MONTHLY EM&A REPORT

Gammon Construction Limited

Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island: *Thirtyeighth Monthly EM&A Report*

February 2013

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Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island: *Thirtyeighth Monthly EM&A Report*

February 2013

Reference 0104887

For and on behalf of				
ERM-Hong	Kong, Limited			
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Approved b	y: Frank Wan			
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Position: Partner				
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Date: <u>18 February 2013</u>				

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EXECUTIVE SUMMARY

The construction works of **DC/2007/23 of Harbour Area Treatment Scheme Stage 2A (HATS2A) - Construction of Sewage Conveyance System from North Point to Stonecutters Island (the Project)** commenced on 1 December 2009. This is the 38th monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A activities carried out during the period from 1 to 31 January 2013 in accordance with the EM&A Manual.

Summary of Construction Works undertaken during the Reporting Month

The major construction works undertaken during the reporting month include:

- Pilot drilling works at Drop Shaft;
- Trial excavation outside of K. Wah Centre for Drop Shaft;
- Pre-excavation grouting at Production Shaft; and
- Drilling and blasting at Production Shaft.

Environmental Monitoring and Audit Progress

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

- 24-hour averaged TSP Monitoring at each monitoring station (AM1 5 sets and AM2)
- 1-hour averaged TSP Monitoring at each monitoring station (AM1 15 sets and AM2)
- Construction Noise Monitoring during Normal Weekdays at NM1 5 times
- Construction Noise Monitoring during Restricted Hours at NM1 5 times
- Joint Environmental Site Inspection 5 times
- Landscape & Visual Monitoring
 1 time

Air Quality

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

<u>Noise</u>

5 sets of 30-minute construction noise measurements were carried out at the monitoring station NM1 during normal weekdays of the reporting period. 5 sets of 3 x 5-minute construction noise measurements were carried out during restricted hours (between 0700 and 2300 hours on Sundays and public holidays) during the reporting month. No exceedance of the limit level was recorded during normal working hours and restricted hours.

Landscape & Visual

Landscape and visual monitoring commenced in December 2009. Details of the audit findings and implementation status are presented in *Section 3.5.3*.

Cultural Heritage

No vibration monitoring was required to be conducted for this reporting month as the blasting of tunnel / shaft works has not started.

Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. A total of 16,142.84 tonnes of inert C&D materials and 31.6 tonnes of non-inert C&D materials were generated during the reporting period. 400L of chemical waste was generated during reporting period. No marine deposit requiring type 1, 2, or 3 disposal methods was generated during the reporting period. Non-inert C&D materials and paper/cardboard packaging materials. The inert C&D materials and general refuse generated from the Project were disposed of at the Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill, respectively. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

Environmental Site Inspection

Five weekly joint environmental site inspections were carried out by the representatives of the Contractor, Engineer and Environmental Team (ET). Details of the audit findings and implementation status are presented in *Section 3.6*.

Environmental Exceedance/Non-conformance/Complaint/Summons and Prosecution

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

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

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

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

Future Key Issues

Works to be undertaken in the next two months include:

- Raise boring at Drop Shaft;
- Drilling and blasting at Production Shaft; and
- Installation of Tunnel Services and rail at the Production shaft.

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

Summary of Construction Works undertaken during Reporting Month

The major construction works undertaken during the reporting month include:

- Geo-mapping and installation of temporary support at Drop shaft;
- Blinding casting at Drop Shaft;
- Pre-excavation grouting at Production Shaft; and
- Drilling and blasting at Production Shaft.

Environmental Monitoring and Audit Progress

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

•	24-hour averaged TSP Monitoring at AM3	5 sets
•	1-hour averaged TSP Monitoring at AM3	15 sets
•	Construction Noise Monitoring during Normal Weekdays at NM2	5 times
•	Construction Noise Monitoring during Restricted hours at NM2	5 times
•	Joint Environmental Site Inspection	5 times
•	Landscape & Visual Monitoring	1 time

Air Quality

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

<u>Noise</u>

5 sets of 30-minute construction noise measurements were carried out at the monitoring station NM2 during normal weekdays of the reporting period. 5 sets of 3 x 5-minute construction noise measurements were carried out during restricted hours (between 0700 and 2300 hours on Sundays and public holidays) during the reporting month. Limit levels were exceeded during restricted hours on 2, 6, 15 and 20 January 2013.

Landscape & Visual

Landscape and visual monitoring commenced in December 2009. Details of the audit findings and implementation status are presented in *Section 4.5.3*.

Cultural Heritage

No vibration monitoring was required to be conducted for this reporting month as the blasting of tunnel / shaft works was not carried out in the vicinity of the historical buildings listed in the EM&A Manual.

Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. A total of 16,142.84 tonnes of inert C&D materials and 31.6 tonnes of non-inert C&D materials were generated during the reporting period. 400L of chemical waste was generated during reporting period. No marine deposit requiring type 1, 2, or 3 disposal methods was generated during the reporting period. Non-inert C&D materials and paper/cardboard packaging materials. The inert C&D materials and general refuse generated from the Project were disposed of at the Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill, respectively. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

Environmental Site Inspection

Five weekly joint environmental site inspections were carried out by the representatives of the Contractor, the Engineer and Environmental Team (ET). Details of the audit findings and implementation status are presented in *Section 4.6*.

Environmental Exceedance/Non-conformance/Complaint/Summons and Prosecution

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

Exceedance of noise limit level during restricted hours was reported at NM2 on 2, 6, 15 and 20 January 2013. Investigation into the incident was made and concluded that the noise exceedances were not due to the Contract 23 since no noisy construction work was carried out outside of the noise enclosure. However, the Contractor of this Project was reminded to adhere strictly to the Construction Noise Mitigation Plan and implement all relevant noise mitigation measures recommended or specified in the EIA, EM&A Manual, EMP, Method Statements, General and Particular Specifications of this Project to minimise the likelihood of future exceedance of noise limit levels or causing noise nuisance.

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

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

No summon/prosecution was received in this reporting period.

Future Key Issues

Works to be undertaken in the next two months include:

• Raise boring – reaming at Drop Shaft;

- Drilling and blasting at Production Shaft; and
- Installation of Tunnel Services and rail tracks at Production Shaft.

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

Central Drop Shaft

Summary of Construction Works undertaken during Reporting Month

The major construction works undertaken during the reporting month include:

- Installation of wastewater treatment facility; and
- Pre-excavation grouting for raise boring.

Environmental Monitoring and Audit Progress

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

٠	24-hour averaged TSP Monitoring at AM4_2	5 sets
٠	1-hour averaged TSP Monitoring at AM4_2	15 sets
•	Construction Noise Monitoring during Normal Weekdays at NM3	5 times
•	Joint Environmental Site Inspection	4 times
٠	Landscape & Visual Monitoring	1 time

Air Quality

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

Noise

5 sets of 30-minute construction noise measurements were carried out at the monitoring station NM3 during normal weekdays of the reporting period. No exceedance was recorded during the reporting period.

Landscape & Visual

Landscape and visual monitoring commenced in December 2009. Details of the audit findings and implementation status are presented in *Section 5.5.3*.

Cultural Heritage

No vibration monitoring was required to be conducted for this reporting month as the blasting of tunnel / shaft works has not started.

Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. A total of 16,142.84 tonnes of inert C&D materials and 31.6 tonnes of non-inert C&D materials were generated during the reporting period. 400L of chemical waste was generated during reporting period. No marine deposit requiring type 1, 2, or 3 disposal methods was generated during the reporting type 10. Non-inert

C&D materials are made up of general refuse, steel materials and paper/cardboard packaging materials. The inert C&D materials and general refuse generated from the Project were disposed of at the Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill, respectively. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

Environmental Site Inspection

Four weekly joint environmental site inspections were carried out by the representatives of the Contractor, the Engineer and the Environmental Team (ET). Details of the audit findings and implementation status are presented in *Section 5.6*.

Environmental Exceedance/Non-conformance/Complaint/Summons and Prosecution

No exceedance was recorded during the reporting period.

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

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

Future Key Issues

Works to be undertaken in the next two months include:

• General site clean work.

Sai Ying Pun Junction Shaft

Summary of Construction Works undertaken during Reporting Month

The major construction works undertaken during the reporting month include:

- Pre-excavation grouting; and
- Drilling and blasting.

Environmental Monitoring and Audit Progress

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

•	24-hour average TSP Monitoring at AM5	6 sets
•	1-hour average TSP Monitoring at AM5	18 sets
•	Construction Noise Monitoring during Normal Weekdays at NM4	5 times
•	Construction Noise Monitoring during Restricted hours at NM4	5 times
•	Joint Environmental Site Inspection	4 times
•	Landscape & Visual Monitoring	1 time
•	Vibration Monitoring	15 sets

Air Quality

6 sets of 24-hour averaged TSP and 18 sets of 1-hr averaged TSP measurements were carried out at the designated monitoring station during the reporting period. No exceedance was recorded during the reporting period.

Noise

5 sets of 30-minute construction noise measurements were carried out at the monitoring station NM4 during normal weekdays of the reporting period. 5 sets of 3 x 5-minute construction noise measurements were carried out during restricted hours during reporting month. No exceedance of the limit level was recorded during normal working hours and restricted hours.

Landscape & Visual

Landscape and visual monitoring commenced in December 2009. Details of the audit findings and implementation status are presented in *Section 6.5.3*.

Cultural Heritage

15 sets of vibration monitoring were conducted during the reporting month. No exceedance was recorded during the reporting period.

Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. A total of 16,142.84 tonnes of inert C&D materials and 31.6 tonnes of non-inert C&D materials were

generated during the reporting period. 400L of chemical waste was generated during reporting period. No marine deposit requiring type 1, 2, or 3 disposal methods was generated during the reporting period. Non-inert C&D materials are made up of general refuse, steel materials and paper/cardboard packaging materials. The inert C&D materials and general refuse generated from the Project were disposed of at the Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill, respectively. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

Environmental Site Inspection

Four weekly joint environmental site inspections were carried out by the representatives of the Contractor, the Engineer and Environmental Team (ET). Details of the audit findings and implementation status are presented in *Section 6.6*.

Environmental Exceedance/Non-conformance/Complaint/Summons and Prosecution

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

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

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

No summon/prosecution was received in this reporting period.

One complaint was received during the reporting period.

Future Key Issues

Works to be undertaken in the next two months include:

- Drilling and blasting; and
- Installation of tunnel services and rail tracks.

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

Stonecutters Island Production and Riser Shafts

Summary of Construction Works undertaken during the Reporting Month

The major construction works undertaken during the reporting month include:

- Pre-excavation grouting at Production Shaft;
- Drilling and blasting at Production Shaft;
- Pre-excavation grouting at Riser Shaft; and
- Second stage shaft sinking by soil excavation at Riser Shaft.

Environmental Monitoring and Audit Progress

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

•	24-hour averaged TSP Monitoring at AM6	6 sets
•	1-hour averaged TSP Monitoring at AM6	18 sets
•	Construction Noise Monitoring during Normal Weekdays at NM5	5 times
•	Construction Noise Monitoring during Restricted Hours at NM5	4 times
•	Joint Environmental Site Inspection	5 times
•	Landscape & Visual Monitoring	1 time
	1	1 tim

Air Quality

6 sets of 24-hour averaged TSP and 18 sets of 1-hr averaged TSP measurements were carried out at the designated monitoring station during the reporting period. No exceedance was recorded during the reporting period.

<u>Noise</u>

5 sets of 30-minute construction noise measurements were carried out at the monitoring station NM5 during normal weekdays of the reporting period. 4 sets of 3 x 5-minute construction noise measurements were carried out during restricted hours during reporting month. No exceedance of the limit level was recorded during normal working hours and restricted hours.

Landscape & Visual

Landscape and visual monitoring commenced in December 2009. Details of the audit findings and implementation status are presented in *Section 7.5.3*.

Cultural Heritage

No vibration monitoring was required to be conducted for this reporting month as the blasting of tunnel / shaft works has not started.

Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. A total of 16,142.84 tonnes of inert C&D materials and 31.6 tonnes of non-inert C&D materials were generated during the reporting period. 400L of chemical waste was generated during reporting period. No marine deposit requiring type 1, 2, or 3 disposal methods was generated during the reporting period. Non-inert C&D materials and paper/cardboard packaging materials. The inert C&D materials and general refuse generated from the Project were disposed of at the Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill, respectively. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

Environmental Site Inspection

Five weekly joint environmental site inspections were carried out by the representatives of the Contractor, the Engineer and Environmental Team (ET). Details of the audit findings and implementation status are presented in *Section 7.6*.

Environmental Exceedance/Non-conformance/Complaint/Summons and Prosecution

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

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

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

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

Future Key Issues

Works to be undertaken in the next two months include:

- Drilling and blasting at the Production Shaft;
- Installation of tunnel services and rail tracks at the Production Shaft;
- · Pre-excavation grouting at the Riser Shaft; and
- Shaft sinking by soil excavation at the Riser Shaft.

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

1 INTRODUCTION

ERM-Hong Kong, Limited (ERM) has been appointed by Gammon Construction Limited (the Contractor) as the Environmental Team (ET) to undertake an Environmental Monitoring and Audit (EM&A) programme for the Contract - *No. DC/2007/23 of Harbour Area Treatment Scheme Stage 2A* (HATS2A) - Construction of Sewage Conveyance System from North Point to Stonecutters Island (the Project).

1.1 PURPOSE OF THE REPORT

This is the 38th EM&A report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from **1 to 31 January 2013**.

1.2 STRUCTURE OF THE REPORT

The structure of the report is as follows:

Section 1: Introduction

It details the scope and structure of the report.

Section 2: Project Information

It summarises the background and scope of the project, site description, project organization and contact details

Section 3: North Point Production and Drop Shafts

• Construction Activities

It summarises the construction activities conducted during the reporting month.

• Status of Environmental Approval Documents

It summarises the environmental documents submitted under the EP condition during the reporting month.

• Environmental Monitoring Requirement

It summarises the environmental monitoring including monitoring parameters, programmes, methodologies, frequency, and locations, Action and Limit Levels, Event and Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

• Implementation Status on Environmental Mitigation Measures It summarises the implementation of environmental protection measures during the reporting period.

• Monitoring Results

It summarises the monitoring results obtained in the reporting period.

• Environmental Site Inspection

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

• Environmental Non-conformance

It summarises any monitoring exceedance, environmental complaints and summons within the reporting period.

• Future Key Issues

It summarises the impact forecast and monitoring schedule for the next three months.

Section 4: Wan Chai East Production and Drop Shafts

• Construction Activities

It summarises the construction activities conducted during the reporting month.

• Status of Environmental Approval Documents

It summarises the environmental documents submitted under the EP condition during the reporting month.

• Environmental Monitoring Requirement

It summarises the environmental monitoring including monitoring parameters, programmes, methodologies, frequency, and locations, Action and Limit Levels, Event and Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

• Implementation Status on Environmental Mitigation Measures It summarises the implementation of environmental protection measures during the reporting period.

• Monitoring Results

It summarises the monitoring results obtained in the reporting period.

• Environmental Site Inspection

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

• Environmental Non-conformance

It summarises any monitoring exceedance, environmental complaints and summons within the reporting period.

• Future Key Issues

It summarises the impact forecast and monitoring schedule for the next three months.

Section 5: Central Drop Shaft

• Construction Activities

It summarises the construction activities conducted during the reporting month.

• Status of Environmental Approval Documents

It summarises the environmental documents submitted under the EP condition during the reporting month.

• Environmental Monitoring Requirement

It summarises the environmental monitoring including monitoring parameters, programmes, methodologies, frequency, and locations, Action and Limit Levels, Event and Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

• Implementation Status on Environmental Mitigation Measures

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

• Monitoring Results

It summarises the monitoring results obtained in the reporting period.

• Environmental Site Inspection

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

• Environmental Non-conformance

It summarises any monitoring exceedance, environmental complaints and summons within the reporting period.

• Future Key Issues

It summarises the impact forecast and monitoring schedule for the next three months.

Section 6: Sai Ying Pun Junction Shaft

• Construction Activities

It summarises the construction activities conducted during the reporting month.

• Status of Environmental Approval Documents

It summarises the environmental documents submissions under the EP condition during the reporting month.

Environmental Monitoring Requirement

It summarises the environmental monitoring including monitoring parameters, programmes, methodologies, frequency, and locations, Action and Limit Levels, Event and Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

• Implementation Status on Environmental Mitigation Measures

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

• Monitoring Results

It summarises the monitoring results obtained in the reporting period.

• Environmental Site Inspection

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

• Environmental Non-conformance

It summarises any monitoring exceedance, environmental complaints and summons within the reporting period.

• Future Key Issues

It summarises the impact forecast and monitoring schedule for the next three months.

Section 7: Stonecutters Island Production and Riser Shafts

• Construction Activities

It summarises the construction activities conducted during the reporting month.

• Status of Environmental Approval Documents

It summarises the environmental documents submitted under the EP condition during the reporting month.

• Environmental Monitoring Requirement

It summarises the environmental monitoring including monitoring parameters, programmes, methodologies, frequency, and locations, Action and Limit Levels, Event and Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

• Implementation Status on Environmental Mitigation Measures It summarises the implementation of environmental protection measures during the reporting period.

• Monitoring Results

It summarises the monitoring results obtained in the reporting period.

• Environmental Site Inspection

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

• Environmental Non-conformance

It summarises any monitoring exceedance, environmental complaints and summons within the reporting period.

• Future Key Issues

It summarises the impact forecast and monitoring schedule for the next three months.

Section 8: Conclusions

2.1 BACKGROUND AND GENERAL SITE DESCRIPTION

The Project comprises the construction of production shafts, drop shafts and riser shaft and approximately 12 km of tunnel excavation from North Point via Sai Ying Pun to Stonecutters Island. Shafts with 10 - 12 m diameter vary in depth from 140 m and 170 m below ground. Tunnel face area ranges from 16 m² to 23 m². Embedded drainage pipelines will be installed upon the completion of tunnel excavation.

Construction works to be carried out under this Contract include the following major items:

- construction of sewage conveyance system (SCS) from North Point Preliminary Treatment Works (NP PTW) to Stonecutters Island Sewage Treatment Works (SCI STW) via Wan Chai East Preliminary Treatment Works (WCE PTW), Central Preliminary Treatment Works (CEN PTW) and Fung Mat Street Sai Ying Pun (SYP) junction shaft;
- construction of drop shafts at NP PTW, WCE PTW and CEN PTW;
- construction of riser shafts at SCI STW;
- construction of junction shafts at SYP;
- construction of temporary production shafts at NP PTW, WCE PTW and SCI STW to provide access for the construction of SCS;
- construction of connection channels, pipes, chambers and tunnel connecting the proposed drop shafts / riser shafts to the facilities of the preliminary treatment works / sewage treatment works;
- carrying out surveys of existing buildings, taking over of existing buildings and installation of new piezometers and ground settlement markers and subsequent vibration monitoring along the alignment of the SCS;
- miscellaneous building, civil, electrical and mechanical works; and
- landscape works.

The potential environmental impacts of the Project have been studied in the *"Harbour Area Treatment Scheme (HATS) Stage 2A"* (EIAO Register No: AEIAR-121/2008). The EIA was approved on 2 June 2008 under the *Environmental Impact Assessment Ordinance* (EIAO) and an updated Environmental Permit (EP-322/2008/F) for the works was granted on 10 October 2012. Under the requirements of Condition 4.1 of Environmental Permit EP-322/2008/F, an

EM&A programme as set out in the EM&A Manual is required to be implemented.

The construction works of this Project commenced on 1 December 2009 and are scheduled to be completed by 2014.

The general layout plan of the Project is shown in *Annex A*.

2.2 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS AND REQUIRED SUBMISSIONS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since December 2009 is presented in *.Table 2.1.*

.Table 2.1 Summary of Environmental Licensing, Notification and Permit Status for the Contract ^(a)

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Environmental Permit	EP-322/2008	Expired on 10 July 2009	 Permit granted on 19 November 2008 Superseded on 10 July 2009
	EP-322/2008/A	Expired on 2 November 2009	 Permit granted on 10 July 2009 Superseded on 2 November 2009
	EP-322/2008/B	Expired on 14 May 2010	 Permit granted on 2 November 2009 Superseded on 14 May 2010
	EP-322/2008/C	Expired on 14 July 2010	 Permit granted on 14 May 2010 Superseded on 14 July 2010
	EP-322/2008/D	Expired on 24 November 2010	 Permit granted on 14 July 2010 Superseded on 24 November 2010
	EP-322/2008/E	Expired on 10 October 2012	 Permit granted on 24 November 2010 Superseded on 10 October 2012
	EP-322/2008/F	Throughout the Contract	Permit granted on 10 October 2012
Notification of Construction Works under Air Pollution Control APC (Construction Dust) Regulation		04 August 2009 – 06 November 2013	 Reference number for Notification Pursuant to APC (Construction Dust) Regulation: 308136
Marine Dumping Perr	nits ^(b)		
Type 1 Marine Deposit	EP/MD/11-136	20 February 2011 – 29 June 2011	

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Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Type 2 Marine	EP/MD/11-118	20 February	-
Deposit		2011 – 21 April	
-		2011	
Type 3 Marine	8771	23 July 2010 – 22	-
Deposit		January 2011	
Notes:			

(a) The status on environmental licensing and permit for each worksite is discussed in the following sections.

(b) Marine deposits from all sites have been disposed of in accordance with their respective disposal methods (ie Type 1, 2, or 3 disposal methods), and no further marine deposit is anticipated to generate. When marine deposits are encountered, relevant dumping permits will be obtained and they will be disposed of properly.

Status of required submissions under the EP during the reporting period is presented in *Table 2.2*.

Table 2.2Status of Required EP Submission for all Sites

EP Condition	Submission	Submission Date
Condition 4.4	Submission of Thirty-sixth Monthly EM&A Report	14 December 2012

2.3 PROJECT ORGANISATION

The project organization chart and contact details are shown in *Annex B*.

3 NORTH POINT PRODUCTION AND DROP SHAFTS

3.1 CONSTRUCTION ACTIVITIES DURING THE REPORTING MONTH

A summary of the major construction activities undertaken in this reporting period is shown in *Table 3.1*. The locations of the construction activities are shown in *Annex C1*.

Table 3.1Summary of Construction Activities Undertaken from 1 to 31 January 2013 at
the North Point Production and Drop Shafts

Worksite	Construction Activities Undertaken		
Production Shaft,	 Pre-excavation grouting; and 		
(Tunnel J (Drive 6))	Drilling and blasting.		
Drop Shaft	Pilot drilling; and		
	Trial excavation outside of K. Wah Centre.		

3.2 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project from December 2009 is presented in *Table 3.2.*

Table 3.2Summary of Environmental Licensing, Notification and Permit Status at
North Point Production and Drop Shafts

Permit/ Licences/	Reference	Validity Period	Remarks
Notification			
Wastewater	North Point PTW	12 October 2009	
Discharge License	Drop Shaft	- 31 October	
	WT00005153-2009	2014	
	North Point	9 July 2010 - 31	
	Production Shaft	March 2015	
	WT00007055-2010		
Chemical Waste	North Point	Throughout the	
Producer Registration	Production Shaft	Contract	
	5213-153-G2484-01		
	North Point PTW	Throughout the	
	Drop Shaft	Contract	
	5213-153-G2483-01		
Construction Noise	North Point	15 March 2011 –	Replaced by GW-
Permit CNP	Production shaft	14 September	RW0827-12
	GW-RS0234-12	2012	
	North Point	14 September	
	Production shaft	2012 – 13 March	
	GW-RS0827-12	2013	
	North Point PTW	23 February	Expired. No CNP is
	Drop Shaft	2012 - 22	required as no works will
	GW-0101-12	August 2012	take place during
			restricted hours.
	North Point PTW	1 November	
	Drop Shaft	2012 – 30 April	

ENVIRONMENTAL RESOURCES MANAGEMENT

GAMMON CONSTRUCTION LIMITED

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
	GW-RS1049-12	2013	

3.3 Environmental Monitoring Requirements

3.3.1 Air Quality Monitoring

Monitoring Location

In accordance with the EM&A Manual, 24-hour and 1-hour averaged Total Suspended Particulates (TSP) levels should be conducted at designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual were denied or not available, alternative locations were proposed and agreed by the Engineer Representative (ER) and the Independent Environmental Checker (IEC). Owing to the security issue with the High Volume Sampler (HVS) at the existing monitoring location (rooftop of Water Supplies Department office) especially under adverse weather conditions, an alternative location, which is one floor below the existing rooftop, was identified and agreed with the ER and IEC in July 2010.

The construction air quality monitoring stations for this Contract are listed in *Table 3.3* and shown in *Annex C2*.

Table 3.3Construction Phase Air Monitoring Location at North Point Production and
Drop Shafts

Worksite	Construction Air Quality Monitoring Stations				
	ID in EM&A Manual	ID	Location	Remark	
North Point	-	AM1	Chan's Creative School (formerly known as Madam Chan Wai Chow Memorial School)	 Access for station setup to K.Wah Centre (CM_NP1) and Tin Chiu Street Children's Playground (CM_NP3) was 	
	CM_NP2	AM2	Hong Kong & Islands Regional Office, Water Supplies Department	rejected.	

Monitoring Parameters, Frequency and Programme

Air quality monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual (*Table 3.4*). The monitoring programme for this reporting period is shown in *Annex C3*.

Table 3.4TSP Monitoring Parameter and Frequency

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

Monitoring Equipment

Continuous 24-hour averaged and three 1-hour averaged TSP monitoring were performed using High Volume Samplers (HVS) with appropriate sampling inlets installed and located at the designated monitoring stations. The performance specification of HVS complied with the standard method "Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)" as stipulated in US EPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50 Appendix B). Table 3.5 summarises the equipment that was deployed for the 24-hour and 1-hour averaged TSP monitoring respectively.

Table 3.5TSP Monitoring Equipment for North Point Production and Drop Shafts Sites

Monitoring Station	Monitoring Equipment (HVS and Calibrator)
24-hr and 1-hr TSP	
AM1	GMW GS-2310 (S/N 1808), CM-AIR-43 (S/N 0438320)
AM2	GMW GS-2310 (S/N 0145), CM-AIR-43 (S/N 0438320)

Monitoring Methodology

Installation

The setup locations of the HVSs at monitoring stations were listed in *Table 3.3*. All HVSs were free-standing with no obstruction.

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

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

Preparation of Filter Papers

- glass fibre filters were labelled and sufficient filters that were clean and without pinholes were selected;
- all filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ± 3 °C; the relative humidity (RH) was 40%; and

• SGS Hong Kong Ltd, a HOKLAS accredited laboratory, implements comprehensive quality assurance and quality control programmes.

Field Monitoring

- the power supply was checked to ensure that the HVSs were working properly;
- the filter holder and the area surrounding the filter were cleaned;
- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- the swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- the shelter lid was closed and secured with the aluminium strip;
- the HVSs were warmed-up for about 5 minutes to establish runtemperature conditions;
- a new flow rate record sheet was set into the flow recorder;
- the flow rates of the HVSs were checked and adjusted to between 1.22 -1.37 m³min⁻¹ which were within the range specified in the EM&A Manual (ie 0.6 - 1.7 m³min⁻¹);
- the programmable timer was set for a sampling period of 24 hours ± 1 hour, and the starting time, weather condition and the filter number were recorded;
- the initial elapsed time was recorded;
- at the end of sampling, the sampled filter was removed carefully and folded in half so that only surfaces with collected particulate matter were in contact;
- the filter paper was placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- filters were sent to SGS Hong Kong Ltd for analysis.

Maintenance and Calibration

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

Wind Data

The nearest weather station to North Point Production and Drop Shafts is Kai Tak Station. The average wind data (wind speed and wind direction) during the monitoring period were obtained from the meteorological station at Kai Tak of the Hong Kong Observatory (HKO) and are presented in *Annex C5*.

Action and Limit Levels

The Action and Limit (A/L) levels have been established and are presented in *Table 3.6*.

Table 3.6Action and Limit Levels for Air Quality at North Point Production and Drop
Shafts

Parameter	Air Monitoring Station	Action Level, µgm ⁻³	Limit Level, µgm ⁻³
24-hour averaged TSP	AM1	185	260
	AM2	182	260
1-hour averaged TSP	AM1	340	500
	AM2	352	500

Event and Action Plan

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

3.3.2 Noise Monitoring

Monitoring Location

In accordance with the EM&A Manual, monitoring of construction noise impact should be conducted at the designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was denied or not available; alternative locations were proposed and agreed by the ER and the IEC. Construction activities were conducted at restricted hours (1900 – 2300 on all days and 0700 – 2300 on general holidays and Sundays) during the reporting month. Chan's Creative School (the noise monitoring station NM1) is not accessible during its closing hours (from 1900 to 0700 on normal week days and from 0000 to 2400 on public holidays as well as Sundays). During these hours, noise monitoring would be conducted on the pedestrian walkway adjacent to the school boundary along Tin Chiu Street, which was agreed by the ER and the IEC. The construction noise monitoring location for this Contract is listed in *Table 3.7* and shown in *Annex C2*.

Table 3.7Construction Phase Noise Monitoring Station at North Point Production and
Drop Shafts

Worksite	Proposed Construction Noise Monitoring Station				
	ID in EM&A	ID	Location	Type of	Remark
	Manual			Measurement	
North	M1	NM1	Rooftop of Chan's Creative	Façade	0700 to 1900
Point			School (formerly known as		on Monday
			Madam Chan Wai Chow		to Saturday
			Memorial School)		
			Pedestrian walkway adjacent	Façade	1900 - 2300
			to Chan's Creative School		on all days
			(formerly known as Madam		and 0700 –
			Chan Wai Chow Memorial		2300 on
			School) boundary along Tin		general
			Chiu Street		holidays and
					Sundays

Monitoring Parameters, Frequency and Programme

Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual. Additional noise monitoring was also conducted as per required the EM&A Manual when works were carried out during the school closing periods. The monitoring programme for this reporting period is shown in *Annex C3*.

The construction noise levels were measured in terms of A-weighted equivalent continuous sound pressure level (L_{Aeq}) in decibels dB(A). L_{Aeq(30min)} was used as the monitoring parameter for the period between 0700 – 1900 hours on normal weekdays, and L_{Aeq (5min)} was used as the monitoring parameter for all the other periods. Supplementary information for data auditing (two statistical sound levels L₁₀ and L₉₀ which are the levels exceeded for 10 and 90 percent of the time respectively) was also monitored for reference. The measured noise levels were logged every 5 minutes throughout the impact monitoring period.

Monitoring Equipment and Methodology

Construction noise measurements were conducted in accordance with the calibration and measurement procedures as stated in *Annex – General Calibration and Measurement Procedures* of *Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM)* issued under the *Noise Control Ordinance (NCO)* (Cap.400).

The sound level meters and calibrator used for the noise measurement, as listed in *Table 3.8*, comply with IEC 651: 1979 and 804:1985 (Type 1) specification. The calibration certificates of the sound level meters are included in *Annex H*.

Table 3.8Noise Monitoring Equipment at North Point Production and Drop Shafts

Monitoring Station	Monitoring Equipment (Sound Level Meter and Calibrator)		
NM1	• Calibrator: Rion - NC73 (S/N 10997142)		
	•	Sound Level Meters: Rion NL-31 (S/N 00603867)	

Immediately prior to and following the noise measurements, the accuracy of the measurement equipment was checked using an acoustic calibrator generating a known sound pressure level at a known frequency.

Action and Limit Levels

The limit levels for noise monitoring during different monitoring periods are summarised in *Table 3.9*.

Table 3.9Limit Levels for Noise Monitoring at North Point Production and Drop
Shafts

Noise Monitoring Location	Measurement Parameter	Limit Level (dB(A))	Remark
NM1	LAeq(30min)	70	During normal teaching period
	LAeq(30min)	69 (a)	During the school examination period
	LAeq(30min)	75	During school holidays
	L _{Aeq(5mins)}	70	Evening (1900-2300); and
			Sundays and public holidays (0700-2300)
	L _{Aeq(5mins)}	55	Night-time (2300-0700)
Mater			

Note:

(a) With reference to the Baseline Monitoring Report, the average L_{Aeq,30min} measured at NM1 between 0700 and 1900 hours is 69.0 dB(A), exceeded the Limit Level of daytime construction noise during the examination periods (65 dB(A)). Hence, it was adopted as the Limit Level during the examination period at NM1.

Event and Action Plan

The Event and Action Plan (EAP) for noise monitoring is presented in Annex I.

3.3.3 *Cultural Heritage*

No vibration monitoring is required for this reporting month as no blasting of tunnel /shaft works was carried out.

3.3.4 Landscape and Visual Monitoring

In accordance with the EM&A Manual, landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures are fully achieved. The landscape and visual monitoring was carried out on site within the environmental site inspection. The monitoring procedures and criteria as described in the EM&A Manual were adopted.

Event and Action Plan

The Event and Action Plan (EAP) for landscape and visual monitoring is presented in *Annex I*.

3.4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented environmental mitigation measures and fulfilled requirements as stated in the EIA Report, Environmental Permit and EM&A Manual. The implementation status during the reporting period is summarised in *Annex C4*.

3.5 MONITORING RESULTS

3.5.1 *Air Quality*

A total of 5 sets of 24-hour averaged and 15 sets of 1-hour averaged TSP measurements were carried out at AM1 and AM2 respectively during the reporting period. The monitoring data for 24-hour and 1-hour averaged TSP together with wind data and graphical presentations are presented in *Annex C*5.

The weather condition during the monitoring period varied from sunny to cloudy. The local impacts near the monitoring stations of AM1 to AM2 were mainly associated with vehicle emissions. No exceedance of Action and Limit Levels of 1-hr and 24-hr TSP was recorded during the reporting period.

3.5.2 Noise

A total of 5 sets of 30-minute construction noise measurements were carried out at the monitoring station NM1 during normal weekdays of the reporting period. The local impacts at normal hours during weekdays near the monitoring stations of NM1 included contributions from traffic noise from King's Road, Java Road and nearby roads; and noise from the ringing of school bells; students' activities and the construction works undertaken by other parties in the vicinity. No exceedance of the noise limit level was recorded during normal working hours.

5 sets of 3 x 5-minute construction noise measurements were carried out at NM1 during between 1900 and 0700 hours on weekdays and any time on Sundays and public holidays on 2, 6, 15, 20 and 29 January 2013. No exceedance of the noise limit level during the school's closing hours was recorded. The local impacts during these hours observed included contributions from traffic noise from King's Road, Java Road and nearby roads and noise from the construction works undertaken by other parties in the vicinity.

The monitoring results together with their graphical presentations are presented in *Annex C6*.

3.5.3 Landscape and Visual

Implementation and maintenance of landscape and visual mitigation measures were fully implemented and no major finding was made during the reporting month.

3.5.4 *Cultural Heritage*

No vibration monitoring was conducted for this reporting month as the blasting of tunnel/ shaft works has not commenced.

3.5.5 Waste Management

Waste generated from this Project includes inert construction and demolition (C&D) materials, non-inert C&D materials, and marine deposit. Non-inert C&D materials are made up of general refuse, steel and paper/cardboard packaging materials. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. No marine deposits requiring Type 1, 2, and 3 disposal methods was generated during the reporting month. Reference has been made to the Monthly Summary Waste Flow Table prepared by the Contractor (Annex J). The waste statistics provided in this section represents the cumulative quantity of wastes generated from all sites in this Project. With reference to the relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in Table 3.10. The inert C&D materials and general refuse generated from the Project were disposed of at Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill respectively. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

Table 3.10Quantities of Waste Generated from the Project for all Sites

Month / Year			Quantity			
	C&D Materials	C&D Materials	Chemical	Marine D	eposit	
	(inert) ^(a)	(non-inert) (b)	Waste	Type 1	Type 2	Type 3
January 2013	16,142.84 tonnes	31.6 tonnes	400L	0 m ³	0 m ³	0 tonnes

Notes:

(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil. 8,237.96 tonnes of inert C&D materials were disposed of at the Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/ Chai Wan Barging Point and 7,904.88 tonnes broken rock have been transferred to SENT Landfill/Lam Tei Quarry for use.

(b) Non-inert C&D materials include steel, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Steel materials generated from the project are grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. The non-inert C&D materials other than steel and paper/cardboard packaging were disposed of at SENT Landfill. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

3.6 Environmental Site Inspection

Weekly site inspections were carried out by the representatives of the Contractor, Engineer and ET. Site inspections were conducted on 3, 10, 17, 24 and 31 January 2013. The representative of the IEC joined the site inspection on 31 January 2013. No non-compliance was recorded during the site inspections.

Major findings and recommendations are summarised as follows:

Production Shaft

- On 3 January, more than 20 bags of cement without impervious sheet covered were stored outside of the noise enclosure. The Contractor was reminded to cover the stockpile entirely by impervious sheeting and placed it in an area sheltered on the top and the 3 sides.
- On 10 January, three chemical storage containers (for sulphuric acid) were stored near the chemical enhanced wastewater treatment facility. The Contractor was reminded to store them properly in the chemical storage area to prevent chemical leakage or spill

Drop Shaft

• On 31 January, several plastic chemical drums without drip tray were observed near the drop shaft. The Contractor was reminded to provide drip trays with sufficient capacity for chemical storage.

3.6.1 Summary of Monitoring Exceedance

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

No exceedance of the Noise Limit Levels was recorded at the monitoring station in the reporting period.

3.6.2 Summary of Environmental Non-Compliance

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

3.6.3 Summary of Environmental Complaint

No complaint was received during the reporting period. The cumulative complaint log is shown in *Annex C7*.

3.6.4 Summary of Environmental Summons and Successful Prosecution

No summons was received during the reporting period. The cumulative summons/prosecution log is shown in *Annex C7*.

3.7 FUTURE KEY ISSUES

3.7.1 Key Issues for the Coming Months

Works to be undertaken in the coming two monitoring periods are summarised in *Table 3.11*.

Table 3.11Construction Works to be undertaken in the Coming Two Months at North
Point Production and Drop Shafts

Work to be taken		
Production Shaft	•	Drilling and blasting; and
(Tunnel J (Drive 5) and K (Drive 4))	•	Installation of tunnel services and rail tracks.
Drop Shaft	٠	Raise boring.

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

3.7.2 Monitoring Schedule for the Next Month

The tentative schedule of TSP and noise monitoring for the next reporting period is presented in *Annex C3*. Environmental monitoring will be conducted at the same monitoring locations in the reporting period.

3.7.3 Construction Programme for Next Month

The most up-to-date construction programme for the Project is presented in *Annex C8*.

4 WAN CHAI EAST PRODUCTION AND DROP SHAFTS

4.1 CONSTRUCTION ACTIVITIES DURING THE REPORTING MONTH

A summary of the major construction activities undertaken in this reporting period is shown in *Table 4.1*. The locations of the construction activities are shown in *Annex D1*.

Table 4.1Summary of Construction Activities undertaken from 1 to 31 January 2013 at
the Wan Chai East Production and Drop Shafts

Worksite	Co	Construction Activities Undertaken		
Production Shaft	٠	Pre-excavation grouting; and		
(Tunnel K (Drive 4) and	•	Drilling and blasting.		
Tunnel J (Drive 5))				
Drop Shaft	•	Geo-mapping and installation of temporary support; and		
	•	Blinding casting.		

4.2 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project from December 2009 is presented in *Table 4.2*.

Table 4.2Summary of Environmental Licensing, Notification and Permit Status at Wan
Chai East Production and Drop Shafts

Permit/ Licences/	Reference	Validity Period	Remarks
Notification			
Wastewater	Wan Chai East	13 July 2010 - 31	Superseded by
Discharge License	Production Shaft and	October 2014	WT00008533-2011
	Drop Shaft		
	WT00007023-2010		
	Wan Chai East	21 February 2011 -	
	Production Shaft and	31 October 2014	
	Drop Shaft		
	WT00008533-2011		
Chemical Waste	Wan Chai East		
Producer Registration	Production Shaft and		
	Drop Shaft		
	5213-135-G2308-03		
Construction Noise	Wan Chai East	27 August 2012 –	
Permit (CNP)	Production Shaft	26 February 2013	
	GW-RS0906-12		
	Wan Chai East Drop	30 July 2012 – 29	
	Shaft	January 2013	
	GW-RS0801-12	- 	

4.3 Environmental Monitoring Requirements

4.3.1 Air Quality Monitoring

Monitoring Location

In accordance with the EM&A Manual, 24-hour and 1-hour averaged Total Suspended Particulates (TSP) levels should be conducted at designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was denied or not available, alternative locations, therefore, were proposed and agreed by the ER and the IEC. The construction air quality monitoring station for this Contract is listed in *Table 4.3* and shown in *Annex D2*.

Table 4.3Construction Phase Air Monitoring Location at Wan Chai East Production
and Drop Shafts

Worksite	Construct	ion Air Q	Quality Monitoring Station	
	ID in	ID	Location	Remark
	EM&A			
	Manual			
Wan Chai	-	AM3	Rooftop of Wan Chai East	• The rooftop of the Society for
East			PTW	the Prevention of Cruelty to
				Animals building (CM_WC1)
				was so crowded with existing
				facilities (eg water tanks) that
				the setup of HVSs for baseline
				monitoring was not feasible.

Monitoring Parameters, Frequency and Programme

Air quality monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual (*Table 4.4*). The monitoring programme for this reporting period is shown in *Annex D3*.

Table 4.4TSP Monitoring Parameter and Frequency at Wan Chai East Production and
Drop Shafts

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

Monitoring Equipment

Continuous 24-hour and 1-hour averaged TSP monitoring were performed using High Volume Samplers (HVS) with appropriate sampling inlets installed, located at the designated monitoring station. The performance specification of HVS complied with the standard method "*Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)*" as stipulated in US EPA Standard Title 40, Code of Federation Regulations Chapter 1 (*Part 50 Appendix B*). Table 4.5 summarises the equipment that was deployed for the 24-hour and 1-hour averaged TSP monitoring.

Table 4.5TSP Monitoring Equipment at Wan Chai East Production and Drop Shafts

Monitoring Station	Monitoring Equipment (HVS and Calibrator)	
24-hr and 1-hr TSP		
AM3	GMW GS-2310 (S/N 0481), CM-AIR-43 (S/N 0438320)	

Monitoring Methodology

Installation

The setup location of the HVS at monitoring stations was listed in *Table 4.3*. The HVS was free-standing with no obstruction.

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

- appropriate support to secure the sampler against gusty wind was provided at AM3;
- a minimum of 2 m separation from walls, parapets and penthouses was required for rooftop samplers;
- no furnace or incinerator flues was nearby;
- airflow around the sampler was unrestricted; and
- permission was obtained to set up the samplers and to gain access to the monitoring stations.

Preparation of Filter Papers

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

Field Monitoring

- the power supply was checked to ensure that the HVSs were working properly;
- the filter holder and the area surrounding the filter were cleaned;
- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;

- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- the swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- the shelter lid was closed and secured with the aluminium strip;
- the HVSs were warmed-up for about 5 minutes to establish runtemperature conditions;
- a new flow rate record sheet was set into the flow recorder;
- the flow rates of the HVSs were checked and adjusted to between 1.22 -1.37 m³min⁻¹ which were within the range specified in the EM&A Manual (ie 0.6 – 1.7 m³min⁻¹);
- the programmable timer was set for a sampling period of 24 hours ± 1 hour, and the starting time, weather condition and filter number were recorded;
- the initial elapsed time was recorded;
- at the end of sampling, the sampled filter was removed carefully and folded in half so that only surfaces with collected particulate matter were in contact;
- the filter paper was placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- filters were sent to SGS Hong Kong Ltd for analysis.

Maintenance and Calibration

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

Wind Data

The nearest weather station to Wan Chai East Production and Drop Shafts is located at King's Park. The average wind data (wind speed and wind direction) during the monitoring period were obtained from the meteorological station at King's Park of the Hong Kong Observatory (HKO) and are presented in *Annex D5*.

Action and Limit Levels

The Action and Limit levels have been established and are presented in *Table 4.6*.

Table 4.6Action and Limit Levels for Air Quality at Wan Chai East Production and
Drop Shafts

Parameter	Air Monitoring Station	Action Level, µgm ⁻³	Limit Level, µgm ⁻³
24-hour average TSP	AM3	181	260
1-hour average TSP	AM3	355	500

Event and Action Plan

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

4.3.2 Noise Monitoring

Monitoring Location

In accordance with the EM&A Manual, monitoring of construction noise impact should be conducted at the designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was denied or not available, alternative locations were proposed and agreed by the ER and IEC. The construction noise monitoring location for this Contract is listed in *Table 4.7* and shown in *Annex D2*.

Table 4.7Construction Phase Noise Monitoring Station at Wan Chai East Production
and Drop Shafts

Worksite	Constructi	Construction Noise Monitoring Station						
	ID in EM&A Manual	ID	Location	Type of Measurement	Remark			
Wan Chai East	-	NM2	Rooftop of Hyde Building	Façade	 No guaranteed access for equipment set-up due to the non- existence of a caretake of Kei Wah Building (M2) Alternative location, NM2, is located next to Kei Wah Building and is also the background noise monitoring station in the HATS2A EIA study. 			

Monitoring Parameters, Frequency and Programme

Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual. Additional noise monitoring was also conducted as per required the EM&A Manual when works were carried out during restricted periods. The monitoring programme for this reporting period is shown in *Annex D3*.

The construction noise levels were measured in terms of A-weighted equivalent continuous sound pressure level (L_{Aeq}) in decibels dB(A). $L_{Aeq(30min)}$ was used as the monitoring parameter for the time period between 0700 – 1900 hours on normal weekdays, and L_{Aeq} (5min) was used as the monitoring parameter for all restricted periods. Supplementary information for data auditing (two statistical sound levels L_{10} and L_{90} which are the levels exceeded for 10 and 90 percent of the time respectively) was also recorded during the monitoring period for reference. The measured noise levels were logged every 5 minutes throughout the impact monitoring period.

Monitoring Equipment and Methodology

Construction noise measurements were conducted in accordance with the calibration and measurement procedures as stated in *Annex – General Calibration and Measurement Procedures* of *Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM)* issued under the *Noise Control Ordinance (NCO)* (Cap.400).

The sound level meters and calibrator used for the noise measurement, as listed in *Table 4.8*, comply with IEC 651: 1979 and 804:1985 (Type 1) specification. The calibration certificates of the sound level meters are included in *Annex H*.

Table 4.8Noise Monitoring Equipment at Wan Chai East Production and Drop Shafts

Monitoring Station	Mo	Monitoring Equipment (Sound Level Meter and Calibrator)		
NM2	•	Calibrator: RION - NC73 (S/N 10997142)		
	•	Sound Level Meters: Rion NL-31 (S/N 00603867)		

Immediately prior to and following the noise measurements, the accuracy of the measurement equipment was checked using an acoustic calibrator generating a known sound pressure level at a known frequency.

Action and Limit Levels

The limit levels for noise monitoring during different monitoring periods are summarised in *Table 4.9*.

Table 4.9Limit Levels for Noise Monitoring at Wan Chai East Production and Drop
Shafts

Noise Monitoring Location	Measurement Parameter	Limit Level (dB(A))	Remark
NM2	L _{Aeq(30min)}	75	Normal working hours during weekdays
	LAeq(5min)	70	Evening (1900-2300); and
			Sundays and public holidays (0700-2300)
	LAeq(5min)	55	Night-time (2300-0700)

Event and Action Plan

The Event and Action Plan (EAP) for noise monitoring is presented in Annex I.

4.3.3 *Cultural Heritage*

No vibration monitoring is required for this reporting month as blasting of tunnel / shaft works was not carried out in the vicinity of the historical buildings listed in EM&A manual.

4.3.4 Landscape and Visual Monitoring

In accordance with the EM&A Manual, landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures are fully achieved. The landscape and visual monitoring was carried out on site within the environmental site inspection. The monitoring procedures and criteria as described in the EM&A Manual were adopted.

Event and Action Plan

The Event and Action Plan (EAP) for landscape and visual monitoring is presented in *Annex I*.

4.4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented environmental mitigation measures and fulfilled the requirements as stated in the EIA Report, Environmental Permit and EM&A Manual. The implementation status during the reporting period is summarised in *Annex D4*.

4.5 MONITORING RESULTS

4.5.1 Air Quality

A total of 5 sets of 24-hour averaged and 15 sets of 1-hour averaged TSP measurements were made at AM3 during the reporting period. The monitoring data for 24-hour and 1-hour averaged TSP, together with the wind data and graphical presentations, are presented in *Annex D5*.

The weather condition during the monitoring period varied from sunny to cloudy. The local impacts near the monitoring stations of AM3 were mainly associated with vehicle emissions. No exceedance of Action and Limit Levels of 1-hr and 24-hr TSP was recorded during the reporting period.

4.5.2 Noise

A total of 5 sets of 30-minute construction noise measurements were carried out at the monitoring station NM2 during normal working hours in weekdays of the reporting period. No exceedance of limit level for noise monitoring during normal working hours was recorded.

5 sets of 3 x 5-minute construction noise measurements were carried out during restricted hours (between 1900 and 0700 hours on weekdays, and any time on Sundays and public holidays) on 2, 6, 15, 20 and 29 January 2013. Noise level recorded during restricted hour on 2, 6, 15 and 20 January 2013 exceeded the limit level at NM2. Investigation had been conducted to review the potential causes for the noise level recorded. A summary of the investigation result is presented in *Section 4.7.1*.

The monitoring results, together with their graphical presentations, are presented in *Annex D6*.

4.5.3 Landscape and Visual

Implementation and maintenance of landscape and visual mitigation measures are fully achieved and no major finding was made during the reporting month.

4.5.4 Cultural Heritage

No vibration monitoring is required for this reporting month as blasting of tunnel/shaft works was not carried out in the vicinity of the historical buildings listed in EM&A manual.

4.5.5 Waste Management

Waste generated from this Project includes inert construction and demolition (C&D) materials, non-inert C&D materials, and marine deposit. Non-inert C&D materials are made up of general refuse, steel and paper/cardboard packaging materials. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. No marine deposits requiring Type 1, 2, and 3 disposal methods was generated during the reporting month. Reference has been made to the Monthly Summary Waste Flow Table prepared by the Contractor (*Annex J*). The waste statistics provided in this section represents the cumulative quantity of wastes generated from all sites in this Project. With reference to the relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in *Table 4.10*. The inert C&D materials and general refuse generated from the Project were disposed of at Tuen Mun Area 38/Tseung

Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill respectively. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

Table 4.10Quantities of Waste Generated from the Project for all Sites

Month / Year	Quantity					
	C&D Materials C&D Materials Chemical Marine Deposit					
	(inert) ^(a)	(non-inert) ^(b)	Waste	Type 1	Type 2	Type 3
January 2013	16,142.84 tonnes	31.6 tonnes	400L	0 m ³	0 m ³	0 tonnes

Notes:

(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil. 8,237.96 tonnes of inert C&D materials were disposed of at the Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/ Chai Wan Barging Point and 7,904.88 tonnes broken rock have been transferred to SENT Landfill/Lam Tei Quarry for use.

4.6 Environmental Site Inspection

Weekly site inspections were carried out by representatives of the Contractor, Engineer and ET. Site inspections were conducted on 3, 10, 17, 24 and 31 January 2013. The representative of the IEC joined the site inspection on 31 January 2013. There was no non-compliance recorded during the site inspections.

Major findings and recommendations are summarised as follows:

Production Shaft

- On 3 January, stagnant water with oil was observed inside two chemical drums near the gate. The Contractor was reminded to dispose of it as chemical waste via licensed chemical waste collector and cover the chemical drums to avoid accumulation of water.
- On 3 January, the access to the chemical waste storage rack was blocked by construction material. The Contractor was reminded to provide proper access to the chemical storage area.
- On 10 January, the access to the chemical waste store was still blocked by construction material since last site audit. The Contractor was reminded to provide proper access to the chemical waste store.
- On 17 January, a drum that contained chemical waste was stored without drip tray near the gate of noise enclosure. The Contractor was reminded to store it on the drip tray with sufficient capacity and in a designated chemical store if not in use.
- On 24 January, small amount of excavated material was observed inside the skip for general waste. The Contractor was reminded to store and disposal of inert and non-inert materials separately.

Drop Shaft

⁽b) Non-inert C&D materials include steel, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Steel materials generated from the project are grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. The non-inert C&D materials other than steel and paper/cardboard packaging were disposed of at SENT Landfill. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

• No observation during the reporting month.

4.7 Environmental Non-conformance

4.7.1 Summary of Monitoring Exceedance

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

Exceedance of noise limit level during restricted hours was reported at NM2 on 2, 6, 15 and 20 January 2013. Investigation into the incident had been made. Since no major outdoor construction activities that had taken place during the period with exceedance, it is considered that the exceedances were not due to the Contract 23 construction works. Although the exceedance was not caused by the Project, the Contractor of this Project was asked to adhere strictly to the Construction Noise Mitigation Plan and implement all relevant noise mitigation measures recommended or specified in the EIA, EM&A Manual, EMP, Method Statements, General and Particular Specifications of this Project to minimise the likelihood of future exceedance of noise limit levels or causing noise nuisance.

Table 4.11Summary of Record of Exceedance at Wan Chai East Production and Drop
Shafts

Station	Record of Exceedance	Result of Investigation
M2	Exceedance of Limit Level on 2	According to the works summary provided by
	January 2013 (20:20 - 20:35)	the Contractor, no works had been performed
		outside the noise enclosure. Other construction
		activities that took place during the noise
		monitoring session included preparing and
		charging blast holes, marking for systematic
		dowels; and operating lift, kibble winder and
		gantry crane. These activities were carried out
		inside the noise enclosure.
		It was observed no noisy outdoor construction
		activities at the Wan Chai East Production and
		Drop Shafts during the noise monitoring session
		This is consistent with the works summary
		provided by the Contractor showing no major
		outdoor construction activities that have taken
		place during the same period.
		Other potential noise source was also identified
		the vicinity (ie, traffic) to contribute to the
		measured noise level.
		In view of no noisy outdoor construction works
		was carried out and contribution from other
		potential noise source in vicinity (ie, traffic), it is
		considered that the exceedance was not due to the
		Contract 23 construction works.

Station	Record of Exceedance	Result of Investigation
NM2	Exceedance of Limit Level on 6 January 2013 (13:00 - 13:15)	According to the works summary provided by the Contractor, no works had been performed outside the noise enclosure. Other construction activities that took place during the noise monitoring session included relocating electric panel for jumbo, pulling of electric cables,
		installation of ventilation ducting, and operating Alimak, lift, kibble winder and gantry crane. These activities were carried out inside the noise enclosure.
		It was observed no noisy outdoor construction activities at the Wan Chai East Production and Drop Shafts during the noise monitoring session. This is consistent with the works summary provided by the Contractor showing no major outdoor construction activities that have taken place during the same period.
		Other potential noise source was also identified in the vicinity (ie, traffic) to contribute to the measured noise level.
		In view of no noisy outdoor construction works was carried out and contribution from other potential noise source in vicinity (ie, traffic), it is considered that the exceedance was not due to the Contract 23 construction works.
NM2	Exceedance of Limit Level on 15 January 2013 (21:00 - 21:15)	According to the works summary provided by the Contractor, no works had been performed outside the noise enclosure. Other construction activities that took place during the noise monitoring session included mobilizing of Robodrill at Face; Rockbolts markings and preparation; and Face Survey for Rockbolt. These activities were carried out inside the noise enclosure.
		It was observed no noisy outdoor construction activities at the Wan Chai East Production and Drop Shafts during the noise monitoring session. This is consistent with the works summary provided by the Contractor showing no major outdoor construction activities that have taken place during the same period.
		Other potential noise source was also identified in the vicinity (ie, traffic) to contribute to the measured noise level.
		In view of no noisy outdoor construction works was carried out and contribution from other potential noise source in vicinity (ie, traffic), it is considered that the exceedance was not due to the Contract 23 construction works.

	Station	Record of Exceedance	Result of Investigation			
	NM2	Exceedance of Limit Level on 20 January 2013 (14:21 - 14:36)	According to the works summary provided by the Contractor, no works had been performed outside the noise enclosure. Other activities that took place during the noise monitoring session included moving emulsion pump, drilling anchors, transferring switch, operation of Alimak, kibble winder, gantry crane operation, lifting operation, and repairing equipment and maintenance. These activities were carried out			
			inside the noise enclosure.			
			It was observed no noisy outdoor construction activities at the Wan Chai East Production and Drop Shafts during the noise monitoring session. This is consistent with the works summary provided by the Contractor showing no major outdoor construction activities that have taken place during the same period.			
			Other potential noise source was also identified in the vicinity (ie, traffic) to contribute to the measured noise level.			
			In view of no noisy outdoor construction works was carried out and contribution from other potential noise source in vicinity (ie, traffic), it is considered that the exceedance was not due to the Contract 23 construction works.			
4.7.2	Summary of Environmental Non-Compliance					
			ded during the reporting period.			
4.7.3	Summa	ry of Environmental Compla	iint			
		plaint was received during t int log is shown in <i>Annex D7</i>				
4.7.4	Summa	ry of Environmental Summo	ns and Successful Prosecution			
		mons was received during t ns/prosecution log is shown	he reporting period. The cumulative in <i>Annex D7</i> .			
4.8	Future	Key Issues				
4.8.1	Key Issi	ues for the Coming Month				
		o be undertaken for the com rised in <i>Table 4.12.</i>	ing two monitoring periods are			
Table 4.12	4.12 Construction Works to be Undertaken in the Coming Two Months at W Chai East Production and Drop Shafts					
	Work to b	oe taken				

4.7.3

4.8.1

Work to be taken		
Production Shaft (Tunnel	•	Drilling and blasting
K (Drive4) and Tunnel J	•	Installation of Tunnel Services and rail tracks.
(Drive 5))		
Drop Shaft	•	Raise boring (reaming).

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

4.8.2 Monitoring Schedule for Next Month

The tentative schedule of TSP and noise monitoring for the next reporting period is presented in *Annex D3*. Environmental monitoring will be conducted at the same monitoring locations in the reporting period.

4.8.3 Construction Programme for the Next Month

The most up-to-date construction programme for the Project is presented in *Annex D8*.

5.1 CONSTRUCTION ACTIVITIES DURING THE REPORTING MONTH

A summary of the major construction activities undertaken in this reporting period is shown in *Table 5.1*. The location of the construction activities is shown in *Annex E1*.

Table 5.1Summary of Construction Activities Undertaken from 1 to 31 January 2013 at
Central Drop Shaft

Construction Activities Undertaken

- Installation of wastewater treatment facility; and
- Pre-excavation grouting for raise boring.

5.2 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since December 2009 is presented in *Table 5.2* below.

Table 5.2Summary of Environmental Licensing, Notification and Permit Status at
Central Drop Shaft

Permit/Licences/ Reference		Validity Period	Remarks
Notification			
Wastewater Discharge	Central PTW Drop Shaft	09 October 2009	
License	WT0005131-2009	-31 October 2014	
Chemical Waste	Central PTW Drop Shaft	Throughout the	
Producer Registration	5213-115-G2347-06	contract	
Construction Noise	Central Drop Shaft	14 January	Expired. No CNP is
Permit CNP	GW-RS0042-11	2011 – 4 July	required as no works
		2011	will take place
			during restricted
			hours.

5.3 Environmental Monitoring Requirements

5.3.1 Air Quality Monitoring

Monitoring Location

In accordance with the EM&A Manual, 24-hour and 1-hour averaged Total Suspended Particulates (TSP) levels should be conducted at designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was denied or not available, alternative locations were proposed and agreed by the ER and IEC. The construction air quality monitoring station for this Contract is listed in *Table 5.3* and shown in *Annex E2*.

Worksite	Construct	ion Air Qu	ality Monitoring Stati	on
	ID in EM&A Manual	ID	Location	Remark
Central	-	AM4_2	A Location within the DSD Central PTW	 Access to Sheung Wan Fire Station (CM_C1) was declined. All possible locations along Connaught Road West and Connaught Road East have been exhausted and no suitable location was identified owing to the rejection by the premise owner, security reasons, absence of guaranteed access or inaccessibility. AM4 was the alternative location. Since air monitoring station AM4 has to return to DSD for other Work Contract, AM4_2 is an alternative location to replace AM4.

