Install gantry crane & noise enclosure	nent Works for Vortex Shaft	Setting up	Probing & curtain grouting around shaft	Excavation and Construction of Vortex Shaft	Excavate shaft; +99mPD to +65mPD (30m)	Set up for lining construction	Construct permanent lining; 30m @ 4m/ 4days	Construct Air Vent Shaft	Enlarge the platform for RCD operation	Mobilize & set up RCD for excavation	Bore shaft with RCD; 37.5m @1m/day	Demobilize RCD rig	Install permanent steel liner	Preparation works for casting concrete	Damage found on installed steel liner	Removal of steel liner	Remove RCD platform	Construct PC bund wall	Divert channel to West	Footing for gantry crane	Erection of gantry crane	Set up sliding system	Install steel casing	Survey checking & capping concrete	Preparation & concreting	Construct upstand wall	Construct Man Access Shaft	hent for Man Access Shaft	Probing & curtain grouting around shaft	& Noise Enclosure at M. A. Shaft	Excavate & construct 4 nos. gantry footings	

	Description		- 100	SIBIC	VIDIO I DONNE	FIGDIN -	1	FIUGI		
051 1BI2505 Inst	Install gantry crane & noise enclosure		10	29AUG09	120CT09 29AUG09	12OCT09	Ŧ	-50	Eprovision of TTA	
nd Everyation	Et S and Evravation unto Rock Head Level at M.A.				_	-				
05L1BI2503 Inst	Install sheet piles	9	9	15AUG09	21AUG09 15AUG09	21AUG09	÷	44		
	Excavation to rock head level	18	18	13OCT09	03NOV09 13OCT09	03NOV09	77	-50		
Excavation & Constr	Construction of Man Access Shaft									
	Excavation/muck out/temporoary support	127	127 (04NOV09	12APR10 04NOV09	12APR10		-50		
05L1Bl2522 Cor	Construct base	4	4	15MAR11	18MAR11 15MAR11	18MAR11	•	-50	after construction of man access adit	
05L1BI2524 Set	Set up for 37m shaft construction (wall only)	9	9	19MAR11	25MAR11 19MAR11	25MAR11	-	-50		
05L1BI2526 Cor	Construct wall/stair, 25 landings @ 3 days/land	75	75	26MAR11	28JUN11 26MAR11	28JUN11	-	-50		
05L1Bl2528 Rer	Removal of gantry crane	13	12	29JUN11	13JUL11 29JUN11	13JUL11	÷	-50		
05L1BI2530 Cor	Construct wall above ground level	00	60	14JUL11	22JUL11 14JUL11	22JUL11	-	-50		
	Construct shaft roof	12	12	23JUL11	05AUG11 23JUL11	05AUG11	÷	-50		
Excavate & Consi	Construct Deseration Chamber									
OSI 1RIZGOZ	Probingforout/excesses/enuckout/temp.support	72	72	24MAR10	23JUN10 24MAR10	23JUN10	-	-196	top heading 4m deep 17m, @0.2m/day = 72	
	Drill/excavate/muckout/temp. support for bench	50		24JUN10		1	-	-196		3m3/day
	Drill/excavate/muckout/temp. support for bottom	50		23AUG10	220CT10 23AUG10	220CT10	-	-196	4.5m deep=22*4.5*9=891m3, 17.8m3/day	7.8m3/da)
	Set up for lining construction	12	4	26AUG11	08SEP11 26AUG11	08SEP11	-	-196		
	Construct base; 3 bays	თ	σ	09SEP11	20SEP11 09SEP11	20SEP11	-	-196		
	Construct walls 2 lifts: 3 bavs	24	24	21SEP11	200CT11 21SEP11	200CT11	-	-196		
	Const. crown/underpin. of air vent & drop shafts	18	18	210CT11	10NOV11 210CT11	10NOV11	-	-196		22
Excavate & Cons	Construct Main Adit Tunnel									-
3BL1BI2102 Pro	Probing/grout/temp. support/excavation/muck out	200	200	230CT10	27JUN11 230CT10		***	-196	56m @ 4m/11 days	'11 days
3BL1BI2104 Cor	Construct permanent lining	50	50	28JUN11	25AUG11 28JUN11	25AUG11	-	-196	including b days for setup of mould	101
Excavate & Cons	Construct Man Access Adit									
Upper Horizontal Section	ction							1		
05L1BI2806 Pro	Probing/gorut/excavate/muckout/temporary support	6	6	13APR10	-	30JUL10		-50	26m, @ 4 m/9 day	100
05L1Bl2830 Set	Set up for 23m upper adit construction	9		26JAN11	01FEB11 26JAN11	01FEB11	-	-50		
05L1Bl2834 Cor	Construction of permanent lining	32	32	02FEB11	14MAR11 02FEB11	14MAR11	-	-20		
Vertical Section										
	Probing & curtain grouting around shaft	24		31JUL10	27AUG10 31JUL10		-	-50		0.35
05L1Bl2808 Set	Set up for 7.2m raise (shaft) excavation	~	N	28AUG10		-	-	-20		
05L1BI2810 Exc	Excavate/removal of rock/temporary support	24	24	31AUG10	28SEP10 31AUG10		•	-50	CO.3m/day & night	1 1
05L1BI2822 Cor	Construct base of raise shaft	4	4	09DEC10	13DEC10 09DEC10	13DEC10	-	-50		
05L1Bl2824 Set	Set up for 9m raise stairway const. (wall only)	9	ű	14DEC10	20DEC10 14DEC10	20DEC10	-	-50		
05L1BI2826 Cor	Construct wall & stair, 7 landings @4days/landin	28	28	21DEC10	25JAN11 21DEC10	25JAN11	-	-50		
Lower Horizontal Section	ction									200
05L1BI2812 Set	Set up for 9.3m lower adit excavation	2	2	29SEP10	30SEP10 29SEP10	30SEP10	*	-50		
05L1BI2814 Exc	Excavate/removal of rock/temporary support	31	31	020CT10	08NOV10 02OCT10	08NOV10	æ	-50	CO.3m/day & night	
05L1BI2816 Set	Set up for 7m lower adit construction	9	9	09NOV10	15NOV10 09NOV10	15NOV10	77	-50		

Sheet 41 of 58

Page 108 of 125

																	equipment for tunnelling at Intake I-2	◆for Adit Tunnel at Intake I-2	for Adit Tunnel at Intake I-2	for Adit Tunnel at Intake I-2	For Adit Tunnel at Intake I-2	for Adit Tunnel at Intake I-2	For Adit Tunnel at Intake I-2	◆for Adit Tunnel at Intake I-2	tor Adit Tunnel at Intake I-2	wunder this Cost Centre		Delow G.L. except for Adit at Intake I-2.	Delow G.L. except for Adit at Intake I-2	Delowe G.L. except for Adit at Intake I-2	Delow G.L. except for Adit Intake I-2	vortex shaft at Intake I-2	Chamber at Intake I-2	♦shaft at Intake I-2	♦shaft at Intake I+2	 ◆adit at Intake I-2 	under this Cost Centre		channel and assictated decking at Intake I-2	tintake I-2	
Float			27	27			96	-196	0	0	-158	-196	184	5 0			65	38	10	80	49	21	993	905	858	742		83	58	86	65	746	781	74	878	22	647		661	661	
ID Float				1 -127			1 -196	1-19	2	2	1	1	1		1		2 1,165	2 1,138	2 1,110	2 1,080	2 1,049	2 1,021	0	2	2	2 7		2 1,483	2 1,358	2 1,286	2 1,165	2 7	2 7	2 1,374	2 8	2 1,022	2 6		2	2	
Finish			240CT11	19DEC11			16MAR12	23MAR12	30MAR12	20APR12	16MAR12	16MAR13	20FER12	201 CU 12			220CT10	18NOV10	16DEC10	15JAN11	15FEB11	15MAR11	12APR11	09JUL11	25AUG11	19DEC11		08DEC09	12APR10	23JUN10	220CT10	15DEC11	10NOV11	27MAR10	05AUG11	14MAR11	23MAR12		09MAR12	09MAR12	
Start			AUG11	OCT11			04FEB12	18FEB12	24MAR12	31MAR12	16DFC11	17MAR12	07FFR10	21FFB12																											
Finish			240CT11 26AUG11	19DEC11 250CT11			16MAR12 04	23MAR12 18		1				_			220CT10	18NOV10	16DEC10	15JAN11	15FEB11	15MAR11	12APR11	09JUL11	25AUG11	19DEC11		08DEC09	12APR10	23JUN10	220CT10	15DEC11	10NOV11	27MAR10	05AUG11	14MAR11	23MAR12		09MAR12	09MAR12	
Start			26AUG11	250CT11			04FEB12	18FEB12	24MAR12	31MAR12	16DFC11	17MAR12	07EEE40	0/FEB12																											
Dur			48	48			36		1		1	1.					0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0		0	0	
Dur		-	48	48			36	30	6	24		365	3	365	2000		0	0	0	0	0	0	0	0	io	0		0	0	0	0	0	0	0	0	0	0		0	0	
Description	Junction Between Main Tunnel & Adit Tunnel		Temp. support & excavation breakthrough	Construct collar between MT & AT	Remaining Works Prior to Handover		Finishing & reinstatement works: Portion B	Pre-handover inspections and remedial works	Contractor serve notice for Works completion	CO incluse commitation carificate	Tourseas compression commence	Establishmont Morks at Dation D		Install now measurement devices at intake I-2		Schedule of Milestones for Cost Centre No. 3bL	3bL 1; On establishing tunnelling equipments	3bL 2; On completion of 12,5% perm. tunnel linin	3bL 3; On completion of 25% perm. tunnel lining	3bL 4; On completion of 37.5% perm. tunnel linin	3bL 5; On completion of 50% perm. tunnel lining	3bL 6; On completion of 62.5% perm. tunnel linin	3bL 7; On completion of 75% perm. tunnel lining	3bL 8; On completion of 87,5% perm. tunnel linin	3bL 9; On completion of perm. tunnel lining	3bL 10; On completion of all works under this CC	Schedule of Milestones for Cost Centre No. 5L	5L 1; On completion of 25% of excavation	5L 2; On completion of 50% of excavation	5L 3; On completion of 75% of excavation	5L 4; On completion of all excavation	5L 5; On completion of drop shaft & vortex shaft	5L 6; On completion of de-aeration chamber	5L 7; On completion of air vent shaft	5L 8; On completion of man access shaft	5L 9: On completion of man access adit	5L 10; On completion of all works under this CC	Schedule of Milestones for Cost Centre No. 8R	8R 1; On completion of approach channel	8R 2; On completion of trash grill	
	Junction Bel		3BL1BI2106	3BL1BI2108	Remaining V	Summer	08R1BI2102	08R1BI2103	DBR1BI2104				10K/BIZ104	3DL1BI2101		Schedule of	3BL1BI2A02	3BL1BI2A04	3BL1BI2A06	3BL1BI2A08	3BL1BI2A10	3BL1BI2A12	3BL1BI2A14	3BL1BI2A16	3BL1BI2A18	3BL1BI2A20	Schedule of	05L1Bl2M02	05L1BI2M04	05L1BI2M06	05L1BI2M08	05L1BI2M10	05L1BI2M12	05L1BI2M14	05L1BI2M16	05L1BI2M18	05L1BI2M20	Schedule of	08R1BI2R02	08R1BI2R04	

	Description	Dur	Dur	Start	Finish Start	Finish)	Float			
08R1BI2R06	8R 3; On completion of all works under this CC	0	0	. 4	23MAR12	23MAR12	N	647		under this Cost Centre	
ule of	Schedule of Milestones for Cost Centre No. 12R										
12R3BI2S02	12R 1: On completion of 50% pile retain. wall	0	0	Ó	DENOVOBA	06NOV08A	~		e llew	at Intake I-2	
12R3BI2S04	12R 2; On completion of pile retain. wall	0	0	N	26NOVD8A	26NOV08A	2	-	-wall		
12R3BI2S06	12R 3; On completion of boulder traps	0	0		26JAN11	26JAN11	2	1,069		Atraps at Intake I-2	1-2
12R3BI2S08	12R 4; On completion of all works under this CC	0	0	- 1	23MAR12	23MAR12	2	647		under this Cost Centre	
uctic	Construction of Intake I-3										
nary	Preliminary Works										
al G	Additional GI Works To Finalize Design										
AGIC-02	Erect platform/mibilization & set up GI rig	n	3 03N	VOV08A 0	03NOV08A D5NOV08A 03NOV08A 05NOV08A	A 05NOV08A			-		
	Drill 3 nos. GI holes for Intake Structures	12	12 06N	VOV08A 1	06NOV08A 19NOV08A 06NOV08A 19NOV08A	3A 19NOV08A	-		D		
Repla	VO#32; Replace Hoarding by Chain Link Fence										
V0032-1302	Received VO-32 for replacing hoarding by CLF	0	0		16SEP08A	16SEP08A	-		*		
V0032-1304	Procure/prepare/install transparent hoarding	80	80 175	17SEP08A 0	06MAR09A 17SEP08A	3A D6MAR09A	-				
								1			
חורוטועב		-			ZDIMARUSA		N	1			
01R1CI3104	Site clearance	4			20SEP08A 22APR08A		-				
01R1CI3106	Haording at slope crest	49			30JUL08A 03JUN08A		-	Ì			
01R1Cl3110	Set-up wheel washing facilities	9			03JUL08A 30JUN08A		-				
01R1CI3118	Install remote contorl CCTV as per ER 4.4.10	12	12 28(280CT08A 1	10NOV08A 28OCT08A	3A 10NOV08A	-				
ansp	I ree I ransplanting Works										
16R7CI3202	Tree inspection & report	2	7 01/	01APR08A 2	26APR08A 01APR08A	3A 26APR08A	2				
16R7CI3204	Tree transplant for upper parts; 8 nos	86*	86* 04.	04JUN08A 1	13SEP08A 04JUN08A	133EP08A	-		0		
16R7CI3206	1st stg tree pruning	2	2 04.	04JUN08A 2	21JUN08A 04JUN08A	SA 21JUN08A	*-		•		
16R7CI3208	2nd stg tree pruning	2	2 04	04JUL08A 0	04JUL08A 04JUL08A	A 04JUL08A	+		-		
16R7CI3210	Final stg. tree pruning & tree uplifting	ø	6 085	08SEP08A 1	13SEP08A 08SEP08A	3A 13SEP08A	-				
16R7Cl3212	Tree transplanting at Ch250-Ch200); 20 nos.	214*	214* 210	21JUN08A 0	09MAR09A 21JUN08A	A O9MAR09A	-				
16R7CI3214	1st stg tree pruning	m	3 21	21JUN08A 1	15JUL08A 21JUN08A	A 15JUL08A	-		n		
16R7Cl3216	2nd stg tree pruning	m		15JUL08A 1	12SEP08A 15JUL08A	A 12SEP08A	÷		0		
16R7Cl3218	Final stg tree pruning & tree uplifting	œ	8i 28F	28FEB09A 0	09MAR09A 28FEB09A	A 09MAR09A	-				
16R7CI3220	Tree transplanting at Ch100-Ch0	e6*	66* 12	12NOV09	30JAN10 12NOV09	9 30JAN10	-	17			
16R7CI3222	1st stg tree pruning	4	4 12	12NOV09 1	16NOV09 12NOV09	9 16NOV09	-	17			
16R7CI3224	2nd stg tree pruning	4	4 15	1	18DEC09 15DEC09	9 18DEC09	-	17			
16R7CI3226	Final stg tree pruning & tree uplifting	10	10 20	20JAN10	30JAN10 20JAN10	30JAN10	~	17			
Refai	H-Pile Retaining Wall for Wall A						l				
Piling Works											
13R4Cl3400	Mobilize & set up piling rig	9	6 11AU	G08A	16AUG08A 11AUG08A	3A 16AUG08A	-				
13R4Cl3401	Drill 28 nos. grout (partially) 11 nos. piles	-	1 18AU	G08A	28AUG08A 18AUG08A	3A 28AUG08A	-				
13R4CI3402	Piling stopped due to accessive grout loss	-	1 294		220CT08A 29AUG08A	3A 220CT08A	-		0		
		•	100		ABOVONSC ABOVONSC	ANOVORA DE	Ŧ				

5Campelea al H-pies, Well A, 34Tras.707018.AUGG6A21.AUGG6A22.AUGG6A21.AUGG6A		Description	Dur	-170	E E E E	LINSIN 1	LIBIC	LINISH -	2	Float							
Ref et/n Ref et/n	13R4Cl3405	Complete all H-piles, Wall A; 347nos,	20	0	18AUG08A	21JAN09A	8AUG08A	21JAN09A			1				38 3		
Interfactor Interfactor <thinterfactor< th=""> <thinterfactor< th=""></thinterfactor<></thinterfactor<>	Skin Wall																
of false, pine t to 347 of all pine t to 347 of all pine t to 347 of all pine t to 347 i of all pine t to 347 of al	13R4CI3406	Excavate for skin wall construction; 2130m3	60			02MAR09A 1-		02MAR09A	-						8.5		
	13R4CI3408	Hack off piles; piles 1 to 347	48		EB09A	02APR09A 0		02APR09A	-			1			50		
Interform 24 24 14APFR0Ab 0uUUU00 14APFR0Ab 0uUUU00 14 24 24 24APFR0Ab 14APFR0Ab 14 24 <	13R4CI3410	Construct skin wall;	60		EB09A	19MAY09A 2		19MAY09A	-			1					
	13R4CI3414	Construct for capping beams;	24		14APR09A	04JUN09 1-		04JUN09	-	401					225		
Activity Nas Activity Nas<	13R4CI3416	Construct U-channels	37		D6MAY09A	18JUN09 0		18JUN09	-	394		0			220		
Redinaling Redinal	Soil Nailing	Works															
self naling 1 <t< td=""><td>Soil Nailing O</td><td>utside Excavation Area</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Soil Nailing O	utside Excavation Area															
duiling & grouning plants d l 1 SEPORA l 1 SEPORA <thl 1="" sepora<="" th=""> l 1 SEPORA <th 1<="" td=""><td>13R1CI3502</td><td>Scaffolding platform for soil nailing</td><td>18</td><td></td><td>EP08A</td><td></td><td></td><td>28OCT08A</td><td>-</td><td>413</td><td></td><td></td><td></td><td></td><td></td><td></td></th></thl>	<td>13R1CI3502</td> <td>Scaffolding platform for soil nailing</td> <td>18</td> <td></td> <td>EP08A</td> <td></td> <td></td> <td>28OCT08A</td> <td>-</td> <td>413</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	13R1CI3502	Scaffolding platform for soil nailing	18		EP08A			28OCT08A	-	413						
	13R1C13504	Mobilize & set up drilling & grouting plants	4		EP08A			17SEP08A	-		-			1.50			
Ch. 270-210 Sig Sig <th< td=""><td>13R1C13506</td><td>Install & grout soil nails; 193 nos. + 8 Test N.</td><td>69</td><td><u> </u></td><td>EP08A</td><td></td><td>1</td><td>09DEC08A</td><td>-</td><td></td><td>0</td><td></td><td></td><td>257</td><td>20</td><td></td></th<>	13R1C13506	Install & grout soil nails; 193 nos. + 8 Test N.	69	<u> </u>	EP08A		1	09DEC08A	-		0			257	20		
Inelise Discription Intelise		Within Excavation; Ch. 270-210															
Ch. 210-130 Ch. 210-130 TI/7 T2FC08A TIMAY09A TIMAY09A <thtimay09a< th=""></thtimay09a<>	3R1Cl3508	Install & grout soil nails	58*	58*	29JUL09	06OCT09 2		06OCT09	-	-160							
Inalis Intralis Intralis Intralis Intralis Intravision Intravisi	Soil Nailing V	Vithin Excavation; Ch. 210-130															
Chi.1300 Chi.1300	3R1Cl3510	Install & grout soil nails	117*			11MAY09A 1.	2DEC08A	11MAY09A	-			-			3		
Inelise 287* 287* 287* 300CT08 225EP10 1 1 17 17 etion mit or soin alling mit or soin alling 10 100 200CT08 225EB10 1 235 mit or soin alling 12 12 100 100 240CT08 256EB10 1 235 mit or soin alling 1 10 100 240CT08 255EB10 1 235 and leasin 0 0 240CT09 255EB10 240CT03 255EB10 1 235 and leasin 0 0 0 240CT09 255EB10 240CT03 255EB10 1 235 and leasin 0 0 0 0 0 0 240CT03 255EB10 1 235 and leasin 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <th< td=""><td></td><td>Within Excavation; Ch.130-0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		Within Excavation; Ch.130-0															
ation Increating Increating </td <td>3R1CI3512</td> <td>Install & grout soil nails</td> <td>267*</td> <td>267*</td> <td>300CT09</td> <td>22SEP10 3</td> <td></td> <td>22SEP10</td> <td>-</td> <td>17</td> <td></td> <td></td> <td>1</td> <td></td> <td>2</td> <td></td>	3R1CI3512	Install & grout soil nails	267*	267*	300CT09	22SEP10 3		22SEP10	-	17			1		2		
In dir sol nating 12 12 12 12 100 100 230CT09 25FEB10 1 235 In dis, Z61 no.s + 3 Test N, 100 100 240CT09 25FEB10 1 235 Prived V2443 1 100 100 240CT09 25FEB10 1 235 Prived V2443 0 0 0 0 05MAY09A 05MAY09A 1 235 Prived V2443 0 0 0 0 05MAY09A 05MAY09A 1 1 235 Prived V2443 0 0 0 05MAY09A 05MAY09A 05MAY09A 1	Rem. Soil Nai	Iling Outside Excavation															
Inalis, 261 no.s + 3 Test N. 100 100 240CT09 25FEB10 1 235 Indeed VORMA3 svising design 0 0 02 20CTB09A 25FEB10 1 235 Indeed VORMA3 0 0 0 02 05MAY09A 02FEB09A 1 235 evising design 0 0 0 0 02MAY09A 05MAY09A 1 1 al of lean mix concrete 12 12 05MAY09A 05MAY09A 1 1 1 al of lean mix concrete 13 14MAY09A 06MAY09A 1 1 1 1 al of lean mix concrete 18 18 14MAY09A 06MAY09A 1 1 1 al of lean mix concrete 18 18 14MAY09A 06MAY09A 1 1 1 al of lean mix concrete 18 18 14MAY09A 06MAY09A 1 1 1 1 al of lean mix concrete 2 2 04MAY09A 06MAY09A 1 1 1 1 1 formau.off <td>3R1CI3522</td> <td>Scoffolding platform for soil nailing</td> <td>12</td> <td>12</td> <td>100CT09</td> <td>23OCT09 1</td> <td>1.11</td> <td>230CT09</td> <td>-</td> <td>235</td> <td></td> <td>**</td> <td></td> <td></td> <td></td> <td></td>	3R1CI3522	Scoffolding platform for soil nailing	12	12	100CT09	23OCT09 1	1.11	230CT09	-	235		**					
Inded VC#043 OZFEB09A OZFEB09A 1 evising design 0 0 02FEB09A 05/MY09A 05/MY09A 1 evising design 0 0 0 05/MY09A 05/MY09A 2 evising design 0 0 0 0 0 05/MY09A 2 evising design 12 12 12 12 06/MY09A 06JU009 1/MAY09A 1 1 156 all of lean mix concrete 18 18 15/MAY09A 06JU009 1/MAY09A 1 1 156 ees: VO #043 2 2 2 2 2 2 0 0 1 1 156 fees: VO #043 2 2 2 06/MAY09A 06/MAY09A 06/MAY09A 1	3R1CI3532	Install & grout soil nails; 261 no.s + 3 Test N.	100	100	240CT09	25FEB10 2	1	25FEB10	+	235		1					
Works for works included VC#043 O O O O OZFEB09A I I Receive VO for revising design 0 0 0 0 0 0 05MAY09A 05MAY09A 1 15 Recieve amendment to VC#043 0 0 0 0 0 0 05MAY09A 05MAY09A 1 15 Recieve amendment to VC#043 12 12 12 05MAY09A 05MAY09A 05MAY09A 1 15 Recieve amendment to VC#043 5 12 12 12 12 12 14 1 15 Setting out at site 5 5 6 06 05 06MAY09A 05MAY09A 1 1 156 Setting out at site 2 2 2 2 04MAY09A 1<	iccess Roa	vd Construction															
Receive VO for revising design 0 0 0 0 02FEB03A 1 1 Recive VO for revising design 0 0 0 0 0 05MAY09A 05MAY09A 05MAY09A 1 1 1 Procurement of lear mix concrete 12 12 0 0 0 0 1 <td>Preliminary V</td> <td>Vorks for Works included VO#043</td> <td></td>	Preliminary V	Vorks for Works included VO#043															
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Procurement of lean mix concrete 12 12 12 12 12 12 13 14MYYOSA 14MYYOSA 14MYYOSA 14MYYOSA 1 15/5 1 1 15/5 1 15/5 1 1 15/5 1	0043-020	Recieve amendment to VO#043	0	0		05MAY09A		05MAY09A	2			*					
Image: Leging & approval of lean mix concrete 18 18 18 18 18 18 15/MAY09A 06JUN09 1 1 156 Image: Comparising Com	/0043-030	Procurement of lean mix concrete	12			14MAY09A 0		14MAY09A	-						883		
Column Concrete Retained Trees; VO #043 Column	0043-040	Testing & approval of lean mix concrete	18		15MAY09A	06JUN09		06JUN09	-	-156							
Setting out at site 69 69 63 <td>flass Wall to</td> <td>Protect Retained Trees; VO #043</td> <td></td> <td>1</td> <td></td>	flass Wall to	Protect Retained Trees; VO #043													1		
Excavate & muck out manually; 50m @ 4m/day 2 2 23APR09A 30APR09A 30APR09A 1 1 Erect formwork; 70m2 @ 14m2/day 5 5 5 04MAY09A 08MAY09A 08MAY09A 1 1 Set up for conneting 2 2 2 08MAY09A 08MAY09A 1 1 1 Pour concrete & removal of formwork 2 2 2 08MAY09A 08MAY09A 1 <td>0043-120</td> <td>Setting out at site</td> <td>69</td> <td></td> <td>EB09A</td> <td></td> <td></td> <td>28APR09A</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	0043-120	Setting out at site	69		EB09A			28APR09A	-								
Erect formwork; 70m2 @ 14m2/day 5 04MAY09A 08MAY09A 08MAY09A 08MAY09A 1 1 Set up for conreting Set up for conreting 2 2 08MAY09A 08MAY09A 08MAY09A 1	0043-130	Excavate & muck out manually; 50m @ 4m/day	2					30APR09A	-								
Set up for conneting 2 2 08MAY09A 09MAY09A 1 1 1 70: VC# 043 Pour concrete & removal of formwork 2 2 08MAY09A 09MAY09A 1	0043-140	Erect formwork, 70m2 @ 14m2/day	Q	5	04MAY09A		14MAY09A	08MAY09A	-		3						
Pour concrete & removal of formwork 2 2 09MAY09A 11MAY09A 11MAY09A 1	/0043-150	Set up for conreting	8	N	08MAY09A	0 AROYAMOO	BMAY09A	09MAY09A	-								
TO; VO# 043 TO; VO# 043 Bulk excavation for benching:1061 @ 45m3/day 12 12 29MAY09 11JUN09 1 -160 Bulk excavation for benching:1061 @ 45m3/day 12 12 29MAY09 11JUN09 28JUL09 1 -160 Fill & compaction; 39 layers @ 1 day/layer 39 39 12JUN09 28JUL09 1 -160 1 -160 Ch. 270; VO #043 A A 29JUL09 01AUG09 28JUL09 1 -160 1 -160 Ch. 270; VO #043 A 4 4 29JUL09 01AUG09 29JUL09 1 -160 1 -160 Bulk excavation for access road Ch. 370 to 270 5 5 03AUG09 07AUG09 03AUG09 07AUG09 1 -160 Bulk excavation for benching; Ch. 310 to 270 5 5 03AUG09 25AUG09 07AUG09 1 -160 Bulk excavation for benching; Ch. 360-270 5 5 03AUG09 25AUG09 07AUG09 1 -160 Bulk excavation for benching; Ch. 460-270 1 1 2 2	/0043-160	Pour concrete & removal of formwork	7	N		11MAY09A 0	BMAY09A	11MAY09A	-								
Bulk excavation for benching;1061 @ 45m3/day 12 12 29MAY09 11JUN09 11 -160 -16	ch.460 to 370	1; VO# 043								-	- 13			22			
Fill & compaction; 30 layers @ 1 day/layer 39 39 12JUN09 28JUL09 1 -160 1 1 -160 1 1 -160 1 1 -160 1 1 -160 1	/0043-060	Bulk excavation for benching; 1061 @ 45m3/day	12	- 1	29MAY09	11JUN09 2	i	11JUN09	-	-160				i			
Ch. 270: VO #043 Ch. 270: VO #043 Excavation for access road Ch. 370 to 310 4 4 29JUL09 01AUG09 1 -160 Bulk excavation for access road Ch. 310 to 270 5 5 03AUG09 07AUG09 07AUG09 1 -160 Fill & compaction lean mix concerter, 15 layers 15 15 08AUG09 07AUG09 07AUG09 1 -160 Above Access Road; Ch. 460-270 15 15 08AUG09 25AUG09 1 -160 I Temporary concrete paving & curing 16 16 26AUG09 12SEP09 1 -130	/0043-070	Fill & compaction; 39 layers @ 1 day/layer	39	39	12JUN09	28JUL09 1		28JUL09	-	-160			1				
Excavation for access road Ch. 370 to 310 4 4 29JUL09 01AUG09 29JUL09 1 -160 Bulk excavation for benching: Ch. 310 to 270 5 5 03AUG09 07AUG09 07AUG09 1 -160 Fill & compaction lean mix concerte; 15 layers 15 15 03AUG09 07AUG09 07AUG09 1 -160 Above Access Road; Ch. 460-270 15 15 08AUG09 25AUG09 08AUG09 1 -160 Above Access Road; Ch. 460-270 15 15 08AUG09 12SEP09 1 -160 Temporary concrete paving & cuing 16 16 16 26AUG09 12SEP09 1 -139	ch. 370 to Ch										5.0						
Bulk excavation for benching; Ch. 310 to 270 5 5 0.3AUG09 0.7AUG09 0.7AUG09 1 -160 1 1 -160 1 -160 1 1 -160 1 1 -160 1 1 -160 1 1 1 1 1 1 1 1 1 <th1< th=""> 1 1<!--</td--><td>/0043-090</td><td>Excavation for access road Ch. 370 to 310</td><td>4</td><td>4</td><td>29JUL09</td><td>01AUG09 2</td><td></td><td>01AUG09</td><td>-</td><td>-160</td><td>18</td><td></td><td></td><td></td><td>125</td><td></td></th1<>	/0043-090	Excavation for access road Ch. 370 to 310	4	4	29JUL09	01AUG09 2		01AUG09	-	-160	18				125		
Fill & compaction laan mix concerte; 15 layers 15 15 08AUG09 25AUG09 1 -160 1 -160 1 -160 1 -160 1 -160 1 -160 1 -160 1 -160 1 -160 1 -160 1 -160 1 -160 1 -160 1 -160 1 -1 </td <td>/0043-100</td> <td>Bulk excavation for benching; Ch. 310 to 270</td> <td>2</td> <td>S</td> <td>03AUG09</td> <td>07AUG09 0</td> <td></td> <td>07AUG09</td> <td>٣</td> <td>-160</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	/0043-100	Bulk excavation for benching; Ch. 310 to 270	2	S	03AUG09	07AUG09 0		07AUG09	٣	-160							
& Above Access Road; Ch. 460-270 16 16 26AUG09 12SEP09 12SEP09 1 -139 2	/0043-110	Fill & compaction lean mix concerete; 15 layers	15	15	08AUG09	25AUG09 0		25AUG09	-	-160	A.C.	-					
Temporary concrete paving & curing 16 16 26AUG09 12SEP09 26AUG09 12SEP09 1 -139	Norks On &	Above Access Road; Ch. 460-270															
	09R1CI3610	Temporary concrete paving & curing	16	16	26AUG09	12SEP09 2		12SEP09	-	-139	12	-			1		

