

MTR Corporation Limited

**Shatin to Central Link –
Tai Wai to Hung Hom Section**

Monthly EM&A Report No. 1

(October 2012)

Certified by: Richard Kwan 

Position: Environmental Team Leader

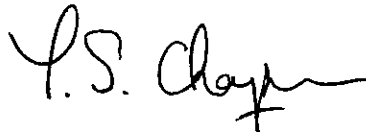
Date: 11 October 2012

MTR Corporation Limited

**Shatin to Central Link –
Tai Wai to Hung Hom Section**

Monthly EM&A Report No. 1

(October 2012)



Verified by: Tom Chapman

Position: Independent Environmental Checker

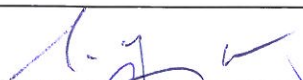
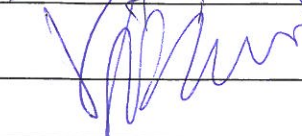
Date: 11/10/12

MTR Corporation Limited

Consultancy Agreement No. C11033

**Shatin to Central Link - Tai Wai to Hung
Hom Section
[SCL(TAW-HUH)]****Monthly EM&A Report No. 1**

[Period from 1 to 30 September 2012]

	Name	Signature
Prepared & Checked:	Joanne Tsoi	
Reviewed & Approved:	Josh Lam	

Version: A Date: 11 October 2012

This Monthly EM&A Report is prepared for MTR Corporation Limited and is given for its sole benefit in relation to and pursuant to Consultancy Agreement No. C11033 and may not be disclosed to, quoted to or relied upon by any person other than MTR Corporation Limited without our prior written consent. No person (other than MTR Corporation Limited) into whose possession a copy of this report comes may rely on this plan without our express written consent and MTR Corporation Limited may not rely on it for any purpose other than as described above.

AECOM Asia Co. Ltd.
8/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, NT, Hong Kong
Tel: (852) 3922 9000 Fax: (852) 3922 9797 www.aecom.com

Table of Contents

	Page
1 INTRODUCTION	1
1.1 Background	1
1.2 Project Programme.....	1
1.3 Purpose of the Report.....	1
2 ENVIRONMENTAL MONITORING AND AUDIT	2
3 IMPLEMENTATION STATUS ON THE ENVIRONMENTAL PROTECTION REQUIREMENTS	5

List of Tables

Table 1.1	Summary of Awarded Works Contract
Table 2.1	Summary of Major Construction Activities in the Reporting Period
Table 2.2	Summary of 24-Hour TSP Monitoring Results in the Reporting Period
Table 2.3	Summary of Construction Noise Monitoring Results in the Reporting Period
Table 3.1	Summary of Status of Required Submissions

List of Appendices

Appendix A	1 st Monthly EM&A Report for Works Contract 1108A – Kai Tak Barging Point Facilities
Appendix B	1 st Monthly EM&A Report for Works Contract 1109 – Stations and Tunnels of Kowloon City Section

1 INTRODUCTION

1.1 Background

1.1.1 Shatin to Central Link – Tai Wai to Hung Hom Section [SCL (TAW-HUH)], is an approximately 11 km long extension of the Ma On Shan Line (MOL) and connects the existing West Rail Line (WRL) at Hung Hom, forming a strategic east-west rail corridor and Shatin to Central Link – Stabling Sidings at Hung Hom Freight Yard [SCL (HHS)] is a proposed stabling sidings for SCL (TAW – HUH) at the former freight yard in Hung Hom (hereafter referred to as “the Project”).

1.1.2 The EIA Reports for SCL (TAW-HUH) (Register No.: AEIAR-167/2012) and SCL (HHS) (Register No.: AEIAR-164/2012) were approved on 17 February 2012 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Reports, an Environmental Permit (EP) was granted on 22 March 2012 (EP No: EP-438/2012) for the construction and operation of the SCL (TAW-HUH) and SCL (HHS). Variations of environmental permit (VEP) was subsequently applied and the latest Environmental Permit (EP No: EP-438/2012/A) was issued by Director of Environmental Protection (DEP) on 12 July 2012.

1.2 Project Programme

1.2.1 Three civil construction works contracts of the Project have been awarded since July 2012. The construction of the Project commenced in September 2012 and is expected to complete in 2018. **Table 1.1** summarises the information of the awarded Works Contracts.