Table 5.3Construction Phase Air Monitoring Location at Central Drop Shaft

Monitoring Parameters, Frequency and Programme

Air quality monitoring has been conducted in accordance with the requirements stipulated in the EM&A Manual (*Table 5.4*). The monitoring programme for this reporting period is shown in *Annex E3*.

Table 5.4TSP Monitoring Parameter and Frequency at Central Drop Shaft

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

Monitoring Equipment

Continuous 24-hour and 1-hour averaged TSP monitoring were performed using High Volume Samplers (HVS) with appropriate sampling inlets installed, located at the designated monitoring station. The performance specification of HVS complied with the standard method "*Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)*" as stipulated in US EPA Standard Title 40, Code of Federation Regulations Chapter 1 (*Part 50 Appendix B*). Table 5.5 summarises the equipment that was deployed for the 24-hour and 1-hour averaged TSP monitoring.

Table 5.5TSP Monitoring Equipment at Central Drop Shaft

Monitoring Station	Monitoring Equipment (HVS and Calibrator)
24-hr and 1-hr TSP	
AM4_2	GMW GS-2310 (S/N 9315), CM-AIR-43 (S/N 0438320)

Monitoring Methodology

<u>Installation</u>

The setup location of the HVS was listed in *Table 5.3*. The HVS was free-standing with no obstruction.

The following criteria have been considered in the installation of the HVSs:

- appropriate support to secure the samplers against gusty wind were provided at AM4_2;
- a minimum of 2 m separation from walls, parapets and penthouses was required for rooftop samplers;
- no furnace or incinerator flues were nearby;
- airflow around the sampler was unrestricted; and
- permission was obtained to set up the samplers and to gain access to the monitoring stations.

Preparation of Filter Papers

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

Field Monitoring

- the power supply was checked to ensure that the HVSs were working properly;
- the filter holder and the area surrounding the filter were cleaned;
- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- the swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;

- the shelter lid was closed and secured with the aluminium strip;
- the HVSs were warmed-up for about 5 minutes to establish runtemperature conditions;
- a new flow rate record sheet was set into the flow recorder;
- the flow rates of the HVSs were checked and adjusted to between 1.22 1.37 m³min⁻¹ which were within the range specified in the EM&A Manual (ie 0.6 1.7 m³min⁻¹);
- the programmable timer was set for a sampling period of 24 hours ± 1 hour, and the starting time, weather condition and the filter number were recorded;
- the initial elapsed time was recorded;
- at the end of sampling, the sampled filter was removed carefully and folded in half so that only surfaces with collected particulate matter were in contact;
- the filter paper was placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- filters were sent to SGS Hong Kong Ltd for analysis.

Maintenance and Calibration

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

Wind Data

The nearest weather stations to Central Drop Shaft are located at King's Park and Green Island. The average wind data (wind speed and wind direction) during the monitoring period were obtained from the meteorological stations at Green Island and King's Park of the Hong Kong Observatory (HKO) and are presented in *Annex E5*.

Action and Limit Levels

The Action and Limit levels have been established and are presented in *Table* 5.6.

Parameter	Air Monitoring Station	Action Level, µgm ⁻³	Limit Level, µgm ⁻³
24-hour average TSP	AM4_2	211	260
1-hour average TSP	AM4_2	393	500

Event and Action Plan

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

5.3.2 Noise Monitoring

Monitoring Location

In accordance with the EM&A Manual, monitoring of construction noise impact should be conducted at the designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was denied or not available, alternative locations were proposed and agreed by the ER and the IEC. The construction noise monitoring locations for this Contract are listed in *Table 5.7* and shown in *Annex E2*.

Table 5.7Construction Phase Noise Monitoring Station at Central Drop Shaft

Worksite	Construction Noise Monitoring Station				
	ID in EM&A Manual	ID	Location	Type of Measurement	Remark
Central	-	NM3	Rooftop of Goldfield Building	Façade	Chi Cheung Building (M4) is not accessible.

Monitoring Parameters, Frequency and Programme

Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual. Additional noise monitoring were also conducted as per required in the EM&A Manual when works were carried out during restricted periods. The monitoring programme for this reporting period is shown in *Annex E3*.

The construction noise levels were measured in terms of A-weighted equivalent continuous sound pressure level (L_{Aeq}) in decibels dB(A). $L_{Aeq(30min)}$ was used as the monitoring parameter for the time period in between 0700 – 1900 hours on normal weekdays, and $L_{Aeq(5min)}$ was used as the monitoring parameter for all restricted periods. Supplementary information for data auditing (two statistical sound levels L_{10} and L_{90} which are the levels exceeded for 10 and 90 percent of the time respectively) was also recorded during the monitoring for reference. The measured noise levels were logged every 5 minutes throughout the impact monitoring period. *Monitoring Equipment and Methodology*

Construction noise measurements were conducted in accordance with the calibration and measurement procedures as stated in *Annex – General Calibration and Measurement Procedures* of *Technical Memorandum on Noise from*

Construction Work other than Percussive Piling (GW-TM) issued under the *Noise Control Ordinance (NCO)* (Cap.400).

The sound level meters and calibrator used for the noise measurement, as listed in *Table 5.8*, comply with IEC 651: 1979 and 804:1985 (Type 1) specification. The calibration certificates of the sound level meters are included in *Annex H*.

Table 5.8Noise Monitoring Equipment at Central Drop Shaft

Monitoring Station	Monitoring Equipment (Sound Level Meter and Calibrator)		
NM3	٠	Calibrator: RION - NC73 (S/N 10997142)	
	•	Sound Level Meters: Rion NL-31 (S/N 00603867)	

Immediately prior to and following the noise measurements, the accuracy of the measurement equipment was checked using an acoustic calibrator generating a known sound pressure level at a known frequency.

Action and Limit Levels

The limit levels for the noise monitoring during different monitoring periods are summarised in *Table 5.9*.

Table 5.9Action and Limit Levels for Noise Monitoring at Central Drop Shaft

Noise Monitoring Location	Measurement Parameters	Limit Level (dB(A))	Remark
NM3	L _{Aeq(30min)}	75	Normal working hours during
			weekdays
	LAeq(5min)	70	Evening (1900-2300); and
			Sundays and public holidays (0700-
			2300)
	LAeq(5min)	55	Night-time (2300-0700)

Event and Action Plan

The Event and Action Plan (EAP) for noise monitoring is presented in Annex I.

5.3.3 Cultural Heritage

No vibration monitoring is required for this reporting month as no blasting of tunnel / shaft works was carried out.

5.3.4 Landscape and Visual Monitoring

In accordance with the EM&A Manual, landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures are fully achieved. The landscape and visual monitoring was carried out on site within the environmental site inspection. The monitoring procedures and criteria as described in the EM&A Manual were adopted.

Event and Action Plan

The Event and Action Plan (EAP) for landscape and visual monitoring is presented in *Annex I*.

5.4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented environmental mitigation measures and fulfilled requirements as stated in the EIA Report, Environmental Permit and EM&A Manual. The implementation status during the reporting period is summarised in *Annex E4*.

5.5 MONITORING RESULTS

5.5.1 *Air Quality*

A total of 5 sets of 24-hour averaged and 15 sets of 1-hour averaged TSP measurements have been carried out at AM4_2 during the reporting period. The monitoring data for 24-hour and 1-hour average TSP together with the wind data and graphical presentations are presented in *Annex E5*.

The weather condition during the monitoring period varied from sunny to cloudy. The local impacts near the monitoring stations of AM4_2 were mainly associated with vehicle emissions.

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

5.5.2 Noise

A total of 5 sets of 30-minute construction noise measurements were carried out at the monitoring station NM3 during normal weekdays of the reporting period. The monitoring results together with their graphical presentations are presented in *Annex E6*. The local impacts observed near the monitoring stations of NM3 were due to traffic noise from Connaught Road Central.

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

5.5.3 Landscape and Visual

Implementation and maintenance of landscape and visual mitigation measures are fully achieved and no major finding was made during the reporting month.

5.5.4 *Cultural Heritage*

No vibration monitoring was conducted for this reporting month as the blasting of tunnel / shaft works has not started.

5.5.5 Waste Management

Waste generated from this Project includes inert construction and demolition (C&D) materials, non-inert C&D materials, and marine deposit. Non-inert C&D materials are made up of general refuse, steel and paper/cardboard packaging materials. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. No marine deposits requiring Type 1, 2, and 3 disposal methods were generated during the reporting month. Reference has been made to the Monthly Summary Waste Flow Table prepared by the Contractor (Annex]). The waste statistics provided in this section represents the cumulative quantity of wastes generated from all sites in this Project. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in Table 5.10. The inert C&D materials and general refuse generated from the Project were disposed of at Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill respectively. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

Table 5.10Quantities of Waste Generated from the Project for all Sites

Month / Year			Quantity			
	C&D Materials	C&D Materials	Chemical	Marine D	eposit	
	(inert) ^(a)	(non-inert) (b)	Waste	Type 1	Type 2	Type 3
January 2013	16,142.84 tonnes	31.6 tonnes	400L	0 m ³	0 m ³	0 tonnes
Notes:						

(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil. 8,237.96 tonnes of inert C&D materials were disposed of at the Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/ Chai Wan Barging Point and 7,904.88 tonnes broken rock have been transferred to SENT Landfill/Lam Tei Quarry for use.

(b) Non-inert C&D materials include steel, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Steel materials generated from the project are grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. The non-inert C&D materials other than steel and paper/cardboard packaging were disposed of at SENT Landfill. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

5.6

ENVIRONMENTAL SITE INSPECTION

Weekly site inspections were carried out by representatives of the Contractor, Engineer and ET. Site inspections were conducted on 3, 10, 17, 24 and 31 January 2013. Because of the scheduled SSEMC meeting on 31 January 2013 immediately after the joint inspection, inspection was not arranged for the Central Drop Shaft site on that day. No non-compliance was recorded during the site inspections.

Major findings and recommendations are summarised as follows:

• No observation during the reporting month.

5.7	ENVIRONMENTAL NON-CONFORMANCE				
5.7.1	Summary of Monitoring Exceedance				
	No exceedance of the Action and Limit Levels of 1-hour and 24-hour averaged TSP was recorded at the monitoring station during the reporting period.				
	No exceedance of the Action and Limit Levels of construction noise was recorded at the monitoring station during the reporting period.				
5.7.2	Summary of Environmental Non-Compliance				
	No non-compliance event was recorded during the reporting period.				
5.7.3	Summary of Environmental Complaint				
	No complaint was received during the reporting period. The cumulative complaint log is shown in <i>Annex E7</i> .				
5.7.4	Summary of Environmental Summon and Successful Prosecution				
	No summons was received during the reporting period. The cumulative summons/prosecution log is shown in <i>Annex E7</i> .				
5.8	Future Key Issues				
5.8 5.8.1	<i>Future Key Issues</i> <i>Key Issues for the Coming Month</i> Works to be undertaken in the coming two monitoring periods are summarised in <i>Table 5.11</i> .				
	<i>Key Issues for the Coming Month</i> Works to be undertaken in the coming two monitoring periods are				
5.8.1	Key Issues for the Coming Month Works to be undertaken in the coming two monitoring periods are summarised in Table 5.11. Construction Works to be Undertaken in the Coming Two Months at Central Drop Shaft Work to be carried out				
5.8.1	<i>Key Issues for the Coming Month</i> Works to be undertaken in the coming two monitoring periods are summarised in <i>Table 5.11</i> . <i>Construction Works to be Undertaken in the Coming Two Months at Central</i> <i>Drop Shaft</i>				
5.8.1	Key Issues for the Coming Month Works to be undertaken in the coming two monitoring periods are summarised in Table 5.11. Construction Works to be Undertaken in the Coming Two Months at Central Drop Shaft Work to be carried out				
5.8.1 Table 5.11	Key Issues for the Coming Month Works to be undertaken in the coming two monitoring periods are summarised in Table 5.11. Construction Works to be Undertaken in the Coming Two Months at Central Drop Shaft Work to be carried out • General site clean work.				
5.8.1 Table 5.11	 Key Issues for the Coming Month Works to be undertaken in the coming two monitoring periods are summarised in Table 5.11. Construction Works to be Undertaken in the Coming Two Months at Central Drop Shaft Work to be carried out General site clean work. Monitoring Schedule for Next Month The tentative schedule of TSP and noise monitoring for the next reporting period is presented in Annex E3. Environmental monitoring will be 				

6 SAI YING PUN JUNCTION SHAFT

6.1 CONSTRUCTION ACTIVITIES DURING THE REPORTING MONTH

A summary of the major construction activities undertaken in this reporting period is shown in *Table 6.1*. The location of the construction activities is shown in *Annex F1*.

Table 6.1Summary of Construction Activities Undertaken from 1 to 31 January 2013 at
the Sai Ying Pun Junction Shaft

Co	Construction Activities Undertaken			
•	Pre-excavation grouting; and			
•	Drilling and blasting.			

6.2 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project from December 2009 is presented in *Table 6.2.*

Table 6.2Summary of Environmental Licensing, Notification and Permit Status at SaiYing Pun Junction Shaft

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Wastewater Discharge License	Sai Ying Pun Junction Shaft WT00006884-2010	11 June 2010 - 31 October 2014	
Chemical Waste Producer Registration	Sai Ying Pun Junction Shaft 5213-112-G2347-05	Throughout the Contractor	
Construction Noise Permit CNP	Sai Ying Pun Junction Shaft GW-RS0383-12	5 May 2012 – 4 November 2012	Replaced by GW- RS1073-12
	Sai Ying Pun Junction Shaft GW-RS1073-12	5 November 2012 – 4 May 2013	

6.3 Environmental Monitoring Requirements

6.3.1 Air Quality Monitoring

Because of the contractual arrangements, air quality monitoring was implemented by the Environmental Team of Contract No. *DC*/2007/24 of *Harbour Area Treatment Scheme Stage 2A (HATS2A) - Construction of Sewage Conveyance System from Aberdeen to Stonecutters Island.*

Monitoring Location

In accordance with the EM&A Manual, 24-hour and 1-hour averaged Total Suspended Particulates (TSP) levels should be conducted at designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was denied or not available, alternative locations were proposed and agreed by the ER and IEC. The construction air quality monitoring station for this Contract is listed in *Table 6.3* and shown in *Annex F2*.

Table 6.3Construction Phase Air Monitoring Location at Sai Ying Pun Junction Shaft

Worksite Construction Air Quality Monitoring Station			y Monitoring Station	
	ID in EM&A	ID	Location	Remark
	Manual			
Fung Mat Street	CM_FM1	AM5	Western Wholesale Food Market	-

Monitoring Parameters, Frequency and Programme

Air quality monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual (*Table 6.4*). The monitoring programme provided by *Contract No. DC*/2007/24 – *Harbour Area Treatment Scheme Stage 2A* (*HATS 2A*) *Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun* for this reporting period is shown in *Annex F3*.

Table 6.4TSP Monitoring Parameter and Frequency at Sai Ying Pun Junction Shaft

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

Wind Data Monitoring

The nearest weather stations to Sai Ying Pun Junction Shaft are located at King's Park Station and Green Island. The average wind data (wind speed and wind direction) during the monitoring period were obtained from the meteorological stations at Green Island and King's Park of the Hong Kong Observatory (HKO) and are presented in *Annex F5*.

Action and Limit Levels

The Action and Limit levels have been established and are presented in *Table* 6.5.

Table 6.5Action and Limit Levels for Air Quality at Sai Ying Pun Junction Shaft

Parameter	Air Monitoring Station	Action Level, µgm ⁻³	Limit Level, µgm ⁻³
24-hour averaged TSP	AM5	188	260
1-hour averaged TSP	AM5	332	500

Event and Action Plan

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

6.3.2 Noise Monitoring

Monitoring Location

In accordance with the EM&A Manual, monitoring of construction noise impact should be conducted at the designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was denied or not available; alternative locations were proposed and agreed by the ER and IEC. The construction noise monitoring location for this Contract is listed in *Table 6.6* and shown in *Annex F2*.

Table 6.6Construction Phase Noise Monitoring Station at Sai Ying Pun Junction Shaft

Worksite	Construction Noise Monitoring Station					
	ID in	ID	Location	Type of	Remark	
	EM&A			Measurement		
	Manual					
Fung Mat	M3	NM4	Rooftop of Block A,	Façade	-	
Road			Kwan Yick Building			
			Phase III			

Monitoring Parameters, Frequency and Programme

Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual. Additional noise monitoring were also conducted as per required in the EM&A Manual when works were carried out during restricted periods. The monitoring programme for this reporting period is shown in *Annex F3*.

The construction noise levels were measured in terms of A-weighted equivalent continuous sound pressure level (L_{Aeq}) in decibels dB(A). $L_{Aeq(30min)}$ was used as the monitoring parameter for the time period in between 0700 – 1900 hours on normal weekdays, and $L_{Aeq(5min)}$ was used as the monitoring parameter for all restricted periods. Supplementary information for data auditing (two statistical sound levels L_{10} and L_{90} which are the levels exceeded for 10 and 90 percent of the time respectively) was also recorded during the monitoring for reference. The measured noise levels were logged every 5 minutes throughout the impact monitoring period.

Monitoring Equipment and Methodology

Construction noise measurements were conducted in accordance with the calibration and measurement procedures as stated in *Annex – General Calibration and Measurement Procedures* of *Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM)* issued under the *Noise Control Ordinance (NCO)* (Cap.400).

The sound level meters and calibrator used for the noise measurement, as listed in *Table 6.7*, comply with IEC 651: 1979 and 804:1985 (Type 1)

specifications. The calibration certificates of the sound level meters are included in *Annex H*.

Table 6.7Noise Monitoring Equipment at Sai Ying Pun Junction Shaft

Monitoring Station	Monitoring Equipment (Sound Level Meter and Calibrator		
NM4	•	Calibrator: RION - NC73 (S/N 10997142)	
	•	Sound Level Meters: Rion NL-31 (S/N 00603867)	

Immediately prior to and following the noise measurements, the accuracy of the measurement equipment was checked using an acoustic calibrator generating a known sound pressure level at a known frequency.

Action and Limit Levels

The limit levels for the noise monitoring during different monitoring periods are summarised in *Table 6.8*.

Table 6.8Limit Levels for Noise Monitoring at Sai Ying Pun Junction Shaft

Noise Monitoring Location	Measurement Parameter	Limit Level (dB(A))	Remark
NM4	L _{Aeq(30min)}	75	Normal working hours during
			weekdays
	LAeq(5min)	70	Evening (1900-2300); and
			Sundays and public holidays (0700-
			2300)
	L _{Aeq(5min)}	55	Night-time (2300-0700)

Event and Action Plan

The Event and Action Plan (EAP) for noise monitoring is presented in Annex I.

6.3.3 Cultural Heritage

In order to prevent potential damage to historical buildings and structures, maximum limits for safe vibration levels have been set at 25 mm/s. This vibration limit has been applied in controlling vibrations due to blasting operations in Hong Kong by CEDD and MTRC. Vibration monitoring shall be undertaken during blasting for tunnel, shafts and effluent conveyance system in the vicinity of the buildings / structures as a requirement of EM&A programme in such a way that a maximum vibration level of 25 mm/s is not exceeded. To ensure that this maximum limit is not exceeded, a monitoring schedule shall be implemented. The monitoring should be undertaken through the use of measures such as tell tales and tilting monitoring points to the historic buildings and structures on a weekly basis. If vibration levels are found to exceed the maximum limit of 25 mm/s, immediate corrective action shall be taken by reducing the rate of forward progress, as necessary, to bring PPV levels within compliance. Monitoring results should be submitted to the engineer in an agreed format within two days of each monitoring undertaken.

6.3.4 Landscape and Visual Monitoring

In accordance with the EM&A Manual, landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures are fully achieved. The landscape and visual monitoring was carried out on site within the environmental site inspection. The monitoring procedures and criteria as described in the EM&A Manual were adopted.

Event and Action Plan

The Event and Action Plan (EAP) for landscape and visual monitoring is presented in *Annex I*.

6.4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented environmental mitigation measures and fulfilled requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status during the reporting period is summarised in *Annex F4*.

6.5 MONITORING RESULTS

6.5.1 Air Quality

A total of 6 sets of 24-hour averaged and 18 sets of 1-hour averaged TSP measurements were carried out at AM5 during the reporting period. The monitoring data for 24-hour and 1-hour averaged TSP together with wind data and graphical presentations are presented in *Annex F5*.

The weather condition during the monitoring period was varied from fine to cloudy. The local impacts near the monitoring stations of AM5 were mainly associated with vehicle emissions.

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

6.5.2 Noise

A total of 5 sets of 30-minute construction noise measurements were carried out at the monitoring station NM4 during normal weekdays of the reporting period. No exceedance of limit level for noise monitoring during normal working hours was recorded.

5 sets of 3 x 5-minute construction noise measurements were carried out during restricted hours on 2, 6, 15, 20 and 29 January 2013. No exceedance of limit level for noise monitoring during restricted hours was recorded.

The monitoring results together with graphical presentations are presented in *Annex F6*. The local impacts observed near the monitoring stations of NM4 were traffic noise from Connaught Road West.

6.5.3 Landscape and Visual

The implementation and maintenance of landscape and visual mitigation measures are fully achieved and no major finding was made during the reporting month.

6.5.4 *Cultural Heritage*

Shaft blasting was carried out at tunnel K during the reporting month. 12 sets of vibration monitoring were conducted for 207 Des Voeux Road (HATS-03) on 5, 7, 8, 11, 12, 14, 15, 18, 19, 21, 22, 25, 26, 28 and 29 January 2013. No exceedance of maximum limit for safe vibration level (25 mm/s) was recorded. The monitoring result is presented in *Annex F9*.

6.5.5 Waste Management

Waste generated from this Project includes inert construction and demolition (C&D) materials, non-inert C&D materials, and marine deposit. Non-inert C&D materials are made up of general refuse, steel and paper/cardboard packaging materials. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. No marine deposits requiring Type 1, 2, and 3 disposal methods were generated during the reporting month. Reference has been made to the Monthly Summary Waste Flow Table prepared by the Contractor (Annex]). The waste statistics provided in this section represent the cumulative quantity of wastes generated from all sites in this Project. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in Table 6.9. The inert C&D materials and general refuse generated from the Project were disposed of at Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill respectively. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

Table 6.9Quantities of Waste Generated from the Project for all Sites

Month / Year	Quantity							
	C&D Materials	C&D Materials	Chemical	Marine Deposit				
	(inert) ^(a)	(non-inert) (b)	Waste	Type 1	Type 2	Type 3		
January 2013	16,142.84 tonnes	01 ()	400L	0 m ³	0 m ³	0 tonnes		

ert C&D materials include bricks, concrete, building debris, rubble and excavated soil. 37.96 tonnes of inert C&D materials were disposed of at the Tuen Mun Area 38/Tseung van O Area 137 Fill Bank/ Chai Wan Barging Point and 7,904.88 tonnes broken rock hav en transferred to SENT Landfill/Lam Tei Quarry for use. on-inert C&D materials include steel, paper / cardboard packaging waste, plastics and her wastes such as general refuse. Steel materials generated from the project are group o non-inert C&D materials as the materials were not disposed of with other inert C&D aterials. The non-inert C&D materials other than steel and paper/cardboard packaging ere disposed of at SENT Landfill. No plastic was generated but 30 kg of paper/cardboard ckaging and 5 kg of steels were generated and sent to recyclers for recycling.
37.96 tonnes of inert C&D materials were disposed of at the Tuen Mun Area 38/Tseung van O Area 137 Fill Bank/ Chai Wan Barging Point and 7,904.88 tonnes broken rock hav en transferred to SENT Landfill/Lam Tei Quarry for use. on-inert C&D materials include steel, paper / cardboard packaging waste, plastics and her wastes such as general refuse. Steel materials generated from the project are group o non-inert C&D materials as the materials were not disposed of with other inert C&D aterials. The non-inert C&D materials other than steel and paper/cardboard packaging ere disposed of at SENT Landfill. No plastic was generated but 30 kg of paper/cardboard ckaging and 5 kg of steels were generated and sent to recyclers for recycling.
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RONMENTAL SITE INSPECTION site inspections were conducted by representatives of the Contractor,
site inspections were conducted by representatives of the Contractor,
site inspections were conducted by representatives of the Contractor,
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· · ·
eer and the ET on 3, 10, 17, 24 and 31 January 2013. Because of the
uled SSEMC meeting on 31 January 2013 immediately after the joint
ction, inspection was not arranged for the Sai Ying Pun site on that day.
on-compliance was recorded during the site inspections.
findings observed during the reporting period were summarised as
VS:
ul cti on

On 10 January 2013, three chemical storage containers (for sulphuric acid) were stored near the chemical enhanced wastewater treatment facility. The Contractor was reminded to store them properly in the chemical storage area to prevent chemical leakage or spill.

6.7 Environmental Non-conformance

6.6

6.7.1 Summary of Monitoring Exceedance

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

No exceedance of the Noise Limit Levels was recorded at the monitoring station during both normal working hours and restricted hours in the reporting period.

6.7.2 Summary of Environmental Non-Compliance

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

6.7.3 Summary of Environmental Complaint

No complaint was received during the reporting month. The cumulative complaint log is shown in *Annex F7*.

6.7.4 Summary of Environmental Summons and Successful Prosecution

No summons was received during the reporting period. The cumulative summons/prosecution log is shown in *Annex F7*.

6.8 FUTURE KEY ISSUES

6.8.1 Key Issues for the Coming Month

Works to be undertaken for the coming two monitoring periods are summarised in *Table 6.10*.

Table 6.10Construction Works to be Undertaken in the Coming Two Months at Sai Ying
Pun Junction Shaft

Work to be taken				
•	Pre-excavation; and			
•	Installation of tunnel services and rail tracks.			

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

6.8.2 Monitoring Schedule for Next Month

The tentative schedule of TSP and noise monitoring for the next reporting period is presented in *Annex F3*. Environmental monitoring will be conducted at the same monitoring locations in the reporting period.

6.8.3 Construction Programme for the Next Month

The most up-to-date construction programme for the Project is presented in *Annex F8*.

7 STONECUTTERS ISLAND PRODUCTION AND RISER SHAFTS

7.1 **CONSTRUCTION ACTIVITIES DURING THE REPORTING MONTH**

A summary of the major construction activities undertaken in this reporting period is shown in *Table 7.1*. The locations of the construction activities are shown in Annex G1.

Table 7.1 Summary of Construction Activities Undertaken from 1 to 31 January 2013 at the Stonecutters Island Production and Riser Shafts

Construction Activities Undertaken				
Riser Shaft •		Pre-excavation grouting; and		
	•	Second stage shaft sinking by soil excavation.		
Production Shaft	٠	Pre-excavation grouting; and		
(Tunnel L (Drive 1))	•	Drilling and blasting.		

7.2 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since December 2009 is presented in Table 7.2.

Table 7.2 Summary of Environmental Licensing, Notification and Permit Status at Stonecutters Island Production and Riser Shafts

Permit/ Licences/	Reference	Validity Period	Remarks
Notification			
Wastewater	Stonecutters Island Production	11 August 2010 -	
Discharge License	Shaft and Riser Shaft	31 October 2014	
	WT00005069-2009		
Chemical Waste	Stonecutters Island Production	Throughout the	
Producer Registration	Shaft and Riser Shaft	Contract	
	5213-269-G2449-07		
Construction Noise	Stonecutters Island Production	4 July 2012 – 28	
Permit CNP	and Riser Shaft	December 2012	
	GW-RW0523-12		
	Stonecutters Island Area K-1	10 July 2012 – 8	superceded by
	GW-RW0545-12	January 2013	GW-RW-0990-
			12
	Stonecutters Island Area K-1	9 January 2013 – 8	
	GW-RW0990-12	July 2013	
	Stonecutters Island Production	17 November	
	and Riser Shaft	2012 – 15 May	
	GW-RW0856-12	2013	

7.3 **ENVIRONMENTAL MONITORING REQUIREMENTS**

7.3.1 Air Quality Monitoring

Monitoring Location

In accordance with the EM&A Manual, 24-hour and 1-hour averaged Total Suspended Particulates (TSP) levels should be conducted at designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was denied or not available, alternative locations were proposed and agreed by the ER and IEC. The construction air quality monitoring station for this Contract is listed in *Table 7.3* and shown in *Annex G2*.

Table 7.3	Construction Phase Air Monitoring Location at Stonecutters Island
	Production and Riser Shafts

Worksite	Construct	ion Air Q	Quality Monitor	ring Station
	ID in EM&A Manual	ID	Location	Remark
SCISTW	-	AM6	Works Site Boundary	 Power Access supply for operation of HVS to the rooftop of Government Dockyard Offices (CM_SCI1) was not feasible. For COSCO HIT Terminal (CM_SCI2), access application was verbally rejected. Club House (CM_SCI3) is blocked by a high building, which will affect the dust levels during measurement. Work Site Boundary (near Ngong Shuen Chau Barracks Group 2 (CM_SCI4) was designed for the HATS2A Disinfection Facilities works and the station is separated by a small hill. Baseline dust monitoring data measured under HATS2A – Provision of Disinfection Facilities at SCISTW will also be obtained for the establishment of the action level for the impact monitoring.

Monitoring Parameters, Frequency and Programme

Air quality monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual (*Table 7.4*). The monitoring programme for this reporting period is shown in *Annex G3*.

Table 7.4TSP Monitoring Parameter and Frequency at Stonecutters Island Production
and Riser Shafts

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

Monitoring Equipment

Continuous 24-hour and 1-hour averaged TSP monitoring were performed using High Volume Samplers (HVS) with appropriate sampling inlets installed, located at the designated monitoring station. The performance specification of HVS complied with the standard method "Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)" as stipulated in US EPA Standard Title 40, Code of Federation Regulations Chapter 1 (*Part 50 Appendix B*). *Table 7.5* summarises the equipment that was deployed for the 24-hour and 1-hour averaged TSP monitoring.

Table 7.5TSP Monitoring Equipment at Stonecutters Island Production and Riser
Shafts

Monitoring Station	Monitoring Equipment (HVS and Calibrator)
24-hr and 1-hr TSP	
AM6	GMW GS-2310 (S/N 1254), CM-AIR-43 (S/N 0438320)

Monitoring Methodology

Installation

The setup location of the HVS was listed in *Table 7.3*. The HVS was free-standing with no obstruction.

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

- appropriate support to secure the samplers against gusty wind was provided at AM6;
- a minimum of 2 m separation from walls, parapets and penthouses was required for rooftop samplers;
- no furnace or incinerator flues was nearby;
- airflow around the sampler was unrestricted; and
- permission was obtained to set up the samplers and to gain access to the monitoring stations.

Preparation of Filter Papers

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

Field Monitoring

- the power supply was checked to ensure that the HVSs were working properly;
- the filter holder and the area surrounding the filter were cleaned;

- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- the swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- the shelter lid was closed and secured with the aluminium strip;
- the HVSs were warmed-up for about 5 minutes to establish runtemperature conditions;
- a new flowrate record sheet was set into the flow recorder;
- the flow rates of the HVSs were checked and adjusted to between 1.22 -1.37 m³min⁻¹ which were within the range specified in the EM&A Manual (ie 0.6 – 1.7 m³min⁻¹);
- the programmable timer was set for a sampling period of 24 hours ± 1 hour, and the starting time, weather condition and the filter number were recorded;
- the initial elapsed time was recorded;
- at the end of sampling, the sampled filter was removed carefully and folded in half so that only surfaces with collected particulate matter were in contact;
- the filter paper was placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- filters were sent to SGS Hong Kong Ltd for analysis.

Maintenance and Calibration

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

Wind Data

The nearest weather station to Stonecutters Island Production and Riser Shafts is located at Tsing Yi. The average wind data (wind speed and wind direction) during the monitoring period were obtained from the meteorological station at Tsing Yi of the Hong Kong Observatory (HKO) and are presented in *Annex G5*.

Action and Limit Levels

The Action and Limit levels have been established and are presented in *Table* 7.6. The baseline air monitoring data (24-hr and 1-hr TSP average) measured under *HATS2A – Provision of Disinfection Facilities at SCISTW* (DF) were also included to establish the Action Level at AM6.

Table 7.6Action and Limit Levels for Air Quality at Stonecutters Island Production
and Riser Shafts

Parameter	Air Monitoring Station	Action Level, µgm-3	Limit Level, µgm ⁻³
24-hour	AM6 (with 24-hr TSP data from	196	260
average TSP	DF project)		
1-hour average	AM6 (with 1-hr TSP data from	346	500
TSP	DF project)		

Event and Action Plan

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

7.3.2 Noise Monitoring

Monitoring Location

In accordance with the EM&A Manual, monitoring of construction noise impact should be conducted at the designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual were denied or not available, alternative locations were proposed and agreed by the ER and IEC. The construction noise monitoring location for this Contract is listed in *Table 7.7* and shown in *Annex G2*.

Table 7.7Construction Phase Noise Monitoring Station at Stonecutters Island
Production and Riser Shafts

Worksite	Construction Noise Monitoring Station								
	ID in	ID	Location	Type of	Remark				
	EM&A			Measurement					
	Manual								

SCISTW	-	NM5	A Location near the	Free-Field	٠	Access to FSD
			FSD Diving Rescue	(3dB(A) was		Fire Rescue and
			and Diving	added to the		Diving Training
			Training Centre	measured		Centre (M11) was
			near the Site	results)		declined.
			Boundary		•	NM5 is located
						next to the
						original
						proposed
						location.

Monitoring Parameters, Frequency and Programme

Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual. Additional noise monitoring was also conducted as per required the EM&A Manual when works were carried out during restricted periods. The monitoring programme for this reporting period is shown in *Annex G3*.

The construction noise levels were measured in terms of A-weighted equivalent continuous sound pressure level (L_{Aeq}) in decibels dB(A). $L_{Aeq(30min)}$ was used as the monitoring parameter for the time period in between 0700 – 1900 hours on normal weekdays, and $L_{Aeq(5min)}$ was used as the monitoring parameter for all restricted periods. Supplementary information for data auditing, two statistical sound levels (L_{10} and L_{90} which are the levels exceeded for 10 and 90 percent of the time respectively) were also recorded during the monitoring for reference. The measured noise levels were logged every 5 minutes throughout the impact monitoring period.

Monitoring Equipment and Methodology

Construction noise measurements were conducted in accordance with the calibration and measurement procedures as stated in *Annex – General Calibration and Measurement Procedures* of *Technical Memorandum on Noise from Construction Work other than Percussive Piling* (*GW-TM*) issued under the *Noise Control Ordinance* (*NCO*) (Cap.400).

The sound level meters and calibrator used for the noise measurement, as listed in *Table 7.8*, comply with IEC 651: 1979 and 804:1985 (Type 1) specification. The calibration certificates of the sound level meters are included in *Annex H*.

Table 7.8Noise Monitoring Equipment at Stonecutters Island Production and Riser
Shafts

Monitoring Station	Monitoring Equipment (Sound Level Meter and Calibrator)					
NM5	•	Calibrator: Rion NC-73 (S/N 10997142)				
	•	Sound Level Meters: Rion NL-31 (S/N 00410224)				

Immediately prior to and following the noise measurements, the accuracy of the measurement equipment was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. A correction of +3 dB(A) was made to the free field measurement at NM5.

Action and Limit Levels

The limit levels for the noise monitoring during different monitoring periods are summarised in *Table 7.9*.

Table 7.9Limit Levels for Noise Monitoring at Stonecutters Island Production and
Riser Shaft

Noise Monitoring Location	Measurement Parameter	Limit Level (dB(A))	Remark
NM5	LAeq(30min)	75	Normal working hours during weekdays
	LAeq(5min)	70	Evening (1900-2300); and Sundays and public holidays (0700- 2300)
	LAeq(5min)	55	Night-time (2300-0700)

Event and Action Plan

The Event and Action Plan (EAP) for noise monitoring is presented in Annex I.

7.3.3 Cultural Heritage

No vibration monitoring is required for this reporting month as no blasting of tunnel / shaft works was carried out.

7.3.4 Landscape and Visual Monitoring

In accordance with the EM&A Manual, landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures are fully achieved. The landscape and visual monitoring was carried out on site within the environmental site inspection. The monitoring procedures and criteria as described in the EM&A Manual were adopted.

Event and Action Plan

The Event and Action Plan (EAP) for landscape and visual monitoring is presented in *Annex I*.

7.4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented environmental mitigation measures and fulfilled the requirements as stated in the EIA Report, Environmental Permit and EM&A Manual. The implementation status during the reporting period is summarised in *Annex G4*.

7.5 MONITORING RESULTS

7.5.1 Air Quality

A total of 6 sets of 24-hour averaged and 18 sets of 1-hour averaged TSP measurements were carried out at AM6 during the reporting period. The monitoring data for 24-hour and 1-hour averaged TSP together with wind data and graphical presentations are presented in *Annex G5*.

The weather condition during the monitoring period was sunny. The local impacts near the monitoring stations of AM6 were mainly associated with vehicle emissions.

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

7.5.2 Noise

A total of 5 sets of 30-minute construction noise measurements were carried out at the monitoring station NM5 during normal weekdays of the reporting period. No exceedance of limit level for noise monitoring during normal working hours was recorded.

Construction work was also conducted on public holidays and Sundays in this reporting month. 4 sets of 3 x 5-minute construction noise measurements were carried out during restricted hours on 8, 13, 22 and 27 January 2013 during the reporting month. No exceedance of limit level for noise monitoring during restricted hours was recorded.

The monitoring results together with their graphical presentations are presented in *Annex G6*. The local impacts observed near the monitoring stations of NM5 included operations at the Government Dockyard, other construction sites activities and traffic within the SCISTW in the vicinity.

7.5.3 Landscape and Visual

The implementation and maintenance of landscape and visual mitigation measures are fully achieved and no major finding was made during the reporting month.

7.5.4 *Cultural Heritage*

No vibration monitoring was conducted for this reporting month as the blasting of tunnel / shaft works has not started.

7.5.5 Waste Management

Waste generated from this Project includes inert construction and demolition (C&D) materials, non-inert C&D materials, and marine deposit. Non-inert C&D materials are made up of general refuse, steel and paper/cardboard packaging materials. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. No marine deposits requiring Type 1, 2, and 3 disposal methods was generated during the reporting month. Reference has been made to the Monthly Summary Waste Flow Table prepared by the Contractor (Annex J). The waste statistics provided in this section represent the cumulative quantity of wastes generated from all sites in this Project. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in *Table 7.10*. The inert C&D materials and general refuse generated from the Project were disposed of at Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/Chai Wan Barging Point and SENT Landfill respectively. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

Table 7.10Quantities of Waste Generated from the Project for all Sites

Month / Year			Quantity			
	C&D Materials	C&D Materials	Chemical	mical Marine Deposit		
	(inert) ^(a)	(non-inert) (b)	Waste	Type 1	Type 2	Type 3
January 2013	16,142.84 tonnes	31.6 tonnes	400L	0 m ³	0 m ³	0 tonnes

Notes:

(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil. 8,237.96 tonnes of inert C&D materials were disposed of at the Tuen Mun Area 38/Tseung Kwan O Area 137 Fill Bank/ Chai Wan Barging Point and 7,904.88 tonnes broken rock have been transferred to SENT Landfill/Lam Tei Quarry for use.

(b) Non-inert C&D materials include steel, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Steel materials generated from the project are grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. The non-inert C&D materials other than steel and paper/cardboard packaging were disposed of at SENT Landfill. No plastic was generated but 30 kg of paper/cardboard packaging and 5 kg of steels were generated and sent to recyclers for recycling.

7.6 Environmental Site Inspection

Weekly site inspections were carried out by representatives of the Contractor, Engineer and the ET. Site inspections were conducted on 3, 10, 17, 24 and 31 January 2013. The representative of the IEC joined the site inspection on 31 January 2013. No non-compliance was recorded during the site inspections.

Major findings and recommendations are summarised as follows:

Riser Shaft

• No observation during the reporting month.

Production Shaft

- On 3 January, the chemical drums without drip trays were still observed to be stored on a rack at the back of the noise enclosure. The contractor was recommended to provide drip tray to prevent potential chemical leakage.
- On 10 January, a chemical drum without drip trays was observed near the chemical waste store at Gate 2. The Contractor was recommended to provide drip tray to prevent potential chemical leakage.
- On 24 January, water dripping from air conditioners at the site office near the site entrance was observed with water accumulating on the ground. The Contractor was reminded to control the water dripping from the air conditioners and remove the stagnant water on the ground.
- On 31 January, three containers containing chemical, which were stored under the wastewater treatment facility for wastewater treatment, were not properly labeled. The Contractor was reminded to provide proper label on the chemical drums.
- On 31 January, the capacity of the drip trays provided for the chemical drums near the gate was insufficient. The Contractor was reminded to provide a drip tray with sufficient capacity for the chemical storage.
- On 31 January, two chemical drums covered by impervious sheet were not stored inside the drip tray near the gate. The Contractor was reminded to provide drip trays with sufficient capacity for the drums.
- On 31 January, oily water was observed inside a drip tray near the gate. The Contractor was reminded to disposal of them as chemical waste via a licensed chemical waste collector.

7.7 Environmental Non-conformance

7.7.1 Summary of Monitoring Exceedance

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

No exceedance of the Noise Limit Levels was recorded at monitoring station during both normal working hours and restricted hours in the reporting period.

7.7.2 Summary of Environmental Non-Compliance

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

7.7.3 Summary of Environmental Complaint

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

7.7.4 Summary of Environmental Summons and Successful Prosecution

No summon was received during the reporting period. The cumulative summons/prosecution log is shown in *Annex G7*.

7.8 FUTURE KEY ISSUES

7.8.1 Key Issues for the Coming Month

Works to be undertaken for the coming two monitoring periods are summarised in *Table 7.11*.

Table 7.11Construction Works to be Undertaken in the Coming Two Months at
Stonecutters Island Production and Riser Shafts

Work to be taken		
Riser Shaft	٠	Pre-excavation grouting; and
	٠	Shaft sinking by soil excavation.
Production Shaft	٠	Drilling and blasting; and
(Tunnel (Drive 1))	٠	Installation of tunnel services and rail tracks.

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

7.8.2 Monitoring Schedule for the Next Month

The tentative schedule of TSP and noise monitoring for the next reporting period is presented in *Annex G3*. Environmental monitoring will be conducted at the same monitoring locations in this reporting period.

7.8.3 Construction Programme for the Next Month

The most updated construction programme for the Project is presented in *Annex G8*.

This Environmental Monitoring and Audit (EM&A) Report presents the EM&A programme undertaken during the period from 1 to 31 January 2013 in accordance with EM&A Manual and the requirement under EP-322/2008/F. The conclusions for the five different sites are summarised below.

8.1 NORTH POINT PRODUCTION AND DROP SHAFTS

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

No exceedance of Limit Levels for construction noise was recorded at the monitoring station during the reporting period.

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

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

8.2 WAN CHAI EAST PRODUCTION AND DROP SHAFTS

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

Limit Levels for construction noise were exceeded on 2, 6, 15 and 20 January 2013 during the restricted hours at the monitoring station. However, the findings of investigation of exceedances indicated that the exceedance is attributed to the potential traffic noise as no outdoor construction activities were being carried out during the period.

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

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

8.3 CENTRAL DROP SHAFT

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

No exceedance of Limit Levels for construction noise was recorded at the monitoring station during the reporting period.

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

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

8.4 SAI YING PUN JUNCTION SHAFT

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

No exceedance of Limit Levels for construction noise was recorded at the monitoring station during the reporting period.

No exceedance of safe vibration level was recorded at the vibration monitoring station during the reporting period.

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

No summon/prosecution was received during the reporting period.

8.5 STONECUTTERS ISLAND PRODUCTION AND RISER SHAFTS

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

No exceedance of Limit Levels for construction noise was recorded at the monitoring station during the reporting period.

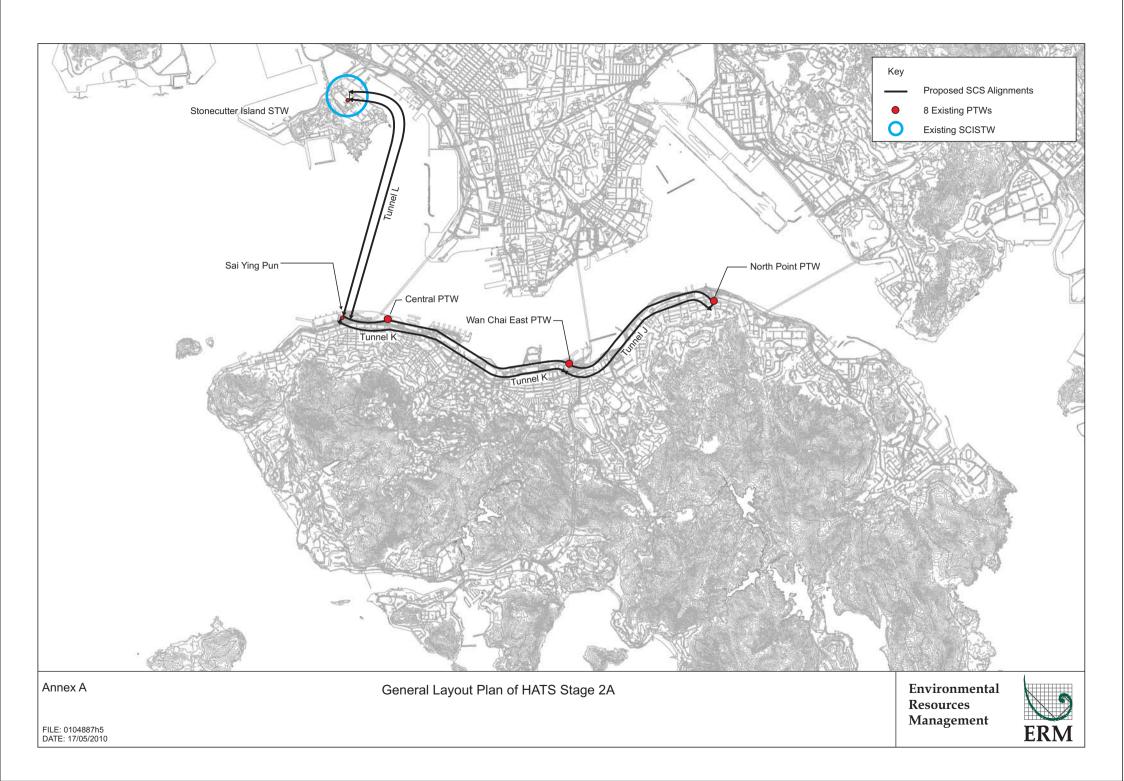
No non-compliance event was recorded during the reporting period.

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

8.6 OVERALL

The ET has managed the EM&A programme to monitor the compliance status of various environmental requirements, and verify the proper implementation of necessary mitigation measures. Annex A

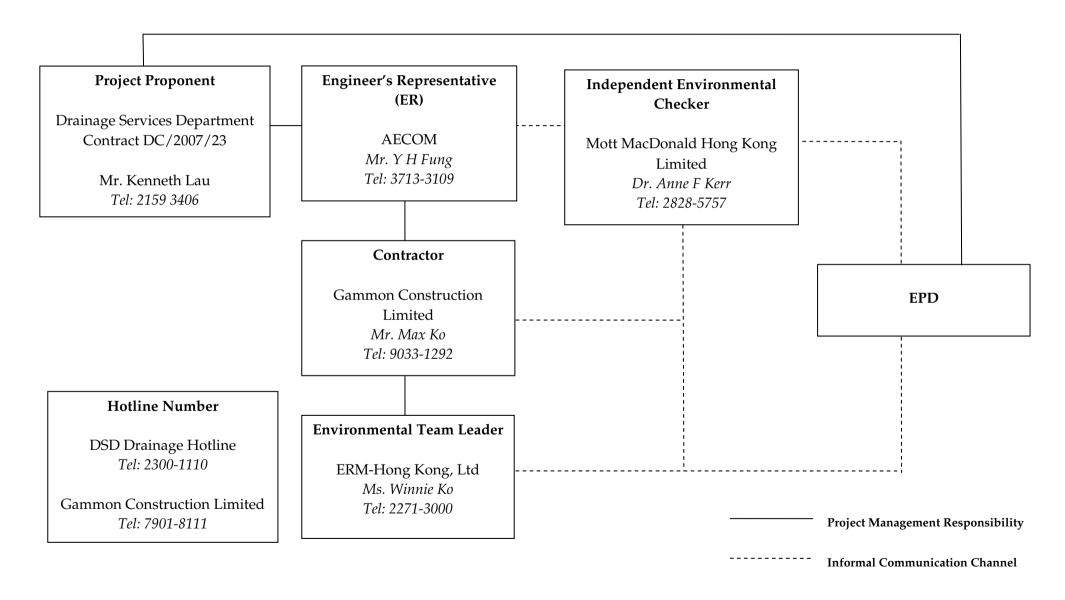
Locations of Works Areas



Annex B

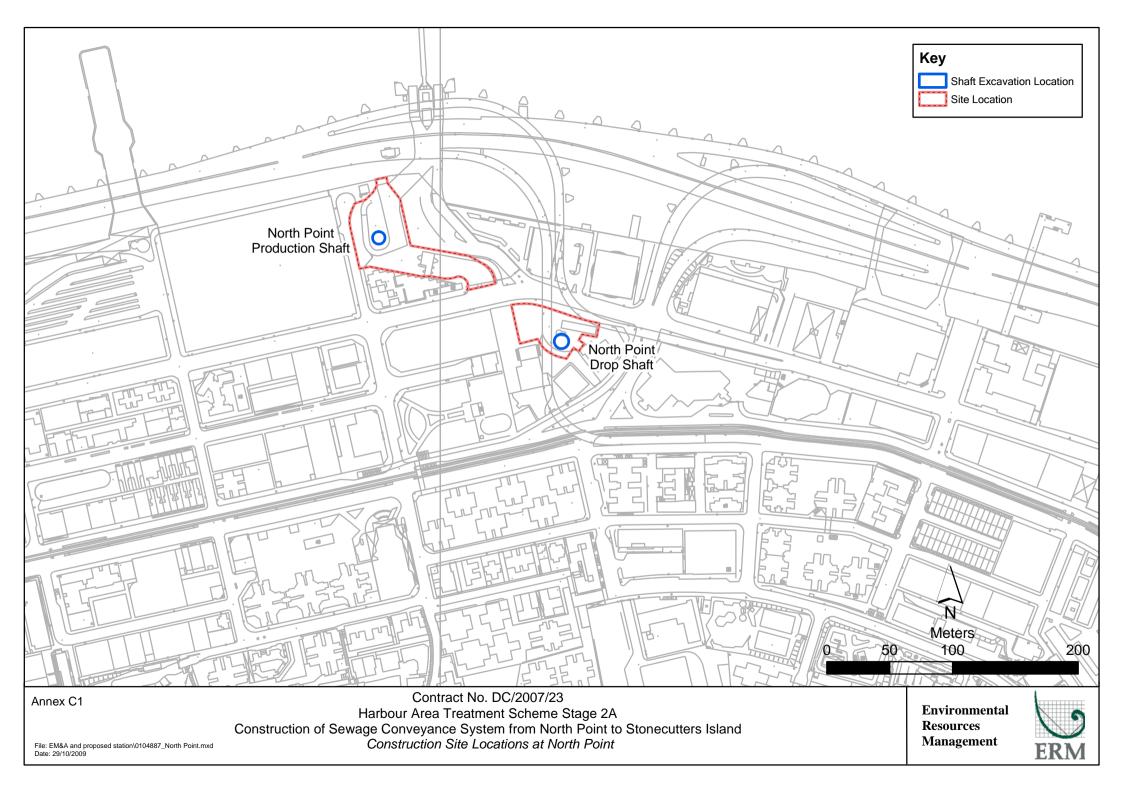
Project Organization Chart and Contact Detail

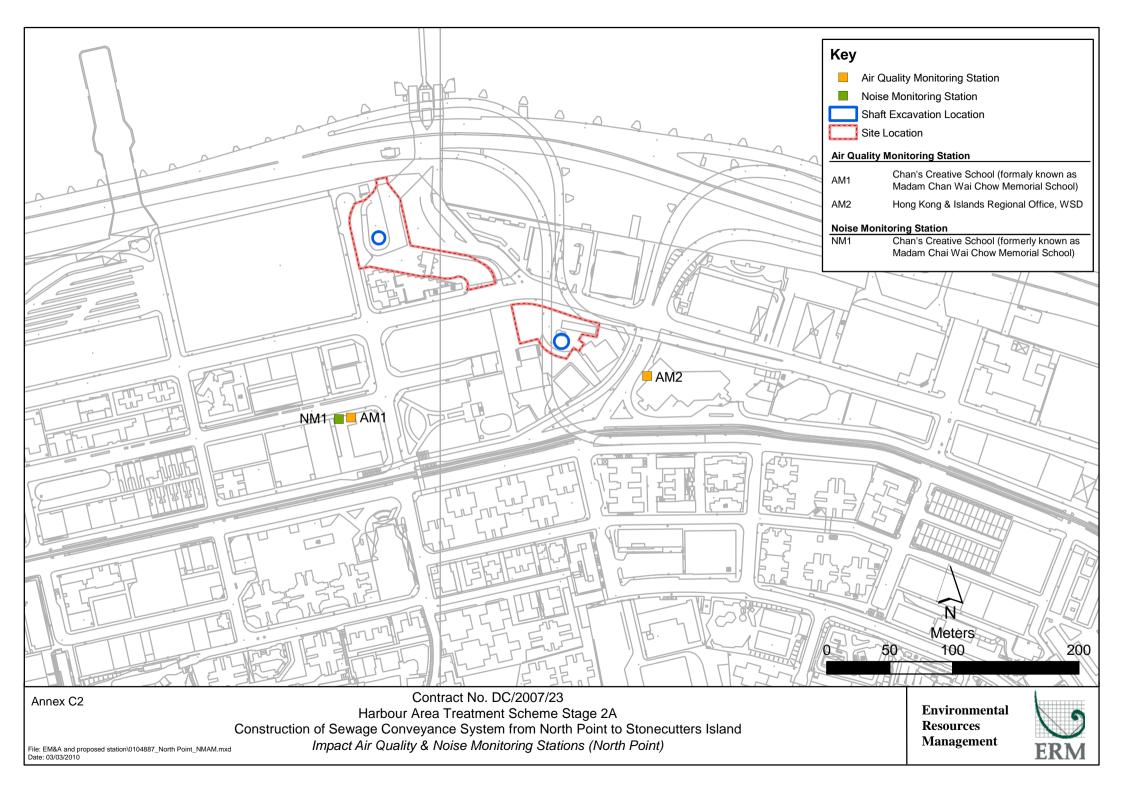
Project Organization



Annex C

North Point Production and Drop Shafts





Annex C3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23

Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Air Quality Monitoring Schedule

AM1 - Chan's Creative School

Monitoring Month : January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan	02-Jan	03-Jan	04-Jan	05-Jan
		Public Holiday			1-hr and 24-hr Monitoring	
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
				1-hr and 24-hr Monitoring		
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
			1-hr and 24-hr Monitoring			
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
		1-hr and 24-hr Monitoring				
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		
	1-hr and 24-hr Monitoring					

Monitoring Month : February 2013

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

Annex C3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Air Quality Monitoring Schedule

AM2 - Hong Kong & Islands Regional Office, WSD Monitoring Month : January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan	02-Jan	03-Jan	04-Jan	05-Jan
		Public Holiday			1-hr and 24-hr Monitoring	
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
				1-hr and 24-hr Monitoring		
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
			1-hr and 24-hr Monitoring			
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
		1-hr and 24-hr Monitoring				
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		
	1-hr and 24-hr Monitoring					

Monitoring Month : February 2013

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

Annex C3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23

Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Noise Quality Monitoring Schedule

NM1 - Chan's Creative School

Monitoring Month : January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan	02-Jan	03-Jan	04-Jan	05-Jan
		Public Holiday	Noise Monitoring (evening time)		Noise Monitoring	
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
Noise Monitoring				Noise Monitoring		
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
		Noise Monitoring (evening time)	Noise Monitoring			
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
Noise Monitoring		Noise Monitoring				
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		
	Noise Monitoring	Noise Monitoring (evening time)				

Monitoring Month : February 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Feb	02-Feb
03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb
	000		00100	0.100		00100
Noise Monitoring					Noise Monitoring	
			10 5 1			
10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb
				Noise Monitoring		
	Public Holiday	Public Holiday	Public Holiday	(daytime and evening time)		
			·,	(,		
17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb
			NI 1 NA 11 1			
Noise Monitoring			Noise Monitoring			
24-Feb	25-Feb	26-Feb	27-Feb	28-Feb		
21105	20100		2,100	20100		
		Noise Monitoring				

<i>Construction Phase</i> Air Quality		Location/ Timing	Status
Air Ouality			
	 The Air Pollution Control (Construction Dust) Regulation shall be implemented and good site practices shall be incorporated in the contract clauses to minimize construction dust impact. Control measures relevant to this Project are listed below: skip hoist for material transport should be totally enclosed by impervious sheeting; every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site; the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; where a site boundary adjoins a road, streets or other accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit; every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides; regular watering, with complete coverage, to reduce dust emission from exposed site surfaces and unpaved roads, particularly during dry weather; site enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines; open stock piles should be avoided or covered and prevent placing dusty material storage piles near ASRs if possible; tarpaulin covering of all dusty vehicle loads transported to, from and between site locations; and 	All work sites / during construction	
	 instigation of an environmental monitoring auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise. 		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Air Quality	 The following watering measures for specific site would be required to control the fugitive dust impacts: watering twice per day within the worksites at North Point PTW; and watering 8 times per day within worksites at the SCS works area at North Point. 	All work sites / during construction	\checkmark
Operational Phase			
Air Quality	 Good housekeeping for SCISTW and PTWs listed below should be followed to ameliorate any odour impact from the plant and these standard practices should be included in the plant operator manual. Screens should be cleaned regularly to remove any accumulated 	All work sites / during construction	NA. Measures not required until commencement of operational phase
	organic debris		
	 Grit and screening transfer systems should be flushed regularly with water to remove organic debris and grit 		
	• Grit and screened materials should be transferred to closed containers to minimize odour escape		
	• Scum and grease collection wells and troughs should be emptied and flushed regularly to prevent putrefaction of accumulated organics		
	 Skim and remove floating solids and grease from primary clarifiers regularly 		
	 Frequent sludge withdrawal from tanks is necessary to prevent the production of gases 		
	Sludge cake should be transferred to closed containersSludge containers should be flushed with water regularly		
Air Quality	Commissioning tests for all deodorization system should be	All PTW and SCISTW/ during	
····· Quanty	included in the Design and Construction Contract Document.	operational phase	
Construction Phase	U	* *	
Noise	Use of quiet PME, movable barriers and acoustic mats	All work sites / during construction	

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Noise	 Good Site Practice: only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program; mobile plant, if any, should be sited as far from NSRs as possible; machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities; Environmental audit shall be carried out to ensure that appropriate noise control measures would be properly implemented. 	All work sites / during construction	V
Construction Phase			
Water Quality	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All work sites / during construction	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Effluent Discharge	All work sites / during construction	\checkmark
	There is a need to apply to EPD for a discharge licence for		
	discharge of effluent from the construction site under the		
	WPCO. The discharge quality must meet the requirements		
	specified in the discharge licence. If monitoring of the treated		
	effluent quality from the works areas is required during the		
	construction phase of the Project, the monitoring should be		
	carried out in accordance with the WPCO license which is		
	under the ambit of regional office (RO) of EPD. Minimum		
	distances of 100 m should be maintained between the		
	discharge points of construction site effluent and the existing		
	saltwater intakes.		
Water Quality	Accidental Spillage of Chemicals	All work sites / during construction	\checkmark
	Contractor must register as a chemical waste producer if		
	chemical wastes would be produced from the construction		
	activities. The Waste Disposal Ordinance (Cap 354) and its		
	subsidiary regulations in particular the Waste Disposal		
	(Chemical Waste) (General) Regulation should be observed		
	and complied with for control of chemical wastes.		
Water Quality	Any service shop and maintenance facilities should be located	All work sites / during construction	\checkmark
	on hard standings within a bunded area, and sumps and oil		
	interceptors should be provided. Maintenance of vehicles and		
	equipment involving activities with potential for leakage and		
	spillage should only be undertaken within the areas		
	appropriately equipped to control these discharges.		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status				
Water Quality	Disposal of chemical wastes should be carried out in compliance with the	All work sites / during construction	\checkmark				
-	Waste Disposal Ordinance. The Code of Practice on the Packaging,	_					
	Labelling and Storage of Chemical Wastes published under the Waste						
	Disposal Ordinance details the requirements to deal with chemical						
	wastes.						
	General requirements are given as follows:						
	• Suitable containers should be used to hold the chemical wastes to						
	avoid leakage or spillage during storage, handling and transport.						
	Chemical waste containers should be suitably labelled, to notify and						
	warn the personnel who are handling the wastes, to avoid accidents.						
	Storage area should be selected at a safe location on site and adequate						
	space should be allocated to the storage area.						