Sheet 44 of 58

Page 111 of 125

			A APPROX A	A CONTRACT	A DAME I	TANKAR I	ALCOUNT.		Total Date			107 010		
9	Activity Description	Dur	Dur Dur	Start	Finish	Start	Finish	D	Float					
09R1CI3620	Excavation of slope batter above access road	47	47	14SEP09	10NOV09 14SEP09	4SEP09	10NOV09	÷	321		1 0,513	=10,513m3 @ 225m3/day	day	
Ch. 270 to Ch. 210	210													
09R1CI3624	Excavation & soil nailing	54	54	29JUL09	29SEP09 29JUL09	607NP6	29SEP09	*	-160					8
09R1CI3626	Backfill (grade 200) & compaction	m	ø	07OCT09	090CT09 070CT09	7OCT09	090CT09		-160		1			
09R1CI3628	Temporary concrete paving & curing	9	10	100CT09	210CT09 100CT09	00CT09	21OCT09	-	-160		-		1.0	
Ch. 210 to Ch.	130													N
09R1CI3630	Excavation as per conforming design	48	48	12DEC08A	11MAY09A 12DEC08A	2DEC08A	11MAY09A	-	-					
09R1CI3632	Temporary concrete paving & curing	12	12	13NOV09	26NOV09 13NOV09	80VONS	26NOV09	-	55		1 18			2
VO-084-02	VO#084 revising the design received	0	0	12MAY09A	#	12MAY09A		-	-					3
VO-084-12	Works resumed as per VO #084	0	0	16MAY09A	14	16MAY09A				•				
VO-084-22	Excavate slope profile as per VO#084	34	34	16MAY09A	25JUN09 16	16MAY09A	25JUN09	-	-79				1	
VO-084-26	Remove excavated material off site; 6000m3	18	18	220CT09	12NOV09 22	220CT09	12NOV09	-	55					
VO-084-32	Soil nailing at Ch. 198 to 210	4	4	30SEP09	06OCT09 30SEP09	0SEP09	06OCT09	-	-160		-			
VO-084-42	Excavate to access road formation	18	18	26APR11	17MAY11 26APR11	5APR11	17MAY11	-	-160				2	
Ch. 130 to Ch.	Ch. 130 to Ch. 0; up to +74.5mPD													
09R1CI3634	Excavation & soil nailing	62	62	300CT09	13JAN10 300CT09	DOCT09	13JAN10	-	17		1			1
09R1CI3636	Temporary concrete paving & curing	15	15	14JAN10	30JAN10 14JAN10	4JAN10	30JAN10	-	17	-	•	_	00	33
Ch. 130 to Ch.	Ch. 130 to Ch. 0: below +74.5mPD													39
09R1CI3638	Excavate & soil nailing (+74.5 to 88.5mPD)	41	41	06AUG10	22SEP10 06AUG10	6AUG10	22SEP10	-	17			0		
09R1CI3640	Excavate rock (88.5 to 63mPD; 3239m3 @ 80m3/day	40	40	24SEP10	11NOV10 24SEP10	4SEP10	11NOV10	æ	17			0		
09R1CI3642	Backfill (grade 200) & compaction	7	7	12NOV10	19NOV10 12NOV10	2NOV10	19NOV10	F	17					-3
-15	Road Paving: Ch. 460 to Ch. 270													58
09R1Cl3664	Construct drainage as per VO#090; 190m @ 5m/day	32	32	29JUN11	05AUG11 23	29JUN11	05AUG11	٣	-160				1	.8
09R1CI3674	Road formation; 190m @ 12m/day	20	20	06AUG11		6AUG11	29AUG11	-	-157					
09R1CI3684	Lay sub-bse and kerb; 190m @ 12m/day	16	16	30AUG11	17SEP11 30	30AUG11	17SEP11	-	-157					
09R1CI3694	Concrete paving; 190m @ 12m/day	16	16	19SEP11	080CT11 19SEP11	9SEP11	080CT11		-157				-	23
VO-095-02	Green slope arrangement as per VO# 095	24	24	09JUL11	05AUG11 09JUL11	970L11	05AUG11	-	-157	-				
Drainage & Ro	Drainage & Road Paving; Ch. 270 to Ch. 130								2				100	
09R1CI3644	Construct drainage; 140m @ 4m/day	35	35	18MAY11	28JUN11 18MAY11	8MAY11	28JUN11	-	-160					
09R1CI3646	Backfill trench & road formation; 140m @ 12m/day	12	12	29JUN11	13JUL11 20	29JUN11	13JUL11	-	-137					1
09R1CI3648	Lay sub-base and kerb; 140m @12m/day	12	12	14JUL11		14JUL11	27JUL11		-125				150mm thick	
09R1CI3654	Concrete paving; 140m @ 12m/day	12	12	28JUL11	10AUG11 2	28JUL11	10AUG11	-	-125		_			8
Drainage & Ro	Drainage & Road paving: Ch. 130 to Ch. 0									85 6 C 6 3				
09R1CI3704	Construct drainage; 130m @ 4m/day	33	33	06AUG11	14SEP11 06AUG11	6AUG11	14SEP11	-	-160					
09R1CI3714	Backfill trench & road formation; 130m @ 12m/day	11	11	15SEP11	27SEP11 15SEP11	5SEP11	27SEP11	-	-160				-	3
09R1CI3724	Lay sub-base & kerb; 130m @12m/day	÷	£	28SEP11	120CT11 2	28SEP11	120CT11	-	-160				•0	
09R1CI3734	Concrete paving; 130m @ 12m/day	7	11	130CT11	250CT11 1:	130CT11	250CT11	Ŧ	-160				-	
H-Pile Retail	H-Pile Retaining Wall for Wall B													
Piling Works														
13R4CI3701	Form piling platform for Wall B	12	12	01FEB10	17FEB10 01FEB10	1FEB10	17FEB10	F	17		4		-11-3	
13R4CI3702	Mobilize & set up piling rig	G	ω	18FEB10	24FEB10 18FEB10	8FEB10	24FEB10	Τ	17		**			30
		C.	ŝ	DECEDIO	C OFVER	2655010	OPANAVAD	•	17		B	ninelin and	100	199

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Sheet 45 of 58

Page 112 of 125

	Description	Dur D	Dur	Start	Finish	Start	Finish	9	Float	A LO DE LA LA LA LA LA LA LA LA LA LA LA LA LA				
13R4CI3705	Demobilize piling rig	9	6 0	04MAY10	10MAY10 04MAY10	4MAY10	10MAY10	F	17					
Skin Wall														
13R4CI3706	Excavate for skin wall; 48m3	18	18 1	11MAY10	01JUN10 11MAY10		01/UN10		17		•			
13R4CI3708	Hack off piles; piles 1 to 98	24	24 2	26MAY10	23JUN10 26	26MAY10	23JUN10	r	17					_
13R4CI3710	Construct skin wall; 6 bays	24	24 0	09JUN10	08JUL10 05	01/N/10	08JUL10	π.	17					2
13R4CI3712	Excavate for capping beams;	12	12	02JUL10	15JUL10 02	02JUL10	15JUL10	-	17					
13R4CI3714	Construct for capping beams;	18	18 (09JUL10	29JUL10 05	09JUL10	29JUL10	-	17		8			
13R4CI3716	Construct U-channels	18	18	16JUL10	05AUG10 16	16JUL10	05AUG10	-	17					
annel Modi	Channel Modification Works (Dry Season)													
ver Diversion	River Diversion for Underground Works													-
09R1CI3802	Form a temporay plant access to stream	60	60 12	12DEC08A	04FEB09A 12DEC08A		04FEB09A	-		8		-	1	÷
09R1CI3804	Break boulders	32	32 0	32 05FEB09A	24FEB09A 05FEB09A	SFEB09A	24FEB09A	-		•				
09R1CI3806	Concrete bedding for bund wall (gabion)	E	11 23	25FEB09A (09MAR09A 25FEB09A	SFEB09A	09MAR09A	•=		-				
09R1CI3808	Construct bund wall (gabion)	8	22 10	10MAR09A	30APR09A 10MAR09A	DMAR09A	30APR09A	-		8			1.2.1.	
09R1CI3810	Divert channel to south west	0	0		30APR09A		30APR09A	-		•				-
Channel Modification Works	ation Works													-
09R1CI3812	Breaking of large boulders	30	30	02NOV09*	05DEC09 02NOV09*	2NOV09*	05DEC09	-	21		n			
09R1CI3B14	Excavation of the stream bed & make good	24	24 0	07DEC09	06JAN10 07	07DEC09	06JAN10	-	21		13		8	
09R1CI3816	Laying of rock armour	24	24 0	07JAN10	03FEB10 07	07JAN10	03FEB10	-	21					
09R1Cl3818	Construct bund wall for approch channel const.	24	24 0	04FEB10	06MAR10 04FEB10	4FEB10	06MAR10	÷	21		-			-
09R1CI3820	Divert channel to south west	0	0		06MAR10		06MAR10	-	21		•			
Excavation fo	for AVS/VS/DC/MAS/MAA													20
en Excavatio	Open Excavation for Underground Structures												5.5	200
06L1Cl3906	Mobilize drilling rig, backhoes	÷	د	300CT09	300CT09 30	300CT09	300CT09	-	-160		-		1	
06L1CI3908	Excavate/mucking out/temporary support	200	200 3	310CT09	07JUL10 3	310CT09	07JUL10	-	-160			6000m3, 30m3/day = 200	n3/day = 200	
Excavation &	Construction of Main Adit													
														1916
3CL1Cl3102	Excavation/mucking out/temporary support	40	40	08JUL10	23AUG10 08JUL10	8JUL10	23AUG10	-	-134			=10m, @0.3m/day	m/day	
3CL1Cl3104	Construction of permanent lining	24	24 2	24AUG10	20SEP10 24	24AUG10	20SEP10	-	-134					
instruction	Construction of Man Access Adit (MAA)													
06L1Cl3112	Cast invert: 1 bay	2	7	15SEP10	22SEP10 15SEP10	5SEP10	22SEP10	÷	-160			-		
06L1Cl3114	Cast walls	12	12	24SEP10	08OCT10 24SEP10	4SEP10	08OCT10	-	-160					200
06L1Cl3116	Cast crown	12		09OCT10	230CT10 090CT10	90CT10	230CT10	-	-160					
Instruction	Construction of Man Access Shaft (MAS)									11 -				
														107
06L1Cl3122	Cast base	ო	8	08JUL10	- 1	08JUL10	10JUL10	-	-160		-			22
06L1Cl3124	Set up formworks	Q	9	12JUL10	17JUL10 12	12JUL10	17JUL10	-	-160					
06L1Cl3126	Construct wall/stair, 14 landings @ 6 days/land.	84	84	19JUL10	270CT10 19	19JUL10	270CT10	-	-160	0	4 days/ landing	1	22m & 14 landings	1
06L1CI3128	Construct wall above ground level	Q	9	31MAR11	07APR11 3	31MAR11	07APR11	Ψ.	e,			-		
		A COMMUNICATION OF A COMMUNICATION OFFA COMMUNICATION OFFA COMMUNICATIONO OFFA COMMUNICATION OFFA COMUNICATION OFFA COMUNICATION OFFA COMUNICATION OFFA COMUNICATIONO	1		1000	「大なる」の「おいろう」	のないので、「「「「「」」」					-		

Sheet 46 of 58

Page 113 of 125

Constructic									Loop 1				
	Construction of Deaerarion Chamber (DC)		ij									1.55	- 2102 2007
06L1CI3132	Construct base	б	6	250CT10	03NOV10 250CT10		03NOV10	1	-160		-		
06L1CI3134	Construct walls 2 lifts	12	12 0	04NOV10	17NOV10 04NOV10		17NOV10	۲ ۲	-160		-		
06L1Cl3136	Const. crown/underpin of air vent & drop shafts	18	18	18NOV10	08DEC10 18NOV10		08DEC10	-	-160				333
Constructio	Construction of Vortex Shaft (VS)												
06L1CI3142	Set up formworks	9	G	17DEC10	23DEC10 17DEC10		23DEC10	+ ۲	-160		-		
06L1CI3144	Construction of drop shaft; 4m high	G	9	24DEC10	03JAN11 24	24DEC10 (03JAN11	۳.	-160		104m	@4m/4days	
06L1CI3146	Construction of vortex structure	24	24 (04JAN11	31JAN11 04.	04JAN11 3	31JAN11	۲ ج	-160				
06L1CI3148	Construct remaining of the vortex	18	18	31MAR11	21APR11 31	31MAR11 2	21APR11	1-	-160		-		33
Constructic	Construction of Air Vent Shaft Shaft (AVS)				The Mart								
06L1CI3152	Set up formworks	g	9	01FEB11	10FEB11 01	01FEB11	10FEB11	+ +	-160				
06L1CI3514	Cast 15m high circular wall	15	15	11FEB11	28FEB11 11FEB11		28FEB11	۲ ۲	-160		-		
06L1Cl3516	Construct upstand wall	12	12 0	01MAR11	14MAR11 01MAR11		14MAR11	1 -1	-160		-		
Backfill Aro	Backfill Around Structure												
061 1Cl3162	Granular fill up to +54mPD: 623m3	2	2	09DEC10	16DEC10 09DEC10		16DEC10	-	-160		1		
06L1Cl3164	Granular fill above +54mPD: 1400m3	14	1.1	15MAR11	30MAR11 15MAR11		30MAR11		-160			4	
Constantiatio	a of Annuarh Channel												100
Constructio	construction of Approach channel												
0001013172	Evenuation for Annuach Channel	G.	0	01NOV10*	12.IAN11 01	01NOV10*	12.IAN11	Ŧ	α		1		
		8 8) 0		1	1 10 10	
09R1CI3174	Construction of Approach Channel; upstream	82		2006010		1	THAMIT	1	x				
09R1CI3176	Construction of boulder trap; 7 nos.	24		01NOV11*	_		28NOV11		-165			• 1	
09R1Cl3177	Construction of Approach Channel; downstream	40		01NOV11	_		16DEC11	۲ ۲	-165			10	
09R1CI3178	Construction of trash grill	12	_	17DEC11	- 1		04JAN12	۲ ۲	-165				
09R1CI3179	Removal of concrete bolck bund	9	9	05JAN12	11JAN12 05	05JAN12	11JAN12	۲ ۳	-165				3
Junction B	Junction Between Main Tunnel & Adit Tunnel												100
												10	25
3CL1Cl3106	Temp. support & excavation breakthrough	48	48	19JUL11	12SEP11 19JUL11		12SEP11	.	-94			2	
3CL1CI3108	Construct collar between MT & AT	48	48	14SEP11	10NOV11 14SEP11		10NOV11	۳	-94			1	25
Remaining	Remaining Works Prior to Handover to Client												
													853
09R1CI3142	Finishing & reinstatement works; Portion C	36	36	10DEC11	28JAN12 10	10DEC11	28JAN12	۲ ۴	-155				
09R1CI3143	Pre-handover inspections and remedial works	30	30	28DEC11	04FEB12 28	28DEC11 (04FEB12	۲ ۲	-155				
09R1CI3144	Contractor serve notice for Works completion	7	~	05FEB12	11FEB12 05	05FEB12	11FEB12	2	667			-	
09R1Cl3146	SO issues completion certificate	21	21	12FEB12	03MAR12 12	12FEB12 (03MAR12	2	667				
16R7CI3142	Landscaping works at Portion C	120	120	31AUG11	28JAN12 31	31AUG11	28JAN12	۲ ۲	-117	4		1	
16R7CI3144	Establishment Works at Portion C	365	365	29JAN12	27JAN13 29.	29JAN12	27JAN13	2	-148				Ì
3DL1CI3141	Install flow measurement devices at Intake I-3	12	12	12JAN12	28JAN12 12	12JAN12	28.JAN12	1	-165			-	2

Sheet 47 of 58

Page 114 of 125

			euipment for tunnelling at Intake I-3	Addit Tunnel at Intake I-3	Adit Tunnel at Intake I-3	◆Adit Tunnel at Intake I-3	Addit Tunnel at Intake I-3	Addit Tunnel at Intake I-3	Adit Tunnel at Intake I-3	Addit Tunnel at Intake I-3	Addit Tunnel at Intake I-3	Ounder this Cost Centre		Abelow G1 excent for Arit Tunnel at Intake I-3	Abelowe G. L. escent for Adit Trinnel at Intake	oat Intaka L3	Chamber at Intake I-3	or Antimake I-3	Óchaff at Intake I.3			Ounder this Cost Centre				Pat Intake I-3	Vat Intake I-3	•at Intake I-3	◆at G.L. at Intake I-3	Channel at Intake I-3	Channel and associated decking at	◆at Intake I-3	Outline Cost Centre		◆at intake I-3	◆at Intake I-3	◆at Intake I-3	♦at Intake I-3	♦atintake I-3	♦at Intake I-3
Float	-148		1,265	1,256	1,246	1.237	1,228	1,218	1,209	1,197	781	781		1 403	1 970	1 Jao	1 118	1 022	770'1	100	1,164	984		T OT	18/	1,663	1,612	1.447	1,083	1,042	1,005	726	695		1,553	1,404	1,195			
9	N		2	N	3	2	2		-	8	2			c	+	+			+		1	N		-							2		2		2	2	0	3A 2	8A 2	3A 2
Finish	27JAN13		14JUL10	23JUL10	02AUG10	11AUG10	20AUG10	30AUG10	08SEP10	20SEP10	10NOV11	10NOV11		Decepto	07 11 1 10	21 ADD11	USDEC10	1 AMAD11	FFGGV FC	1 NTHIS	230C110	21APR11	10.00	1.000	250C111	11JUN09	01AUG09	13JAN10	12JAN11	22FEB11	31MAR11	04JAN12	04FEB12		29SEP09	25FEB10	22SEP10	05DEC08A	13DEC08A	18DEC08A
Start	9JAN12																																	in the second						
Finish	27JAN13 29JAN12		14JUL10	23JUL10	02AUG10	11AUG10	20AUG10	30AUG10	08SEP10	20SEP10	10NOV11	10NOV11		DECEDIO	07 11 1 10	0100010		1404011		ZIAPRIT	230CT10	21APR11			250CT11	11JUN09	01AUG09	13JAN10	12JAN11	22FEB11	31MAR11	04JAN12	04FEB12		29SEP09	25FEB10	22SEP10	05DEC08A	13DEC08A	18DEC08A
Start	29JAN12																																							
	365 2		0	0	0	0	0	0	0	0	0	0		•	,		2 0		5 0		0	0		3	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
	365		0	0	0	0	0	0	0	o	0	0		0			-		5	-	0	0		2	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Description	Maintain & monitor flow monitoring	Schedule of Milestones for Cost Centre No. 3cL	3cL 1; On establishing tunnelling equipments	3cL 2; On completion of 12.5% perm. tunnel linin	3: 3: 3: 3: 3: 3: 3: 3: 3: 3: 3: 3: 3: 3	3cl 4. On completion of 37.5 perm. tunnel lining	3cl 5: On completion of 50% perm. tunnel lining	3cL 6: On completion of 62.5% perm. tunnel linin	3cL 7: On completion of 75% perm. tunnel lining	3cL 8: On completion of 87.5% perm. tunnel linin	3cL 9; On completion of perm. tunnel lining	3cL 10; On completion of all works under this CC	Schedule of Milestones for Cost Centre No. 6L		bL 1; Un completion of 50% of excavation		6L 3; On completion of vortex shart	6L 4; Un completion of de-deration chamber	6L 5; On completion of vent shart	6L 6; On completion of man access shaft	6L 7; On completion of man access adit	6L 8; On completion of all works under this CC	Schedule of Milestone for Cost Centre No. 9R		9R 1; On completion of access road	9R 2; On completion of 25% of excavation at G.L	9R 3; On completion of 50% of excavation at G.L	9R 4; On completion of 75% of excavation at G.L	9R 5; On completion of excavation at G.L.	9R 6; On completion of 50% of approach channel	9R 7; On completion of approach channel	9R 8; On completion of trash grill	9R 9, On completion of all works under this CC	of Milestones for Cost Centre No. 13R	13R 1: On completion of 30% soil nailing	13R 2: On completion of 60% soil nailing	13R 3: On completion of all soil naing works	13R 4; On completion of 10% piles by number	13R 5; On completion of 20% piles by number	13R 6; On completion of 30% piles by number
	3DL1Cl3143	Schedule of I	3CL1CI3A02	3CL1CI3A04	3CL1CI3A06	3CI 1CI3A08	3CI 1CI3A10	3CI 1CI3A12	3CL1CI3A14	3CL1Cl3A16	3CL1CI3A18	3CL1CI3A20	Schedule of I				06L1CI3M08	UBLICISIMIU	06L1C/3M12	06L1CI3M14	06L1CI3M16	06L1CI3M18	Schedule of		09R1CI3R02	09R1CI3R04	09R1CI3R06	09R1CI3R08	09R1CI3R10	09R1CI3R12	09R1CI3R14	09R1CI3R16	09R1CI3R18	Schedule of I	13R4CI3S01	13R4CI3S02	13R4Cl3S03	13R4CI3S04	13R4CI3S05	13R4CI3S06

								traps at Intake I-3	Under this Cost Centre				1								223	3.44 1	5.2		251	353					140		200						83		
						Pat Intake I-3	💠 at Intake I-3	O trap	pun																						owing transplanting of IT160/T293/T140							erect hoarding/catchfence,			
	take I-3	take I-3	ntake I-3	ntake I-3	ntake I-3					-																	•		102		wing tra										
		-		¢at h	¢at In								•	u	0		-	n	n		1	0	1	1	a				-		Holo	٠		•		•	8	faci-Re-align footpath,	1	•	
Float						1,384	1,337	763	763												-				-181	-181	-165					7						Ø			
	3	2	2	N	N	8	2	2	2				-	-	-		-	. 	-		2	-	-	-	-	-	-					-		2	٣	2	-	-	-	-	-
Finish	23DEC08A	02JAN09A	09JAN09A	16JAN09A	21JAN09A	17MAR10	03MAY10	28NOV11	28NOV11				16APR08A	20MAY08A	02JUL08A		02JUL08A	18AUG08A	19SEP08A		01AUG08A	07NOV08A				18JUL09	120CT09		17SEP08A	07FEB09A	02MAR09A	21JAN09A			19APR08A	29MAY08A		15JUL08A	05SEP08A	10NOV08A	28MAR08A
Start														APR08A	APR08A			IUL08A	AUG08A		MAROBA	IUL08A	NOVOBA	MAR09A	AAYO9A	60NU	SEP09		1	JAN09A	EB09A				APR08A		26MAY08A	APR08A	APR08A	OCT08A	MAR08A
Finish 1	23DEC08A	02JAN09A	ABONALEO	16JAN09A	21JAN09A	17MAR10	03MAY10	28NOV11	28NOV11				16APR08A	20MAY08A 17APR08A	02JUL08A 21APR08A		02JUL08A	18AUG08A 03JUL08A	UG08A 19SEP08A 19AUG08A 19SEP08A		01AUG08A 07MAR08A 01AUG08A	07NOV08A 14JUL08A	11MAR09A 08NOV08A	14MAY09A 12MAR09A	10JUN09 15MAY09A	18JUL09 11JUN09	120CT09 19SEP09		17SEP08A	07FEB09A 22JAN09A	02MAR09A 09FEB09A	21JAN09A		18APR08A	19APR08A 19APR08A	29MAY08A	02JUL08A 261	15JUL08A 21APR08A	05SEP08A 21APR08A	10NOV08A 280CT08A	28MAR08A 13MAR08A
Start														17APR08A	21APR08A			UL08A	UG08A		07MAR08A	14JUL08A	-	12MAR09A	15MAY09A	11JUN09	19SEP09			ANO9A	EB09A				PR08A		26MAY08A	PR08A	PR08A	280CT08A	13MAR08A
	0	0	0	0	0	0	0	0	0				ō	21 17A	18 21A		0	1 03J	38 19A		200 07M	67 14J	24 08N	60 12M	14 15N	32 11.	18 199		0	24 22J	4 09F	0		0	1 19A	0	10 26N	30 21APR08A	30 21APR08A	12 28C	7 13N
Dur Dur	0	0	0	0	0	0	0	0	0				0	21	18		0	-	38		200 2	67	24	60	14	32	18		0	24	4	0		0	-	0	10	30	30	12	2
)																											-														
Description	13R 7; On completion of 40% piles by number	13R 8; On completion of 50% piles by number	13R 9; On completion of 60% piles by number	13R 10; On completion of 70% piles by number	13R 11; On completion of 80% piles by number	13R 12; On completion of 90% piles by number	13R 13; On completion of all piling works	13R 14; On completion of boulder traps	13R 15; On completion of all work under this CC	Construction of Outfall O-1	S	VO # 06: Transperant Hoarding at Outfall	Receive VO6 for transperant hoarding	Procurement for transperent hoarding	Erect hoarding	k Fence at O-1	Issue V016 for chain link fence	Preparation works for chain link fence	Erect chain link fence; 460m	Temporary CLP Power Supply for TBM Operation	Application/approval for temp. CLP Power Supply	Appoint sub-contractor for design & build TX Rm	Design for transformer room	Constuct transformer room	CLP inspection & defect rectification	CLP cabling to TX room & commissioning	CLPE cabling from TX room to 24mPD platform	Fencig Details at O-1 Next to GVT	Receive VO16 for revised details next to GVT	Preparation works	Erect proposed transparent hoarding	Receive VO#55 in lieu of VO#25		Obtain TTA (ingress & egress) approval	Implment TTA for diverting footpath	Obtain excavation permit	Erect catch fencing	Site establishment	Site clearance	Install remote contorl CCTV as per ER 4.4.10	Tree inspection & report
	13R4CI3S07 1					13R4Cl3S12 1	13R4Cl3S13 1		13R4Cl3S15 1	istruction o	Preliminary Works	# 06; Transper	01R1D00106 F			VO #16; Chain Link Fence at O-1	V01602 1	V01612 P	V01622 E	nporary CLP P	01R1DCLP02	01R1DCLP14 A	01R1DCLP24 C	01R1DCLP34 C	01R1DCLP44 0	01R1DCLP54 C	01R1DCLP74 C	VO#25; Revised Fi	V025-02 F	V025-12 F	V025-22 E	V055-02 F		01R1D00102 0	01R1D00103 II	01R1D00104 0		01R1D00114 5			16R1D00110

Sheet 49 of 58

Page 116 of 125

Form Temporary Access/Tree Felling Works Suspension Due to Obstruct. from Villagers WS002 Works suspension due to obstruct. from Villagers VS002 Form temp. access road from +14mPC IOR1D00202 Form temp. access road from 14mPD Form temp. access road from 14mPD Form temp. access road from 14mPD IOR1D0AR04 Form temp. access road from 14mPD Form temp. access road from 14mPD Form temp. access road from 14mPD Form temp. access road from 14mPD Form temp. access road from 14mPD Form temp. access road from 14mPD Form temp. access road from 14mPD	Tree Felling												-
Suspensic 0202 AR04 AR12 AR12 AR12													
0202 AR04 AR08 AR12 AR12	struct. from Villagers												25
	Works suspension due to obstruct. frm villagers	24	24 1	19JUL08A	19JUL08A 10AUG08A 19JUL08A	A 10AUG08A	2						232
	Form terms access road from +14mPD to +69mPD	158*	158* 1	19JUN08A	24DEC08A 19JUN08A	A 24DEC08A	.		1				1.3
	Const term steel decking over exist Outfall W	11	11 26	26AUG08A	06SEP08A 26AUG08A	A 06SEP08A	-						2
	Form temp. access road from 14mPD to 28mPD	12		-	18JUL08A 19JUN08A	A 18JUL08A	+	12					1
	Preparation works for transplanting T160	53			250CT08A 11AUG08A	A 250CT08A	-	5					2.1
	Mobilize & set up crane for tree transplant	-	1 2	270CT08A	270CT08A 270CT08A	A 270CT08A	-						1.00
	for T160	2	2 2	280CT08A	290CT08A 280CT08A	A 290CT08A			4				
1	t T160	*	1 3	300CT08A	300CT08A 300CT08A	A 300CT08A	۰		-				
1	Crown pruning/Cut root & uplift T142	10	10 2	21FEB09A	21FEB09A 21FEB09A	A 21FEB09A	F						1
1	Construct access road from +43 to +55mPD	30	30 3	310CT08A	24DEC08A 31OCT08A	A 24DEC08A	-		11				
	t at Outfall O-1	105	105 0	02JUN08A	06MAR09A 02JUN08A	A OGMAR09A	÷	ä					
	Tree transplant above +62mPD	£	11 3	310CT08A	12NOV08A 310CT08A	A 12NOV08A	÷						2 60 ¹ -1
Form Temporary aunching Platform	ng Platform												
Slone Cut & Soil Nailing: +71mPD to +40mPD	PD to +40mPD							22		· · · · ·			
10R1D0030 +71 to +40mPE	+71 to +40mPD (rows to A to P)	229*	229- 1	229" 13NOV08A	22AUG09 13NOV08A	A 22AUG09	1 -184	R					3.4
	Remove boulder/Cut slope for rows A to D	σ	9	13NOV08A	06DEC08A 13NOV08A	A DEDECORA	٠		0				
	Erect scaffold & Drill/install/grout/P1at row C	12	12 0	02DEC08A	16DEC08A 02DEC08A	A 16DEC08A	•		-				1
	Drill/install/grout rows B to C; 18 nos.	4	14 1	17DEC08A	06JAN09A 17DEC08A	A OGJANO9A	*		-				
	Drill/install/grout/testing for P2 at row D	ø	80 80	30DEC08A	06JAN09A 30DEC08A	A OGJANO9A	2						-
	ut D1 to D11	2	7 0	07JAN09A	16JAN09A 07JAN09A	A 16JAN09A	÷						
	Cut slope for E1 to G20; soil 620m3	0	2 1	15JAN09A	20JAN09A 15JAN09A	A 20JAN09A	•		-				58
10R1D0037 Drill/install/grou	Drill/install/grout E1 to G20: 51 nos.	19	19 2	20JAN09A	11FEB09A 20JAN09A	A 11FEB09A		-	0				
10R1D0038 Construct nail t	Construct nail heads/remove platform; rows B-G	10	10 0	02FEB09A	17FEB09A 02FEB09A		-		8			-	23
10R1D0039 Erosion mat, w	Erosion mat, wire mesh & hydroseed, rows B-G	10	10 2	21FEB09A	24FEB09A 21FEB09A		-	110					1
	Cut slope for H1 to I25, soil 1819m3	5	12 0	02FEB09A	17FEB09A 02FEB09A	A 17FEB09A	-	1	**				i de la
1	Drill/install/grout H1 to I25; 47 nos.	13	13	18FEB09A	04MAR09A 18FEB09A	A 04MAR09A	-						
10R1D0042 Cut slope for J	Cut slope for J1 to M37; soil 5834m3	20	20 1	19FEB09A	13MAR09A 19FEB09A	A 13MAR09A	-	2	0				35
10R1D0043 Erect working p	Erect working platform for rows J to M	14	14 2	28FEB09A	16MAR09A 28FEB09A	A 16MAR09A	-				- 1		
10R1D0044 Test nails for P	Test nails for P3, P4, P5 & P10	12	12 0	05MAR09A	07APR09A 05MAR09A	BA 07APR09A	-		0	•			200
10R1D0045 Drill/install/grou	Drill/install/grout J1 to M37; 134 nos.	20	20 1	12MAR09A	07APR09A 12MAR09A	A 07APR09A	-						205
10R1D0047 Construct nail h	Construct nail heads/remove platform; rows H-M	20	20 1	14MAR09A	18APR09A 14MAR09A		-		n				
10R1D0048 Erosion mat, w	Erosion mat, wire mesh & hydroseed; rows H-M	9	9	29MAY09	04JUN09 29MAY09	04JUN09	1 -184	84					3
10R1D0049 Excavate soil 5	Excavate soil 5600m3 & boulde 229m3; Rows N to P	22	22 1	14MAR09A	18APR09A 14MAR09A	9A 18APR09A	-	-	0				
10R1D0050 Erect working p	Erect working platform for rows N to P	6	10 2	20APR09A	24APR09A 20APR09A	3A 24APR09A	-		•••				200
10R1D0051 Drill/install/grou	Drill/install/grout N1 to P31; 111 nos.	20	20 2	20 23APR09A	13MAY09A 23APR09A	A 13MAY09A	-	+ i no.	+ i no. test nail				23
10R1D0053 Construct nail 1	Construct nail heads/remove platform; row N to P	4	14 1	14 14MAY09A	02JUN09 14MAY09A	9A 02JUN09	1 -161	51					
	Erosion mat, wire mesh & hydroseed; rows N to P	9	9	BONNED	60NULEO 60NULEO	60NULEO	1 -161	61	-				
Slope Cut & Soil Nailing: +40mPD to +24mPD	nPD to +24mPD												22
10R1DO130 +40 to +24mPI	+40 to +24mPD (rows Q to X)	205*	205° 20A	20APR09A	22DEC09 20APR09A 22DEC09	A 22DEC09	1 -2	-219	1				8