Table 1.1 Summary of Awarded Works Contract

Works Contract	Description	Construction Start Date	Contractor	Environmental Team
1101	Mei Tin Road Noise Cover	To be constructed	Sun Fook Kong Joint Venture (SFKJV)	EDMS Consulting Ltd. (EDMS)
1108A	Kai Tak Barging Point Facilities	September 2012	Concentric – Hong Kong River Joint Venture (CCL-HKR JV)	Cinotech Consultants Ltd. (Cinotech)
1109	Stations and Tunnels of Kowloon City Section	September 2012	Samsung-Hsin Chong JV (SHJV)	ERM-Hong Kong Limited (ERM)

1.3 Purpose of the Report

1.3.1 The Environmental Monitoring and Audit (EM&A) programme for the Project commenced in September 2012. This is the first EM&A Report for the Project which summarises the EM&A works undertaken by the respective Contractor’s ET during the period from 1 to 30 September 2012.

2 ENVIRONMENTAL MONITORING AND AUDIT

- 2.1.1 The first EM&A Reports for Works Contracts 1108A and 1109 prepared by the respective Contractor's ET is provided in **Appendices A** and **B**, respectively. The EM&A Reports provide details of the project information, EM&A requirements, impact monitoring and audit results for the corresponding Contracts.
- 2.1.2 A summary of the major construction activities undertaken by the respective Contractors of various Works Contracts during the reporting period are presented in **Table 2.1**.

Table 2.1 Summary of Major Construction Activities in the Reporting Period

Works Contract	Site	Construction Activities
1103 ⁽¹⁾	N/A	N/A
1106 ⁽¹⁾	N/A	N/A
1108A	Kai Tak Barging Point Facilities (off-site temporary works area)	<ul style="list-style-type: none"> • General site clearance
1109	Ma Tau Wai (MTW) Works Area	<ul style="list-style-type: none"> • Underneath Kowloon East Corridor – site clearance, diversion of existing utilities, road drainage construction, cross road ducting; • Removal of central divider along Ma Tau Wai Road – removal of the existing concrete divider; • MTW/TKW Road Garden – install and connect water supply for demolishing existing public toilet, tree felling, preparation for transplanting and predrilling for diaphragm wall panel.
	To Kwan Wan (TKW) Works Area	<ul style="list-style-type: none"> • Site preparation works - erection of site fencing & hoarding and site clearance.
1111 ⁽¹⁾	N/A	N/A

Note:

(1) Construction works under the contract have yet to commence

N/A Not applicable

- 2.1.3 Impact monitoring for air quality and noise were conducted in accordance with the EM&A Manual in the reporting period. No exceedance of the Action/Limit Levels of 24-hr TSP and construction noise due to the Project construction was recorded during the reporting period. The air quality and construction noise results for this reporting month are summarized in **Tables 2.2** to **2.3**. Details of the monitoring requirements, locations, equipment, methodology and QA/QC Procedures are presented in the EM&A Reports as provided in **Appendices A** and **B**.
- 2.1.4 Since the construction works that have been identified by the Construction Noise Mitigation Measures Plan (CNMMP) to be potentially causing exceedance of noise criteria have yet to commence, continuous noise monitoring was not conducted in the reporting period. No water quality monitoring was carried out as no dredging activity was undertaken during the reporting month.
- 2.1.5 No environmental notification of summon, prosecution and valid complaint were received in the reporting period.
- 2.1.6 Regular site inspections were conducted by the respective Contractor's ET on a weekly basis to check the implementation of environmental pollution control and mitigation measures for the Project. No non-conformance was identified in the reporting period.

Table 2.2 Summary of 24-Hour TSP Monitoring Results in the Reporting Period

Monitoring Station ID	Location	TSP Concentration ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)	Exceedance due to the Project Construction (Yes/No)
Works Contract 1103⁽¹⁾					
DMS-1	C.U.H.K.A.A. Thomas Cheung School	N/A	N/A	260	N/A
DMS-2	Price Memorial Catholic Primary School	N/A	N/A	260	N/A
Works Contract 1106⁽¹⁾					
DMS-3	Hong Kong S.K.H Nursing Home ⁽²⁾	N/A	N/A	260	N/A
DMS-4	Block 1, Rhythm Garden	N/A	N/A	260	N/A
DMS-5	Block 1, Rhythm Garden ⁽³⁾	N/A	N/A	260	N/A
Works Contract 1108A⁽⁸⁾					
Works Contract 1109					
DMS-6	No. 420 Prince Edward Road West ⁽⁴⁾	- ⁽⁷⁾	156.8	260	- ⁽⁷⁾
DMS-7	Parc 22 ⁽⁵⁾	- ⁽⁷⁾	166.7	260	- ⁽⁷⁾
DMS-8	SKH Good Shepherd Primary School	80 – 90	152.2	260	No
DMS-9	No. 26 Kowloon City Road ⁽⁶⁾	79 – 86	160.9	260	No
DMS-10	Chat Ma Mansion	80 – 88	170.4	260	No
Works Contract 1111⁽¹⁾					
DMS-11	Wing Fung Building	N/A	N/A	260	N/A