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Construction Works in Close Proximity of Storm Drains or Seafront	All work sites / during construction	\checkmark
	To minimize the potential water quality impacts from the construction		
	works located at or near any watercourse, the practices outlined below		
	should be adopted where applicable.		
	 The use of less or smaller construction plants may be specified to 		
	reduce the disturbance to the storm water courses or marine environment.		
	• Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.		
	 Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. 		
	• Construction debris and spoil should be covered up and/or disposed		
	of as soon as possible to avoid being washed into the nearby water receivers.		
	• Construction activities, which generate large amount of wastewater,		
	should be carried out in a distance away from the waterfront, where practicable.		
	 Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea 		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Operational Phase			
Water Quality	Dual power supply, standby facilities for the main treatment units and standby equipment parts / accessories should be provided as far as possible at the SCISTW to minimize the chance of emergency discharge.	SCISTW and all the Stage 2 PTWs / Operation Stage	NA. Measures not required until commencement of operational phase
Water Quality	Standby unit(s) and dual (backup) power supply would be provided at all the Stage 2 PTWs to reduce the risk of equipment breakdown at the PTWs.	Stage 2 PTWs / Operation Stage	NA. Measures not required until commencement of operational phase
Construction Phase			
Waste	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All work sites / during the construction period	1
Waste	 All waste materials should be segregated into categories covering: excavated materials suitable for reuse on-site; excavated materials suitable for public filling facilities; remaining C&D waste for landfill; chemical waste; and general refuse for landfill. 	All work sites / during the construction period	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	 Recommendations to achieve waste reduction include: Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals; Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; Any unused chemicals or those with remaining functional capacity shall be recycled; and Proper storage and site practices to minimise the potential for 	All work sites / during the construction period	\checkmark
Waste	 damage or contamination of construction materials. Recommendations for good site practices during construction activities include:- Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site Training of site personnel in proper waste management and chemical waste handling procedures Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials. Provision of sufficient waste disposal points and regular collection of waste Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors 	All work sites / during the construction period	√
Waste	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage".	All work sites / during the construction period	NA

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.	All work sites / during the construction period	\checkmark
Waste	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.	All work sites / during the construction period	\checkmark
Waste	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.	All work sites / during the construction period	\checkmark
Waste	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	All work sites / during the construction period	\$

ENVIRONMENT MANAGEMENT LIMITED

GAMMON CONSTRUCTION LIMITED

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste Construction Phase	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.	All work sites / during the construction period	\checkmark
Landscape & Visual	• Topsoil, where identified, should be stripped and stored for re-use in	All the works areas, PTWs and SCISTW/	
	 the construction of the soft landscape works, where practical. Existing trees to be retained on site should be carefully protected during construction. Trees unavoidably affected by the works should be transplanted where practical. Compensatory tree planting should be provided to compensate for felled trees. Control of night-time lighting. Erection of decorative screen hoarding compatible with the surrounding setting. 	during the construction period	
Operational Phase	•		
Landscape & Visual	 Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings. Shrub and Climbing Plants to soften proposed structures / Roof Greening. Buffer Tree and Shrub Planting to screen proposed associated structures. Reinstated of disturbed area 	All the works areas, PTWs and SCISTW/ during the construction period	NA. Measures not required until commencement of operational phase

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Cultural Heritage	The construction vibration control limit (ppv of 25mm/s) shall be strictly followed.	Identified historical buildings/structures as mentioned in Tables 15.8 and 15.9. During blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	NA. Vibration monitoring has not been launched during the reporting period.
	Monitoring of vibration limits shall be conducted and reported as a requirement of EM&A programme	Identified historical buildings/structures as mentioned in Tables 15.8 and 15.9. During blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	NA. Vibration monitoring has not been launched during the reporting period.

Remark:

 $\sqrt{}$ Compliance of Mitigation Measures

<> Compliance of Mitigation but need improvement

x Non-compliance of Mitigation Measures

Δ Deficiency of Mitigation Measures but rectified by the Contractor

NA Not Applicable

Annex C5 24-hour and 1-hour TSP Monitoring Results

1-hour TSP Monitoring Results

Station AM1

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	a i 1	-		TSP					Wind Speed		
	Start	Finish	Weather	Concentration	Action Level	Limit Level	Site Conditions /	Temperature		Sampler	Filter
Date	Time	Time		(µg/m³)	(µg/m³)	(µg/m ³)	Observations / Remarks	(°°)	(m/s)	ID	ID
04-Jan-13	10:40	11:40	Cloudy	175	340	500	Construction work in progress	12	<5	1808	6173
	11:42	12:42	Cloudy	190	340	500	Construction work in progress	12	<5	1808	6176
	12:44	13:44	Cloudy	192	340	500	Construction work in progress	12	<5	1808	6174
10-Jan-13	9:40	10:40	Fine	200	340	500	Construction work in progress	17	<5	1808	6179
	10:42	11:42	Fine	181	340	500	Construction work in progress	17	<5	1808	6352
	11:44	12:44	Fine	178	340	500	Construction work in progress	20	<5	1808	6355
16-Jan-13	9:40	10:40	Sunny	186	340	500	Construction work in progress	17	<5	1808	6361
	10:42	11:42	Sunny	183	340	500	Construction work in progress	17	<5	1808	6362
	11:44	12:44	Sunny	193	340	500	Construction work in progress	17	<5	1808	6365
22-Jan-13	9:30	10:30	Sunny	185	340	500	Construction work in progress	22	<5	1808	6574
	10:32	11:32	Sunny	168	340	500	Construction work in progress	22	<5	1808	6371
	11:34	12:34	Sunny	183	340	500	Construction work in progress	22	<5	1808	6372
28-Jan-13	10:30	11:30	Sunny	172	340	500	Construction work in progress	19	<5	1808	6576
	11:32	12:32	Sunny	188	340	500	Construction work in progress	19	<5	1808	6578
	12:34	13:34	Sunny	182	340	500	Construction work in progress	19	<5	1808	6579
			Min.	168							
			Max.	200]						
			Average	184	1						

Wind Speed data is presented in the Meteorological Data table

Annex C5 24-hour and 1-hour TSP Monitoring Results

1-hour TSP Monitoring Results

Station AM2

*

				TSP					Wind Speed		
	Start	Finish	Weather	Concentration	Action Level	Limit Level	Site Conditions /	Temperature	*	Sampler	Filter
Date	Time	Time		(µg/m³)	(µg/m³)	(µg/m³)	Observations / Remarks	(°°)	(m/s)	ID	ID
04-Jan-13	10:55	11:55	Cloudy	160	352	500	Construction work in progress	12	<5	0145	6172
	11:57	12:57	Cloudy	174	352	500	Construction work in progress	12	<5	0145	6175
	13:00	14:00	Cloudy	179	352	500	Construction work in progress	12	<5	0145	6181
10-Jan-13	10:00	11:00	Cloudy	167	352	500	Construction work in progress	17	<5	0145	6180
	11:02	12:02	Fine	190	352	500	Construction work in progress	17	<5	0145	6353
	12:04	13:04	Fine	180	352	500	Construction work in progress	17	<5	0145	6354
16-Jan-13	9:20	10:20	Sunny	182	352	500	Construction work in progress	17	<5	0145	6360
	10:22	11:22	Sunny	180	352	500	Construction work in progress	17	<5	0145	6363
	11:24	12:24	Sunny	182	352	500	Construction work in progress	17	<5	0145	6364
22-Jan-13	9:46	10:46	Sunny	172	352	500	Construction work in progress	22	<5	0145	6573
	10:48	11:48	Sunny	181	352	500	Construction work in progress	22	<5	0145	6370
	11:50	12:50	Sunny	189	352	500	Construction work in progress	22	<5	0145	6373
28-Jan-13	10:45	11:45	Sunny	185	352	500	Construction work in progress	19	<5	0145	6575
	11:47	12:47	Sunny	192	352	500	Construction work in progress	19	<5	0145	6577
	12:49	13:49	Sunny	185	352	500	Construction work in progress	19	<5	0145	6580
			Min.	160				•			
			Max.	192							
			Average	180							

Wind Speed data is presented in the Meteorological Data table

Annex C5 24-hour and 1-hour TSP Monitoring Results

24-hour TSP Monitoring Results

Station AM1

Start		Finist	1	Weather	Filter V	Veight (g)	Elapse Rea	d Time ding	Sampling Time		v Rate (m	ı ³ /min)	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m ³)	(µg/m³)	(µg/m ³)		ID	ID
04-Jan-13	13:46	05-Jan-13	13:46	Cloudy	2.8125	2.9779	15350.03	15374.03	24.00	1.20	1.20	1.20	96	185	260	Construction work in progress	1808	6177
10-Jan-13	12:46	11-Jan-13	12:46	Fine	2.7987	2.9811	15377.03	15401.03	24.00	1.20	1.20	1.20	106	185	260	Construction work in progress	1808	6356
16-Jan-13	13:40	17-Jan-13	13:40	Sunny	2.8152	2.9855	15404.03	15428.03	24.00	1.20	1.20	1.20	99	185	260	Construction work in progress	1808	6367
22-Jan-13	18:08	23-Jan-13	18:08	Sunny	2.8066	2.9781	15431.03	15455.03	24.00	1.20	1.20	1.20	99	185	260	Construction work in progress	1808	6596
28-Jan-13	18:08	29-Jan-13	18:08	Sunny	2.8097	2.9700	15458.03	15482.03	24.00	1.20	1.20	1.20	93	185	260	Construction work in progress	1808	6581
												Min.	93					
												Max.	106					
												Average	98					

24-hour TSP Monitoring Results

Station AM2

							Elapse	d Time	Sampling									
Start		Finish	ı I	Weather	Filter W	/eight (g)	Read	ding	Time	Flow	/ Rate (m	³ /min)	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m ³)	(µg/m ³)	(µg/m ³)		ID	ID
04-Jan-13	14:02	05-Jan-13	14:02	Cloudy	2.8006	2.9669	10447.93	10471.93	24.00	1.21	1.21	1.21	95	182	260	Construction work in progress	0145	6178
10-Jan-13	13:06	11-Jan-13	13:06	Fine	2.8006	2.9451	10474.93	10498.93	24.00	1.21	1.21	1.21	83	182	260	Construction work in progress	0145	6357
16-Jan-13	12:30	17-Jan-13	12:30	Sunny	2.8151	2.9811	10501.93	10525.93	24.00	1.21	1.21	1.21	95	182	260	Construction work in progress	0145	6366
22-Jan-13	12:52	23-Jan-13	12:52	Sunny	2.8097	2.9870	10528.93	10552.93	24.00	1.20	1.20	1.20	103	182	260	Construction work in progress	0145	6595
28-Jan-13	13:51	29-Jan-13	13:51	Sunny	2.8096	2.9595	10555.93	10579.93	24.00	1.20	1.20	1.20	97	182	260	Construction work in progress	0145	6582
												Min.	83					

Max.

Average

103

95

Meteorological Data Extracted from the Hong Kong Observatory

			Kin	g's Park Station		
		Average Air	Average Relative	Total Rainfall	Average Wind	
Date	Weather	Temperature (°C)	Humiditiy (%)	(mm)	Speed (km/h)	Wind Direction
2013-01-02	Sunny	18	48 - 81	0.0	6	SE
2013-01-03	Sunny	17	63 - 85	0.0	6	E
2013-01-04	Cloudy	12	66 - 76	0.0	4	NE
2013-01-05	Cloudy	15	61-79	0.0	4	NE
2013-01-06	Sunny	16	60 - 80	0.0	4	NE
2013-01-07	Sunny	15	64 - 80	0.0	4	NE
2013-01-08	Cloudy	18	58 - 72	0.0	3	N
2013-01-09	Cloudy	16	56 - 72	0.0	4	NE
2013-01-10	Fine	14	57 - 75	0.0	8	NE
2013-01-13	Fine	17	61 - 77	0.0	6	NW
2013-01-14	Sunny	16	55 - 80	0.0	4	NE
2013-01-15	Fine	15	68 - 79	0.0	9	SE
2013-01-16	Sunny	18	59 - 88	0.0	4	SE
2013-01-17	Sunny	18	57 - 77	0.0	10	SE
2013-01-18	Sunny	18	64 - 77	0.0	9	NE
2013-01-19	Sunny	15	49 - 78	0.0	8	SE
2013-01-20	Sunny	17	70 - 79	0.0	9	SE
2013-01-21	Sunny	20	66 - 85	0.0	8	SE
2013-01-22	Cloudy	24	63 - 90	Trace	3	SE
2013-01-23	Cloudy	19	79 - 93	0.0	9	SE
2013-01-24	Sunny	21	64 - 80	0.0	10	SE
2013-01-25	Fine	18	58 - 72	0.0	5	SE
2013-01-27	Sunny	17	76 - 94	0.6	6	NE
2013-01-28	Sunny	16	48 - 78	0.0	9	E
2013-01-29	Sunny	17	52 - 82	Trace	10	SE
2013-01-30	Fine	17	53 - 85	0.0	9	SE
2013-01-31	Fine	18	55 - 78	0.0	13	SE

			Tsi	ng Yi Station		
		Average Air	Average Relative	Total Bainfall	Average Wind	
Date	Weather	Temperature (°C)	Humiditiy (%) *	(mm)	Speed (km/h)	Wind Direction
2013-01-02	Sunny	19	48 - 81	0.0	5	E
2013-01-03	Sunny	17	63 - 85	0.0	4	NE
2013-01-04	Cloudy	12	66 - 76	0.0	7	NW
2013-01-05	Cloudy	14	61-79	0.0	9	NW
2013-01-06	Sunny	15	60 - 80	0.0	7	NW
2013-01-07	Sunny	15	64 - 80	0.0	2	NW
2013-01-08	Cloudy	17	58 - 72	0.0	6	NW
2013-01-09	Cloudy	17	56 - 72	0.0	4	NW
2013-01-10	Fine	15	57 - 75	0.0	8	NW
2013-01-13	Fine	17	61 - 77	0.0	10	NW
2013-01-14	Sunny	16	55 - 80	0.0	7	NW
2013-01-15	Fine	17	68 - 79	0.0	3	E
2013-01-16	Sunny	17	59 - 88	0.0	6	NW
2013-01-17	Sunny	17	57 - 77	0.0	4	NE
2013-01-18	Sunny	15	64 - 77	0.0	7	NW
2013-01-19	Sunny	16	49 - 78	0.0	5	SE
2013-01-20	Sunny	17	70 - 79	0.0	9	SE
2013-01-21	Sunny	22	66 - 85	0.0	10	SE
2013-01-22	Cloudy	22	63 - 90	Trace	3	E
2013-01-23	Cloudy	19	79 - 93	0.0	6	E
2013-01-24	Sunny	21	64 - 80	0.0	10	NW
2013-01-25	Fine	18	58 - 72	0.0	7	NW
2013-01-27	Sunny	17	76 - 94	0.6	3	NW
2013-01-28	Sunny	18	48 - 78	0.0	6	SE
2013-01-29	Sunny	19	52 - 82	Trace	6	SE
2013-01-30	Fine	17	53 - 85	0.0	5	SE
2013-01-31	Fine	20	55 - 78	0.0	12	SE

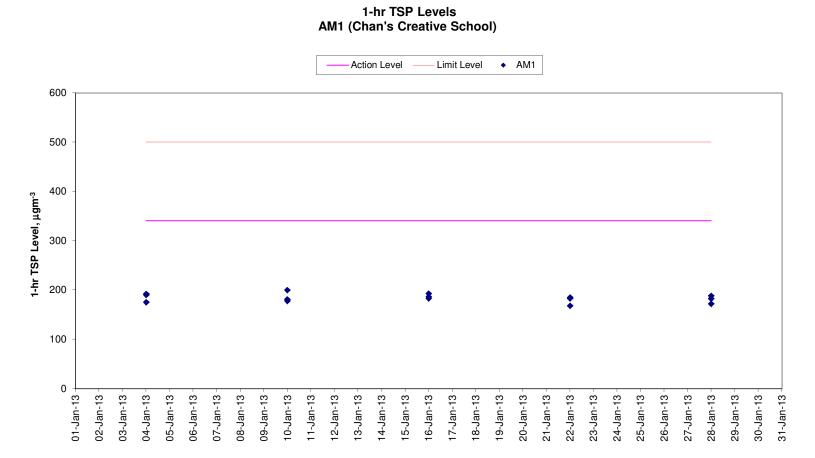
			К	ai Tak Station		
Date	Weather	Average Air Temperature (°C) *	Average Relative Humiditiy (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction
2013-01-02	Sunny	18	48 - 81	0.0	12	SE
2013-01-03	Sunny	17	63 - 85	0.0	10	E
2013-01-04	Cloudy	12	66 - 76	0.0	8	N
2013-01-05	Cloudy	15	61-79	0.0	10	NW
2013-01-06	Sunny	16	60 - 80	0.0	9	NW
2013-01-07	Sunny	15	64 - 80	0.0	8	NW
2013-01-08	Cloudy	18	58 - 72	0.0	8	SW
2013-01-09	Cloudy	16	56 - 72	0.0	9	NW
2013-01-10	Fine	14	57 - 75	0.0	8	NE
2013-01-13	Fine	17	61 - 77	0.0	7	W
2013-01-14	Sunny	16	55 - 80	0.0	5	E
2013-01-15	Fine	15	68 - 79	0.0	12	E
2013-01-16	Sunny	18	59 - 88	0.0	10	SE
2013-01-17	Sunny	18	57 - 77	0.0	13	SE
2013-01-18	Sunny	18	64 - 77	0.0	10	NE
2013-01-19	Sunny	15	49 - 78	0.0	12	E
2013-01-20	Sunny	17	70 - 79	0.0	12	E
2013-01-21	Sunny	20	66 - 85	0.0	7	E
2013-01-22	Cloudy	24	63 - 90	Trace	3	SE
2013-01-23	Cloudy	19	79 - 93	0.0	12	SE
2013-01-24	Sunny	21	64 - 80	0.0	12	E
2013-01-25	Fine	18	58 - 72	0.0	12	E
2013-01-27	Sunny	17	80 - 93	0.6	9	NE
2013-01-28	Sunny	16	81 - 93	0.0	21	E
2013-01-29	Sunny	17	82 - 93	Trace	16	SE
2013-01-30	Fine	17	83 - 93	0.0	24	E
2013-01-31	Fine	18	84 - 93	0.0	6	SE
*	King's Park's	data				

ranger ante data
Data were not available

-

less than 24 hourly observations per day

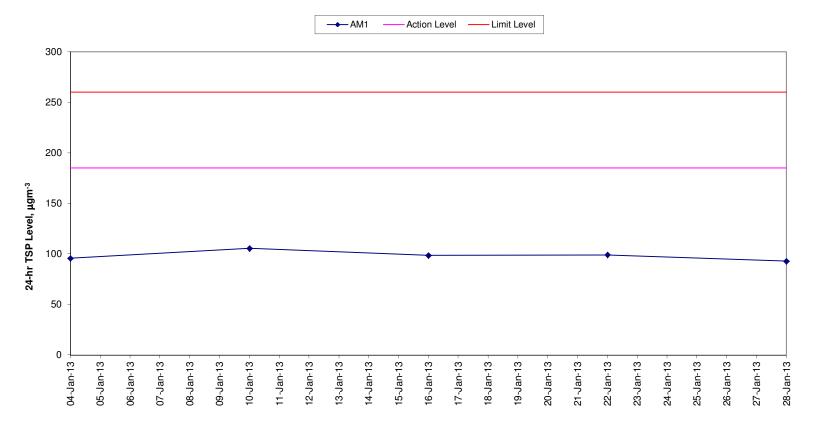
			Greer	n Island Station		
Date	Weather	Average Air Temperature (℃) *	Average Relative Humiditiy (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction
2013-01-02	Sunny	18	48 - 81	0.0	25	NE
2013-01-03	Sunny	17	63 - 85	0.0	25	NE
2013-01-04	Cloudy	12	66 - 76	0.0	24	NE
2013-01-05	Cloudy	15	61-79	0.0	28	N
2013-01-06	Sunny	16	60 - 80	0.0	28	NW
2013-01-07	Sunny	15	64 - 80	0.0	22	N
2013-01-08	Cloudy	18	58 - 72	0.0	21	NW
2013-01-09	Cloudy	16	56 - 72	0.0	20	N
2013-01-10	Fine	14	57 - 75	0.0	26	N
2013-01-13	Fine	17	61 - 77	0.0	17	NW
2013-01-14	Sunny	16	55 - 80	0.0	23	N
2013-01-15	Fine	15	68 - 79	0.0	35	NE
2013-01-16	Sunny	18	59 - 88	0.0	10	NE
2013-01-17	Sunny	18	57 - 77	0.0	27	NE
2013-01-18	Sunny	18	64 - 77	0.0	25	NE
2013-01-19	Sunny	15	49 - 78	0.0	25	NE
2013-01-20	Sunny	17	70 - 79	0.0	25	NE
2013-01-21	Sunny	20	66 - 85	0.0	40	NE
2013-01-22	Cloudy	24	63 - 90	Trace	28	NE
2013-01-23	Cloudy	19	79 - 93	0.0	27	NE
2013-01-24	Sunny	21	64 - 80	0.0	25	NE
2013-01-25	Fine	18	58 - 72	0.0	25	NE
2013-01-27	Sunny	17	80 - 93	0.6	28	NE
2013-01-28	Sunny	16	81 - 93	0.0	38	NE
2013-01-29	Sunny	17	82 - 93	Trace	34	NE
2013-01-30	Fine	17	83 - 93	0.0	15	NE
2013-01-31	Fine	18	84 - 93	0.0	35	NE



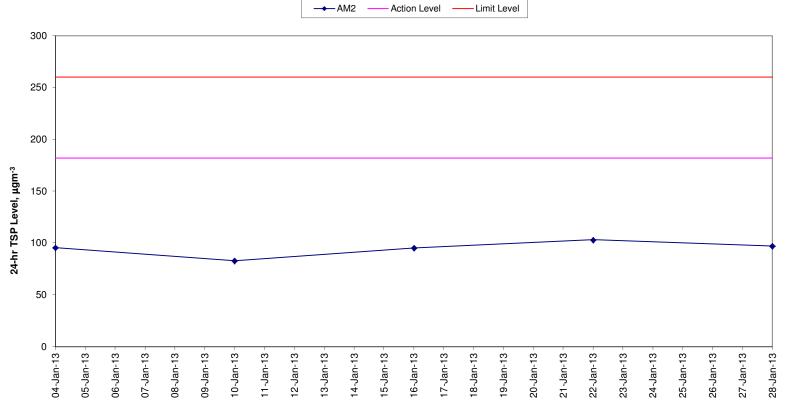








24-hr TSP Levels AM2 (Hong Kong & Island Regional Office, WSD)



Annex C6 Noise Monitoring Results

Daytime Noise Monitoring Results

Station NM1

Date	Start Time	End Time	Weather	Noise	level (dB(A)), 30 min	Major Construction Noise Source(s)	Other Noise Source(s)	Remarks	Temp. (℃)	Wind Speed	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90	Observed	Observed			(m/s)	model / IB	
04-Jan-13	10:08	10:38	Cloudy	66.4	69.1	60.6	Noise from nearby playground	Traffic noise	-	12	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
10-Jan-13	9:08	9:38	Fine	66.5	68.5	63.9	Noise from nearby playground	Traffic noise	-	14	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
16-Jan-13	13:05	13:35	Sunny	67.4	69.3	64.9	Minor noise from nearby construction site (WSD)	Traffic noise	-	18	0.8	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
22-Jan-13	13:08	13:38	Sunny	67.5	70.8	63.6	Minor noise from nearby construction site (WSD)	Traffic noise	-	24	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
28-Jan-13	9:55	10:25	Sunny	66.9	68.9	64.5	-	Traffic noise	-	16	0.4	RION- NL31 (S/N 00603868)	RION - NC73 (S/N 10997143)
			Min. Max.	66.4 67.5									

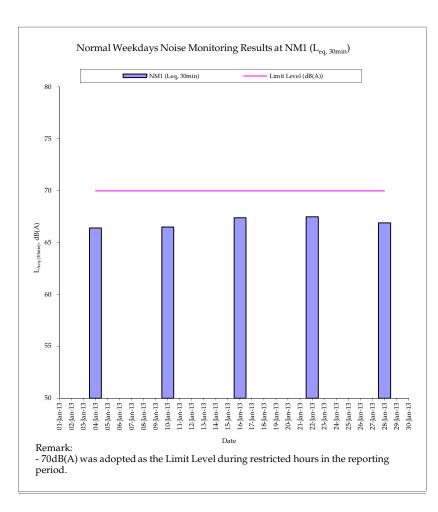
Annex C6 Noise Monitoring Results

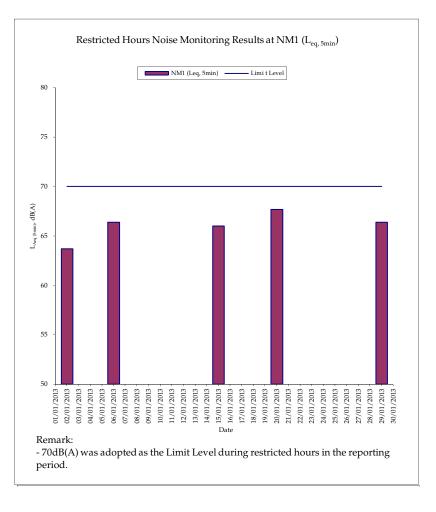
Restricted Hours Noise Monitoring Results^[1]

Station NM1

				Noise	level (dB(A)), 5 min	Major Construction	Other Noise			Wind		
Date	Start Time	End Time	Weather	Leq	L10	L90	Noise Source(s) Observed	Source(s) Observed	Remarks	Temp. (℃)	Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
02-Jan-13	19:02	19:07	Fine	62.5	64.7	58.6			-				
	19:07	19:12	Fine	64.1	67.3	59.8	_	Mainly traffic noise	-	18	0.5	RION- NL31 (S/N	RION - NC7 (S/N
	19:12	19:17	Fine	64.4	66.6	60.3	-	Mainly trainc hoise	-	10	0.5	00603867)	10997142)
	19:02	19:17	Fine	63.7	66.3	59.6			-			00000007)	10007142)
06-Jan-13	14:20	14:25	Sunny	66.5	68.3	63.2			-				
	14:25	14:30	Sunny	66.8	69.0	63.5		Mainhutraffia naisa	-	16	0.4	RION- NL31 (S/N	RION - NC7
	14:30	14:35	Sunny	65.9	67.8	63.0	-	Mainly traffic noise	-	10	0.4	(S/N 00603867)	(S/N 10997142)
	14:20	14:35	Sunny	66.4	68.4	63.2						00000007)	10007142)
15-Jan-13	19:05	19:10	Fine	67.1	69.4	64.2			-				
	19:10	19:15	Fine	65.8	67.4	63.5		Mainhutraffia naisa	-	15	0.5	RION- NL31	RION - NC7
	19:15	19:20	Fine	64.6	66.8	62.9	-	Mainly traffic noise	-	15	0.5	(S/N 00603867)	(S/N 10997142)
	19:05	19:20	Fine	66.0	68.0	63.6			-			00003007)	10337142)
20-Jan-13	11:10	11:15	Sunny	67.3	70.3	63.8			-				
	11:15	11:20	Sunny	67.8	70.5	64.1	Disusarsund	Mainhutraffia naisa	-	17	0.3	RION- NL31	RION - NC7
	11:20	11:25	Sunny	68.1	70.9	64.3	Playground	Mainly traffic noise	-	17	0.3	(S/N 00603867)	(S/N 10997142)
	11:10	11:25	Sunny	67.7	70.6	64.1			-			00003007)	10337142)
29-Jan-13	19:15	19:20	Fine	66.5	68.2	64.5			-				
	19:20	19:25	Fine	67.4	69.8	64.8	_	Mainly traffic noise	-	17	0.4	RION- NL31 (S/N	RION - NC7 (S/N
	19:25	19:30	Fine	65.1	67.6	63.7	-	mainly rallic hoise	-		0.4	00603867)	10997142)
	19:15	19:30	Fine	66.4	68.6	64.4			-			00000007)	10007142)
			Min.	62.5									
			Max.	68.1									

[1] No class was held at the school during all the measurement period.





Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
December 2009	0	0
January 2010	0	0
February 2010	0	0
March 2010	0	0
April 2010	0	0
May 2010	0	0
June 2010	0	0
July 2010	0	0
August 2010	0	0
September 2010	0	0
October 2010	0	0
November 2010	0	0
December 2010	0	0
January 2011	0	0
February 2011	0	0
March 2011	0	0
April 2011	0	0
May 2011	0	0

Annex C7 Cumulative Complaint and Summons/Prosecutions Log

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

Annex C7 Cumulative Complaint and Summons/Prosecutions Log

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
December 2012	0	0
January 2013	0	0
Overall Total	0	0

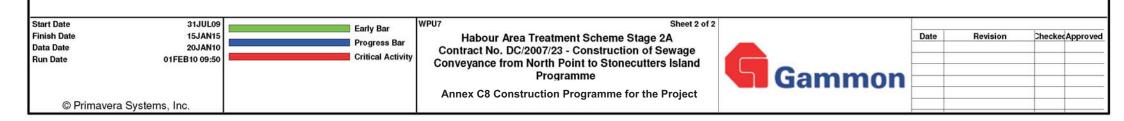
Annex C7 Cumulative Complaint and Summons/Prosecutions Log

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp	2010 2011 A F M A M J J A S O N D J F M A M J J A S O N D . 7 8 9 1011121314151617181920212223242526272829303	2012 2013 J F M A M J J A S O N D J F M A M J J 132333435363738394041424344546474845
HATS Stage	2A - Contract DC/2007/23		*				
11 APR 19 19 19 19 19 19	Production Shaft						
Preliminaries	s Works						
NPPS10180	0 NPPS:Construct/Install Blast Protection	2	17DEC10	18DEC10	0	INPPS:Construct/Install Blast Protection	
NPPS10180		2	20DEC10	20DEC10	0	INPPS: Site Inspection from Mines	
NPPS10200		1	21DEC10	21DEC10	0	NPPS: Issue Blasting Permit	3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
and the second se	Nechanical Installations		u.				
NPPS0620	NPPS: Installation Works for 11KV Application	60	15MAR10*	25MAY10	0	NPPS: Installation Works for 11KV Application	
NPPS0625	NPPS: 11 KV Connection & Power On	4	26MAY10	29MAY10	0	INPPS: 11 KV Connection & Power On	
Office at Nor	th Point Vehicular Ferry Pier						
NEROLASS		10	04050004	05 (44)(40	70	ARWE Works for NRV Office of NR VER	
NPPS1055 NPPS1065	ABWF Works for NPV Office at NP VFP E&M Services for New Office at NP VFP	18	21DEC09A 26DEC09A	25JAN10 29JAN10	70 60	ABWF Works for NPV Office at NP VFP E&M Services for New Office at NP VFP	
NPPS1065	T&C Works for New Office at NP VFP	4	30JAN10	03FEB10	0	T&C Works for New Office at NP VFP	
NPPS1085	Relocate to New Office at NP VFP	4	04FEB10	08FEB10	0	Relocate to New Office at NP VFP	
NPPS1090	Demolish Existing Office at NP VFP	6	09FEB10	18FEB10	0	Hoemolish Existing Office at NP VFP	
Fire Wall			9.				
			<i>v</i> .				
NPPS10120		12	12JAN10A	25JAN10	60	Firewall Finishing & Misc. Works	
NPPS10130		8	02FEB13	14FEB13	0		Demolish Firewall & Demobilize
Marine Dump	ping Permit						
NDDC0001		04	21007004	OI JANIIO	00	NPPS: EPD Approved of SQR	
NPPS02012 NPPS02013		24	31OCT09A 22JAN10	21JAN10 22FEB10	90	NPPS: Request for Disposal Site & Get Permit	
Diaphragm V		24	22041110	221 LDTO	0		
Diapinagini							
NPPS0422	NPPS: Excavate 3rd Panel to Formation Level	40	08JAN10A	19FEB10	40	NPPS: Excavate 3rd Panel to Formation Level	
NPPS0424	NPPS: 3rd Panel Desanding & Preparation Works	6	20FEB10	26FEB10	0	NPPS: 3rd Panel Desanding & Preparation Works	
NPPS0426	NPPS: 3rd Panel Rebar Cage Installation	7	27FEB10	06MAR10	0	NPPS: 3rd Panel Rebar Cage Installation	
NPPS0428	NPPS: 3rd Panel Concreting Works	1	08MAR10	08MAR10	0	NPPS: 3rd Panel Concreting Works	
NPPS0432	NPPS: Excavate 4th Panel to Formation Level	40	09MAR10	24APR10	0	NPPS: Excavate 4th Panel to Formation Level	
NPPS0433 NPPS0434	NPPS: Grouting Works Phase 1 NPPS: 4th Panel Desanding & Preparation Works	84 6	19APR10 26APR10	28JUL10 03MAY10	0	NPPS: 4th Panel Desanding & Preparation Works	
NPPS0434	NPPS: 4th Panel Rebar Cage Installation	7	04MAY10	11MAY10	0	INPPS: 4th Panel Rebar Cage Installation	3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
NPPS0438	NPPS: 4th Panel Concreting Works	1	12MAY10	12MAY10	0	NPPS: 4th Panel Concreting Works	
NPPS0440	NPPS: Excavate 5th Panel to Formation Level	40	13MAY10	29JUN10	0	NPPS: Excavate 5th Panel to Formation Level	
NPPS0442	NPPS: 5th Panel Desanding & Preparation Works	6	30JUN10	07JUL10	0	NPPS: 5th Panel Desanding & Preparation Works	
NPPS0444	NPPS: 5th Panel Rebar Cage Installation	7	08JUL10	15JUL10	0	INPPS: 5th Panel Rebar Cage Installation	
NPPS0446	NPPS: 5th Panel Concreting Works	1	16JUL10	16JUL10	0	NPPS: 5th Panel Concreting Works	
NPPS0448 NPPS0452	NPPS: Excavate 6th Panel to Formation Level NPPS: 6th Panel Desanding & Preparation Works	40	17JUL10 02SEP10	01SEP10 08SEP10	0	INPPS: 6th Panel Desanding & Preparation Works	
NPPS0452	NPPS: 6th Panel Concreting Works	1	17SEP10	17SEP10	0	NPPS: 6th Panel Concreting Works	
NPPS0456	NPPS: 6th Panel Rebar Cage Installation	7	09SEP10	16SEP10	0	INPPS: 6th Panel Rebar Cage Installation	
NPPS0460	NPPS: Grouting Works Phase 2	56	29JUL10	04OCT10	0	INPPS: Grouting Works Phase 2	3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
NPPS0462	NPPS: Install Dewatering Wells for Pump-test	12	27SEP10	11OCT10	0	NPPS: Install Dewatering Wells for Pump-test	
NPPS0464	NPPS: Pumping Test	6	12OCT10	19OCT10	0	INPPS: Pumping Test	
NPPS0466	NPPS: Sumission of Pumping Test Report	6	20OCT10	26OCT10	0	INPPS: Sumission of Pumping Test Report	
NPPS0468	NPPS: Demobilization for D'wall	6	20OCT10	26OCT10	0	INPPS: Demobilization for D'wall	
Shaft Excava							
NPPS0310	NPPS: Construct Capping Beam & Collar Shaft	12	20OCT10	02NOV10	0	NPPS: Construct Capping Beam & Collar Shaft	
NPPS0320	NPPS: Initial Excavation of Shaft (7m)	4	03NOV10	06NOV10	0	INPPS: Initial Excavation of Shaft (7m)	
NPPS0330	NPPS: Set-up Equipment for Shaft Sink	12	08NOV10	20NOV10	0	NPPS: Set-up Equipment for Shaft Sink	
NPPS0333	NPPS: Erect Noise Enclosure at Shaft Top	12	08NOV10	20NOV10	0	INPPS: Erect Noise Enclosure at Shaft Top	
NPPS0340	NPPS: Excavate Soil & Ring Beams (32.5m)	22	22NOV10	16DEC10	0	NPPS: Excavate Soil & Ring Beams (32.5m)	
NPPS0355	NPPS: Probe, Grout, D & B Rock, Muck Out (129m)	110	20JAN11	02JUN11	0	NDPS: Probe, Grout, D &	and the structure decision of the state of t
NPPS0450 NPPS0470	NPPS: Construct Sump at Shaft Bottom	2	03JUN11 07JUN11	04JUN11 17JUN11	0	NPPS: Construct Sump a	
1. Second se	NPPS: Erect Tunnel Hoist & Muck-Out System Instatement & Landscaping	10	UTJUNTT	1730111	U		
Dackill, Hell							
NPPS0900	NPPS: Backfill Temp Adit - Concrete	12	02FEB13	19FEB13	0		NPPS: Backfill Temp Adit - Concrete
NPPS0910	NPPS: Backfill Shaft (20%)	8	20FEB13	28FEB13	0		NPPS: Backfill Shaft (20%)
NPPS0920	NPPS: Backfill Shaft (40%)	8	01MAR13	09MAR13	0		NPPS: Backfill Shaft (40%)
NPPS0930	NPPS: Backfill Shaft (60%)	8	11MAR13	19MAR13	0		NPPS: Backfill Shaft (60%)
NPPS0940	NPPS: Backfill Shaft (80%)	8	20MAR13	28MAR13	0		NPPS: Backfill Shaft (80%)
NPPS0950	NPPS: Backfill Shaft (100%)	8	29MAR13	06APR13	0		NPPS: Backfill Shaft (100%) NPPS: Reinstatement Around PS Area
NPPS0960 NPPS0970	NPPS: Reinstatement Around PS Area NPPS: Demobilise Clear Area	14 6	08APR13 25APR13	24APR13 02MAY13	0		NPPS: Reinstatement Around PS Area
1411 00970	HITO, Domobiliou Oldar Alba	0	Loninto				



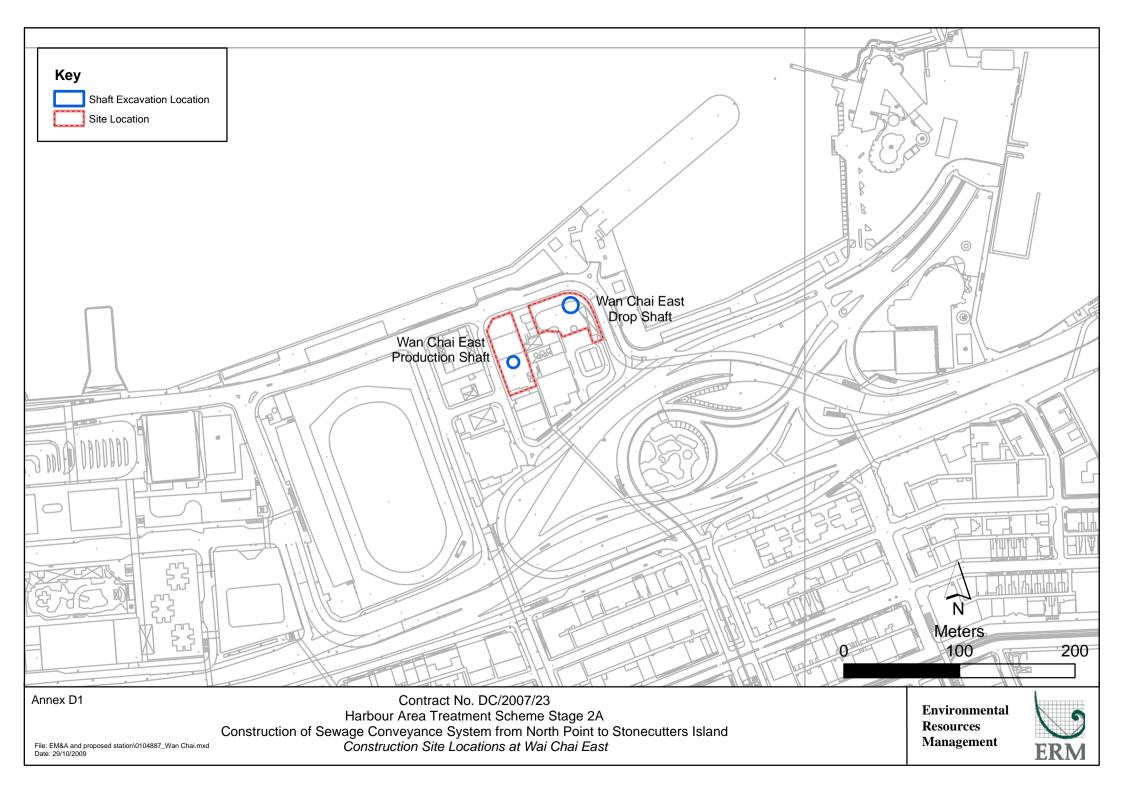
Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp	2010 2011 2012 2013 2014
	A - Contract DC/2007/23				comp	
North Point PT	W Drop Shaft					
The second	eotechnical Instrumentations 's/Others(Same note as Piez.)					
NPDS0263	NPDS: Install SS Markers (22 Nos.)	50	190CT09A	02FEB10	76	INPDS: Install SS Markers (22 Nos.)
NPDS0264 Piezometers/N	NPDS: JointSurvey&EstablishBaseline Readings SSM VearbyPTWorPScovered inthisInstalln)	14	03FEB10	22FEB10	0	INPDS: JointSurvey&EstablishBaseline Readings SSM
NPDS0280	NPDS: Installation Works of BH800 Piezometer	21	18JAN10A	10FEB10	10	INPDS: Installation Works of BH800 Piezometer
NPDS0290 NPDS0383	NPDS: BH800 Piezometer Baseline Establishment NPDS: Installation Works of BH801 Piezometer	26 21	11FEB10 18JAN10A	16MAR10 10FEB10	0	INPDS: BH800 Plezometer Baseline Establishment
NPDS0385	NPDS: BH801 Piezometer Baseline Establishment	26	11FEB10	16MAR10	0	INPDS: BH801 Piezometer Baseline Establishment
NPDS0391	NPDS: BH802 Piezometer Baseline Establishment	26	23DEC09A	04FEB10	46	INPDS: BH802 Piezometer Baseline Establishment
NPDS0395 NPDS0397	NPDS: Installation Works of BH803 Piezometer NPDS: BH803 Piezometer Baseline Establishment	21	18JAN10A 11FEB10	10FEB10 16MAR10	10 0	INPDS: IBISIAIIalion Works of Bradd Piezoneter INPDS: BH803 Piezometer Baseline Establishment
NPDS0401	NPDS: Installation Works of BH916 Piezometer	21	28DEC09A	11FEB10	5	PDS: Installation Works of BH916 Piezometer
NPDS0403 Diversion of Exi	NPDS: BH916 Piezometer Baseline Establishment	26	12FEB10	17MAR10	0	Impose BH916 Plezometer Baseline Establishment
		1			1.1	
NPDS0100	Provide perma-salt water supply to exis-toi faci	18	09AUG12	29AUG12	0	Provide perma-salt water supply to exis-toi faci
Marine Dumping	g remm					
NPDS0212 NPDS0213	NPDS: EPD Approved of SQR	24	24NOV09A	27JAN10	70	INPDS: EPD Approved of SQR
Pipe Piling	NPDS: Request for Disposal Site & Get Permit	24	28JAN10	27FEB10	0	
NPDS0305 NPDS0310	NPDS: Pipe Piling Works NPDS: Grouting for PP Wall	110 75	19JAN10A 31MAR10	27MAY10 29JUN10	5	HEADER NPDS: Pipe Piling Works
NPDS0320	NPDS: Install Temp Steel Casing	76	30JUN10	28SEP10	0	INPDS: Install Temp Steel Casing
NPDS0330	NPDS: Grouting for Temp Casing	40	29SEP10	16NOV10	0	INPDS: Grouting for Temp Casing
NPDS0340 NPDS0350	NPDS: Install Dewatering Wells for Pump-test NPDS: Pumping Test	12 6	08NOV10 22NOV10	20NOV10 27NOV10	0	INPDS: Pumping Test
NPDS0360	NPDS: Submission of Pumping Test Report	6	29NOV10	04DEC10	0	INPDS: Submission of Pumping Test Report
NPDS0370 Shaft Excavatio	NPDS: Demobilization for PP Wall	6	29NOV10	04DEC10	0	INPDS: Demobilization for PP Wall
			1			
NPDS0400 NPDS0450	NPDS: Construct Capping Beam & Shaft Collar NPDS: Drawdown water & Excavate below S2 Level	12	27NOV10 11DEC10	10DEC10 16DEC10	0	INPDS: Construct Capping Beam & Shaft Collar INPDS: Drawdown water & Excavate below S2 Level
NPDS0450 NPDS0460	NPDS: Drawdown water & Excavate below S2 Level NPDS: Construct S2 Ring Beam	2	11DEC10 17DEC10	16DEC10 18DEC10	0	INPDS: Drawdown water & Exclavate below 52 Level INPDS: Construct S2 Ring Beam
NPDS0470	NPDS: Drawdown water & Excavate below S3 Level	4	20DEC10	23DEC10	0	INPDS: Drawdown water & Excavate below S3 Level
NPDS0480 NPDS0490	NPDS: Construct S3 Ring Beam NPDS: Drawdown water & Excavate below S4 Level	2	24DEC10 28DEC10	27DEC10 31DEC10	0	INPDS: Construct S3 Ring Beam NPDS: Drawdown water & Excavate below S4 Level
NPDS0500	NPDS: Construct S4 Ring Beam	2	03JAN11	04JAN11	0	INPDS: Construct S4 Ring Beam
NPDS0510	NPDS: Drawdownwater &Excav.to-8.5mPD Final Level	3	05JAN11	07JAN11	0	INPDS: Drawdownwater &Excav.to-8.5mPD Final Level
NPDS0512 NPDS0514	NPDS: Construct Levelling Pad NPDS: Pre-excavation Grout for Raise Bore	6 90	08JAN11 15JAN11	14JAN11 05MAY11	0	INPDS: Construct Levelling Pad
NPDS0516	NPDS: In-fill Concrete for Pilot Hole	12	06MAY11	19MAY11	0	INPDS: In-fill Concrete for Pilot Hole
NPDS0800 NPDS0810	NPDS: Complete Excav. to Rockhead at NP DS(KD-A) NPDS:Compl PP Wall,Soil Excav&Clear Area(KD- 01)	0		07JAN11 07JAN11	0	NPDS: Complete Excav. to Rockhead at NP DS(KD-A) NPDS:Compl PP Wall,Soil Excav&Clear Area(KD-01)
Raised Boring		1 0		STOPHNTT		
NDD00700	NDDS: Dig Up Hole 1	E	1000044	17SEP11	0	INPDS: Rig Up Hole 1
NPDS0700 NPDS0710	NPDS: Rig Up Hole 1 NPDS: Pilot Drill 121 mtrs	5 15	12SEP11 19SEP11	070CT11	0	INPDS: Pilot Drill 121 mtrs
NPDS0720	NPDS: Attach Reamer and Collar	3	08OCT11	110CT11	0	INPDS: Attach Reamer and Collar
NPDS0730 NPDS0740	NPDS: Ream 121 metres @ 2.8 mtr dia NPDS: Lower Reamer and Remove	32	12OCT11 18NOV11	17NOV11 21NOV11	0	INPDS: Ream 121 metres @ 2.8 mtr dia INPDS: Lower Reamer and Remove
NPDS0750	NPDS: De Rig Raise borer and Re rig Hole 2	5	22NOV11	26NOV11	0	INPDS: De Rig Raise borer and Re rig Hole 2
NPDS0760	NPDS: Pilot Drill 121 mtrs	15	28NOV11	14DEC11	0	INPDS: Pilot Drill 121 mtrs INPDS: Attach Reamer and collar
NPDS0770 NPDS0780	NPDS: Attach Reamer and collar NPDS: Ream 121 metres @ 2.8 mtr dia	3	15DEC11 19DEC11	17DEC11 30JAN12	0	INPOS. Autori realiter and contain INPDS: Ream 121 metres @ 2.8 mtr dia
NPDS0790	NPDS: De Rig Raise Borer & Remove Reamer	3	31JAN12	02FEB12	0	INPDS: De Rig Raise Borer & Remove Reamer
Lower Shaft Co	nstruction					
NPDS0895	NPDS: Blinding Layer & Concrete Shaft Base	6	03FEB12	09FEB12	0	INPDS: Blinding Layer & Concrete Shaft Base
NPDS0900 NPDS0905	NPDS: Back shunt concreting NPDS: Construct Verti-Shaft to Tunnel Invert	18	10FEB12 02MAR12	01MAR12 08MAR12	0	NPDS: Back shunt concreting NPDS: Construct Verti-Shaft to Tunnel Invert
NPDS0905 NPDS0955	NPDS: Construct Verti-Shaft to Tunnel Invert NPDS: Install System Form for Lower Shaft	6	02MAR12 09MAR12	15MAR12	0	INPDS: Install System Form for Lower Shaft
NPDS0995	NPDS: Construct Transition & Vert Shaft	9	16MAR12	26MAR12	0	NPDS: Construct Transition & Vert Shaft
NPDS1015 NPDS1020	NPDS: Construct lower-shaft -159.5 to -8.5mPD NPDS: Remove system formwork and tidy up area	80 6	27MAR12 03JUL12	30JUN12 09JUL12	0	NPDS: Construct lower-shaft -159.5 to -8.5mPD
Upper Shaft Co						
NPDS1025	NPDS: Blinding Layer & Construct Base Slab	9	10JUL12	19JUL12	0	INPDS: Blinding Layer & Construct Base Slab
NPDS1025	NPDS: Temp Platform & Construct Conical Surface	6	20JUL12	26JUL12	0	INPDS: Temp Platform & Construct Conical Surface
NPDS1110	NPDS: Assembly of kicker frmwork	12	27JUL12	09AUG12	0	INPDS: Assembly of kicker frmwork
NPDS1135 NPDS1140	NPDS: Construct Kicker NPDS: Set up system formwork for upper shaft	9	10AUG12 10AUG12	20AUG12 28AUG12	0	INPDS: Construct Ricker
NPDS1145	NPDS: Construct Upper Shaft	44	29AUG12	200CT12	0	NPDS: Construct Upper Shaft
NPDS1305 NPDS1345	NPDS: Fabricate & Install S/S Vortex Drop Pipe NPDS: Construct Overflow Weir	12 6	15OCT12 30OCT12	29OCT12 05NOV12	0	INPDS: Fabricate & Install S/S Vortex Drop Pipe INPDS: Construct Overflow Weir
NPDS1345 NPDS1385	NPDS: Insta Preca Downpp NP2 & Concrte Enclosure	9	06NOV12	15NOV12	0	INPDS: Insta Preca Downpp NP2 & Concrte Enclosure
NPDS1395	NPDS: Clear Area & Install Multi-Part Cover	3	16NOV12	19NOV12	0	INPDS: Clear Area & Install Multi-Part Cover
Scum Removal						
NPDS1533	NPDS: Sheet Piling, Excavation & ELS Works	24	21SEP12	20OCT12	0	INPDS: Sheet Piling, Excavation & ELS Works
NPDS1545 NPDS1585	NPDS: Excavation for Chamber & Channel NPDS: Blinding Layer & Constrct Base Slab of SRC	9	22OCT12 02NOV12	01NOV12 12NOV12	0	INPDS: Excavation for Chamber & Channel INPDS: Blinding Layer & Construct Base Slab of SRC
NPDS1625	NPDS: Construct Wall of SRC	9	13NOV12	22NOV12	0	INPDS: Construct Wall of SRC
NPDS1645	NPDS: Waterproof & Insta Multi-Part Cover of SRC	6	23NOV12	29NOV12	0	INPDS: Waterproof & Insta Multi-Part Cover of SRC INPDS: Backfill
NPDS1650 Connection Cha	NPDS: Backfill	3	30NOV12	03DEC12	0	
	1	1				
NPDS1455 NPDS1515	NPDS: Blinding Layer & Constrct Base Slab for CC NPDS: Construct Wall of CC	9 12	02NOV12 13NOV12	12NOV12 26NOV12	0	INPDS: Blinding Layer & Constrct Base Slab for CC INPDS: Construct Wall of CC
Start Date	31JUL09 Early Bar	WPU		2010/12		Sheet 1 of 2
Finish Date Data Date	15JAN15 20JAN10 Progress	Bar	Habour			eme Stage 2A Inuction of Sewage
Run Date	01FEB10 09:50 Critical Ac			from North	Point to	Stonecutters Island
			Anno- 00 -		gramme Brogram	Gammon
© Primavera	Systems, Inc.		Annex C8 (Joinstruction	rrogran	nme for the Project

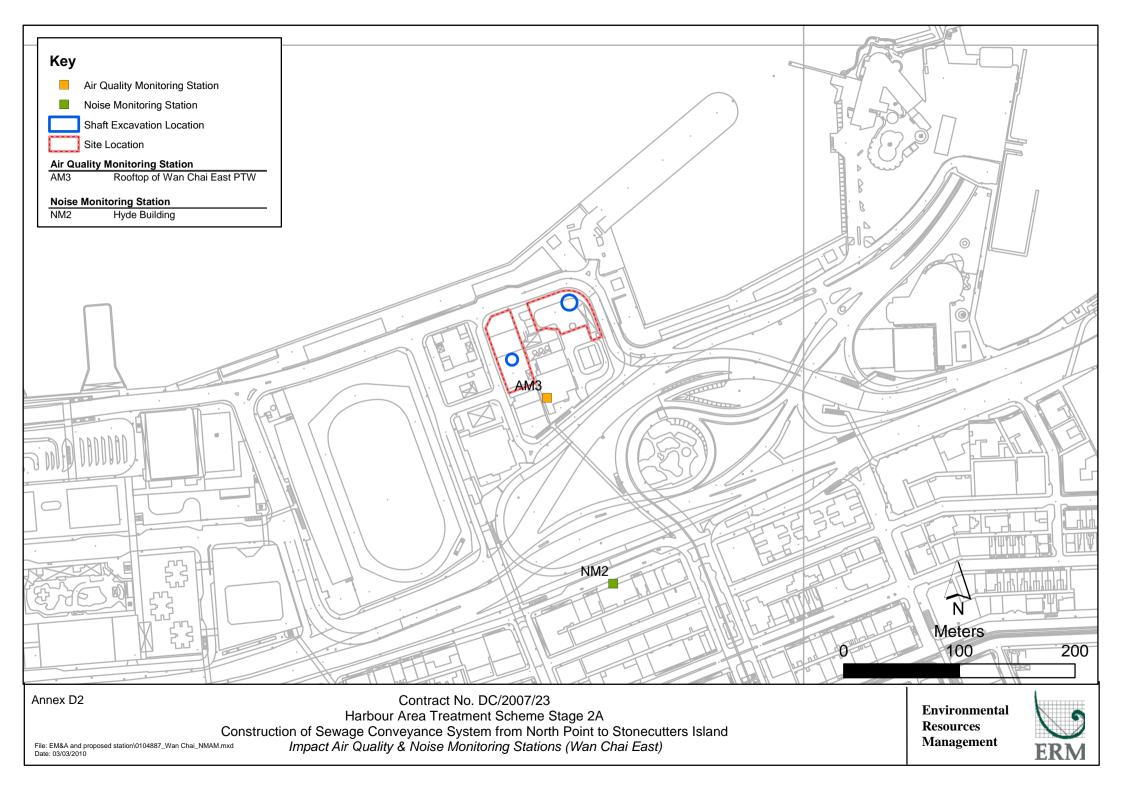
Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp	2010		2011	2012	2013 2014
NPDS1525	NPDS: Waterproof & Insta Multi-Part Cover of CC	6	27NOV12	03DEC12	0					NPDS: Waterproof & Insta Multi-Part Cover of CC
NPDS1540	NPDS: Backfill	3	04DEC12	06DEC12	0		112			NPDS: Backfill
Miscellaneous V	Vorks									
								지 : 이 이 이 이 .	1 명 명 1 명 명 1	
NPDS2010	NPDS: Install E&M Services	18	14FEB13	06MAR13	0	SI SI 13.1 S		지 : 이 이 : 이 :	1 명 명 1 명 1 명 1	NPDS: Install E&M Services
NPDS2020	NPDS: Reinstatement & Clear DS Area	12	07MAR13	20MAR13	0	M N 194 S	112	지 : 이 이 이 이 .	1 명 명 1 명 1 명 1	INPDS: Reinstatement & Clear DS Area
NPDS2025	NPDS: Complete All Works at NP DS(KD-05)	0		20MAR13	0	11 N D I E	112	지 : 이 이 이 이 .	1 명 명 1 명 1 명 1	NPDS: Complete All Works at NP DS(KD-05)
NPDS2030	NPDS: Landscaping & Planting Works	60	21MAR13*	19MAY13	0		112	出口的出口出口	1 명 명 [명] 명	NPDS: Landscaping & Planting Works
NPDS2040	NPDS: Period of Establishment Works	360	20MAY13	14MAY14	0	이 영 영어 한	112	國王國國王國王	NPDS: Period of Establish	ment Works
NPDS2050	NPDS: End of Establishment Period	0		14MAY14	0	김 영 영영 한			199999999	NPDS: End of Establishment Period



Annex D

Wan Chai East Production and Drop Shafts





Annex D3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Air Quality Monitoring Schedule

AM3 - Wan Chai East PTW Monitoring Month : January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan	02-Jan	03-Jan	04-Jan	05-Jan
		Public Holiday			1-hr and 24-hr Monitoring	
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
				1-hr and 24-hr Monitoring		
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
			1-hr and 24-hr Monitoring			
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
		1-hr and 24-hr Monitoring				
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		
	1-hr and 24-hr Monitoring					

Monitoring Month :February 2013

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

Annex D3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23

Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Noise Quality Monitoring Schedule

NM2 - Hyde Building

Monitoring Month : January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan	02-Jan	03-Jan	04-Jan	05-Jan
		Public Holiday	Noise Monitoring (evening time)		Noise Monitoring	
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
Noise Monitoring				Noise Monitoring		
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
		Noise Monitoring (evening time)	Noise Monitoring			
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
Noise Monitoring		Noise Monitoring				
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		
	Noise Monitoring	Noise Monitoring (evening time)				

Monitoring Month : February 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Feb	02-Feb
03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb
Naiaa Manitaring					Noise Monitoring	
Noise Monitoring					Noise Monitoring	
10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb
	Public Holiday	Public Holiday	Public Holiday	Noise Monitoring		
17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb
Noise Monitoring			Noise Monitoring			
24-Feb	25-Feb	26-Feb	27-Feb	28-Feb		
21100	20100	20100	27100	20100		
		Noise Monitoring				
		(daytime and evening time)				

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Construction Phase			
Air Quality	 The Air Pollution Control (Construction Dust) Regulation shall be implemented and good site practices shall be incorporated in the contract clauses to minimize construction dust impact. Control measures relevant to this Project are listed below: skip hoist for material transport should be totally enclosed by impervious sheeting; every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site; the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; where a site boundary adjoins a road, streets or other accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit; every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides; regular watering, with complete coverage, to reduce dust emission from exposed site surfaces and unpaved roads, particularly during dry weather; site enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines; open stock piles should be avoided or covered and prevent placing dusty material storage piles near ASRs if possible; tarpaulin covering of all dusty vehicle loads transported to, from and between site locations; and 		
	 instigation of an environmental monitoring auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise. 		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Air Quality	 The following watering measures for specific site would be required to control the fugitive dust impacts: watering twice per day within the worksites at Wan Chai East PTW; the barging points should be continuous watering throughout the whole unloading process; and watering 8 times per day within worksites at the SCS works area at the state of t	All work sites / during construction	\checkmark
Operational Phase	Wan Chai East.		
Air Quality	Good housekeeping for SCISTW and PTWs listed below should be followed to ameliorate any odour impact from the plant and these	All work sites / during construction	NA. Measures not required until commencement of
	standard practices should be included in the plant operator manual.		operational phase
	 Screens should be cleaned regularly to remove any accumulated organic debris 		1 1
	• Grit and screening transfer systems should be flushed regularly with water to remove organic debris and grit		
	 Grit and screened materials should be transferred to closed containers to minimize odour escape 		
	• Scum and grease collection wells and troughs should be emptied and flushed regularly to prevent putrefaction of accumulated organics		
	 Skim and remove floating solids and grease from primary clarifiers regularly 		
	 Frequent sludge withdrawal from tanks is necessary to prevent the production of gases 		
	Sludge cake should be transferred to closed containers		
	 Sludge containers should be flushed with water regularly 		
Air Quality	Commissioning tests for all deodorization system should be	All PTW and SCISTW/ during	NA. Measures not required
	included in the Design and Construction Contract Document.	operational phase	until commencement of operational phase
Construction Phase			<u> </u>
Noise	Use of quiet PME, movable barriers and acoustic mats	All work sites / during construction	

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Noise	 Good Site Practice: only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program; mobile plant, if any, should be sited as far from NSRs as possible; machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities; Environmental audit shall be carried out to ensure that appropriate noise control measures would be properly implemented. 		
Construction Phase			
Water Quality	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All work sites / during construction	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Effluent Discharge	All work sites / during construction	\checkmark
	There is a need to apply to EPD for a discharge licence for		
	discharge of effluent from the construction site under the		
	WPCO. The discharge quality must meet the requirements		
	specified in the discharge licence. If monitoring of the treated		
	effluent quality from the works areas is required during the		
	construction phase of the Project, the monitoring should be		
	carried out in accordance with the WPCO license which is		
	under the ambit of regional office (RO) of EPD. Minimum		
	distances of 100 m should be maintained between the		
	discharge points of construction site effluent and the existing		
	saltwater intakes.		
Water Quality	Accidental Spillage of Chemicals	All work sites / during construction	<>
	Contractor must register as a chemical waste producer if		
	chemical wastes would be produced from the construction		
	activities. The Waste Disposal Ordinance (Cap 354) and its		
	subsidiary regulations in particular the Waste Disposal		
	(Chemical Waste) (General) Regulation should be observed		
	and complied with for control of chemical wastes.		
Water Quality	Any service shop and maintenance facilities should be located	All work sites / during construction	\checkmark
	on hard standings within a bunded area, and sumps and oil		
	interceptors should be provided. Maintenance of vehicles and		
	equipment involving activities with potential for leakage and		
	spillage should only be undertaken within the areas		
	appropriately equipped to control these discharges.		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status					
Water Quality	Disposal of chemical wastes should be carried out in compliance with the	\checkmark						
	Waste Disposal Ordinance. The Code of Practice on the Packaging,	u u u u u u u u u u u u u u u u u u u						
	Labelling and Storage of Chemical Wastes published under the Waste							
	Disposal Ordinance details the requirements to deal with chemical							
	wastes.							
	General requirements are given as follows:							
	 Suitable containers should be used to hold the chemical wastes to 							
	avoid leakage or spillage during storage, handling and transport.							
	• Chemical waste containers should be suitably labelled, to notify and							
	warn the personnel who are handling the wastes, to avoid accidents.							
	• Storage area should be selected at a safe location on site and adequate							
	space should be allocated to the storage area.							