Image: Construct of the Standard State Image: State		Description	(aur D	Dur	Start	Finish	Start	Finish		Float					E
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Ener working platform for one O to U 22 11 MAYORA 11 MAYORA 12 201 MAYORA 12 2	~	Reinstate temp. access	30	30 2	1	27MAY09A 21A		27MAY09A	-		10				
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Indiminificant C is 0 uno, series I = 1<		Test nails for P6, P7, P8 & P11	12	12 2	MAY09A			24AUG09		-219	1				
Construction Dist 211 <	10	Drill/install/grout Q1 to U10; 99 nos.	13	13	MAY09A			04SEP09		-219	I				0
Indentatingtout V1 to X14.3 Train 10 10 0555Pp0 6555Pp0 6555Pp0 6555Pp0 5555Pp0 5555Pp 5555P 55555P 55555P 55555P 55555P <th< td=""><td>10</td><td>Excavation; 30 to 24mPD; soil 4197m3/rock 7592m3</td><td>95</td><td>95 2</td><td>MAY09A</td><td></td><td></td><td>08OCT09</td><td></td><td>-219</td><td>soil</td><td>450m3/day</td><td>& rock 185m3/</td><td>day</td><td></td></th<>	10	Excavation; 30 to 24mPD; soil 4197m3/rock 7592m3	95	95 2	MAY09A			08OCT09		-219	soil	450m3/day	& rock 185m3/	day	
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Erect steehoork 18 18 12/NOV06 02/DEC06 12/NOV06 02/DEC06 1 I Event hopper Erect steehoork 18 18 03/DEC09 32/DEC09 32/DEC09 1 I Event hopper All Hours 6 6 31/DEC09 32/DEC09 32/DEC09 1 M&E works 6 6 6 03/JANIO 01/DEC09 32/DEC09 1 Vot Test & commissioning 3 3 04JANIO 01/DE01 1 Vot Englecop 23/DEC09 31/DE01 01/DANIO 01/DANIO 1 Vot Englecop 23/DANIO 01/DANIO 01/DANIO 01/DANIO 1 Vot Englecop 23/DANIO 23/DANIO 01/DANIO 01/DANIO 1 Fereishincterin 23 2 23/DANIO 02/DANIO 01/DANIO 01/DANIO 1 Fereishincterin 23 2 2 03/DANIO 03/DANIO 01/DANIO 01/DANIO 01/DANIO	3AL1D04015	Foundation				14SEP09	060CT09						
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M&E works M <e th="" works<=""> 6 3</e>	3AL1D04045	Install transfer conveyor	4	1.11	100		30DEC09			-			
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Yot Engineering 50	3AL1D04065	Test & commissioning	ო				11JAN10						
Engineering Engineering Sid	Marti Conveyo												
Pre-fabrication Eq Eq S2 S3 COCT03 R3 COCT03 R3 COCT03 R3 R3 <t< td=""><td>3AL1DO4505</td><td>-</td><td></td><td>100</td><td></td><td></td><td>27JUL09</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	3AL1DO4505	-		100			27JUL09						
Delivery to Hong Kong ZasePoil ZaseSePoil ZasePoil ZasePo	3AL1D04515	Pre-fabrication		28.	12551		07OCT09	Ĵ		1			
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Install belt conveyor stage 1 24 24 06JAN10 02FEB10 01 Install transfer conveyor 1 1 03FEB10 03FEB10 03FEB10 1 Install transfer conveyor 1 1 03FEB10 03FEB10 03FEB10 03FEB10 1 Install transfer conveyor 2 2 05MAY10 06MAY10 0 1 1 M&E works 2 2 05MAY10 05MAY10 05MAY10 1 1 Test & commission 1 1 07MAY10 07MAY10 07MAY10 1 ME works 12 12 12 12 12 130CT09 155F09 165F09 1 ME works 12 12 13 130CT09 170CT09 130CT09 1 1 Feet Accommission 12 12 12 130CT09 150CT09 150CT09 165F09 1 Feet Accommission 12 12 12 130CT09 100CT09 1	3AL1D04545	Foundation	ß		-		05JAN10						
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Install belt conveyor stage 2 6 6 7 <th7< td=""><td>3AL1DO4565</td><td>Install transfer conveyor</td><td>÷</td><td>03F</td><td></td><td></td><td>03FEB10</td><td>1 -155</td><td>-</td><td></td><td></td><td></td><td></td></th7<>	3AL1DO4565	Install transfer conveyor	÷	03F			03FEB10	1 -155	-				
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Test & commission 1 0 07MAY10 07MAY10 07MAY10 0	3AL1D04585	M&E works	2			05MAY10	06MAY10			-			
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Test & commission 1 1 26NOV09 26NOV09 26NOV09 26NOV09 1	3AL1D06025	M&E works	ę	23N			25NOV09						
	3AL1D06035	Test & commission	•		-		26NOV09	1 -166		-			1

Sheet 52 of 58

Page 119 of 125

	Contract of		- Contraction	ALC: NO			ALC: NOT ALC		And in case of the local division of the loc					
Pea Gravel Plant	uescription	our our		Linco	In the second se	TI NINC	LINSU	1001.4						
3AL1D07505	Pre-fabrication	36	36 2	22JUN09	03AUG09 22JUN09		03AUG09	1 -82	0	ai.		į	3	
3AL1D07515	Install hopper	4	4	06OCT09	090CT09 060CT09		090CT09	1 -134	4			0		
3AL1D07525	Erect conveyor	2	2	100CT09	120CT09 100CT09		12OCT09	1 -134	4			-		
3AL1D07535	M&E works	4	4	130CT09	16OCT09 13OCT09		16OCT09	1 -134	4					
3AL1D07545	Test & commission	2	2	170CT09	190CT09 170CT09		190CT09	1 -134	N		-			
3AL1D07555	Install conveyor connecting to TBM	4	4 2	27APR10	30APR10 27APR10		30APR10	1 -213	e		-			
Ventilation System	stern													
3AL1DO8005	Pre-fabrication	72	72 23	29MAY09	21AUG09 29MAY09		21AUG09	1 -14	4	1		3.		
3AL1DO8015	Erect system	2	2	27APR10	28APR10 27APR10		28APR10	1 -213	m		-			
3AL1DO8025	M&E works	Ŧ	1 2	29APR10	29APR10 29APR10		29APR10	1 -213	e					
3AL1DO8035	Test & commission	44	1 3	30APR10	30APR10 30APR10		30APR10	1 -213	3			22 - 12		
Micsellaneous														
3AL1D08502	Install transformer & hormonic filter	2		27APR10	28APR10 27APR10		28APR10	1 -218	00		-		N.	
3AL1D08512	Remove invert segments; 19 nos.	2		27APR10	28APR10 27APR10		28APR10	1 -218	00		-		8	
3AL1D08522	Make good slab	e	3	28APR10	30APR10 28APR10		30APR10	1 -218	00				8	
3AL1D08532	Install rail switch	-	-	03MAY10	03MAY10 03MAY10		03MAY10	1 -214	4					
VO # 49 & 53; /	Additional Drainage & Stairway								130					
VO-04910	Received Variation orders	0	0		26FEB09A	26Ft	26FEB09A			٠			2	
VO-04920	Preparation works for varied works	4	14 27	27FEB09A	14MAR09A 27FEB09A		14MAR09A	**	1	-				
VO-04930	Construct u-channel & stairway; +71mPD to +55mPD	60	60 16	16MAR09A	29MAY09 16MAR09A		29MAY09	1 -179	Ø	T		na i		
VO-04940	Construct u-channel & stairway;+55mPD to +47mPD	27	27 0	05JUN09	07JUL09 05JUN09		07JUL09	1 -184	4					
VO-04950	Construct u-channel & stairway; +47mPD to +41mPD	40	40 0	08JUL09	22AUG09 08JUL09		22AUG09	1 -184	4					
VO-04960	Construct u-channel & stairway; +41 to +24 mPD	60	60 0	060CT09	15DEC09 06OCT09		15DEC09	1 -219	Ø			//		
VO #88; Revis	VO #88; Revised Slope Profile with Add. Supports													
VO-088000	Received VO #088	0	0		27MAY09A	27M	27MAY09A	-		•		2		
VO-088005	Excavate from 38.5mPD to 36.5mPD	9	6 2	29MAY09	04JUN09 29MAY09	1	04JUN09	1 -218	8				<u>.</u>	
VO-088010	Procure and prepare materials	თ	9 2	29MAY09	08JUN09 29MAY09		60NUL80	1 -219	o	-			5	
VO-088015	SOR confirm soil nails location	2		02JUN09	06JUN09 05JUN09		06JUN09	1 -218	60	-		A		
VO-088020	Drill/install/grout soil nails; rows AA-AB	2	7 0	60NUL60	16JUN09 09JUN09		16JUN09	1 -219	ŋ	-				
VO-088025	Install wire mesh & shorcrete 150mm	ю 	3 1	17JUN09	19JUN09 17JUN09		EONULE1	1 -219	Ø	-				
VO-088030	Excavate from +36.5 mPD to 34.5mPD	9		20JUN09	26JUN09 20JUN09		26JUN09	1 -219	თ	-		2-3		
VO-088035	SOR confirm soil nails location	2	2	27JUN09	29JUN09 27JUN09		29JUN09	1 -219	6					
VO-088040	Drill/install/grout soil nails; rows AC-AD	7		SONULOS	_		08JUL09	1 -219	ŋ	-				1
VO-088045	Install wire mesh & shorcrete 150mm	ო		607NC60	11JUL09 09JUL09		11JUL09	1 -219	6	-		1		
VO-088050	Excavate from +34.5 mPD to 32.5mPD	9	9	13JUL09	18JUL09 13JUL09		18JUL09	1 -219	8	-				
VO-088055	SOR confirm soil nails location	2		20JUL09	21JUL09 20JUL09		21JUL09	1 -219	۵	-				
VO-088060	Drill/install/grout soil nails; rows AE-AF	2	2 2	22JUL09	29JUL09 22JUL09		29JUL09	1 -219	6	-		112		
VO-088065	Install wire mesh & shorcrete 150mm	e	33	30JUL09	01AUG09 30JUL09		01AUG09	1 -219	J					
VO-088070	Excavate from +34.5 mPD to 32.5mPD	9		03AUG09	08AUG09 03AUG09		08AUG09	1 -219	Ø	-			No.	-
VO-088075	SOR confirm soil nails location	2	2	10AUG09	11AUG09 10AUG09		11AUG09	1 -219	0	-				
VO-088080	Drill/install/grout soil nails; row AG	ъ		12AUG09	17AUG09 12AUG09		17AUG09	1 -219	ŋ	-				
VO-088085	Install wire mesh & shorcrete 150mm	ო	с С	18AUG09	20AUG09 18AUG09		20ALIG09	1 -719						

Sheet 53 of 58

Page 120 of 125

						-93 M starts operating day & night#40 nos.*13m long	432m3 soil including temp. supports mesures	4000m3 rock including temp. supports mesures							@ 5m3/5minutes/480m3/day					***	sheet pile roofing & lagging ~180m2 soil 450m3 + rock 50m3							••••••••••••••••••••••••••••••••••••••	cells; 210 nos.	-soil 2900m3	Concete 160m3	econcrete 390m3	soil 2900m3	Concete 160m3	Concrete 390m3						
Fleat		-219	-219			-93 BA	-93	-93	-93	-93	-93	-93	-93 -93	-93	-93	-93	-2	-93			-128	-128	-128		1	Ű.		-395		-395		-395	-395	-395	-395	-395	-395	-395		-219	-131
3		1	e			1		F			0		-	0		-	-	-		1	-	1	-			2	-	-		0	0	-	0	-	-	- -		1 1		1	*
FUNSI		20JUN09	24JUN09			22MAY10	21JUN10	11SEP10	27SEP10	150CT10	03NOV10	DIVONO2	08DEC10	28DEC10	03JAN11	26JAN11	22JUL11	02FEB11		29NOV10	25FEB11	11MAR11	09APR11				13JAN10	27FEB10	28JUN10	19AUG10	11SEP10	01NOV10	22DEC10	18JAN11	09MAR11	07APR11	09MAY11	09MAY11		08AUG11	060CT11
line		-60NNPC	2JUN09			08MAY10	24MAY10	22JUN10	13SEP10	28SEP10	180CT10	04NOV10	22NOV10	9DEC10	29DEC10	04JAN11	12JUL11	27JAN11		02NOV10	30NOV10	26FEB11	2MAR11			08OCT09	30NOV09	14JAN10	01MAR10	29JUN10	0AUG10	13SEP10	02NOV10	23DEC10	19JAN11	10MAR11	08APR11	03MAY11		2JUL11	9AUG11
L'USIDI		20JUN09 20JUN09*	24JUN09 22JUN09			22MAY10 0	-							28DEC10 09DEC10	03JAN11 2	26JAN11 0	22JUL11 1	02FEB11 2		08NOV10 0	01FEB11 3	18FEB11 2	18MAR11 12MAR11			0		03FEB10 1		29JUL10 2	21AUG10 20AUG10				16FEB11 1	_	14APR11 0	14APR11 0		08AUG11 12JUL11	060CT11 09AUG11
MER		20JUN09*	22JUN09			08MAY10	24MAY10	22JUN10	13SEP10	28SEP10	180CT10	04NOV10	22NOV10	09DEC10	29DEC10	04JAN11	12JUL11	27JAN11		110CT10	01VON90	02FEB11	19FEB11			08OCT09	60NON60	21DEC09	04FEB10	01/UN10	30JUL10	23AUG10	110CT10	02DEC10	28DEC10	17FEB11	17MAR11	08APR11		12JUL11	09AUG11
-		1 20	3			12 0			1	11				1		20 0	10	6 2		24 1	70 0	12 0	24 1			0 0	36 0	36 2			20 3		-	20 0	40 2	24 1	24 1	6 0		24	48 0
n na		•	e			12	24	20	5	ţ	5 ⁽²	s t	15	15	4	20	9	9		24	20	12	24			0	36	36	96	4	20	40	44	20	40	24	24	9		24	48
Description	m SOR	Suspension of rock drilling & breaking	Erection of noise bearriers	Construct Spiral Ramp & Associ. Vehicular Access		Install 273mm dia temp. pipe piles: 40 nos.	Soil excevation & install walling & tie backs	Rock excevation for soiral ramn. 4629m3	Construct base of sniral ramo. Outfall 0-1	Cost social rams in to 46 73mDD	Cast sprial ramp up to +0.5 mm to	Cast sprint rame in to +16 00mPD	Cast spring ramp up to +20.00mPD	Cast sorial ramp up to +24.23mPD	Backfill spiral ramp; 1700m3	Construct spiral ramp top; Outfall O-1	Construct vehicular access bet, tunnel & s. ramp	Commission of Spiral Ramp	SS	Install 40 nos. roof piles # 375mm c/c	Excavation for vehicular access undemeath CPR	Construct base for vehicular access	Construct wall & roof for vehicular access	Box Culvert/Open Channel By Mining		Site possession of Portion E-650d of DOC	Divert exist. outfall "W" under CPR arch bridge	Remove rock armour & form platform @+2.3mPD	Install temp. pile for pipe roofing	Excavate for box-culvert, 2 cells	Construct base slabs of box culvert; 2 cells	Construt wall & roof of box culvert; 2 cells	Excavate for box-culvert, 2 cells	Construct base slabs of box culvert; 2 cells	Construt wall & roof of box culvert; 2 cells	Excavate for open channel	Construct open channel at 2.3 mPD	Reinstate existing outfall "W"	ortal Head & Associated Strutures	Excavate tapered open channel/ upper cascade	Construct tapered open channel & upper cascade
	Instruction from SOR	SORI-10	SORI-20	Construct Sp	Sniral Ramn	10R1D00402	10R1D00404	10P1DO0406	1001000400	100100116	1001000418		10R1D00422	10R1D00424	10R1D00425	10R1D00426	10R1D00428	10R1D00430	Vehicular Access	10R1D00407	10R1D00408	10R1D00410	10R1D00412	Lower Part B		10R1D00502	10R1D00504	10R1D00506	10R1DO0508	10R1D00510	10R1DO0512	10R1D00514	10R1D00516	10R1DO0518	10R1DO0520	10R1D00522	10R1D00526	10R1D00528	Construct Portal Head	10R1D00602	10R1D00604

		Finduding gantry crane																																								following construction of box culve		
							Following removal of 1 BM & 1 BM facilities												•		*	•	*		-									1										
Float	-395	-219	-131			ļ	-219	-219	-219	-219	-219	-219	-219	-219	-219	-207			-395	-395	-395	-395	-395	-59	-59	-59	-59	-59	-59	-59	-59	-59	-29	-377	-395	5	17	-395	-395	-37	-37	-395		-395
Finish	-	÷	-					-			¥7.	-	v		1						1				1	-	1	1		-			+	+			-	-	۲	-	-	-		**
Finish	11JAN13	11JUL11	05SEP11				01AUG11	130CT11	10NOV11	01DEC11	03JAN12	17JAN12	21JAN12	09FEB12	10APR12	10APR12			30JUN09*	09SEP09	14OCT09	210CT09	290CT09	05AUG09	12AUG09	16SEP09	230CT09	07NOV09	14NOV09	17DEC09	04JAN10	18JAN10	25FEB10	09SEP09	160CT09	310CT09	28NOV09	05DEC09	13JAN10	05DEC09	20FEB10			22JUN11
Start	28DEC12	13JUN11	09AUG11				SUL11	02AUG11	140CT11	11NOV11	02DEC11	04JAN12	16JAN12	26JAN12	PEB12	FEB12				02JUL09	08OCT09	15OCT09	POCT09	02JUL09	SAUG09	13AUG09	SEP09	240CT09	60/ON60	60/ON	18DEC09	05JAN10	19JAN10	02JUL09	SEP09	OCT09	60/ON	60/ON	DEC09	30NOV09	07DEC09	11MAY11		MAY11
Finish	30NOV12 28	11JUL11 13	05SEP11 09						10NOV11 14	01DEC11 11	03JAN12 02	17JAN12 04	21JAN12 16	09FEB12 26	10APR12 10FEB12	10APR12 10FEB12			-60NULOS	09SEP09 02	16SEP09 08	23SEP09 15	30SEP09 22OCT09	05AUG09 02	12AUG09 06AUG09	16SEP09 13	230CT09 17SEP09	07NOV09 24	14NOV09 06		04JAN10 18			09SEP09 02	0/NOV09 10SEP09	21NOV09 17OCT09	19DEC09 02NOV09	14NOV09 30NOV09	19DEC09 07DEC09	1000	27JAN10 07	11		25JUN11 11MAY11
	17NOV12 30	13JUN11 1	09AUG11 0		i	t	-		140CT11 10	11NOV11 0	02DEC11 0:	04JAN12 1	16JAN12 2	26JAN12 0	10FEB12 10	FEB12			30		10SEP09 16	SEP09	SEP09	02JUL09 05	06AUG09 12	13AUG09 16	17SEP09 23			-		-				-				14 00NON00	16NOV09 2	15APR11		15APR11 2
Dur	12 17	24 13							24 14	18 11	24 02	12 04	6 16	13 26	48 10	48 10			0	60 02	6 10	6 17	6 24	30 02	6 06,	30 13,		12 24									24 23	6 09	30 16	60 9	60 161	0 15,		36 15
Dur D	12	24	24			1	18	60	24	18	24	12	9	13	48	48			0	60	9	9	9	30	9	30	30	12	9	28	12	12	80	60	30	12	24	9	80	9	09	0		57
Description	Dismantle & removal of tower crane	Dismantle/remove TBM backup system	Construct portal head wall	1 Part		-			8 Construct base slab) Construct side walls	Construct roof	Construct upstand	backfill	Excavate for lower cascade construction	2 Construct lower cascade	Construct, baffle, railing etc.	Seabed Protection Works	Preliminary Works for Outfall Basin Construction	Receive VO # 061	Appoint Independent Hydrographic Surveyor	Carry out sounding survey	Prepare/submit drwgs./report of sounding survey	SOR approves drwgs. Ireport of sounding survey	SOR issue Supplm. Environmental Review Report	Apply for Variation Environmental Permit (VEP)	EPD review/issue VEP	Prepare/submit Revised EM&A Manual by ET	IEC endorse Revised EM&A Manual	EPD acknowledge Revised EM&A Manual	Carry out baseline monitoring	Prepare/submit baseline report by ET	IEC endorse baseline report	EPD approve baseline report	Appoint sub-contractor for varied works	Prepare/submit method statement	IEC endorse method statement	SOR approve method statement	Apply for marine notice	Revew/issue marine notice by Marine Department	Apply for dumping permit	Review/issue dumping permit by EPD	Commence works for basin construction	VO #061; Outfall Basin Construction	nour to +2.3mPD
	10R1D00606	3AL1D00602	3AL1D00606			Upper Cascade	10R1D00704	10R1D00706	10R1D00708	10R1D00710	10R1D00712	10R1D00714	10R1D00716	10R1DO0730	10R1D00732	10R1D00734	Seabed Pro	Preliminary V	V0061-002	VO061-004	VO061-006	VO061-008	VO061-010	VO061-012	VO061-014	V0061-016	VO061-018	V0061-020	V0061-022	VO061-024	VO061-026	VO061-028	V0061-030	VO061-032	VO061-034	VO061-036	VO061-038	V0061-040	V0061-042	V0061-044	V0061-046	VO061-048	VO #061; Out	VO61-050

Page 122 of 125

	Description	Inci		1000	LINE CIGHT	FINISH -	2	FIDAL					
VO61-055	Dredge in rock armour to -3.75mPD		10	27JUN11	25AUG11 23JUN11	04AUG11		-395				1014	
V061-060	Place grade 400 rockfill & levelling layer	18	12	26AUG11	16SEP11 05AUG11	1 18AUG11	57:	-395			-		
V061-065	Form seawall type 2(W)	15	15	17SEP11	060CT11 12AUG11		-	-395			•		
VO61-070	Construct detail Y	4	4	07OCT11	110CT11 30AUG11	1 02SEP11		-395					
V061-075	Construct mass concrete	9	9	120CT11	180CT11 03SEP11	09SEP11	5 73	-395			-		-
VO61-080	Form seawall type 1	23	23	190CT11	14NOV11 10SEP11	100CT11	-	-395			7		23
VO61-085	Construct mass concrete	12	12	15NOV11	28NOV11 110CT11	1 240CT11	₹	-395			•		
VO61-090	Form seawall type 2 (E)	15	15	29NOV11	15DEC11 250CT11	1 10NOV11	Ŧ	-395					-
VO61-095	Construct detail X	4	4	16DEC11	20DEC11 11NOV11	1 15NOV11	-	-395			-		1
VO61-100	Construct mass concrete	ω	6	21DEC11	30DEC11 16NOV11	1 22NOV11	-	-395			2		
VO61-105	Construct coping	14	14	02JAN12	17JAN12 23NOV11	1 08DEC11	-	-250				(3	1
VO61-110	Place infill blocks M1 & M4	18	18	18JAN12	10FEB12 09DEC11	1 03JAN12	٣	-250			7	30	
V061-115	Dredge in sea bed to -3.75mPD for seawall (W)	5	12	190CT11	290CT11 10SEP11	1 24SEP11	F	-345	for seawall type 5, 2B, 4,	2B, 4, & 1A (M)	State State		
VO61-120	Place grade 400 rockfill & levelling layer	12	12	310CT11	12NOV11 26SEP11	1 110CT11	-	-251			•	-235	9
V061-125	Form seawall type 5, 2B, 4 & 1A (W)	51	51	14NOV11	16JAN12 120CT11	1 09DEC11	T	-251		-	1	2	_
VO61-130	Backfill sea walls west & north (half)	36	36	17JAN12	01MAR12 10DEC11	1 28JAN12	-	-251			Ŧ		
V061-135	Place type 2 armour	10	10	02MAR12	13MAR12 30JAN12	2 09FEB12	•	-251			-		<u>.</u> ,
V061-140	Dredge in sea bed to -3.75mPD for seawall (E)	σ	24	02JAN12	11JAN12 23NOV11	1 20DEC11	<u>م</u>	-395	for seawall type 6,		3 & 2A (E)		
V061-145	Place grade 400 rockfill & levelling layer	12	12	12JAN12	28JAN12 21DEC11	1 07JAN12	•	-395					~
V061-150	Form seawall type 6, 3 & 2A (E)	88	40	30JAN12	13MAR12 09JAN12	27FEB12	-	-395					-
V061-155	Backfill sea walls east & north (half)	36	36	14MAR12	30APR12 28FEB12	2 13APR12	Ť	-287					
V061-160	Place type 2 armour	10	10	02MAY12	12MAY12 14APR12	2 25APR12	-	-287					
VO61-165	Dredge in sea bed for stepped blocks	15	8	14MAR12	30MAR12 28FEB12	2 02MAY12	٣	-395			•		3
V061-170	Place levelling layer	175	224	31MAR12	02NOV12 13MAR12	2 11DEC12	-	-395					
V061-175	Place stepped blocks	175	224	19APR12	16NOV12 27MAR12	2 27DEC12	-	-395					33
V061-180	Place type 2 armour to reinstate exist. seawall	24	24	14MAY12	09JUN12 26APR12	2 25MAY12	-	-287					
V061-185	Form ground beam (W)	12	12	11FEB12	24FEB12 04JAN12		٣	-250				-	1
V061-190	Form ground beam (E)	12	12	25FEB12	09MAR12 18JAN12	2 03FEB12	-	-244					23
V061-195	Form invert slab (W)	12	12	25FEB12	09MAR12 18JAN12	2 03FEB12	-	-250			-		-
V061-200	Form invert slab (E)	12	12	10MAR12	23MAR12 04FEB12	2 17FEB12	-	-244					
V061-205	Form end wall (W)	18	18	10MAR12	30MAR12 04FEB12	2 24FEB12	-	-250					3
V061-210	Form end wall (E)	18	18	31MAR12	25APR12 25FEB12	2 16MAR12	٣	-250					100
V061-215	Reinstate rock armour	24	24	11JUN12	10JUL12 26MAY12	2 22JUN12	٣	-287				Ŧ	
V061-220	Complete basin	0	0		16NOV12	27DEC12	٣	-395				•	-
aining V	Remaining Works Prior to Handover					T.M.							
10R1D00904	Finishing & reinstatement works; Portion D	36	36	190CT12	30NOV12 28NOV12	2 11JAN13	-	-395				4	
1081000906	Pre-handover inspections and remedial works	30	-	03NOV12	07DEC12 12DEC12	2 18JAN13	-	-395				4	
10P1D00908	Contractor serve notice for Works completion	2		08DEC12	14DEC12 19JAN13	3 25JAN13	2	0					
10R1DO0910	SO issues completion certificate	21	21	15DEC12	04JAN13 26JAN13	3 15FEB13	2	0					•
16R7D00902	Landscaping works at Portion D	120	120	11JUL12	30NOV12 18AUG12	2 11JAN13		-369				I	201
16R7D00904	Establishment Works at Portion D	365	365	01DEC12	30NOV13 12JAN13	3 11JAN14	N	-455					ŀ
301 1000000	Install flow measurement devices at Outfall O-1	12	12	30MAR12	17APR12 30MAR12	2 17APR12	÷	-219					

Page 124 of 125

		◆as per ER, B28,08, 4 weeks prior to work commence		s5m, @1m/day	T2m, @3m/day	S6m, @5m/day	Contraveek			T2m, @3m/day	finduding CCTV inspection				prior to commence pipe jacking at Portion G	pipe jacking method at Portion G	pipe jacking method at Portion G	pipe jacking method at Portion G	pipe jacking method at Portion G	Under this Cost Centre
Total 2008 Float		284	180	180	111		111			111	111	266	997		1,344	1,334	1,326	1,315	1,241	1,025
13 8		2		-		-	-			-	-	2	2		2	2	2	2		2
WP3D Finish		02NOV09	26APR10	07AUG10	27NOV10	11DEC10	25JAN11			25FEB11	11MAR11	18MAR11	08APR11		26APR10	06MAY10	14MAY10	25MAY10	07AUG10	11MAR11
WP3D Start			04.JAN10	27APR10	NOV10*	NOV10	13DEC10			26JAN11	FEB11	MAR11	19MAR11							
AD04 Finish		02NOV09	1	_		11DEC10 29NOV10	25JAN11 13			25FEB11 26	11MAR11 26FEB11	18MAR11 12MAR11	08APR11 19		26APR10	06MAY10	14MAY10	25MAY10	07AUG10	11MAR11
AD04 Start			04.JAN10	1						26JAN11		12MAR11	1							
Dur		0	06	85	24	1	35			24	12	~	21		0	0	0	0	0	0
AD04 Dur		0	06	85	24	12	35			24	12	2	21		0	0	0	0	0	0
Activity Description	Drainage Improvement Works	Othain anninual of ELS design package ind MS	Install FI S & construct shaft for nine lacking	Construct 1.5m dia. drainage by pipe lacking	Construct 1 5m dia drainana hv onen trenchind	Construct 75m & 1.5m II and Stenned Channel	Construct 3 nos. manhole & 2 nos. catchpit	Remaining Works Prior to Handover to Client		Reinstate carriageway & footway	Pre-handover inspections and remedial works	Contractor serve notice for Works completion	SO issues completion certificate	Schedule of Milestones for Cost Centre No. 15R	15R 1; On completion of all temp. works	15R 2; On completion of 25% of pipejacking	15R 3; On completion of 50% of pipejacking	15R 4; On completion of 75% of pipejacking	15R 5; On completion of all pipejacking	15R 6; On completion of all wks under this CC
Q	Drainage Impre	14886601301	150500000	15R6GG0304	15P6GG0306			Remaining Wo	AN SIMURINAL	15R6GG0312	15R6GG0402	15R6GG0404	15R6GG0408	Schedule of M	15R6GG0502		15R6GG0506	15R6GG0508	15R6GG0510	15R6GG0512



Implementation Status of Environmental Mitigation Measures

IMPLEMENTATION SCHEDULE June 2010

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
Air Q	uality	1			
3.6.1	Specific	DSD's Contractor	Construction Work Sites	Air Pollution Control (Construction Dust)	
	As mentioned in Section 3.5, exceedances of 1-hour and 24-hour average TSP guideline levels have been predicted at most of the ASRs. Hence, mitigation measures are considered necessary in order to suppress the potential dust impact.			Regulation	v
	The dust suppression measures set out in the <i>Air Pollution Control (Construction Dust)</i> <i>Regulation</i> , in fact, are more extensive. Therefore, it is expected that with watering the construction site every four times daily together with strict implementation of dust suppression measures as stipulated in the <i>Air Pollution Control (Construction Dust)</i> <i>Regulation</i> , the dust level is expected to be reduced by over 75%.				\checkmark
	General				
	To further ensure compliance with the guideline and AQO limit at the ASRs at all time, it is recommended to implement the <i>Air Pollution Control (Construction Dust) Regulation</i> and include good site practice in the contract clauses to minimize cumulative dust impact.In addition, a comprehensive dust monitoring and audit programme is recommended to ensure proper implementation of the identified mitigation measures. Details of the monitoring and audit requirements are provided in a separate EM&A Manual.				
	• effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level of the scaffolding where a scaffolding is erected around the perimeter of a building under construction;				N/A
	• dump truck for material transport should be totally enclosed by impervious sheeting;				\checkmark
	• any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading;				\checkmark
	 stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones; 				\checkmark
	• dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;				\checkmark

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
3.6.1	• the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;	DSD's Contractor	Construction Work Sites	Air Pollution Control (Construction Dust) Regulation	\checkmark
	• where a site boundary adjoins a road, street or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;				\checkmark
	• every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet;				\checkmark
	 the portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials; 				\checkmark
	 stockpile of dusty materials should be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet; 				\checkmark
	• all dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;				\checkmark
	• vehicle speed should be limited to 10 kph except on completed access roads;				\checkmark
	• every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites;				\checkmark
	• the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; and				\checkmark
	• the working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet.				\checkmark
Noise 4.6.1	During Construction	DSD's	Construction	PN 2/93 Noise from	
	Appropriate mitigation measures such as the use of quiet equipment and movable barriers will be developed to ensure that noise can be reduced to acceptable levels without causing programme delays	Contractor	Work Sites	Construction Activities & EIAO	\checkmark
	<i>Good Site Practice</i> Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during construction:				
	 only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works;]			\checkmark
	 machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; 				\checkmark

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
4.6.1	• plant known to emit noise strongly in one direction should, where possible, be orientated to direct noise away from the NSRs;	DSD's Contractor	Construction Work	PN 2/93 Noise from Construction Activities &	\checkmark
	• mobile plant should be sited as far away from NSRs as possible; and		Sites	EIAO	\checkmark
	• material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.				\checkmark
	For Drill and Blast WorksCharge mass per delay should be decreased by minimising the number of blastholes firing on each delay.				N/A
	• Smaller blasthole patterns and longer delays should be used between dependent charges.				N/A
	• Times of blasting should be established to suit the situation and firing blasts when neighbours are busy with their daily tasks (and at a regular time such as lunch time).	-			N/A
	 For TBM Tunnelling For the tunnel excavation, it is anticipated that beyond the initial length (say within 30m), excavation will be carried out well within the tunnel and door should be provided to further minimize the noise nuisance to the nearby receivers. 				N/A
4.6.2	During Operation	DSD's Contractor	Project Area	NCO & EIAO	
	Good site practice and noise management can significantly reduce the impact of maintenance activities on nearby NSRs. The following package of measures should be followed during construction				
	• only well-maintained plant should be operated on-site;				N/A
	 machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; and 				N/A
	 plant known to emit noise strongly in one direction should, where possible, be orientated to direct noise away from the NSRs. 				N/A
	Quality	1	T		
5.9.1	During Construction	DSD's Contractor	Construction Work Sites	Practice Note for Professional Persons with	\checkmark
	Mitigation measures and a spill control and response plan have been prepared for works at the intakes and work sites.	-		regard to site drainage (ProPECC PN 1/94) and	
	Precautions to be taken at any time of year when rainstorms are likely:			WQO	\checkmark
	 Temporarily exposed surfaces should be covered e.g. by tarpaulin. Temporary access roads should be protected by crushed stone or gravel. 				\checkmark
	 Trenches should be dug and backfilled in short sections. Measures should be taken to minimize the ingress of rainwater into trenches. 				\checkmark
	 Actions to be taken when a rainstorm is imminent or forecast: Silt removal facilities, should be checked to ensure that they can function properly. 				\checkmark