Note:

- (1) Construction works under the contract have yet to commence
 - (2) Alternative monitoring location to Shek On House
 - (3) Alternative monitoring location to Canossa Primary School (San Po Kong)
 - (4) Alternative monitoring location to Prosperity House
 - (5) Alternative monitoring location to Skytower Tower 2
 - (6) Alternative monitoring location to Lucky Building
 - (7) No construction dust was conducted at DMS-6 and DMS-7 as construction works have not started in the To Kwa Wan (TKW) works area in the reporting period
 - (8) No TSP monitoring is required under this contract
- N/A Not applicable

Table 2.3 Summary of Construction Noise Monitoring Results in the Reporting Period

Monitoring Station ID	Location	Noise Level ($L_{Aeq,30mins}$, dB(A))			Limit Level (dB(A))	Exceedance due to the Project Construction (Yes/No)
		Measured	Baseline	Corrected ⁽⁸⁾		
Works Contract 1103⁽⁷⁾						
NMS-CA-1	C.U.H.K.A.A. Thomas Cheung School	N/A	N/A	N/A	70 65 during examination period	N/A
NMS-CA-2	Price Memorial Catholic Primary School	N/A	N/A	N/A	70 65 during examination period	N/A
Works Contract 1106⁽⁷⁾						
NMS-CA-3	Hong Kong S.K.H Nursing Home ⁽²⁾	N/A	N/A	N/A	75	N/A
NMS-CA-4	Block 1, Rhythm Garden	N/A	N/A	N/A	75	N/A
NMS-CA-5	Block 1, Rhythm Garden ⁽³⁾	N/A	N/A	N/A	75	N/A
Works Contract 1108A⁽⁷⁾						
Works Contract 1109						
NMS-CA-6	No. 420 Prince Edward Road West ⁽⁴⁾	-(6)	76	-(6)	75	-(6)
NMS-CA-7	Skytower Tower 2	-(6)	70	-(6)	75	-(6)
NMS-CA-8	SKH Good Shepherd Primary School	73.5 – 75.3	75	63.5	70 65 during examination period	No
NMS-CA-9	Kong Yiu Mansion ⁽⁵⁾	71.3 – 71.6	69	67.4– 68.1	75	No
NMS-CA-10	Chat Ma Mansion	74.9 – 76.9	77	-(9)	75	No
Works Contract 1111⁽⁷⁾						
MMS-CA-11	Wing Fung Building	N/A	N/A	N/A	75	N/A

Note:

- (1) Construction works under the contract have yet to commence
 - (2) Alternative monitoring location to Shek On House
 - (3) Alternative monitoring location to Canossa Primary School (San Po Kong)
 - (4) Alternative monitoring location to Prosperity House
 - (5) Alternative monitoring location to Lucky Building
 - (6) No construction noise monitoring was conducted at NMS-CA-6 and NMS-CA-7 as construction works have not started in the TKW works area in the reporting period
 - (7) No construction noise monitoring is required under this contract
 - (8) Measured noise level is corrected against the corresponding baseline Level
 - (9) No correction was made as the measured noise levels were below the baseline noise levels
- N/A Not applicable

3 IMPLEMENTATION STATUS ON THE ENVIRONMENTAL PROTECTION REQUIREMENTS

3.1.1 The respective Contractors have implemented all mitigation measures and requirements as stated in the EIA Reports, EM&A Manuals and EP (EP-438/2012/A). The status of required submissions under the EP as of the reporting period is summarized in **Table 3.1**.