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Construction Works in Close Proximity of Storm Drains or Seafront	All work sites / during construction	\checkmark
	To minimize the potential water quality impacts from the construction		
	works located at or near any watercourse, the practices outlined below		
	should be adopted where applicable.		
	 The use of less or smaller construction plants may be specified to 		
	reduce the disturbance to the storm water courses or marine environment.		
	• Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.		
	 Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. 		
	• Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.		
	 Construction activities, which generate large amount of wastewater, 		
	should be carried out in a distance away from the waterfront, where practicable.		
	 Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea 		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Operational Phase		×	
Water Quality	Dual power supply, standby facilities for the main treatment units and standby equipment parts / accessories should be provided as far as possible at the SCISTW to minimize the chance of emergency discharge.	SCISTW and all the Stage 2 PTWs / Operation Stage	NA. Measures not required until commencement of operational phase
Water Quality	Standby unit(s) and dual (backup) power supply would be provided at all the Stage 2 PTWs to reduce the risk of equipment breakdown at the PTWs.	Stage 2 PTWs / Operation Stage	NA. Measures not required until commencement of operational phase
Construction Phase			
Waste	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All work sites / during the construction period	1
Waste	 All waste materials should be segregated into categories covering: excavated materials suitable for reuse on-site; excavated materials suitable for public filling facilities; remaining C&D waste for landfill; chemical waste; and general refuse for landfill. 	All work sites / during the construction period	<>

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	 Recommendations to achieve waste reduction include: Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals; Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; Any unused chemicals or those with remaining functional capacity shall be recycled; and Proper storage and site practices to minimise the potential for 	All work sites / during the construction period	\checkmark
Waste	 damage or contamination of construction materials. Recommendations for good site practices during construction activities include:- Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site Training of site personnel in proper waste management and chemical waste handling procedures Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials. Provision of sufficient waste disposal points and regular collection of waste Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors 	All work sites / during the construction period	√
Waste	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage".	All work sites / during the construction period	NA

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.	All work sites / during the construction period	\checkmark
Waste	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.	All work sites / during the construction period	\checkmark
Waste	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.	All work sites / during the construction period	\checkmark
Waste	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	All work sites / during the construction period	√

ENVIRONMENT MANAGEMENT LIMITED

GAMMON CONSTRUCTION LIMITED

Environmental Protection Measures	Location/ Timing	Status
Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.	All work sites / during the construction period	\checkmark
 Topsol, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. Existing trees to be retained on site should be carefully protected during construction. Trees unavoidably affected by the works should be transplanted where practical. Compensatory tree planting should be provided to compensate for felled trees. Control of night-time lighting. Erection of decorative screen hoarding compatible with the surrounding setting. 	during the construction period	N
•		
 Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings. Shrub and Climbing Plants to soften proposed structures / Roof Greening. Buffer Tree and Shrub Planting to screen proposed associated structures. Reinstated of disturbed area 	All the works areas, PTWs and SCISTW/ during the construction period	NA. Measures not required until commencement of operational phase
-	 Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results. Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. Existing trees to be retained on site should be carefully protected during construction. Trees unavoidably affected by the works should be transplanted where practical. Compensatory tree planting should be provided to compensate for felled trees. Control of night-time lighting. Erection of decorative screen hoarding compatible with the surrounding setting. Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings. Shrub and Climbing Plants to soften proposed associated structures. 	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. All work sites / during the construction period 34/2002 and the results should be presented in a Preliminarry Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results. All work sites / during the construction period • Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. All the works areas, PTWs and SCISTW/ during the construction period • Topsoil, where identified, should be stripped and stored for re-use in the construction. All the works areas, PTWs and SCISTW/ during the construction period • Compensatory tree planting should be provided to compensate for felled trees. Control of night-time lighting. • Erection of decorative screen hoarding compatible with the surrounding setting. All the works areas, PTWs and SCISTW/ during the construction period • Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings. All the works areas, PTWs and SCISTW/ during the construction period • Buffer Tree and Shrub Planting to screen proposed associated structures. All the works areas, PTWs and SCISTW/

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Cultural Heritage	The construction vibration control limit (ppv of 25mm/s) shall be strictly followed.	Identified historical buildings/structures as mentioned in Tables 15.8 and 15.9. During blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	NA. Vibration monitoring has not been launched during the reporting period.
	Monitoring of vibration limits shall be conducted and reported as a requirement of EM&A programme	Identified historical buildings/structures as mentioned in Tables 15.8 and 15.9. During blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	NA. Vibration monitoring has not been launched during the reporting period.

Remark:

 $\sqrt{}$ Compliance of Mitigation Measures

<> Compliance of Mitigation but need improvement

x Non-compliance of Mitigation Measures

Δ Deficiency of Mitigation Measures but rectified by Gammon Construction Limited

NA Not Applicable

Annex D5 24-hour and 1-hour TSP Monitoring Results

1-hour TSP Monitoring Results

Station AM3

*

				TSP					Wind Speed		
	Start	Finish	Weather	Concentration	Action Level	Limit Level	Site Conditions /	Temperature	*	Sampler	Filter
Date	Time	Time		(µg/m ³)	(µg/m ³)	(µg/m ³)	Observations / Remarks	(°°)	(m/s)	ID	ID
04-Jan-13	12:00	13:00	Cloudy	99	355	500	Construction work in progress	12	<5	0481	1766
	13:02	14:02	Cloudy	112	355	500	Construction work in progress	12	<5	0481	1767
	14:04	15:04	Cloudy	105	355	500	Construction work in progress	12	<5	0481	1770
10-Jan-13	8:00	9:00	Fine	108	355	500	Construction work in progress	17	<5	0481	1768
	9:02	10:02	Fine	176	355	500	Construction work in progress	17	<5	0481	1791
	10:04	11:04	Fine	142	355	500	Construction work in progress	17	<5	0481	1792
16-Jan-13	11:40	12:40	Sunny	126	355	500	Construction work in progress	17	<5	0481	1785
	12:42	13:42	Sunny	140	355	500	Construction work in progress	17	<5	0481	1786
	13:44	14:44	Sunny	147	355	500	Construction work in progress	17	<5	0481	1788
22-Jan-13	11:53	12:53	Sunny	174	355	500	Construction work in progress	22	<5	0481	1798
	12:55	13:55	Sunny	160	355	500	Construction work in progress	22	<5	0481	1821
	13:57	14:57	Sunny	150	355	500	Construction work in progress	22	<5	0481	1822
28-Jan-13	8:10	9:10	Sunny	263	355	500	Construction work in progress	19	<5	0481	1824
	9:12	10:12	Sunny	205	355	500	Construction work in progress	19	<5	0481	1826
	10:14	11:14	Sunny	190	355	500	Construction work in progress	19	<5	0481	1825
			Min.	99				•		•	•
			Max.	263							

Average 153

Wind Speed data is presented in the Meteorological Data table

Annex D5 24-hour and 1-hour TSP Monitoring Results

24-hour TSP Monitoring Results

Station AM3

							Elapse	d Time	Sampling									
Start		Finish	1 I	Weather	Filter V	Veight (g)	Rea	ding	Time	Flow	/ Rate (m	³ /min)	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m ³)	(µg/m ³)	(µg/m ³)		ID	ID
04-Jan-13	15:10	05-Jan-13	15:10	Cloudy	2.8208	2.9595	7653.32	7677.32	24.00	1.24	1.24	1.24	78	181	260	construction work in progress	0481	1769
10-Jan-13	11:06	11-Jan-13	11:06	Fine	2.7984	2.9160	7680.32	7704.32	24.00	1.24	1.24	1.24	66	181	260	construction work in progress	0481	1793
16-Jan-13	14:50	17-Jan-13	14:50	Sunny	2.8354	2.9797	7708.32	7732.32	24.00	1.24	1.24	1.24	81	181	260	construction work in progress	0481	1787
22-Jan-13	15:00	23-Jan-13	15:00	Sunny	2.7799	2.9400	7735.32	7759.32	24.00	1.21	1.21	1.21	92	181	260	construction work in progress	0481	1800
28-Jan-13	11:16	29-Jan-13	11:16	Sunny	2.6611	2.8515	7762.32	7786.32	24.00	1.21	1.21	1.21	109	181	260	construction work in progress	0481	1823
												Min.	66					
												Max	100					



Meteorological Data Extracted from the Hong Kong Observatory

			Kin	g's Park Station		
		Average Air	Average Relative	Total Rainfall	Average Wind	
Date	Weather	Temperature (°C)	Humiditiy (%)	(mm)	Speed (km/h)	Wind Direction
2013-01-02	Sunny	18	48 - 81	0.0	6	SE
2013-01-03	Sunny	17	63 - 85	0.0	6	E
2013-01-04	Cloudy	12	66 - 76	0.0	4	NE
2013-01-05	Cloudy	15	61-79	0.0	4	NE
2013-01-06	Sunny	16	60 - 80	0.0	4	NE
2013-01-07	Sunny	15	64 - 80	0.0	4	NE
2013-01-08	Cloudy	18	58 - 72	0.0	3	N
2013-01-09	Cloudy	16	56 - 72	0.0	4	NE
2013-01-10	Fine	14	57 - 75	0.0	8	NE
2013-01-13	Fine	17	61 - 77	0.0	6	NW
2013-01-14	Sunny	16	55 - 80	0.0	4	NE
2013-01-15	Fine	15	68 - 79	0.0	9	SE
2013-01-16	Sunny	18	59 - 88	0.0	4	SE
2013-01-17	Sunny	18	57 - 77	0.0	10	SE
2013-01-18	Sunny	18	64 - 77	0.0	9	NE
2013-01-19	Sunny	15	49 - 78	0.0	8	SE
2013-01-20	Sunny	17	70 - 79	0.0	9	SE
2013-01-21	Sunny	20	66 - 85	0.0	8	SE
2013-01-22	Cloudy	24	63 - 90	Trace	3	SE
2013-01-23	Cloudy	19	79 - 93	0.0	9	SE
2013-01-24	Sunny	21	64 - 80	0.0	10	SE
2013-01-25	Fine	18	58 - 72	0.0	5	SE
2013-01-27	Sunny	17	76 - 94	0.6	6	NE
2013-01-28	Sunny	16	48 - 78	0.0	9	E
2013-01-29	Sunny	17	52 - 82	Trace	10	SE
2013-01-30	Fine	17	53 - 85	0.0	9	SE
2013-01-31	Fine	18	55 - 78	0.0	13	SE

			Tsi	ng Yi Station		
		Average Air	Average Relative	Total Bainfall	Average Wind	
Date	Weather	Temperature (°C)	Humiditiy (%) *	(mm)	Speed (km/h)	Wind Direction
2013-01-02	Sunny	19	48 - 81	0.0	5	E
2013-01-03	Sunny	17	63 - 85	0.0	4	NE
2013-01-04	Cloudy	12	66 - 76	0.0	7	NW
2013-01-05	Cloudy	14	61-79	0.0	9	NW
2013-01-06	Sunny	15	60 - 80	0.0	7	NW
2013-01-07	Sunny	15	64 - 80	0.0	2	NW
2013-01-08	Cloudy	17	58 - 72	0.0	6	NW
2013-01-09	Cloudy	17	56 - 72	0.0	4	NW
2013-01-10	Fine	15	57 - 75	0.0	8	NW
2013-01-13	Fine	17	61 - 77	0.0	10	NW
2013-01-14	Sunny	16	55 - 80	0.0	7	NW
2013-01-15	Fine	17	68 - 79	0.0	3	E
2013-01-16	Sunny	17	59 - 88	0.0	6	NW
2013-01-17	Sunny	17	57 - 77	0.0	4	NE
2013-01-18	Sunny	15	64 - 77	0.0	7	NW
2013-01-19	Sunny	16	49 - 78	0.0	5	SE
2013-01-20	Sunny	17	70 - 79	0.0	9	SE
2013-01-21	Sunny	22	66 - 85	0.0	10	SE
2013-01-22	Cloudy	22	63 - 90	Trace	3	E
2013-01-23	Cloudy	19	79 - 93	0.0	6	E
2013-01-24	Sunny	21	64 - 80	0.0	10	NW
2013-01-25	Fine	18	58 - 72	0.0	7	NW
2013-01-27	Sunny	17	76 - 94	0.6	3	NW
2013-01-28	Sunny	18	48 - 78	0.0	6	SE
2013-01-29	Sunny	19	52 - 82	Trace	6	SE
2013-01-30	Fine	17	53 - 85	0.0	5	SE
2013-01-31	Fine	20	55 - 78	0.0	12	SE

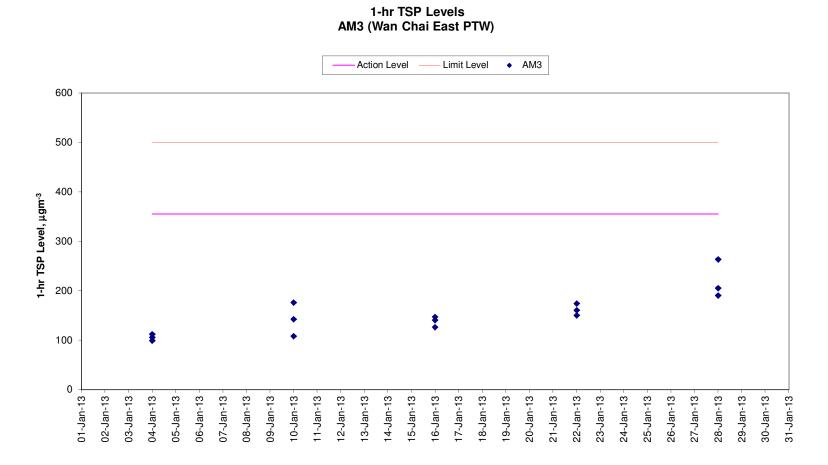
Date	Weather	Average Air Temperature (°C) *	Average Relative Humiditiy (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction
2013-01-02	Sunny	18	48 - 81	0.0	12	SE
2013-01-03	Sunny	17	63 - 85	0.0	10	E
2013-01-04	Cloudy	12	66 - 76	0.0	8	N
2013-01-05	Cloudy	15	61-79	0.0	10	NW
2013-01-06	Sunny	16	60 - 80	0.0	9	NW
2013-01-07	Sunny	15	64 - 80	0.0	8	NW
2013-01-08	Cloudy	18	58 - 72	0.0	8	SW
2013-01-09	Cloudy	16	56 - 72	0.0	9	NW
2013-01-10	Fine	14	57 - 75	0.0	8	NE
2013-01-13	Fine	17	61 - 77	0.0	7	W
2013-01-14	Sunny	16	55 - 80	0.0	5	E
2013-01-15	Fine	15	68 - 79	0.0	12	E
2013-01-16	Sunny	18	59 - 88	0.0	10	SE
2013-01-17	Sunny	18	57 - 77	0.0	13	SE
2013-01-18	Sunny	18	64 - 77	0.0	10	NE
2013-01-19	Sunny	15	49 - 78	0.0	12	E
2013-01-20	Sunny	17	70 - 79	0.0	12	E
2013-01-21	Sunny	20	66 - 85	0.0	7	E
2013-01-22	Cloudy	24	63 - 90	Trace	3	SE
2013-01-23	Cloudy	19	79 - 93	0.0	12	SE
2013-01-24	Sunny	21	64 - 80	0.0	12	E
2013-01-25	Fine	18	58 - 72	0.0	12	E
2013-01-27	Sunny	17	80 - 93	0.6	9	NE
2013-01-28	Sunny	16	81 - 93	0.0	21	E
2013-01-29	Sunny	17	82 - 93	Trace	16	SE
2013-01-30	Fine	17	83 - 93	0.0	24	E
2013-01-31	Fine	18	84 - 93	0.0	6	SE
*	King's Park's	data				

ranger ante data
Data were not available

-

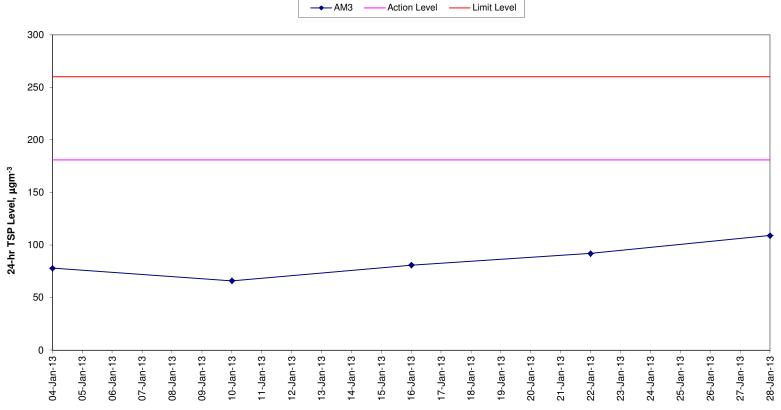
less than 24 hourly observations per day

			Green Island Station							
Date	Weather	Average Air Temperature (℃) *	Average Relative Humiditiy (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction				
2013-01-02	Sunny	18	48 - 81	0.0	25	NE				
2013-01-03	Sunny	17	63 - 85	0.0	25	NE				
2013-01-04	Cloudy	12	66 - 76	0.0	24	NE				
2013-01-05	Cloudy	15	61-79	0.0	28	N				
2013-01-06	Sunny	16	60 - 80	0.0	28	NW				
2013-01-07	Sunny	15	64 - 80	0.0	22	N				
2013-01-08	Cloudy	18	58 - 72	0.0	21	NW				
2013-01-09	Cloudy	16	56 - 72	0.0	20	N				
2013-01-10	Fine	14	57 - 75	0.0	26	N				
2013-01-13	Fine	17	61 - 77	0.0	17	NW				
2013-01-14	Sunny	16	55 - 80	0.0	23	N				
2013-01-15	Fine	15	68 - 79	0.0	35	NE				
2013-01-16	Sunny	18	59 - 88	0.0	10	NE				
2013-01-17	Sunny	18	57 - 77	0.0	27	NE				
2013-01-18	Sunny	18	64 - 77	0.0	25	NE				
2013-01-19	Sunny	15	49 - 78	0.0	25	NE				
2013-01-20	Sunny	17	70 - 79	0.0	25	NE				
2013-01-21	Sunny	20	66 - 85	0.0	40	NE				
2013-01-22	Cloudy	24	63 - 90	Trace	28	NE				
2013-01-23	Cloudy	19	79 - 93	0.0	27	NE				
2013-01-24	Sunny	21	64 - 80	0.0	25	NE				
2013-01-25	Fine	18	58 - 72	0.0	25	NE				
2013-01-27	Sunny	17	80 - 93	0.6	28	NE				
2013-01-28	Sunny	16	81 - 93	0.0	38	NE				
2013-01-29	Sunny	17	82 - 93	Trace	34	NE				
2013-01-30	Fine	17	83 - 93	0.0	15	NE				
2013-01-31	Fine	18	84 - 93	0.0	35	NE				



Date





Date

Annex D6 Noise Monitoring Results

Daytime Noise Monitoring Results

Station NM2

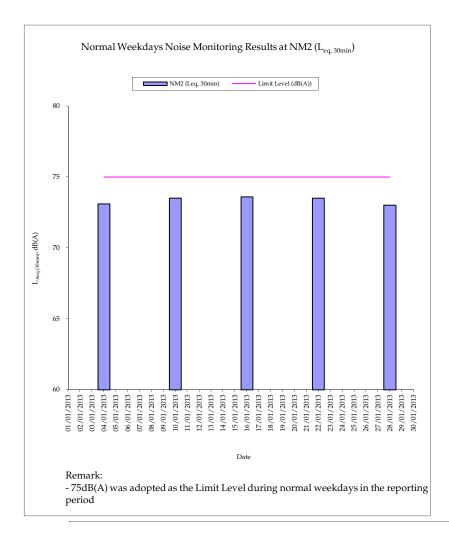
Date	Date Start Time		Weather	Noise	level (dB(A))), 30 min	Major Construction Noise Source(s)	Other Noise Source(s)	Remarks	Temp. (℃)	Wind Speed	Noise Meter	Calibrator
				Leq	L10	L90	Observed	Observed		• • • •	(m/s)	Model / ID	Model / ID
04-Jan-13	14:20	14:50	Cloudy	73.1	74.4	71.9	Excavation work (DSD site)	Traffic noise	-	12	0.5	RION-NL31 (S/N 00603867)	RION-NC73 (S/N 10997142)
10-Jan-13	8:15	8:45	Fine	73.5	74.8	72.4	excavation (DSD site)	traffic noise	-	14	0.5	RION-NL31 (S/N 00603867)	RION-NC73 (S/N 10997142)
16-Jan-13	14:00	14:30	Sunny	73.6	75.1	72.6	Excavation (DSD site)	Traffic noise	-	18	0.5	RION-NL31 (S/N 00603867)	RION-NC73 (S/N 10997142)
22-Jan-13	14:10	14:40	Sunny	73.5	75.0	72.2	Lifting & Excavation (DSD site)	Traffic noise	-	24	0.3	RION-NL31 (S/N 00603867)	RION-NC73 (S/N 10997142)
28-Jan-13	10:30	11:00	Sunny	73.0	74.3	71.8	Lifting & Excavation (DSD site)	Traffic noise	-	16	0.5	RION-NL31 (S/N 00603867)	RION-NC73 (S/N 10997142)
			Min.	73.0			•					•	
			Max.	73.6									

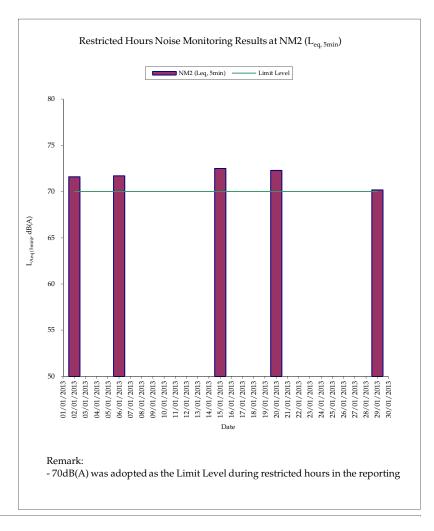
Annex D6 Noise Monitoring Results

Restricted Hours Noise Monitoring Results

Station NM2

				Noise	level (dB(A)), 5 min	Major Construction	Other Noise			Wind		
Date	Start Time	End Time	Weather	Leq	L10	L90	Noise Source(s) Observed	Source(s) Observed	Remarks	Temp. (℃)	Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
02-Jan-13	20:20	20:25	Fine	72.0	73.2	70.6			-				RION - NC73 (S/N
	20:25	20:30	Fine	71.3	71.7	70.0	No outdoor construction	Mainly traffic noise	-	18	0.9	RION- NL31 (S/N	
	20:30	20:35	Fine	71.4	72.3	70.5	noise	Mainly traile noise	-	10	0.9	00603867)	10997142)
	20:20	20:35	Fine	71.6	72.4	70.4			-			00000001)	10337142)
06-Jan-13	13:00	13:05	Fine	72.0	72.8	70.3			-				
	13:05	13:10	Fine	71.6	72.6	70.4	No outdoor construction	Mainly traffic noise	-	16	0.3	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
	13:10	13:15	Fine	71.5	72.4	70.2	noise	Mainly trainc hoise	-	10	0.5		
	13:00	13:15	Fine	71.7	72.6	70.3			-			00000001)	10007112)
15-Jan-13	20:00	20:05	Fine	72.6	73.1	71.4			-			RION- NL31	RION - NC73 (S/N 10997142)
	20:05	20:10	Fine	72.6	73.5	71.5	No outdoor construction	Mainly traffic noise	-	15	0.5	(S/N	
	20:10	20:15	Fine	72.2	73.1	71.2	noise	Mainy trans holdo	-	15	0.5	00603867)	
	20:00	20:15	Fine	72.5	73.2	71.4			-				
20-Jan-13	14:21	14:26	Sunny	72.1	73.1	71.1			-				
	14:26	14:31	Sunny	72.2	73.1	71.1	No outdoor construction	Mainly traffic noise	-	17	0.5	RION- NL31 (S/N	RION - NC73 (S/N
	14:31	14:36	Sunny	72.5	73.7	71.1	noise	Mainly traine noise	-	17	0.5	00603867)	10997142)
	14:21	14:36	Sunny	72.3	73.3	71.1			-			00000001)	10007112)
29-Jan-13	21:26	21:31	Fine	70.1	70.9	69.1			-				
	21:31	21:36	Fine	70.2	71.1	69.1	No outdoor construction	Mainh <i>i</i> traffia n=!==	-	17	0.0	RION- NL31	RION - NC73
	21:36	21:41	Fine	70.4	71.4	69.2	noise	Mainly traffic noise	-	17	0.3	(S/N 00603867)	(S/N 10997142)
	21:26	21:41	Fine	70.2	71.1	69.1	1		-			00000007)	10007142)
			Min.	70.1			•			•		•	•
			Max.	72.6									





Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
December 2009	0	0
January 2010	0	0
February 2010	0	0
March 2010	0	0
April 2010	0	0
May 2010	0	0
June 2010	0	0
July 2010	0	0
August 2010	0	0
September 2010	0	0
October 2010	0	0
November 2010	0	0
December 2010	0	0
January 2011	0	0
February 2011	0	0
March 2011	0	0
April 2011	0	0
May 2011	0	0

Annex D7 Cumulative Complaint and Summons/Prosecutions Log

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
June 2011	0	0
July 2011	0	0
August 2011	0	0
September 2011	0	0
October 2011	0	0
November 2011	1	0
December 2011	0	0
January 2012	0	0
February 2012	0	0
March 2012	0	0
April 2012	0	0
May 2012	0	0
June 2012	0	0
July 2012	0	0
August 2012	0	0
September 2012	0	0
October 2012	0	0
November 2012	0	0

Annex D7 Cumulative Complaint and Summons/Prosecutions Log

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
December 2012	0	0
January 2013	0	0
Overall Total	1	0

Annex D7 Cumulative Complaint and Summons/Prosecutions Log

Activity	Activity	Orig	Early	Early	%	2010 2011 2012 2013 2014
	Description	Dur	Start	Finish	Comp	
Contract Contract Contract Cont	- Contract DC/2007/23					
-	Production Shaft					- Central Carlos and a second and a second second a second s
Preliminaries W	OFKS					🗕
WCPS10085	WCPS: Construct/Install Blast Protection	2	16AUG10	17AUG10	0	WCPS: Construct/Install Blast Protection
WCPS10090	WCPS: Site Inspection from Mines	1	18AUG10	18AUG10	0	WCPS: Site Inspection from Mines
WCPS10095	WCPS: Issue Blasting Permit		19AUG10	19AUG10	0	WCPS: Issue Blasting Permit
Sec.	chanical Installations		Tortoure	Torrocito		
Liconnoundime						
WCPS0605	WCPS: Installation Works for LV Application	60	04JAN10A	04MAR10	42	WCPS: Installation Works for LV Application
WCPS0610	WCPS: LV Connection & Power On	4	05MAR10	09MAR10	0	WCPS: LV Connection & Power On
WCPS0620	WCPS: Installation Works for 11KV Application	60	01MAR10*	11MAY10	0	WCPS: Installation Works for 11KV Application
WCPS0625	WCPS: 11 KV Connection & Power On	4	12MAY10	15MAY10	0	WCPS: 11 KV Connection & Power On
Marine Dumping						
WCPS0199	WCPS: Request for Disposal Site & Get Permit	24	26DEC09A	29JAN10	63	WCPS: Request for Disposal Site & Get Permit
Diaphragm Wall						
WCPS0264	WCPS: Grouting Works Phase 1	37	20JAN10	06MAR10	0	WCPS: Grouting Works Phase 1
WCPS0276	WCPS: Grouting Works Phase 2	48	08MAR10	04MAY10	0	WCPS: Grouting Works Phase 2
WCPS0283	WCPS: Excavate 6th Panel to Formation Level	15	05JAN10A	26JAN10	60	WCPS: Excavate 6th Panel to Formation Level
WCPS0285	WCPS: 6th Panel Desanding & Preparation Works	3	27JAN10	29JAN10	0	WCPS: 6th Panel Desanding & Preparation Works
WCPS0287	WCPS: 6th Panel Rebar Cage Installation	4	30JAN10	03FEB10	0	IWCPS: 6th Panel Rebar Cage Installation
WCPS0289	WCPS: 6th Panel Concreting Works	1	04FEB10	04FEB10	0	WCPS: 6th Panel Concreting Works
WCPS0292	WCPS: Install Dewatering Wells for Pump-test	12	27APR10	11MAY10	0	WWCPS: Install Dewatering Wells for Pump-test
WCPS0294	WCPS: Pumping Test	6	12MAY10	18MAY10	0	IWCPS: Pumping Test
WCPS0295	WCPS: Demobilization	6	19MAY10	25MAY10	0	WCPS: Demobilization
WCPS0296	WCPS: Submission of Pumping Test Report	6	19MAY10	25MAY10	0	WCPS: Submission of Pumping Test Report
Shaft Excavatio	n					
WCPS0300	WCPS: Construct Capping Beam & Collar Shaft	12	19MAY10	01JUN10	0	WCPS: Construct Capping Beam & Collar Shaft
WCPS0310	WCPS: Initial Excavation of Shaft (7m)	4	02JUN10	05JUN10	0	WCPS: Initial Excavation of Shaft (7m)
WCPS0320	WCPS: Set-up Equipment for Shaft Sink	12	07JUN10	21JUN10	0	WCPS: Set-up Equipment for Shaft Sink
WCPS0322	WCPS: Erect Noise Enclosure of Shaft Top	12	07JUN10	21JUN10	0	WCPS: Erect Noise Enclosure of Shaft Top
WCPS0330	WCPS: Excavate Soil & Ring Beams (32.5m)	14	22JUN10	08JUL10	0	WCPS: Excavate Soil & Ring Beams (32.5m)
WCPS0375	WCPS: Probe, Grout, D & B Rock, Muck Out (128m)	124	23AUG10	19JAN11	0	WCPS: Probe, Grout, D & B Rock, Muck Out (128m)
WCPS0440	WCPS: Construct Sump at Shaft Bottom	2	20JAN11	21JAN11	0	WCPS: Construct Sump at Shaft Bottom
WCPS0465	WCPS: Erect Tunnel Hoist & Muck-Out System	10	22JAN11	02FEB11	0	WCPS: Erect Tunnel Hoist & Muck-Out System
Backfill, Reinsta	atement & Landscaping					
WCPS0900	WCPS: Backfill Temp Adit - Concrete	5	01AUG13	06AUG13	0	WCPS: Backfill Temp Adit - Concre
WCPS0910	WCPS: Backfill Shaft (20%)	5	07AUG13	12AUG13	0	WCPS: Backfill Shaft (20%)
WCPS0920	WCPS: Backfill Shaft (40%)	5	13AUG13	17AUG13	0	IWCPS: Backfill Shaft (40%)
WCPS0930	WCPS: Backfill Shaft (60%)	5	19AUG13	23AUG13	0	IWCPS: Backfill Shaft (60%)
WCPS0940	WCPS: Backfill Shaft (80%)	5	24AUG13	29AUG13	0	WCPS: Backfill Shaft (80%)
WCPS0950	WCPS: Backfill Shaft (100%)	5	30AUG13	04SEP13	0	WCPS: Backfill Shaft (100%)
WCPS0960	WCPS: Reinstatement Around PS Area	10	05SEP13	16SEP13	0	WCPS: Reinstatement Around I
WCPS0970	WCPS: Demobilise Clear Area	6	17SEP13	24SEP13	0	WCPS: Demobilise Clear Area
WCPS0975	WCPS: Complete All Works at WCE PS (KD-08)	0		24SEP13	0	WCPS: Complete All Works at WCE PS (KD-08)
WCPS0980	WCPS: Landscaping & Planting Works	60	25SEP13*	23NOV13	0	WCPS: Landscaping & Planting Works
WCPS0990	WCPS: Period of Establishment Works	360	24NOV13	18NOV14	0	WCPS: Period of Establishment Works
WCPS1000	WCPS: End of Establishment Period	0		18NOV14	0	WCPS: End of Establishment Period

Start Date	31JUL09	Early Bar	WPU7 Shee	t 1 of 1				
Finish Date Data Date	15JAN15 20JAN10	Progress Bar	Habour Area Treatment Scheme Stage 2A Contract No. DC/2007/23 - Construction of Sewag	0	Date	Revision	Checked	Approved
Run Date	01FEB10 09:26	Critical Activity	Conveyance from North Point to Stonecutters Islan Programme					
	a Systems, Inc.		Annex D8 Construction Programme for the Project	ct				

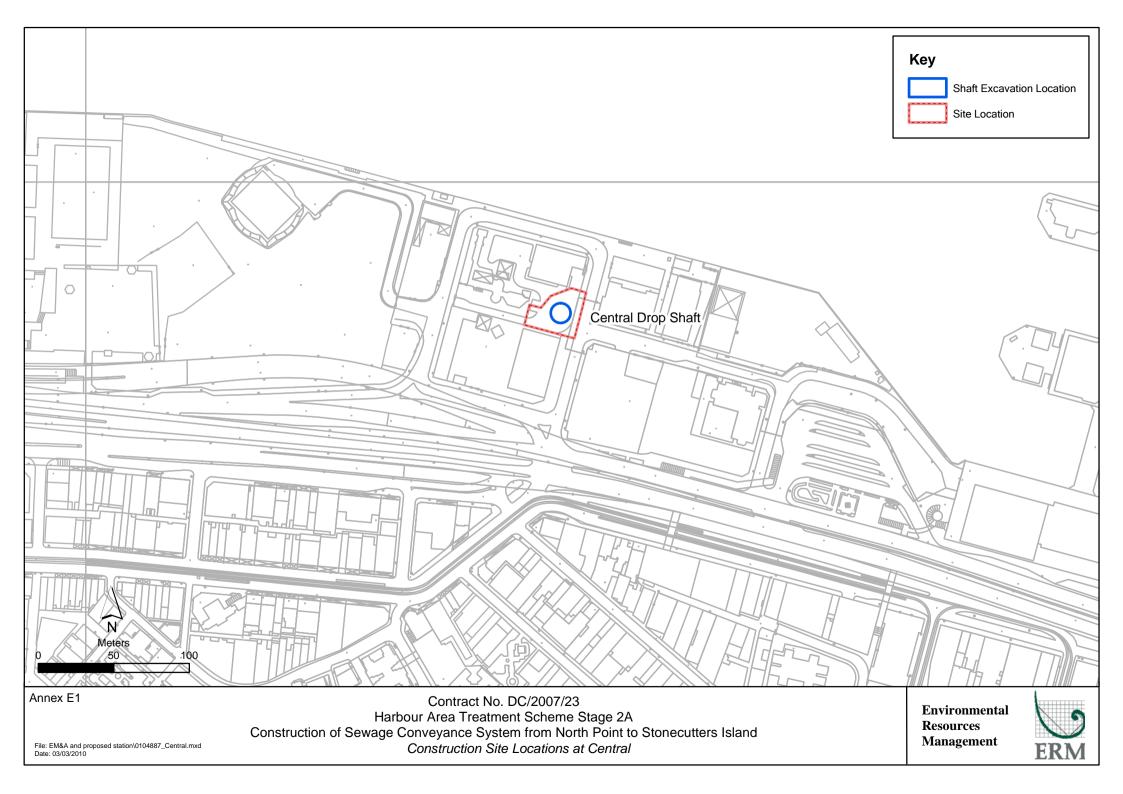
Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp	2010 2011 2012 2013 2014
ATS Stage 2A	- Contract DC/2007/23				South	
Van Chai East Preliminaries W	PTW Drop Shaft					
			1			
and the second s	WCDS: Transplant & Protect Trees	80	25SEP09A	21JAN10	97	WCDS: Transplant & Protect Trees
	s/Others(Same note as Piez.)					
WCDS0442 WCDS0444	WCDS: Install SS Markers (42 Nos.) WCDS: JointSurvey&EstablishBaseline Readings SSM	50 14	24OCT09A 04FEB10	03FEB10 23FEB10	74 0	WCDS: Install SS Markers (42 Nos.)
Piezometers(N	learbyPTWorPScovered inthisInstalln)				Ū	
WCDS0369 WCDS0371	WCDS: Excav.Permit/TTA/TTM ApplicationforBH820PW WCDS: Installation Works of BH820 Piezometer	25 21	15SEP09A 04FEB10	03FEB10 03MAR10	50 0	IWCDS: Excav.Permit/TTA/TTM ApplicationforBH820PW
WCDS0373	WCDS: BH820 Piezometer Baseline Establishment	26	04MAR10	02APR10	0	WCDS: BH820 Piezometer Baseline Establishment
WCDS0377 WCDS0379	WCDS: Excav.Permit/TTA/TTM ApplicationforBH821PW WCDS: Installation Works of BH821 Piezometer	24	15SEP09A 05FEB10	04FEB10 04MAR10	40	WCDS: Excav.Permit/TTA/TTM ApplicationforBH821PW
WCDS0381	WCDS: BH821 Piezometer Baseline Establishment	26	05MAR10	03APR10	0	WCDS: BH821 Piezometer Baseline Establishment
WCDS0383 WCDS0385	WCDS: Excav.Permit/TTA/TTM ApplicationforBH822PW WCDS: Installation Works of BH822 Piezometer	24	22SEP09A 04MAR10	04FEB10 27MAR10	40	WCDS: Excav.Permit/TTA/TTM ApplicationforBH822PW WCDS: Installation Works of BH822 Piezometer
WCDS0387	WCDS: BH822 Piezometer Baseline Establishment	26	29MAR10	28APR10	0	WCDS: BH822 Piezometer Baseline Establishment
WCDS0393 WCDS0397	WCDS: BH823 Piezometer Baseline Establishment WCDS: Excav.Permit/TTA/TTM ApplicationforBH927PW	26 24	01JAN10A 28SEP09A	10MAR10 04FEB10	80 40	WCDS: EN22 Prezonatian Establishment
WCDS0399 WCDS0401	WCDS: Installation Works of BH927 Piezometer	21	05FEB10 05MAR10	04MAR10 03APR10	0	WWCDS: Installation Works of BH927 Piezometer
WCDS0401 WCDS0403A	WCDS: BH927 Piezometer Baseline Establishment WCDS: ResolveRestrictions/Rd.AdviceAppr./PrepWrk	26 33	07NOV09A	04FEB10	58	WCDS: ResolveRestrictions/Rd.AdviceAppr./PrepWrk
WCDS0405 WCDS0407	WCDS: BH928/30 Piezometer Baseline Establishment WCDS: Installation Works of BH928/30 Piezometer	26 21	30MAR10 05MAR10	29APR10 29MAR10	0	WCDS: BH928/30 Piezometer Baseline Establishment
WCDS0413	WCDS: BH929 Piezometer Baseline Establishment	26	31DEC09A	10MAR10	80	
WCDS0417 WCDS0419	WCDS: Installation Works of BH931 Piezometer WCDS: BH931 Piezometer Baseline Establishment	21 26	07DEC09A 05FEB10	04FEB10 10MAR10	33	WCDS: Installation Works of BH931 Piezometer
WCDS0425	WCDS: BH932 Piezometer Baseline Establishment	26	20DEC09A	22JAN10	90	WCDS: BH932 Plezometer Baseline Establishment
WCDS0427 WCDS0429	WCDS: Excav.Permit/TTA/TTM ApplicationforBH933PW WCDS: Installation Works of BH933 Piezometer	24 21	09SEP09A 29MAR10	28JAN10 22APR10	67 0	WCDS: Excav.Permit/TTA/TTM ApplicationforBH933PW INDWCDS: Installation Works of BH933 Piezometer
WCDS0431	WCDS: BH933 Piezometer Baseline Establishment	26	23APR10	24MAY10	0	WCDS: BH933 Plezometer Baseline Establishment
Electrical & Mec	chanical Installations					
WCDS0805	WCDS: Installation Works for LV Application	60	04JAN10A	1.2.110 0.111	20	WCDS: Installation Works for LV Application
WCDS0810 New Chamber a	WCDS: LV Connection & Power On and Overflow Pipe	4	20MAR10	24MAR10	0	IWCDS: LV Connection & Power On
-			1	P		
WCDS0525 WCDS0565	Sheetpile, ELS, Excavation & Support Ex. Pipe Blinding Laver & Concrete Base Slab of Chamber	18	16OCT09A 19NOV09A	20JAN10 20JAN10	95 80	Sheetplie, ELS, Excavation & Support Ex. Pipe Blinding Layer & Concrete Base Slab of Chamber
	Construct Wall/Top Slab & Install New Pipe	12	30NOV09A	23JAN10	70	Construct Wall/Top Slab & Install New Pipe
WCDS0605		9	18DEC09A 30DEC09A	25JAN10 25JAN10	40 70	Remove Formwork/Falsework & Waterproof Install New 2400 Pipe, Penstock PEN 15 & Connect
WCDS0605 WCDS0625	Remove Formwork/Falsework & Waterproof	18		LOOANIO	10	
WCDS0605	Remove Formwork/Falsework & Waterproof Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13	18 15	18JAN10A	04FEB10	10	Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13
WCDS0605 WCDS0625 WCDS0645 WCDS0665 WCDS0670	Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13 Infill slab for Chamber roof slab	15 7	18JAN10A 05FEB10	12FEB10	0	Infill slab for Chamber roof slab
WCDS0605 WCDS0625 WCDS0645 WCDS0665 WCDS0670 WCDS0695 WCDS0698 Marine Dumping	Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13 Infill slab for Chamber roof slab Blank off Bckflw of 2400 Ppe&Demolsh Exist Pipe Backfill and removal all temporary works g Permit WCDS: Request for Disposal Site & Get Permit	15	18JAN10A	12FEB10 27FEB10 04MAR10	10.05	
WCDS0605 WCDS0625 WCDS0645 WCDS0665 WCDS0695 WCDS0698 Marine Dumping WCDS0380 Diaphragm Wall	Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13 Infill slab for Chamber roof slab Blank off Bckflw of 2400 Ppe&Demolsh Exist Pipe Backfill and removal all temporary works g Permit WCDS: Request for Disposal Site & Get Permit I WCDS: Pre-Treatment of Ground	15 7 10 4 24 24 36	18JAN10A 05FEB10 13FEB10 01MAR10 05JAN10A 05JAN10A	12FEB10 27FEB10 04MAR10 18FEB10 18FEB10	0 0 0 5 0	Infill slab for Chamber roof slab IBlank off Bckfiw of 2400 Ppe&Demolsh Exist Pipe IBackfill and removal all temporary works IWCDS: Request for Disposal Site & Get Permit IWCDS: Pre-Treatment of Ground
WCDS0605 WCDS0625 WCDS0645 WCDS0665 WCDS0695 WCDS0698 Marine Dumping WCDS0380 Diaphragm Wall WCDS0205 WCDS0210	Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13 Infill slab for Chamber roof slab Blank off Bckflw of 2400 Ppe&Demolsh Exist Pipe Backfill and removal all temporary works g Permit WCDS: Request for Disposal Site & Get Permit I WCDS: Pre-Treatment of Ground WCDS: Set Up of Bentonite Yard	15 7 10 4 24 24 36 9	18JAN10A 05FEB10 13FEB10 01MAR10 05JAN10A 05JAN10A	12FEB10 27FEB10 04MAR10 18FEB10 18FEB10 16APR10 15MAR10	0 0 0 5	Infill slab for Chamber roof slab Infill slab for Chamber roof slab Infill slab for Chamber roof slab IBlank off Bckfiw of 2400 Ppe&Demolsh Exist Pipe IBackfill and removal all temporary works IWCDS: Request for Disposal Site & Get Permit
WCDS0605 WCDS0625 WCDS0665 WCDS0665 WCDS0695 WCDS0698 Marine Dumping WCDS0380 Diaphragm Wall WCDS0205 WCDS0210 WCDS0230 WCDS0242	Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13 Infill slab for Chamber roof slab Blank off Bckflw of 2400 Ppe&Demolsh Exist Pipe Backfill and removal all temporary works g Permit WCDS: Request for Disposal Site & Get Permit WCDS: Pre-Treatment of Ground WCDS: Set Up of Bentonite Yard WCDS: Guide Wall Construction WCDS: Excavate 1st Panel to Formation Level	15 7 10 4 24 24 36 9 12 3	18JAN10A 05FEB10 13FEB10 01MAR10 05JAN10A 05JAN10A 05MAR10 05MAR10 29MAR10	12FEB10 27FEB10 04MAR10 18FEB10 18FEB10 16APR10 15MAR10 18MAR10 31MAR10	0 0 5 0 0 0 0 0 0	Infill slab for Chamber roof slab IBlank off Bckflw of 2400 Ppe&Demolsh Exist Pipe IBackfill and removal all temporary works IWCDS: Request for Disposal Site & Get Permit INWCDS: Pre-Treatment of Ground IWCDS: Set Up of Bemonite Yard IWCDS: Sulde Wall Construction IWCDS: Excavate 1st Panel to Formation Level
WCDS0605 WCDS0625 WCDS0665 WCDS0665 WCDS0695 WCDS0698 Marine Dumping WCDS0380 Diaphragm Wall WCDS0205 WCDS0210 WCDS0230 WCDS0242 WCDS0244	Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13 Infill slab for Chamber roof slab Blank off Bckflw of 2400 Ppe&Demolsh Exist Pipe Backfill and removal all temporary works g Permit WCDS: Request for Disposal Site & Get Permit WCDS: Pre-Treatment of Ground WCDS: Set Up of Bentonite Yard WCDS: Guide Wall Construction	15 7 10 4 24 24 36 9 12	18JAN10A 05FEB10 13FEB10 01MAR10 05JAN10A 05JAN10A 05MAR10 05MAR10	12FEB10 27FEB10 04MAR10 18FEB10 18FEB10 16APR10 15MAR10 18MAR10	0 0 5 0 0 0 0	Infill slab for Chamber roof slab IBlank off Bckfiw of 2400 Ppe&Demolsh Exist Pipe IBackfill and removal all temporary works IWCDS: Request for Disposal Site & Get Permit INWCDS: Pre-Treatment of Ground IWCDS: Set Up of Bentonite Yard IWCDS: Guide Wall Construction
WCDS0605 WCDS0625 WCDS0645 WCDS0665 WCDS0695 WCDS0698 Marine Dumping WCDS0380 Diaphragm Wall WCDS0205 WCDS0210 WCDS0242 WCDS0244 WCDS0246 WCDS0248	Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13 Infill slab for Chamber roof slab Blank off Bckflw of 2400 Ppe&Demolsh Exist Pipe Backfill and removal all temporary works g Permit WCDS: Request for Disposal Site & Get Permit I WCDS: Pre-Treatment of Ground WCDS: Set Up of Bentonite Yard WCDS: Guide Wall Construction WCDS: Excavate 1st Panel to Formation Level WCDS: 1st Panel Desanding & Preparation Works WCDS: 1st Panel Rebar Cage Installation WCDS: 1st Panel Concreting Works	15 7 10 4 24 24 36 9 12 3 2 2 1 1	18JAN10A 05FEB10 13FEB10 01MAR10 05JAN10A 05JAN10A 05MAR10 05MAR10 05MAR10 05MAR10 01APR10 03APR10 06APR10	12FEB10 27FEB10 04MAR10 18FEB10 18FEB10 15MAR10 15MAR10 18MAR10 31MAR10 02APR10 03APR10 06APR10	0 0 5 0 0 0 0 0 0 0 0 0 0 0 0	Infill slab for Chamber roof slab IBlank off Bckflw of 2400 Ppe&Demolsh Exist Pipe IBackfill and removal all temporary works IWCDS: Request for Disposal Site & Get Permit IWCDS: Pre-Treatment of Ground IWCDS: Set Up of Bentonite Yard IWCDS: Success Excavate 1st Panel to Formation Level IWCDS: 1st Panel Repar Cage Installation IWCDS: 1st Panel Concreting Works
WCDS0605 WCDS0625 WCDS0645 WCDS0665 WCDS0695 WCDS0698 Marine Dumping WCDS0380 Diaphragm Wall WCDS0205 WCDS0210 WCDS0210 WCDS0242 WCDS0244 WCDS0246	Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13 Infill slab for Chamber roof slab Blank off Bckflw of 2400 Ppe&Demolsh Exist Pipe Backfill and removal all temporary works g Permit WCDS: Request for Disposal Site & Get Permit WCDS: Pre-Treatment of Ground WCDS: Set Up of Bentonite Yard WCDS: Guide Wall Construction WCDS: Excavate 1st Panel to Formation Level WCDS: 1st Panel Desanding & Preparation Works WCDS: 1st Panel Rebar Cage Installation	15 7 10 4 24 24 36 9 12 3 2 2 1	18JAN10A 05FEB10 13FEB10 01MAR10 05JAN10A 05JAN10A 05MAR10 05MAR10 05MAR10 29MAR10 01APR10 03APR10	12FEB10 27FEB10 04MAR10 18FEB10 18FEB10 15MAR10 15MAR10 31MAR10 02APR10 03APR10	0 0 5 0 0 0 0 0 0 0 0 0	Infill Islab for Chamber roof slab IBlank off Bckflw of 2400 Ppe&Demolsh Exist Pipe IBackfill and removal all temporary works IWCDS: Request for Disposal Site & Get Permit IWCDS: Pre-Treatment of Ground IWCDS: Set Up of Bentonite Yard IWCDS: Guide Wall Construction IWCDS: 1st Panel to Formation Level IWCDS: 1st Panel Desanding & Preparation Works IWCDS: 1st Panel Repar Cage Installation
WCDS0605 WCDS0625 WCDS0645 WCDS0665 WCDS0695 WCDS0698 Marine Dumping WCDS0380 Diaphragm Wall WCDS0205 WCDS0210 WCDS0240 WCDS0242 WCDS0244 WCDS0244 WCDS0248 WCDS0251 WCDS0253 WCDS0255	Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13 Infill slab for Chamber roof slab Blank off Bckflw of 2400 Ppe&Demolsh Exist Pipe Backfill and removal all temporary works g Permit WCDS: Request for Disposal Site & Get Permit WCDS: Request for Disposal Site & Get Permit WCDS: Set Up of Bentonite Yard WCDS: Set Up of Bentonite Yard WCDS: Guide Wall Construction WCDS: Excavate 1st Panel to Formation Level WCDS: 1st Panel Desanding & Preparation Works WCDS: 1st Panel Rebar Cage Installation WCDS: Excavate 2nd Panel to Formation Level WCDS: 2nd Panel Desanding & Preparation Works	15 7 10 4 24 36 9 12 3 3 2 1 1 1 6 3 3 2 2	18JAN10A 05FEB10 13FEB10 01MAR10 05JAN10A 05JAN10A 05MAR10 05MAR10 05MAR10 05MAR10 05MAR10 05MAR10 05APR10 03APR10 07APR10 14APR10	12FEB10 27FEB10 04MAR10 18FEB10 18FEB10 15MAR10 15MAR10 15MAR10 31MAR10 02APR10 03APR10 06APR10 13APR10 16APR10 19APR10	0 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Infill slab for Chamber roof slab IBlank off Bckflw of 2400 Ppe&Demolsh Exist Pipe IBackfill and removal all temporary works IWCDS: Request for Disposal Site & Get Permit IWCDS: Pre-Treatment of Ground IWCDS: Set Up of Bentonite Yard IWCDS: Sudde Wall Construction IWCDS: State 1st Panel to Formation Level IWCDS: 1st Panel Desanding & Preparation Works IWCDS: 1st Panel Concreting Works IWCDS: 2nd Panel to Formation Level IWCDS: 2nd Panel to Formation Level IWCDS: 1st Panel Concreting Works IWCDS: 2nd Panel To Formation Level
WCDS0605 WCDS0645 WCDS0665 WCDS0665 WCDS0695 WCDS0698 Marine Dumping WCDS0380 Diaphragm Wall WCDS0205 WCDS0210 WCDS0210 WCDS0242 WCDS0244 WCDS0244 WCDS0244 WCDS0246 WCDS0248 WCDS0251 WCDS0255 WCDS0257 WCDS0259	Install New 2400 Pipe, Penstock PEN 15 & Connect Sawcut Exist 2400 Pipe&Instal New Penstck PEN 13 Infill slab for Chamber roof slab Blank off Bckflw of 2400 Ppe&Demolsh Exist Pipe Backfill and removal all temporary works g Permit WCDS: Request for Disposal Site & Get Permit WCDS: Request for Disposal Site & Get Permit WCDS: Pre-Treatment of Ground WCDS: Set Up of Bentonite Yard WCDS: Guide Wall Construction WCDS: Excavate 1st Panel to Formation Level WCDS: 1st Panel Desanding & Preparation Works WCDS: 1st Panel Rebar Cage Installation WCDS: Excavate 2nd Panel to Formation Level WCDS: 2nd Panel Desanding & Preparation Works WCDS: 2nd Panel Desanding & Preparation Works WCDS: 2nd Panel Rebar Cage Installation	15 7 10 4 24 36 9 12 3 2 1 1 1 6 3 2 1 1 6 3 2 1 1 6	18JAN10A 05FEB10 13FEB10 01MAR10 05JAN10A 05JAN10A 05MAR10 05MAR10 05MAR10 05MAR10 05MAR10 05MAR10 01APR10 03APR10 03APR10 14APR10 17APR10 20APR10 21APR10	12FEB10 27FEB10 04MAR10 18FEB10 18FEB10 15MAR10 15MAR10 18MAR10 31MAR10 02APR10 03APR10 06APR10 13APR10 16APR10 19APR10 20APR10 27APR10	0 0 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Infill slab for Chamber roof slab IBlank off Bckflw of 2400 Ppe&Demolsh Exist Pipe Backfill and removal all temporary works IWCDS: Request for Disposal Site & Get Permit IWCDS: Pre-Treatment of Ground IWCDS: Set Up of Bentonite Yard IWCDS: Guide Wall Construction IWCDS: State and the program of the program
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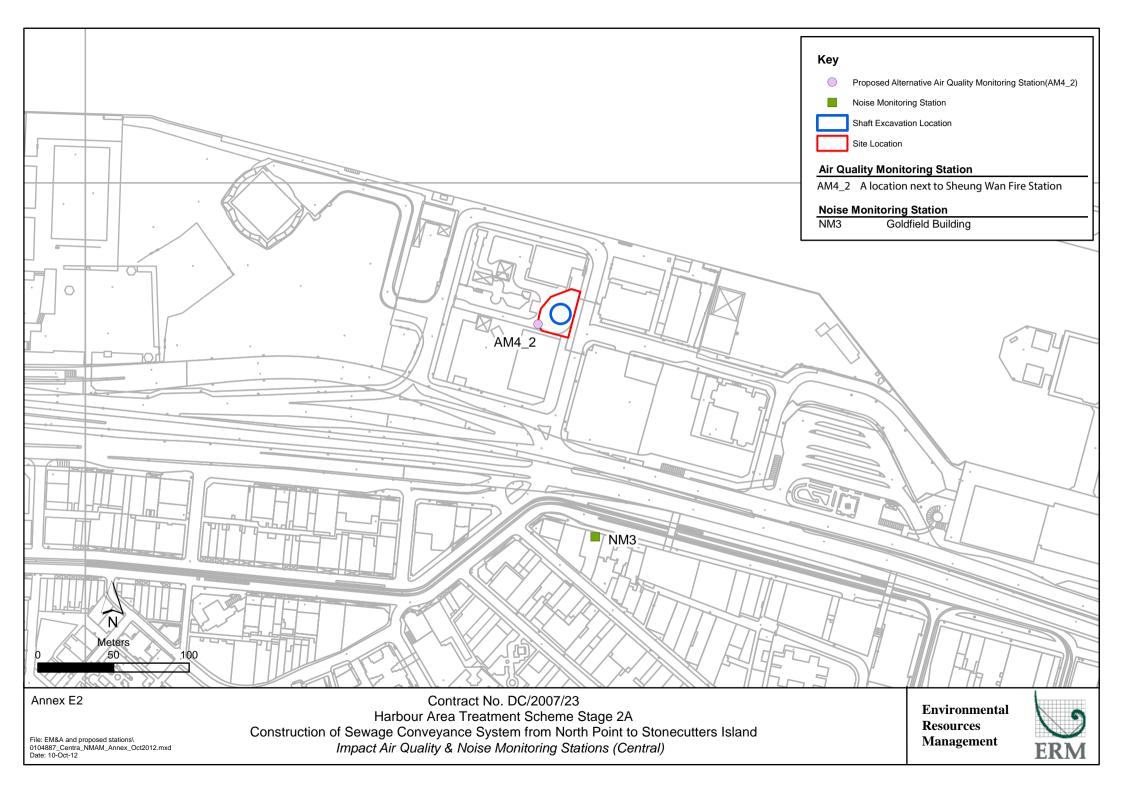
Activity ID	Activity Description	Orig Dur	Early	Early Finish	% Comp	2010 2011 2012 2013 2014
WCDS0471	A second s	and the second second	Start 27NOV10	03DEC10	Comp 0	WCDS: Pumping Test
	WCDS: Pumping Test	6		and the second second second	1.	
WCDS0473	WCDS: Sumission of Pumping Test Report	6	04DEC10	10DEC10	0	WCDS: Sumission of Pumping Test Report
WCDS0477	WCDS: Demobilization for D'wall	6	04DEC10	10DEC10	0	W/CDS: Demobilization for D'wall
haft Excavatio	on					
			,			
NCDS0400	WCDS: Construct Capping Beam & Shaft Collar	12	04DEC10	17DEC10	0	WCDS: Construct Capping Beam & Shaft Collar
NCDS0410	WCDS: Excavate Soil & Ring Beams (21m)	19	18DEC10	11JAN11	0	WCDS: Excavate Soil & Ring Beams (21m)
NCDS0420	WCDS: Construct Levelling Pad	6	12JAN11	18JAN11	0	WCDS: Construct Levelling Pad
WCDS0430	WCDS: Pre-excavation Grout for Raise Bore	90	19JAN11	09MAY11	0	WCDS: Pre-excavation Grout for Raise Bore
WCDS0440	WCDS: In-fill Concrete for Pilot Hole	12	10MAY11	23MAY11	0	WCDS: In-fill Concrete for Pilot Hole
VCDS1650	WCDS: Comple Excav. to Rockhead at WCE DS(KD-B)	0		11JAN11	0	WCDS: Comple Excav. to Rockhead at WCE DS(KD-B)
VCDS1660	WCDS: Compl D'wall, Soil Excav&Clear Area(KD-02)	0		11JAN11	0	WCDS: Compl D'wall, Soil Excav&Clear Area(KD-02)
ised Boring	Thebe, compression excavational rubality of		1	110/1111		
ised borning						
0000700	WODO DI LIL ILL A	5	0.000	001411/44	0	DUPDO. Die He Vala d
VCDS0700	WCDS: Rig Up Hole 1	5	24MAY11	28MAY11	0	IWCDS: Rig Up Hole 1
VCDS0710	WCDS: Pilot Drill 116 mtrs	14	30MAY11	15JUN11	0	WCDS: Pilot Drill 116 mtrs
VCDS0720	WCDS: Attach reamer and Collar	3	16JUN11	18JUN11	0	WCDS: Attach reamer and Collar
VCDS0730	WCDS: Ream 116 metres @ 2.8 mtr dia	31	20JUN11	26JUL11	0	WCDS: Ream 116 metres @ 2.8 mtr dia
VCDS0740	WCDS: Lower Reamer and Remove	3	27JUL11	29JUL11	0	WCDS: Lower Reamer and Remove
/CDS0750	WCDS: De Rig Raise borer and Re rig Hole 2	5	30JUL11	04AUG11	0	WCDS: De Rig Raise borer and Re rig Hole 2
VCDS0760	WCDS: Pilot Drill 116 mtrs	14	05AUG11	20AUG11	0	WCDS: Pliot Drill 116 mtrs
CDS0770	WCDS: Attach Reamer and collar same	3	22AUG11	24AUG11	0	WCDS: Attach Reamer and collar same
VCDS0770	WCDS: Ream 116 metres @ 2.8 mtr dia	31	25AUG11	30SEP11	0	WCDS: Ream 116 metres @ 2.8 mtr dia
VCDS0780 VCDS0790						WCDS: De Rig Raise Borer & Remove Reamr
An out of the second second second	WCDS: De Rig Raise Borer & Remove Reamr	3	03OCT11	06OCT11	0	
wer Shaft Co	onstruction					
		-	12 1	y	0	
VCDS0845	WCDS: Blinding Layer & Concrete Shaft Base	6	07OCT11	130CT11	0	WCDS: Blinding Layer & Concrete Shaft Base
VCDS0850	WCDS: Back shunt concreting	18	140CT11	03NOV11	0	WCDS: Back shunt concreting
CDS0885	WCDS: Construct Vert Shaft to Tunnel Invert	6	04NOV11	10NOV11	0	WCDS: Construct Vert Shaft to Tunnel Invert
CDS0905	WCDS: Install System Form for Lower Shaft	6	11NOV11	17NOV11	0	IWCDS: Install System Form for Lower Shaft
VCDS0945	WCDS: Construct Transition & Vert Shaft	9	18NOV11	28NOV11	0	WCDS: Construct Transition & Vert Shaft
VCDS0965	WCDS: Construct lower-shaft -153,5 to -16mPD	72	29NOV11	25FEB12	0	WCDS: Construct lower-shaft -153.5 to -16mPD
WCDS0970	WCDS: Remove system formwork and tidy up area	6	27FEB12	03MAR12	0	WCDS; Remove system formwork and tidy up area
		U	ZITEDIZ	0510141112	U	
per Shaft Co	onstruction					
VCDS1015	WCDS: Blinding Layer & Construct Base Slab	9	05MAR12	14MAR12	0	WCDS: Blinding Layer & Construct Base Slab
VCDS1055	WCDS: Temp Platform & Construct Conical Surface	6	15MAR12	21MAR12	0	WCDS: Temp Platform & Construct Conical Surface
				OTMAD10	0	WCDS: Assembly of kicker formwork
VCDS1060	WCDS: Assembly of kicker formwork	12	08MAR12	21MAR12		
	WCDS: Assembly of kicker formwork WCDS: Construct Kicker	12 9	08MAR12 22MAR12	31MAR12	0	WCDS: Construct Kicker
VCDS1095		-			0	WCDS: Construct Kicker
VCDS1095 VCDS1100	WCDS: Construct Kicker	9	22MAR12	31MAR12 10APR12		사 것은 것은 것 같아. 것은 그것 것은 그것 같아. 같아? 것 같아? 생활 방법을 가지 않는 것 같아. 말 것 같아. 것이 같아.
VCDS1095 VCDS1100 VCDS1145	WCDS: Construct Kicker WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft	9 16 80	22MAR12 22MAR12 11APR12	31MAR12 10APR12 16JUL12	0	WCDS: Set up system formwork for upper shaft
VCDS1095 VCDS1100 VCDS1145 VCDS1265	WCDS: Construct Kicker WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe	9 16 80 12	22MAR12 22MAR12 11APR12 10JUL12	31MAR12 10APR12 16JUL12 23JUL12	0 0 0	WCDS: Set up system formwork for upper shaft
/CDS1095 /CDS1100 /CDS1145 /CDS1265 /CDS1275	WCDS: Construct Kicker WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir	9 16 80 12 6	22MAR12 22MAR12 11APR12 10JUL12 24JUL12	31MAR12 10APR12 16JUL12 23JUL12 30JUL12	0 0 0 0	WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir
/CDS1095 /CDS1100 /CDS1145 /CDS1265 /CDS1275 /CDS1300	WCDS: Construct Kicker WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir WCDS: Clear Area & Install Multi-Part Cover	9 16 80 12	22MAR12 22MAR12 11APR12 10JUL12	31MAR12 10APR12 16JUL12 23JUL12	0 0 0	WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe
VCDS1095 VCDS1100 VCDS1145 VCDS1265 VCDS1275 VCDS1300	WCDS: Construct Kicker WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir WCDS: Clear Area & Install Multi-Part Cover	9 16 80 12 6	22MAR12 22MAR12 11APR12 10JUL12 24JUL12	31MAR12 10APR12 16JUL12 23JUL12 30JUL12	0 0 0 0	WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir
/CDS1095 /CDS1100 /CDS1145 /CDS1265 /CDS1275 /CDS1300 um Removal	WCDS: Construct Kicker WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir WCDS: Clear Area & Install Multi-Part Cover Chamber	9 16 80 12 6 3	22MAR12 22MAR12 11APR12 10JUL12 24JUL12 31JUL12	31MAR12 10APR12 16JUL12 23JUL12 30JUL12 02AUG12	0 0 0 0	WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir WCDS: Clear Area & Install Multi-Part Cover
/CDS1095 /CDS1100 /CDS1145 /CDS1265 /CDS1275 /CDS1300 um Removal	WCDS: Construct Kicker WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir WCDS: Clear Area & Install Multi-Part Cover	9 16 80 12 6	22MAR12 22MAR12 11APR12 10JUL12 24JUL12	31MAR12 10APR12 16JUL12 23JUL12 30JUL12	0 0 0 0	WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir
/CDS1095 /CDS1100 /CDS1145 /CDS1265 /CDS1275 /CDS1300 um Removal /CDS1533	WCDS: Construct Kicker WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir WCDS: Clear Area & Install Multi-Part Cover Chamber	9 16 80 12 6 3	22MAR12 22MAR12 11APR12 10JUL12 24JUL12 31JUL12	31MAR12 10APR12 16JUL12 23JUL12 30JUL12 02AUG12	0 0 0 0	WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir WCDS: Clear Area & Install Multi-Part Cover
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VCDS1095 VCDS1100 VCDS1145 VCDS1265 VCDS1275 VCDS1300 um Removal VCDS1533 VCDS1535 VCDS1575	WCDS: Construct Kicker WCDS: Set up system formwork for upper shaft WCDS: Construct Upper Shaft WCDS: Fabricate & Install S/S Vortex Drop Pipe WCDS: Construct Overflow Weir WCDS: Clear Area & Install Multi-Part Cover Chamber WCDS: Sheet Piling, Excavation & ELS Works WCDS: Excavation for Chamber & Channel	9 16 80 12 6 3 3 24 9	22MAR12 22MAR12 11APR12 10JUL12 24JUL12 31JUL12 16JUN12 17JUL12	31MAR12 10APR12 16JUL12 23JUL12 30JUL12 02AUG12 16JUL12 26JUL12	0 0 0 0 0	WCDS: Steet Pilling, Excavation & ELS Works
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Annex E