A ef.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
9.1	• Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric.	DSD's Contractor	Construction Work Sites	WQO	\checkmark
	• All temporary covers to slopes and stockpiles should be secured.				\checkmark
	Actions to be taken during or after rainstorms:Silt removal facilities should be checked and maintained to ensure satisfactory working conditions.				\checkmark
	Spill Control and Response Plan				
	1 Prevention and Precaution Measures				
	<i>General Precautions</i>No discharge of silty water into watercourses.				\checkmark
	• All materials to be used during construction and operation shall be identified and their hazard potential evaluated.				\checkmark
	• Maintenance of vehicles and equipment involving activities with potential for leakage and spillage shall only be undertaken with the areas appropriately equipped to control these discharges.				\checkmark
	• Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.				\checkmark
	• Any construction plant which causes pollution to catchwaters or water gathering ground due to leakage of oil or fuel shall be removed off-site immediately.				\checkmark
	• Suitable containers shall be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport	-			\checkmark
	• Chemical waste containers shall be suitably labelled to notify and warn the personnel who are handling the wastes to avoid accidents.	-			\checkmark
	• Storage areas shall be selected at safe locations on site and adequate space shall be allocated to the storage area.	-			\checkmark
	Prevent obstructions and tripping hazards.				\checkmark
	<i>Storage Precautions</i>All chemical storage containers shall be correctly labelled.				\checkmark
	• Solid and impermeable enclosure walls or storage shelves shall be used.				\checkmark
	• Only compatible chemical wastes shall be stored in the same storage area.]			\checkmark
	• The storage areas shall be inspected to detect any leakages or defective containers on a regular basis.				\checkmark
	• Suitable notices warning of hazards, emergency response plans, telephone numbers etc shall be posted around the site, including storage areas.				\checkmark
	• Large and heavy containers shall be stored at ground level.				\checkmark

A f.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
	Chemical waste containers shall be stored below eye level.				\checkmark
.1	Adequate space for handling of the containers shall be provided	DSD's	Construction	WQO	\checkmark
	• Spill response kits shall be located adjacent/near to the storage areas.	Contractor	Work Sites		\checkmark
	• A log of chemical wastes shall be maintained.	-			\checkmark
ĺ	• Incompatible chemicals shall be stored separately.				\checkmark
	2 Responses/Action Plan	-			
	All Workers shall be made aware of emergency telephone numbers and the location of all relevant pollution control equipment. Training be given in emergency response/action plans. The action include the following steps:				\checkmark
	• Only trained personnel who are equipped with protective clothing and equipment shall be allowed to enter the spillage area for clean up.				\checkmark
	• Spills shall be transferred appropriate back into containers using suitable equipment.				\checkmark
	• Absorbent materials shall be used to clean up the spills and shall be disposed of as chemical wastes.				\checkmark
	• Where appropriate suitable solvents may be used to clean the contaminated area after removal of all contaminated materials.				\checkmark
	• All necessary protective devices, safety equipment, containers and clean up materials for emergency use shall be maintained to a high standard.				\checkmark
	3 Spill Clean Up and Disposal				
	Effect the response plan.				\checkmark
	Control the leakage and absorb the spillage using suitably absorbent materials.				\checkmark
	Provide safety equipment and personal protective equipment for handling of chemical wastes would be similar to that for handling of chemicals.				\checkmark
	Safety equipment includes but is not limited to:Fire extinguishers.				\checkmark
	• Spades, brushes, dustpan, mop and bucket (or similar readily available on site).				\checkmark
	• Absorbent material such as dry sand, tissues and toweling (all materials readily available on-site).				\checkmark
	Containers including plaster bags, drums, etc.				\checkmark
	Absorbing materials.				\checkmark
	• Pumps.	1			\checkmark
	<i>Personal protective equipment includes as appropriate:</i>First-aid kits.]			\checkmark
	• Safety helmet and goggles.				\checkmark
	Gloves which can resist chemical reaction.	1			\checkmark

Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
• Protective boot and clothing.	DSD's	Construction	WQO	\checkmark
Respirators and gas masks.	Contractor	Work Sites		\checkmark
• Face visor and masks.				\checkmark
Emergency Responses to Spillages				
Emergency plans and clean up procedures will need to be provided by the Contractor recognising his specific working methods and construction programme, activities and sequences. Agreement must be sought prior to commencement of the construction work but the following principles should be considered.				
				\checkmark
	_			
	_			\checkmark
				\checkmark
				\checkmark
	_			
				\checkmark
*				\checkmark
During Operation	DSD's Contractor	Project Area		
Regular inspection of the tunnels is essential to monitor the structural integrity and proper functioning of the drainage tunnel, which allows repairing of structural deterioration when it begins to develop. It is recommended that routine inspection shall be carried out at least two times per year for the drainage tunnel at the beginning and end of wet season from April to September.				N/A
Management				
During Construction	DSD's Contractor	Construction Work	Waste Disposal Ordinance (Cap.354); Waste Disposal	
		Sites		\checkmark
	-			
The Construction and Demolition Materials The Contractor should reuse any C&D material on-site. C&D waste should be segregated and stored in different containers to other wastes to encourage the re-use or recycling of materials and their proper disposal. The use of wooden hoardings shall not be allowed. An alternative material, which can be reused or recycled, for example, metal (aluminium, alloy, etc) shall be			on Construction Site	\checkmark
	 Protective boot and clothing. Respirators and gas masks. Face visor and masks. Emergency Responses to Spillages Emergency Responses to Spillages Emergency plans and clean up procedures will need to be provided by the Contractor recognising his specific working methods and construction programme, activities and sequences. Agreement must be sought prior to commencement of the construction work but the following principles should include the procedures for: spill prevention and precaution; response actions; and spill clean up and disposal. Spill prevention and precaution embraces good site practice and covers: good housekeeping practices; chemical storage requirements; and chemical storage requirements; and chemical transfer and transport. During Operation Regular inspection of the tunnels is essential to monitor the structural integrity and proper functioning of the drainage tunnel at the beginning and end of wet season from April to september. Management During Construction Vegetation Removed from Site Clearance Wastes generated from Site Clearance shall be sorted and excavated topsoil segregated from roots for re-use in landscaping works, thus eliminating the need for off-site disposal. Construction and Demolition Materials The Contractor should reuse any C&D material on-site. C&D waste should be segregated and stored in different containers to other wastes to encourage shall not be allowed. An alternative 	• Protective boot and clothing. DSD's • Respirators and gas masks. DSD's • Face visor and masks. Contractor Emergency Responses to Spillages Emergency Responses to Spillages Emergency Responses to Spillages Emergency Responses to Spillages Emergency plans and clean up procedures will need to be provided by the Contractor recognising his specific working methods and construction programme, activities and sequences. Agreement must be sought prior to commencement of the construction work but the following principles should be considered. Image: Construction programme, activities and sequences. • spill prevention and precaution; • response actions; and Spill prevention and precaution; • chemical transfer and transport. During Operation DSD's Regular inspection of the tunnels is essential to monitor the structural integrity and proper functioning of the drainage tunnel, which allows repairing of structural deterioration when it begins to develop. It is recommended that routine inspection shall be carried out at least two times per year for the drainage tunnel at the beginning and end of wet season from April to September. DSD's Contractor Vegetation Removed from Site Clearance Wastes generated from site clearance shall be sorted and excavated topsoil segregated from roots for re-use in landscaping works, thus eliminating the need for off-site disposal. DSD's Contractor Vegetation Removed from Site Clearance Wastes generated from site clearance sh	implement the measure ?implement the measure ?measure ?• Protective boot and clothing.DSD's ConstructionConstruction• Respirators and gas masks.ConstructionWork Sites• Face visor and masks.Emergency Responses to SpillagesConstruction programme, activities and sequences. Agreement must be sought prior to commencement of the construction work but the following principles should be considered.Work SitesThe emergency plans and clean up procedures sin and construction programme, activities and sequences. Agreement must be sought prior to commencement of the construction work but the following principles should be considered.Herein and precessionThe emergency plans should be considered.File mergency plans should be considered.Herein and precession• spill prevention and precaution signal clean up and disposal.Spill prevention and precaution embraces good site practice and covers: • good housekeeping practices; • chemical transfort and transport.DSD's ContractorDuring Operation Regular inspection of the tunnels is essential to monitor the structural integrity and proper functioning of the drainage tunnel, which allows repairing of structural deterioration when it begins to develop. It is recommended that routine inspection shall be carried out at least two times per year for the drainage tunnel at the beginning and end of we taeson from April to September.DSD's ConstructionManagement Wring Construction Vegetation Removed from Site Clearance Wastes generated from site clearance shall be sorted and excavated topsoil segregated from roots for re-use in landscaping works, thus eliminating the need for off-site disposal.Construction Work <b< td=""><td>implement the measure ?implement the measure ?measure et to achieve ?• Protective boot and clothing.DSD's ConstructionConstruction• Reception and masks.Constructor• Face visor and masks.ContractorEmergency Responses to SpillagesConstructionEmergency Responses to SpillagesConstruction work but the following principles should be considered.The emergency plans and clean up procedures will need to be provided by the Contractor recognising his specific working methods and construction programme, activities and sequences. Agreement must be sought prior to commencement of the construction work but the following principles should be considered.• free moregency plans should be considered.File mergency plans should include the procedures for: • spill prevention and precaution embraces good site practice and covers: • good housekeeping practices:• chemical transfer and transport.DSD's ContractorDuring OperationDSD's ContractorRegular inspection of the tunnels is essential to monitor the structural integrity and proper functioning of the drainage tunnel, which allows repairing of structural deterioration when it begines to develop. It is recommended that routine inspection shall be carried out at least two to september.ManagementDuring Construction Wastes generated from site Clearance beginning and end of west season from April to September.Vegetation Renoved from Site Clearance Wastes generated from site clearance shall be sorted and excavated topsoil segregated from roos for recuse in landscaping works, thus eliminating the need for off-site disposal. 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EIA Ref.	Recommended Mitigation Measures i		Location of the measure	What requirements or standards for the measure to achieve ?	Status
6.5.1	As referred to the section 6.4.1, the 317,936m ₃ of inert surplus material generated by the project is suitable for public fill. The public fill reception facility at Tuen Mun Area 38 provides a suitable facility for the reuse of surplus inert C&D material generated from the project.	DSD's Contractor	Construction Work Sites	WDO (Cap.354), ETWBTC No. 15/ 2003, ETWBTC No. 12/2002 and ETWBTC No. 31/2004	
	Under the contract, the contractor will be required to minimise the generation of C&D material and reuse it on site through the following: (a) to plan in the design and construction, methods to minimise the generation of C&D	_			\checkmark
	 material; (b) to submit a Waste Management Plan (WMP) in accordance with Environment Transport and Works Bureau Technical Circular (ETWBTC) No. 15/2003 or any superseding circular(s); 				\checkmark
	 (c) to reuse recycled aggregates in accordance with ETWBTC No. 12/2002 or any superseding circular(s); 	_			√
	 (d) to observe the requirements of the Trip-Ticket System, stipulated in ETWBTC No. 31/2004 or any superceding circular(s), for disposal of C&D material; 				\checkmark
	(e) to incorporate a Waste Management System into the WMP for effective management and control of C&D materials to avoid/reduce/minimise the generation of C&D material during construction.				\checkmark
	The contractor will be required to properly sort into inert C&D materials, metals, timber and other non-inert C&D material in the workplace to prevent cross-contamination.				\checkmark
	In addition, DSD will conduct site inspection to monitor the contractors' performance in the implementation of the WMP and other relevant specified requirements.	DSD	Construction Work Sites	WDO (Cap.354) and ETWBTC No. 15/2003	\checkmark
	Excavated Materials Excavated materials should be segregated from other wastes to avoid contamination thereby ensuring acceptability at public filling areas and avoiding the need for disposal at landfill. Municipal Waste	DSD's Contractor	Construction Work Sites	WDO (Cap.354) and ETWBTC No. 15/2003	\checkmark
	Temporary refuse collection facilities should be set-up by the contractor and wastes should be stored in appropriate containers prior to collection and disposal.	_			\checkmark
	Domestic effluent generated by the workforce will be directed to foul sewer or chemical toilets if public facilities are not available.				\checkmark
6.5.1	Waste Management Plan A Waste Management Plan (WMP) for the construction of the Project should be prepared as part of the contractors submission. It will provide recommendations for appropriate recycling or disposal route and should include method statement for stockpiling and transportation of the excavated material and other construction wastes should also be included in the WMP and approved before the commencement of construction. All mitigation measures arising from the approved WMP shall be fully implemented.	DSD's Contractor	Construction Work Sites	WDO (Cap.354), ETWBTC No. 15/2003 and ETWBTC No. 33/2002	V

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
	For the purpose of enhancing the management of C&D material including rock, and to minimize its generation at source, a C&D Material Management Plan (C&DMMP) has been prepared for this project and would be processed in accordance with the Environment, Transport and Works Bureau Technical Circular (Works) No. 33/2002 - Management of Construction and Demolition Material Including Rock.				N/A
Ecology	1		-	1	
7.7.1	Avoidance The surface structures are located mainly on existing disturbed areas (ie pollution and	DSD's Contractor	Construction Work Sites	EIAO	\checkmark
	urbanisation) and have generally avoided the natural stream sections of higher species diversity and abundance of aquatic organisms.	-			
	The major construction activities at streams are scheduled to avoid wet season of high water flow which may adversely affect the downstream natural habitats due to the construction runoff.				\checkmark
7.7.2	Minimisation				
	The previous discussion in Section 7.6.4 has indicated that the impacts on ecological resources due to the construction and operation of the proposed Project are generally expected to be low. The following mitigation measures to minimise impacts and disturbance				
	to the surrounding habitats, are recommended. Measures for Construction Runoff Install sheet piles/cofferdam/weir along the boundary of the works area within the stream	-			
	habitats in particular Sam Dip Tam Stream and Tso Kung Tam Stream before the commencement of works to prevent construction runoff during construction. Provision of adequate designed sand/ silt removal facilities such as sand traps, silt traps and sediment basin in the areas which could potentially be affected may be required.				\checkmark
	Good Construction Practice	1			\checkmark
	Erect fences along the boundary of the works area before the commencement of works to prevent tipping, vehicle movements, and encroachment of personnel onto adjacent areas, particularly the stream habitats.	DSD's Contractor	Construction Work Sites	EIAO	\checkmark
	Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the remaining and surrounding natural stream habitats.				\checkmark
	Regularly check the work site boundaries to ensure that they are not breached and that no damage occurs to surrounding areas.	-			\checkmark
	Prohibit and prevent open fires within the site boundary during construction and provide temporary fire fighting equipment in the work areas. Treat any damage that may have occurred to individual major trees in the adjacent area with	-			\checkmark
	surgery.				\checkmark

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
	Reinstate temporary work sites/disturbed areas, particularly stream of natural bottom and bank, plantation, intertidal habitat, and the areas located within the proposed Ecological Park, immediately after completion of the construction works, ie through on-site tree/shrub planting and reprovision of natural or semi-natural bottom (also refer to Section 7.7.3), in order to facilitate the recolonisation of the wildlife recorded during the baseline surveys. Tree/shrub species used should make reference from those in the surrounding area	DSD's Contractor	Construction Work Sites	EIAO	\checkmark
7.7.3	Compensation Provide natural stream bed (approximately 0.03 ha) for the new Dry Weather Flow Channel (created from village-orchard) by laying natural stones at Intake I-2 (Figure 7.7). The reinstated stream bed shall mimic the existing natural conditions with certain portion of big boulders creating the lentic and lotic zones for the aquatic fauna, and while it will be developed during detailed design may draw on concepts shown in Figure 2.18. Provide natural stream bed (approximately 0.5 ha,) for the Approach Channel and Dry				N/A
	Weather Flow Channel by laying natural stones at Intake I-3 (Figure 7.8). The reinstated stream bed shall mimic the existing natural conditions (rocky bottom with very limited aquatic plants) with certain portion of big boulders creating the lentic and lotic zones for the aquatic fauna, and while it will be developed during detailed design may draw on concepts shown in Figure 2.18.				N/A
	Provide natural bottom (ie retain the existing stream bed or reinstate the stream bed by providing boulders/ rocks, riprap or gabion) for the affected stream sections (Figure 7.8) in order to allow natural colonisation of aquatic fauna.				N/A
	Provide at least 2.2 ha of compensatory planting on the permanent and temporary affected plantation areas, particularly the slopes along access road and adjacent to Intake I-3 and cascade at Outfall O-1, after construction to stabilise the slope to present soil erosion and consequent stream sedimentation. Among the 2.2 ha compensatory planting, at least 0.5 ha of compensatory tree planting on the new formed slope along the access road of the Intake I-3 and 0.5 ha of compensatory tree planting over the cascade (by constructing intermediate platform) at Outfall O-1 will be provided (location refer to Figures 7.4 – 7.6). Species used for planting should take reference from the species identified in Appendix F and be native to Hong Kong or South China region.				N/A
	Provide armour rocks for the affected intertidal habitat in order to allow natural colonisation of intertidal organisms.				N/A

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
Cultural	Heritage			· · · · · ·	
8.6	As no impacts on recorded archaeological sites or area with archaeological potential were identified within the Study Area, no mitigation measure for archaeological resources is considered necessary.				N/A
	The construction methods to be employed should seek to avoid potential vibration impacts to Kuen Yuen Tung Monastery at Lo Wai, the Western Monastery, Yuen Yuen Home for the Aged, Hong Hoi Chee Hong Temple, Chiu Yum Tsing Yuen, Tse's Grave, Wan Lin Bridge and Sam Dip Tam Rock Carving in Sam Dip Tam and the Tin Hau Temple, Yam Kom Tau Village Rural Committee and the Yeung's Ancestral Hall in Yau Kom Tau as these sites fall within 50 m of the Preferred Option of the drainage tunnel alignment or associated Intakes/Outfall construction activities. Construction works that generates excessive vibration in close proximity to these sites should be restricted to protect the building from adverse vibration impacts and to ensure that the building structures will not be damaged as a result of these impacts.	DSD's Contractor	Construction Work Sites	EIAO	~
	In order to ensure that no structural or superficial damage will be caused by the construction activities, a precautionary approach involving a pre-construction condition survey and establishment of appropriate vibration limits for the potentially impacted structures should be adopted. Protection measures for the potentially impacted structures, if considered necessary from the pre-construction condition survey, should be implemented prior to the commencement of construction works. Vibration monitoring during the construction phase should be undertaken as part of the EM&A programme.	Qualified archaeologist/ built heritage specialist	Construction Work Sites	EIAO	~
Fisheries		[
10.6	In accordance with the guidelines in the <i>EIAO-TM</i> on fisheries impact assessment the general policy for mitigating impacts to fisheries, in order of priority are avoidance, minimization and compensation.	DSD's Contractor	Construction Work Sites	EIAO	N/A
Remarks	Impacts to fisheries resources and fishing operations have largely been avoided during the construction and operation of the drainage tunnel through the avoidance of dredging, reclamation and filling activities. Good construction practice and associated measures were recommended in Water Quality Assessment in Section 5 to control water quality impacts to within acceptable levels and are also expected to control impacts to fisheries resources. Hence, no fisheries-species mitigation measures are required during construction and operation of the drainage tunnel. :: ✓ Compliance of mitigation measure				N/A

Non-compliance of mitigation measure Not applicable x

N/A



Appendix E

Status of License and Permit





Updated Status of Environmental Permit & Licence

Application Date	Environmental Permit / Licence	Issued Date	Ref No.	Account No.	Permit / Licence No.	Permit / Licence Validity Date	Remarks
2 Jan 2008	Registration as a Waste Producer	3 Jan 2008	001026707				Valid
2 Jan 2008	Waste Disposal (Chemical Waste) (General) - Chemical Waste Producer	26 Feb 2008		5111-324- M2703-01			Valid
2 Jan 2008	Waste Disposal (Charges for Disposal of Construction Waste) Regulation - Billing Account	17 Jan 2008		7006574			Valid
10 Jan 2008	Notification Pursuant to Section 3(1) of the Air Pollution Control (Construction Dust) Regulation	10 Jan 2008	001026901				Valid
25 Feb 2008	Water Pollution Control Ordinance – Outfall O-1	7 Aug 2008	001028154		EP760/323/012997I	7 Aug 2008 - 31 Aug 2013	Valid
10 Apr 2008	Further Environmental Permit	6 May 2008	FEP-088/2008		FEP-01/275/2007		Valid
18 Apr 2008	Water Pollution Control Ordinance – Intake I-1	19 Jun 2008	001029978		EP760/327/013315I	19 Jun 2008 - 30 Jun 2013	Valid
18 Apr 2008	Water Pollution Control Ordinance – Intake I-2	2 Jul 2008	001029959		EP760/321/013020I	2 Jul 2008 - 31 Jul 2013	Valid
18 Apr 2008	Water Pollution Control Ordinance – Intake I-3	5 Aug 2008	001029960		EP760/323/013324I	5 Aug 2008 - 31 Aug 2013	Valid
18 Apr 2008	Water Pollution Control Ordinance – Portion I	26 Jun 2008	001029974		EP760/350/013334I	26 Jun 2008 - 30 Jun 2013	Valid
3 Jun 2008	Variation of Environmental Permit	27 Jun 2008	VEP-264/2008		EP-275/2007/A		Valid
18 Jun 2008	Variation of Environmental Permit	27 Jun 2008	VEP-266/2008		FEP-01/275/2007/A		Valid
23 Jul 2008	Water Pollution Control Ordinance – Intake I-1 (Intersection of Wo Yi Hop Lane and Ho Fung College)	27 Aug 2008	001031974		EP760/325/013536I	27 Aug 2008 - 31 Aug 2013	Valid
2 Sep 2008	Variation of Environmental Permit	25 Sep 2008	VEP-271/2008		EP-275/2007/B		Valid



Updated Status of Environmental Permit & Licence

Application Date	Environmental Permit / Licence	Issued Date	Ref No.	Account No.	Permit / Licence No.	Permit / Licence Validity Date	Remarks
29 Apr 2009	Water Pollution Control Ordinance – Intake I-3 (Additional Discharge Point)	25 Mar 2010	305058		WT00005917-2010	25 March 2010 - 31 March 2015	Valid
5 Oct 2009	Further Environmental Permit	27 Oct 2009	FEP-096/2009		FEP-01/275/2007/B		Valid
19 Jan 2010	Water Pollution Control Ordinance – Outfall O-1 (Additional Discharge Point)		313803				Contractor had applied the permit on 19 Jan 2010. Contractor had received the acknowledge receipt on 28 Jan 2010. Waiting for EPD further
11 Mar 2010	Construction Noise Permit - Intake I-3	18 Mar 2010	315048		GW-RW0130-10	22 Mar 2010 - 21 Sept 2010	Valid
26 Mar 2010	Construction Noise Permit - Intak I-1	13 Apr 2010	315605		GW-RW0156-10	16 Apr 2010 - 15 Oct 2010	Valid
14 Jun 2010	Construction Noise Permit - Chai Wan Kok - Valve House (2 nos. of Water Pumps + Generator)	24-Jun-10	318360		GW-RW0294-10	28 Jun 2010 - 27 Dec 2010	Valid
24 Jun 2010	Construction Noise Permit - Outfall O-1 (For Wastewater Treatment Plant , Water Pump , Overhead Crane)		318683				Contractor had applied the permit on 24 Jun 2010. Contractor had received the acknowledge receipt on 24 Jun 2010. Waiting for EPD further notice.

SELI



Appendix F

Calibration Certificates

Project Title: Monitoring Location: Calibration Date: Calibration Due Date Time:

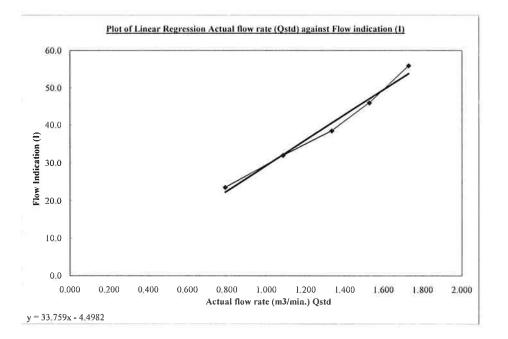
Design and Construction of Tsuen Wan Drainage Tunnel Ho Fung College (ASR 1) 27-May-10 27-Jul-10 10:12

Sampler Model:	BM2000HX
Serial No.:	4994
Calibrator Orifice no.:	1785
Slope (m):	1.97702
Intercept (b):	-0.00070
Correction coeff. (r)	0.99992
Standard pressure (mmHg) Pstd:	763.9
Standard temp. (K) Tstd:	290.8
Calibration pressure (mmHg) Pa:	755.2
Calibration temp. (K) Ta:	300.2

Flow (corrected) = $\sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$ $Qstd = \frac{1}{m} \times (\sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b)$

Sample no.	Pressure Drop (H), inch	Flow (corrcted), m ³ /min	Actual flow rate (Qstd), m ³ /min	Flow indication (1), arbitrary
1	11.9	3.417	1.729	56.0
2	9.3	3.021	1.528	46.0
3	7.1	2.640	1.336	38.5
4	4.7	2.148	1.087	32.0
5	2.5	1,566	0,793	23,5

Correlation Coefficient: 0.9906



Remark 1HPa = 0.750062 mmHg

Calibrated by:

Andrew Fong)

(

Checked by:

Terence Kong) $\sim m$

Date: 31.5.2010

Date: 31 May 2010

K:\EA01273 KSL KDB300 Env Team\ES-EA01273 KSL KDB300 Env Team\Monitoring Data\Calibration\Ho Fung(27-5-2010).xls

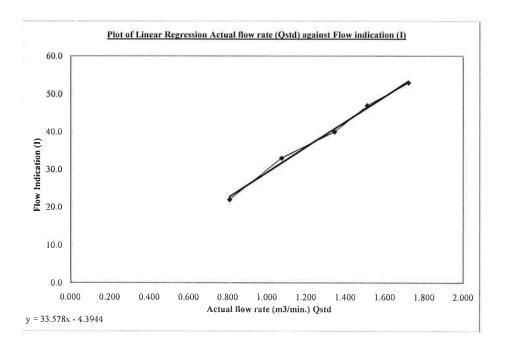
Project Title: Monitoring Location: Calibration Date: Calibration Due Date Time: Design and Construction of Tsuen Wan Drainage Tunnel Heng Hoi Chi Hong Ship Temple (ASR 3) 27-May-10 27-Jul-10 11:00

Sampler Model:	BM2000HX
Serial No.:	5875
Calibrator Orifice no .:	1785
Slope (m):	1.97702
Intercept (b):	-0.00070
Correction coeff. (r)	0,99992
Standard pressure (mmHg) Pstd:	763.9
Standard temp. (K) Tstd:	290.8
Calibration pressure (mmHg) Pa:	755.2
Calibration temp. (K) Ta:	300.2

 $Flow (corrected) = \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$ $Qstd = \frac{1}{m} \times (\sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b)$

Sample no.	Pressure Drop (H), inch	Flow (corrcted), m ³ /min	Actual flow rate (Qstd), m ³ /min	Flow indication (I), arbitrary
1	11.8	3,403	1,722	53.0
2	9,1	2.988	1.512	47.0
3	7.2	2.658	1.345	40.0
4	4.6	2.125	1.075	33.0
5	2.6	1.597	0.808	22.0

Correlation Coefficient : 0.9971



Remark 1HPa = 0.750062 mmHg

Calibrated by:



Checked by:

Terence Kong

)

Date: 31.5.2010

Date: 31 May 2010

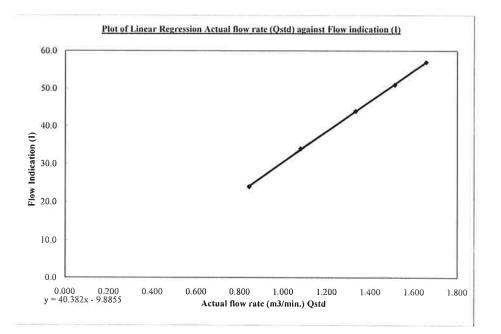
Project Title: Monitoring Location: Calibration Date: Calibration Due Date Time: Design and Construction of Tsuen Wan Drainage Tunnel Long Beach Gardan (ASR 8) 01-Jun-10 01-Aug-10 11:40

Sampler Model:	TE5005X
Serial No.:	1559
Calibrator Orifice no.:	1785
Slope (m):	1.97702
Intercept (b):	-0.00070
Correction coeff. (r)	0.99992
Standard pressure (mmHg) Pstd:	763.9
Standard temp. (K) Tstd:	290.8
Calibration pressure (mmHg) Pa:	756.1
Calibration temp. (K) Ta	297.4

 $Flow (corrected) = \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$ $\underline{Q}std = \frac{1}{m} \times (\sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b)$

Sample no.	Pressure Drop (H), inch	Flow (corrcted), m ³ /min	Actual flow rate (Ostd), m ³ /min	Flow indication (1), arbitrary
1	10.8	3.273	1.656	57.0
2	9.0	2.988	1.512	51.0
3	7.0	2.635	1 333	44.0
4	4.6	2.136	1.081	34.0
5	2.8	1,666	0.843	24.0

Correlation Coefficient: 0.9999



Remark 1HPa = 0.750062 mmHg

Calibrated by:

Checked by:

Andrew Fong

)

Terence Kong

Date: 1.6.20/0

Date: 1 Jun 2010

Project Title: Monitoring Location: Calibration Date: Calibration Due Date Time:

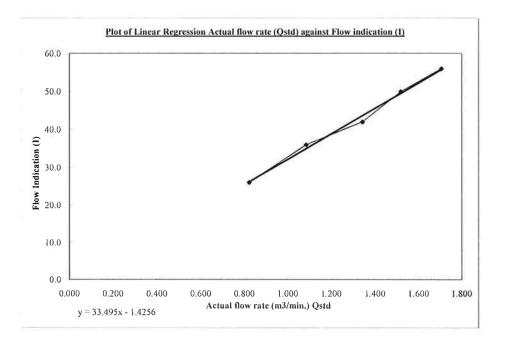
Design and Construction of Tsuen Wan Drainage Tunnel Greenview Terrance (ASR 9) 27-May-10 27-Jul-10 12:15

Sampler Model:	TE5005X
Serial No.:	0646
Calibrator Orifice no :	1785
Slope (m):	1.97702
Intercept (b):	-0.00070
Correction coeff. (r)	0.99992
Standard pressure (nunHg) Pstd:	763.9
Standard temp. (K) Tstd:	290.8
Calibration pressure (mmHg) Pa:	755.2

 $Flow(corrected) = \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$ $Qstd = \frac{1}{m} \times (\sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b)$

Sample no.	Pressure Drop (H), inch	Flow (corrcted), m ³ /min	Actual flow rate (Ostd), m ³ /min	Flow indication (1), arbitrary
1	11.6	3,374	1.707	56.0
2	9.2	3.005	1.520	50.0
3	7.2	2.658	1.345	42.0
4	4.7	2,148	1.087	36.0
5	2.7	1.628	0.824	26.0

Correlation Coefficient: 0.9963



Remark 1HPa = 0:750062 mmHg

Calibrated by:



Checked by:

Terence Kong)

(

Date: 31.5.2010

Date: 31 May 2010



TISCH ENVIROMENTAL, INC. 145 SOUTH MIAMI AVE. VILLAGE OF CLEVES, OH 45002 513.467.9000 877.263.7610 TOLL FREE 513.467.9009 FAX WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Ma Operator) Rootsmeter Orifice I.I		833620 1785	Ta (K) - Pa (mm) -	296 - 750.57
PLATE OR Run # 1 2 3 4 5	VOLUME START (m3) NA NA NA NA NA	VOLUME STOP (m3) NA NA NA NA NA	DIFF VOLUME (m3) 1.00 1.00 1.00 1.00 1.00	DIFF TIME (min) 1.3960 0.9840 0.8790 0.8390 0.6940	METER DIFF Hg (mm) 3.2 6.4 7.9 8.7 12.7	ORFICE DIFF H2O (in.) 2.00 4.00 5.00 5.50 8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9900 0.9858 0.9837 0.9827 0.9774	0.7092 1.0018 1.1191 1.1713 1.4084	1.4102 1.9943 2.2296 2.3385 2.8203		0.9957 0.9915 0.9894 0.9884 0.9830	0.7133 1.0076 1.1256 1.1781 1.4165	0.8881 1.2560 1.4042 1.4728 1.7762
Qstd slope (m) = 2.01637 intercept (b) = -0.02316 coefficient (r) = 0.99996 y axis = SQRT[H2O(Pa/760)(298/Ta)]				Qa slope intercept coefficie	e (m) = z (b) =	1.26262 -0.01458 0.99996

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time
Va = Diff Vol [(Pa-Diff Hg)/Pa]

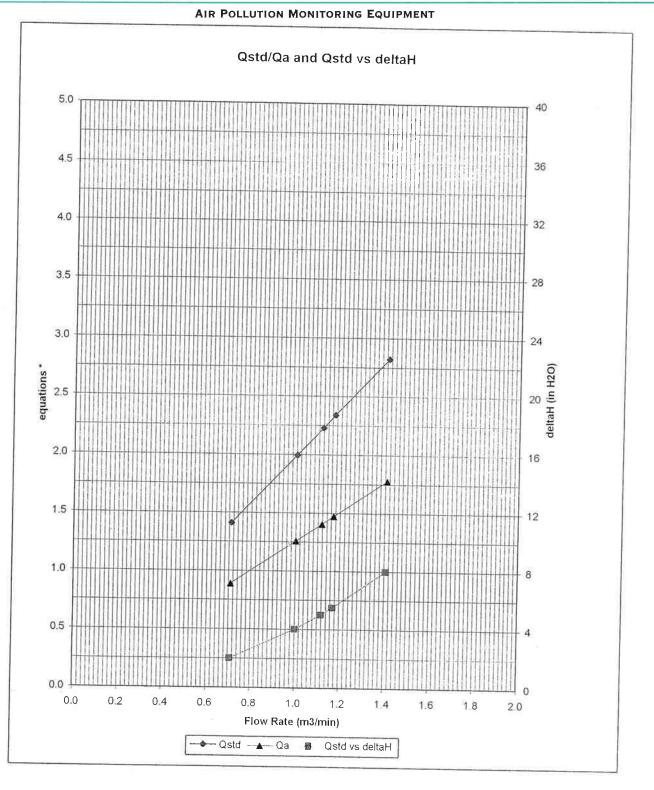
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = $1/m\{ [SQRT(H2O(Pa/760)(298/Ta))] - b \}$ Qa = $1/m\{ [SQRT H2O(Ta/Pa)] - b \}$



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* y-axis equations: Qstd series:

S: $\sqrt{\Delta H} \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)$ $\sqrt{(\Delta H (Ta / Pa))}$ #1785

Qa series:



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C093599

Certificate of Calibration

This is to certify that the equipment

Description : Precision Sound Level Meter Manufacturer : Rion Model No. : NA-27 Serial No. : 00201194

has been calibrated for the specific items and ranges. The results are shown in the Calibration Report No. C093599.

The equipment is supplied by

Co. Name: Envirotech Services Co.

Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road, Hong Kong

Date of Issue : 10 July 2009

Certified by : <u>Char Um</u> H C Chan

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o=4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong Tel: 2927-2606 Fax: 2744-8986 F-mail: callab*ia* suncreation.com Website: www.suncreation.com



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C093598

Certificate of Calibration

This is to certify that the equipment

Description : Sound Level Calibrator Manufacturer : Rion Model No. : NC-73 Serial No. : 10786708

has been calibrated for the specific items and ranges. The results are shown in the Calibration Report No. C093598.

The equipment is supplied by

Co. Name : Envirotech Services Co.

Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road, Hong Kong

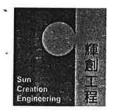
Date of Issue : 10 July 2009

Certified by: Com for C H C Chan

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

e o. 4/F, Tsing Shan Wan Exchange Building, I Hing On Lane, Tuen Mun, New Territories, Hong Kong Tel: 2927-2606 Fax: 2744-8986 E-mail: callabat suncreation.com Website: www.suncreation.com



Certificate No. : C093473

Certificate of Calibration

This is to certify that the equipment

Description : Precision Integrating Sound Level Meter Manufacturer : Rion Model No. : NL-18 Serial No. : 00360030

has been calibrated for the specific items and ranges. The results are shown in the Calibration Report No. C093473.

The equipment is supplied by

Co. Name : Envirotech Services Co.

Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road, Hong Kong

Date of Issue : 6 July 2009

Certified by : <u>Chan tim</u> (HC Chan

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited



Certificate No. : C093472

Certificate of Calibration

This is to certify that the equipment

Description : Sound Level Calibrator Manufacturer : Rion Model No. : NC-73 Serial No. : 10997142

has been calibrated for the specific items and ranges. The results are shown in the Calibration Report No. C093472.

The equipment is supplied by

Co. Name : Envirotech Services Co.

Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road, Hong Kong

Date of Issue : 6 July 2009

Certified by: <u>Chan iAn Chan</u> HC Chan

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o 4/F. Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong Tel: 2927 2606 Fax: 2744-8986 E-mail: callab@suncreation.com Website: www.suncreation.com



Batch:HK1006361Date of Issue:29/03/2010Client:HYDER CONSULTING LIMITEDClient Reference:

Calibration of Turbidity System

Item : 7	Turbidimter		Model No.: I	Eutech Instruments TN-100
ALS Lab ID: H	HK1006361	-001	Equipment No.: -	
Date of Calibrat	tion:	26 March, 2010	Serial No.:	215619

Testing Results :

Turbidity

y	Expected Reading	Recording Reading
	0.00 NTU	0.10 NTU
	4.00 NTU	3.75 NTU
	16.0 NTU	15.1 NTU
	40.0 NTU	42.9 NTU
	160 NTU	150 NTU
	Allowing Deviation	± 10%

Testing Method:

APHA (19th edition), 2130B

Mr Chan Kwok Fal, Godfley Laboratory Manager - Hong Kong

ALS Technichem (HK) Pty Ltd ALS Environmental

Page 2 of 2

Batch:HK1013850Date of Issue:02/07/2010Client:HYDER CONSULTING LTDClient Reference:TWDT (Tsuen Wan Drainage Tunnel)

Calibration of Turbidity System

Item :	Turbidimeter	
ALS Lab ID:	HK1013850 -001	
Date of Calibration:	25 June, 2010	

Model No.: Eutech Instruments TN-100 Equipment No.: N/A Serial No.: 215619

Testing Results :

Turbidity

Expected Reading	Recording Reading	Testing Method:
0 NTU 4 NTU 40 NTU 80 NTU	0.09 NTU 3.97 NTU 40.7 NTU 77.5 NTU	APHA (19th edition), 2130B
400 NTU Allowing Deviation	435 NTU ± 10%	

Mr Chan Kwok Fai, Godfrey Laboratory Manager Hong Kong

ALS Technichem (HK) Pty Ltd ALS Environmental

Page 2 of 2



Batch:HK1011634Date of Issue:11/06/2010Client:HYDER CONSULTING LIMITEDClient Reference:TWDT (Tsuen Wan Drainage Tunnel)

Calibration of Mulitimeter

Item :	Multi-parameter Instrument/	Model No.: WTW pH/Oxi 340i
	Mehrparameter-MeBgerat	Equipment No.: N/A
ALS Lab ID:	HK1011634 -001	Serial No.: 08101283
Date of Calibration:	01 June, 2010	

Testing Results :

pН

Expected Reading	Recording Reading
4.00	4.17
7.00	7.18
10.00	9.95
Allowing Deviation	± 0.2 unit

Testing Method:

APHA (20th edition), 4500-H⁺B

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T	em	ner	ratu	ire
		pui	un	

Expected Reading	Recording Reading
24.0 °C 31.0 °C	23.9 °C 30.8 °C
Allowing Deviation	±2.0 ⁰ C

Testing Method:

In-House Method

Mr Chan Kwok Fai, Godfrey Laboratory Manager - Hong Kong

ALS Technichem (HK) Pty Ltd ALS Environmental





Date of Issue:	28/06/2010
Client:	HYDER CONSULTING LTD

Calibration of DO System

Item :	DO meter
Model No. :	YSI 58
Serial No. :	
Calibration Method :	This meter was calibrated in accordance with standard method APHA (21st Ed.) 4500-OC & G
Date of Calibration :	06 May, 2010

Testing Results :

Expected Reading	Recording Reading	
5.27 mg/L	5.30 mg/L	
6.64 mg/L	6.63 mg/L	
7.43 mg/L	7.44 mg/L	
8.27 mg/L	8.31 mg/L	
 Allowing Deviation	±0.2 mg/L	

欱 -Q-

Mr Chản Kwok Fai, Godfrey Laboratory Manager - Hong Kong

ALS Environmental

ALS Technichem (HK) Pty Ltd

Batch:HK1013019Date of Issue:22/06/2010Client:HYDER CONSULTING LIMITEDClient Reference:TWDT (Tsuen Wan Drainage Tunnel)

Calibration of Mulitimeter

Item :	Multi-parameter Instrument/Mehrparameter-Mebgerat	
ALS Lab ID:	HK1013019 -001	
Date of Calibration:	17 June,2010	

Model No.: WTW pH/Oxi 340i Serial No.: 08101283

Testing Results :

DO

. .

(3)

Expected Reading	Recording Reading	Testing I
7.75 mg/L 5.53 mg/L 4.12 mg/L	7.84 mg/L 5.66 mg/L 4.28 mg/L	APHA (20
Allowing Deviation	± 0.2 mg/L	

Testing Method:

APHA (20th edition), 4500-OC & G

Mr Chan Kwok Fai, Godfrey

Mr Chan Kwok Fai, Godfrey Laboratory Manager - Hong Kong

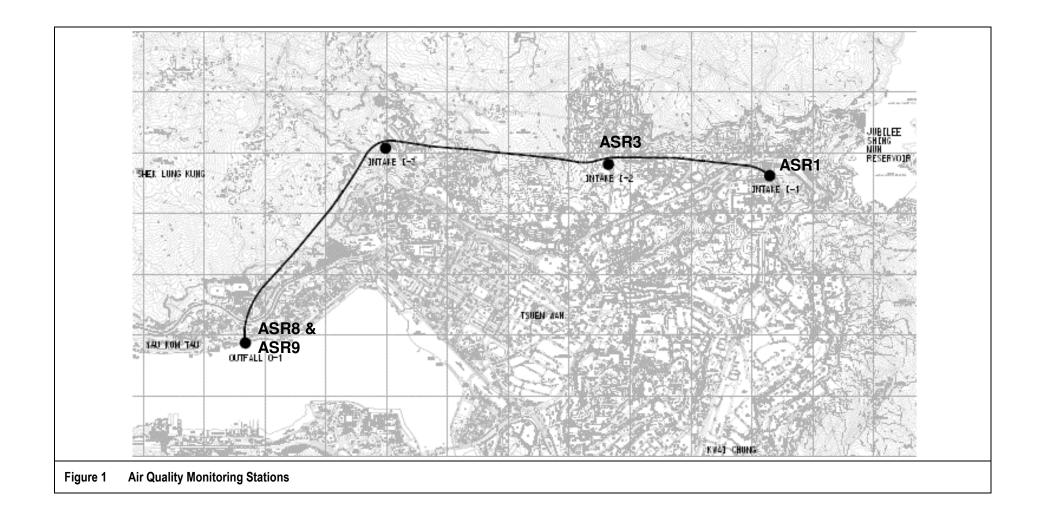
ALS Technichem (HK) Pty Ltd ALS Environmental

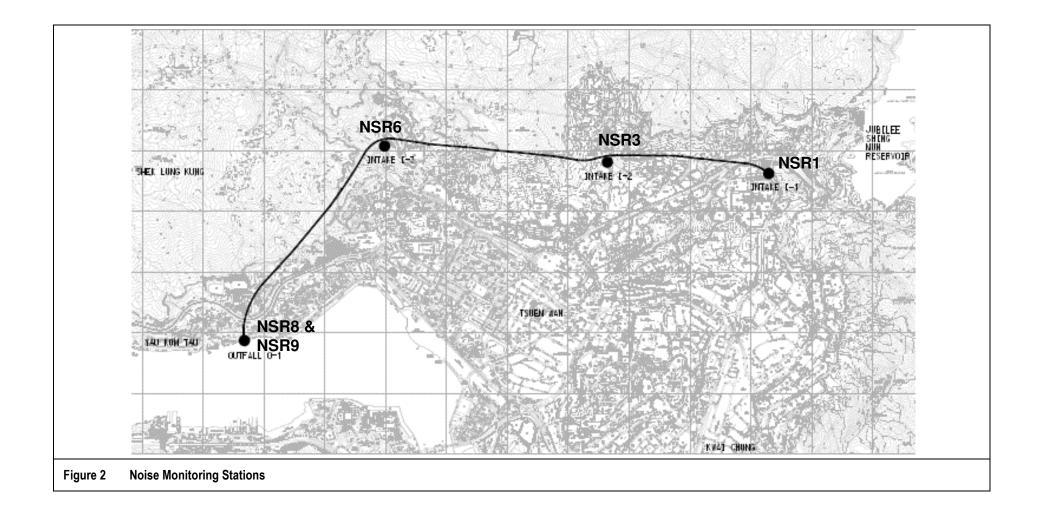


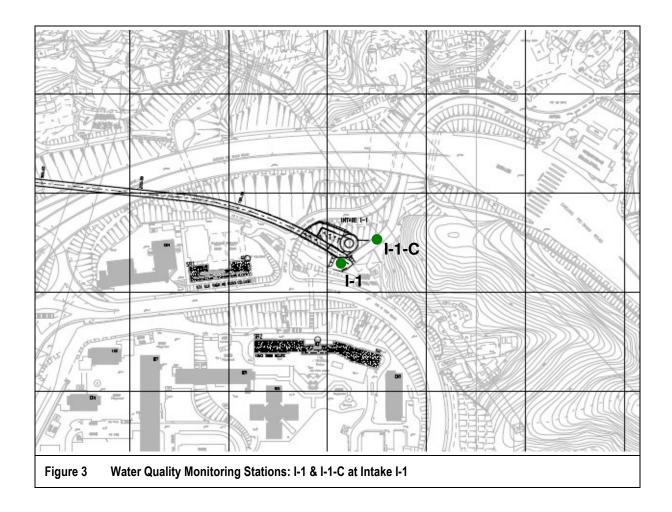


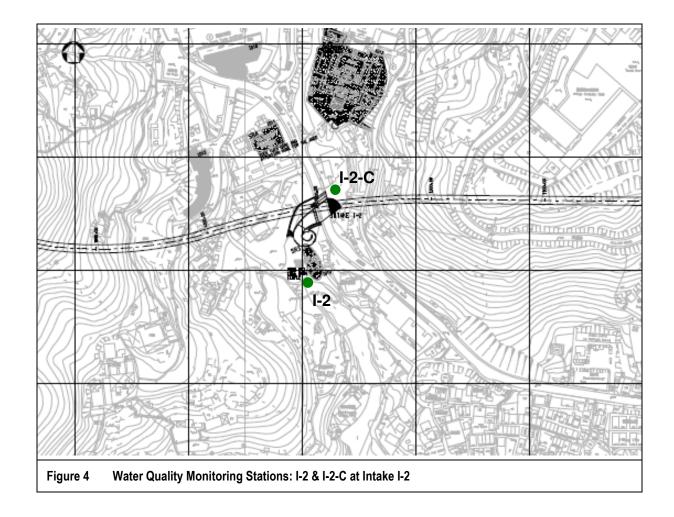
Appendix G

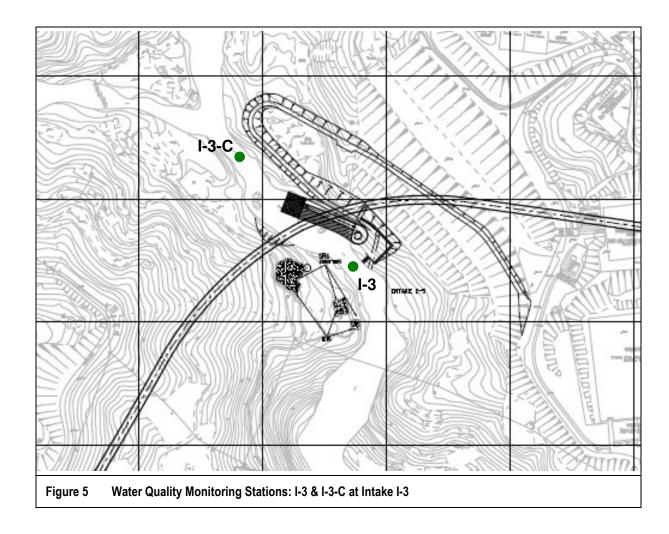
Monitoring Locations

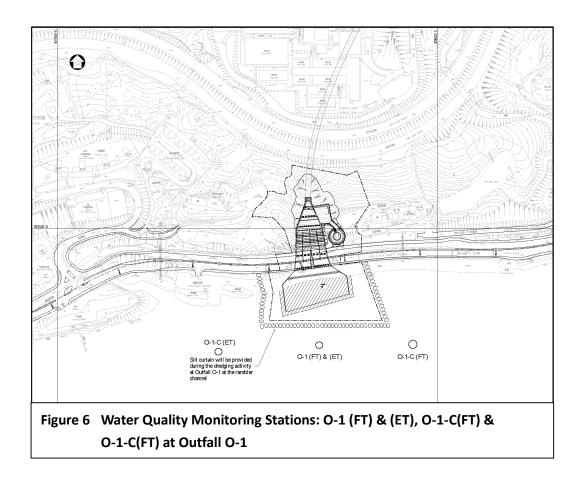














Appendix H

EM&A Schedule

Date	•	Air	Noise	Water
01-Jun-10	Tue	✓	✓	
02-Jun-10	Wed			✓
03-Jun-10	Thu			
04-Jun-10	Fri			✓
05-Jun-10	Sat			
06-Jun-10	Sun			
07-Jun-10	Mon	✓	✓	✓
08-Jun-10	Tue			
09-Jun-10	Wed			✓
10-Jun-10	Thu			
11-Jun-10	Fri	✓		✓
12-Jun-10	Sat			
13-Jun-10	Sun			
14-Jun-10	Mon			
15-Jun-10	Tue			✓
16-Jun-10	Wed			
17-Jun-10	Thu	\checkmark	✓	✓
18-Jun-10	Fri			
19-Jun-10	Sat			✓
20-Jun-10	Sun			
21-Jun-10	Mon			✓
22-Jun-10	Tue			
23-Jun-10	Wed	\checkmark	✓	✓
24-Jun-10	Thu			
25-Jun-10	Fri			✓
26-Jun-10	Sat			
27-Jun-10	Sun			
28-Jun-10	Mon			✓
29-Jun-10	Tue	✓	✓	
30-Jun-10	Wed			✓

Contract No. DC/2007/12 – Design and Construction of Tsuen Wan Drainage Tunnel Impact Monitoring Programme – June 2010

Note:

Shaded area indicates public holiday.

Air - Monitoring 1-hour TSP is undertaken three times per every six days

Noise - Noise measurements is undertaken once every week at (0700-1900 Monday to Saturday)

Water – Water measurements is undertaken three times per week

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Contract No. DC/2007/12 – Design and Construction of Tsuen Wan Drainage Tunnel Impact Monitoring Programme – July 2010 (Tentative)

Date		Air	Noise	Water
01-Jul-10	Thu			
02-Jul-10	Fri			✓
03-Jul-10	Sat			
04-Jul-10	Sun			
05-Jul-10	Mon	✓	✓	✓
06-Jul-10	Tue			
07-Jul-10	Wed			✓
08-Jul-10	Thu			
09-Jul-10	Fri	✓		✓
10-Jul-10	Sat			
11-Jul-10	Sun			
12-Jul-10	Mon			✓
13-Jul-10	Tue			
14-Jul-10	Wed			✓
15-Jul-10	Thu	✓	✓	
16-Jul-10	Fri			✓
17-Jul-10	Sat			
18-Jul-10	Sun			
19-Jul-10	Mon			✓
20-Jul-10	Tue			
21-Jul-10	Wed	✓	✓	✓
22-Jul-10	Thu			
23-Jul-10	Fri			✓
24-Jul-10	Sat			
25-Jul-10	Sun			
26-Jul-10	Mon			✓
27-Jul-10	Tue	✓	\checkmark	
28-Jul-10	Wed			✓
29-Jul-10	Thu			
30-Jul-10	Fri			✓
31-Jul-10	Sat			

Note:

Shaded area indicates public holiday.

Air – Monitoring 1-hour TSP is undertaken three times per every six days

Noise - Noise measurements is undertaken once every week at (0700-1900 Monday to Saturday)

Water – Water measurements is undertaken three times per week

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Contract No. DC/2007/12 – Design and Construction of Tsuen Wan Drainage Tunnel Impact Monitoring Programme – August 2010 (Tentative)

Date		Air	Noise	Water
01-Aug-10	Sun			
02-Aug-10	Mon	\checkmark	✓	✓
03-Aug-10	Tue			
04-Aug-10	Wed			✓
05-Aug-10	Thu			
06-Aug-10	Fri	\checkmark		\checkmark
07-Aug-10	Sat			
08-Aug-10	Sun			
09-Aug-10	Mon			\checkmark
10-Aug-10	Tue			
11-Aug-10	Wed			\checkmark
12-Aug-10	Thu	\checkmark	\checkmark	
13-Aug-10	Fri			\checkmark
14-Aug-10	Sat			
15-Aug-10	Sun			
16-Aug-10	Mon			\checkmark
17-Aug-10	Tue			
18-Aug-10	Wed	✓	✓	✓
19-Aug-10	Thu			
20-Aug-10	Fri			✓
21-Aug-10	Sat			
22-Aug-10	Sun			
23-Aug-10	Mon			✓
24-Aug-10	Tue	✓	✓	
25-Aug-10	Wed			✓
26-Aug-10	Thu			
27-Aug-10	Fri			✓
28-Aug-10	Sat			
29-Aug-10	Sun			
30-Aug-10	Mon	✓	✓	✓
31-Aug-10	Tue			

Note:

Shaded area indicates public holiday.

Air – Monitoring 1-hour TSP is undertaken three times per every six days

Noise - Noise measurements is undertaken once every week at (0700-1900 Monday to Saturday)

Water – Water measurements is undertaken three times per week

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Contract No. DC/2007/12 – Design and Construction of Tsuen Wan Drainage Tunnel Impact Monitoring Programme – September 2010 (Tentative)

01-Sep-10		Air	Noise	Water
01-Sep-10	Wed			\checkmark
02-Sep-10	Thu			
03-Sep-10	Fri	\checkmark		\checkmark
04-Sep-10	Sat			
05-Sep-10	Sun			
06-Sep-10	Mon			✓
07-Sep-10	Tue			
08-Sep-10	Wed			\checkmark
09-Sep-10	Thu	✓	✓	
10-Sep-10	Fri			✓
11-Sep-10	Sat			
12-Sep-10	Sun			
13-Sep-10	Mon			✓
14-Sep-10	Tue			
15-Sep-10	Wed	\checkmark	✓	✓
16-Sep-10	Thu			
17-Sep-10	Fri			✓
18-Sep-10	Sat			
19-Sep-10	Sun			
20-Sep-10	Mon			✓
21-Sep-10	Tue	\checkmark	\checkmark	
22-Sep-10	Wed			✓
23-Sep-10	Thu			
24-Sep-10	Fri			✓
25-Sep-10	Sat			
26-Sep-10	Sun			
27-Sep-10	Mon	\checkmark	✓	✓
28-Sep-10	Tue			
29-Sep-10	Wed			\checkmark
30-Sep-10	Thu			

Note:

Shaded area indicates public holiday.

Air – Monitoring 1-hour TSP is undertaken three times per every six days

Noise - Noise measurements is undertaken once every week at (0700-1900 Monday to Saturday)

Water – Water measurements is undertaken three times per week



Appendix I

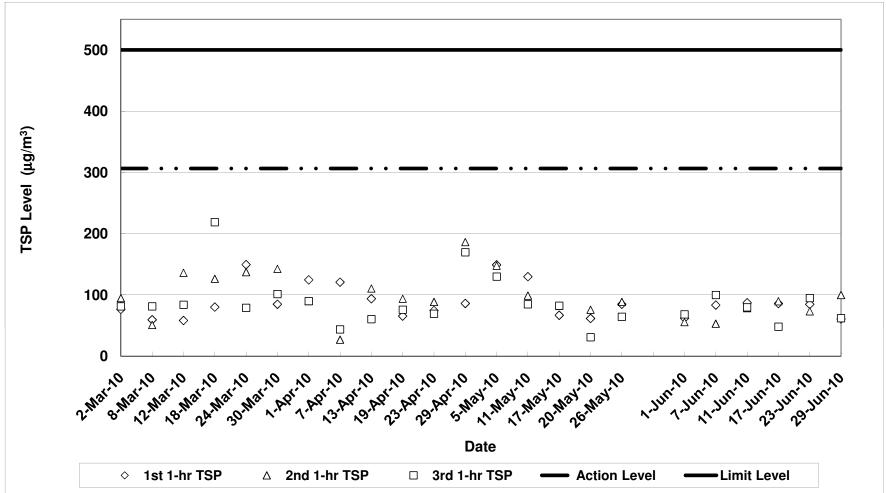
Monitoring Results

Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel

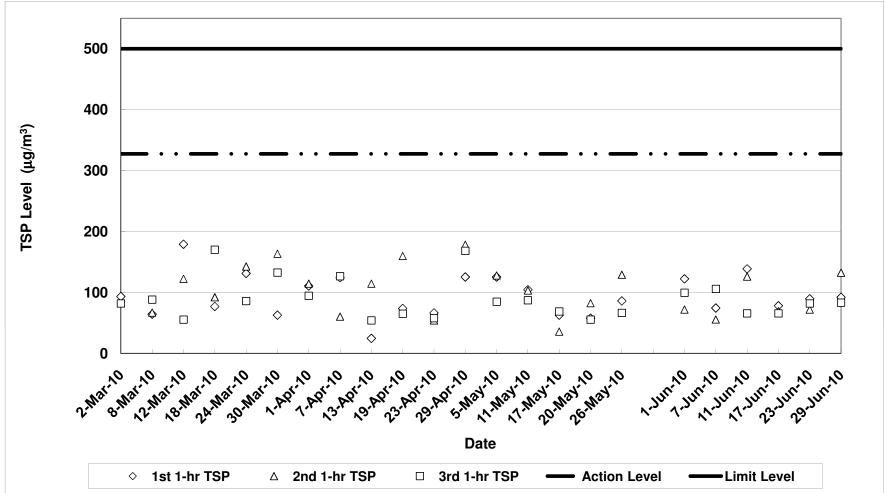
Air Quality Impact Monitoring Results (1-Hour TSP)

Location	Monitoring Date	Weather Conditions	Wind Speed with Direction (m/s)	Temp (ºC)	Timer-I	Timer-F	Time (mins)	Flow-I (CFM)	Flow-F (CFM)	Flow-I (m ³ /min)	Flow-F (m ³ /min)	Flow-avg (m ³ /min)	Volume (m³)	Weight-I (g)	Weight-f (g)	Weight-diff. (g)	1-hr TSP (µg/m ³)	Average 1-Hr TSP (µg/m ³)	Action/Limit Levels (µg/m ³)	Observation / Site Condition	Remark
		Fine	0.5E	27	595042	595142	60.0	40	40	1.32	1.32	1.32	79.09	2.8435	2.8484	0.0049	62.0		()45(-111-)		
	01-Jun-10	Fine	0.5E	27	595142 595242	595242 595342	60.0	40 40	40	1.32	1.32	1.32	79.09	2.8580	2.8624	0.0044	55.6 68.3	62.0		Steel bending and erection	Traffic
		Sunny	0.5E	28	595342	595442	60.0	40	40	1.32	1.32	1.32	79.09	2.8661	2.8727	0.0066	83.5				
	07-Jun-10	Sunny Sunny	0.5E	28	595442 595542	595542 595642	60.0	40 40	40	1.32	1.32	1.32	79.09	2.8348	2.8390	0.0042	53.1 99.9	78.8		Steel bending and erection	Traffic
		Fine	0.2E	27	595642	595742	60.0	40	40	1.32	1.32	1.318	79.09	2.8173	2.8242	0.0069	87.2				
Sik Sik Yuen Ho Fung	11-Jun-10	Fine Fine	0.2E 0.2E	27	595742 595842	595842 595942	60.0	40	40	1.32	1.32	1.32	79.09	2.8274	2.8336	0.0062	78.4 79.7	81.8		Steel bending and erection	Traffic
College - Intake (ASR1)		Fine	0.3E	28	595942	596042	60.0	40	40	1.32	1.32	1.32	79.09	2.8362	2.8430	0.0068	86.0		306.6/500		
	17-Jun-10	Fine Fine	0.3E 0.3E	28 28	596042 596142	596142 596242	60.0 60.0	40 40	40 40	1.32	1.32	1.32	79.09 79.09	2.8603	2.8674 2.8387	0.0071 0.0038	89.8 48.0	74.6		Steel bending and erection	Traffic
		Cloudy	0.3E	29	596242	596342	60.0	40	40	1.32	1.32	1.32	79.09	2.8727	2.8794	0.0067	84.7				
	23-Jun-10	Cloudy Cloudy	0.3E 0.3E	29 29	596342 596442	596442 596542	60.0	40 40	40 40	1.32	1.32	1.32	79.09	2.8746	2.8804 2.8406	0.0058	73.3 94.8	84.3		Steel bending and erection	Traffic
		Sunny	0.3E	30	596542	596642	60.0	40	40	1.32	1.32	1.32	79.09	2.8477	2.8525	0.0048	60.7				
	29-Jun-10	Sunny	0.2E 0.2E	30 30	596642 596742	596742 596842	60.0	40 40	40 40	1.32	1.32	1.32	79.09	2.8790	2.8869	0.0079	99.9 62.0	74.2		Steel bending and erection	Traffic
		Fine	0.8E	27	563590	563690	60.0	40	40	1.32	1.32	1.32	79.33	2.8104	2.8201	0.0097	122.3				
	01-Jun-10	Fine	0.8E	27 27	563690 563790	563790 563890	60.0	40 40	40 40	1.32	1.32	1.32	79.33 79.33	2.8428 2.8493	2.8485 2.8572	0.0057 0.0079	71.9 99.6	97.9		Breaking work	Traffic
		Fine Sunny	0.8E 0.2E	27	563790 563890	563890 563990	60.0	40	40	1.32	1.32	1.32	79.33	2.8493 2.9017	2.8572 2.9076	0.0079	99.6 74.4				
	07-Jun-10	Sunny	0.2E	28	563990 564090	564090 564190	60.0	40 40	40	1.32	1.32	1.32	79.33	2.8667	2.8711	0.0044	55.5 105.9	78.6		Breaking work	Traffic
		Sunny Fine	0.2E	28	564090 564190	564190 564290	60.0	40	40	1.32	1.32	1.32	79.33	2.8553	2.8637 2.9382	0.0084	105.9				
	11-Jun-10	Fine	0.2E	27	564290	564390	60.0	40	40	1.32	1.32	1.32	79.33	2.8705	2.8805	0.0100	126.1	110.1		Drilling	Traffic
Hong Hoi Chee Hong Temple - Intake (ASR3)		Fine	0.2E 0.3E	27	564390 564490	564490 564590	60.0	40 40	40 40	1.32	1.32	1.32	79.33 79.33	2.8831	2.8883 2.8794	0.0052	65.6 78.2		327.4/500		
	17-Jun-10	Fine	0.3E	28	564590	564690	60.0	40	40	1.32	1.32	1.32	79.33	2.8296	2.8351	0.0055	69.3	71.0		Breaking work	Traffic
		Fine Cloudy	0.3E 0.3E	28 29	564690 564790	564790 564890	60.0	40 40	40 40	1.32	1.32	1.32	79.33 79.33	2.8881 2.8652	2.8933 2.8723	0.0052 0.0071	65.6 89.5				+
	23-Jun-10	Cloudy	0.3E	29	564890	564990	60.0	40	40	1.32	1.32	1.32	79.33	2.8613	2.8670	0.0057	71.9	81.1		Breaking work Traffic	Traffic
		Cloudy Sunny	0.3E 0.2E	29 30	564990 565090	565090 565190	60.0 60.0	40 40	40 40	1.32	1.32	1.32	79.33 79.33	2.8691 2.8294	2.8756 2.8367	0.0065	81.9 92.0				
	29-Jun-10	Sunny	0.2E	30	565190	565290	60.0	40	40	1.32	1.32	1.32	79.33	2.8693	2.8798	0.0105	92.0	102.5		Breaking work	Traffic
		Sunny	0.2E	30	565290	565390	60.0	40	40	1.32	1.32	1.32	79.33	2.8836	2.8902 2.8849	0.0066	83.2				
	01-Jun-10	Fine	1.0E	27	557734 557834	557834 557934	60.0 60.0	40 40	40 40	1.24	1.24	1.24	74.12 74.12	2.8793 2.8458	2.8849	0.0056 0.0183	75.6 246.9	173.6		Crane Operation and Excavation work	Traffic.
		Fine	1.0E	27	557934	558034	60.0	40	40	1.24	1.24	1.24	74.12	2.8210	2.8357	0.0147	198.3				
	07-Jun-10	Sunny Sunny	0.5E	28	558034 558134	558134 558234	60.0	40	40	1.24	1.24	1.24	74.12	2.8511	2.8625	0.0114	153.8	121.0		Crane Operation and Excavation work	Traffic
		Sunny	0.5E	28	558234	558334	60.0	40	40	1.24	1.24	1.24	74.12	2.8867	2.8944	0.0077	103.9				
	11-Jun-10	Fine Fine	0.4E 0.4E	27	558334 558434	558434 558534	60.0 60.0	40 40	40 40	1.24	1.24	1.24	74.12	2.9144 2.8986	2.9239 2.9141	0.0095	128.2 209.1	148.4		Excavation work and Concrete Work	Traffic
Long Beach Gardens -		Fine	0.4E	27	558534	558634	60.0	40	40	1.24	1.24	1.24	74.12	2.8905	2.8985	0.0080	107.9		336.6/500		
Outfall (ASR8)	17-Jun-10	Fine Fine	0.5E	28 28	558634 558734	558734 558834	60.0	40 40	40 40	1.24	1.24	1.24	74.12	2.8831 2.8763	2.8962 2.8829	0.0131	176.7 89.0	121.4		Crane Operation and Excavation work	Traffic
		Fine	0.5E	28	558834	558934	60.0	40	40	1.24	1.24	1.24	74.12	2.9118	2.9191	0.0073	98.5				
	23-Jun-10	Cloudy Cloudy	0.4E	29 29	558934 559034	559034 559134	60.0 60.0	40 40	40 40	1.24	1.24	1.24	74.12	2.8840	2.8918 2.9151	0.0078	105.2 75.6	79.6		Crane Operation and Excavation work	Traffic
		Cloudy	0.4E	29	559134	559234	60.0	40	40	1.24	1.24	1.24	74.12	2.8792	2.8835	0.0043	58.0				
	29-Jun-10	Sunny Sunny	0.5E	30 30	559234 559334	559334 559434	60.0	40 40	40	1.24	1.24	1.24	74.12	2.8215	2.8305	0.0090	121.4 97.1	94.4		Crane Operation and Excavation work	Traffic
	20 001110	Sunny	0.5E	30	559434	559534	60.0	40	40	1.24	1.24	1.24	74.12	2.8610	2.8658	0.0048	64.8	54.4			
	01-Jun-10	Fine	1.0E 1.0E	27	550480 550580	550580 550680	60.0 60.0	40 40	40 40	1.24	1.24	1.24	74.21 74.21	2.9002	2.9072 2.8691	0.0070 0.0113	94.3 152.3	139.7		Crane Operation and Excavation work	Traffic.
	0100110	Fine	1.0E	27	550680	550780	60.0	40	40	1.24	1.24	1.24	74.21	2.8582	2.8710	0.0128	172.5	100.7			
	07-Jun-10	Sunny	0.8E	28 28	550780 550880	550880 550980	60.0	40 40	40 40	1.24	1.24	1.24	74.21 74.21	2.8432	2.8509 2.8663	0.0077 0.0071	103.8 95.7	95.7		Crane Operation and Excavation work	Traffic
	07-5011-10	Sunny Sunny	0.8E	28	550880 550980	550980 551080	60.0 60.0	40 40	40	1.24	1.24	1.24	74.21 74.21	2.8592 2.8652	2.8663 2.8717	0.0071	95.7 87.6	85.7		orano operation and Excavation work	
	11-Jun-10	Fine	0.4E	27	551080	551180	60.0	40	40	1.24	1.24	1.24	74.21	2.8817	2.8888	0.0071	95.7	111.0		Excavation work and Concrete Work	Traffic
Greenview Terrance -	11-Jun-10	Fine Fine	0.4E 0.4E	27 27	551180 551280	551280 551380	60.0 60.0	40 40	40 40	1.24	1.24	1.24	74.21 74.21	2.8413 2.8513	2.8504 2.8598	0.0091 0.0085	122.6	111.0	000 0/500	Excavation Work and Concrete Work	Tranc
Outfall (ASR9)	17.1 10	Fine	0.5E	28	551380	551480	60.0	40	40	1.24	1.24	1.24	74.21	2.8532	2.8655	0.0123	165.8		329.2/500		T (0)
	17-Jun-10	Fine Fine	0.5E 0.5E	28 28	551480 551580	551580 551680	60.0 60.0	40 40	40 40	1.24	1.24	1.24	74.21 74.21	2.8538	2.8591 2.8929	0.0053 0.0043	71.4 57.9	98.4		Excavation work and Concrete Work	Traffic
		Cloudy	0.3E	29	551680	551780	60.0	40	40	1.24	1.24	1.24	74.21	2.9014	2.9113	0.0099	133.4				
	23-Jun-10	Cloudy Cloudy	0.3E	29 29	551780 551880	551880 551980	60.0	40 40	40 40	1.24	1.24	1.24	74.21 74.21	2.8250	2.8301 2.8660	0.0051	68.7 62.0	88.0		Crane Operation and Excavation work	Traffic
		Sunny	0.5E	30	551980	552080	60.0	40	40	1.24	1.24	1.24	74.21	2.842	2.8529	0.0109	146.9				
	29-Jun-10	Sunny Sunny	0.5E	30 30	552080 552180	552180 552280	60.0	40 40	40 40	1.24	1.24	1.24	74.21	2.8468	2.8537	0.0069	93.0 63.3	101.1		Crane Operation and Excavation work	Traffic
L	Sunny	0.3E	30	332100	332200	00.0	40	40	1.29	1.29	1.29	/4.21	2.0402	2.0499	0.0047	03.3					