Central Drop Shaft





Annex E3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Air Quality Monitoring Schedule

AM4_2 - A Location within the DSD Central PTW Monitoring Month : January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan	02-Jan	03-Jan	04-Jan	05-Jan
		Public Holiday			1-hr and 24-hr Monitoring	
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
				1-hr and 24-hr Monitoring		
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
			1-hr and 24-hr Monitoring			
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
		1-hr and 24-hr Monitoring				
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		
	1-hr and 24-hr Monitoring					

Monitoring Month :February 2013

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

Annex E3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Noise Quality Monitoring Schedule

NM3 - Goldfield Building Monitoring Month : January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan	02-Jan	03-Jan	04-Jan	05-Jan
		Public Holiday			Noise Monitoring	
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
				Noise Monitoring		
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
			Noise Monitoring			
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
		Noise Monitoring				
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		
	Noise Monitoring					

Monitoring Month : February 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Feb	02-Feb
03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb
					Noise Monitoring	
10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb
	Public Holiday	Public Holiday	Public Holiday	Noise Monitoring		
17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb
17100	10100	10100	20100	21100		20100
			Noise Monitoring			
04 5-5			07 5-6			
24-Feb	25-Feb	26-Feb	27-Feb	28-Feb		
		Noise Monitoring				

Гуре of Impact	Environmental Protection Measures	Location/ Timing	Status
Construction Phase			
ir Quality	 The Air Pollution Control (Construction Dust) Regulation shall be implemented and good site practices shall be incorporated in the contract clauses to minimize construction dust impact. Control measures relevant to this Project are listed below: skip hoist for material transport should be totally enclosed by impervious sheeting; every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site; the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; where a site boundary adjoins a road, streets or other accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit; every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides; regular watering, with complete coverage, to reduce dust emission from exposed site surfaces and unpaved roads, particularly during dry weather; site enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines; open stock piles should be avoided or covered and prevent placing dusty material storage piles near ASRs if possible; tarpaulin covering of all dusty vehicle loads transported to, from and between site locations; and instigation of an environmental monitoring auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise. 	All work sites / during construction	
Air Quality	The following watering measures for specific site would be required to control the fugitive dust impacts:watering four times per day within worksites at the Central PTW.	All work sites / during construction	
	- watching rour times per day within workshes at the Central I IV.		

ENVIRONMENT MANAGEMENT LIMITED

GAMMON CONSTRUCTION LIMITED

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Air Quality	 Good housekeeping for SCISTW and PTWs listed below should be followed to ameliorate any odour impact from the plant and these standard practices should be included in the plant operator manual. Screens should be cleaned regularly to remove any accumulated organic debris Grit and screening transfer systems should be flushed regularly with water to remove organic debris and grit Grit and screened materials should be transferred to closed containers to minimize odour escape Scum and grease collection wells and troughs should be emptied and flushed regularly to prevent putrefaction of accumulated organics Skim and remove floating solids and grease from primary clarifiers regularly Frequent sludge withdrawal from tanks is necessary to prevent the production of gases Sludge cake should be transferred to closed containers 	All work sites / during construction	NA. Measures not required until commencement of operational phase
Air Quality	 Sludge containers should be flushed with water regularly Commissioning tests for all deodorization system should be included in the Design and Construction Contract Document. 	All PTW and SCISTW/ during operational phase	NA. Measures not required until commencement of
			operational phase
Construction Phase			
Noise	Use of quiet PME, movable barriers and acoustic mats	All work sites / during construction	

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Noise	 Good Site Practice: only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program; mobile plant, if any, should be sited as far from NSRs as possible; machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities; 	All work sites / during construction	V
	Environmental audit shall be carried out to ensure that appropriate noise control measures would be properly implemented.		
Construction Phase			
Water Quality	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All work sites / during construction	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Effluent Discharge	All work sites / during construction	\checkmark
	There is a need to apply to EPD for a discharge licence for		
	discharge of effluent from the construction site under the		
	WPCO. The discharge quality must meet the requirements		
	specified in the discharge licence. If monitoring of the treated		
	effluent quality from the works areas is required during the		
	construction phase of the Project, the monitoring should be		
	carried out in accordance with the WPCO license which is		
	under the ambit of regional office (RO) of EPD. Minimum distances of 100 m should be maintained between the		
	discharge points of construction site effluent and the existing saltwater intakes.		
Water Quality	Accidental Spillage of Chemicals	All work sites / during construction	
	Contractor must register as a chemical waste producer if		
	chemical wastes would be produced from the construction		
	activities. The Waste Disposal Ordinance (Cap 354) and its		
	subsidiary regulations in particular the Waste Disposal		
	(Chemical Waste) (General) Regulation should be observed		
	and complied with for control of chemical wastes.		
Water Quality	Any service shop and maintenance facilities should be located	All work sites / during construction	\checkmark
	on hard standings within a bunded area, and sumps and oil		
	interceptors should be provided. Maintenance of vehicles and		
	equipment involving activities with potential for leakage and		
	spillage should only be undertaken within the areas appropriately equipped to control these discharges.		
	appropriately equipped to control these discharges.		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status					
Water Quality	Disposal of chemical wastes should be carried out in compliance with the	All work sites / during construction	\checkmark					
-	Waste Disposal Ordinance. The Code of Practice on the Packaging,	u u u u u u u u u u u u u u u u u u u						
	Labelling and Storage of Chemical Wastes published under the Waste							
	Disposal Ordinance details the requirements to deal with chemical							
	wastes.							
	General requirements are given as follows:							
	• Suitable containers should be used to hold the chemical wastes to							
	avoid leakage or spillage during storage, handling and transport.							
	• Chemical waste containers should be suitably labelled, to notify and							
	warn the personnel who are handling the wastes, to avoid accidents.							
	• Storage area should be selected at a safe location on site and adequate							
	space should be allocated to the storage area.							

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Construction Works in Close Proximity of Storm Drains or Seafront	All work sites / during construction	\checkmark
	To minimize the potential water quality impacts from the construction		
	works located at or near any watercourse, the practices outlined below		
	should be adopted where applicable.		
	• The use of less or smaller construction plants may be specified to		
	reduce the disturbance to the storm water courses or marine environment.		
	• Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.		
	• Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.		
	• Construction debris and spoil should be covered up and/or disposed		
	of as soon as possible to avoid being washed into the nearby water receivers.		
	• Construction activities, which generate large amount of wastewater,		
	should be carried out in a distance away from the waterfront, where practicable.		
	 Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea 		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Operational Phase			
Water Quality	Dual power supply, standby facilities for the main treatment units and standby equipment parts / accessories should be provided as far as possible at the SCISTW to minimize the chance of emergency discharge.	SCISTW and all the Stage 2 PTWs / Operation Stage	NA. Measures not required until commencement of operational phase
Water Quality	Standby unit(s) and dual (backup) power supply would be provided at all the Stage 2 PTWs to reduce the risk of equipment breakdown at the PTWs.	Stage 2 PTWs / Operation Stage	NA. Measures not required until commencement of operational phase
Construction Phase			
Waste	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All work sites / during the construction period	\checkmark
Waste	 All waste materials should be segregated into categories covering: excavated materials suitable for reuse on-site; excavated materials suitable for public filling facilities; remaining C&D waste for landfill; chemical waste; and general refuse for landfill. 	All work sites / during the construction period	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	 Recommental Protection Measures Recommendations to achieve waste reduction include: Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals; Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; Any unused chemicals or those with remaining functional capacity shall be recycled; and Proper storage and site practices to minimise the potential for damage or contamination of construction materials. 	All work sites / during the construction period	√
Waste	 Recommendations for good site practices during construction materials. Recommendations for good site practices during construction activities include:- Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site Training of site personnel in proper waste management and chemical waste handling procedures Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials. Provision of sufficient waste disposal points and regular collection of waste Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors 	All work sites / during the construction period	√
Waste	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage".	All work sites / during the construction period	NA

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.	All work sites / during the construction period	\checkmark
Waste	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.	All work sites / during the construction period	\checkmark
Waste	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.	All work sites / during the construction period	\checkmark
Waste	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	All work sites / during the construction period	√

ENVIRONMENT MANAGEMENT LIMITED

GAMMON CONSTRUCTION LIMITED

Type of Impact	Environmental Protection Measures	Location/ Timing	Status	
Waste	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.	All work sites / during the construction period	N	
Construction Phase				
Landscape & Visual	 Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. Existing trees to be retained on site should be carefully protected during construction. Trees unavoidably affected by the works should be transplanted where practical. Compensatory tree planting should be provided to compensate for felled trees. Control of night-time lighting. Erection of decorative screen hoarding compatible with the surrounding setting. 	All the works areas, PTWs and SCISTW/ during the construction period	N	
Operational Phase	•			
Landscape & Visual	 Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings. Shrub and Climbing Plants to soften proposed structures / Roof Greening. Buffer Tree and Shrub Planting to screen proposed associated structures. Reinstated of disturbed area 	All the works areas, PTWs and SCISTW/ during the construction period	NA. Measures not required until commencement of operational phase	

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Cultural Heritage	The construction vibration control limit (ppv of 25mm/s) shall be strictly followed.	Identified historical buildings/structures as mentioned in Tables 15.8 and 15.9. During blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	NA. Vibration monitoring has not been launched during the reporting period.
	Monitoring of vibration limits shall be conducted and reported as a requirement of EM&A programme	Identified historical buildings/structures as mentioned in Tables 15.8 and 15.9. During blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	NA. Vibration monitoring has not been launched during the reporting period.

Remark:

 $\sqrt{}$ Compliance of Mitigation Measures

<> Compliance of Mitigation but need improvement

x Non-compliance of Mitigation Measures

Δ Deficiency of Mitigation Measures but rectified by Gammon Construction Limited

NA Not Applicable

Annex E5 24-hour and 1-hour TSP Monitoring Results

1-hour TSP Monitoring Results

Station AM4_2

*

				TSP					Wind Speed		1
	Start	Finish	Weather	Concentration	Action Level	Limit Level	Site Conditions /	Temperature	*	Sampler	Filter
Date	Time	Time		(µg/m ³)	(µg/m ³)	(µg/m ³)	Observations / Remarks	(℃)	(m/s)	ID	ID
04-Jan-13	8:00	9:00	Cloudy	145	393	500	Construction work in progress	12	<5	9315	1777
	9:02	10:02	Cloudy	151	393	500	Construction work in progress	12	<5	9315	1779
	10:05	11:05	Cloudy	231	393	500	Construction work in progress	20	<5	9315	1780
10-Jan-13	11:50	12:50	Fine	144	393	500	Construction work in progress	17	<5	9315	1781
	13:55	14:55	Fine	188	393	500	Construction work in progress	17	<5	9315	1782
	10:04	11:04	Fine	137	393	500	Construction work in progress	18	<5	9315	1784
16-Jan-13	7:50	8:50	Sunny	144	393	500	Construction work in progress	17	<5	9315	1793
	8:52	9:52	Sunny	157	393	500	Construction work in progress	17	<5	9315	1795
	10:00	11:00	Sunny	145	393	500	Construction work in progress	17	<5	9315	1796
22-Jan-13	8:00	9:00	Sunny	226	393	500	Construction work in progress	22	<5	9315	1789
	9:02	10:02	Sunny	172	393	500	Construction work in progress	22	<5	9315	1797
	10:04	11:04	Sunny	275	393	500	Construction work in progress	22	<5	9315	1801
28-Jan-13	11:58	12:58	Sunny	137	393	500	Construction work in progress	19	<5	9315	1802
	13:02	14:02	Sunny	311	393	500	Construction work in progress	19	<5	9315	1803
	14:02	15:02	Sunny	209	393	500	Construction work in progress	19	<5	9315	1805
			Min.	137							
			Max.	311	1						
			Average	185	1						

Wind Speed data is presented in the Meteorological Data table

Annex E5 24-hour and 1-hour TSP Monitoring Results

24-hour TSP Monitoring Results

Station AM4_2

							Elapse	d Time	Sampling									
Start		Finisl	1 I	Weather	Filter V	Veight (g)	Rea	ding	Time	Flov	v Rate (m	n ³ /min)	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m ³)	(µg/m ³)	(µg/m ³)		ID	ID
04-Jan-13	11:15	05-Jan-13	11:15	Cloudy	2.8114	2.9659	15581.85	15605.85	24.00	1.24	1.24	1.24	87	211	260	construction work in progress	9315	1778
10-Jan-13	15:05	11-Jan-13	15:05	Fine	2.8098	2.9600	15608.85	16632.85	24.00	1.24	1.24	1.24	84	211	260	construction work in progress	9315	1783
16-Jan-13	11:02	17-Jan-13	11:02	Sunny	2.7985	2.9449	16635.85	16659.85	24.00	1.24	1.24	1.24	82	211	260	construction work in progress	9315	1799
22-Jan-13	11:10	23-Jan-13	11:10	Sunny	2.8116	3.0027	16662.85	16686.85	24.00	1.23	1.23	1.23	108	211	260	construction work in progress	9315	1790
28-Jan-13	15:10	29-Jan-13	15:10	Sunny	2.6551	2.8811	16689.85	16713.85	24.00	1.23	1.23	1.23	128	211	260	construction work in progress	9315	1804
												Min.	82					
												Max.	128					
												Average	98					

Meteorological Data Extracted from the Hong Kong Observatory

			Kin	g's Park Station		
		Average Air	Average Relative	Total Rainfall	Average Wind	
Date	Weather	Temperature (°C)	Humiditiy (%)	(mm)	Speed (km/h)	Wind Direction
2013-01-02	Sunny	18	48 - 81	0.0	6	SE
2013-01-03	Sunny	17	63 - 85	0.0	6	E
2013-01-04	Cloudy	12	66 - 76	0.0	4	NE
2013-01-05	Cloudy	15	61-79	0.0	4	NE
2013-01-06	Sunny	16	60 - 80	0.0	4	NE
2013-01-07	Sunny	15	64 - 80	0.0	4	NE
2013-01-08	Cloudy	18	58 - 72	0.0	3	N
2013-01-09	Cloudy	16	56 - 72	0.0	4	NE
2013-01-10	Fine	14	57 - 75	0.0	8	NE
2013-01-13	Fine	17	61 - 77	0.0	6	NW
2013-01-14	Sunny	16	55 - 80	0.0	4	NE
2013-01-15	Fine	15	68 - 79	0.0	9	SE
2013-01-16	Sunny	18	59 - 88	0.0	4	SE
2013-01-17	Sunny	18	57 - 77	0.0	10	SE
2013-01-18	Sunny	18	64 - 77	0.0	9	NE
2013-01-19	Sunny	15	49 - 78	0.0	8	SE
2013-01-20	Sunny	17	70 - 79	0.0	9	SE
2013-01-21	Sunny	20	66 - 85	0.0	8	SE
2013-01-22	Cloudy	24	63 - 90	Trace	3	SE
2013-01-23	Cloudy	19	79 - 93	0.0	9	SE
2013-01-24	Sunny	21	64 - 80	0.0	10	SE
2013-01-25	Fine	18	58 - 72	0.0	5	SE
2013-01-27	Sunny	17	76 - 94	0.6	6	NE
2013-01-28	Sunny	16	48 - 78	0.0	9	E
2013-01-29	Sunny	17	52 - 82	Trace	10	SE
2013-01-30	Fine	17	53 - 85	0.0	9	SE
2013-01-31	Fine	18	55 - 78	0.0	13	SE

			Tsi	ng Yi Station		
		Average Air	Average Relative	Total Bainfall	Average Wind	
Date	Weather	Temperature (°C)	Humiditiy (%) *	(mm)	Speed (km/h)	Wind Direction
2013-01-02	Sunny	19	48 - 81	0.0	5	E
2013-01-03	Sunny	17	63 - 85	0.0	4	NE
2013-01-04	Cloudy	12	66 - 76	0.0	7	NW
2013-01-05	Cloudy	14	61-79	0.0	9	NW
2013-01-06	Sunny	15	60 - 80	0.0	7	NW
2013-01-07	Sunny	15	64 - 80	0.0	2	NW
2013-01-08	Cloudy	17	58 - 72	0.0	6	NW
2013-01-09	Cloudy	17	56 - 72	0.0	4	NW
2013-01-10	Fine	15	57 - 75	0.0	8	NW
2013-01-13	Fine	17	61 - 77	0.0	10	NW
2013-01-14	Sunny	16	55 - 80	0.0	7	NW
2013-01-15	Fine	17	68 - 79	0.0	3	E
2013-01-16	Sunny	17	59 - 88	0.0	6	NW
2013-01-17	Sunny	17	57 - 77	0.0	4	NE
2013-01-18	Sunny	15	64 - 77	0.0	7	NW
2013-01-19	Sunny	16	49 - 78	0.0	5	SE
2013-01-20	Sunny	17	70 - 79	0.0	9	SE
2013-01-21	Sunny	22	66 - 85	0.0	10	SE
2013-01-22	Cloudy	22	63 - 90	Trace	3	E
2013-01-23	Cloudy	19	79 - 93	0.0	6	E
2013-01-24	Sunny	21	64 - 80	0.0	10	NW
2013-01-25	Fine	18	58 - 72	0.0	7	NW
2013-01-27	Sunny	17	76 - 94	0.6	3	NW
2013-01-28	Sunny	18	48 - 78	0.0	6	SE
2013-01-29	Sunny	19	52 - 82	Trace	6	SE
2013-01-30	Fine	17	53 - 85	0.0	5	SE
2013-01-31	Fine	20	55 - 78	0.0	12	SE

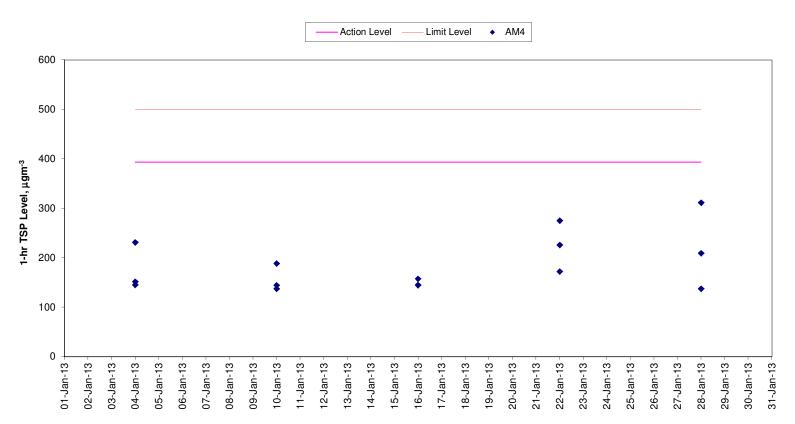
			Kai Tak Station							
Date	Weather	Average Air Temperature (°C) *	Average Relative Humiditiy (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction				
2013-01-02	Sunny	18	48 - 81	0.0	12	SE				
2013-01-03	Sunny	17	63 - 85	0.0	10	E				
2013-01-04	Cloudy	12	66 - 76	0.0	8	N				
2013-01-05	Cloudy	15	61-79	0.0	10	NW				
2013-01-06	Sunny	16	60 - 80	0.0	9	NW				
2013-01-07	Sunny	15	64 - 80	0.0	8	NW				
2013-01-08	Cloudy	18	58 - 72	0.0	8	SW				
2013-01-09	Cloudy	16	56 - 72	0.0	9	NW				
2013-01-10	Fine	14	57 - 75	0.0	8	NE				
2013-01-13	Fine	17	61 - 77	0.0	7	W				
2013-01-14	Sunny	16	55 - 80	0.0	5	E				
2013-01-15	Fine	15	68 - 79	0.0	12	E				
2013-01-16	Sunny	18	59 - 88	0.0	10	SE				
2013-01-17	Sunny	18	57 - 77	0.0	13	SE				
2013-01-18	Sunny	18	64 - 77	0.0	10	NE				
2013-01-19	Sunny	15	49 - 78	0.0	12	E				
2013-01-20	Sunny	17	70 - 79	0.0	12	E				
2013-01-21	Sunny	20	66 - 85	0.0	7	E				
2013-01-22	Cloudy	24	63 - 90	Trace	3	SE				
2013-01-23	Cloudy	19	79 - 93	0.0	12	SE				
2013-01-24	Sunny	21	64 - 80	0.0	12	E				
2013-01-25	Fine	18	58 - 72	0.0	12	E				
2013-01-27	Sunny	17	80 - 93	0.6	9	NE				
2013-01-28	Sunny	16	81 - 93	0.0	21	E				
2013-01-29	Sunny	17	82 - 93	Trace	16	SE				
2013-01-30	Fine	17	83 - 93	0.0	24	E				
2013-01-31	Fine	18	84 - 93	0.0	6	SE				
*	King's Park's	data								

ranger ante aata
Data were not available

-

less than 24 hourly observations per day

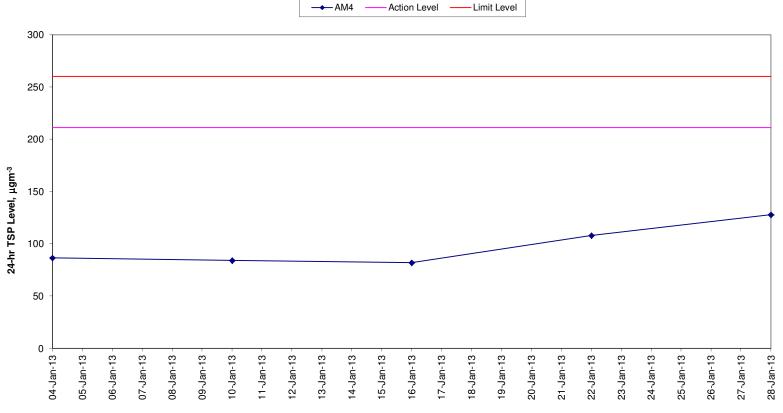
		Green Island Station				
Date	Weather	Average Air Temperature (℃) *	Average Relative Humiditiy (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction
2013-01-02	Sunny	18	48 - 81	0.0	25	NE
2013-01-03	Sunny	17	63 - 85	0.0	25	NE
2013-01-04	Cloudy	12	66 - 76	0.0	24	NE
2013-01-05	Cloudy	15	61-79	0.0	28	N
2013-01-06	Sunny	16	60 - 80	0.0	28	NW
2013-01-07	Sunny	15	64 - 80	0.0	22	N
2013-01-08	Cloudy	18	58 - 72	0.0	21	NW
2013-01-09	Cloudy	16	56 - 72	0.0	20	N
2013-01-10	Fine	14	57 - 75	0.0	26	N
2013-01-13	Fine	17	61 - 77	0.0	17	NW
2013-01-14	Sunny	16	55 - 80	0.0	23	N
2013-01-15	Fine	15	68 - 79	0.0	35	NE
2013-01-16	Sunny	18	59 - 88	0.0	10	NE
2013-01-17	Sunny	18	57 - 77	0.0	27	NE
2013-01-18	Sunny	18	64 - 77	0.0	25	NE
2013-01-19	Sunny	15	49 - 78	0.0	25	NE
2013-01-20	Sunny	17	70 - 79	0.0	25	NE
2013-01-21	Sunny	20	66 - 85	0.0	40	NE
2013-01-22	Cloudy	24	63 - 90	Trace	28	NE
2013-01-23	Cloudy	19	79 - 93	0.0	27	NE
2013-01-24	Sunny	21	64 - 80	0.0	25	NE
2013-01-25	Fine	18	58 - 72	0.0	25	NE
2013-01-27	Sunny	17	80 - 93	0.6	28	NE
2013-01-28	Sunny	16	81 - 93	0.0	38	NE
2013-01-29	Sunny	17	82 - 93	Trace	34	NE
2013-01-30	Fine	17	83 - 93	0.0	15	NE
2013-01-31	Fine	18	84 - 93	0.0	35	NE



1-hr TSP Levels AM4_2 (A Location within DSD Central PTW)

Date





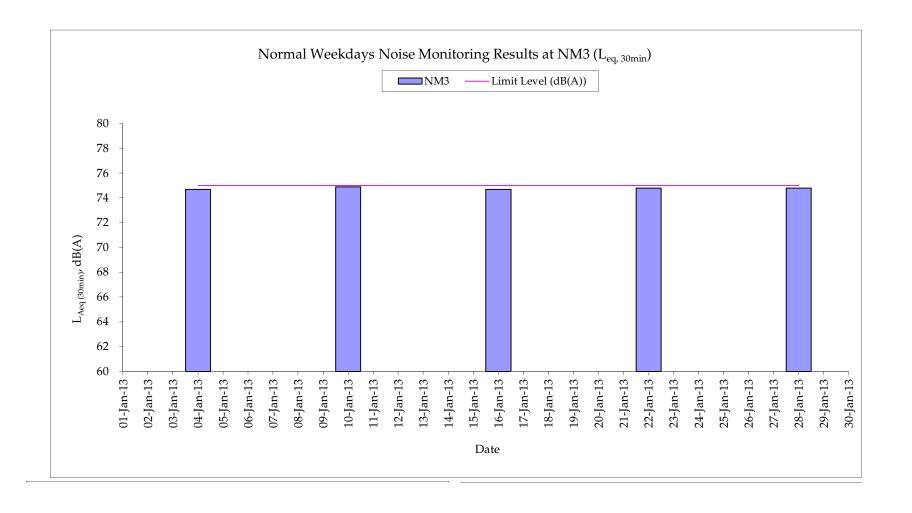
Date

Annex E6 Noise Monitoring Results

Daytime Noise Monitoring Results

Station NM3

Date	Start Time	End Time	Weather	Noise	level (dB(A))), 30 min	Major Construction Noise Source(s)	Other Noise Source(s)	Remarks	Temp. (℃)	Wind Speed	Noise Meter	Calibrator
				Leq	L10	L90	Observed	Observed			(m/s)	Model / ID	Model / ID
04-Jan-13	9:18	9:48	Cloudy	74.7	76.0	73.4	Excavation work (DSD) site	Traffic noise	-	12	0.5	RION-NL31 (S/N 00603867)	RION-NL73 (S/N 10997142)
10-Jan-13	13:07	13:37	Fine	74.9	76.4	73.6	Lifting	Traffic noise	-	14	0.5	RION-NL31 (S/N 00603867)	RION-NL73 (S/N 10997142)
16-Jan-13	10:13	10:42	Sunny	74.7	76.2	73.4	-	Traffic noise	-	18	0.5	RION-NL31 (S/N 00603867)	RION-NL73 (S/N 10997142)
22-Jan-13	9:17	9:47	Sunny	74.8	76.2	73.4	Lifting	Traffic noise	-	24	0.3	RION-NL31 (S/N 00603867)	RION-NL73 (S/N 10997142)
28-Jan-13	13:14	13:44	Sunny	74.8	76.1	73.6	Lifting	Traffic noise	-	16	0.5	RION-NL31 (S/N 00603867)	RION-NL73 (S/N 10997142)
h	•		Min.	74.7			· · · · · · · · · · · · · · · · · · ·						<u> </u>
			Max.	74.9									



Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
December 2009	0	0
January 2010	0	0
February 2010	0	0
March 2010	0	0
April 2010	0	0
May 2010	0	0
June 2010	0	0
July 2010	0	0
August 2010	0	0
September 2010	0	0
October 2010	0	0
November 2010	0	0
December 2010	0	0
January 2011	0	0
February 2011	0	0
March 2011	0	0
April 2011	0	0
May 2011	0	0

Annex E7 Cumulative Complaint and Summons/Prosecutions Log

ENVIRONMENTAL RESOURCES MANAGEMENT

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

Annex E7 Cumulative Complaint and Summons/Prosecutions Log

ENVIRONMENTAL RESOURCES MANAGEMENT

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
December 2012	0	0
January 2013	0	0
Overall Total	0	0

Annex E7 Cumulative Complaint and Summons/Prosecutions Log

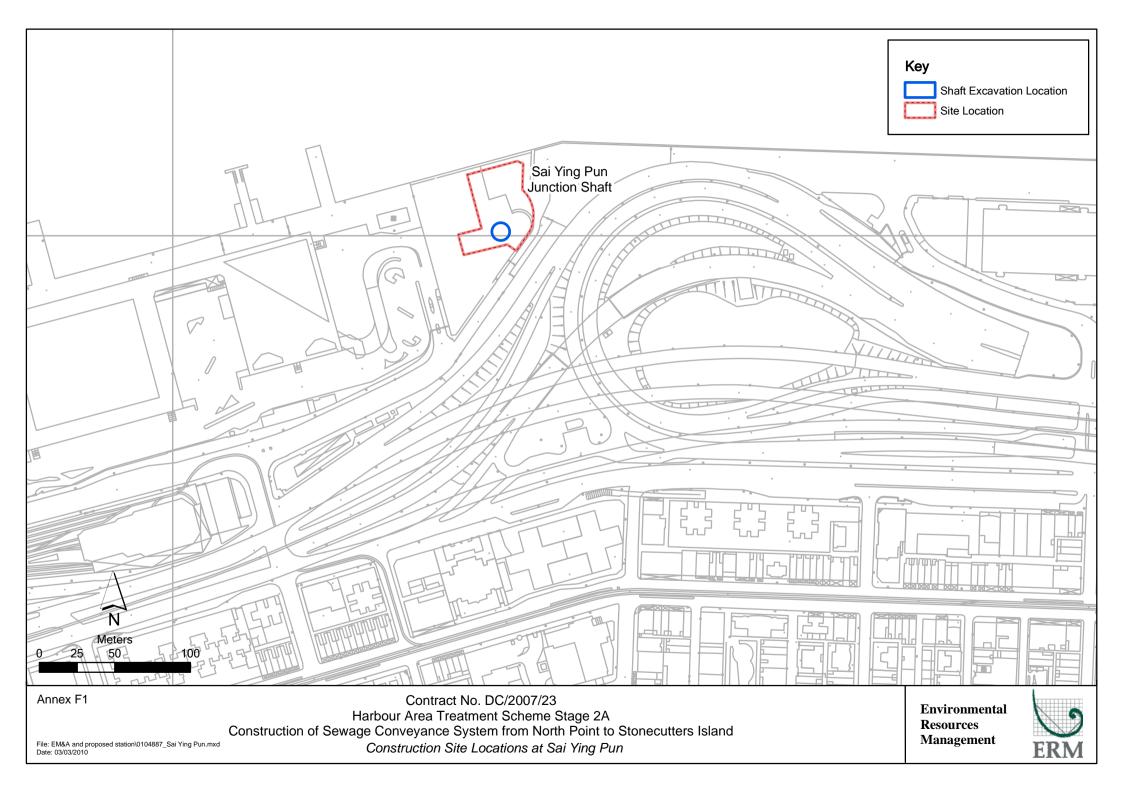
Activity	Activity	Orig	Early	Early	% Comp	2010 2011 2012 2013 2014
	- Contract DC/2007/23	Dur	Start	Finish	Comp	
Central PTW Dro	op Shaft					
	otechnical Instrumentations s/Others(Same note as Piez.)					
CEDS0439	CEDS: Install SS Markers (70 Nos.)	50	210CT09A	11FEB10	60	ICEDS: Install SS Markers (70 Nos.)
CEDS0441 CEDS0445	CEDS: JointSurvey&EstablishBaseline Readings SSM CEDS: Consent Location and Permits	14 30	12FEB10 12FEB10	03MAR10 22MAR10	0	IIICEDS: JointSurvey&EstablishBaseline Readings S\$M IIICEDS: Consent Location and Permits
	CEDS: Install UMP (3 Nos.) Additional	60	23MAR10	02JUN10	0	CEDS: Install UMP (3 Nos.) Additional
	CEDS: EstablishBaseline Readings for UMP CEDS: Review Comment&Approve by WHTCL	14 25	03JUN10 28NOV09A	19JUN10 23JAN10	0	CEDS: EstablishBaseline Readings for UMP CEDS: Review Comment&Approve by WHTCL
CEDS0454 CEDS0456	CEDS: Review Comment&Approve by WHICL CEDS: Instrumentation Installation @ WHT	60	25JAN10	08APR10	0	CEDS: Nevrew Commentation Installation @ WHT
CEDS0458	CEDS: Baseline Establishment @ WHT	28	09APR10	12MAY10	0	CEDS: Baseline Establishment @ WHT
Piezometers(Ne CEDS0397	earbyPTWorPScovered inthisInstalln)	21	20JAN10	12FEB10	0	CEDS: Installation Works of BH843 Piezometer
CEDS0399	CEDS: BH843 Piezometer Baseline Establishment	26	13FEB10	18MAR10	0	ECEDS: BH843 Piezometer Baseline Establishment
CEDS0401 CEDS0403	CEDS: Excav.Permit/TTA/TTM ApplicationforBH946PW CEDS: Installation Works of BH946 Piezometer	24	25SEP09A 13FEB10	08FEB10 12MAR10	30 0	CEDS: Excav.Permit/TTA/TTM ApplicationforBH946PW
CEDS0405	CEDS: BH946 Piezometer Baseline Establishment	26	13MAR10	13APR10	0	EXICEDS: BH946 Piezometer Baseline Establishment
CEDS0407 CEDS0409	CEDS: Excav.Permit/TTA/TTM ApplicationforBH846PW CEDS: Installation Works of BH846 Piezometer	24	28SEP09A 09FEB10	08FEB10 08MAR10	30 0	ICEDS: Excav.Permit/TTA/TTM ApplicationforBH846PW
CEDS0403	CEDS: BH846 Piezometer Baseline Establishment	26	09MAR10	08APR10	0	CEDS: BH846 Plezometer Baseline Establishment
CEDS0415	CEDS: Installation Works of BH844 Piezometer	21	09MAR10	01APR10	0	CEDS: Installation Works of BH844 Piezometer
CEDS0417 CEDS0419	CEDS: BH844 Piezometer Baseline Establishment CEDS: Excav.Permit/TTA/TTM ApplicationforBH847PW	26 24	02APR10 28SEP09A	04MAY10 06FEB10	35	ICEDS: Excav.Permit/TTA/TTM ApplicationforBH847PW
CEDS0421	CEDS: Installation Works of BH847 Piezometer	21	02APR10	27APR10	0	CEDS: Installation Works of BH847 Piezometer
CEDS0423 Electrical & Mec	CEDS: BH847 Piezometer Baseline Establishment thanical Installations	26	28APR10	28MAY10	0	
		17			1	
	CEDS: LV Application to HKEC CEDS: Installation Works for LV Application	6 60	04FEB10* 11FEB10	10FEB10 26APR10	0	ICEDS: LV Application to HKEC
CEDS0610	CEDS: LV Connection & Power On	4	27APR10	30APR10	0	ICEDS: LV Connection & Power On
Marine Dumping	Permit					
CEDS0390	CEDS: Request for Disposal Site&Get Permit	24	06JAN10A	02FEB10	50	ICEDS: Request for Disposal Site&Get Permit
Diaphragm Wall						
CEDS0205C	CEDS: Pretrenching Stage 1	14	09JAN10A	22JAN10	79	CEDS: Pretrenching Stage 1
CEDS0205E	CEDS: Preboring by Casing Installation Stage 2	45	23JAN10	19MAR10	0	CEDS: Preboring by Casing Installation Stage 2
CEDS0210 CEDS0215	CEDS: Pre-Treatment of Ground CEDS: Guide Wall Construction	31 12	20JAN10 06FEB10	27FEB10 23FEB10	0	CEDS: Pre-Treatment of Ground
	CEDS: Guide Wall Construction CEDS: Set Up of Bentonite Yard	9	24FEB10	05MAR10	0	ICEDS: Set Up of Bentonite Yard
CEDS0252	CEDS: Excavate 1st Panel to Formation Level	15	06MAR10	23MAR10	0	CEDS: Excavate 1st Panel to Formation Level
CEDS0253 CEDS0254	CEDS: 1st Panel Desanding & Preparation Works CEDS: 1st Panel Rebar Cage Installation	4	24MAR10 29MAR10	27MAR10 03APR10	0	ICEDS: 1st Panel Rebar Cage Installation
CEDS0256	CEDS: 1st Panel Concreting Works	1	06APR10	06APR10	0	CEDS: 1st Panel Concreting Works
CEDS0257 CEDS0259	CEDS: Excavate 2nd Panel to Formation Level CEDS: 2nd Panel Desanding & Preparation Works	12	07APR10 21APR10	20APR10 23APR10	0	CEDS: Excavate 2nd Panel to Formation Level
CEDS0261	CEDS: 2nd Panel Rebar Cage Installation	5	24APR10	29APR10	0	CEDS: 2nd Panel Rebar Cage Installation
CEDS0263 CEDS0265	CEDS: 2nd Panel Concreting Works CEDS: Excavate 3rd Panel to Formation Level	1	30APR10 03MAY10	30APR10 15MAY10	0	CEDS: 2nd Panel Concreting Works CEDS: Excavate 3rd Panel to Formation Level
	CEDS: 3rd Panel Desanding & Preparation Works	3	17MAY10	19MAY10	0	ICEDS: 3rd Panel Desanding & Preparation Works
	CEDS: 3rd Panel Rebar Cage Installation	5	20MAY10	25MAY10	0	ICEDS: 3rd Panel Rebar Cage Installation CEDS: 3rd Panel Concreting Works
CEDS0271 CEDS0273	CEDS: 3rd Panel Concreting Works CEDS: Excavate 4th Panel to Formation Level	12	26MAY10 27MAY10	26MAY10 09JUN10	0	CEDS: Excavate 4th Panel to Formation Level
	CEDS: Grouting Works Phase 1	51	04JUN10	04AUG10	0	CEDS: Grouting Works Phase 1
	CEDS: 4th Panel Desanding & Preparation Works CEDS: 4th Panel Rebar Cage Installation	3	10JUN10 14JUN10	12JUN10 19JUN10	0	ICEDS: 4th Panel Desanding & Preparation Works CEDS: 4th Panel Rebar Cage Installation
CEDS0279	CEDS: 4th Panel Concreting Works	1	21JUN10	21JUN10	0	ICEDS: 4th Panel Concreting Works
	CEDS: Excavate 5th Panel to Formation Level CEDS: 5th Panel Desanding & Preparation Works	12	22JUN10 07JUL10	06JUL10 09JUL10	0	CEDS: Excavate 5th Panel to Formation Level
	CEDS: 5th Panel Rebar Cage Installation	5	10JUL10	15JUL10	0	ICEDS: 5th Panel Rebar Cage Installation
CEDS0287 CEDS0289	CEDS: 5th Panel Concreting Works CEDS: Excavate 6th Panel to Formation Level	1	16JUL10 17JUL10	16JUL10 30JUL10	0	CEDS: 5th Panel Concreting Works CEDS: Excavate 6th Panel to Formation Level
market instantion was and they bear to be	CEDS: 6th Panel Desanding & Preparation Works	3	31JUL10	03AUG10	0	ICEDS: 6th Panel Desanding & Preparation Works
and the second sec	CEDS: Grouting Works Phase 2	34 5	05AUG10	13SEP10	0	CEDS: Grouting Works Phase 2 CEDS: 6th Panel Rebar Cage Installation
-	CEDS: 6th Panel Rebar Cage Installation CEDS: 6th Panel Concreting Works	5	04AUG10 10AUG10	09AUG10 10AUG10	0	CEDS: 6th Panel Concreting Works
CEDS0297	CEDS: Excavate 7th Panel to Formation Level	12	11AUG10	24AUG10	0	CEDS: Excavate 7th Panel to Formation Level
CEDS0299 CEDS0301	CEDS: 7th Panel Desanding & Preparation Works CEDS: 7th Panel Rebar Cage Installation	3	25AUG10 28AUG10	27AUG10 02SEP10	0	ICEDS: 7th Panel Desanding & Preparation Works ICEDS: 7th Panel Rebar Cage Installation
CEDS0303	CEDS: 7th Panel Concreting Works	1	03SEP10	03SEP10	0	CEDS: 7th Panel Concreting Works
	CEDS: Install Temp Steel Casing CEDS: Grouting for Temp Casing	28 19	14SEP10 20OCT10	19OCT10 10NOV10	0	CEDS: Install Temp Steel Casing
CEDS0307	CEDS: Install Dewatering Wells for Pump-test	12	02NOV10	15NOV10	0	CEDS: Install Dewatering Wells for Pump-test
CEDS0310 CEDS0320	CEDS: Pumping Test CEDS: Sumission of Pumping Test Report	6	16NOV10 23NOV10	22NOV10 29NOV10	0	ICEDS: Pumping Test ICEDS: Sumission of Pumping Test Report
	CEDS: Demobilization for D'wall	6	23NOV10 23NOV10	29NOV10	0	ICEDS: Demobilization for D'wall
Shaft Excavation	n		N.			
CEDS0400	CDS: Construct Capping Beam & Shaft Collar	12	22NOV10	04DEC10	0	CpS: Construct Capping Beam & Shaft Collar
CEDS0410	CDS: Excavate Soil & Ring Beams (24.93m)	11	06DEC10	17DEC10	0	CDS: Excavate Soil & Ring Beams (24.93m)
	CDS: Construct Levelling Pad CDS: Pre-excavation Grout for Raise Bore	6 90	18DEC10 27DEC10	24DEC10 15APR11	0	CDS: Construct Levelling Pad
CEDS0440	CDS: In-fill Concrete for Pilot Hole	12	16APR11	29APR11	0	CDS: In-fill Concrete for Pilot Hole
and the second se	CDS: Compl Excav. to Rockhead at CTL DS(KD-C) CDS: Compl D'wall, Soil Excav&Clear Area(KD-03)	0		17DEC10 17DEC10	0	CDS: Compl Excav. to Rockhead at CTL DS(KD-C) CDS: Compl D'wall, Soil Excav&Clear Area(KD-03)
Raised Boring		, v				
		-	00100	00100	-	
CEDS0700 CEDS0710	CDS: Rig Up Hole 1 CDS: Pilot Drill 100 mtrs	5	03APR12 10APR12	09APR12 25APR12	0	CDS: Rig Up Hole 1 CDS: Pilot Drill 100 mtrs
CEDS0720	CDS: Attach reamer and Collar	3	26APR12	28APR12	0	ICDS: Attach reamer and Collar
CEDS0730 CEDS0740	CDS: Ream 100 metres @ 2.8 mtr dia CDS: Lower Reamer and Remove	27	30APR12 01JUN12	31MAY12 04JUN12	0	CDS: Ream 100 metres @ 2.8 mtr dia ICDS: Lower Reamer and Remove
				0-00INTZ	0	
rt Date sh Date	31JUL09 15JAN15 Progress B	WPU		Area Treat	ment Sch	Sheet 1 of 2 heme Stage 2A Date Revision Checkec Approve
a Date Date	20JAN10 Progress B 01FEB10 09:59 Critical Act	ivity	Contract No	. DC/2007/2	3 - Consi	truction of Sewage
			Sonveyance		point to gramme	Stonecutters Island
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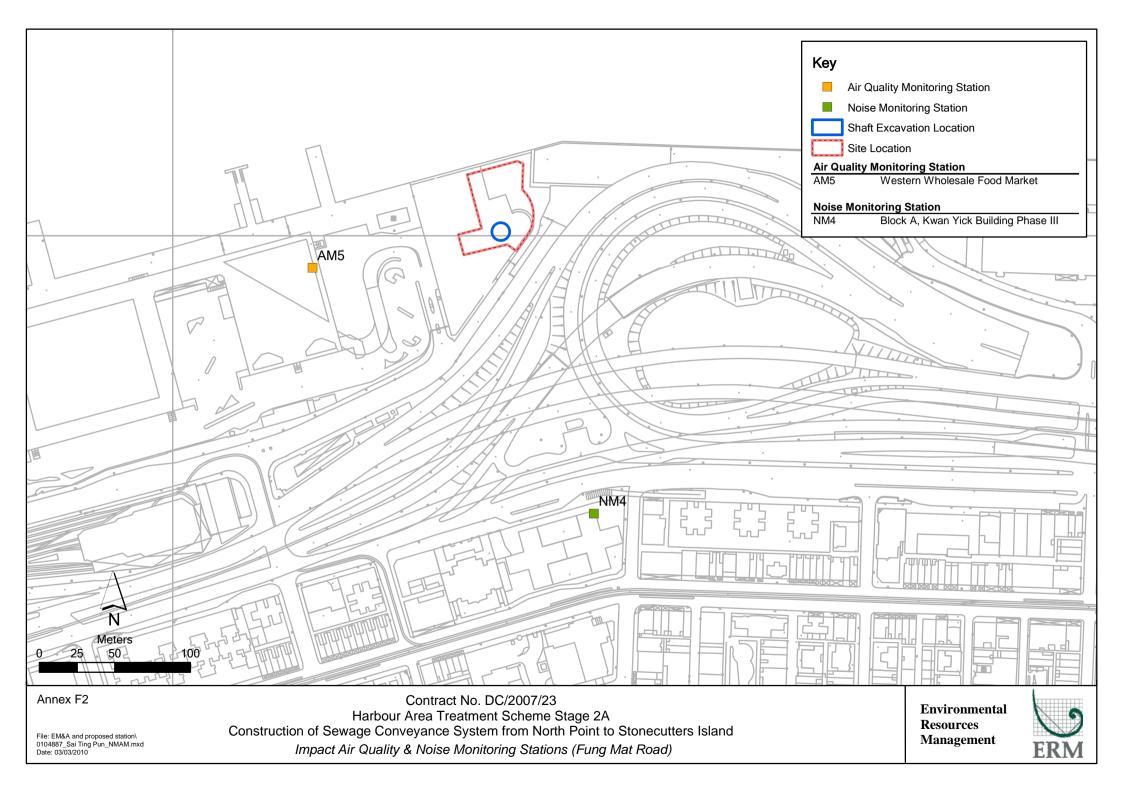
Activity	Activity	Orig	Early	Early	%		2010	2011	2012 2013 2014
ID	Description	Dur	Start	Finish	Comp				
CEDS0750	CDS: De Rig Raise borer and Re rig Hole 2	5	05JUN12	09JUN12	0				CDS: De Rig Raise borer and Re rig Hole 2
CEDS0760	CDS: Pilot Drill 100 mtrs	14	11JUN12	27JUN12	0		3 121 13 121	방송병원원원	CDS: Pilot Drill 100 mtrs
CEDS0770	CDS: Attach Reamer and collar same	3	28JUN12	30JUN12	0	111	3 124 13 121	이 이 이 이 이 이	CDS: Attach Reamer and collar same
CEDS0780	CDS: Ream 100 metres @ 2.8 mtr dia	27	03JUL12	02AUG12	0		김 만난 번 만난 -		CDS: Ream 100 metres @ 2.8 mtr dia
CEDS0790	CDS: De Rig Raise Borer & Remove Reamr	3	03AUG12	06AUG12	0		1111111		CDS: De Rig Raise Borer & Remove Reamr
Lower Shaft Co	onstruction					111			
							3 121 13 121	N 1 N N 1 N 1	
CEDS0835	CDS: Blinding Layer & Concrete Base for LS	6	07AUG12	13AUG12	0		3 121 13 121		CDS: Blinding Layer & Concrete Base for LS
CEDS0840	CDS: Back shunt concreting	18	14AUG12	03SEP12	0		3 194 19 19 1		CDS: Back shunt concreting
CEDS0875	CDS: Construct Vert Shaft to Tunnel Invert	6	04SEP12	10SEP12	0		2 10 1 12 19 1	이 이 이 이 이 이	CDS: Construct Vert Shaft to Tunnel Invert
CEDS0895	CDS: Install System Form for LS	6	11SEP12	17SEP12	0		2 10 1 10 10	방 1 번 1 번 1 번 1	CDS: Install System Form for LS
CEDS0935	CDS: Construct Transition & Vert Shaft	9	18SEP12	27SEP12	0		2 10 1 12 10 L	이 이 안 이 안 이 ?	CDS: Construct Transition & Vert Shaft
CEDS0955	CDS: Construct lower-shaft -153.5 to -22mPD	78	28SEP12	02JAN13	0		101010	안 안 안 안 안 안 !	CDS: Construct lower-shaft -153.5 to -22mPD
CEDS0960	CDS: Remove system formwork and tidy up area	6	03JAN13	09JAN13	0	111	111111111	na a na isi a isi a	CDS: Remove system formwork and tidy up area
Upper Shaft Co	onstruction					111	101610		
CEDS1015	CDS: Blinding Layer & Base Slab for US	9	10JAN13	19JAN13	0				CDS: Blinding Layer & Base Slab for US
CEDS1045	CDS: Temp Platform & Construct Conical Surface	6	21JAN13	26JAN13	0				CDS: Temp Platform & Construct Conical Surface
CEDS1050	CDS: Assembly of kicker formwork	12	14JAN13	26JAN13	0				CDS: Assembly of kicker formwork
CEDS1085	CDS: Construct Kicker	9	28JAN13	06FEB13	0		10160		CDS: Construct Kicker
CEDS1090	CDS: Set up system formwork for upper shaft	16	28JAN13	18FEB13	0		9 10 1 16 10 L		CDS: Set up system formwork for upper shaft
CEDS1145	CDS: Construct Upper Shaft	72	19FEB13	15MAY13	0				CDS: Construct Upper Shaft
CEDS1265	CDS: Fabricate & Install S/S Vortex Drop Pipe	12	09MAY13	22MAY13	0	100	9.004.010		CDS: Fabricate & Install S/S Vortex Drop Pipe
CEDS1305	CDS: Construct Overflow Weir	6	23MAY13	29MAY13	0	1000	1.11.11.11		CDS: Construct Overflow Weir
CEDS1315	CDS: Clear Area & Install Multi-Part Cover	3	30MAY13	01JUN13	0	111	1011010		CDS: Clear Area & Install Multi-Part Cover
Scum Remova	I Chamber					101.1	10111110		
							3 60 6 60 F		THE REPERT OF THE PERTITE
CEDS1463	CEDS: Sheet Piling, Excavation & ELS Works	24	16APR13	15MAY13	0		9.004.610		CEDS: Sheet Piling, Excavation & ELS Works
CEDS1465	CDS: Excavation for Chamber & Channel	9	16MAY13	25MAY13	0	111	9 10 1 10 10 L		CDS: Excavation for Chamber & Channel
CEDS1505	CDS: Blinding Layer & Base Slab of SRC	9	27MAY13	05JUN13	0	1.1			CDS: Blinding Layer & Base Slab of SRC
CEDS1545	CDS: Construct Wall of SRC	9	06JUN13	17JUN13	0	111	1011010		CDS: Construct Wall of SRC
CEDS1565	CDS: Waterproof & Install Multi-Part Cover	6	18JUN13	24JUN13	0	1.1	9.004.0010		CDS: Waterproof & Install Multi-Part Cover
CEDS1570	CDS: Backfill to Scum Removal Chamber	3	25JUN13	27JUN13	0	111	9 10 1 10 10		CDS: Backfill to Scum Removal Chamber
Connection Ch	nannel					P. F. S	1.011.01.00	11 I FT 151 I FT 1	
							9 10 1 10 10 L		TRUE FINE THE THE PERCENCE
CEDS1375	CDS: Blinding Layer & Base Slab of CC	9	27MAY13	05JUN13	0		9.004.61.0		CDS: Blinding Layer & Base Slab of CC
CEDS1435	CDS: Construct Wall of CC	12	06JUN13	20JUN13	0	1.1.1	101616		CDS: Construct Wall of CC
CEDS1455	CDS: Waterproof & Install Multi-Part Cover	6	24JUN13	29JUN13	0	1000	101010		CDS: Waterproof & Install Multi-Part Cover
CEDS1460	CDS: Backfill to Connection Channel	3	02JUL13	04JUL13	0	111			CDS: Backfill to Connection Channel
Miscellaneous	Works					P. C. L	1.101.101.101		
CEDS2010	CDS: Install E&M Services	18	05JUL13	25JUL13	0	111			CDS: Install E&M Services
CEDS2020	CDS: Reinstatement & Clear DS Area	12	26JUL13	08AUG13	0	1.1			CDS: Reinstatement & Clear DS Area
CEDS2025	CDS: Complete All Works at CTL DS (KD-09)	0		08AUG13	0				CDS: Complete All Works at CTL DS (KD-09)
CEDS2030	CDS: Landsacping & Planting Works	60	09AUG13*	07OCT13	0	1.1			CDS: Landsacping & Planting Work
CEDS2040	CDS: Period of Establishment Works	360	08OCT13	02OCT14	0		1 11 12 13		CDS: Period of Establishment Works
CEDS2050	CDS: End of Establishment Period	0		02OCT14	0	13.5	왜 많아. 많이 많이 그		CDS: End of Establishment Period



Annex F

Sai Ying Pun Junction Shaft





Annex F3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Air Quality Monitoring Schedule *

AM5 - Western Wholesale Food Market Monitoring Month : January 2013

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

* Prepared by Contract No. DC/2007/24 Harbour Area Treatment Scheme Stage 2A (HATS 2A) Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun

Monitoring Month : February 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Feb	02-Feb
03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb
			1-hr and 24-hr Monitoring			
			1-III and 24-III Monitoring			
10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb
	Public Holiday	Public Holiday	Public Holiday	1 br and 04 br Manitaring		
	Public Holiday	Public Holiday	Public Holiday	1-hr and 24-hr Monitoring		
17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb
			1 hu and 04 hu Manitavina			
			1-hr and 24-hr Monitoring			
24-Feb	25-Feb	26-Feb	27-Feb	28-Feb		
	1-hr and 24-hr Monitoring					

Note: No construction work from 9 - 11 February 2013 due to Chinese New Year Holiday.

Annex F3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Noise Quality Monitoring Schedule

NM4 - Block A, Kwan Yick Building Phase III Monitoring Month : January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan	02-Jan	03-Jan	04-Jan	05-Jan
		Public Holiday	Noise Monitoring (evening time)		Noise Monitoring	
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
Noise Monitoring				Noise Monitoring		
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
		Noise Monitoring (evening time)	Noise Monitoring			
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
Noise Monitoring		Noise Monitoring				
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		
	Noise Monitoring	Noise Monitoring (evening time)				

Monitoring Month :February 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Feb	02-Feb
03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb
Noise Monitoring					Noise Monitoring	
10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb
				Noise Monitoring		
	Public Holiday	Public Holiday	Public Holiday	(daytime and evening time)		
17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb
Noise Monitoring			Noise Monitoring			
24-Feb	25-Feb	26-Feb	27-Feb	28-Feb		
		Noise Monitoring (daytime and evening time)				

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Construction Phase			
Air Quality	 The Air Pollution Control (Construction Dust) Regulation shall be implemented and good site practices shall be incorporated in the contract clauses to minimize construction dust impact. Control measures relevant to this Project are listed below: skip hoist for material transport should be totally enclosed by impervious sheeting; every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site; the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; where a site boundary adjoins a road, streets or other accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit; every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides; regular watering, with complete coverage, to reduce dust emission from exposed site surfaces and unpaved roads, particularly during dry weather; site enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines; open stock piles should be avoided or covered and prevent placing dusty material storage piles near ASRs if possible; tarpaulin covering of all dusty vehicle loads transported to, from and between site locations; and instigation of an environmental monitoring auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise. 		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Air Quality	 The following watering measures for specific site would be required to control the fugitive dust impacts: watering twice per day within the worksites at Fung Mat Road Site; the barging points should be continuous watering throughout the whole unloading process. 	All work sites / during construction	\checkmark
Operational Phase			
Air Quality	 Good housekeeping for SCISTW and PTWs listed below should be followed to ameliorate any odour impact from the plant and these standard practices should be included in the plant operator manual. Screens should be cleaned regularly to remove any accumulated organic debris Grit and screening transfer systems should be flushed regularly with water to remove organic debris and grit Grit and screened materials should be transferred to closed containers to minimize odour escape Scum and grease collection wells and troughs should be emptied and flushed regularly to prevent putrefaction of accumulated organics Skim and remove floating solids and grease from primary clarifiers regularly Frequent sludge withdrawal from tanks is necessary to prevent the production of gases Sludge cake should be transferred to closed containers Sludge containers should be transferred to closed containers 	All work sites / during construction	NA. Measures not required until commencement of operational phase
Air Quality	Commissioning tests for all deodorization system should be included in the Design and Construction Contract Document.	All PTW and SCISTW/ during operational phase	NA. Measures not required until commencement of operational phase
Construction Phase			· · ·
Noise	Use of quiet PME, movable barriers and acoustic mats	All work sites / during construction	$\overline{\mathbf{A}}$

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Noise	 Good Site Practice: only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program; mobile plant, if any, should be sited as far from NSRs as possible; machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities; 	All work sites / during construction	V
	Environmental audit shall be carried out to ensure that appropriate noise control measures would be properly implemented.		
Construction Phase			
Water Quality	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All work sites / during construction	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Effluent Discharge	All work sites / during construction	\checkmark
	There is a need to apply to EPD for a discharge licence for		
	discharge of effluent from the construction site under the		
	WPCO. The discharge quality must meet the requirements		
	specified in the discharge licence. If monitoring of the treated		
	effluent quality from the works areas is required during the		
	construction phase of the Project, the monitoring should be		
	carried out in accordance with the WPCO license which is		
	under the ambit of regional office (RO) of EPD. Minimum		
	distances of 100 m should be maintained between the		
	discharge points of construction site effluent and the existing saltwater intakes.		
Water Quality	Accidental Spillage of Chemicals	All work sites / during construction	
enter Quality	recruentar of mage of entertaine		
	Contractor must register as a chemical waste producer if		
	chemical wastes would be produced from the construction		
	activities. The Waste Disposal Ordinance (Cap 354) and its		
	subsidiary regulations in particular the Waste Disposal		
	(Chemical Waste) (General) Regulation should be observed		
	and complied with for control of chemical wastes.		
Water Quality	Any service shop and maintenance facilities should be located	All work sites / during construction	<>
	on hard standings within a bunded area, and sumps and oil		
	interceptors should be provided. Maintenance of vehicles and		
	equipment involving activities with potential for leakage and spillage should only be undertaken within the areas		
	appropriately equipped to control these discharges.		
	appropriately equipped to control these discharges.		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status						
Water Quality	Disposal of chemical wastes should be carried out in compliance with the	All work sites / during construction	\checkmark						
	Waste Disposal Ordinance. The Code of Practice on the Packaging,	C C							
	Labelling and Storage of Chemical Wastes published under the Waste								
	Disposal Ordinance details the requirements to deal with chemical								
	wastes.								
	General requirements are given as follows:								
	• Suitable containers should be used to hold the chemical wastes to								
	avoid leakage or spillage during storage, handling and transport.								
	 Chemical waste containers should be suitably labelled, to notify and 								
	warn the personnel who are handling the wastes, to avoid accidents.								
	 Storage area should be selected at a safe location on site and adequate 								
	space should be allocated to the storage area.								

Гуре of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Construction Works in Close Proximity of Storm Drains or Seafront	All work sites / during construction	\checkmark
	To minimize the potential water quality impacts from the construction		
	works located at or near any watercourse, the practices outlined below		
	should be adopted where applicable.		
	 The use of less or smaller construction plants may be specified to 		
	reduce the disturbance to the storm water courses or marine environment.		
	• Temporary storage of materials (e.g. equipment, filling materials,		
	chemicals and fuel) and temporary stockpile of construction materials		
	should be located well away from any water courses during carrying out of the construction works.		
	 Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. 		
	• Construction debris and spoil should be covered up and/or disposed		
	of as soon as possible to avoid being washed into the nearby water receivers.		
	• Construction activities, which generate large amount of wastewater,		
	should be carried out in a distance away from the waterfront, where		
	practicable.		
	• Proper shoring may need to be erected in order to prevent soil/mud		
	from slipping into the storm culvert or sea		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Operational Phase			
Water Quality	Dual power supply, standby facilities for the main treatment units and standby equipment parts / accessories should be provided as far as possible at the SCISTW to minimize the chance of emergency discharge.	SCISTW and all the Stage 2 PTWs / Operation Stage	NA. Measures not required until commencement of operational phase
Water Quality	Standby unit(s) and dual (backup) power supply would be provided at all the Stage 2 PTWs to reduce the risk of equipment breakdown at the PTWs.	Stage 2 PTWs / Operation Stage	NA. Measures not required until commencement of operational phase
Construction Phase			
Waste	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All work sites / during the construction period	\checkmark
Waste	 All waste materials should be segregated into categories covering: excavated materials suitable for reuse on-site; excavated materials suitable for public filling facilities; remaining C&D waste for landfill; chemical waste; and general refuse for landfill. 	All work sites / during the construction period	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	 Recommendations to achieve waste reduction include: Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals; Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; Any unused chemicals or those with remaining functional capacity shall be recycled; and Proper storage and site practices to minimise the potential for damage or contamination of construction materials. 	All work sites / during the construction period	V
Waste	 Recommendations for good site practices during construction activities include:- Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site Training of site personnel in proper waste management and chemical waste handling procedures Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials. Provision of sufficient waste disposal points and regular collection of waste Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors 	All work sites / during the construction period	√
Waste	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage".	All work sites / during the construction period	NA

Type of Impact	Environmental Protection Measures	Location/ Timing	Status	
Waste	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.	All work sites / during the construction period	\checkmark	
Waste	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.	All work sites / during the construction period	\checkmark	
Waste	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.	All work sites / during the construction period	\checkmark	
Waste	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	All work sites / during the construction period	\checkmark	

ENVIRONMENT MANAGEMENT LIMITED

GAMMON CONSTRUCTION LIMITED

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.	All work sites / during the construction period	\checkmark
Construction Phase			
Landscape & Visual	 Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. Existing trees to be retained on site should be carefully protected during construction. Trees unavoidably affected by the works should be transplanted where practical. Compensatory tree planting should be provided to compensate for felled trees. Control of night-time lighting. Erection of decorative screen hoarding compatible with the surrounding setting. 	All the works areas, PTWs and SCISTW/ during the construction period	N
Operational Phase	•		
Landscape & Visual	 Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings. Shrub and Climbing Plants to soften proposed structures / Roof Greening. Buffer Tree and Shrub Planting to screen proposed associated structures. Reinstated of disturbed area 	All the works areas, PTWs and SCISTW/ during the construction period	NA. Measures not required until commencement of operational phase

Type of Impact	Environmental Protection Measures	Location/ Timing	Status	
Cultural Heritage	The construction vibration control limit (ppv of 25mm/s) shall be strictly followed.	8		
	Monitoring of vibration limits shall be conducted and reported as a requirement of EM&A programme	Identified historical buildings/structures as mentioned in Tables 15.8 and 15.9. During blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	\checkmark	

Remark:

 $\sqrt{}$ Compliance of Mitigation Measures

<> Compliance of Mitigation but need improvement

x Non-compliance of Mitigation Measures

Δ Deficiency of Mitigation Measures but rectified by Gammon Construction Limited

NA Not Applicable

Annex F5 24-hour and 1-hour TSP Monitoring Results

1-hour TSP Monitoring Results

Station AM5

*

				TSP					Wind Speed		
	Start	Finish	Weather	Concentration	Action Level	Limit Level	Site Conditions /	Temperature	*	Sampler	Filter
Date	Time	Time		(µg/m ³)	(µg/m ³)	(µg/m ³)	Observations / Remarks	(°°)	(m/s)	ID	ID
03-Jan-13	8:00	9:00	Fine	278	331.9	500	Rock out	17	<5	Western Wholesale Food Market	1326
	10:00	11:00	Fine	122	331.9	500	Rock out	17	<5	Western Wholesale Food Market	1327
	11:05	12:05	Fine	185	331.9	500	Rock out	17	<5	Western Wholesale Food Market	1328
09-Jan-13	8:00	9:00	Fine	257	331.9	500	Rock out	16	<5	Western Wholesale Food Market	1363
	13:24	14:24	Fine	151	331.9	500	Rock out	16	<5	Western Wholesale Food Market	1334
	14:36	15:36	Fine	208	331.9	500	Rock out	16	<5	Western Wholesale Food Market	1335
15-Jan-13	8:00	9:00	Fine	238	331.9	500	operation of excatavor	16	<5	Western Wholesale Food Market	1340
	13:06	14:06	Fine	123	331.9	500	operation of excatavor	16	<5	Western Wholesale Food Market	1342
	14:16	15:16	Fine	36	331.9	500	operation of excatavor	16	<5	Western Wholesale Food Market	1343
21-Jan-13	8:00	9:00	Fine	257	331.9	500	operation of excatavor	20	<5	Western Wholesale Food Market	1347
	16:00	17:00	Fine	100	331.9	500	operation of excatavor	20	<5	Western Wholesale Food Market	1348
	17:07	18:07	Fine	114	331.9	500	operation of excatavor	20	<5	Western Wholesale Food Market	1349
25-Jan-13	8:00	9:00	Fine	91	331.9	500	operation of excatavor	18	<5	Western Wholesale Food Market	1354
	9:31	10:31	Fine	114	331.9	500	operation of excatavor	18	<5	Western Wholesale Food Market	1355
	10:47	11:47	Fine	180	331.9	500	operation of excatavor	18	<5	Western Wholesale Food Market	1356
31-Jan-13	13:15	14:15	Fine	141	331.9	500	operation of excatavor	19	<5	Western Wholesale Food Market	1361
	14:30	15:30	Fine	154	331.9	500	operation of excatavor	19	<5	Western Wholesale Food Market	1362
	15:40	16:40	Fine	87	331.9	500	operation of excatavor	19	<5	Western Wholesale Food Market	1363
-			Min.	36							
				070							

Max.278Average157

Wind Speed data is presented in the Meteorological Data table

Annex F5 24-hour and 1-hour TSP Monitoring Results

24-hour TSP Monitoring Results

Station AM5

Filter Weight (g) Initial Final	Reading Initial Final	Time (hrs)	Flow Initial	v Rate (m Final	· /	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
	Initial Final	(hrs)	Initial	Einal						Campion	Filter
				гша	Average	(µg/m ³)	(µg/m ³)	(µg/m ³)		ID	ID
2.6391 2.7311	5123.36 5147.36	24.00	1.1890	1.1890	1.1890	54	188.5	260	Rock out	Western Wholesale Food Market	1329
2.7172 2.9749	5150.36 5174.36	24.00	1.1335	1.1335	1.1335	158	188.5	260	Rock out	Western Wholesale Food Market	1336
2.7007 2.9582	5177.36 5201.36	24.00	1.1349	1.1349	1.1349	158	188.5	260	Rock out	Western Wholesale Food Market	1344
2.7491 2.8392	5204.36 5228.36	24.00	1.0244	1.0244	1.0244	61	188.5	260	Rock out	Western Wholesale Food Market	1350
2.7466 3.0045	5231.36 5255.36	24.00	1.0789	1.0789	1.0789	166	188.5	260	Rock out	Western Wholesale Food Market	1357
2.7269 2.9431	5258.36 5282.36	24.00	1.1048	1.1048	1.1048	136	188.5	260	Rock out	Western Wholesale Food Market	1364
	2.7007 2.9582 2.7491 2.8392 2.7466 3.0045	2.7172 2.9749 5150.36 5174.36 2.7007 2.9582 5177.36 5201.36 2.7491 2.8392 5204.36 5228.36 2.7466 3.0045 5231.36 5255.36	2.7172 2.9749 5150.36 5174.36 24.00 2.7007 2.9582 5177.36 5201.36 24.00 2.7491 2.8392 5204.36 5228.36 24.00 2.7466 3.0045 5231.36 5255.36 24.00	2.7172 2.9749 5150.36 5174.36 24.00 1.1335 2.7007 2.9582 5177.36 5201.36 24.00 1.1349 2.7491 2.8392 5204.36 5228.36 24.00 1.0244 2.7466 3.0045 5231.36 5255.36 24.00 1.0789	2.7172 2.9749 5150.36 5174.36 24.00 1.1335 1.1335 2.7007 2.9582 5177.36 5201.36 24.00 1.1349 1.1349 2.7491 2.8392 5204.36 5228.36 24.00 1.0244 1.0244 2.7466 3.0045 5231.36 5255.36 24.00 1.0789 1.0789	2.7172 2.9749 5150.36 5174.36 24.00 1.1335 1.1335 1.1335 2.7007 2.9582 5177.36 5201.36 24.00 1.1349 1.1349 1.1349 2.7491 2.8392 5204.36 5228.36 24.00 1.0244 1.0244 1.0244 2.7466 3.0045 5231.36 5255.36 24.00 1.0789 1.0789	2.7172 2.9749 5150.36 5174.36 24.00 1.1335 1.1335 1.1335 1.58 2.7007 2.9582 5177.36 5201.36 24.00 1.1349 1.1349 1.1349 158 2.7491 2.8392 5204.36 5228.36 24.00 1.0244 1.0244 61 2.7466 3.0045 5231.36 5255.36 24.00 1.0789 1.0789 1.0789 166 2.7269 2.9431 5258.36 5282.36 24.00 1.1048 1.1048 136	2.6391 2.7311 5123.36 5147.36 24.00 1.1890 1.1890 1.1890 54 2.7172 2.9749 5150.36 5174.36 24.00 1.1335 1.1335 158 188.5 2.7007 2.9582 5177.36 5201.36 24.00 1.1349 1.1349 1.1349 158 188.5 2.7491 2.8392 5204.36 5228.36 24.00 1.0244 1.0244 61 188.5 2.7466 3.0045 5231.36 5255.36 24.00 1.0789 1.0789 1.0789 166 188.5 2.7269 2.9431 5258.36 5282.36 24.00 1.1048 1.1048 136 188.5	2.6391 2.7311 5123.36 5147.36 24.00 1.1890 1.1890 1.1890 54 1000 2.7172 2.9749 5150.36 5174.36 24.00 1.1335 1.1335 158 188.5 260 2.7007 2.9582 5177.36 5201.36 24.00 1.1349 1.1349 1.1349 158 188.5 260 2.7491 2.8392 5204.36 5228.36 24.00 1.0244 1.0244 1.0244 61 188.5 260 2.7466 3.0045 5231.36 5255.36 24.00 1.0789 1.0789 1.0789 166 188.5 260 2.7269 2.9431 5258.36 5282.36 24.00 1.0789 1.0789 1.66 188.5 260	2.6391 2.7311 5123.36 5147.36 24.00 1.1890 1.1890 1.1890 54 1.000 1.000 1.000 2.7172 2.9749 5150.36 5174.36 24.00 1.1335 1.1335 158 188.5 260 Rock out 2.7007 2.9582 5177.36 5201.36 24.00 1.1349 1.1349 158 188.5 260 Rock out 2.7041 2.8392 5204.36 5228.36 24.00 1.0244 1.0244 61 188.5 260 Rock out 2.7466 3.0045 5231.36 5255.36 24.00 1.0789 1.0789 166 188.5 260 Rock out 2.7469 2.9431 5258.36 5282.36 24.00 1.0789 1.0789 166 188.5 260 Rock out	2.6391 2.7311 5123.66 5147.36 24.00 1.1890 1.1890 1.1890 54 188.5 260 Hock out Food Market 2.7172 2.9749 5150.66 5177.36 24.00 1.1335 1.1345 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349 1.1349



Meteorological Data Extracted from the Hong Kong Observatory

		King's Park Station						
		Average Air	Average Relative	Total Rainfall	Average Wind			
Date	Weather	Temperature (°C)	Humiditiy (%)	(mm)	Speed (km/h)	Wind Direction		
2013-01-02	Sunny	18	48 - 81	0.0	6	SE		
2013-01-03	Sunny	17	63 - 85	0.0	6	E		
2013-01-04	Cloudy	12	66 - 76	0.0	4	NE		
2013-01-05	Cloudy	15	61-79	0.0	4	NE		
2013-01-06	Sunny	16	60 - 80	0.0	4	NE		
2013-01-07	Sunny	15	64 - 80	0.0	4	NE		
2013-01-08	Cloudy	18	58 - 72	0.0	3	N		
2013-01-09	Cloudy	16	56 - 72	0.0	4	NE		
2013-01-10	Fine	14	57 - 75	0.0	8	NE		
2013-01-13	Fine	17	61 - 77	0.0	6	NW		
2013-01-14	Sunny	16	55 - 80	0.0	4	NE		
2013-01-15	Fine	15	68 - 79	0.0	9	SE		
2013-01-16	Sunny	18	59 - 88	0.0	4	SE		
2013-01-17	Sunny	18	57 - 77	0.0	10	SE		
2013-01-18	Sunny	18	64 - 77	0.0	9	NE		
2013-01-19	Sunny	15	49 - 78	0.0	8	SE		
2013-01-20	Sunny	17	70 - 79	0.0	9	SE		
2013-01-21	Sunny	20	66 - 85	0.0	8	SE		
2013-01-22	Cloudy	24	63 - 90	Trace	3	SE		
2013-01-23	Cloudy	19	79 - 93	0.0	9	SE		
2013-01-24	Sunny	21	64 - 80	0.0	10	SE		
2013-01-25	Fine	18	58 - 72	0.0	5	SE		
2013-01-27	Sunny	17	76 - 94	0.6	6	NE		
2013-01-28	Sunny	16	48 - 78	0.0	9	E		
2013-01-29	Sunny	17	52 - 82	Trace	10	SE		
2013-01-30	Fine	17	53 - 85	0.0	9	SE		
2013-01-31	Fine	18	55 - 78	0.0	13	SE		

		Tsing Yi Station							
		Average Air	Average Relative	Total Bainfall	Average Wind				
Date	Weather	Temperature (°C)	Humiditiy (%) *	(mm)	Speed (km/h)	Wind Direction			
2013-01-02	Sunny	19	48 - 81	0.0	5	E			
2013-01-03	Sunny	17	63 - 85	0.0	4	NE			
2013-01-04	Cloudy	12	66 - 76	0.0	7	NW			
2013-01-05	Cloudy	14	61-79	0.0	9	NW			
2013-01-06	Sunny	15	60 - 80	0.0	7	NW			
2013-01-07	Sunny	15	64 - 80	0.0	2	NW			
2013-01-08	Cloudy	17	58 - 72	0.0	6	NW			
2013-01-09	Cloudy	17	56 - 72	0.0	4	NW			
2013-01-10	Fine	15	57 - 75	0.0	8	NW			
2013-01-13	Fine	17	61 - 77	0.0	10	NW			
2013-01-14	Sunny	16	55 - 80	0.0	7	NW			
2013-01-15	Fine	17	68 - 79	0.0	3	E			
2013-01-16	Sunny	17	59 - 88	0.0	6	NW			
2013-01-17	Sunny	17	57 - 77	0.0	4	NE			
2013-01-18	Sunny	15	64 - 77	0.0	7	NW			
2013-01-19	Sunny	16	49 - 78	0.0	5	SE			
2013-01-20	Sunny	17	70 - 79	0.0	9	SE			
2013-01-21	Sunny	22	66 - 85	0.0	10	SE			
2013-01-22	Cloudy	22	63 - 90	Trace	3	E			
2013-01-23	Cloudy	19	79 - 93	0.0	6	E			
2013-01-24	Sunny	21	64 - 80	0.0	10	NW			
2013-01-25	Fine	18	58 - 72	0.0	7	NW			
2013-01-27	Sunny	17	76 - 94	0.6	3	NW			
2013-01-28	Sunny	18	48 - 78	0.0	6	SE			
2013-01-29	Sunny	19	52 - 82	Trace	6	SE			
2013-01-30	Fine	17	53 - 85	0.0	5	SE			
2013-01-31	Fine	20	55 - 78	0.0	12	SE			

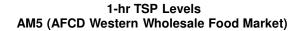
		Kai Tak Station						
Date	Weather	Average Air Temperature (°C) *	Average Relative Humiditiy (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction		
2013-01-02	Sunny	18	48 - 81	0.0	12	SE		
2013-01-03	Sunny	17	63 - 85	0.0	10	E		
2013-01-04	Cloudy	12	66 - 76	0.0	8	N		
2013-01-05	Cloudy	15	61-79	0.0	10	NW		
2013-01-06	Sunny	16	60 - 80	0.0	9	NW		
2013-01-07	Sunny	15	64 - 80	0.0	8	NW		
2013-01-08	Cloudy	18	58 - 72	0.0	8	SW		
2013-01-09	Cloudy	16	56 - 72	0.0	9	NW		
2013-01-10	Fine	14	57 - 75	0.0	8	NE		
2013-01-13	Fine	17	61 - 77	0.0	7	W		
2013-01-14	Sunny	16	55 - 80	0.0	5	E		
2013-01-15	Fine	15	68 - 79	0.0	12	E		
2013-01-16	Sunny	18	59 - 88	0.0	10	SE		
2013-01-17	Sunny	18	57 - 77	0.0	13	SE		
2013-01-18	Sunny	18	64 - 77	0.0	10	NE		
2013-01-19	Sunny	15	49 - 78	0.0	12	E		
2013-01-20	Sunny	17	70 - 79	0.0	12	E		
2013-01-21	Sunny	20	66 - 85	0.0	7	E		
2013-01-22	Cloudy	24	63 - 90	Trace	3	SE		
2013-01-23	Cloudy	19	79 - 93	0.0	12	SE		
2013-01-24	Sunny	21	64 - 80	0.0	12	E		
2013-01-25	Fine	18	58 - 72	0.0	12	E		
2013-01-27	Sunny	17	80 - 93	0.6	9	NE		
2013-01-28	Sunny	16	81 - 93	0.0	21	E		
2013-01-29	Sunny	17	82 - 93	Trace	16	SE		
2013-01-30	Fine	17	83 - 93	0.0	24	E		
2013-01-31	Fine	18	84 - 93	0.0	6	SE		
*	King's Park's o	data						

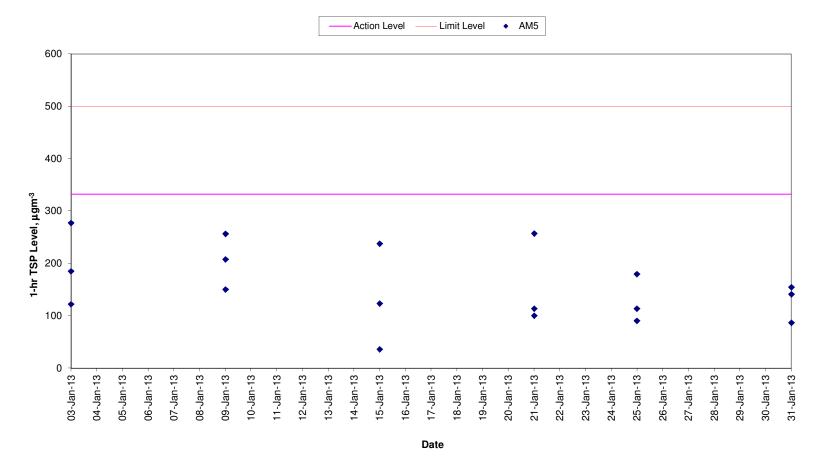
ranger ante data
Data were not available

-

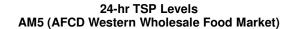
less than 24 hourly observations per day

		Green Island Station						
Date	Weather	Average Air Temperature (℃) *	Average Relative Humiditiy (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction		
2013-01-02	Sunny	18	48 - 81	0.0	25	NE		
2013-01-03	Sunny	17	63 - 85	0.0	25	NE		
2013-01-04	Cloudy	12	66 - 76	0.0	24	NE		
2013-01-05	Cloudy	15	61-79	0.0	28	N		
2013-01-06	Sunny	16	60 - 80	0.0	28	NW		
2013-01-07	Sunny	15	64 - 80	0.0	22	N		
2013-01-08	Cloudy	18	58 - 72	0.0	21	NW		
2013-01-09	Cloudy	16	56 - 72	0.0	20	N		
2013-01-10	Fine	14	57 - 75	0.0	26	N		
2013-01-13	Fine	17	61 - 77	0.0	17	NW		
2013-01-14	Sunny	16	55 - 80	0.0	23	N		
2013-01-15	Fine	15	68 - 79	0.0	35	NE		
2013-01-16	Sunny	18	59 - 88	0.0	10	NE		
2013-01-17	Sunny	18	57 - 77	0.0	27	NE		
2013-01-18	Sunny	18	64 - 77	0.0	25	NE		
2013-01-19	Sunny	15	49 - 78	0.0	25	NE		
2013-01-20	Sunny	17	70 - 79	0.0	25	NE		
2013-01-21	Sunny	20	66 - 85	0.0	40	NE		
2013-01-22	Cloudy	24	63 - 90	Trace	28	NE		
2013-01-23	Cloudy	19	79 - 93	0.0	27	NE		
2013-01-24	Sunny	21	64 - 80	0.0	25	NE		
2013-01-25	Fine	18	58 - 72	0.0	25	NE		
2013-01-27	Sunny	17	80 - 93	0.6	28	NE		
2013-01-28	Sunny	16	81 - 93	0.0	38	NE		
2013-01-29	Sunny	17	82 - 93	Trace	34	NE		
2013-01-30	Fine	17	83 - 93	0.0	15	NE		
2013-01-31	Fine	18	84 - 93	0.0	35	NE		





Note: The scheduled monitoring on 20 and 26 November 2012 was not carried out due to electrical power supply problems





Note: The scheduled monitoring on 20 and 26 November 2012 was not carried out due to electrical power supply problems

Annex F6 Noise Monitoring Results

Daytime Noise Monitoring Results

Station NM4

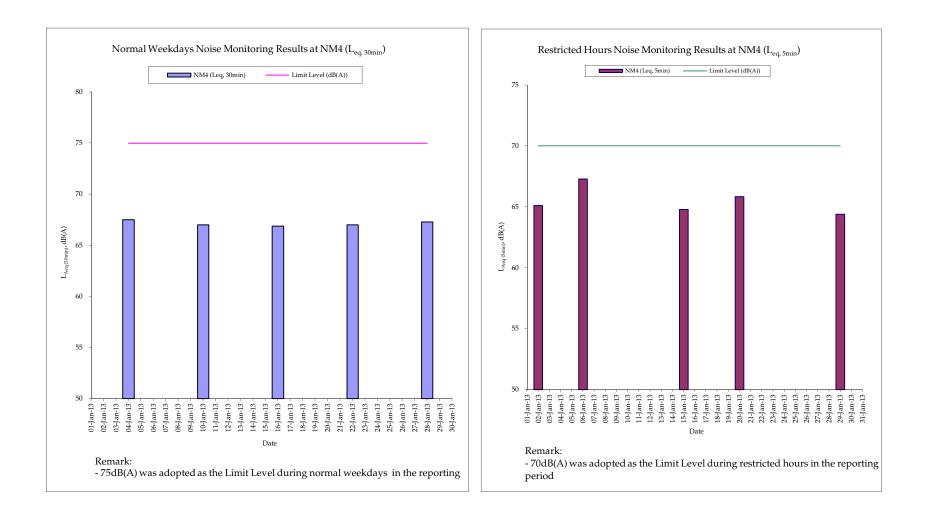
Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min		Major Construction Other Noise Noise Source(s) Source(s) F		Major Construction Other Noise Noise Source(s) Source(s)		Remarks	Temp. (℃)	Wind Speed	Noise Meter	Calibrator
				Leq	L10	L90	Observed	Observed		· •	(m/s)	Model / ID	Model / ID	
04-Jan-13	10:22	10:52	Cloudy	67.5	69.2	66.2	-	Traffic Noise	-	12	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)	
10-Jan-13	14:15	14:45	Fine	67.0	68.4	65.8	-	Traffic Noise	-	14	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)	
16-Jan-13	9:10	9:40	Sunny	66.9	68.6	65.6	-	Traffic Noise	-	18	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)	
22-Jan-13	10:22	10:52	Sunny	67.0	68.6	65.7	-	Traffic Noise	-	24	0.3	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997144)	
28-Jan-13	14:20	14:50	Sunny	67.3	68.9	66.1	Excavation Work	Traffic Noise	-	16	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997144)	
			Min. Max.	66.9 67.5										

Annex F6 Noise Monitoring Results

Restricted Hours Noise Monitoring Results

Station NM4

				Noise	level (dB(A)), 5 min	Major Construction Other Noise				Wind			
Date	Start Time	End Time	Weather	Leq	L10	L90	Noise Source(s) Observed	Source(s) Observed	Remarks	Temp. (℃)	Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID	
02-Jan-13	22:11	22:16	Fine	65.4	67.3	63.2			-					
	22:16	22:21	Fine	65.3	62.2	62.9	No outdoor construction	Mainly traffic noise	-	18	0.8	RION- NL31 (S/N	RION - NC73 (S/N	
	22:21	22:26	Fine	64.4	65.8	62.9	noise	Mainly trailic noise	-	10	0.0	00603867)	10997142)	
	22:11	22:26	Fine	65.1	66.8	63.0			-			00000007)	10007142)	
06-Jan-13	17:23	17:28	Sunny	66.6	68.0	64.7			-					
	17:28	17:33	Sunny	68.0	69.5	65.3	No outdoor construction	Mainh <i>u</i> traffia naisa	-	16	0.3	RION- NL31	RION - NC73	
	17:33	17:38	Sunny	67.1	68.8	65.1	noise	Mainly traffic noise	-	10	0.3	(S/N 00603867)	(S/N 10997142)	
	17:23	17:38	Sunny	67.3	68.8	65.0			-			000000077	10007112)	
15-Jan-13	22:05	22:10	Fine	64.9	66.2	63.3			-					
	22:10	22:15	Fine	64.6	65.8	62.9	No outdoor construction	Mainly traffic noise	-	15	0.5	RION- NL31	RION - NC73 (S/N	
	22:15	22:20	Fine	64.8	66.2	63.1	noise	Mainly trailic noise	-	15	0.5	(S/N 00603867)	10997142)	
	22:05	22:20	Fine	64.8	66.1	63.1				-			00003007)	10337142)
20-Jan-13	11:27	11:32	Sunny	65.2	66.8	63.1			-					
	11:32	11:37	Sunny	66.0	67.3	63.6	No outdoor construction	Mainh <i>u</i> traffia naisa	-	17	0.5	RION- NL31	RION - NC73	
	11:37	11:42	Sunny	66.3	68.4	64.1	noise	Mainly traffic noise	-	17	0.5	(S/N 00603867)	(S/N 10997142)	
	11:27	11:42	Sunny	65.9	67.6	63.6			-			00000007)	10007142)	
29-Jan-13	20:30	20:35	Fine	64.3	66.0	62.2			-					
	20:35	20:40	Fine	64.0	65.3	62.5	No outdoor construction noise	Mainhatan (Caracia)	-	47		RION- NL31	RION - NC73	
	20:40	20:45	Fine	64.8	66.5	62.0		noise	Mainly traffic noise	-	17	0.3	(S/N 00603867)	(S/N 10997142)
	20:30	20:45	Fine	64.4	66.0	62.2	1		-			00000007)	10007142)	
-			Min.	64.0			-	•		•		•		
			Max.	68.0										



Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
December 2009	0	0
January 2010	0	0
February 2010	1	0
March 2010	0	0
April 2010	1	0
May 2010	2	0
June 2010	0	0
July 2010	1	0
August 2010	0	0
September 2010	0	0
October 2010	0	0
November 2010	0	0
December 2010	0	0
January 2011	0	0
February 2011	0	0
March 2011	0	0
April 2011	0	0
May 2011	0	0

Annex F7 Cumulative Complaint and Summons/Prosecutions Log

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
June 2011	0	0
July 2011	0	0
August 2011	0	0
September 2011	0	0
October 2011	0	0
November 2011	0	0
December 2011	0	0
January 2012	0	0
February 2012	0	0
March 2012	0	0
April 2012	1	0
May 2012	0	0
June 2012	0	0
July 2012	0	0
August 2012	0	0
September 2012	0	0
October 2012	0	0
November 2012	0	0

Annex F7 Cumulative Complaint and Summons/Prosecutions Log

ENVIRONMENTAL RESOURCES MANAGEMENT

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
December 2012	1	0
January 2013	0	0
Overall Total	7	0

Annex F7 Cumulative Complaint and Summons/Prosecutions Log

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp	2010 2011 2012 2013 2014
	A - Contract DC/2007/23					
Sai Ying Pun J Preliminaries V	unction/Production Shaft Vorks					
SYJS10115 SYJS10120	SYJS: Construct/Install Blast Protection SYJS: Site Inspection from Mines	2	30APR11 04MAY11	03MAY11 04MAY11	0	SYJS: Construct/Install Blast Protection SYJS: Site Inspection Mines
SYJS10125	SYJS: Issue Blasting Permit	1	05MAY11	05MAY11	0	SYJS: Issue Blasting Permit
	eotechnical Instrumentations 's/Others(Same note as Piez.)					
SYJS0617	SYJS: Install SS Markers (44 Nos.)	50	240CT09A	06FEB10	68	ISYJS: Install SS Markers (44 Nos.)
SYJS0619 SYJS0621	SYJS: JointSurvey&EstablishBaseline Readings SSM SYJS: Install UMP (3 Nos.)	14 75	08FEB10 01SEP09A	26FEB10 08FEB10	0 78	SYJS: JointSurvey&EstablishBaseline Readings SSM SYJS: Install UMP (3 Nos.)
SYJS0623	SYJS: JointSurvey&EstablishBaseline Readings UMP	14	09FEB10	27FEB10	0	SYJS: JointSurvey&EstablishBaseline Readings UMP
SYJS0625 SYJS0627	SYJS: Consent Location and Permits SYJS: Install UMP (3 Nos.) Additional	30 50	18FEB10 25MAR10	24MAR10 24MAY10	0	SYJS: Consent Location and Permits
SYJS0629	SYJS: EstablishBaseline Readings for UMP	14	25MAR10	09JUN10	0	SYJS: EstablishBaseline Readings for UMP
	NearbyPTWorPScovered inthisInstalln)			0055040		SYJS: Installation Works of BH851 Piezometer
SYJS0407 SYJS0409	SYJS: Installation Works of BH851 Piezometer SYJS: BH851 Piezometer Baseline Establishment	21 26	14JAN10A 09FEB10	08FEB10 13MAR10	20	IIIIS TI SA INSUITATION WORS OF BHOST PIEZOINEE
SYJS0503	SYJS: Installation Works of BH850 Piezometer	21	07DEC09A	29JAN10	57	ISYJS: Installation Works of BH850 Piezometer
SYJS0507 SYJS0601A	SYJS: BH850 Piezometer Baseline Establishment SYJS: ResolveRestrictions/Rd.AdviceAppr./PrepWrk	26 33	30JAN10 07NOV09A	04MAR10 27JAN10	0 79	SYJS: BH850 Piezometer Baseline Establishment SYJS: ResolveRestrictions/Rd,AdviceAppr,/PrepWrk
SYJS0603	SYJS: Installation Works of BH849 Piezometer	21	30JAN10	26FEB10	0	SYJS: Installation Works of BH849 Piezometer
SYJS0607 Electrical & Me	SYJS: BH849 Piezometer Baseline Establishment	26	27FEB10	29MAR10	0	SYJS: BH849 Piezometer Baseline Establishment
		312-62-62				
SYJS0705 SYJS0710	SYJS: Installation Works for LV Application SYJS: LV Connection & Power On	60 4	11MAR10* 22MAY10	21MAY10 26MAY10	0	ISYJS: Installation Works for LV Application ISYJS: LV Connection & Power On
SYJS0720	SYJS: Installation Works for 11KV Application	60	16AUG10*	270CT10	0	SYJS: Installation Works for 11KV Application
SYJS0725 Marine Dumpin	SYJS: 11 KV Connection & Power On	4	28OCT10	01NOV10	0	ISYJS: 11 KV Connection & Power On
Marine Dumpin						
SYJS0370	SYJS: Request for Disposal Site&Get Permit	24	05JAN10A	05FEB10	38	ISYJS: Request for Disposal Site&Get Permit
Diaphragm Wa						
SYJS0263	SYJS: Excavate 1st Panel to Formation Level	12	04JAN10A		80	SYJS: Excavate 1st Panel to Formation Level
SYJS0265 SYJS0267	SYJS: 1st Panel Desanding & Preparation Works SYJS: 1st Panel Rebar Cage Installation	4	22JAN10 28JAN10	27JAN10 01FEB10	0	SYJS: 1st Panel Desanding & Preparation Works SYJS: 1st Panel Rebar Cage Installation SYJS: 1st Panel Rebar Cage Installation
SYJS0269	SYJS: 1st Panel Concreting Works	1	02FEB10	02FEB10	0	SYJS: 1st Panel Concreting Works
SYJS0271 SYJS0273	SYJS: Excavate 2nd Panel to Formation Level SYJS: 2nd Panel Desanding & Preparation Works	12 5	06JAN10A 03FEB10	02FEB10 08FEB10	60 0	ISYJS: Excavate 2nd Panel to Formation Level ISYJS: 2nd Panel Desanding & Preparation Works
SYJS0275	SYJS: 2nd Panel Rebar Cage Installation	4	09FEB10	12FEB10	0	ISYJS: 2nd Panel Rebar Cage Installation
SYJS0277 SYJS0279	SYJS: 2nd Panel Concreting Works SYJS: Excavate 3rd Panel to Formation Level	1	13FEB10 18FEB10	13FEB10 03MAR10	0	ISYJS: 2nd Panel Concreting Works ISYJS: Excavate 3rd Panel to Formation Level
SYJS0281	SYJS: 3rd Panel Desanding & Preparation Works	5	04MAR10	09MAR10	0	ISYJS: 3rd Panel Desanding & Preparation Works
SYJS0283 SYJS0285	SYJS: 3rd Panel Rebar Cage Installation SYJS: 3rd Panel Concreting Works	4	10MAR10 15MAR10	13MAR10 15MAR10	0	ISYJS: 3rd Panel Rebar Cage Installation SYJS: 3rd Panel Concreting Works
SYJS0287	SYJS: Excavate 4th Panel to Formation Level	12	16MAR10	29MAR10	0	SYJS: Excavate 4th Panel to Formation Level
SYJS0289	SYJS: 4th Panel Desanding & Preparation Works	4	30MAR10	02APR10	0	SYJS: 4th Panel Desanding & Preparation Works SYJS: 4th Panel Rebar Cage Installation
SYJS0291 SYJS0293	SYJS: 4th Panel Rebar Cage Installation SYJS: 4th Panel Concreting Works	1	03APR10 08APR10	07APR10 08APR10	0	SYJS: 4th Panel Concreting Works
SYJS0296	SYJS: Excavate 5th Panel to Formation Level	10	09APR10	20APR10	0	SYJS: Excavate 5th Panel to Formation Level SYJS: 5th Panel Desanding & Preparation Works
SYJS0298 SYJS0301	SYJS: 5th Panel Desanding & Preparation Works SYJS: 5th Panel Rebar Cage Installation	4	21APR10 26APR10	24APR10 27APR10	0	SYJS: 5th Panel Rebar Cage Installation
SYJS0302	SYJS: 5th Panel Concreting Works	1	28APR10	28APR10	0	SYJS: 5th Panel Concreting Works
SYJS0304 SYJS0306	SYJS: Excavate 6th Panel to Formation Level SYJS: 6th Panel Desanding & Preparation Works	10	29APR10 12MAY10	11MAY10 15MAY10	0	SYJS: Excavate 6th Panel to Formation Level SYJS: 6th Panel Desanding & Preparation Works
SYJS0308	SYJS: 6th Panel Rebar Cage Installation	2	17MAY10	18MAY10	0	SYJS: 6th Panel Rebar Cage Installation
SYJS0312 SYJS0313	SYJS: Excavate 7th Panel to Formation Level SYJS: 6th Panel Concreting Works	10	20MAY10 19MAY10	31MAY10 19MAY10	0	SYJS: Excavate 7th Panel to Formation Level SYJS: 6th Panel Concreting Works
SYJS0314	SYJS: 7th Panel Desanding & Preparation Works	4	01JUN10	04JUN10	0	SYJS: 7th Panel Desanding & Preparation Works
SYJS0316 SYJS0318	SYJS: 7th Panel Rebar Cage Installation SYJS: 7th Panel Concreting Works	2	05JUN10 08JUN10	07JUN10 08JUN10	0	ISYJS: 7th Panel Rebar Cage Installation ISYJS: 7th Panel Concreting Works
SYJS0321	SYJS: Excavate 8th Panel to Formation Level	10	09JUN10	21JUN10	0	SYJS: Excavate 8th Panel to Formation Level
SYJS0322 SYJS0323	SYJS: 8th Panel Desanding & Preparation Works SYJS: Grouting Works Phase 1	4 54	22JUN10 26JUN10	25JUN10 28AUG10	0	ISYJS: 8th Panel Desanding & Preparation Works
SYJS0324	SYJS: 8th Panel Rebar Cage Installation	2	26JUN10	28JUN10	0	ISYJS: 8th Panel Rebar Cage Installation
SYJS0326 SYJS0327	SYJS: 8th Panel Concreting Works SYJS: Excavate 9th Panel to Formation Level	1	29JUN10 30JUN10	29JUN10 12JUL10	0	SYJS: 8th Panel Concreting Works SYJS: Excavate 9th Panel to Formation Level
SYJS0329	SYJS: Excavate still Parlet to Pormation Level SYJS: 9th Panel Desanding & Preparation Works	4	13JUL10	16JUL10	0	ISYJS: 9th Panel Desanding & Preparation Works
SYJS0331 SYJS0333	SYJS: 9th Panel Rebar Cage Installation SYJS: 9th Panel Concreting Works	2	17JUL10 20JUL10	19JUL10 20JUL10	0	ISYJS: 9th Panel Rebar Cage Installation ISYJS: 9th Panel Concreting Works
SYJS0333 SYJS0335	SYJS: 9th Panel Concreting Works SYJS: Excavate 10th Panel to Formation Level	1	20JUL10 21JUL10	31JUL10	0	SYJS: Sur Paner Concreming Works
SYJS0337	SYJS: 10th Panel Desanding & Preparation Works	4	02AUG10	05AUG10	0	ISYJS: 10th Panel Desanding & Preparation Works ISYJS: 10th Panel Rebar Cage Installation
SYJS0339 SYJS0341	SYJS: 10th Panel Rebar Cage Installation SYJS: 10th Panel Concreting Works	2	06AUG10 09AUG10	07AUG10 09AUG10	0	ISYJS: 10th Panel Concreting Works
SYJS0343	SYJS: Excavate 11th Panel to Formation Level	10	10AUG10	20AUG10	0	SYJS: Excavate 11th Panel to Formation Level SYJS: 11th Panel Desanding & Preparation Works
SYJS0345 SYJS0347	SYJS: 11th Panel Desanding & Preparation Works SYJS: 11th Panel Rebar Cage Installation	4	21AUG10 26AUG10	25AUG10 27AUG10	0	ISYJS: 11th Panel Desanding & Preparation Works
SYJS0349	SYJS: 11th Panel Concreting Works	1	28AUG10	28AUG10	0	ISYJS: 11th Panel Concreting Works
SYJS0351 SYJS0352	SYJS: Excavate 12th Panel to Formation Level SYJS: Grouting Works Phase 2	10 54	30AUG10 30AUG10	09SEP10 03NOV10	0	SYJS: Excavate 12th Panel to Formation Level
SYJS0353	SYJS: 12th Panel Desanding & Preparation Works	4	10SEP10	14SEP10	0	ISYJS: 12th Panel Desanding & Preparation Works
SYJS0355 SYJS0357	SYJS: 12th Panel Rebar Cage Installation SYJS: 12th Panel Concreting Works	2	15SEP10 17SEP10	16SEP10 17SEP10	0	ISYJS: 12th Panel Rebar Cage Installation ISYJS: 12th Panel Concreting Works
SYJS0359	SYJS: Excavate 13th Panel to Formation Level	10	18SEP10	30SEP10	0	SYJS: Excavate 13th Panel to Formation Level
SYJS0361 SYJS0365	SYJS: 13th Panel Desanding & Preparation Works SYJS: 13th Panel Concreting Works	4	02OCT10 09OCT10	06OCT10 09OCT10	0	ISYJS: 13th Panel Desanding & Preparation Works SYJS: 13th Panel Concreting Works
SYJS0367	SYJS: 13th Panel Rebar Cage Installation	2	07OCT10	08OCT10	0	ISYJS: 13th Panel Rebar Cage Installation
SYJS0368 SYJS0369	SYJS: Excavate 14th Panel to Formation Level SYJS: 14th Panel Desanding & Preparation Works	10	110CT10 230CT10	22OCT10 27OCT10	0	SYJS: Excavate 14th Panel to Formation Level ISYJS: 14th Panel Desanding & Preparation Works
SYJS0371	SYJS: 14th Panel Rebar Cage Installation	2	280CT10	290CT10	0	SYJS: 14th Panel Rebar Cage Installation
SYJS0373	SYJS: 14th Panel Concreting Works	1	30OCT10	30OCT10	0	SYJS: 14th Panel Concreting Works

Start Date 31JUL09 Finish Date 15JAN15 Data Date 20JAN10 Run Date 01FEB10 10:30 © Primavera Systems, Inc. Sheet 1 of 2

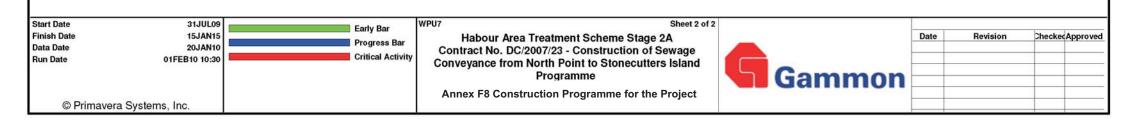


Annex F8 Construction Programme for the Project

WPU7



Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp	2010 2011 2012 2013 2014
SYJS0375	SYJS: Excavate 14th Panel to Formation Level	10	01NOV10	11NOV10	0	SYJS: Excavate 14th Panel to Formation Level
SYJS0376	SYJS: Grouting Works Phase 3	52	04NOV10	05JAN11	0	SYJS: Grouting Works Phase 3
SYJS0377	SYJS: 15th Panel Desanding & Preparation Works	4	12NOV10	16NOV10	0	SYJS: 15th Panel Desanding & Preparation Works
SYJS0379	SYJS: 15th Panel Rebar Cage Installation	2	17NOV10	18NOV10	0	SYJS: 15th Panel Rebar Cage Installation
SYJS0381	SYJS: 15th Panel Concreting Works	1	19NOV10	19NOV10	0	SYJS: 15th Panel Concreting Works
SYJS0383	SYJS: Excavate 16th Panel to Formation Level	10	20NOV10	01DEC10	0	SYJS: Excavate 16th Panel to Formation Level
SYJS0385	SYJS: 16th Panel Desanding & Preparation Works	4	02DEC10	06DEC10	0	SYJS: 16th Panel Desanding & Preparation Works
SYJS0387	SYJS: 16th Panel Rebar Cage Installation	2	07DEC10	08DEC10	0	SYJS: 16th Panel Rebar Cage Installation
SYJS0389		1	07DEC10	09DEC10	0	SYJS: 16th Panel Concreting Works
	SYJS: 16th Panel Concreting Works				0	SYJS: Install Dewatering Wells for Pump-test
SYJS0392	SYJS: Install Dewatering Wells for Pump-test	12	29DEC10	12JAN11		SYJS: Pumping Test
SYJS0394	SYJS: Pumping Test	6	13JAN11	19JAN11	0	ISYJS: Submission of Pumping Test Report
SYJS0397	SYJS: Submission of Pumping Test Report	6	20JAN11	26JAN11	0	ISYJS: Demobilization for D'wall
SYJS0411 Shaft Excavati	SYJS: Demobilization for D'wall	6	20JAN11	26JAN11	0	
2			1	i a		
SYJS0500	SYJS: Construct Capping Beam & Shaft Collar	14	18JAN11	02FEB11	0	SYJS: Construct Capping Beam & Shaft Collar
SYJS0510	SYJS: Initial Excavation of Shaft (7m)	4	07FEB11	10FEB11	0	SYJS: Initial Excavation of Shaft (7m)
SYJS0520	SYJS: Set -up Equipment for Shaft Sink	12	11FEB11	24FEB11	0	SYJS: Set -up Equipment for Shaft Sink
SYJS0522	SYJS: Erect Noise Enclosure at Shaft Top	12	11FEB11	24FEB11	0	SYJS: Erect Noise Enclosure at Shaft Top
SYJS0530	SYJS: Excavate Soil & Ring Beams (82.95m)	54	25FEB11	29APR11	0	SYJS: Excavate Soil & Ring Beams (82.95m)
SYJS0575	SYJS: Probe, Grout, D & B Rock, Muck Out (62m)	85	06MAY11	15AUG11	0	SYJS: Probe, Grout, D & B Rock, Muck Out (62m)
SYJS0635	SYJS: Construct Sump at Shaft Bottom	2	16AUG11	17AUG11	0	SYJS: Construct Sump at Shaft Bottom
SYJS0665	SYJS: Erect Tunnel Hoist & Muck-Out System	10	18AUG11	29AUG11	0	SYJS: Erect Tunnel Hoist & Muck-Out System
haft Construc	stion					
SYJS0835	SYJS: Blinding Layer & Base Slab for Shaft	4	23APR13*	26APR13	0	SYJS: Blinding Layer & Base Slab for Shaft
SYJS0840	SYJS: Bank shunt concreting	12	27APR13	11MAY13	0	SYJS: Bank shunt concreting
SYJS0865	SYJS: Construct Vert Shft to Tun Invert -148mPD	9	13MAY13	22MAY13	0	SYJS: Construct Vert Shft to Tun Invert -14
SYJS0885	SYJS: Install System Form for Shaft	6	23MAY13	29MAY13	0	SYJS: Install System Form for Shaft
SYJS0925	SYJS: Construct Transition & Vert Shft -148m PD	12	30MAY13	13JUN13	0	SYJS: Construct Transition & Vert Shit -148m PD
SYJS0930	SYJS: Construct Shaft	70	14JUN13	04SEP13	0	SYJS: Construct Shaft
SYJS1055	SYJS: Clear Area & Install Multi-Part Cover	3	05SEP13	07SEP13	0	SYJS: Clear Area & Install Multi-Part Cover
eodourization					4399	
			N	1		
SYJS1463	SYJS: Sheet Piling, Excavation & ELS Works	24	08AUG13	04SEP13	0	SYJS: Sheet Piling, Excavation & ELS Works
SYJS1465	SYJS: Excavation for Chamber & Channel	6	09SEP13	14SEP13	0	SYJS: Excavation for Chamber & Channel
SYJS1475	SYJS: Blinding Layer & Base Slab of SRC	8	16SEP13	25SEP13	0	SYJS: Blinding Layer & Base Slab of SRC
SYJS1485	SYJS: Construct Wall of SRC	8	26SEP13	05OCT13	0	SYJS: Construct Wall of SRC
SYJS1495	SYJS: Waterproof & Install Multi-Part Cover	5	07OCT13	110CT13	0	SYJS: Waterproof & Install Multi-Part Cover
SYJS1505	SYJS: Backfill to Deodourization Chamber	3	09OCT13	11OCT13	0	SYJS: Backfill to Deodourization Chamber
SYJS1555	SYJS: Install DeodourizationSystem,Kiosk&Elect.C	14	09OCT13	25OCT13	0	SYJS: Install DeodourizationSystem, Kiosk&Elect.C
SYJS1565	SYJS: Testing & Commissioning DS	3	26OCT13	29OCT13	0	ISYJS: Testing & Commissionin
onnection Ch	nannel		N.		2	
SYJS1515	SYJS: Blinding Layer & Base Slab of CC	6	16SEP13	23SEP13	0	SYJS: Blinding Layer & Base Slab of CC
SYJS1525	SYJS: Construct Wall of CC	9	24SEP13	04OCT13	0	SYJS: Construct Wall of CC
SYJS1535	SYJS: Waterproof & Install Multi-Part Cover	6	080CT13	150CT13	0	SYJS: Waterproof & Install Multi-Part Cover
SYJS1545	SYJS: Backfill to Connection Channel	3	150CT13	170CT13	0	SYJS: Backfill to Connection Channel
liscellaneous		3	1500113	1/00/13	0	
		10	18OCT13	07NOV13	0	SYJS: Install E&M Services
SYJS2010	SYJS: Install E&M Services	18	1000110			SYJS: Reinstatement & Clear DS Area
SYJS2010	SYJS: Install E&M Services SYJS: Reinstatement & Clear DS Area	18	08NOV13	21NOV13	0	이는 것은 것 같은 것 같아요. 것은 것 같아요. 그는 것 같아요. 것 같아요. 집 것 같아요. 집 집 집 집 집 집 집 집 집 집 집 집 집 집 집 집 집 집 집
SYJS2010 SYJS2020				21NOV13 21NOV13	0	SYJS: Complete All Works at SYP JS (KD-10)
SYJS2010 SYJS2020 SYJS2025	SYJS: Reinstatement & Clear DS Area	12			1.000	요즘 그는 것이 같은 것이 집에 들었는 것이 가지 않는 것이 집에 있는 것이 많이 없다.
SYJS2010 SYJS2020 SYJS2025 SYJS2030 SYJS2040	SYJS: Reinstatement & Clear DS Area SYJS: Complete All Works at SYP JS (KD-10)	12 0	08NOV13	21NOV13	0	SYJS: Complete All Works at SYP JS (KD-10)



Annex F9

Vibration Monitoring Reports

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	n		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	МІС	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)		initiation system	explosives used	explosives (kg)	factor
TK3-053	05-Jan-2013	19:40:59	816721.597	832627.919	-144.4	80		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.9	5.28	Granite	115	Electric	Cartridge & Emulsion	331.7	2.88

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference	Mor	nitoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	Trigger level PPV	Perr	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	/s)		Frequency (F	Hz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	Senarno.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
05-Jan-2013	TK3-053	K-V51	816631.265	832602.342	4.55	176.1	BE16030	15.8	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil
05-Jan-2013	TK3-053	K-V53	816770.738	832636.940	6.01	158.5	BE16029	190.4	1	22.5	23.8	24.5	3.7	nil	nil	nil	nil	nil	nil	nil	nil
05-Jan-2013	TK3-053	VMP-K1	816587.513	832703.019	3.8	213.5	BE16051	330.7	1	11.25	11.88	12.25	2.6	nil	nil	nil	nil	nil	nil	nil	nil
05-Jan-2013	TK3-053	K-V49	816623.379	832733.304	3.96	206.8	BE16177	313.0	1	22.5	23.8	24.5	2.7	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast locatio	n		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	MIC	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)		initiation system	explosives used	explosives (kg)	factor
TK3-054	07-Jan-2013	19:17:30	816720.127	832631.747	-144.4	80		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.9	5.28	Granite	115	Electric	Cartridge & Emulsion	333.0	2.89

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference		nitoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	level	Perr	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	ı/s)	I	Frequency (H	łz)	Remarks (misfire / signs o distress / exceeda	
		no.	Northing	Easting	Level (mPD)	(m)	Serial IIU.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, acti taken)	tions
07-Jan-2013	TK3-054	K-V51	816631.265	832602.342	4.55	175.9	BE16027	18.3	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil	
07-Jan-2013	TK3-054	K-V53	816770.738	832636.940	6.01	158.8	BE16053	185.9	1	22.5	23.8	24.5	3.7	nil	nil	nil	nil	nil	nil	nil	nil	
07-Jan-2013	TK3-054	VMP-K1	816587.513	832703.019	3.8	211.3	BE16051	331.7	1	11.25	11.88	12.25	2.6	nil	nil	nil	nil	nil	nil	nil	nil	
07-Jan-2013	TK3-054	K-V49	816623.379	832733.304	3.96	204.2	BE16177	313.6	1	22.5	23.8	24.5	2.7	nil	nil	nil	nil	nil	nil	nil	nil	

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	า		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	МІС	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)		initiation system	explosives used	explosives (kg)	factor
TK3-055	08-Jan-2013	18:57:54	816718.676	832635.582	-144.4	80		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.9	5.28	Granite	115	Electric	Cartridge & Emulsion	333.0	2.89

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference	Mor	nitoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of		Peri	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	/s)		Frequency (F	Hz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	senarno.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
08-Jan-2013	TK3-055	K-V51	816631.265	832602.342	4.55	175.9	BE16027	20.8	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil
08-Jan-2013	TK3-055	K-V53	816770.738	832636.940	6.01	159.2	BE16053	181.5	1	22.5	23.8	24.5	3.7	nil	nil	nil	nil	nil	nil	nil	nil
08-Jan-2013	TK3-055	VMP-K1	816587.513	832703.019	3.8	209.1	BE16051	332.8	1	11.25	11.88	12.25	2.6	nil	nil	nil	nil	nil	nil	nil	nil
08-Jan-2013	TK3-055	K-V49	816623.379	832733.304	3.96	201.6	BE16177	314.3	1	22.5	23.8	24.5	2.7	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	n		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	MIC	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)		of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)	blasted (m3)	initiation system	explosives used	explosives (kg)	factor
TK3-056	11-Jan-2013	20:17:49	816717.033	832639.985	-144.4	80		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.9	5.28	Granite	115	Electric	Cartridge & Emulsion	333.0	2.89

Note: 1. MIC - Maximum Instantaneous Charge

AECOM Asia CO. Ltd. Consultants:

Contractor: Gammon Construction Ltd.