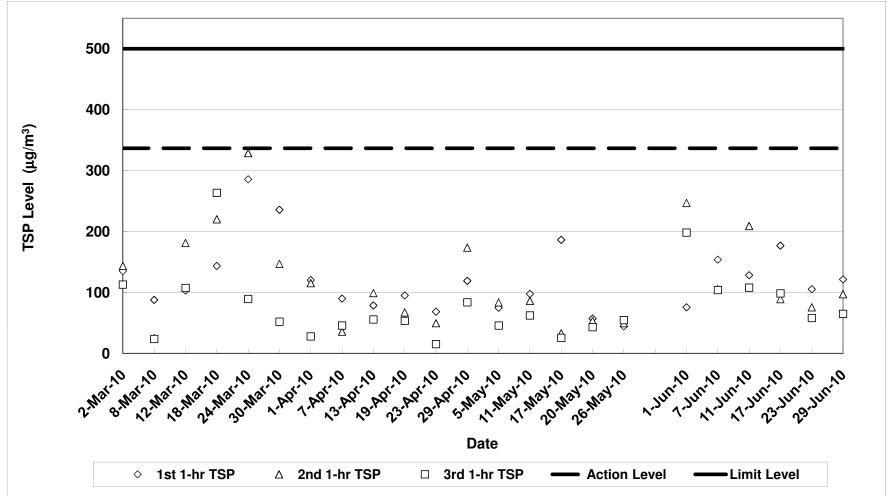
Note: Italic font and yellow shaded indicates an exceedance of Action Level Relid font and red shaded area indicates an exceedance of Limit Level



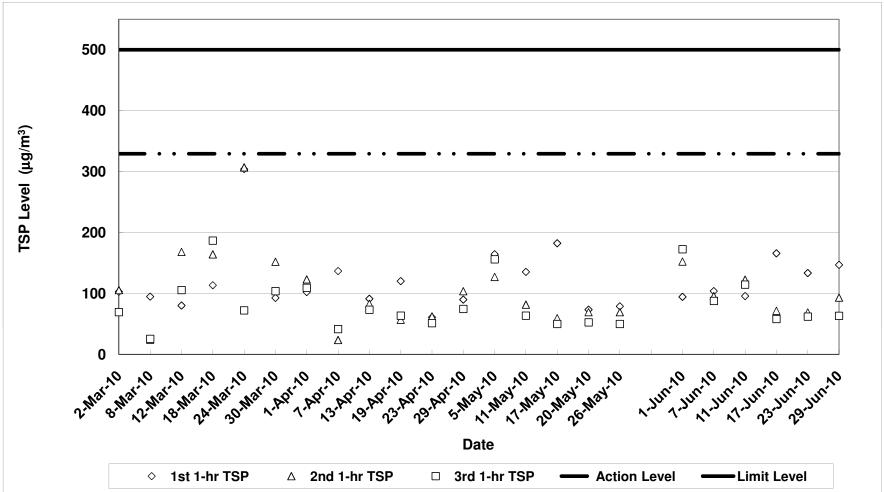
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Air Quality Monitoring (1-hr TSP) Results at Sik Sik Yuen Ho Fung College - Intake (ASR1) Mar-10 to Jun-10



Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Air Quality Monitoring (1-hr TSP) Results at Hong Hoi Chee Hong Temple - Intake (ASR3) Mar-10 to Jun-10



Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Air Quality Monitoring (1-hr TSP) Results at Long Beach Gardens - Outfall (ASR8) Mar-10 to Jun-10



Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Air Quality Monitoring (1-hr TSP) Results at Greenview Terrance - Outfall (ASR9) Mar-10 to Jun-10

Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel

Noise Impact Monitoring Results

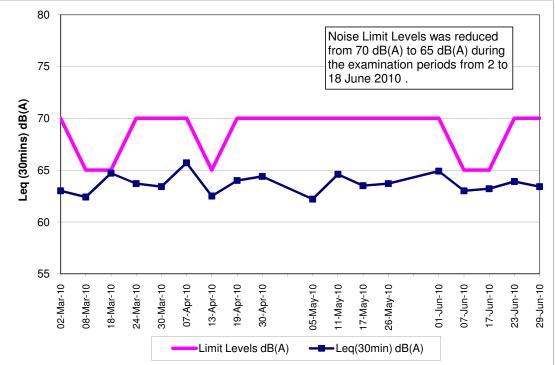
Monitoring Locations	Date	Weather	Temperature	Wind Speed	Wind	Start Time	End Time	BL ¹	LL ²	L _{eq(30min)}	L _{10(30min)}	L _{90(30min)}	CNL ³	Observation /	Remark
		Conditions	(°C)	(m/s)	Direction			dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Site Condition	
Sik Sik Yuen Ho Fung College	01-Jun-10	Fine	24	0.5	E	15:16	15:46		70	64.9	67.1	60.5	-	Steel bending and erection	Traffic noise
NSR 1	07-Jun-10	Sunny	26	0.5	E	16:05	16:35		65	63.0	65.3	59.2	-	Steel bending and erection	Traffic noise
	17-Jun-10	Fine	28	0.3	E	16:44	17:14	66.1	65	63.2	65.9	60.9		Steel bending and erection	Traffic noise
	23-Jun-10	Cloudy	29	0.3	E	16:13	16:43		70	63.9	66.9	58.7	-	Steel bending and erection	Aircraft & traffic noise
	29-Jun-10	Sunny	30	0.2	E	15:06	15:36		70	63.4	65.8	59.8	-	Steel bending and erection	Aircraft & traffic noise
Hong Hoi Chee Hong Temple	01-Jun-10	Fine	24	0.8	E	14:35	15:05		75	64.5	66.5	61.6		Breaking	Traffic noise
NSR 3	07-Jun-10	Sunny	26	0.2	E	15:22	15:52		75	72.8	75.5	67.9	-	Breaking	Traffic noise
	17-Jun-10	Fine	28	0.3	E	16:05	16:35	57.9	75	66.9	68.4	64.9		Breaking	Traffic noise
	23-Jun-10	Cloudy	29	0.3	E	15:28	15:58		75	67.9	69.3	66.5	-	Breaking	Aircraft & traffic noise
	29-Jun-10	Sunny	30	0.2	E	14:25	14:55		75	68.3	70.0	65.7	-	Breaking	Aircraft & traffic noise
Squatters	01-Jun-10	Fine	24	0.3	E	13:33	14:03		75	68.0	70.5	63.6		Excavation work & breaking	Bird noise
NSR 6	07-Jun-10	Sunny	26	0.2	E	11:20	11:50		75	67.7	70.1	63.2	-	Breaking, excavation work	Bird noise
	17-Jun-10	Fine	28	0.2	E	11:05	11:35	61.2	75	58.1	61.1	52.4	-	Excavation work	Aircraft & bird noise
	23-Jun-10	Cloudy	29	0.2	E	10:10	10:40		75	64.9	67.0	61.2	-	Breaking, excavation work	Bird noise
	29-Jun-10	Sunny	30	0.3	E	13:33	14:03		75	56.7	59.3	49.2	-	Excavation work	Aircraft & bird noise
Long Beach Gardens	01-Jun-10	Fine	24	1.0	E	10:18	10:48		75	64.8	66.8	62.4		Crane Operation & Excavation Work	Traffic noise
NSR 8	07-Jun-10	Sunny	26	0.5	E	14:30	15:00		75	63.8	65.1	62.6	-	Crane Operation & Excavation Work	Traffic noise
	17-Jun-10	Fine	28	0.5	E	14:55	15:25	60.9	75	63.3	64.8	60.7	-	Crane Operation & Excavation Work	Traffic noise
	23-Jun-10	Cloudy	29	0.4	E	14:32	15:02		75	64.9	66.6	62.5	-	Crane Operation & Excavation Work	Aircraft & traffic noise
	29-Jun-10	Sunny	30	0.5	E	10:18	10:48		75	62.2	63.9	60.5	-	Crane Operation & Excavation Work	Traffic noise
Greenview Terrace	01-Jun-10	Fine	24	1.0	E	11:10	11:40		75	64.0	66.0	62.3	-	Crane Operation & Excavation Work	Traffic noise
NSR 9	07-Jun-10	Sunny	26	0.8	E	13:50	14:20		75	68.4	70.4	65.5	-	Crane Operation & Excavation Work	Traffic noise
	17-Jun-10	Fine	28	0.5	Ē	14:10	14:40	59.7	75	63.9	65.9	61.2	-	Crane Operation & Excavation Work	Traffic noise
	23-Jun-10	Cloudy	29	0.3	Ē	13:50	14:20		75	68.1	69.6	66.0	-	Crane Operation & Excavation Work	Aircraft & traffic noise
	29-Jun-10	Sunny	30	0.5	Ē	11:10	11:40		75	65.0	66.3	63.0	-	Crane Operation & Excavation Work	Traffic noise

1: Baseline Noise Level 2: Limit Level 3: Corrected Noise Level

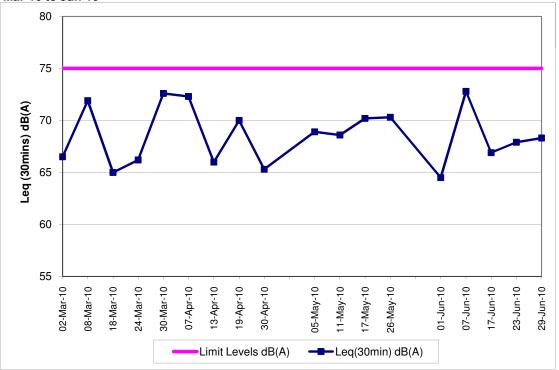
Note:

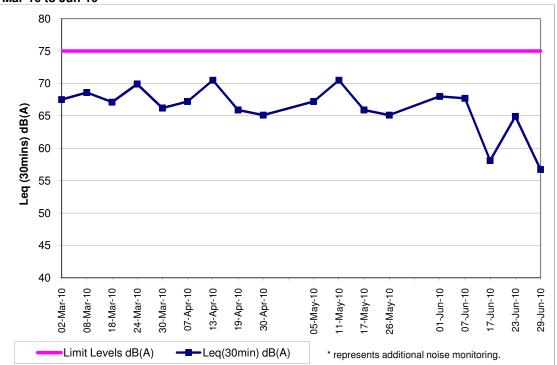
The limit level of NSR1 is 65dB(A) during school examination period. Red Bold indicates an exceedance of Limit Level





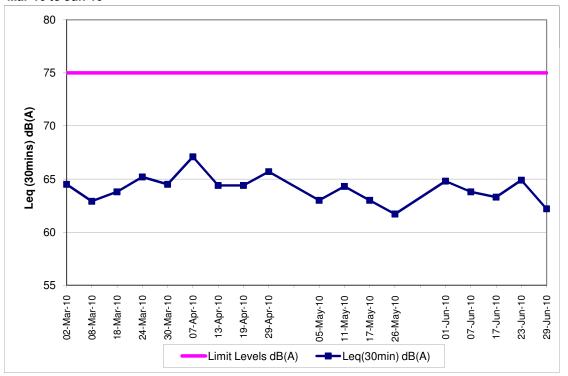
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Noise Monitoring Results at Hong Hoi Chee Hong Temple (NSR 3) Mar-10 to Jun-10

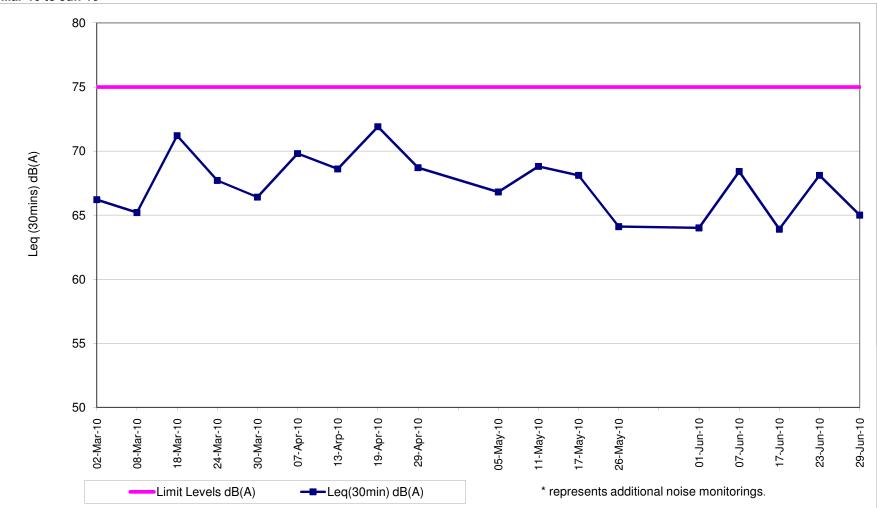




Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Noise Monitoring Results at Squatters (NSR 6) Mar-10 to Jun-10

Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Noise Monitoring Results at Long Beach Gardens (NSR 8) Mar-10 to Jun-10





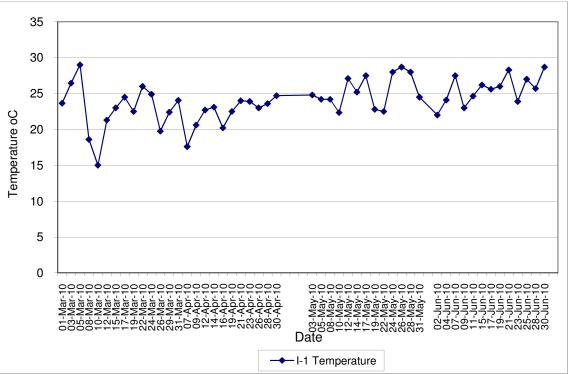
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Noise Monitoring Results at Greenview Terrace (NSR 9) Mar-10 to Jun-10

Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel

Water Quality Impact Monitoring Results

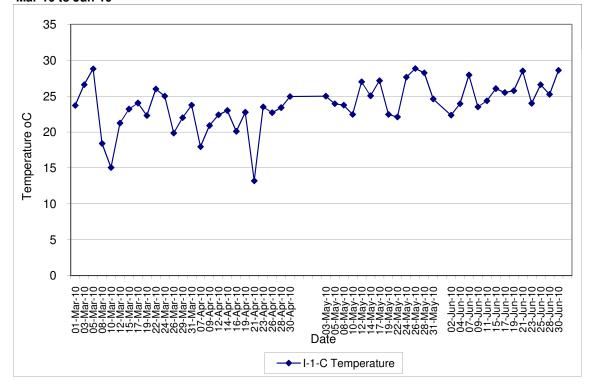
Monitoring Locations	Date Start Weather	Water Temp Depth(m) 1 2 Avg	DO(mg/L) 1 2 Avg	Action/Limit Level of DO(ma/L)	pH 1 2	Avg	Turbidity(NTU) 1 2 Avg	Action/Limit	SS ((mg/L) 2 Av	Action/Limit vg Level of SS(mg/L)	Remarks:	Action to be taken
Sik Sik Yuen Ho Fung College	02-Jun-10 10:34 Rainy		7.99 7.95 7.97		7.23 7.23	7.23	9.60 9.67 9.64			4.2		Steel bending and erection	Nil
I-1	04-Jun-10 10:29 Cloudy	<1 24.10 24.10 24.10	7.93 7.88 7.91		7.05 7.05	7.05	5.07 5.12 5.10		2.00 2	2.00 2.0		Steel bending and erection	Nil
	07-Jun-10 10:00 Sunny	<1 27.50 27.50 27.50	7.51 7.54 7.53		7.27 7.27	7.27	3.50 3.58 3.54			3.20 3.1		Steel bending and erection	Nil
	09-Jun-10 10:16 Rainy	<1 23.00 23.00 23.00	7.70 7.65 7.68		7.02 7.02		8.43 8.40 8.42			2.00 2.0	10	Crane Operation	Nil
	11-Jun-10 10:10 Fine	<1 24.70 24.60 24.65	7.32 7.35 7.34		7.27 7.27	7.27	3.70 3.77 3.74			2.60 2.9		Steel bending and erection	NI
	15-Jun-10 09:22 Cloudy	<1 26.20 26.20 26.20				7.59	5 31 5 46 5 39			3.10 2.6		Steel bending and erection	NI
	17-lup-10 10:10 Eine	<1 25.60 25.60 25.60		1	7.57 7.57		7.60 7.50 7.55 6.60 6.46 6.49			3.00 3.7	10	Steel bending and erection	Nil
	19-Jun-10 10:10 Sunny	<1 26.00 26.00 26.00	6.59 6.63 6.61	3.42 / 3.34	7.45 7.46	7.46	6.50 6.46 6.48	9.75 / 12.47		.30 4.1		Steel bending and erection	Nil
	21 Jun 10 10:50 Sunny	<1 28.30 28.30 28.30			7.57 7.56		7.05 7.01 7.03		10.90 9	0.80 10.3	35	Steel bending and erection	Nil
	21-Jun-10 10:50 Sunny 22 Jun 10 11:45 Cloudy	<1 23.90 23.90 23.90	6.09 6.73 6.71		7.14 7.13		6.40 6.47 6.44		3.40 4	1.30 3.8	55	Steel bending and erection Steel bending and erection	NII
	25-501-10 11:45 Cloudy	1 07.00 07.00 07.00	0.05 0.00 0.07	1		7.78	2.94 2.97 2.96			2.00 2.0			NU
	25-Jun-10 10:23 Cloudy	<1 27.00 27.00 27.00 <1 25.70 25.70 25.70	6.33 6.36 6.37	1	7.65 7.65	7.70	5.47 5.52 5.50		2.00 2	2.00 2.1	0	Steel bending and erection	NII ND
	28-Jun-10 10:28 Cloudy	<1 23.70 23.70 23.70	8.19 8.24 8.22		7.65 7.65	7.65	3.47 3.52 3.50	_	2.20 2	2.1	10	Steel bending and erection	NI
	30-Jun-10 10:59 Sunny	<1 28.70 28.70 28.70	6.02 5.98 6.00		7.43 7.43	7.43	6.43 6.40 6.42	_	2.00 2	2.10 2.0	15	Steel bending and erection	NI
						-			-			4.001	
Sik Sik Yuen Ho Fung College	02-Jun-10 10:22 Rainy	<1 22.40 22.30 22.35	8.07 8.02 8.05		7.20 7.21	7.21	9.50 9.43 9.47			1.80 5.2	20	NI	Nil
I-1-C	04-Jun-10 10:18 Cloudy	<1 23.90 24.00 23.95	7.93 7.86 7.90			7.02	5.19 5.30 5.25			2.00 2.0			Nil
		<1 28.00 27.90 27.95	7.46 7.49 7.48		7.25 7.26		3.70 3.66 3.68			2.40 2.9		NI	Nil
	09-Jun-10 10:05 Rainy	<1 23.50 23.50 23.50	7.73 7.77 7.75		7.05 7.04	7.05	8.66 8.62 8.64		2.00 2	2.00 2.0	00	Nil	Nil
	11-Jun-10 10:00 Fine	<1 24.40 24.30 24.35	7.26 7.29 7.28		7.25 7.25	7.25	3.75 3.86 3.81		2.50 2	2.80 2.6	35	Nil	Nil
	15-Jun-10 09:10 Cloudy	<1 26.00 26.10 26.05	6.70 6.66 6.68		7.50 7.50	7.50	8.20 8.15 8.18		7.20 7.	7.30 7.2	25	Nil	Nil
	17-Jun-10 10:00 Fine	<1 25.50 25.50 25.50	7.03 7.07 7.05	- /-	7.60 7.61	7.61	7.74 7.68 7.71	- /-	5.40 3	3.90 4.6	- /-	Nil	Nil
	19-Jun-10 10:00 Sunny	<1 25.70 25.80 25.75	6.51 6.56 6.54	- /-	7.40 7.41	7.41	6.67 6.62 6.65		3.60 4	4.1	0	Nil	Nil
	21-Jun-10 10:40 Sunny	<1 28.50 28.50 28.50	6.64 6.67 6.66	1	7.60 7.61	7.61	7.18 7.06 7.12		6.00 7	6.5	50	Nil	Nil
		<1 24.00 24.00 24.00		1	7.15 7.16		6.55 6.61 6.58			3.00 3.3		Nil	Nil
	25-Jun-10 10:12 Cloudy	<1 26.60 26.60 26.60	6.48 6.52 6.50	1		7.84	3.43 3.47 3.45			2.20 2.3		NI	Nil
	28-Jun-10 10:18 Cloudy	<1 25.20 25.30 25.25	6.14 6.11 6.13	1	7.60 7.61	7.61	5.41 5.38 5.40		2.00 2	2.00 2.0		NI	Nil
	30-Jun-10 10:47 Sunny	<1 28.60 28.60 28.60	6.05 6.09 6.07	1	7.40 7.40		6.60 6.55 6.58			3.20 3.7		N	Nil
1	Second row Soliny		0.00 0.07	1		-	0.00 0.00		- 0				
Hong Hoi Chee Hong Temple	02-Jun-10 10:00 Rainy	<1 23.20 23.20 23.20	8.02 7.98 8.00		7.07 7.07	7.07	4.96 5.04 5.00		4.80 4	1.10 4.4	15	Breaking	Nil
1.0	04 lup 10 00-55 Claude	<1 23.20 23.20 23.20 <1 24.00 24.00	9.02 9.00 0.00	1	7.12 7.12	7.10	2.20 2.24 2.22			2.00 2.0	10		NEL
r2				1	7.12 7.12 7.40 7.40	7.40						Breaking	Nil
1		<1 27.20 27.20 27.20	7.50 7.50 7.58	1			2.00 2.05 2.03			2.00 2.0		Breaking	INII NEI
1	09-Jun-10 09:35 Rainy	<1 24.00 24.00 24.00	7.66 7.69 7.68	{	7.07 7.07 7.40 7.40	7.07	4.30 4.22 4.26 1.75 1.78 1.77		2.70 2			Breaking	NII NG
	11-Jun-10 10:45 Fine	<1 24.90 24.90 24.90	7.05 7.10 7.08							2.10 2.4		Breaking	Nil
	15-Jun-10 10:11 Cloudy	<1 26.20 26.20 26.20	6.88 6.83 6.86		7.66 7.65		1.90 1.95 1.93			2.00 2.0		Breaking	Nil
	17-Jun-10 10:45 Fine	<1 26.00 25.90 25.95	6.83 6.79 6.81	3.66 / 3.63		7.48	1.86 1.91 1.89			2.00 2.0		Breaking	Nil
	19-Jun-10 10:55 Sunny	<1 26.00 26.00 26.00	6.55 6.47 6.51	0.007 0.00		7.56	2.50 2.57 2.54			2.00 2.0	JU	Breaking	Nil
	21-Jun-10 09:59 Sunny	<1 28.00 28.00 28.00	6.46 6.41 6.44		7.50 7.50	7.50	2.09 2.13 2.11			2.00 2.0		Breaking	Nil
	23-Jun-10 11:07 Cloudy	<1 23.00 23.00 23.00	5.46 5.49 5.48		7.21 7.21	7.21	6.15 6.23 6.19		2.80 3	3.80 3.3	30	Breaking	Nil
	25-Jun-10 09:50 Cloudy	<1 27.50 27.50 27.50	6.15 6.10 6.13	1	7.52 7.52		3.10 3.05 3.08			2.70 2.8		Breaking	Nil
	28-Jun-10 09:55 Cloudy	<1 26.30 26.30 26.30	6.15 6.11 6.13	1	7.54 7.54	7.54	4.55 4.52 4.54		7.20 3.	3.20 5.2	20	Breaking	Nil
	30-Jun-10 10:15 Sunny	<1 28.10 28.10 28.10	6.17 6.13 6.15	1	7.25 7.25	7.25	2.55 2.61 2.58		3.00 2	2.00 2.5	50	Breaking	Nil
						-			-				
Hong Hoi Chee Hong Temple	02-Jun-10 09:50 Rainv	<1 23.00 22.90 22.95	8.03 8.08 8.06		7.10 7.11	7.11	5.07 5.18 5.13		5.60 5	5.10 5.3	35	2	Nil
I-2-C		<1 24.30 24.30 24.30		1	7.10 7.10	7.10	2.25 2.30 2.28		2.40 2	2.50 2.4	15	N	Nil
	07-Jun-10 10:20 Sunny	<1 27.00 27.00 27.00	7.56 7.54 7.55	1	7.40 7.41	7.41	2.07 2.12 2.10		2.00 2	2.00 2.0	10	N	Nil
		<1 23.90 23.90 23.90		1		7.11	4.23 4.37 4.30			2.00 2.0		N	Nil
	11-lun-10 10:33 Fine	<1 25.00 25.00 25.00	710 706 708	1	7.33 7.33	7.33	1.86 1.75 1.81		4.20 3	3.20 3.7	70	N	Nil
	15 Jun 10 10:00 Cloudy	-1 26:00 26:00 26:00	6.01 6.97 6.90		7.62 7.62	7.62	195 199 197			200 20			Nil
	17 Jun 10 10:36 Fina	<1 26.30 26.20 26.25 <1 26.10 26.10 26.10	6.95 6.00 6.99	1	7.50 7.50	7.50	1.90 1.92 1.91			2.00 2.0			NII
	10 Jun 10 10:33 Time	<1 25.90 25.90 25.90	0.00 0.50 0.00	- /-	7.50 7.50	7.50	2.60 2.63 2.62	- /-	2.00 2	2.00 2.0	-/-		NU
	19-Jun-10 10:43 Sunny	<1 25.90 25.90 25.90	6.60 6.56 6.58		7.50 7.50	7.50	2.60 2.63 2.62 2.15 2.19 2.17			2.00 2.0			NI
		<1 28.20 28.20 28.20	6.53 6.46 6.52		7.52 7.52	7.52	6.32 6.27 6.30			3.90 3.5			NII
	23-Jun-10 10:55 Cloudy	<1 23.20 23.20 23.20	5.54 5.62 5.58		7.30 7.29	7.30 7.51							
		<1 27.30 27.30 27.30					0.32 0.27 0.30		3.10 3	3.5	50		Nil
1	28-Jun-10 09:42 Cloudy	<1 26.00 26.00 26.00			7.50 7.51	7.51	3.18 3.15 3.17		2.00 3	3.90 2.9	95	Nil	Nil Nil
1	30-Jun-10 10:04 Sunny	4 00.00 00.00	6.08 6.13 6.11		7.55 7.56	7.56	3.18 3.15 3.17 4.86 4.80 4.83	_	2.00 3 6.50 3	8.90 2.9 8.60 5.0	95 05	Nil Nil Nil	Nil Nil Nil
		<1 28.00 28.00 28.00	6.08 6.13 6.11		7.55 7.56	7.56 7.23	3.18 3.15 3.17	_	2.00 3 6.50 3	8.90 2.9 8.60 5.0 2.40 2.6	95 95 90	Nil Nil Nil	Nil Nil Nil Nil
Squatters		<1 28.00 28.00 28.00	6.08 6.13 6.11 6.21 6.18 6.20		7.55 7.56 7.23 7.23	7.56 7.23	3.18 3.15 3.17 4.86 4.80 4.83 2.59 2.68 2.64		2.00 3 6.50 3 2.80 2	3.90 2.9 3.60 5.0 2.40 2.6	95 95 50	vni Nil Nil	Nil Nil Nil Nil
		<1 28.00 28.00 28.00 <1 22.40 22.30 22.35	6.08 6.13 6.11 6.21 6.18 6.20 8.15 8.10 8.13		7.55 7.56 7.23 7.23 7.04 7.04	7.56 7.23 - 7.04	3.18 3.15 3.17 4.86 4.80 4.83 2.59 2.68 2.64 - - - 3.44 3.47 3.46		2.00 3 6.50 3 2.80 2 - 2.40 2	8.90 2.9 8.60 5.0 2.40 2.6 2.60 2.5	95 95 60 50	NI NI NI Breaking and Excavation work	Nil Nil Nil Nil Nil Nil Nil Nil Nil Nil
	04-Jun-10 09:10 Cloudy	<1 28.00 28.00 28.00 <1 28.00 28.00	6.08 6.13 6.11 6.21 6.18 6.20 - - - 8.15 8.10 8.13 8.04 8.07 8.06		7.55 7.56 7.23 7.23 7.04 7.04 7.17 7.17	7.56 7.23 - 7.04 7.17	3.18 3.15 3.17 4.86 4.80 4.83 2.59 2.68 2.64 		2.00 3 6.50 3 2.80 2 - 2.40 2 2.00 2	8.90 2.9 8.60 5.0 2.40 2.6 2.60 2.5 2.00 2.0	15 15 50 50 10	NI NI NI Breaking and Excavation work Breaking and Excavation work	Nil Nil Nil Nil Nil Nil Nil Nil Nil Nil
1-3	04-Jun-10 09:10 Cloudy 07-Jun-10 11:20 Sunny	<1 28.00 28.00 28.00 <1 22.00	6.08 6.13 6.11 6.21 6.18 6.20 		7.55 7.56 7.23 7.23 7.04 7.04 7.17 7.17 7.22 7.22	7.56 7.23 - 7.04 7.17 7.22	3.18 3.15 3.17 4.86 4.80 4.83 2.59 2.68 2.64 - - - 3.44 3.47 3.46 3.52 3.46 3.49 2.05 2.10 2.08		2.00 3 6.50 3 2.80 2 - 2.40 2 2.00 2 2.70 2	8.90 2.9 8.60 5.0 2.40 2.6 - - 2.60 2.5 2.00 2.0 2.00 2.3	35 30 50 30 30 35	Breaking and Excavation work Nil	Nil Nil Nil Nil Nil Nil Nil Nil Nil Nil
1-3	04-Jun-10 09:10 Cloudy 07-Jun-10 11:20 Sunny 09-Jun-10 09:02 Rainy	<1	6.08 6.13 6.11 6.21 6.18 6.20 - - - 8.15 8.10 8.13 8.04 8.07 8.06 7.33 7.37 7.35 7.77 7.78 7.78		7.55 7.56 7.23 7.23 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15	7.56 7.23 - 7.04 7.17 7.22 7.15	3.18 3.15 3.17 4.86 4.80 4.83 2.59 2.68 2.64 . . . 3.44 3.47 3.46 3.52 3.46 3.49 2.05 2.10 2.08 2.40 2.32 2.36		2.00 3 6.50 3 2.80 2 - 2.40 2 2.00 2 2.70 2 2.00 2	8.90 2.9 8.60 5.0 2.40 2.6 - - 2.60 2.5 2.00 2.0 2.00 2.3 2.00 2.0	35 30 50 50 30 35 35 30	Breaking and Excavation work Nil Breaking and Excavation work	Nil Nil Nil Nil Nil Nil Nil Nil Nil Nil
1-3	04-Jun-10 09:10 Cloudy 07-Jun-10 11:20 Sunny 09-Jun-10 09:02 Rainy 11-Jun-10 11:28 Fine	<1	6.08 6.13 6.11 6.21 6.18 6.20 - - - 8.15 8.10 8.13 8.04 8.07 8.06 7.33 7.37 7.35 7.77 7.79 7.78 6.71 6.75 6.73		7.55 7.56 7.23 7.23 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15 7.47 7.47	7.56 7.23 - 7.04 7.17 7.22 7.15 7.47	3.18 3.15 3.17 4.86 4.80 4.83 2.59 2.68 2.64 - - - 3.44 3.47 3.46 3.52 3.46 3.49 2.05 2.10 2.08 2.40 2.32 2.36 3.14 3.10 3.12		2.00 3 6.50 3 2.80 2 - 2 2.40 2 2.00 2 2.70 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2	8.90 2.9 8.60 5.0 2.40 2.6 - - 2.60 2.5 2.00 2.0 2.00 2.3 2.00 2.0 2.00 2.0 2.00 2.0	55 50 50 50 50 55 55 50 00 10	Breaking and Excavation work Nil Breaking and Excavation work Breaking and Excavation work	Nil
1-3	04-Jun-10 09:10 Cloudy 07-Jun-10 11:20 Sunny 09-Jun-10 09:02 Rainy 11-Jun-10 11:28 Fine	<1	6.08 6.13 6.11 6.21 6.18 6.20 - - - 8.15 8.10 8.13 8.04 8.07 8.06 7.33 7.37 7.35 7.77 7.79 7.78 6.71 6.75 6.73		7.55 7.56 7.23 7.23 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15 7.47 7.47	7.56 7.23 - 7.04 7.17 7.22 7.15 7.47	3.18 3.15 3.17 4.86 4.80 4.83 2.59 2.68 2.64 - - - 3.44 3.47 3.46 3.52 3.46 3.49 2.05 2.10 2.08 2.40 2.32 2.36 3.14 3.10 3.12 1.99 2.03 2.01		2.00 3 6.50 3 2.80 2 - 2 2.40 2 2.00 2 2.70 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2	8.90 2.9 8.60 5.0 2.40 2.6 - - 2.60 2.5 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0	35 30 30 30 30 35 35 30 30 30 30 30 30	Breaking and Excavation work Nil Breaking and Excavation work	Ni
1-3	04-Jun-10 09:10 Cloudy 07-Jun-10 11:20 Sunny 09-Jun-10 09:02 Rainy 11-Jun-10 11:28 Fine 15-Jun-10 11:04 Cloudy 17-Jun-10 11:28 Fine	<1	6.08 6.13 6.11 6.21 6.18 6.20 - - - 8.15 8.10 8.13 8.04 8.07 8.06 7.33 7.37 7.35 7.77 7.79 7.78 6.71 6.75 6.73 6.92 6.89 6.91 7.00 6.97 7.00	0.05 (0.57	7.55 7.56 7.23 7.23 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15 7.47 7.47 7.63 7.63	7.56 7.23 7.04 7.17 7.22 7.15 7.47 7.64 7.63	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		2.00 3 6.50 3 2.80 2 - 2 - 2 2.40 2 2.00 2 2.70 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2	8.90 2.9 8.60 5.0 2.40 2.6 - - 2.60 2.5 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0	15 15 10 10 10 10 10 10 10 10 10 10	Breaking and Excavation work Nil Breaking and Excavation work Breaking and Excavation work	Ni
1-3	04-Jun-10 09:10 Cloudy 07-Jun-10 11:20 Sunny 09-Jun-10 09:02 Rainy 11-Jun-10 11:28 Fine 15-Jun-10 11:28 Fine 19-Jun-10 11:28 Fine	<1	6.08 6.13 6.11 6.21 6.18 6.20 . . . 8.15 8.10 8.13 8.04 8.07 8.06 7.33 7.37 7.35 7.77 7.79 7.78 6.71 6.75 6.73 6.92 6.89 6.91 7.02 6.37 7.00 6.38 6.33 6.35	3.65 / 3.51	7.55 7.56 7.23 7.23 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15 7.47 7.47 7.64 7.63 7.60 7.60	7.56 7.23 - 7.04 7.17 7.22 7.15 7.47 7.64 7.63 7.60	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3.99/4.18	2.00 3 6.50 3 2.80 2 - - 2.40 2 2.00 2	3.90 2.9 3.60 5.0 2.40 2.6 - - 2.60 2.5 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0	35 30 30 30 30 35 35 35 30 30 30 30 30 40 50 50 50 50 50 50 50 50 50 5	Breaking and Excavation work Ni Breaking and Excavation work Breaking and Excavation work Breaking and Excavation work Excavation work Excavation work	Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni N
1-3	04-Jun-10 09:10 Cloudy 07-Jun-10 1120 Sunny 09-Jun-10 09:02 Rainy 11-Jun-10 1128 Fine 15-Jun-10 1128 Fine 19-Jun-10 1128 Fine 19-Jun-10 1128 Sunny 21-Jun-10 1129 Sunny	c1 28.00 28	6.08 6.13 6.11 6.21 6.18 6.20 8.15 8.10 8.13 8.04 8.07 8.06 7.33 7.37 7.35 7.77 7.79 7.78 6.71 6.75 6.73 6.22 6.89 6.91 7.02 6.87 7.00 6.33 6.33 6.35 6.50 6.46 6.46	3.65 / 3.51	7.55 7.56 7.23 7.23 - - 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15 7.47 7.47 7.63 7.62 7.60 7.60 7.60 7.60	7.56 7.23 - 7.04 7.17 7.22 7.15 7.47 7.64 7.63 7.60 7.51	3.18 3.15 3.17 4.86 4.80 4.83 2.59 2.68 2.64 - - - 3.44 3.47 3.46 3.52 3.46 3.49 2.05 2.10 2.08 2.40 2.32 2.36 3.14 3.10 3.12 1.99 2.03 2.01	3.99/4.18	2.00 3 6.50 3 2.80 2 - - 2.40 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2	3.90 2.9 3.60 5.0 2.40 2.6 2.60 2.5 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0	15 15 10 10 10 10 10 10 10 10 10 10	Breaking and Excavation work Nil Breaking and Excavation work Breaking and Excavation work Breaking and Excavation work	Nii Nii Nii Nii Nii Nii Nii Nii Nii Nii
13	04-Jun-10 09:10 Cloudy 07-Jun-10 1120 Sunny 09-Jun-10 09:02 Rainy 11-Jun-10 1128 Fine 15-Jun-10 1128 Fine 19-Jun-10 1128 Fine 19-Jun-10 1128 Sunny 21-Jun-10 1129 Sunny	c1 28.00 28	6.08 6.13 6.11 6.21 6.18 6.20 8.15 8.10 8.13 8.04 8.07 8.06 7.33 7.37 7.35 7.77 7.79 7.78 6.71 6.75 6.73 6.22 6.89 6.91 7.02 6.87 7.00 6.33 6.33 6.35 6.50 6.46 6.46	3.65 / 3.51	7.55 7.56 7.23 7.23 - - 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15 7.47 7.47 7.63 7.62 7.60 7.60 7.60 7.60	7.56 7.23 - 7.04 7.17 7.22 7.15 7.47 7.64 7.63 7.60 7.51	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3.99 / 4.18	2.00 3 6.50 3 2.80 2 - - 2.40 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2 2.00 2	3.90 2.9 3.60 5.0 2.40 2.6 2.60 2.5 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0	15 15 10 10 10 10 10 10 10 10 10 10	Breaking and Escantion work NI Breaking and Escantion work Breaking and Escantion work Excantion work Escantion work Breaking and Escantion work Breaking and Escantion work	Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni N
43	04-Jun-10 09:10 Cloudy 07-Jun-10 11:20 Sunny 09-Jun-10 09:02 Rainy 11-Jun-10 11:28 Fine 15-Jun-10 11:24 Fine 15-Jun-10 11:24 Fine 17-Jun-10 11:28 Fine 19-Jun-10 11:28 Sunny 21-Jun-10 09:22 Sunny 23-Jun-10 09:13 Cloudy 25-Jun-10 09:13 Cloudy	-1 28:00 28	6.08 6.13 6.11 6.21 6.18 6.20 	3.65/3.51	7.55 7.56 7.23 7.23 - - 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15 7.47 7.47 7.63 7.62 7.60 7.60 7.60 7.60	7.56 7.23 - 7.04 7.17 7.22 7.15 7.47 7.64 7.63 7.60 7.51	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3.99/4.18	2.00 3 6.50 3 2.80 2 - - 2.40 2 2.00 6 5.00 6	3.90 2.9 3.60 5.0 2.40 2.6 2.60 2.5 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 3.10 5.5	85 10 10 10 10 10 10 10 10 10 10	Breaking and Escavition work NI Breaking and Escavition work Breaking and Escavition work Breaking and Escavition work Escavition work Breaking and Escavition work Breaking and Escavition work	Nil Nil Nil Nil Nil Nil Nil Nil Nil Nil
13	04-Jun-10 09:10 Cloudy 07-Jun-10 11:20 Sunny 09-Jun-10 09:02 Rainy 11-Jun-10 11:28 Fine 15-Jun-10 11:24 Fine 15-Jun-10 11:24 Fine 17-Jun-10 11:28 Fine 19-Jun-10 11:28 Sunny 21-Jun-10 09:22 Sunny 23-Jun-10 09:13 Cloudy 25-Jun-10 09:13 Cloudy	-1 28:00 28	6.08 6.13 6.11 6.21 6.18 6.20 	3.65/3.51	7.55 7.56 7.23 7.23 - - 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15 7.47 7.47 7.64 7.63 7.63 7.62 7.60 7.60 7.51 7.50 7.57 7.58	7.56 7.23 - 7.04 7.17 7.22 7.15 7.47 7.64 7.63 7.60 7.50 7.50 7.58	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3.99/4.18	2.00 3 6.50 3 2.80 2 - - 2.40 2 2.00 2 2.70 2 2.00 2	8.90 2.9 8.60 5.0 2.40 2.6 2.60 2.5 2.00 2.0 2.10 2.0	15 15 15 10 10 10 10 10 10 10 10 10 10	Breaking and Escavation work N Breaking and Escavation work Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking an	Nil Nil
13	04-Jun-10 09:10 Cloudy 07-Jun-10 11:20 Sunny 09-Jun-10 09:02 Rainy 11-Jun-10 11:28 Fine 15-Jun-10 11:24 Fine 15-Jun-10 11:24 Fine 17-Jun-10 11:28 Fine 19-Jun-10 11:28 Sunny 21-Jun-10 09:22 Sunny 23-Jun-10 09:13 Cloudy 25-Jun-10 09:13 Cloudy	-1 28:00 28	6.08 6.13 6.11 6.21 6.18 6.20 	3.65/3.51	7.55 7.56 7.23 7.23 7.23 7.23 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15 7.47 7.47 7.64 7.63 7.63 7.62 7.60 7.60 7.51 7.50 7.20 7.20 7.57 7.58	7.56 7.23 7.04 7.17 7.22 7.15 7.47 7.63 7.60 7.51 7.20 7.58 7.61	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3.99/4.18	2.00 3 6.50 3 2.80 2 2.40 2 2.00 2	3.90 2.9 3.60 5.0 2.40 2.6 2.60 2.5 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.01 2.0 2.02 2.0 2.03 2.0 2.04 2.0 2.05 2.0 2.00 2.0 2.00 2.0 2.00 2.0 2.01 2.0	85 155 150 150 150 150 100 100 10	Breaking and Escavation work N Breaking and Escavation work Breaking and Escavation work Breaking and Escavation work Escavation work Escavation work Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking	Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni Ni N
13	04-Jun-10 09:10 Cloudy 07-Jun-10 11:20 Sunny 09-Jun-10 09:02 Rainy 11-Jun-10 11:28 Fine 15-Jun-10 11:24 Fine 15-Jun-10 11:24 Fine 17-Jun-10 11:28 Fine 19-Jun-10 11:28 Sunny 21-Jun-10 09:22 Sunny 23-Jun-10 09:13 Cloudy 25-Jun-10 09:13 Cloudy	-1 28.00 28.00 28.00 -1 22.40 22.30 22.35 -1 22.40 22.30 22.35 -1 22.40 22.00 22.30 22.35 -1 22.40 22.30 22.35 23.30 23.35 -1 22.40 22.40 24.00 25.50 25.80 28.00 28.00 28.00 28.00 28.00 28.00 28.00 28.00	6.08 6.13 6.11 6.21 6.18 6.20 	3.65/3.51	7.55 7.56 7.23 7.23 7.23 7.23 7.04 7.04 7.17 7.17 7.22 7.22 7.15 7.15 7.47 7.47 7.64 7.63 7.63 7.62 7.60 7.60 7.51 7.50 7.20 7.20 7.57 7.58	7.56 7.23 - 7.04 7.17 7.22 7.15 7.47 7.64 7.63 7.60 7.50 7.50 7.58	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3.99/4.18	2.00 3 6.50 3 2.80 2 2.80 2 2.00 2	8.90 2.9 8.60 5.0 2.40 2.6 2.60 2.5 2.00 2.0 2.10 2.0	85 155 150 150 150 150 100 100 10	Breaking and Escavation work N Breaking and Escavation work Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking and Breaking an	Nil Nil Nil Nil Nil Nil Nil Nil Nil Nil
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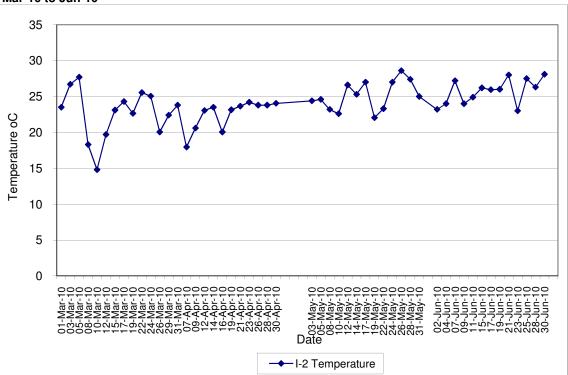
Note: Blue Italic indicates an exceedance of Action Level Red Bold indicates an exceedance of Limit Level



Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1) Mar-10 to Jun-10

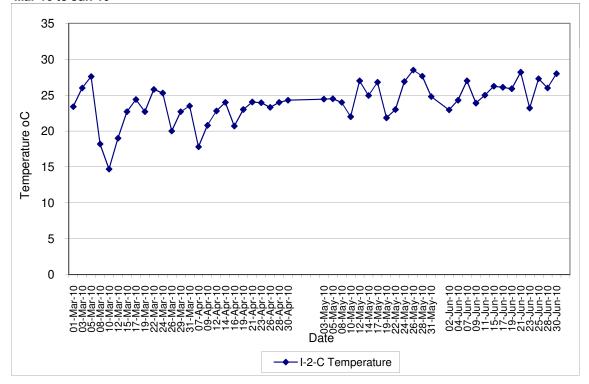
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1-C) Mar-10 to Jun-10

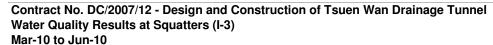


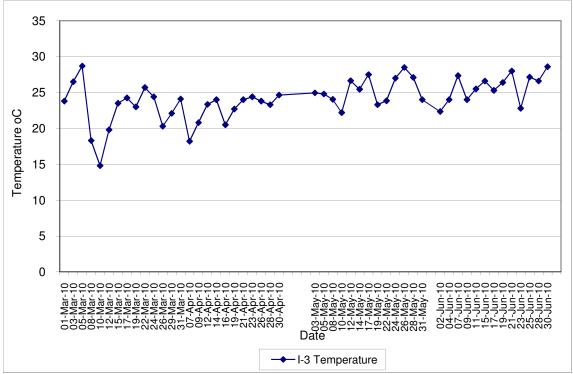


Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Hong Hoi Chee Hong Temple (I-2) Mar-10 to Jun-10

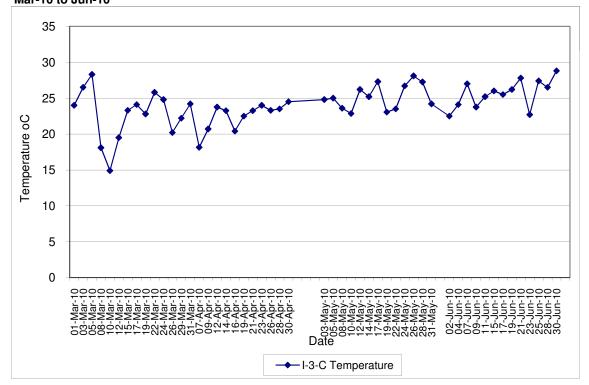
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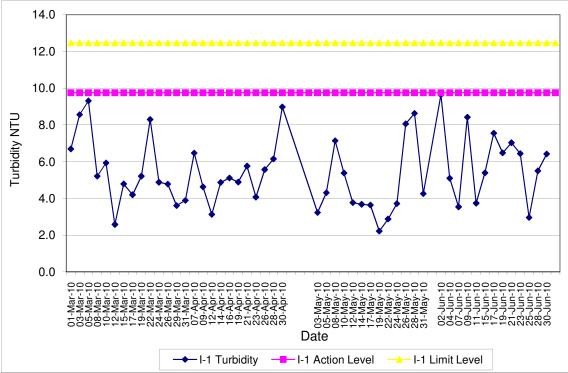




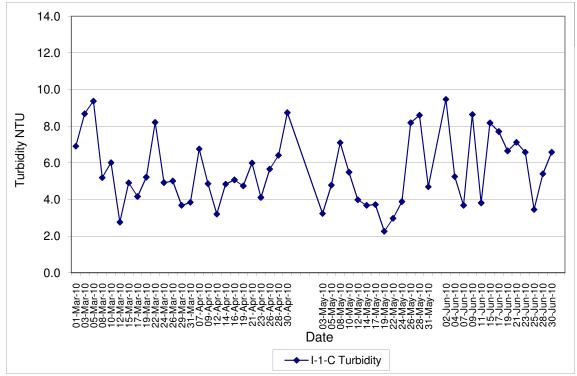
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3-C) Mar-10 to Jun-10



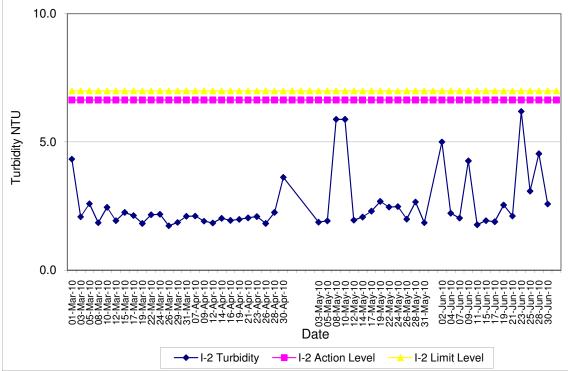




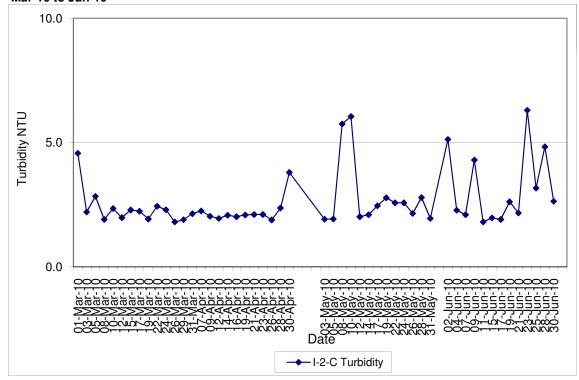
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1-C) Mar-10 to Jun-10



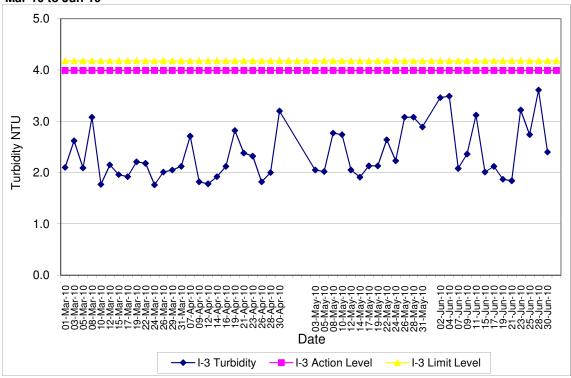




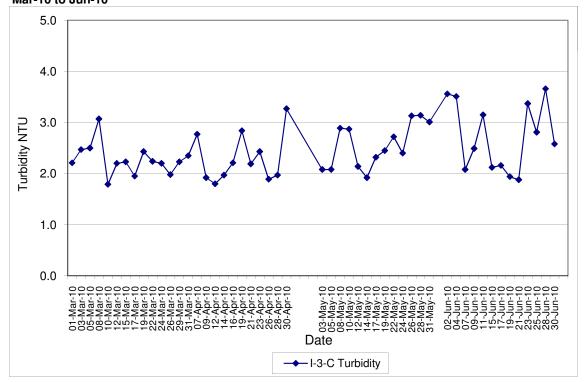
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Hong Hoi Chee Hong Temple (I-2-C) Mar-10 to Jun-10



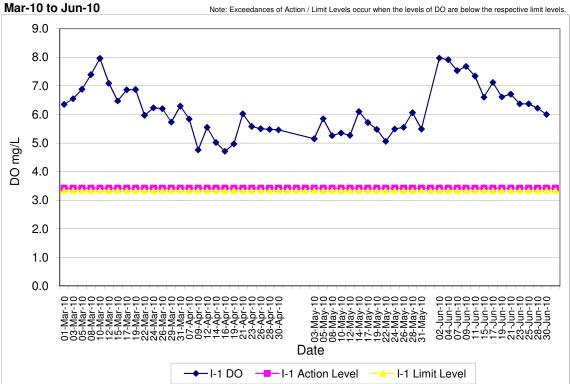
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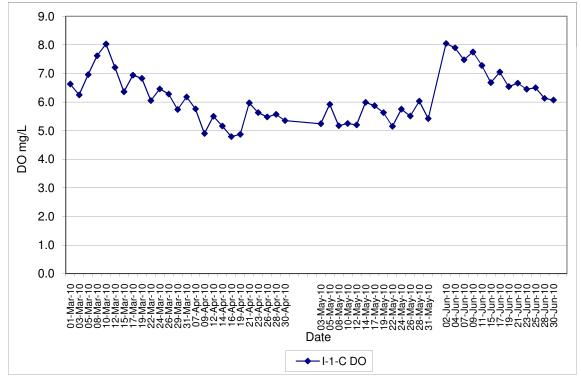
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3-C) Mar-10 to Jun-10



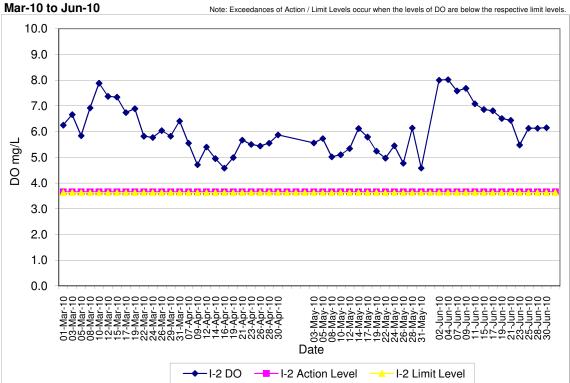




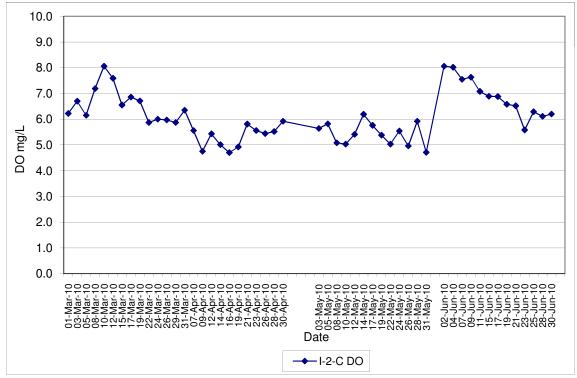
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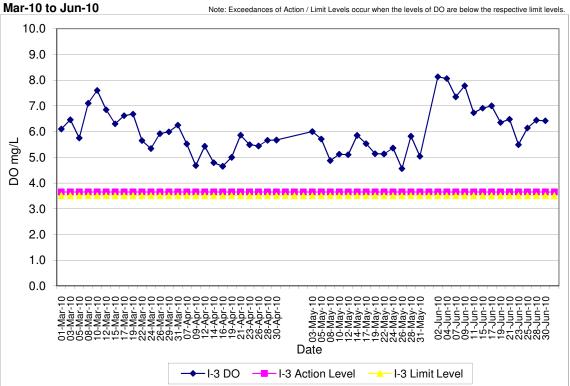


Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Hong Hoi Chee Hong Temple (I-2)



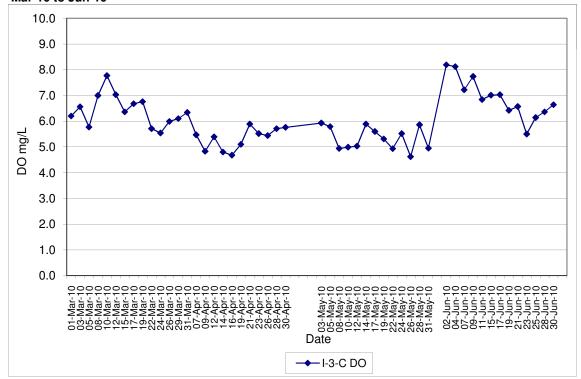
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Hong Hoi Chee Hong Temple (I-2-C) Mar-10 to Jun-10

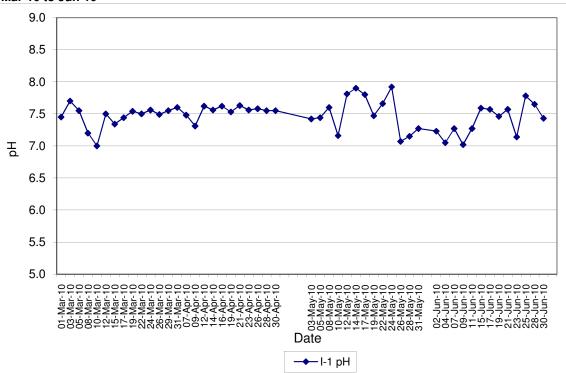




Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3)

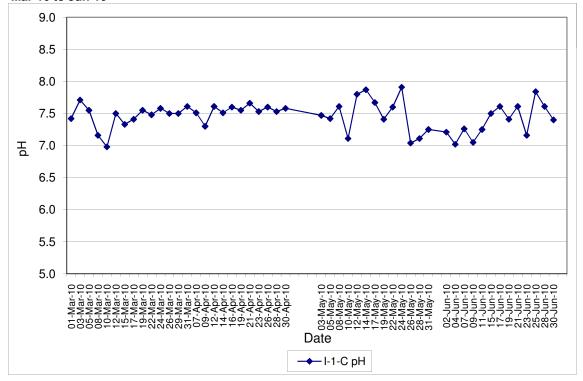
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3-C) Mar-10 to Jun-10

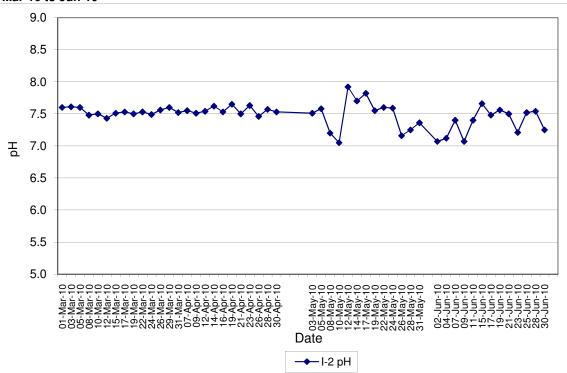




Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1) Mar-10 to Jun-10

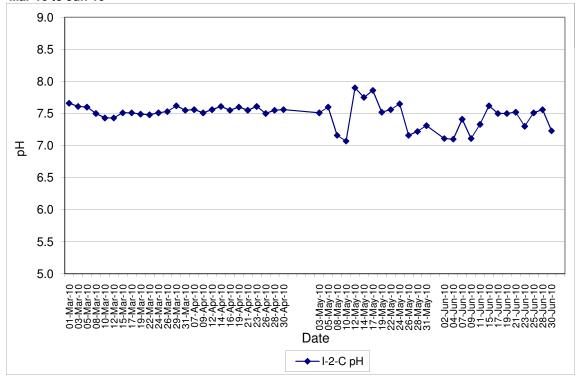
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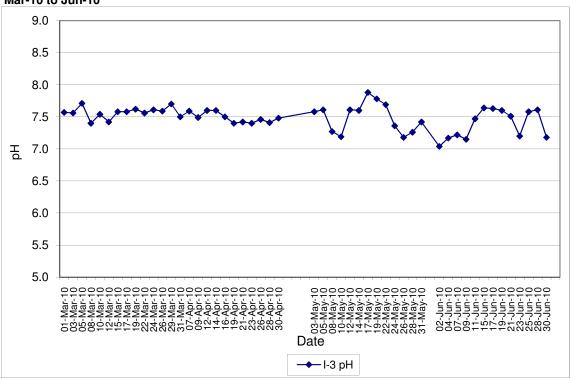




Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Hong Hoi Chee Hong Temple (I-2) Mar-10 to Jun-10