Summary of Monitoring Data Table 1b

Date	Blast No.	Sensitive Receiver &		itoring Station		Distance from blast	Seismograph	Ų		Peri	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	/s)	F	Frequency (H		Remarks (misfire / signs of distress / exceedance
		reference no.	Northing	Easting	Level (mPD)	(m)	serial no.	direction of seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
11-Jan-2013	TK3-056	K-V51	816631.265	832602.342	4.55	175.9	BE16027	23.7	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil
11-Jan-2013	TK3-056	K-V53	816770.738	832636.940	6.01	159.7	BE16053	176.8	1	22.5	23.8	24.5	3.6	nil	nil	nil	nil	nil	nil	nil	nil
11-Jan-2013	TK3-056	VMP-K1	816587.513	832703.019	3.8	206.7	BE16051	334.0	1	11.25	11.88	12.25	2.7	nil	nil	nil	nil	nil	nil	nil	nil
11-Jan-2013	TK3-056	K-V49	816623.379	832733.304	3.96	198.7	BE16177	315.1	1	22.5	23.8	24.5	2.8	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	n		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	МІС	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)	blasted (m3)	initiation system	explosives used	explosives (kg)	factor
TK3-057	12-Jan-2013	19:06:30	816715.619	832643.834	-144.4	80		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.9	5.28	Granite	115	Electric	Cartridge & Emulsion	333.0	2.89

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference		itoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	Trigger level PPV	Perr	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	ı/s)	l	Frequency (ł	Hz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	senarno.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
12-Jan-2013	TK3-057	K-V51	816631.265	832602.342	4.55	176.1	BE16027	26.2	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil
12-Jan-2013	TK3-057	K-V53	816770.738	832636.940	6.01	160.3	BE16053	172.9	1	22.5	23.8	24.5	3.6	nil	nil	nil	nil	nil	nil	nil	nil
12-Jan-2013	TK3-057	VMP-K1	816587.513	832703.019	3.8	204.6	BE16051	335.2	1	11.25	11.88	12.25	2.7	nil	nil	nil	nil	nil	nil	nil	nil
12-Jan-2013	TK3-057	K-V49	816623.379	832733.304	3.96	196.3	BE16177	315.9	1	22.5	23.8	24.5	2.8	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	า		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	МІС	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)	blasted (m3)	initiation system	explosives used	explosives (kg)	factor
TK3-058	14-Jan-2013	19:20:30	816714.222	832647.690	-144.4	80		0.045	1.5 - 1.7		0.3 - 0.7		0.2 - 0.9	5.28	Granite	115	Electric	Cartridge & Emulsion	333.0	2.89

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference	Mor	nitoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	Trigger level PPV	Perr	nissible P	PV (mm/s)	Predicted PPV	м	leasured	PPV (mm	ı/s)	I	Frequency (H	Hz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	senarno.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
14-Jan-2013	TK3-058	K-V51	816631.265	832602.342	4.55	176.4	BE16027	28.7	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil
14-Jan-2013	TK3-058	K-V53	816770.738	832636.940	6.01	161.0	BE16053	169.2	1	22.5	23.8	24.5	3.6	nil	nil	nil	nil	nil	nil	nil	nil
14-Jan-2013	TK3-058	VMP-K1	816587.513	832703.019	3.8	202.7	BE16051	336.4	1	11.25	11.88	12.25	2.7	nil	nil	nil	nil	nil	nil	nil	nil
14-Jan-2013	TK3-058	K-V49	816623.379	832733.304	3.96	193.9	BE16177	316.7	1	22.5	23.8	24.5	2.9	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	n		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	МІС	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)	blasted (m3)	initiation system	explosives used	explosives (kg)	factor
TK3-059	15-Jan-2013	19:18:10	816712.977	832651.174	-144.4	80		0.045	3.7 - 3.9		0.2 - 0.6		0.2 - 0.9	4.84	Granite	104	Electric	Cartridge & Emulsion	303.5	2.92

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference		itoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	Trigger level PPV	Perr	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	n/s)		Frequency (F	Hz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	Serial no.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
15-Jan-2013	TK3-059	K-V51	816631.265	832602.342	4.55	176.8	BE16027	30.9	1	22.5	23.8	24.5	3.1	nil	nil	nil	nil	nil	nil	nil	nil
15-Jan-2013	TK3-059	K-V53	816770.738	832636.940	6.01	161.7	BE16053	166.2	1	22.5	23.8	24.5	3.4	nil	nil	nil	nil	nil	nil	nil	nil
15-Jan-2013	TK3-059	VMP-K1	816587.513	832703.019	3.8	201.0	BE16051	337.5	1	11.25	11.88	12.25	2.6	nil	nil	nil	nil	nil	nil	nil	nil
15-Jan-2013	TK3-059	K-V49	816623.379	832733.304	3.96	191.8	BE16177	317.5	1	22.5	23.8	24.5	2.8	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast locatio	n		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	МІС	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)	blasted (m3)	initiation system	explosives used	explosives (kg)	factor
TK3-060	18-Jan-2013	19:31:20	816711.751	832654.649	-144.4	80		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.9	5.28	Granite	112	Electric	Cartridge & Emulsion	328.9	2.94

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference		itoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	Trigger level PPV	Perr	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	/s)	I	Frequency (H	łz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	senarno.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
18-Jan-2013	TK3-060	K-V51	816631.265	832602.342	4.55	177.2	BE16027	33.0	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil
18-Jan-2013	TK3-060	K-V53	816770.738	832636.940	6.01	162.5	BE16053	163.3	1	22.5	23.8	24.5	3.6	nil	nil	nil	nil	nil	nil	nil	nil
18-Jan-2013	TK3-060	VMP-K1	816587.513	832703.019	3.8	199.3	BE16051	338.7	1	11.25	11.88	12.25	2.8	nil	nil	nil	nil	nil	nil	nil	nil
18-Jan-2013	TK3-060	K-V49	816623.379	832733.304	3.96	189.8	BE16177	318.3	1	22.5	23.8	24.5	3.0	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast locatio	n		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	МІС	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)	blasted (m3)	initiation system	explosives used	explosives (kg)	factor
TK3-061	19-Jan-2013	18:58:45	816710.436	832658.429	-144.4	80		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.9	5.28	Granite	112	Electric	Cartridge & Emulsion	330.7	2.95

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference		nitoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	Trigger level PPV	Perr	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	ı/s)	l	nil ni nil ni nil ni		Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	senarno.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
19-Jan-2013	TK3-061	K-V51	816631.265	832602.342	4.55	177.8	BE16027	35.3	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil
19-Jan-2013	TK3-061	K-V53	816770.738	832636.940	6.01	163.5	BE16053	160.4	1	22.5	23.8	24.5	3.5	nil	nil	nil	nil	nil	nil	nil	nil
19-Jan-2013	TK3-061	VMP-K1	816587.513	832703.019	3.8	197.6	BE16051	340.1	1	11.25	11.88	12.25	2.8	nil	nil	nil	nil	nil	nil	nil	nil
19-Jan-2013	TK3-061	K-V49	816623.379	832733.304	3.96	187.6	BE16177	319.3	1	22.5	23.8	24.5	3.0	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	า		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	MIC	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)		initiation system	explosives used	explosives (kg)	factor
TK3-062	21-Jan-2013	19:09:30	816709.17	832662.120	-144.4	72		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.83	5.28	Granite	92	Electric	Cartridge & Emulsion	288.5	3.14

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference	Mor	nitoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	Trigger level PPV	Perr	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	n/s)	I	Frequency (I	Hz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	senarno.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
21-Jan-2013	TK3-062	K-V51	816631.265	832602.342	4.55	178.4	BE16027	37.5	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil
21-Jan-2013	TK3-062	K-V53	816770.738	832636.940	6.01	164.5	BE16053	157.8	1	22.5	23.8	24.5	3.5	nil	nil	nil	nil	nil	nil	nil	nil
21-Jan-2013		VMP-K1	816587.513	832703.019	3.8	196.1	BE16051	341.4	1	11.25	11.88	12.25	2.8	0.889	0.635	1.02	1.49	85	85	64	nil
21-Jan-2013	TK3-062	K-V49	816623.379	832733.304	3.96	185.6	BE16177	320.3	1	22.5	23.8	24.5	3.0	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	n		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	МІС	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)		initiation system	explosives used	explosives (kg)	factor
TK3-063	22-Jan-2013	19:16:25	816707.888	832665.911	-144.4	76		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.83	5.28	Granite	92	Electric	Cartridge & Emulsion	309.6	3.37

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference	Mor	nitoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	Trigger level PPV	Perr	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	/s)		Frequency (F	Hz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	Senarno.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
22-Jan-2013	TK3-063	K-V51	816631.265	832602.342	4.55	179.2	BE16027	39.7	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil
22-Jan-2013	TK3-063	K-V53	816770.738	832636.940	6.01	165.6	BE16053	155.3	1	22.5	23.8	24.5	3.5	nil	nil	nil	nil	nil	nil	nil	nil
22-Jan-2013	TK3-063	VMP-K1	816587.513	832703.019	3.8	194.5	BE16051	342.9	1	11.25	11.88	12.25	2.9	nil	nil	nil	nil	nil	nil	nil	nil
22-Jan-2013	TK3-063	K-V49	816623.379	832733.304	3.96	183.6	BE16177	321.4	1	22.5	23.8	24.5	3.1	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	า		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	МІС	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)		initiation system	explosives used	explosives (kg)	factor
TK3-064	25-Jan-2013	19:08:20	816706.623	832669.707	-144.4	76		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.83	5.28	Granite	98	Electric	Cartridge & Emulsion	309.6	3.16

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference	Mor	nitoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	Trigger level PPV	Perr	nissible P	PV (mm/s)	Predicted PPV	м	leasured	PPV (mm	n/s)	I	Frequency (H	Hz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	senarno.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
25-Jan-2013	TK3-064	K-V51	816631.265	832602.342	4.55	180.0	BE16027	41.8	1	22.5	23.8	24.5	3.1	nil	nil	nil	nil	nil	nil	nil	nil
25-Jan-2013	TK3-064	K-V53	816770.738	832636.940	6.01	166.8	BE16053	152.9	1	22.5	23.8	24.5	3.5	nil	nil	nil	nil	nil	nil	nil	nil
25-Jan-2013	TK3-064	VMP-K1	816587.513	832703.019	3.8	193.0	BE16051	344.4	1	11.25	11.88	12.25	2.9	nil	nil	nil	nil	nil	nil	nil	nil
25-Jan-2013	TK3-064	K-V49	816623.379	832733.304	3.96	181.6	BE16177	322.6	1	22.5	23.8	24.5	3.1	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	n		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	MIC	Type of rock	Total vol. of rock	Types of		Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)	blasted (m3)	initiation system	explosives used	explosives (kg)	factor
TK3-065	26-Jan-2013	19:13:47	816705.375	832673.509	-144.4	76		0.045	4.1 - 4.3	\nearrow	0.3 - 0.7	\nearrow	0.2 - 0.83	5.28	Granite	98	Electric	Cartridge & Emulsion	309.6	3.16
																				1
																				1
																				1

Note: 1. MIC - Maximum Instantaneous Charge

AECOM Asia CO. Ltd. Consultants:

Contractor: Gammon Construction Ltd.

Summary of Monitoring Data Table 1b

Date	Blast No.	Sensitive Receiver &	Mor	itoring Station		Distance from blast	Seismograph	U		Peri	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	/s)	I	Frequency (H		Remarks (misfire / signs of distress / exceedance
		reference no.	Northing	Easting	Level (mPD)	(m)	serial no.	direction of seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
26-Jan-2013	TK3-065	K-V51	816631.265	832602.342	4.55	180.9	BE16027	43.8	1	22.5	23.8	24.5	3.1	nil	nil	nil	nil	nil	nil	nil	nil
26-Jan-2013	TK3-065	K-V53	816770.738	832636.940	6.01	168.0	BE16053	150.8	1	22.5	23.8	24.5	3.4	nil	nil	nil	nil	nil	nil	nil	nil
26-Jan-2013	TK3-065	VMP-K1	816587.513	832703.019	3.8	191.6	BE16051	345.9	1	11.25	11.88	12.25	2.9	nil	nil	nil	nil	nil	nil	nil	nil
26-Jan-2013	TK3-065	K-V49	816623.379	832733.304	3.96	179.8	BE16177	323.9	1	22.5	23.8	24.5	3.2	0.635	0.381	1.02	1.15	73	57	73	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	n		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	МІС	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)		initiation system	explosives used	explosives (kg)	factor
TK3-066	28-Jan-2013	19:20:58	816704.112	832677.414	-144.4	76		0.045	4.1 - 4.3	\square	0.3 - 0.7		0.2 - 0.83	5.28	Granite	98	Electric	Cartridge & Emulsion	309.6	3.16

Note:

1. MIC - Maximum Instantaneous Charge

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference	Mon	itoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	level	Perr	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	ı/s)	l	Frequency (ł	łz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)		seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
28-Jan-2013	TK3-066	K-V51	816631.265	832602.342	4.55	182.0	BE16027	45.9	1	22.5	23.8	24.5	3.1	nil	nil	nil	nil	nil	nil	nil	nil
28-Jan-2013	TK3-066	K-V53	816770.738	832636.940	6.01	169.4	BE16053	148.7	1	22.5	23.8	24.5	3.4	nil	nil	nil	nil	nil	nil	nil	nil
28-Jan-2013	TK3-066	VMP-K1	816587.513	832703.019	3.8	190.3	BE16051	347.6	1	11.25	11.88	12.25	2.9	nil	nil	nil	nil	nil	nil	nil	nil
28-Jan-2013	TK3-066	K-V49	816623.379	832733.304	3.96	177.9	BE16177	325.3	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil

Consultants: AECOM Asia CO. Ltd.

Contractor: Gammon Construction Ltd.

Table 1a Summary of Blasting Parameters

			Centre	of blast location	า		No. of rows	Hole dia	Hole	Subdrill	Stemming/ (Inter-	Burden	Blasthole	MIC	Type of rock	Total vol. of rock	Types of	Type(s) of	Total amount of	Powder
Blast No.	Date	Time	Northing	Easting	Level (mPD)	Total no. of blastholes	of blastholes		depth (m)	(m)	stemming for deck loading) (m)	(m)	spacing (m)	(kg)	blasted (m)		initiation system	explosives used	explosives (kg)	factor
TK3-067	29-Jan-2013	19:46:25	816702.899	832681.226	-144.4	76		0.045	4.1 - 4.3		0.3 - 0.7		0.2 - 0.83	5.28	Granite	98	Electric	Cartridge & Emulsion	309.6	3.16

Note:

1. MIC - Maximum Instantaneous Charge

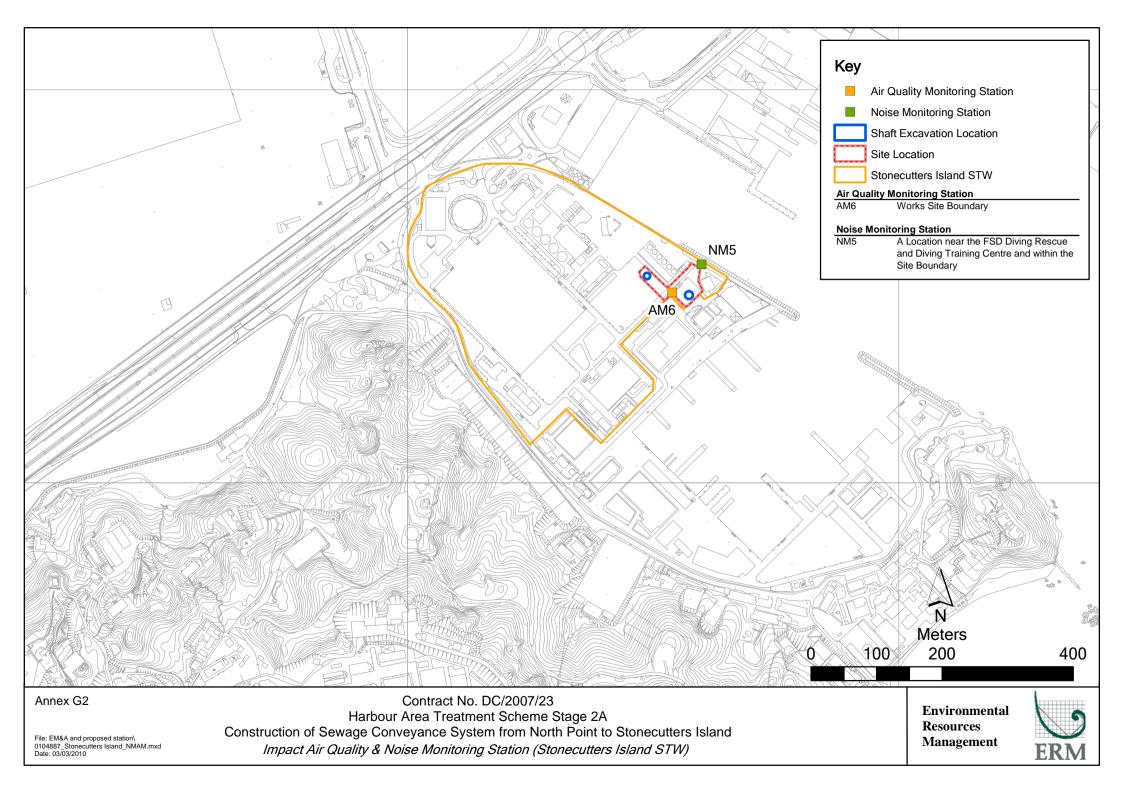
Consultants: AECOM Asia CO. Ltd.

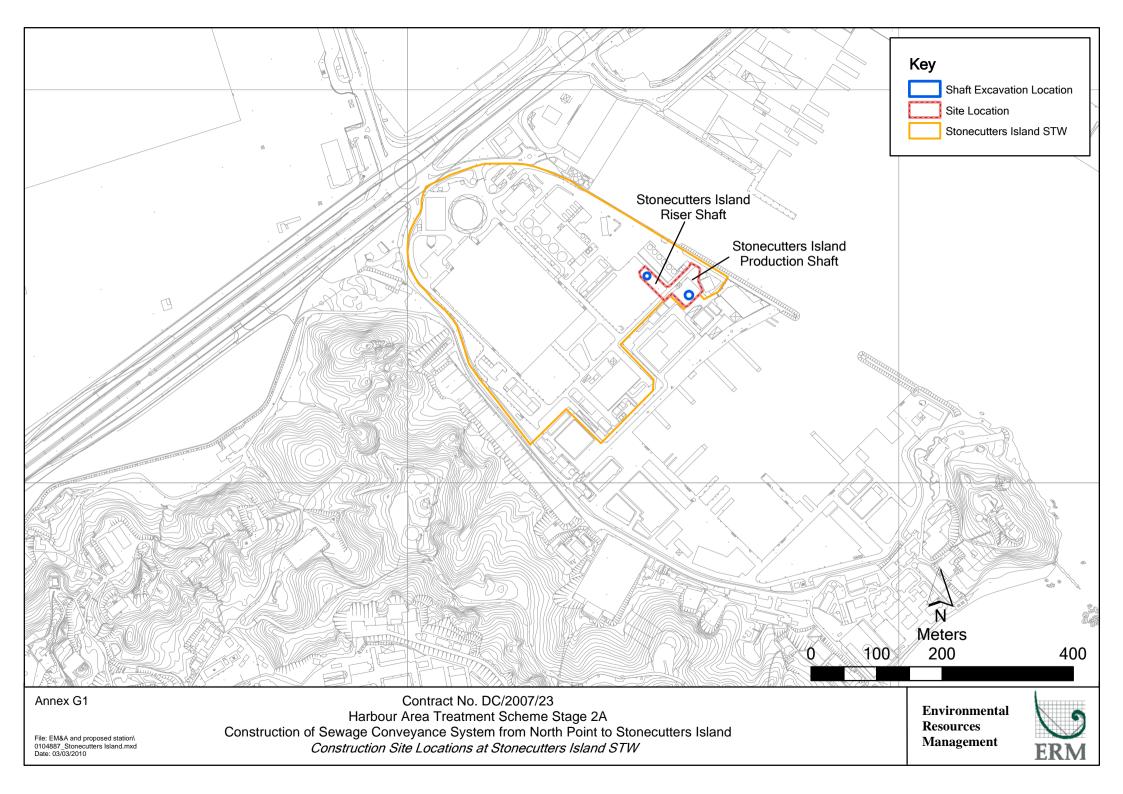
Contractor: Gammon Construction Ltd.

Date	Blast No.	Sensitive Receiver & reference		itoring Station		Distance from blast	Seismograph serial no.	Bearing of longitudinal direction of	00	Perr	nissible P	PV (mm/s)	Predicted PPV	N	leasured	PPV (mm	/s)	I	Frequency (H	łz)	Remarks (misfire / signs of distress / exceedance
		no.	Northing	Easting	Level (mPD)	(m)	senarno.	seismograph		Alert	Alarm	Action	(mm/s)	Trans.	Vert.	Long.	Resultant	Trans.	Vert.	Long.	of AAA levels, actions taken)
29-Jan-2013	TK3-067	K-V51	816631.265	832602.342	4.55	183.1	BE16027	47.8	1	22.5	23.8	24.5	3.1	nil	nil	nil	nil	nil	nil	nil	nil
29-Jan-2013	TK3-067	K-V53	816770.738	832636.940	6.01	170.8	BE16053	146.9	1	22.5	23.8	24.5	3.4	nil	nil	nil	nil	nil	nil	nil	nil
29-Jan-2013	TK3-067	VMP-K1	816587.513	832703.019	3.8	189.1	BE16051	349.3	1	11.25	11.88	12.25	3.0	nil	nil	nil	nil	nil	nil	nil	nil
29-Jan-2013	TK3-067	K-V49	816623.379	832733.304	3.96	176.2	BE16177	326.8	1	22.5	23.8	24.5	3.2	nil	nil	nil	nil	nil	nil	nil	nil

Annex G

Stonecutters Island Production and Riser Shafts





Annex G3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23

Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Air Quality Monitoring Schedule

AM6 - Works Site Boundary Monitoring Month : January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan	02-Jan	03-Jan	04-Jan	05-Jan
		Public Holiday	1-hr and 24-hr Monitoring			
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
		1-hr and 24-hr Monitoring				
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
	1-hr and 24-hr Monitoring				1-hr and 24-hr Monitoring	
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
				1-hr and 24-hr Monitoring		
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		
			1-hr and 24-hr Monitoring			

Monitoring Month : February 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Feb	02-Feb
03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb
00100	01100	00100	00100	01100	00100	00100
		1-hr and 24-hr Monitoring				
10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb
	Public Holiday	Public Holiday	Public Holiday	1-hr and 24-hr Monitoring		
	1 done i fonday	T ublic Fielday	T ublic Trolledy			
17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb
	1-hr and 24-hr Monitoring				1-hr and 24-hr Monitoring	
24-Feb	25-Feb	26-Feb	27-Feb	28-Feb		
24-FeD	25-Feb	20-FeD	27-Feb	20-Feb		
				1-hr and 24-hr Monitoring		
				J		

Note: No construction work from 9 - 11 February 2013 due to Chinese New Year Holiday.

Annex G3 Monitoring Schedule of the Reporting Month and Next Month

DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutters Island Impact Construction Noise Quality Monitoring Schedule

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

Friday Tuesday Thursday Saturday Sunday Monday Wednesday 02-Jan 03-Jan 04-Jar 01-Jan 05-Jan Public Holiday Noise Monitoring 09-Jan 06-Jan 07-Jan 08-Jan 10-Jan 11-Jan 12-Jan Noise Monitoring (day and evening time) 13-Jan 16-Jan 17-Jan 18-Jan 14-Jan 15-Jan 19-Jan Noise Monitoring Noise Monitoring 20-Jan 21-Jan 22-Jan 23-Jan 24-Jan 25-Jan 26-Jan Noise Monitoring Noise Monitoring (evening time) 27-Jan 28-Jan 29-Jan 30-Jan 31-Jan Noise Monitoring Noise Monitoring

Monitoring Month : January 2013

Monitoring Month : February 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Feb	02-Feb
03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb
		Noise Monitoring				
		(daytime and evening time)				
10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb
Noise Monitoring	Public Holiday	Public Holiday	Public Holiday	Noise Monitoring		
Noice Mentering	r ubilo rioliday	T dono Tronday	r abilo rioliday	. to loo mornioning		
17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb
	10100	10100	20100			20100
		Noise Monitoring			Noise Monitoring	
		(evening time)				
24-Feb	25-Feb	26-Feb	27-Feb	28-Feb		
24-1 60	20-1 60	20-1 60	27-1 60	20-1 60		
Noise Monitoring				Noise Monitoring		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Construction Phase			
Air Quality	 The Air Pollution Control (Construction Dust) Regulation shall be implemented and good site practices shall be incorporated in the contract clauses to minimize construction dust impact. Control measures relevant to this Project are listed below: skip hoist for material transport should be totally enclosed by impervious sheeting; every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site; the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; where a site boundary adjoins a road, streets or other accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit; every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides; regular watering, with complete coverage, to reduce dust emission from exposed site surfaces and unpaved roads, particularly during dry weather; site enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines; open stock piles should be avoided or covered and prevent placing dusty material storage piles near ASRs if possible; tarpaulin covering of all dusty vehicle loads transported to, from and between site locations; and 		
	 instigation of an environmental monitoring auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise. 		

	Location/ Timing	Status
The following watering measures for specific site would be required to control the fugitive dust impacts:	All work sites / during construction	\checkmark
Good housekeeping for SCISTW and PTWs listed below should be followed to ameliorate any odour impact from the plant and these standard practices should be included in the	All work sites / during construction	NA. Measures not required until commencement of operational phase
Screens should be cleaned regularly to remove any accumulated		
 Grit and screening transfer systems should be flushed regularly with water to remove organic debris and grit 		
 Grit and screened materials should be transferred to closed containers to minimize odour escape 		
• Skim and remove floating solids and grease from primary clarifiers		
• Frequent sludge withdrawal from tanks is necessary to prevent the production of gases		
To avoid excessive extraction of the foul air from the drop shafts of the sedimentation tanks and also from the effluent	SCISTW /during operational phase	NA. Measures not required until commencement of
flume structure of SCISTW to deodorization system, the extraction vent(s) of the deodorization system should be		operational phase
	All PTW and SCISTW / during	NA. Measures not required
included in the Design and Construction Contract Document.	operational phase	until commencement of operational phase
	 control the fugitive dust impacts: the barging points should be continuous watering throughout the whole unloading process; and watering 8 times per day within worksites at the SCS works area at SCISTW and the Disinfection Facilities of SCISTW. Good housekeeping for SCISTW and PTWs listed below should be followed to ameliorate any odour impact from the plant and these standard practices should be included in the plant operator manual. Screens should be cleaned regularly to remove any accumulated organic debris Grit and screening transfer systems should be flushed regularly with water to remove organic debris and grit Grit and screened materials should be transferred to closed containers to minimize odour escape Scum and grease collection wells and troughs should be emptied and flushed regularly to prevent putrefaction of accumulated organics Skim and remove floating solids and grease from primary clarifiers regularly Frequent sludge withdrawal from tanks is necessary to prevent the production of gases Sludge cake should be transferred to closed containers Sludge containers should be flushed with water regularly 	 control the fugitive dust impacts: the barging points should be continuous watering throughout the whole unloading process; and watering 8 times per day within worksites at the SCS works area at SCISTW and the Disinfection Facilities of SCISTW. Good housekeeping for SCISTW and PTWs listed below should be followed to ameliorate any odour impact from the plant and these standard practices should be included in the plant operator manual. Screens should be cleaned regularly to remove any accumulated organic debris Grit and screening transfer systems should be flushed regularly with water to remove organic debris and grit Grit and screened materials should be transferred to closed containers to minimize odour escape Scum and grease collection wells and troughs should be emptied and flushed regularly to prevent putrefaction of accumulated organics Skim and remove floating solids and grease from primary clarifiers regularly Frequent sludge withdrawal from tanks is necessary to prevent the production of gases Sludge cake should be transferred to closed containers Sludge containers should be the flushed with water regularly To avoid excessive extraction of the foul air from the effluent flume structure of SCISTW to deodorization system, the extraction vent(s) of the deodorization system should be located away from the top openings of the drop shafts. Commissioning tests for all deodorization system should be All PTW and SCISTW / during

ENVIRONMENT MANAGEMENT LIMITED

GAMMON CONSTRUCTION LIMITED

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Noise	Use of quiet PME, movable barriers and acoustic mats	All work sites / during construction	\checkmark
Noise	 Good Site Practice: only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program; mobile plant, if any, should be sited as far from NSRs as possible; machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities; Environmental audit shall be carried out to ensure that appropriate noise control measures would be properly implemented. 		√
Construction Phase			
Water Quality	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where	All work sites / during construction	V

applicable.

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Effluent Discharge	All work sites / during construction	\checkmark
	There is a need to apply to EPD for a discharge licence for		
	discharge of effluent from the construction site under the		
	WPCO. The discharge quality must meet the requirements		
	specified in the discharge licence. If monitoring of the treated		
	effluent quality from the works areas is required during the		
	construction phase of the Project, the monitoring should be		
	carried out in accordance with the WPCO license which is		
	under the ambit of regional office (RO) of EPD. Minimum		
	distances of 100 m should be maintained between the		
	discharge points of construction site effluent and the existing		
	saltwater intakes.		
Water Quality	Accidental Spillage of Chemicals	All work sites / during construction	<>
	Contractor must register as a chemical waste producer if		
	chemical wastes would be produced from the construction		
	activities. The Waste Disposal Ordinance (Cap 354) and its		
	subsidiary regulations in particular the Waste Disposal		
	(Chemical Waste) (General) Regulation should be observed		
	and complied with for control of chemical wastes.		
Water Quality	Any service shop and maintenance facilities should be located	All work sites / during construction	\checkmark
	on hard standings within a bunded area, and sumps and oil		
	interceptors should be provided. Maintenance of vehicles and		
	equipment involving activities with potential for leakage and		
	spillage should only be undertaken within the areas		
	appropriately equipped to control these discharges.		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Disposal of chemical wastes should be carried out in compliance with the	All work sites / during construction	
-	Waste Disposal Ordinance. The Code of Practice on the Packaging,	C C	
	Labelling and Storage of Chemical Wastes published under the Waste		
	Disposal Ordinance details the requirements to deal with chemical		
	wastes.		
	General requirements are given as follows:		
	• Suitable containers should be used to hold the chemical wastes to		
	avoid leakage or spillage during storage, handling and transport.		
	• Chemical waste containers should be suitably labelled, to notify and		
	warn the personnel who are handling the wastes, to avoid accidents.		
	• Storage area should be selected at a safe location on site and adequate		
	space should be allocated to the storage area.		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Construction Works in Close Proximity of Storm Drains or Seafront	All work sites / during construction	\checkmark
	To minimize the potential water quality impacts from the construction		
	works located at or near any watercourse, the practices outlined below		
	should be adopted where applicable.		
	 The use of less or smaller construction plants may be specified to 		
	reduce the disturbance to the storm water courses or marine environment.		
	• Temporary storage of materials (e.g. equipment, filling materials,		
	chemicals and fuel) and temporary stockpile of construction materials		
	should be located well away from any water courses during carrying out of the construction works.		
	 Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. 		
	• Construction debris and spoil should be covered up and/or disposed		
	of as soon as possible to avoid being washed into the nearby water receivers.		
	• Construction activities, which generate large amount of wastewater,		
	should be carried out in a distance away from the waterfront, where		
	practicable.		
	• Proper shoring may need to be erected in order to prevent soil/mud		
	from slipping into the storm culvert or sea		

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	Temporary Sewage Bypass	SCISTW/ construction period	\checkmark
	It is recommended that the temporary sewage bypass required for (i) the		
	modification to the existing pumping station at SCISTW and (ii) the interconnection between the existing		
	main pumping station and the new pumping station on		
	Stonecutters Island, if needed, should be scheduled at the		
	same time as far as practicable in order to minimise the		
	temporary discharge duration. It is also recommended that all		
	the modification and interconnection to the existing facilities		
	(including the modification to the existing NWKPS) should be		
	programmed to avoid temporary sewage bypass in wet or		
	bathing season (March to October) to minimize the potential impacts. Relevant government departments including EPD		
	and LCSD should be informed of the planned sewage bypass		
	prior to any discharge. During the sewage bypass period,		
	water quality monitoring should be carried out at the water		
	sensitive receivers to quantify the water quality impacts and to		
	determine when the baseline water quality conditions are restored. Also,		
	a framework of the response procedures has		
	been formulated to minimize the impact of temporary discharges. Details		
	are provided in the standalone EM&A Manual.		
Operational Phase	ואומוועמו.		
Water Quality	Dual power supply, standby facilities for the main treatment	SCISTW and all the	NA. Measures not required
	units and standby equipment parts / accessories should be provided as	Stage 2 PTWs / Operation Stage	until commencement of
	far as possible at the SCISTW to minimize the		operational phase
	chance of emergency discharge.		
Water Quality	The response procedure and monitoring requirements for	SCISTW / Operation Stage	NA. Measures not required
	emergency discharge as stated in EM&A Manual should be followed.		until commencement of operational phase

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	In case of total power outage of the dechlorination plant, the uninterruptible power supply (UPS) system to be provided would switch the power supply of the sodium bisulphite dosing pump to a backup battery almost instantaneously, allowing continuous dosage of sodium bisulphite for at least half an hour so that sufficient time can be provided for shutting down the chlorination plant to avoid the possibility of discharge of chlorinated effluent.	SCISTW / Operation Stage	NA. Measures not required until commencement of operational phase
Water Quality	The model predicted that if Stage 2B is not implemented for HATS in 2021 as scheduled, the nutrient contents (both P and N) in the marine water would ultimately increase to exceed the baseline Stage 1 level when the HATS flow is reaching its design capacity of 2.45M m3/day. It is recommended that the future review study for Stage 2B should review the validity of the model predictions provided in this EIA and confirm the need of enhanced nutrient removal for HATS after 2021.	SCISTW / Operation Stage	NA. Measures not required until commencement of operational phase
Water Quality	It should be noted that the mixing zone for TIN predicted for Stage 2B was large with an area of about 30 km2 and the area of exceedance would encroach on the nearby water sensitive receivers (e.g. Ma Wan Fish Culture Zone). This is due to the elevated oxidized nitrogen assumed for the proposed nitrification process at Stage 2B as well as the increased HATS effluent flow assumed for Stage 2B. It is recommended that these water quality issues should be further investigated / assessed under the future EIA for Stage 2B. Further mitigation measures / alternative treatment designs should also be considered under the future EIA for Stage 2B to mitigate / minimize the potential TIN exceedances.	SCISTW / Operation Stage	NA. Measures not required until commencement of operational phase

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All work sites / during the construction period	1
Waste	 All waste materials should be segregated into categories covering: excavated materials suitable for reuse on-site; excavated materials suitable for public filling facilities; remaining C&D waste for landfill; chemical waste; and general refuse for landfill. 	All work sites / during the construction period	V
Waste	 Recommendations to achieve waste reduction include: Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals; Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; Any unused chemicals or those with remaining functional capacity shall be recycled; and Proper storage and site practices to minimise the potential for damage or contamination of construction materials. 	All work sites / during the construction period	V

ENVIRONMENT MANAGEMENT LIMITED

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	 Recommendations for good site practices during construction activities include:- Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site Training of site personnel in proper waste management and chemical waste handling procedures Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials. Provision of sufficient waste disposal points and regular collection of waste Regular cleaning and maintenance programme for drainage systems, 	All work sites / during the construction period	V
Waste	sumps and oil interceptors Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage".	All work sites / during the construction period	NA
Waste	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.	All work sites / during the construction period	\checkmark
Waste	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.	All work sites / during the construction period	\checkmark
Waste	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.	All work sites / during the construction period	\checkmark

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	All work sites / during the construction period	
Waste	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.	All work sites / during the construction period	V
Operation Phase			
Waste	The sludge tanks should be air-tighten. Rotating brushes or other alternative devises should be installed at the upper frame of the sludge tank washing facilities to provide better cleaning of the surface around the top loading opening of the sludge tanks. Prior to making such provision, the top covers of the sludge transfer tanks should be water cleaned manually after unloading.	SCISTW / Operation Stage	NA. Measures not required until commencement of operational phase

ANNEX G4 - SUMMARY OF MITIGATION MEASURES IMPLEMENTATION SCHEDULE

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Waste	Since the air tightness of tankers highly relies on the effectiveness of rubber seals at the loading openings and unloading doors, odour leakage from tankers are commonly resulted from the aging rubber seals. It is recommended to develop a preventive maintenance programme for rubber seals of loading openings and unloading doors of sludge transfer tanks to ensure the tightness of covers and doors. Rubber seals should be regularly replaced within its design life as specified by suppliers.	SCISTW / Operation Stage	NA. Measures not required until commencement of operational phase
Construction Phase			,
Landscape & Visual	 Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. Existing trees to be retained on site should be carefully protected during construction. Trees unavoidably affected by the works should be transplanted where practical. Compensatory tree planting should be provided to compensate for felled trees. Control of night-time lighting. Erection of decorative screen hoarding compatible with the surrounding setting. 	All the works areas, PTWs and SCISTW/ during the construction period	V
Operational Phase	•		
Landscape & Visual	 Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings. Shrub and Climbing Plants to soften proposed structures / Roof Greening. Buffer Tree and Shrub Planting to screen proposed associated structures. Reinstated of disturbed area 	All the works areas, PTWs and SCISTW/ during the construction period	NA. Measures not required until commencement of operational phase
Construction Phase	•		

ANNEX G4 - SUMMARY OF MITIGATION MEASURES IMPLEMENTATION SCHEDULE

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Cultural Heritage	The construction vibration control limit (ppv of 25mm/s) shall be strictly followed.	Identified historical buildings/structures as mentioned in Tables 15.10 and 15.11. During blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	NA. Vibration monitoring has not been launched during the reporting period.

Remark:

 $\sqrt{}$ Compliance of Mitigation Measures

<> Compliance of Mitigation but need improvement

x Non-compliance of Mitigation Measures

Δ Deficiency of Mitigation Measures but rectified by Gammon Construction Limited

NA Not Applicable

Annex G5 24-hour and 1-hour TSP Monitoring Results

1-hour TSP Monitoring Results

Station AM6

*

				TSP					Wind Speed		
	Start	Finish	Weather	Concentration	Action Level	Limit Level	Site Conditions /	Temperature	*	Sampler	Filter
Date	Time	Time		(µg/m ³)	(µg/m ³)	(µg/m ³)	Observations / Remarks	(°C)	(m/s)	ID	ID
02-Jan-13	13:00	14:00	Sunny	181	346	500	Construction work in progress	17	<5	1254	5962
	14:02	15:02	Sunny	186	346	500	Construction work in progress	17	<5	1254	5963
	15:04	16:04	Sunny	197	346	500	Construction work in progress	17	<5	1254	5964
08-Jan-13	9:00	10:00	Sunny	179	346	500	Construction work in progress	18	<5	1254	6280
	10:02	11:02	Sunny	167	346	500	Construction work in progress	18	<5	1254	6281
	11:04	12:04	Sunny	175	346	500	Construction work in progress	18	<5	1254	6282
14-Jan-13	13:20	14:20	Sunny	185	346	500	Construction work in progress	16	<5	1254	6285
	14:22	15:22	Sunny	168	346	500	Construction work in progress	16	<5	1254	6286
	15:24	16:24	Sunny	190	346	500	Construction work in progress	16	<5	1254	6287
18-Jan-13	13:40	14:40	Sunny	192	346	500	Construction work in progress	19	<5	1254	6288
	14:42	15:42	Sunny	185	346	500	Construction work in progress	19	<5	1254	6289
	15:44	16:44	Sunny	200	346	500	Construction work in progress	19	<5	1254	6290
24-Jan-13	13:05	14:05	Sunny	195	346	500	Construction work in progress	21	<5	1254	6292
	14:07	15:07	Sunny	216	346	500	Construction work in progress	21	<5	1254	6293
	15:09	16:09	Sunny	185	346	500	Construction work in progress	21	<5	1254	6294
30-Jan-13	14:10	15:10	Sunny	167	346	500	Construction work in progress	20	<5	1254	6386
	15:12	16:12	Sunny	191	346	500	Construction work in progress	20	<5	1254	6387
	16:14	17:14	Sunny	184	346	500	Construction work in progress	20	<5	1254	6388
			Min.	167							
			Max.	216							
			Average	186	1						

Wind Speed data is presented in the Meteorological Data table

Annex G5 24-hour and 1-hour TSP Monitoring Results

24-hour TSP Monitoring Results

Station AM6

							Elapse	d Time	Sampling									
Start		Finish	1	Weather	Filter V	Veight (g)	Read	ding	Time	Flow	/ Rate (m	³ /min)	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m ³)	(µg/m ³)	(µg/m ³)		ID	ID
02-Jan-13	16:06	03-Jan-13	16:06	Sunny	2.8098	2.9911	10977.03	11001.03	24.00	1.20	1.20	1.20	105	196	260	Construction work in progress	1254	5965
08-Jan-13	12:06	09-Jan-13	12:06	Sunny	2.8119	2.9798	11004.03	11028.03	24.00	1.20	1.20	1.20	97	196	260	Construction work in progress	1254	6283
14-Jan-13	16:26	15-Jan-13	16:26	Sunny	2.8115	2.9890	11031.03	11055.03	24.00	1.20	1.20	1.20	103	196	260	Construction work in progress	1254	6284
18-Jan-13	16:46	19-Jan-13	16:46	Sunny	2.8141	2.9891	11058.03	11082.03	24.00	1.20	1.20	1.20	101	196	260	Construction work in progress	1254	6291
24-Jan-13	16:11	25-Jan-13	16:11	Sunny	2.8143	3.0019	11085.03	11109.03	24.00	1.24	1.24	1.24	105	196	260	Construction work in progress	1254	6295
30-Jan-13	17:16	31-Jan-13	17:16	Sunny	2.7933	2.9695	11112.03	11136.03	24.00	1.24	1.24	1.24	99	196	260	Construction work in progress	1254	6389
												Min.	97					



Meteorological Data Extracted from the Hong Kong Observatory

			Kin	g's Park Station		
		Average Air	Average Relative	Total Rainfall	Average Wind	
Date	Weather	Temperature (°C)	Humiditiy (%)	(mm)	Speed (km/h)	Wind Direction
2013-01-02	Sunny	18	48 - 81	0.0	6	SE
2013-01-03	Sunny	17	63 - 85	0.0	6	E
2013-01-04	Cloudy	12	66 - 76	0.0	4	NE
2013-01-05	Cloudy	15	61-79	0.0	4	NE
2013-01-06	Sunny	16	60 - 80	0.0	4	NE
2013-01-07	Sunny	15	64 - 80	0.0	4	NE
2013-01-08	Cloudy	18	58 - 72	0.0	3	N
2013-01-09	Cloudy	16	56 - 72	0.0	4	NE
2013-01-10	Fine	14	57 - 75	0.0	8	NE
2013-01-13	Fine	17	61 - 77	0.0	6	NW
2013-01-14	Sunny	16	55 - 80	0.0	4	NE
2013-01-15	Fine	15	68 - 79	0.0	9	SE
2013-01-16	Sunny	18	59 - 88	0.0	4	SE
2013-01-17	Sunny	18	57 - 77	0.0	10	SE
2013-01-18	Sunny	18	64 - 77	0.0	9	NE
2013-01-19	Sunny	15	49 - 78	0.0	8	SE
2013-01-20	Sunny	17	70 - 79	0.0	9	SE
2013-01-21	Sunny	20	66 - 85	0.0	8	SE
2013-01-22	Cloudy	24	63 - 90	Trace	3	SE
2013-01-23	Cloudy	19	79 - 93	0.0	9	SE
2013-01-24	Sunny	21	64 - 80	0.0	10	SE
2013-01-25	Fine	18	58 - 72	0.0	5	SE
2013-01-27	Sunny	17	76 - 94	0.6	6	NE
2013-01-28	Sunny	16	48 - 78	0.0	9	E
2013-01-29	Sunny	17	52 - 82	Trace	10	SE
2013-01-30	Fine	17	53 - 85	0.0	9	SE
2013-01-31	Fine	18	55 - 78	0.0	13	SE

			Tsi	ng Yi Station		
		Average Air	Average Relative	Total Bainfall	Average Wind	
Date	Weather	Temperature (°C)	Humiditiy (%) *	(mm)	Speed (km/h)	Wind Direction
2013-01-02	Sunny	19	48 - 81	0.0	5	E
2013-01-03	Sunny	17	63 - 85	0.0	4	NE
2013-01-04	Cloudy	12	66 - 76	0.0	7	NW
2013-01-05	Cloudy	14	61-79	0.0	9	NW
2013-01-06	Sunny	15	60 - 80	0.0	7	NW
2013-01-07	Sunny	15	64 - 80	0.0	2	NW
2013-01-08	Cloudy	17	58 - 72	0.0	6	NW
2013-01-09	Cloudy	17	56 - 72	0.0	4	NW
2013-01-10	Fine	15	57 - 75	0.0	8	NW
2013-01-13	Fine	17	61 - 77	0.0	10	NW
2013-01-14	Sunny	16	55 - 80	0.0	7	NW
2013-01-15	Fine	17	68 - 79	0.0	3	E
2013-01-16	Sunny	17	59 - 88	0.0	6	NW
2013-01-17	Sunny	17	57 - 77	0.0	4	NE
2013-01-18	Sunny	15	64 - 77	0.0	7	NW
2013-01-19	Sunny	16	49 - 78	0.0	5	SE
2013-01-20	Sunny	17	70 - 79	0.0	9	SE
2013-01-21	Sunny	22	66 - 85	0.0	10	SE
2013-01-22	Cloudy	22	63 - 90	Trace	3	E
2013-01-23	Cloudy	19	79 - 93	0.0	6	E
2013-01-24	Sunny	21	64 - 80	0.0	10	NW
2013-01-25	Fine	18	58 - 72	0.0	7	NW
2013-01-27	Sunny	17	76 - 94	0.6	3	NW
2013-01-28	Sunny	18	48 - 78	0.0	6	SE
2013-01-29	Sunny	19	52 - 82	Trace	6	SE
2013-01-30	Fine	17	53 - 85	0.0	5	SE
2013-01-31	Fine	20	55 - 78	0.0	12	SE

			К	ai Tak Station		
Date	Weather	Average Air Temperature (°C) *	Average Relative Humiditiy (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction
2013-01-02	Sunny	18	48 - 81	0.0	12	SE
2013-01-03	Sunny	17	63 - 85	0.0	10	E
2013-01-04	Cloudy	12	66 - 76	0.0	8	N
2013-01-05	Cloudy	15	61-79	0.0	10	NW
2013-01-06	Sunny	16	60 - 80	0.0	9	NW
2013-01-07	Sunny	15	64 - 80	0.0	8	NW
2013-01-08	Cloudy	18	58 - 72	0.0	8	SW
2013-01-09	Cloudy	16	56 - 72	0.0	9	NW
2013-01-10	Fine	14	57 - 75	0.0	8	NE
2013-01-13	Fine	17	61 - 77	0.0	7	W
2013-01-14	Sunny	16	55 - 80	0.0	5	E
2013-01-15	Fine	15	68 - 79	0.0	12	E
2013-01-16	Sunny	18	59 - 88	0.0	10	SE
2013-01-17	Sunny	18	57 - 77	0.0	13	SE
2013-01-18	Sunny	18	64 - 77	0.0	10	NE
2013-01-19	Sunny	15	49 - 78	0.0	12	E
2013-01-20	Sunny	17	70 - 79	0.0	12	E
2013-01-21	Sunny	20	66 - 85	0.0	7	E
2013-01-22	Cloudy	24	63 - 90	Trace	3	SE
2013-01-23	Cloudy	19	79 - 93	0.0	12	SE
2013-01-24	Sunny	21	64 - 80	0.0	12	E
2013-01-25	Fine	18	58 - 72	0.0	12	E
2013-01-27	Sunny	17	80 - 93	0.6	9	NE
2013-01-28	Sunny	16	81 - 93	0.0	21	E
2013-01-29	Sunny	17	82 - 93	Trace	16	SE
2013-01-30	Fine	17	83 - 93	0.0	24	E
2013-01-31	Fine	18	84 - 93	0.0	6	SE
*	King's Park's	data				

ranger ante data
Data were not available

-

less than 24 hourly observations per day

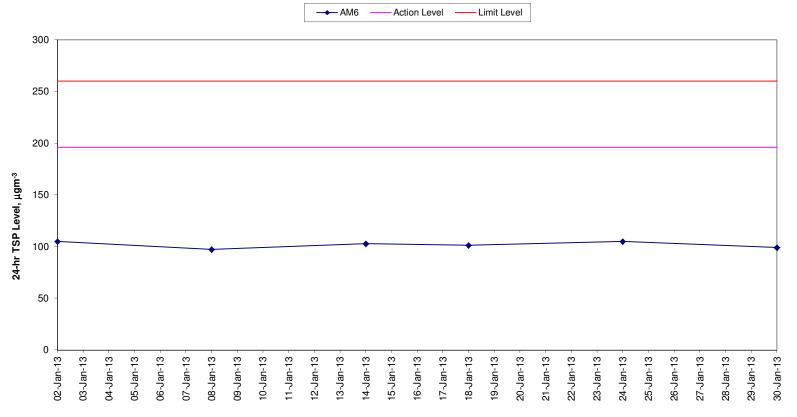
			Greer	n Island Station		
Date	Weather	Average Air Temperature (℃) *	Average Relative Humiditiy (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction
2013-01-02	Sunny	18	48 - 81	0.0	25	NE
2013-01-03	Sunny	17	63 - 85	0.0	25	NE
2013-01-04	Cloudy	12	66 - 76	0.0	24	NE
2013-01-05	Cloudy	15	61-79	0.0	28	N
2013-01-06	Sunny	16	60 - 80	0.0	28	NW
2013-01-07	Sunny	15	64 - 80	0.0	22	N
2013-01-08	Cloudy	18	58 - 72	0.0	21	NW
2013-01-09	Cloudy	16	56 - 72	0.0	20	N
2013-01-10	Fine	14	57 - 75	0.0	26	N
2013-01-13	Fine	17	61 - 77	0.0	17	NW
2013-01-14	Sunny	16	55 - 80	0.0	23	N
2013-01-15	Fine	15	68 - 79	0.0	35	NE
2013-01-16	Sunny	18	59 - 88	0.0	10	NE
2013-01-17	Sunny	18	57 - 77	0.0	27	NE
2013-01-18	Sunny	18	64 - 77	0.0	25	NE
2013-01-19	Sunny	15	49 - 78	0.0	25	NE
2013-01-20	Sunny	17	70 - 79	0.0	25	NE
2013-01-21	Sunny	20	66 - 85	0.0	40	NE
2013-01-22	Cloudy	24	63 - 90	Trace	28	NE
2013-01-23	Cloudy	19	79 - 93	0.0	27	NE
2013-01-24	Sunny	21	64 - 80	0.0	25	NE
2013-01-25	Fine	18	58 - 72	0.0	25	NE
2013-01-27	Sunny	17	80 - 93	0.6	28	NE
2013-01-28	Sunny	16	81 - 93	0.0	38	NE
2013-01-29	Sunny	17	82 - 93	Trace	34	NE
2013-01-30	Fine	17	83 - 93	0.0	15	NE
2013-01-31	Fine	18	84 - 93	0.0	35	NE

1-hr TSP Levels AM6 (Stonecutters Island Sewage Treatment Works)



Date

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



Date

Annex G6 Noise Monitoring Results

Daytime Noise Monitoring Results

Station NM5

				Noise	level (dB(A)), 30 min	Major Construction	Other Noise			Wind		
Date	Start Time	End Time	Weather	Leq	L10	L90	Noise Source(s) Observed	Source(s) Observed	Remarks	Temp. (℃)	Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
02-Jan-13	14:08	14:38	Sunny	61.0	62.8	58.5	-	traffic noise	-	18	0.5	RION-NL31 (S/N 00410224)	RION-NL73 (S/N 10997142)
08-Jan-13	9:15	9:45	Sunny	61.7	63.6	59.6	-	traffic noise	-	18	0.6	RION-NL31 (S/N 00410224)	RION-NL73 (S/N 10997142)
14-Jan-13	15:02	15:32	Sunny	60.6	62.2	58.5	-	traffic noise	-	16	0.5	RION-NL31 (S/N 00410224)	RION-NL73 (S/N 10997142)
24-Jan-13	14:00	14:30	Sunny	61.0	63.0	58.5	Drill rig, excavator, dump truck	traffic noise	-	19	0.5	RION-NL31 (S/N 00410224)	RION-NL73 (S/N 10997142)
30-Jan-13	14:20	14:50	Sunny	64.0	66.0	61.2	Drill rig, excavator, dump truck	Traffic noise & Insect noise	-		0.8	RION-NL31 (S/N 00410224)	RION-NL73 (S/N 10997142)
			Min. Max.	60.6 64.0			·						· · · · · · · · · · · · · · · · · · ·

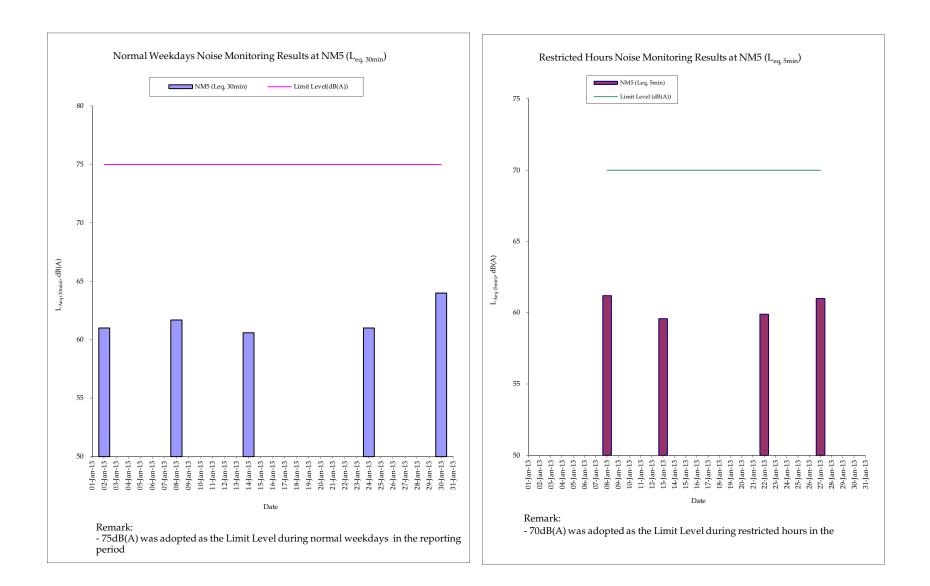
Annex G6 Noise Monitoring Results

Restricted Hours Noise Monitoring Results

Station NM5

				Noise	level (dB(A)), 5 min	Major Construction	Other Noise			Wind	Noise Meter	Calibrator
Date	Start Time	End Time	Weather	Leq	L10	L90	Noise Source(s) Observed	Source(s) Observed	Remarks	Temp. (℃)	Speed (m/s)	Model / ID	Model / ID
08-Jan-13	19:05	19:10	Cloudy	60.6	62.1	58.8			-				
	19:10	19:15	Cloudy	61.2	62.7	58.9	No construction	Traffic noise &	-	18	0.7	RION- NL31 (S/N	RION - NC73 (S/N
	19:15	19:20	Cloudy	61.7	63.3	59.1	activities	aircraft noise	-	10	0.7	00410224)	10997142)
	19:05	19:20	Cloudy	61.2	62.7	58.9			-			00410224)	10007142)
13-Jan-13	13:10	13:15	Sunny	59.2	60.3	58.0			-				
	13:15	13:20	Sunny	59.9	61.3	58.6	No construction	Traffic noise &	-	17	0.4	RION- NL31 (S/N	RION - NC73 (S/N
	13:20	13:25	Sunny	59.8	61.0	58.5	activities	aircraft noise	-	17	0.4	00410224)	10997142)
	13:10	13:25	Sunny	59.6	60.9	58.4			-			00410224)	10007142)
22-Jan-13	19:20	19:25	Cloudy	59.2	61.2	57.2			-				
	19:25	19:30	Cloudy	60.3	61.4	58.0	Drill rig	Traffic noise &	-	24	0.3	RION- NL31 (S/N	RION - NC73 (S/N
	19:30	19:35	Cloudy	60.1	62.1	58.3	Dhiring	aircraft noise	-	24	0.3	00410224)	10997142)
	19:20	19:35	Cloudy	59.9	62.6	57.9			-			00110221)	10007112)
27-Jan-13	13:10	13:15	Sunny	61.2	63.0	59.1			-				
	13:15	13:20	Sunny	60.8	62.5	59.3	Drill rig	Traffic noise &	-	17	0.5	RION- NL31 (S/N	RION - NC73 (S/N
	13:20	13:25	Sunny	61.0	62.4	59.0	Drilling	aircraft noise	-	. /	0.5	00410224)	10997142)
	13:10	13:25	Sunny	61.0	62.6	59.1			-			00410224)	10007142)
	•		Min.	59.2		•		•	•			•	•

Max. 61.7



Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
December 2009	0	0
January 2010	0	0
February 2010	0	0
March 2010	0	0
April 2010	0	0
May 2010	0	0
June 2010	0	0
July 2010	0	0
August 2010	0	0
September 2010	0	0
October 2010	0	0
November 2010	0	0
December 2010	0	0
January 2011	0	0
February 2011	0	0
March 2011	0	0
April 2011	0	0
May 2011	0	0

Annex G7 Cumulative Complaint and Summons/Prosecutions Log

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

Annex G7 Cumulative Complaint and Summons/Prosecutions Log

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
December 2012	0	0
January 2013	0	0
Overall Total	0	0