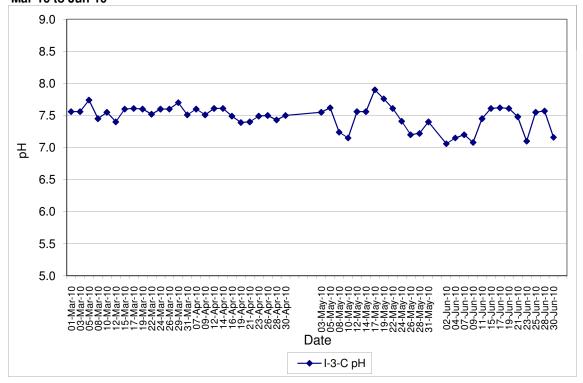
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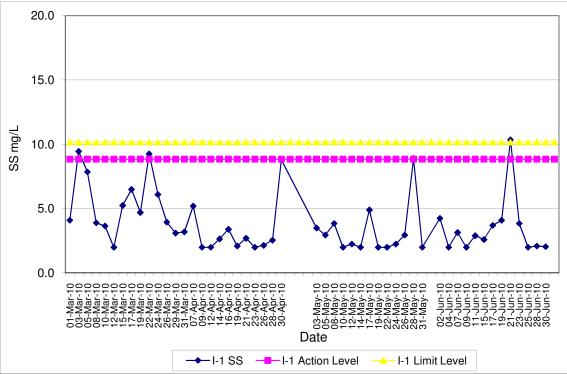


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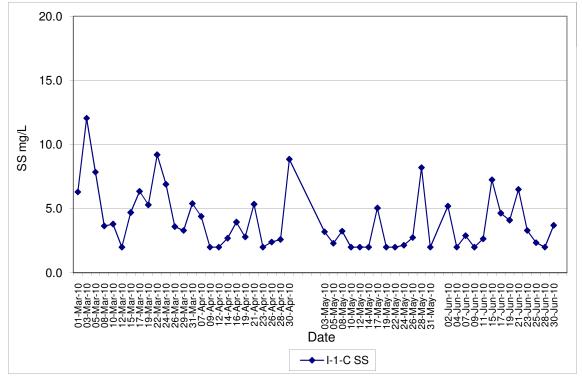
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3-C) Mar-10 to Jun-10



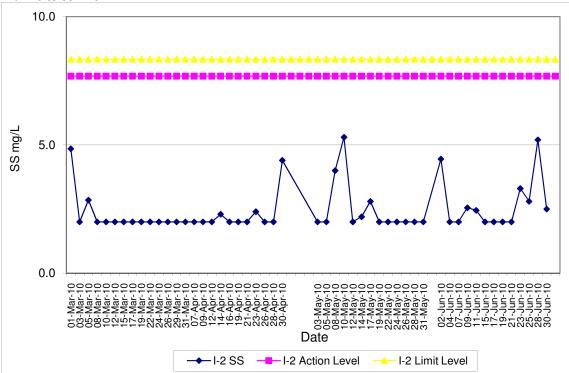




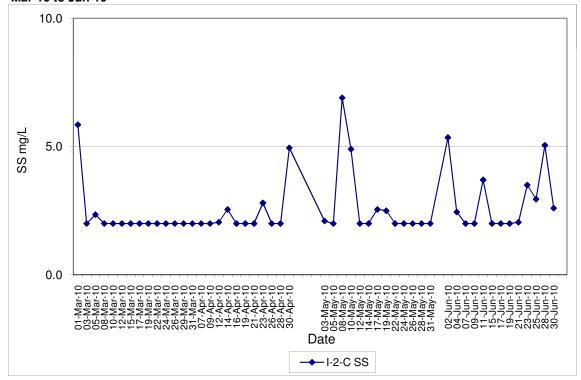
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1-C) Mar-10 to Jun-10



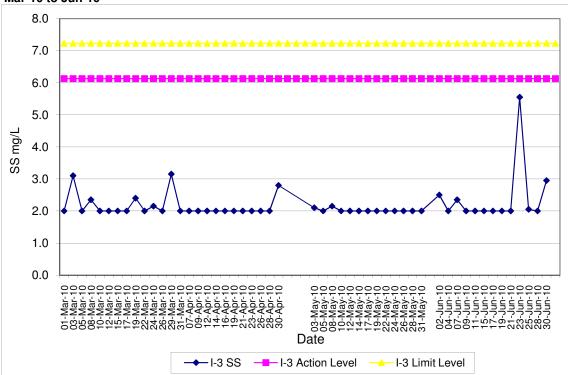
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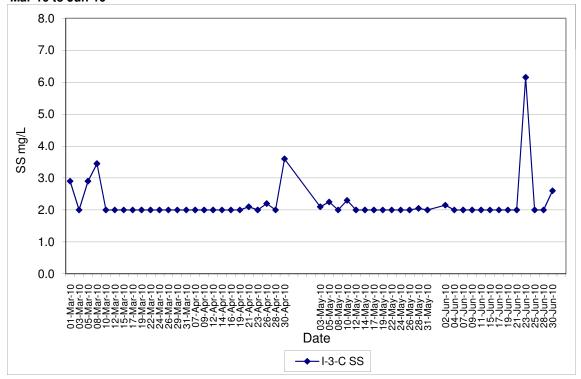
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Hong Hoi Chee Hong Temple (I-2-C) Mar-10 to Jun-10







Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3-C) Mar-10 to Jun-10





Appendix J

Interim Notifications of Environmental Quality Limits Exceedances

Interim Notifications of Environmental Quality Limits Exceedances

Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	09-Jun-10
Time	9:35 AM
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)
Parameter	Suspended Solid
Action & Limit Levels	7.68 / 8.34
Measured Level	2.55 (higher than 120% of control station's SS)
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.00 is recorded at Control Station (I-2-C)
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and was within the range of baseline SS concentration (1-8.5mg/L). Site cleaning & tidying, erection of noise enclosure at vortex drop shaft and man access shaft , excavation, erection of working platform for mini-pile and pipe jacking were undertaken during the measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.
Remarks	Following mitigation measures were provided: (1) Exposed surfaces were covered by tarpaulin. (2) Sandbags were used to avoid wastewater from site activities directly running down to the river of I-2. (3) Waste water treatment plant and sedimentation tanks were in place at the location of I-2.

Prepared by:

Terence Kong

Designation:

Environmental Team Leader

Signature:

Tenton

Date:

17-Jun-10

Photographic record for exceedance of Suspended Solid recorded at Hong Hoi Chee Hong Temple (I-2) on 09-Jun-10



Site photo



Photo taken at I-2



Photo taken at I-2-C

Interim Notifications of Environmental Quality Limits Exceedances

Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	21-Jun-10
Time	10:50 AM
Monitoring Location	Sik Sik Yuen Ho Fung College (I-1)
Parameter	Suspended Solid
Action & Limit Levels	8.85 / 10.17
Measured Level	10.35
Possible reason for Action or Limit Level Non-compliance	SS level of 6.50 is recorded at Control Station (I-1-C)
Actions taken / to be taken	The measured SS level was slightly above the Baseline Limit level and above the Control Limit Level. The measured value was still within the range of baseline SS concentration (1-10.5mg/L). Construction activities including general site cleaning and housekeeping; erect formwork for spiral ramp; strip off formwork for spiral ramp; rebar fixing for spiral ramp and erect scaffold working platform for spiral ramp were undertaken during the measurement and no direct disturbance was observed from the site. Thus, the exceedance is considered to be natural variation and no action should be taken.
Remarks	Following mitigation measures were provided: (1) existing stream has been diverted and bunded by sealed concrete block wall and sand bag bund walls were also installed. No wastewater was observed down to the channel-I1. (2) Sand/silts removal facilites was installed at the location of I-1.
Prepared by:	Terence Kong

Desimultan

Designation:

Environmental Team Leader

Signature:

Tenton

Date:

28-Jun-10

Photographic record for exceedance of Suspended Solid recorded at Sik Sik Yuen Ho Fung College (I-1) on 21-Jun-10



Site photo



Photo taken at I-1





Appendix K

Complaint Log

Monthly EM&A Report (June 2010) Hyder Consulting Limited-Company Number 126012 k:\eb000364 tsuen wan drainage tunnel\f-reports\em&a report\2010\2010-06\eb000364r0402.doc

COMPLAINT LOG

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
1	CIR-001	9 March 2009 at Outfall	Public through EPD	EPD has received a complaint (EPD ref: EP3/N22/RW/04846- 09) regarding to muddy effluent discharged from the outfall of the construction site from a public on 9 March 2009. Site investigation was also carried out by EPD with the Contractor on the same day.	Findings/ ObservationsIn the afternoon on 9 March 2009, the Contractor was carrying out regular maintenance for removing silt accumulated in the wastewater treatment plant. During the maintenance works, some residual silt inside the plant was accidentally leaked out to the outfall discharge outlet. The reason was that a flexible pipe for disposing silt was found connecting to the concrete platform of the outfall discharge outlet. Conclusion/Remedial Action The complaint was valid and it was due to maintenance works at the wastewater treatment plant at the outfall area. The contractor had cleaned up the silt at discharge outlet and the channel at the outfall area on 12 March 2009 as shown in the attached photo. The ET will closely inspect the discharge outlet and the channel during the routine site inspections and provide advice to the Contractor. The Contractor was also advised to provide mitigation measures during any occasion of the maintenance work on the wastewater treatment plant.The discharge pipe of the treatment plant should be plugged and ensure not functioned when carrying out maintenance works on the wastewater treatment plant in order to prevent the discharge of silt or muddy water to the outlet.Flexible pipe for discharge of sludge should not be placed on the concrete platform under the outfall discharge outlet. For disposal of slit or sludge in the	Closed

Contract No. DC/2007/12 Design and Construction of Tsuen Drainage Tunnel Environmental Monitoring and Audit

	Investigation / Mitigation Action	Status
	wastewater treatment plant, tanker should be used.	
EPD has received a complaint (EPD ref: EP3/N22/RW/09755- 09) regarding to construction dust from the outfall construction site on 8 May 2009. Site investigation was also carried out by EPD with the Contractor on 14 May 2009.	 <u>Findings/ Observations</u> Regular 1-hour TSP monitoring, in accordance with EM&A Manual, is performed by Environmental Team. The monitoring station concerned is ASR9 (i.e. at the podium level of Greenview Terrace facing to the construction site). The closest date for the 1-hour TSP concentration monitoring was on 6 May 2009 and 12 May 2009 at Greenview Terrace, ASR9. Soil nailing works and loading & unloading excavated materials were observed during monitoring. In accordance with the EM&A Manual and the Baseline Monitoring Report, all 1-hour TSP concentrations at ASR9 were below the established Action and Limit Levels. No exceedance was recorded on 6 and 12 May 2009. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. It was confirmed that the air quality mitigation measures as recommended in EIA have been provided by the Contractor. The mitigation measures are as follows: Water spraying was provided to the exposed surface. Several automatic sprinklers were provided at the outfall construction site for water spraying of the haul road. Water spraying was provided during dust generating works (e.g. rock breaking and soil nailing works). Conclusion/Remedial Action 	Closed
	(EPD ref: EP3/N22/RW/09755- 09) regarding to construction dust from the outfall construction site on 8 May 2009. Site investigation was also carried out by EPD with	 EPD has received a complaint (EPD ref: EP3/N22/RW/09755- 09) regarding to construction dust from the outfall construction site on 8 May 2009. Site investigation was also carried out by EPD with the Contractor on 14 May 2009. The closest date for the 1-hour TSP concentration monitoring was on 6 May 2009 and 12 May 2009 at Greenview Terrace, ASR9. Soil nailing works and loading & unloading excavated materials were observed during monitoring. In accordance with the EM&A Manual and the Baseline Monitoring Report, all 1-hour TSP concentrations at ASR9 were below the established Action and Limit Levels. No exceedance was recorded on 6 and 12 May 2009. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. It was confirmed that the air quality mitigation measures are recommended in EIA have been provided by the Contractor. The mitigation measures are as follows: Water spraying was provided to the exposed surface. Several automatic sprinklers were provided at the outfall construction site for water spraying of the haul road. Water spraying was provided during dust generating works (e.g. rock breaking and soil nailing works).

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					action & limit level exceedance on construction dust are identified. Air quality mitigation measures as recommended in EIA have been implemented in order to control and minimise the air quality impact and nuisance arising from the construction activities. Nevertheless, in view of the recent dry and sunny weather, the haul road and the exposed area would be dry very quickly. The Contractor was recommended to provide more frequent water spraying especially in the dry and sunny weather.	
3	CIR-003	14 May 2009 at Outfall	Public through EPD	EPD has received a complaint (EPD ref: EP/RW/080206) regarding to daytime construction rock breaking at 7:15 am and dusty at the outfall construction site on 14 May 2009.	The closest date to the complaint for the 1-hour TSP monitoring & daytime construction noise monitoring was on 12, 18 and 27 May 2009 at Greenview Terrace, ASR9 and NSR9. Soil nailing, excavation, rock breaking, loading and unloading the materials were observed during monitoring period. The measured noise levels complied with the limit level in accordance with the EIAO-TM. All 1-hour TSP concentrations at ASR9 were below the established Action and Limit Levels. No 1-hour TSP exceedance was recorded. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. Air quality mitigation measures as recommended in EIA have been implemented by the Contractor. However, noise mitigation measures could be further improved. Based on our site inspection and monitoring results, the complaint for dust is considered not justifiable since no action & limit level exceedance on construction dust is identified. Air quality mitigation measures as recommended in EIA have also been implemented in order to control and minimise the air	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					 quality impact arising from the construction activities. In view of the recent dry and sunny weather, the haul road and the exposed area would be dry very quickly. The Contractor was recommended to enhance water spraying especially in the dry and sunny weather. On the other hand, the complaint for noise is considered due to works and the Contractor was agreed to improve the on-site noise mitigation measures such as the following measures. ET's site inspection and the joint inspection with relevant parties was conducted on 29 May 2009 and 4 June 2009 respectively to confirm all the below measures have been implemented. For the idling plant, it should be switched off to reduce noise level generated. The sound insulation sheets and noise insulation materials should be placed to enclose the breaking tip tightly and also aside or surrounding the breaking activities as recommended in the following photos 1-3 in noise mitigation measures. Noise monitoring frequency was increased in order to check the effectiveness of the mitigation measures. The additional measurement was taken on 27 May, 8 June, 10 June and 12 June 2009 after all the measures implemented. The noise levels (L_{eq, 30 min}) were 70.9 dB (A), 70.5 dB (A), 70.3 dB (A) and 70.3 dB (A) respectively, which comply with the limit level in accordance with the EIAO-TM. Soil nailing, excavation and rock breaking were observed during monitoring period. The measures were well in place and seemed effective during the measurement. 	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
4	CIR-004	10 July 2009 at Outfall	Public through EPD	EPD has received a complaint (EPD ref: EP3/N22/RW/15137- 09) regarding to construction dust from the outfall construction site on 10 July 2009.	 <u>Findings/ Observations</u> 1-hour TSP concentration monitoring was on 10 July 2009 at Greenview Terrace, ASR9. Soil nailing works, concrete breaking, excavation and loading & unloading excavated materials were observed during monitoring. All 1-hour TSP concentrations at ASR9 were below the established Action and Limit Levels. No exceedance was recorded on 10 July 2009. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. It was confirmed that the air quality mitigation measures as recommended in EIA have been provided by the Contractor. The mitigation measures are as follows: Water spraying was provided to the exposed surface. Automatic sprinklers were provided at the outfall construction site for water spraying of the haul road. Water spraying was provided during dust generating works (e.g. rock breaking and soil nailing works). Tarpaulin was used for covering the dusty works in the Portal area. <u>Conclusion/Remedial Action</u> The complaint is considered not justifiable since no action & limit level exceedance on construction dust are identified 	Closed
5&6	CIR-005	29 July 2009 & 11 August 2009 at Outfall	Public through SOR	SOR has received two complaints (SOR ref: (DC/2007/12)/M45/500/02480, 02500) from Greenview Terrace	<u>Findings/ Observations</u> Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in July and August 2009. According to the noise monitoring results from	Same Case with Complaint No. 11

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
				regarding to daytime construction noise exceedance recorded at NSR9 on 8, 22, 23, 27 and 29 July 2009 and a large amount dust generated at the outfall construction site. The complaint dates were corresponded to 29 July and 11 August 2009.	 6 July 2009 to 31 August 2009 at NSR 9, the measured noise levels complied with the limit level in accordance with the EIAO-TM. All 1-hour TSP concentrations at ASR9 were below the established Action and Limit Levels from 6 July 2009 to 25 August 2009. <u>Conclusion/Remedial Action</u> The dust complaint on 22 July 2009 was due to the soil nailing works. The Contractor was reminded enhance the dust mitigation measures during soil nailing works. A designated staff was provided to spray water continuously during soil nailing. A nylon bag was placed on the drilling hole and keeping wet to suppress dust. A sprinkler was added at the hillside of the site and water spraying was provided continuously during operation of drilling to suppress dust. The documented complaint for noise is considered to trigger the action level and the Contractor was also reminded to enhance the on-site noise mitigation measures are proposed as follows: A staff from the Contractor was designated to take the reading of Leq (5mins) at the roof of Greenview Terrace. In case of the Leq (5min) exceed 73 dB(A), the Contractor would re-schedule the noisy plants to mitigate the escalation of noise level. The designated staff was reminded to record all the weather condition including raining and wind speed. Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier should be placed to the breaking activities as much as possible. Movable noise barriers were placed on site and the 	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					 movable noise barriers were also modified. Existing 25 ton rock breaker had been replaced by the another breaker. The breaking tap of the 25 ton rock breaker had been replaced by another breaking tap. A joint filler wall was installed at the vertical face of westbound to mitigate the noise rebound from the vertical face to high level of Greenview Terrace. From the additional monitoring data and monitoring data under regular EM&A requirements, noise level (L_{eq, 30 min}) between 6 July to 31 August 2009 was in the range of 71 to 74 dB(A) to the nearest integer. The noise monitoring frequency was maintained in twice per week to check whether the mitigation measures are effective. From the information of the Contractor, all the mitigation measures were implemented on 31 August 2009. Noise levels (L_{eq, 30 min}) were also re-measured after the implementation of the mitigation measures. Noise level (L_{eq, 30 min}) from 4 Sep to 28 Sep 2009 was in the range of 70 to 73 dB(A) to the nearest integer after the implementation of the mitigation measures. In our investigation, there was no exceedance of the measured noise level at Greenview Terrace. 	
7	CIR-006	12 August 2009 at Outfall	Public through SOR	SOR has received a complaint (SOR ref: (DC/2007/12)/M45/500/02527) from Greenview Terrace, via Apple Daily regarding to daytime construction noise level (L _{eq(30min)}) was sometimes more than 80 dB(A) and a large amount dust	<u>Findings/ Observations</u> Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in July and August 2009. According to the noise monitoring results from 6 July 2009 to 31 August 2009 at NSR 9, the measured noise levels complied with the limit level in accordance with the EIAO-TM. All 1-hour TSP concentrations at ASR9 were below the established	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
				generated at the outfall construction site. The complaint date was corresponded to 12 August 2009.	 Action and Limit Levels from 6 July 2009 to 25 August 2009. <u>Conclusion/Remedial Action</u> The dust complaint was considered not justifiable since no action & limit level exceedance on construction dust were identified. However, it was a recurrent case from Greenview Terrace. The Contractor was recommended to enhance water spraying continuously especially in rock breaking activities. On the other hand, there was no noise levels (L_{eq(30min)}) from the measurement taken from ET was more than 80 dB(A). However, it was a recurrent case from Greenview Terrace. The Contractor was reminded to enhance the on-site noise mitigation measures. The enhanced mitigation measures are proposed as follows: A staff from the Contractor was designated to take the reading of Leq (5mins) at the roof of Greenview Terrace. In case of the Leq (5min) exceed 73 dB(A), the Contractor would re-schedule the noisy plants to mitigate the escalation of noise level. The designated staff was reminded to record all the weather condition including raining and wind speed. Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier should be placed to the breaking activities as much as possible. Movable noise barriers were placed on site and the movable noise barriers were also modified. Existing 25 ton rock breaker had been replaced by the another breaker. The breaking tap of the 25 ton rock breaker had 	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					 been replaced by another breaking tap. A joint filler wall was installed at the vertical face of westbound to mitigate the noise rebound from the vertical face to high level of Greenview Terrace. From the additional monitoring data and monitoring data under regular EM&A requirements, noise level (L_{eq, 30 min}) from 6 July to 31 August 2009 was in the range of 71 to 74 dB(A) to the nearest integer. The noise monitoring frequency was maintained in twice per week to check whether the mitigation measures are effective. From the information of the Contractor, all the mitigation measures were implemented on 31 August 2009. Noise levels (L_{eq, 30 min}) were also remeasured after the implementation of the mitigation measures. Noise level (L_{eq, 30 min}) from 4 Sep to 28 Sep 2009 was in the range of 70 to 73 dB(A) to the nearest integer after the implementation of the mitigation measures. 	
8	CIR-007	14 August 2009 at Outfall	Public through EPD	EPD has received a complaint (EPD ref: EP3/N22/RW/17978- 09) from Greenview Terrace regarding to daytime construction noise from the outfall construction site. The complaint date was corresponded to 14 August 2009.	<u>Findings/ Observations</u> Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in July and August 2009. According to the noise monitoring results from 6 July 2009 to 31 August 2009 at NSR 9, the measured noise levels complied with the limit level in accordance with the EIAO-TM. <u>Conclusion/Remedial Action</u> This was a recurrent case from Greenview Terrace. The documented complaint for noise is considered to trigger the action level and the Contractor was reminded to enhance the on-site noise mitigation measures continuously. The enhanced mitigation measures are proposed as follows:	Same Case with Complaint No. 11

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					 A staff from the Contractor was designated to take the reading of Leq (5mins) at the roof of Greenview Terrace. In case of the Leq (5min) exceed 73 dB(A), the Contractor would re-schedule the noisy plants to mitigate the escalation of noise level. The designated staff was reminded to record all the weather condition including raining and wind speed. Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier should be placed to the breaking activities as much as possible. Movable noise barriers were placed on site and the movable noise barriers were also modified. Existing 25 ton rock breaker had been replaced by the another breaker. The breaking tap of the 25 ton rock breaker had been replaced by another breaking tap. A joint filler wall was installed at the vertical face of westbound to mitigate the noise rebound from the vertical face to high level of Greenview Terrace. From the additional monitoring data and monitoring data under regular EM&A requirements, noise level (Leq. 30 min) from 6 July to 31 August 2009 was in the range of 71 to 74 dB(A) to the nearest integer. The noise monitoring frequency would be maintained in twice per week to check whether the mitigation measures are effective. From the information of the Contractor, all the mitigation measures were implemented on 31 August 2009. Noise levels (Leq. 30 min) were also re-measured after the implementation of the mitigation measures. Noise level (Leq. 30 min) from 4 Sep to 28 Sep 2009 was in the range of 70 to 73 	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					dB(A) to the nearest integer after the implementation of the mitigation measures.	
9	CIR-008	17 August 2009 at Portion D of the Site	Public through SOR	SOR has received a complaint (SOR ref:(DC/2007/12)/M45/500/02546) from Long Bench Garden regarding to noise nuisance generated from the daytime construction work (rock-breaking) in Portion D of the Site. The complaint date was corresponded to 17 August 2009.	 <u>Findings/ Observations</u> Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in August 2009. The monitoring results from 3 August 2009 to 31 August 2009 at NSR 8 showed the measured noise levels complied with the limit level in accordance with the EIAO-TM. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. Noise mitigation measures should be enhanced continuously due to this complaint. <u>Conclusion/Proposed Action</u> The documented complaint for noise is considered to trigger the action level and the Contractor was reminded to enhance the on-site noise mitigation measures are recommended as follows: Movable noise barriers had been placed towards the direction of Long Bench Garden, particular for the pipe pile works in the portal. Tools box talk for construction team was carried out for reminding that the movable barrier should be placed to the breaking activities as much as possible. The existing noisy 25 ton rock breaker had been replaced by the other breaker. A joint filler wall had been fixed on the vertical face of west bound to absorb the noise generated towards Long Beach Garden. 	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					week by ET due to this complaint. The measured noise levels were complied with the limit level in accordance with the EIAO-TM. No further complaint was received from Long Bench Garden within the reporting month.	
10	CIR-009	22 August 2009 at Outfall	Public through SOR	A complaint (SOR ref: (DC/2007/12)/M45/500/02628) was received from Greenview Terrace regarding to daytime construction noise level (Leq(30min)) was sometimes exceeded 75 dB(A) at the outfall construction site. The complaint date was corresponded to 22 August 2009.	 <u>Findings/ Observations</u> Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in July and August 2009. The monitoring results from 6 July 2009 to 31 August 2009 at NSR 9 showed the measured noise levels complied with the limit level in accordance with the EIAO-TM. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. Noise mitigation measures should be enhanced continuously due to this complaint. <u>Conclusion/Proposed Action</u> The documented complaint for noise is considered to trigger the action level and the Contractor was reminded to enhance the on-site noise mitigation measures are recommended as follows: A staff from the Contractor was designated to take the reading of Leq (5mins) at the roof of Greenview Terrace. In case of the Leq (5min) exceed 73 dB(A), the Contractor would re-schedule the noisy plants to mitigate the escalation of noise level. The designated staff was reminded to record all the weather condition including raining and wind speed. Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier 	Same Case with Complaint No. 11

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					 should be placed to the breaking activities as much as possible. Movable noise barriers were placed on site and the movable noise barriers were also modified. Existing 25 ton rock breaker had been replaced by the another breaker. The breaking tap of the 25 ton rock breaker had been replaced by another breaking tap. A joint filler wall was installed at the vertical face of westbound to mitigate the noise rebound from the vertical face to high level of Greenview Terrace. From the additional monitoring data and monitoring data under regular EM&A requirements, noise level (L_{eq, 30 min}) from 6 July to 31 August 2009 was in the range of 71 to 74 dB(A) to the nearest integer. The noise monitoring frequency was maintained in twice per week to check whether the mitigation measures are effective. From the information of the Contractor, all the mitigation measures were implemented on 31 August 2009. Noise levels (L_{eq, 30 min}) from 4 Sep to 28 Sep 2009 was in the range of 70 to 73 dB(A) to the nearest integer after the implementation of the mitigation measures. In our investigation, there was no exceedance of the measured noise level at Greenview Terrace. 	
11	CIR-010	24 September 2009 at Outfall	Public through SOR	A complaint (SOR ref: (DC/2007/12)/M45/500/02749) was received from Greenview Terrace regarding to daytime construction noise level	Findings/ ObservationsSoil nailing, excavation, rock breaking and drilling,loading and unloading the materials were generallyobserved during monitoring period in July andSeptember 2009. The monitoring results from 6 July2009 to 29 October 2009 at NSR 9 showed the	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
				(Leq(30min)) was sometimes exceeded 75 dB(A) at the outfall construction site.	 measured noise levels complied with the limit level in accordance with the EIAO-TM. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. Noise mitigation measures have been enhanced continuously due to this complaint. <u>Conclusion/Proposed Action</u> The documented complaint for noise is considered to trigger the action level and the Contractor was reminded to enhance the on-site noise mitigation measures continuously. The enhanced mitigation measures were implemented as follows: A staff from the Contractor was designated to take the reading of Leq (5mins) at the roof of Greenview Terrace. In case of the Leq (5min) exceed 73 dB(A), the Contractor would re-schedule the noisy plants to mitigate the escalation of noise level. The designated staff was reminded to record all the weather condition including raining and wind speed. Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier should be placed to the breaking activities as much as possible. Movable noise barriers were also modified. Existing 25 ton rock breaker had been replaced by the another breaker. The breaking tap of the 25 ton rock breaker had been replaced by another breaking tap. A joint filler wall was installed at the vertical face of westbound to mitigate the noise rebound from the vertical face to high level of Greenview Terrace. 	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					From the additional monitoring data above and the regular monitoring under EM&A requirements, the measured noise levels were complied with the limit level in accordance with the EIAO-TM. From the noise level on 25 September 2009 and 2 October 2009, the trend of noise level seemed to be increased since the decoration work at 14/F Greenview Terrace was the domain noise source during the monitoring. The noise level during that time would be considered for reference only. There was no exceedance of the measured noise level at Greenview Terrace in our investigation.	
12	CIR-011	2 October 2009 at I-3	Public through EPD	EPD has received a complaint (EPD ref: EP3/N22/RW/22016- 09) regarding to construction dust at the Intake-3 on 2 October 2009.	 <u>Findings/ Observations</u> There is no representative air monitoring location as stated in the EM&A Manual. The contractor and the environmental team were undertaken site investigation on the subject area at 08-Oct-09 in response to the complaint. Air quality mitigation measures as recommended in EIA have been implemented by the Contractor. However, the dust impact by exposed area could be further improved. The mitigation measures during the site investigation were observed as follows: Water spraying was provided to the exposed surface. Wheel washing facilities for dump trucks was provided at the site exit. Water spraying was provided during excavation and loading/unloading works 	Closed
					Conclusion/Proposed Action Based on our site inspection, the complaint for dust is	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					considered justifiable as it is due to windy erosion on the exposed surface. Air quality mitigation measures as recommended in EIA have also been implemented in order to control and minimise the air quality impact arising from the construction activities. In view of the recent dry season, the haul road and the exposed area would be dry very quickly. The Contractor was recommended to provide water spraying more frequently especially in the dry season.	
13	(DC/2007/12)/ M45/500/2923 & email on 11 November 2009 from MCSJV	9 November 2009 at Outfall	Greenview Terrace through EPD	Movable noise barrier was not placed close enough to the piling machine.	Immediate Action The rig was re-orientated and the barrier was placed closed to the drilling head. Follow-up Action • Training was conducted to the operator to ensure that the workers aware that the barrier should be placed closed not the drilling head not the machine itself. • In order to prevent future occurrence, a permit to dig system was adopted. It should be checked by the Contractor and endorsed by the SOR before starting the drilling rig.	Closed
14	(DC/2007/12)/ M45/500/2978 & email on 19 November 2009 from MCSJV	18 November 2009 at Outfall	Greenview Terrace through EPD	Rock-breaking activity carried out in the eastern area of Portion D, closest to Greenview Terrace, was not totally screened and line of sight of the breaker was observed from the NSR.	 The follow up action was checked and a permit to dig system has been implemented. Follow up Action The bamboo scaffold was extended further away from stage 3 scaffold to further screen off the activities to the Greenview. The length of the extension was about 8 to 10 m. A strong reminded was given to the relevant staff and sub-contractor and the barrier should be placed in the right orientation before breaking. 	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					 The mitigation measures were strictly followed as stated in the proposal. The follow up action and relevant records was 	
15.	CIR-12	19 January 2010 at Intake-3 construction site	Public through EPD	EPD has received a public complaint (EPD ref: EP3/N22/RW/01270-10) regarding effluent discharge at Intake-3 construction site on 19 January 2010.	checked.Findings/ ObservationsThe effluent discharge on 19 January 2010 was due tothe effluent discharge on 19 January 2010 was due tothe leakage of Gabion wall at I3. The water from therock drilling work was flowing through the gap of theGabion Wall to the watercourses at I3.Immediate ActionThe contractor had sealed the gap at the Gabion Wallimmediately after the incident.Conclusion/Proposed ActionBased on our site inspection, the complaint was dueto leakage of Gabion wall. The area would be checkedand maintained continuously to avoid recurrencecase. The above identified mitigation measures havebeen implemented by the Contractor on 22 January2010 and ET has also checked the implementation on31 January 2010. The ET will closely inspect thewatercourses during the routine site inspections andprovide advice to the Contractor.	Closed.
16	CIR-13	19 January 2010 at Intake-3 construction site	Public through EPD	EPD has received a public complaint (EPD ref: EP3/N22/RW/01319-10) regarding daytime construction noise at Intake-3 construction site on 19 January 2010.	<u>Findings/ Observations</u> The monitoring station concerned is NSR6 (i.e. at Squatter facing to the construction site). Excavation, soil nailing, rock drilling and breaking, loading and unloading the materials were generally observed during monitoring period in mid-January 2010. The measured noise levels in January 2010 complied with the limit level in accordance with the EM&A Manual. These cases would also be treated as two action level exceedances on noise. The Contractor and the Environmental Team were also undertaken site	Closed.

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					 investigation on the subject area in response to complaint. The noise mitigation measures during the site investigation were recommended as follows: Sound insulation sheets were installed covering the working area during breaking and rock drilling in order to block the line of sight to the NSR. Noise insulation materials were used to enclose the drilling rig tightly. <u>Conclusion/Proposed Action</u> Based on the site inspection and monitoring results, the complaint was due to noise generated by rock breaking work. The identified mitigation measures have been discussed with the Contractor and the Contractor has submitted the remedial proposal. The proposal was implemented by the Contractor on 25 January 2010 and ET has also checked the implementation on 31 January 2010. The Contractor was also advised to review the mitigation measures from time to time near the NSR at I3. The ET will closely inspect the area during the routine site inspections and provide advice to the Contractor. 	
17	CIR-13	21 January 2010 at Intake-3 construction site	Public through EPD	EPD has received a public complaint (EPD ref: EP3/N22/RW/01444-10) regarding daytime construction noise at Intake-3 construction site on 21 January 2010.	Refers to Investigation /Mitigation Action for Complaint No. 16.	Closed

Signed by Environmental Team Leader:

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Date:

7 July 2010