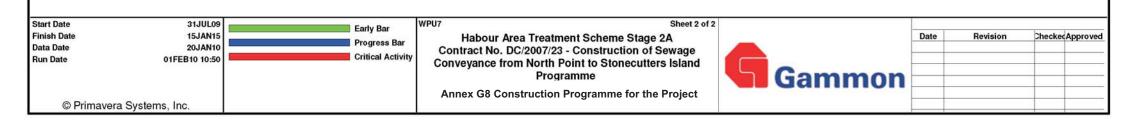
Annex G7 Cumulative Complaint and Summons/Prosecutions Log

ID HATS Stage 2A -	Activity Description	Orig	Early Start	Early Finish	% Comp	2010 2011 2012 2013 2014
	- Contract DC/2007/23	Dui	otart	- mien	John	
Stonecutters Isla Preliminaries Wor	and STW Production Shaft					
Preliminaries wor	rks					
	SCPS: Construct/Install Blast Protection	2	22SEP10 25SEP10	24SEP10 25SEP10	0	ISCPS: Construct/Install Blast Protection SCPS: Site Inspection from Mines
	SCPS: Site Inspection from Mines SCPS: Issue Blasting Permit	1	27SEP10	27SEP10	0	SCPS: Issue Blasting Permit
	Attechnical Instrumentations					
	Others(Same note as Piez.) SCPS: Install GS Markers (17 Nos.)	74	01SEP09A	01FEB10	85	SCPS: Install GS Markers (17 Nos.)
	SCPS: JointSurvey&EstablishBaseline Readings GSM	14	02FEB10	20FEB10	0	SCPS: JointSurvey&EstablishBaseline Readings GSM
	arbyPTWorPScovered inthisInstalln) SCPS: BH907 Piezometer Baseline Establishment	26	10NOV09A	23JAN10	85	SCPS: BH907 Piezometer Baseline Establishment
	SCPS: BH908 Piezometer Baseline Establishment SCPS: BH906 Piezometer Baseline Establishment	26 26	10NOV09A 15JAN10A	27JAN10 06FEB10	73 40	SCPS: BH908 Piezometer Baseline Establishment SCPS: BH906 Piezometer Baseline Establishment
13	anical Installations	20	TODAINTOA	COLEDIO	40	
SCPS0620	SCPS: Installation Works for 11KV Application	60	08APR10	18JUN10	0	SCPS: Installation Works for 11KV Application
	SCPS: 11 KV Connection & Power On	4	19JUN10	23JUN10	0	SCPS: 11 KV Connection & Power On
Marine Dumping I	Permit					
	SCPS: Request for Disposal Site&Get Permit	24	02JAN10A	05FEB10	38	ISCPS: Request for Disposal Site&Get Permit
Diaphragm Wall						
	SCPS: Excavate 3rd Panel to Formation Level	12	16JAN10A	20JAN10	92	SCPS: Excavate 3rd Panel to Formation Level
	SCPS: 3rd Panel Desanding & Preparation Works SCPS: Grouting Works Phase 1	4	21JAN10 21JAN10	25JAN10 17MAR10	0	SCPS: 3rd Panel Desanding & Preparation Works
SCPS0283 \$	SCPS: 3rd Panel Rebar Cage Installation	3	26JAN10	28JAN10	0	SCPS: 3rd Panel Rebar Cage Installation
	SCPS: 3rd Panel Concreting Works SCPS: Excavate 4th Panel to Formation Level	1 23	29JAN10 30JAN10	29JAN10 01MAR10	0	ISCPS: 3rd Panel Concreting Works ISCPS: Excavate 4th Panel to Formation Level
SCPS0289 \$	SCPS: 4th Panel Desanding & Preparation Works	9	02MAR10	11MAR10	0	SCPS: 4th Panel Desanding & Preparation Works
	SCPS: 4th Panel Rebar Cage Installation SCPS: Grouting Works Phase 2	6 45	12MAR10 18MAR10	18MAR10 11MAY10	0	ISCPS: 4th Panel Rebar Cage Installation
	SCPS: 4th Panel Concreting Works	1	19MAR10	19MAR10	0	ISCPS: 4th Panel Concreting Works
	SCPS: Excavate 5th Panel to Formation Level	8	20MAR10	29MAR10 01APR10	0	SCPS: Excavate 5th Panel to Formation Level
	SCPS: 5th Panel Desanding & Preparation Works SCPS: 5th Panel Rebar Cage Installation	2	30MAR10 02APR10	01APR10 03APR10	0	ISCPS: 5th Panel Besanding & Preparation Works ISCPS: 5th Panel Rebar Cage Installation
	SCPS: 5th Panel Concreting Works	1	06APR10	06APR10	0	SCPS: 5th Panel Concreting Works
	SCPS: Excavate 6th Panel to Formation Level SCPS: 6th Panel Desanding & Preparation Works	23 9	07APR10 05MAY10	04MAY10 14MAY10	0	SCPS: Excavate 6th Panel to Formation Level ISCPS: 6th Panel Desanding & Preparation Works
SCPS0310	SCPS: Grouting Works Phase 3	50	12MAY10	10JUL10	0	SCPS: Grouting Works Phase 3
	SCPS: 6th Panel Rebar Cage Installation SCPS: 6th Panel Concreting Works	6	15MAY10 22MAY10	21MAY10 22MAY10	0	ISCPS: 6th Panel Rebar Cage Installation ISCPS: 6th Panel Concreting Works
SCPS0317 \$	SCPS: Excavate 7th Panel to Formation Level	8	24MAY10	01JUN10	0	SCPS: Excavate 7th Panel to Formation Level
	SCPS: 7th Panel Desanding & Preparation Works SCPS: 7th Panel Rebar Cage Installation	3	02JUN10 05JUN10	04JUN10 07JUN10	0	ISCPS: 7th Panel Desanding & Preparation Works ISCPS: 7th Panel Rebar Cage Installation
	SCPS: 7th Panel Concreting Works	1	08JUN10	08JUN10	0	SCPS: 7th Panel Concreting Works
	SCPS: Excavate 8th Panel to Formation Level SCPS: 8th Panel Desanding & Preparation Works	8	09JUN10 19JUN10	18JUN10 22JUN10	0	SCPS: Excavate 8th Panel to Formation Level
	SCPS: 8th Panel Desanding & Preparation Works SCPS: 8th Panel Rebar Cage Installation	2	19JUN10 23JUN10	22JUN10 24JUN10	0	ISCPS: 8th Panel Rebar Cage Installation
SCPS0333	SCPS: 8th Panel Concreting Works	1	25JUN10	25JUN10	0	SCPS: 8th Panel Concreting Works
	SCPS: Install Dewatering Wells for Pump-test SCPS: Pumping Test	12 6	05JUL10 19JUL10	17JUL10 24JUL10	0	ISCPS: Install Dewatering Weils for Pump-test ISCPS: Pumping Test
	SCPS: Submission of Pumping Test Report	6	26JUL10	31JUL10	0	SCPS: Submission of Pumping Test Report
SCPS0341 Shaft Excavation	SCPS: Demobilization	6	26JUL10	31JUL10	0	
	SCPS: Construct Capping Beam & Shaft Collar SCPS: Initial Excavation of Shaft (7m)	12	26JUL10 09AUG10	07AUG10 12AUG10	0	SCPS: Construct Capping Beam & Shaft Collar
SCPS0520	SCPS: Set-Up Equipment for Shaft Sink	12	13AUG10	26AUG10	0	SCPS: Set-Up Equipment for Shaft Sink
	SCPS: Erect Noise Enclosure at Shaft Top SCPS: Excavate Soil & Ring Beams (50m)	12	13AUG10 27AUG10	26AUG10 21SEP10	0	SCPS: Erect Noise Enclosure at Shaft Top
SCPS0575 \$	SCPS: Probe, Grout, D&B Rock, Muck Out (87m)	100	28SEP10	26JAN11	0	SCPS: Probe, Grout, D&B Rock, Muck Out (87m)
	SCPS: Construct Sump at Shaft Bottom SCPS: Erect Tunnel Hoist & Muck Out System	2 10	27JAN11 29JAN11	28JAN11 12FEB11	0	ISCPS: Construct Sump at Shaft Bottom
III. STATE STATE STATE AND	ement & Landscaping	10	- LOOPINI I	121 2011		
SCBS0010	SCPS: Backfill Shaft (200/)	8	128ED12	218ED12	0	SCPS: Backfill Shaft (20%)
	SCPS: Backfill Shaft (20%) SCPS: Backfill Shaft (40%)	8	12SEP13 23SEP13	21SEP13 02OCT13	0	SCPS: Backfill Shaft (20%)
SCPS0930 \$	SCPS: Backfill Shaft (60%)	8	03OCT13	11OCT13	0	ISCPS: Backfill Shaft (60%)
	SCPS: Backfill Shaft (80%) SCPS: Backfill Shaft (100%)	8	12OCT13 23OCT13	22OCT13 31OCT13	0	SCPS: Backfill Shaft (80%)
SCPS0960	SCPS: Reinstatement Around PS Area	12	01NOV13	14NOV13	0	SCPS: Reinstatement Around PS Area
	SCPS: Demobilise Clear Area SCPS: Complete All Works at SCI PS (KD-11)	6 0	15NOV13	21NOV13 21NOV13	0	SCPS: Complete All Works at SCI PS (KD-11)
	SCPS: Landscaping & Planting Works	60	22NOV13*	20JAN14	0	SCPS: Landscaping & Planting Works
	SCPS: Period of Establishment Works SCPS: End of Establishment Period	360	21JAN14	15JAN15 15JAN15	0	SCPS: Period of Establishment Works SCPS: End of Establishment Period

15 Holy 20.4. Contract In CV2002/20 24 0.5.001 2510 2510 6510 15100 1510 1510	Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	% Comp	
Description Control Contro Control Control	S Stage 2A -	Contract DC/2007/23					
CRUE SIRE Request to Dispond Biolder Porm 24 NUMBER Control Control CPR007 CRE Stress for Porter Control 2 Stress for Porter Control Stress for Porter Contro Stres for Porter Contro	necutters Isla	nd STW Riser Shaft					
phonym Weil Control Contre Contro <thcontrol< th=""> <</thcontrol<>	rine Dumping F	Permit					
phrage Wai Constraints Constraints <thconstraints< th=""> <thconstraints< th=""></thconstraints<></thconstraints<>	0000070	CODO: Desure at few Diseased Other Oast Desure it	04		0055040	00	CCPS: Baruan far Dinnerel Site? At Darmit
Charger Charger Control Control CREE Free Face Starter (Control) 7 PALANIO 22/ANTO 0 FREE Amproximation (Control) FREE	N.	SCRS: Request for Disposal Site&Get Permit	24	05JAN10A	06FEB10	33	
EXERCISE EXERCISE 255,4410 255,4410 20 PDE to Prod Manual & Pageward in Variation 1 EXERCISE EXERCISE 255,4410 20,4410 0 PDE to Prod Manual & Pageward in Variation 1 EXERCISE EXERCISE Manual Ma	phragm wan						
SIGE: SIGE: In humi. Beac: Cape: Installation 2 200.00 Context Installation Context Installation SIGE: SIGE:<	CRS0287 S	SCRS: Excavate 4th Panel to Formation Level	7	09JAN10A	23JAN10	50	SCRS: Excavate 4th Panel to Formation Level
EBE202 SCHE An Para Concerning Works 1 30.0001 0 sche Amare Share of Second	CRS0289 8	SCRS: 4th Panel Desanding & Preparation Works	3	25JAN10	27JAN10	0	SCRS: 4th Panel Desanding & Preparation Works
BERDED SCREE Excervate 50 Proved Formation Level 7 07FEBD 00 BOEL		•		21 C 24 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C			그 유민은 방법은 전체가격에 관련된 전문에 전문에 가지 않는 것이 아니는 것이 가지 않는 것이 가지 않는 것이 가지 않는 것이 없는 것이 가지 않는 것이 같이 했다.
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SIRES 40 SCRS: 40 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 40 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parts in Neuro Lease day has attached. SIRES 40 SCRS: 50 Parest in NeuroLease day has attached.				Contract of the second		1.057	
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BRESCO SERSE. Carcularly Works Phuse 1 400 Control Works Phuse 1 SERSE SERSE. Schwart Ph. Monit Destudiation 2 CMAN110 004A1110 0 10011111 100	and a second	and the second					
SER00 SCR8: 0h Panel Techar Cage Installation 2 0MAR10 0MAR10 0 SER00 SCR8: 0h Panel Charcellog Works 1 0MAR10 0 BICHS terms through particular SER001 SCR8: Transal Dearling Preparation Works 1 0MAR10 0 BICHS terms through particular SER011 SCR8: Transal Dearling Preparation Works 1 20MAR10 0 BICHS terms through particular SER011 SCR8: Transal Dearling Works 1 20MAR10 0 BICHS terms through particular SER011 SCR8: Transal Dearling Preparation Works 1 20MAR10 0 BICHS terms through particular SER011 SCR8: Transal Officaming Works 1 20MAR10 0 BICHS terms through particular BICHS terms through particular SER011 SCR8: Sch Pauel Charcellage Preparation Works 1 20MAR10 0 SCR8: Sch Pauel Charcellage Preparation Works SER0211 SCR8: Sch Pauel Charcellage Preparation Works 1 20MAR10 0 SCR8: Sch Pauel Charcellage Preparation Works SER0211 SCR8: Sch Pauel Charcellage Preparation Works <td< td=""><td>and the second second</td><td></td><td>-</td><td></td><td>and the second sec</td><td></td><td></td></td<>	and the second		-		and the second sec		
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2FB3032 SCF8 Counting Works Phase 2 40 21APF10 07UIN10 0 2FB3033 SCF8 to the Area Concreting Works 1 21APF10 0 2FB3033 SCF8 to the Area Concreting Works 1 21APF10 0 2FB3033 SCF8 to the Area Loss and to formation Level 7 22APF10 0 2FB3033 SCF8 to the Area Loss and to formation Level 7 22APF10 0 2FB3033 SCF8 to the Area Loss and the Area Loss an				and the second s		1210	
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	ver Shaft Cons	struction					
CRS0835 SCRS: Blinding Layer & Base Slab for LS 6 27OCT12 02NOV12 0							SCRS: Blinding Layer & Base Slab for LS

SCRS0	835 SCRS: Blinding Layer &	Base Slab for LS	6	270CT12	02NOV12	0		11111111	했을 말했	ISCRS	: Blinding Layer & Base Slab	for LS
SCRS0	840 SCRS: Bank shunt concr	reting	18	03NOV12	23NOV12	0					S: Bank shunt concreting	이 이 집에 걸 물 물
SCRS0	875 SCRS: Constru Verti-Shf	t to Tun Invert -136.5mPD	9	24NOV12	04DEC12	0		11111111			RS: Constru Verti-Shft to Tur	Invert -136.5mPD
SCRS0	885 SCRS: Install System Fo	rm for LS -136.5mPD	9	05DEC12	14DEC12	0		11111111	8 I I I	ISC.	RS: Install System Form for	LS -136.5mPD
SCRS0	935 SCRS: Construct Transit	ion & Vert Shaft -136mPD	15	15DEC12	03JAN13	0				S	CRS: Construct Transition 8	Vert Shaft -136mPD
SCRS0	940 SCRS: Construct Shaft -	136 to -30.5mPD	55	04JAN13	12MAR13	0		11111111			SCRS: Construct Shaft -	136 to -30.5mPD
Upper Sh	aft Construction							11111111				
									전 김 김 권			
SCRS0	975 SCRS: Construct Vert Sh	nft to Tun Invert -30.5mPD	9	13MAR13	22MAR13	0		11111111	전 물 물 것		SCRS: Construct Vert S	hft to Tun Invert -30.5mPD
SCRS0	995 SCRS: Install System Fo	rm for LS -30.5mPD	9	23MAR13	02APR13	0		11111111	8 I I B		SCRS: Install System F	orm for LS -30.5mPD
SCRS1	045 SCRS: Construct Upper	Shaft	36	03APR13	16MAY13	0		11111111	8 I I I		SCRS: Construct U	pper Shaft
SCRS1	065 SCRS: Clear Area & Inst	all Multi-Part Cover	3	17MAY13	20MAY13	0		11111111			SCRS: Clear Area &	k Install Multi-Part Cover
Miscellar	neous Works											
							이 안 안가 안 안가					
SCRS2	010 SCRS: Install E&M Servi	ces	18	21MAY13	10JUN13	0					SCRS: Install E&M	1 Services
SCRS2	020 SCRS: Reinstatement &	Clear RS Area	12	11JUN13	25JUN13	0					SCRS: Reinstate	ment & Clear RS Area
SCRS2	025 SCRS: Complete All Wor	rks at SCI RS (KD-11)	0		25JUN13	0		1111111	옷을 올랐		SCRS: Comple	te All Works at SCI RS (KD-11
SCRS2	030 SCRS: Landscaping & Pl	lanting Works	60	08SEP13*	06NOV13	0				SCRS: Landscaping	& Planting Works	
Start Date	31JUL09		WPU	17	1. DV.		Sheet 1	of 2			17	
Finish Date	15JAN15	Early Bar	04420		Area Treatm	ent Sch	eme Stage 2A	012			Date Revisio	h CheckecApproved
Data Date	20JAN10	Progress E		Contract No	DC/2007/23	- Const	ruction of Sewage					
Run Date	01FEB10 10:50	Critical Ac					Stonecutters Island		-			
					Prog	ramme			Gar	nmon		
				Annex G8 0	Construction	Program	me for the Project		-			
© Prim	avera Systems, Inc.											

Activity	Activity	Orig	Early	Early	%		2010)		2011	2012	2	201	3		2014	
ID	Description	Dur	Start	Finish	Comp						8 2 5 5 5 6 7 8 6 6 6 7 8 6 6 6						
SCRS2060	SCRS: Period of Establishment Works	360	07NOV13	01NOV14	0						SC	RS: Period of E	stablishme	nt Works			
SCRS2070	SCRS: End of Establishment Period	0		01NOV14	0	1113	111	8.13	11	1 13 13 1 13 1	1 13 13 1		1111	SCRS: End o	f Establish	ment Period	•
Connecting Adi	i i i i i i i i i i i i i i i i i i i		N.														
SCRS2040	SCRS: Construct RS Connecting Adit	192	14OCT10	03JUN11	0		111		P C.	SCRS: Constru	uct RS Connecting	Adit	1111	1111	11818		1111
SCRS2050	SCRS: Complete Excav & Lining at SCI RS Adit	0		03JUN11	0		111	1212		SCRS: Comp	lete Excav & Linin	g at SCI RS Adit		1111	1 11 12	1111	1111
-07			ir	ndő ("A													



Annex H

Calibration Reports for Sound Level Meters for All Sites

TSP Monitoring Equipment

Monitoring	Location	Monitoring Equipment		Last Calibration Date	Next Calibration Date
Station ID					
24-hr and 1-hr TSP		HVS	Calibrator		
AM1	Chan's Creative School (formerly known as Madam Chan	GMW GS-2310 (S/N 1808)	CM-AIR-43 (S/N 0438320)	20 November 2012	20 January 2013
	Wai Chow Memorial School)				
AM1	Chan's Creative School (formerly known as Madam Chan	GMW GS-2310 (S/N 1808)	CM-AIR-43 (S/N 0438320)	18 January 2013	18 March 2013
	Wai Chow Memorial School)				
AM2	Rooftop of Hong Kong & Islands Regional Office, WSD	GMW GS-2310 (S/N 0145)	CM-AIR-43 (S/N 0438320)	20 November 2012	20 January 2013
AM2	Rooftop of Hong Kong & Islands Regional Office, WSD	GMW GS-2310 (S/N 0145)	CM-AIR-43 (S/N 0438320)	18 January 2013	18 March 2013
AM3	Rooftop of Wan Chai East PTW	GMW GS-2310 (S/N 0481)	CM-AIR-43 (S/N 0438320)	20 November 2012	20 January 2013
AM3	Rooftop of Wan Chai East PTW	GMW GS-2310 (S/N 0481)	CM-AIR-43 (S/N 0438320)	18 January 2013	18 March 2013
AM4_2	A location next to Sheung Wan Fire Station	GMW GS-2310 (S/N 9315)	CM-AIR-43 (S/N 0438320)	20 November 2012	20 January 2013
AM4_2	A location next to Sheung Wan Fire Station	GMW GS-2310 (S/N 9315)	CM-AIR-43 (S/N 0438320)	18 January 2013	18 March 2013
AM5	Western Wholesale Food Market	GMW GS-2310 (S/N 2146)	CM-AIR-43 (S/N 0438320)	9 November 2012	9 January 2013
AM5	Western Wholesale Food Market	GMW GS-2310 (S/N 2146)	CM-AIR-43 (S/N 0438320)	8 January 2013	8 March 2013
AM6	Works Site Boundary	GMW GS-2310 (S/N 1254)	CM-AIR-43 (S/N 0438320)	20 November 2012	20 January 2013
AM6	Works Site Boundary	GMW GS-2310 (S/N 1254)	CM-AIR-43 (S/N 0438320)	18 January 2013	18 March 2013

Monitoring Equipment

Monitoring Station ID	Monitoring Equipment	Model & Serial No.	Last Calibration Date	Next Calibration Date
NM1 – NM5 ^(a)	Calibrator	Rion NC-73 (S/N 10997142)	9 July 2012	9 July 2013
-	Sound Level Meter	Rion NL-31 (S/N 00603867)	18 July 2012	18 July 2013
		Rion NL-31 (S/N 00410224)	15 June 2012	15 June 2013

(a) The sound level meter (Rion NL-52 (S/N 00603867) and Rion NL-31 (S/N 00410224)) and the calibrator (Rion NC-73 (S/N 10997142) is used in NM1, NM2, NM3, NM4 and NM5.

Remarks

Monitoring Station ID	Location
NM1	Rooftop of Chan's Creative School (formerly known as Madam Chan Wai Chow Memorial School)
NM2	Rooftop of Hyde Building
NM3	Rooftop of Goldfield Building
NM4	Rooftop of Block A, Kwan Yick Building Phase III
NM5	A Location near the FSD Diving Rescue and Diving Training Centre near the Site Boundary

Location Calibrated by Date	: : :	AM1 K.T.Ho 20/11/2012
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 1808
Calibration Orfice and Standard	Calibratio	n Relationship
Serial Number	:	1378
Service Date	:	22 Feb 2012
Slope (m)	:	1.99405
Intercept (b)	:	-0.00397
Correlation Coefficient(r)	:	0.99984
<u>Standard Condition</u> Pstd (hpa) Tstd (K)	:	1013 298.18
<u>Calibration Condition</u> Pa (hpa) Ta(K)	:	1017 293

Resi	istance Plate	dH [green liquid]	Ζ	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	11.5	3.353	1.684	63	62.3
2	13 holes	9.2	2.999	1.506	56	55.4
3	10 holes	6.3	2.482	1.247	45	44.5
4	7 holes	4.8	2.166	1.088	38	37.6
5	5 holes	2.6	1.594	0.802	25	24.7

Sampler Calibration Relationship

Slope(m):<u>42.656</u> Intercept(b): <u>-9.079</u>

Correlation Coefficient(r): 0.9996

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

Location Calibrated by Date	: : :	AM2 K.T.Ho 20/11/2012
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 0145
Calibration Orfice and Standard C	alibratior	n Relationship
Serial Number	:	1378
Service Date	:	22 Feb 2012
Slope (m)	:	1.99405
Intercept (b)	:	-0.00397
Correlation Coefficient(r)	:	0.99984
<u>Standard Condition</u> Pstd (hpa) Tstd (K)	:	1013 298.18
<u>Calibration Condition</u> Pa (hpa) Ta(K)	:	1017 293

Resi			X=Qstd	IC	Y	
		(inch water)		(cubic meter/min)		
1	18 holes	11.2	3.309	1.661	60	59.3
2	13 holes	9.1	2.983	1.498	54	53.4
3	10 holes	7.2	2.653	1.333	47	46.5
4	7 holes	4.4	2.074	1.042	36	35.6
5	5 holes	2.8	1.655	0.832	27	26.7

Sampler Calibration Relationship

Slope(m):<u>39.266</u> Intercept(b): <u>-5.694</u>

Correlation Coefficient(r): 0.9997

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

Location Calibrated by Date	: : :	AM3 K.T.Ho 20/11/2012
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 0481
Calibration Orfice and Standard C	Calibration	n Relationship
Serial Number	:	1378
Service Date	:	22 Feb 2012
Slope (m)	:	1.99405
Intercept (b)	:	-0.00397
Correlation Coefficient(r)	:	0.99984
<u>Standard Condition</u> Pstd (hpa) Tstd (K)	:	1013 298.18
Calibration Condition		
Pa (hpa)	:	1017
Ta(K)	:	293

Resi	sistance Plate dH [green liquid] Z		X=Qstd	IC	Y	
		(inch water)		(cubic meter/min)		
1	18 holes	11.2	3.309	1.661	60	59.3
2	13 holes	8.6	2.900	1.456	52	51.4
3	10 holes	6.9	2.597	1.305	45	44.5
4	7 holes	4.5	2.098	1.054	34	33.6
5	5 holes	2.7	1.625	0.817	25	24.7

Sampler Calibration Relationship

Slope(m):<u>41.552</u> Intercept(b): <u>-9.581</u> Correlation Coefficient(r): <u>0.9995</u>

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

Location Calibrated by Date	: : :	AM4 K.T.Ho 20/11/2012
<u>Sampler</u> Model	:	GMWS-2310 ACCU-VOL
Serial Number	:	S/N 9315
Calibration Orfice and Standard C	Calibration	n Relationship
Serial Number	:	1378
Service Date	:	22 Feb 2012
Slope (m)	:	1.99405
Intercept (b)	:	-0.00397
Correlation Coefficient(r)	:	0.99984
Standard Condition		
Pstd (hpa)	:	1013
Tstd (K)	:	298.18
Calibration Condition		
Pa (hpa)	:	1017
Ta(K)	:	293

Resi	stance Plate			X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	10.3	3.173	1.593	61	60.3
2	13 holes	8.3	2.849	1.431	55	54.4
3	10 holes	6.6	2.540	1.276	48	47.5
4	7 holes	4.5	2.098	1.054	39	38.6
5	5 holes	2.5	1.563	0.786	27	26.7

Sampler Calibration Relationship

Slope(m):<u>41.802</u> Intercept(b): <u>-5.846</u> Correlation Coefficient(r): <u>0.9995</u>

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

ENVIROTECH SERVICES CO.

		-Volume TSP Sampler int Calibration Record
Location Calibrated by	:	Sai Ying Pun K.F.Ho
Date	:	09/11/2012
<u>Sampler</u> Model		TE-5170
Serial Number	•	S/N 2146
Calibration Orfice and Stands	ard Calib	_
Serial Number	:	1378
Service Date	:	22 Feb 2012
Slope (m)	:	1.99405
Intercept (b)	:	-0.00397
Correlation Coefficient(r)	:	0.99984
Standard Condition		
Pstd (hpa)	:	1013
Tstd (K)	:	298.18
Calibration Condition		
Pa (hpa)	:	1009
Ta(K)	:	302

R	Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic	IC	Y
	1 late	(incli water)		meter/min)		
1	18 holes	11.0	3.306	1.660	59	58.8
2	13 holes	9.6	3.088	1.551	54	53.8
3	10 holes	7.7	2.766	1.390	48	47.8
4	7 holes	4.7	2.161	1.086	37	36.9
5	5 holes	2.8	1.668	0.838	28	27.9

Sampler Calibration Relationship

Slope(m):<u>37.160</u> Intercept(b): <u>-3.430</u> Correlation Coefficient(r): <u>0.9995</u>

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

Date: 15/11/2012

Location Calibrated by Date	: : :	AM6 P.F.Yeung 20/11/2012
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 1254
Calibration Orfice and Standard C	Calibration	n Relationship
Serial Number	:	1378
Service Date	:	22 Feb 2012
Slope (m)	:	1.99405
Intercept (b)	:	-0.00397
Correlation Coefficient(r)	:	0.99984
<u>Standard Condition</u> Pstd (hpa) Tstd (K)	:	1013 298.18
Calibration Condition		
Pa (hpa)	:	1017
Ta(K)	:	293

Resi	esistance Plate dH [green liquid] Z		X=Qstd	IC	Y	
		(inch water)		(cubic meter/min)		
1	18 holes	9.2	2.999	1.506	61	60.3
2	13 holes	7.0	2.616	1.314	53	52.4
3	10 holes	5.6	2.340	1.175	48	47.5
4	7 holes	3.8	1.927	0.969	39	38.6
5	5 holes	2.2	1.467	0.737	29	28.7

Sampler Calibration Relationship

Slope(m):<u>41.065</u> Intercept(b): <u>-1.342</u>

Correlation Coefficient(r): 0.9996

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

Location Calibrated by Date	: : :	AM1 K.T.Ho 18/01/2013
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 1808
Calibration Orfice and Standard C	Calibration	n Relationship
Serial Number	:	1378
Service Date	:	22 Feb 2012
Slope (m)	:	1.99405
Intercept (b)	:	-0.00397
Correlation Coefficient(r)	:	0.99984
<u>Standard Condition</u> Pstd (hpa) Tstd (K)	:	1013 298.18
Calibration Condition		
Pa (hpa)	:	1027
Ta(K)	:	288

Resi	stance Plate	dH [green liquid]	Z	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	11.6	3.488	1.751	63	64.5
2	13 holes	9.4	3.140	1.577	55	56.3
3	10 holes	6.3	2.571	1.291	45	46.1
4	7 holes	4.9	2.267	1.139	39	39.9
5	5 holes	2.7	1.683	0.846	27	27.7

Sampler Calibration Relationship

Slope(m):<u>40.030</u> Intercept(b): <u>-5.973</u>

Correlation Coefficient(r): 0.9993

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

Location Calibrated by Date	: : :	AM2 K.T.Ho 18/01/2013
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 0145
Calibration Orfice and Standard C	alibratior	Relationship
Serial Number	:	1378
Service Date	:	22 Feb 2012
Slope (m)	:	1.99405
Intercept (b)	:	-0.00397
Correlation Coefficient(r)	:	0.99984
<u>Standard Condition</u> Pstd (hpa) Tstd (K)	:	1013 298.18
<u>Calibration Condition</u> Pa (hpa) Ta(K)	:	1027 288

Resi	stance Plate	dH [green liquid]	Ζ	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	11.3	3.443	1.729	62	63.5
2	13 holes	9.3	3.123	1.568	55	56.3
3	10 holes	7.2	2.748	1.380	48	49.2
4	7 holes	4.5	2.173	1.092	37	37.9
5	5 holes	2.8	1.714	0.861	28	28.7

Sampler Calibration Relationship

Slope(m):<u>39.77</u> Intercept(b): <u>-5.625</u>

Correlation Coefficient(r): 0.9998

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

Location Calibrated by Date	: : :	AM3 K.T.Ho 18/01/2013
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 0481
<u>Calibration Orfice and Standard (</u> Serial Number Service Date Slope (m) Intercept (b) Correlation Coefficient(r)	Calibratio : : :	<u>n Relationship</u> 1378 22 Feb 2012 1.99405 -0.00397 0.99984
<u>Standard Condition</u> Pstd (hpa) Tstd (K) <u>Calibration Condition</u> Pa (hpa) Ta(K)	: : : : : : : : : : : : : : : : : : : :	1013 298.18 1027 288

Resi	stance Plate	dH [green liquid]	Ζ	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	11.5	3.473	1.7438	63	64.5
2	13 holes	8.9	3.056	1.534	55	56.3
3	10 holes	7.1	2.729	1.371	48	49.2
4	7 holes	4.7	2.220	1.116	37	37.9
5	5 holes	2.9	1.744	0.877	27	27.7

Sampler Calibration Relationship

 $Slope(m): \underline{42.840} \quad Intercept(b): \underline{-9.791} \quad Correlation \ Coefficient(r): \underline{0.9998}$

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

Location Calibrated by Date	: : :	AM4 K.T.Ho 18/01/2013
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 9315
Calibration Orfice and Standard C Serial Number Service Date Slope (m) Intercept (b) Correlation Coefficient(r)	<u>alibratior</u> : : :	n Relationship 1378 22 Feb 2012 1.99405 -0.00397 0.99984
<u>Standard Condition</u> Pstd (hpa) Tstd (K) <u>Calibration Condition</u> Pa (hpa) Ta(K)	:	1013 298.18 1027 288

Resi	stance Plate	dH [green liquid]	Ζ	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	10.5	3.319	1.666	60	61.5
2	13 holes	8.5	2.986	1.499	54	55.3
3	10 holes	6.8	2.671	1.341	47	48.1
4	7 holes	4.6	2.197	1.104	38	38.9
5	5 holes	2.6	1.652	0.830	27	27.7

Sampler Calibration Relationship

Slope(m):40.600 Intercept(b):-6.008 Correlat

Correlation Coefficient(r): 0.9997

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

	-Volume TSP Sampler nt Calibration Record
: : :	Sai Ying Pun K.T.Ho 08/01/2013
:	TE-5170

:

S/N 2146

Calibration Orfice and Stand	ard Calil	
Serial Number	:	1378
Service Date	:	22 Feb 2012
Slope (m)	:	1.99405
Intercept (b)	:	-0.00397
Correlation Coefficient(r)	:	0.99984
Standard Condition		
Pstd (hpa)	:	1013
Tstd (K)	:	298.18

Location Calibrated by

<u>Sampler</u> Model

Serial Number

Date

:	1018
:	291
	-

R	lesistance	dH [green liquid]	Z	X=Qstd	IC	Y
	Plate	(inch water)		(cubic		
				meter/min)		
1	18 holes	11.2	3.395	1.705	61	61.9
2	13 holes	9.7	3.159	1.586	56	56.8
3	10 holes	7.8	2.833	1.423	50	50.7
4	7 holes	4.8	2.223	1.117	39	39.6
5	5 holes	2.8	1.698	0.853	28	28.4

Sampler Calibration Relationship

Slope(m):<u>38.720</u> Intercept(b):<u>-4.293</u>

Correlation Coefficient(r): 0.9995

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

Location Calibrated by Date	: : :	AM6 P.F.Yeung 18/01/2013
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 1254
Calibration Orfice and Standard C Serial Number Service Date Slope (m) Intercept (b) Correlation Coefficient(r)	<u>alibration</u> : : : :	<u>n Relationship</u> 1378 22 Feb 2012 1.99405 -0.00397 0.99984
<u>Standard Condition</u> Pstd (hpa) Tstd (K) <u>Calibration Condition</u> Pa (hpa) Ta(K)	: : : : : : : : : : : : : : : : : : : :	1013 298.18 1027 288

Resi	istance Plate	dH [green liquid]	Z	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	9.5	3.157	1.585	61	62.5
2	13 holes	7.2	2.748	1.380	53	54.3
3	10 holes	5.8	2.467	1.239	47	48.1
4	7 holes	3.8	1.997	1.003	38	38.9
5	5 holes	2.2	1.519	0.764	27	27.7

Sampler Calibration Relationship

Slope(m):<u>42.14</u> Intercept(b): <u>-4.036</u>

Correlation Coefficient(r): 0.9994

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



Certificate of Calibration 校正證書

Certificate No. : C124191 證書編號

ITEM TESTED / 送檢功	頁目	(Job No. / 序引編號:IC12-1770)
Description / 儀器名稱	:	Sound Level Meter
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-31
Serial No. / 編號	:	00603867
Supplied By / 委託者	:	Envirotech Services Co.
		Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
		Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}C$ Line Voltage / 電壓 : ---

Relative Humidity / 相對濕度 : $(55 \pm 20)\%$

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 18 July 2012 :

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. All results are within manufacturer's specification. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies, USA
- Fluke Everett Service Center, USA
- Fluke Precision Measurement Ltd., UK
- Rohde & Schwarz Laboratory, Germany

Tested By 測試 L K Yeung

Certified By Date of Issue : 18 July 2012 核證 簽發日期 K C Lee

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory

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Sun Creation Engineering Limited - Calibration & Testing Laboratory

c'o 4/F. Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong 輝創工程有限公司 – 校正及檢測實驗所

c/o 香港新界屯門興安里一號青山灣機樓四樓

Tel/電話: 2927 2606 Fax/傳真: 2744 8986

E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com



Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration 交正證書

Certificate No. : C124191 證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm 1. up for over 10 minutes before the commencement of the test.
- 2. Self-calibration was performed before the test.
- The results presented are the mean of 3 measurements at each calibration point. 3.
- 4. Test equipment :

Equipment ID CL280 CL281

Description 40 MHz Arbitrary Waveform Generator Multifunction Acoustic Calibrator

Certificate No. C120016 DC110233

- 5. Test procedure : MA101N.
- 6. Results :
- Sound Pressure Level 6.1

6.1.1 Reference Sound Pressure Level

	UU	UT Setting		Applied	l Value	UUT	IEC 61672 Class 1
Range	Mode	Frequency	Time	Level	Freq.	Reading	Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 120	L _A	A	Fast	94.00	1	93.8	± 1.1

6.1.2 Linearity

	UU	JT Setting		Applied	Value	UUT
Range	Mode	Frequency	Time	Level	Freq.	Reading
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)
30 - 120	L _A	А	Fast	94.00	1	93.8 (Ref.)
				104.00		103.8
				114.00		113.8

IEC 61672 Class 1 Spec. : \pm 0.6 dB per 10 dB step and \pm 1.1 dB for overall different.

6.2 Time Weighting

	UU	T Setting		Applied Value		UUT	IEC 61672 Class 1
Range	Mode	Frequency	Time	Level	Freq.	Reading	Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 120	L _A	А	Fast	94.00	1	93.8	Ref.
			Slow			93.7	± 0.3

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輝創工程有限公司 - 校正及檢測實驗所

c/o 香港新界屯門興安里一號青山灣機樓四樓

Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

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Certificate of Calibration 校正證書

Certificate No. : C124191 證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

		T Setting		Appl	ied Value	UUT	IEC 61672 Class 1
Range	Mode	Frequency	Time	Level	Freq.	Reading	Spec.
(dB)		Weighting	Weighting	(dB)	-	(dB)	(dB)
30 - 120	LA	A	Fast	94.00	63 Hz	67.6	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.1	-8.6 ± 1.4
					500 Hz	90.6	-3.2 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	95.1	$+1.2 \pm 1.6$
					4 kHz	95.0	$+1.0 \pm 1.6$
					8 kHz	92.8	-1.1 (+2.1;-3.1)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

e menginening							
	UU	T Setting		Appl	ied Value	UUT	IEC 61672 Class 1
Range	Mode	Frequency	Time	Level	Freq.	Reading	Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
30 - 120	L _C	С	Fast	94.00	63 Hz	93.0	-0.8 ± 1.5
					125 Hz	93.6	-0.2 ± 1.5
					250 Hz	93.8	0.0 ± 1.4
					500 Hz	93.9	0.0 ± 1.4
					1 kHz	93.9	Ref.
					2 kHz	93.7	-0.2 ± 1.6
					4 kHz	93.2	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					12.5 kHz	88.1	-6.2 (+3.0 ; -6.0)

Remarks : - Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value : 94 c	dB : 63 Hz - 125 Hz : ± 0.35 dB 250 Hz - 500 Hz : ± 0.30 dB	
	1 kHz : ± 0.20 dB	
	$2 \text{ kHz} - 4 \text{ kHz}$: $\pm 0.35 \text{ dB}$	
	8 kHz : ± 0.45 dB	
	12.5 kHz : $\pm 0.70 \text{ dB}$	
104	dB : 1 kHz : ± 0.10 dB (Ref. 94 d	
114	$dB : 1 \text{ kHz}$: $\pm 0.10 \text{ dB}$ (Ref. 94 c	iB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



輝創工程有限公司 Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration 校正證書

Certificate No.: C123580 證書編號

ITEM TESTED / 送檢項	目頁	(Job No. / 序引編號:IC12-1472)
Description / 儀器名稱	:	Sound Level Meter
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-31
Serial No. / 編號	:	00410224
Supplied By / 委託者	:	Envirotech Services Co.
		Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
		Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : Line Voltage / 電壓 :

(23 ± 2)°C

Relative Humidity / 相對濕度 : (55 ± 20)%

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 15 June 2012

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. All results are within manufacturer's specification. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Precision Measurement Ltd., UK
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試

L K Yeung

K C Lee

Certified By 核證

Date of Issue 簽發日期

:

15 June 2012

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate of Calibration 校正證書

Certificate No. : C123580 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- 2. Self-calibration was performed before the test.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment :

<u>Equipment ID</u> CL280 CL281 Description 40 MHz Arbitrary Waveform Generator Multifunction Acoustic Calibrator Certificate No. C120016 DC110233

- 5. Test procedure : MA101N.
- 6. Results :
- 6.1 Sound Pressure Level
- 6.1.1 Reference Sound Pressure Level

	UI	JT Setting		Applied Value		UUT	IEC 61672 Class 1
Range	Mode	Frequency	Time	Level	Freq.	Reading	Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 120	LA	A	Fast	94.00	1	93.7	± 1.1

6.1.2 Linearity

	UU	JT Setting		Applied	Value	UUT
Range	Mode	Frequency	Time	Level	Freq.	Reading
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)
30 - 120	L _A	А	Fast	94.00	1	93.7 (Ref.)
				104.00		103.7
				114.00		113.7

IEC 61672 Class 1 Spec. : \pm 0.6 dB per 10 dB step and \pm 1.1 dB for overall different.

6.2 Time Weighting

	UU	T Setting		Applied Value		UUT	IEC 61672 Class 1
Range	Mode	Frequency	Time	Level	Freq.	Reading	Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 120	L _A	А	Fast	94.00	1	93.7	Ref.
			Slow			93.6	± 0.3

Tel/電話: 2927 2606 Fax/傳真: 2744 8986

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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c o 4F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong 輝創工程有限公司 – 校正及檢測實驗所



輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration 校正證書

Certificate No.: C123580 證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

	UUT Setting		Applied Value		UUT	IEC 61672 Class 1	
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Spec. (dB)
30 - 120	LA	A	Fast	94.00	63 Hz	67.3	-26.2 ± 1.5
					125 Hz	77.4	-16.1 ± 1.5
		() (i) (i) (i) (i) (i) (i) (i) (i) (i) (250 Hz	85.0	-8.6 ± 1.4
					500 Hz	90.4	-3.2 ± 1.4
		-			1 kHz	93.7	Ref.
					2 kHz	95.0	$+1.2 \pm 1.6$
					4 kHz	94.8	$+1.0 \pm 1.6$
		1.1			8 kHz	92.7	-1.1 (+2.1;-3.1)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

C noighting							
	UUT Setting			Applied Value		UUT	IEC 61672 Class 1
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Spec. (dB)
30 - 120	L _C	C	Fast	94.00	63 Hz	92.8	-0.8 ± 1.5
					125 Hz	93.5	-0.2 ± 1.5
					250 Hz	93.7	0.0 ± 1.4
					500 Hz	93.8	0.0 ± 1.4
					1 kHz	93.7	Ref.
					2 kHz	93.6	-0.2 ± 1.6
		1			4 kHz	93.1	-0.8 ± 1.6
					8 kHz	90.8	-3.0 (+2.1;-3.1)
					12.5 kHz	88.0	-6.2 (+3.0 ; -6.0)

Remarks : - Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :	94 dB	250 Hz - 500 Hz	:	± 0.30 dB ± 0.20 dB
		12.5 kHz : 1 kHz	:	± 0.45 dB ± 0.70 dB ± 0.10 dB (Ref. 94 dB) ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。



輝創工程有限公司 Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C124011 證書編號

ITEM TESTED / 送檢項目		(Job No. / 序引編號 :IC12-1674)
Description / 儀器名稱	:	Sound Level Calibrator
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NC-73
Serial No. / 編號	:	10997142
Supplied By / 委託者	:	Envirotech Services Co.
		Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
		Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Line Voltage / 電壓 : --- Relative Humidity / 相對濕度 : (55 ± 20)%

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 9 July 2012

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. All results are within manufacturer's specification. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

L K Yeung

Certified By 核證

Tested By 測試

> Date of Issue : 簽發日期

10 July 2012

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

K C Lee



Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C124011 證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement 1 of the test.
- 2. The results presented are the mean of 3 measurements at each calibration point.
- 3. Test equipment :

Equipment ID CL130 CL281 TST150A

Description Universal Counter Multifunction Acoustic Calibrator Measuring Amplifier

Certificate No. C123541 DC110233 C120886

- 4. Test procedure : MA100N.
- 5. Results :

Sound Level Accuracy 5.1

UUT	Measured Value	Mfr's Spec.	Uncertainty of Measured Value
Nominal Value	(dB)	(dB)	(dB)
94 dB, 1 kHz	94.0	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's	Uncertainty of Measured Value
(kHz)	(kHz)	Spec.	(Hz)
1	0.990	1 kHz ± 2 %	± 1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior

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		AIR POLLUT	ION MONITORING	G EQUIPMENT		
	ORIFICE T	RANSFER STA	NDARD CERT	IFICATION	WORKSHEET T	E-5025A
Date - Fe Operator		Rootsmeter Orifice I.		438320 1378	Ta (K) - Pa (mm) -	295 740.41
PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1 2 3 4 5	NA NA NA NA NA	NA NA NA NA	1.00 1.00 1.00 1.00 1.00	1.3940 0.9740 0.8720 0.8340 0.6870	3.2 6.4 8.0 8.8 12.8	2.00 4.00 5.00 5.50 8.00
>					»,	
	•	D	ATA TABULA	TION	and state man	
Vstd	(x axis) Qstd	(y axis)		va	(x axis) Qa	(y axis)
0.9799 0.9756 0.9734 0.9724 0.9671	0.7029 1.0017 1.1163 1.1660, 1.4077	1.4029 1.9841 2.2183 2.3265 2.8059		0.9957 0.9914 0.9891 0.9881 0.9827	0.7142 \1.0178 1.1343 1.1848 1.4304	0.8927 1.2624 1.4114 1.4803 1.7853
intercept	pe (m) = t (b) = ent (r) =	-0.00397			e (m) = t.(b) = ent (r) =	

CALCULATIONS

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

2

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 = $1/m\{ [SQRT(H2O(Ta/Pa)] - b \}$ Annex I

Event / Action Plans for Air Quality, Noise and Landscape and Visual Monitoring

Table I1	Event Action Plan for Air Quality Monitoring
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Action Level/Limit Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Engineer's Representative (ER)	Contractor
Action Level				
Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC and ER; Repeat measurement to confirm finding; and, Increase monitoring frequency to daily. 	 Check monitoring data submitted by ET; and, Check Contractor's working method. 	Notify Contractor	 Rectify any unacceptable practice; and, Amend working methods if appropriate.
Exceedance for two or more consecutive samples	 Identify source; Inform IEC and ER; Advise the ER on the effectiveness of the proposed remedial measures; Repeat measurements to confirm findings; Increase monitoring frequency to daily; and, Discuss with IEC and Contractor on remedial actions required; 	 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; and, Supervise Implementation of remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor, and, Ensure remedial measures properly implemented. 	 Submit proposals for remedial to ER within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate.

Action Level/Limit Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Engineer's Representative (ER)	Contractor
Limit Level Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform ER, Contractor and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; and, Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; and, Supervise implementation of remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor; and, Ensure remedial measures properly implemented. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; and, Amend proposal if appropriate.
Exceedance for two or more consecutive samples	 Notify IEC, ER, 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 ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and, If exceedance stops, cease additional monitoring. 	actions whenever necessary to assure their effectiveness and advise the ER accordingly; and,	 Confirm receipt of notification of failure in writing; Notify Contractor; In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; Ensure remedial measures properly implemented; and, If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; and, Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Action Level/Limit Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Engineer's Representative (ER)	Contractor
Action Level being exceeded	 Notify ER, IEC and Contractor; Carry out investigation; Report the results of investigation to the IEC, ER and Contractor; Discuss with the IEC and Contractor on remedial measures required; and, Increase monitoring frequency to check mitigation effectiveness. 	 Review the investigation results submitted by the ET; Review the proposed remedial measures by the Contractor and advise the ER accordingly; and, Advise the ER on the effectiveness of the proposed remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor; In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; and, Supervise the implementation of remedial measures. 	 Submit noise mitigation proposals to IEC and ER; and, Implement noise mitigation proposals.

Table I2Event Action Plan for Noise Monitoring

Action Level/Limit Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Engineer's Representative (ER)	Contractor
Limit Level being exceeded	 Inform IEC, ER, Contractor and EPD; Repeat measurements to confirm findings; Increase monitoring frequency; Identify source and investigate the cause of exceedance; Carry out analysis of Contractor's working procedures; Discuss with the IEC, Contractor and ER on remedial measures required; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and, If exceedance stops, cease additional monitoring. 	 Discuss amongst ER, ET, and Contractor on the potential remedial actions; and, Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. 	 Confirm receipt of notification of failure in writing; Notify Contractor; In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; Supervise the implementation of remedial measures; and, If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC and ER within 3 working days of notification; Implement the agreed proposals; Submit further proposal if problem still not under control; and, Stop the relevant portion of works as instructed by the ER until the exceedance is abated.

Action Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Engineer's Representative (ER)	Contractor
Non-conformity on one occasion	Identify source Inform the IEC and the ER Discuss remedial actions with the IEC, the ER and the Contractor Monitor remedial action until rectification has been completed	Check report Check the Contractor's working method Discuss with the ER and the Contractor on possible remedial measures Advise the ER on effectiveness of proposed remedial measures	Notify the Contractor Ensure remedial measures are properly implemented	Amend working methods Rectify damage and undertake remedial measures or any necessary replacement
Repeated Non- conformity	Identify source Inform the IEC and the ER Increase monitoring (site audit) frequency Discuss remedial actions with the IEC, the ER and the Contractor Monitor remedial actions until rectification has been completed If exceedance stops, cease additional monitoring (site audit)	Check report Check the Contractor's working method Discuss with the ER and the Contractor on possible remedial measures Advise the ER on effectiveness of proposed remedial measures Supervise implementation of remedial measures	Notify the Contractor Ensure remedial measures are properly implemented	Amend working methods Rectify damage and undertake remedial measures or any necessary replacement

Table I3Event and Action Plan for Landscape and Visual Impact - Construction Phase

Annex J

Waste Flow Table

Harbour Area Treatment Scheme Stage 2A – Construction of Sewage Conveyance System from North Point to Stonecutters Island Contract No. : DC/2007/23 Monthly Summary Waste Flow Table for 2009 (year)

	Actual Quantities	of Inert C&D Materials	s Generated Month	lly			Actual Quantities of C&D Wastes Generated Monthly						
Month	Total Quantity Generated	Broken Concrete (see Note 4)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill		Metals (see Note 2)	Paper/ cardboard packaging (see Note 2)	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse		
	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m	3)	(in '000kg)	(in '000kg)	(in '000kg)	(in'000kg / '000L)	(in '000m³)		
Jan													
Feb													
Mar													
Apr													
Мау													
June													
Sub-total													
July	0	0	0	0		0	0	0	0	0	0		
Aug	0	0	0	0		0	0	0	0	0	0		
Sept	0.016	0	0	0	Dry	Wet	0	0	0	0	0.068		
					0.016	0							
Oct	0.523	0	0	0	0.523	0	0	0	0	0	0.086		
Nov	2.331	0	0	0	2.275	0.056	99.2	0.036	0	0	0.129		
Dec	3.803	0	0	0	3.004	0.799	1	0	0	0	0.120		
Total	6.673	0	0	0	5.818	0.855	100.2	0.036	0	0	0.403		

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(2) Metal and paper/cardboard packaging will be collected by recycler for recycling.

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and the wastes are collected by recycler for recycling.

(4) Broken concrete for recycling into aggregates

(5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m³ by volume.

(6) For chemical waste, the actual quantities of empty paint cans will be in kilogram (kg) and spent lubrication oil will be in litre (L).

Harbour Area Treatment Scheme Stage 2A – Construction of Sewage Conveyance System from North Point to Stonecutters Island Contract No. : DC/2007/23 Monthly Summary Waste Flow Table for 2010 (year)

	Actual Quantities	of Inert C&D Materials	Generated Monthl	У		Actual Quantities of C&D Wastes Generated Monthly					
Month	Total Quantity Generated	Broken Concrete (see Note 4)	Reused in the Contract	Reused in other Projects			Metals (see	Paper/ cardboard packaging (see Note 2)	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)			(in '000kg)	(in '000kg)	(in '000kg)	(in'000kg / '000L)	(in '000m³)
Jan	5.341	0	0	0	Dry	Wet	0	0.144	0	0.8	0.178
					3.066	2.275					
Feb	3.328	0	0	0	1.541	1.787	0	0	0	0	0.167
Mar	4.486	0	0	0	2.019	2.467	0	0.09	0	0	0.148
Apr	4.864	0	0	0	1.756	3.108	0	0.054	0	0	0.160
May	7.092	0	0	0	3.383	3.709	0	0.144	0	0.3	0.157
June	6.190	0	0	0	1.083	5.107	0	0.09	0	0.4	0.455
Sub-total	31.301	0	0	0	12.848	18.453	0	0.522	0	1.5	1.265
July	5.031	0	0	0	1.006	4.025	0	0.162	0	0	0.212
Aug	5.140	0	0	0.23	1.970	2.940	0	0.09	0	0.4	0.312
Sept	3.593	0.15	0	0.35	1.771	1.322	0	0.09	0	1	0.146
Oct	2.324	0	0	0	1.429	0.895	0	0.144	0	0	0.078
Nov	5.927	0	0	0	4.383	1.544	0	0	0	0.8	0.078
Dec	4.963	0	0	0	4.840	0.123	0	0.072	0	0	0.078
Total	58.279	0.15	0	0.58	28.247	29.302	0	1.080	0	3.7	2.169

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(2) Metal and paper/cardboard packaging will be collected by recycler for recycling.

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and the wastes are collected by recycler for recycling.

(4) Broken concrete for recycling into aggregates

(5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m³ by volume.

(6) For chemical waste, the actual quantities of empty paint cans will be in kilogram (kg) and spent lubrication oil will be in litre (L).

Harbour Area Treatment Scheme Stage 2A - Construction of Sewage Conveyance System from North Point to Stonecutters Island Contract No. : DC/2007/23 Monthly Summary Waste Flow Table for 2011 (year)

	Actual Quantities	of Inert C&D Materials	Generated Month	ly		Actual Quantities of C&D Wastes Generated Monthly					
Month	Total Quantity Generated	Broken Concrete (see Note 4)	Reused in the Contract	Reused in other Projects			Note 2)	Paper/ cardboard packaging (see Note 2)	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)				(in '000kg)	(in '000kg)	(in'000kg / '000L)	(in '000m³)
Jan	8.423	0	0	0	Dry	Wet	0	0.09	0	1.2	0.124
					8.236	0.187					
Feb	7.794	0	0	0.799	6.814	0.181	0	0.09	0	0	0.138
Mar	9.641	0	0	0.576	9.007	0.058	0	0.19	0	0	0.059
Apr	8.841	0	0	2.014	6.730	0.097	0	0.09	0	0.2	0.069
Мау	5.416	0	0	0.887	4.280	0.249	0	0.09	0	0	0.077
June	7.507	0	0	0.665	6.245	0.597	0	0.337	0.028	1.0	0.072
Sub-total	47.622	0	0	4.941	41.312	1.369	0	0.887	0.028	2.4	0.539
July	5.31	0	0	2.372	2.795	0.143	0	0.162	0	0	0.109
Aug	5.381	0	0	2.553	2.530	0.298	0	0.248	0.035	0.4	0.097
Sept	6.963	0	0	2.814	3.974	0.175	0	0.289	0.032	0	0.155
Oct	5.330	0	0	0.794	4.385	0.151	0	0.254	0.015	0	0.128
Nov	5.009	0	0	0.995	3.760	0.254	0	0.270	0	0.6	0.116
Dec	5.429	0	0.159	1.430	3.522	0.318	0	0.216	0	0	0.117
Total	81.044	0	0.159	15.899	62.278	2.708	0	2.326	0.11	3.4	1.261

(1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site. Notes:

(2) Metal and paper/cardboard packaging will be collected by recycler for recycling.

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and the wastes are collected by recycler for recycling.

(4)

Broken concrete for recycling into aggregates If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m³ by volume. (5)

For chemical waste, the actual quantities of empty paint cans will be in kilogram (kg) and spent lubrication oil will be in litre (L). (6)

Harbour Area Treatment Scheme Stage 2A – Construction of Sewage Conveyance System from North Point to Stonecutters Island Contract No. : DC/2007/23

Monthly Summary Waste Flow Table for 2012 (year)

	Actual Quantities	of Inert C&D Materia	ls Generated M	onthly		Actual Quantities of C&D Wastes Generated Monthly					
Month	Total Quantity Generated		Reused in the Contract	Reused in other Projects	Disposed as Public Fill (in '000m ³)		Metals (see Note 2)	Paper/ cardboard packaging (see Note 2)	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)			(in '000kg)	(in '000kg)	(in '000kg)	(in'000kg / "000L)	(in '000m³)
Jan	6.208	0	0	1.615	Dry	Wet	0	0.108	0	0.4	0.117
					4.277	0.316					
Feb	6.006	0	0	0.443	5.148	0.415	0	0.108	0	0	0.063
Mar	8.370	0	0	1.226	6.871	0.273	0	0.108	0	0	0.181
Apr	8.899	0	0	1.101	7.581	0.217	0	0.036	0	0	0.685
May	6.789	0	0	0.716	5.931	0.142	0	0.108	0	0.4	0.103
June	7.585	0	0.021	5.565	1.786	0.213	0.014	0.256	0	0.0	0.197
Sub-total	43.857	0	0.021	10.666	31.594	1.576	0.014	0.724	0	0.8	1.346
July	9.128	0	0	5.240	3.730	0.158	8.356	0.055	0	0.8	0.171
Aug	5.756	0	0	3.836	1.640	0.280	0.008	0.062	0	0.2	0.126
Sept	7.809	0	0.172	2.103	5.062	0.472	0.007	0.172	0	0.4	0.105
Oct	12.073	0	0	7.279	4.427	0.367	0.007	0.028	0	0	0.123
Nov	16.713	0	0	15.626	0.853	0.234	0.005	0.303	0	1.6	0.088
Dec	16.760	0	0	16.362	0.192	0.206	0.005	0.102	0	0.8	0.111
Sub-total	68.239	0	0.172	50.446	15.904	1.717	8.388	0.722	0	3.8	0.724
Total	112.096	0	0.193	61.112	47.498	3.293	8.402	1.446	0	4.6	2.070

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(2) Metal and paper/cardboard packaging will be collected by recycler for recycling.

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and the wastes are collected by recycler for recycling.

(4) Broken concrete for recycling into aggregates

(5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m³ by volume.

(6) For chemical waste, the actual quantities of empty paint cans will be in kilogram (kg) and spent lubrication oil will be in litre (L) and will be collected by licensed collector.

(7) Inert C&D Materials shall be dumped at Chai Wan Barging Point, TKO Area 137 and Tuen Mun Area 38 and General refuses shall be dumped at SENT.

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

Monthly Summary Waste Flow Table for 2013 (year)

	Actual Quantities	of Inert C&D Materia	ls Generated M	onthly		Actual Quantities of C&D Wastes Generated Monthly					
Month	Total Quantity Generated	Broken Concrete (see Note 4)	Reused in the Contract	Reused in other Projects	Disposed as P	Disposed as Public Fill		Paper/ cardboard packaging (see Note 2)	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m³)	(in '000m³) (in '000m³) (in '000m³) (in '000m³)			(in '000kg)	(in '000kg)	(in '000kg)	(in'000kg / "000L)	(in '000m³)		
J an	13.689	0	0	12.331	Dry	Wet	0.005	0.030	0	0.4	0.129
					1.141	0.217					
Feb											
Mar											
Apr											
May											
June											
Sub-total											
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	13.689	0	0	12.331	1.141	0.217	0.005	0.030	0	0.4	0.129

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(2) Metal and paper/cardboard packaging will be collected by recycler for recycling.

Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and the wastes are collected by recycler for recycling. (3)

(4)

(5)

Broken concrete for recycling into aggregates If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m³ by volume. For chemical waste, the actual quantities of empty paint cans will be in kilogram (kg) and spent lubrication oil will be in litre (L) and will be collected by licensed collector. (6)

Inert C&D Materials shall be dumped at Chai Wan Barging Point, TKO Area 137 and Tuen Mun Area 38 and General refuses shall be dumped at SENT. (7)