Table 3.1 Summary of Status of Required Submissions

EP Condition (EP-438/2012/A)	Submission	Submission date
Condition 1.12	Notification of Commencement Date of Construction of the Project	1 Aug 2012
Condition 2.3	Notification of Information of Community Liaison Groups	13 Jul 2012 (1 st submission) 31 Aug 2012 (2 nd submission)
Condition 2.7	Management Organisation of Main Construction Companies	27 Jul 2012 (1 st submission) 21 Aug 2012 (2 nd submission)
Condition 2.8	Construction Programme and EP Submission Schedule	27 Jul 2012
Condition 2.9	Construction Noise Mitigation Measures Plan (CNMMP)	1 Aug 2012 (1 st submission) 28 Sep 2012 (2 nd submission)
Condition 2.10	Continuous Noise Monitoring Plan (CNMP)	1 Aug 2012 (1 st submission) 28 Sep 2012 (2 nd submission)
Condition 2.11	Construction and Demolition Materials Management Plan (C&DMMP)	6 Jul 2012 (1 st submission) 12 Sep 2012 (2 nd submission)
Condition 2.12	Sediment Management Plan	6 Jul 2012 (1 st submission) 12 Sep 2012 (2 nd submission)
Condition 2.13	Visual, Landscape, Tree Planting & Tree Protection Plan	6 Jul 2012 (1 st submission) 30 Aug 2012 (2 nd submission)
Condition 2.14	Transplantation Proposal for Plant Species of Conservation Importance	22 Aug 2012 (1 st submission)
Condition 2.16	Archaeological Action Plan(s) (AAP(s))	10 Aug 2012 (1 st submission) 3 Sep 2012 (2 nd submission)
Condition 2.23	Supplementary Contamination Assessment Report for New Territories South Animal Centre	28 Sep 2012
Condition 3.3	Baseline Monitoring Report (Works Contract 1109 - Stations and Tunnels of Kowloon City Section)	27 Jul 2012
Condition 3.3	Baseline Monitoring Report (Works Contract 1108A – Kai Tak Barging Point Facilities)	31 Jul 2012

Appendix A

**1st EM&A Report for Works Contract 1108A –
Kai Tak Barging Point Facilities**

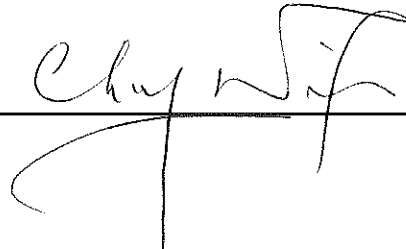
MTR Corporation Limited

**Shatin to Central Link –
Tai Wai to Hung Hom Section**

Monthly EM&A Report No. 1

Works Contract 1108A –
Kai Tak Barging Point Facilities

(September 2012)

Certified by:  _____

Position: Contractor's Environmental Team Leader


Date: 11th October 2012

Concentric – Hong Kong River Joint Venture

**Shatin to Central Link –
Contract 1108A
Kai Tak Barging Point Facilities**

**Monthly Environmental
Monitoring and Audit Report
for September 2012**

(Version 3.0)

Certified By 
(Contractor's Environmental Team Leader)

REMARKS:

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

CINOTECH accepts no responsibility for changes made to this report by third parties.

CINOTECH CONSULTANTS LTD

Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong
Tel: (852) 2151 2083 Fax: (852) 3107 1388
Email: info@cinotech.com.hk

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	1
Introduction	1
Summary of Construction Works undertaken during Reporting Month	1
Environmental Monitoring and Audit Progress	1
Water Quality	1
Waste Management	1
Environmental Site Inspection	1
Ecology/Landscape and Visual	1
Environmental Exceedance/Non-conformance/Complaint/Summons and Prosecution	1
Future Key Issues	2
1 INTRODUCTION	3
Purpose of the report	3
Structure of the report	3
2 PROJECT INFORMATION.....	4
Background	4
General Site Description	4
Construction Programme and Activities	4
Project Organisation	4
Status of Environmental Licences, Notification and Permits.....	6
3 ENVIRONMENTAL MONITORING REQUIREMENTS	7
Water Quality Monitoring	7
Cultural Heritage	9
Landscape and Visual.....	10
Ecology.....	10
4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS	11
5 MONITORING RESULTS	12
Water Quality	12
Waste Management	12
Landscape and Visual.....	12
Ecology.....	12
6 ENVIRONMENTAL SITE INSPECTION.....	13
Site Audits	13
Implementation Status of Environmental Mitigation Measures.....	13
7 ENVIRONMENTAL NON-CONFORMANCE	14
Summary of Exceedances	14
Summary of Environmental Non-Compliance.....	14
Summary of Environmental Complaint	14
Summary of Environmental Summon and Successful Prosecution	14
8 FUTURE KEY ISSUES	15
Key Issues in the Coming Month	15
Monitoring Schedule for the Next Month	15
Construction Programme for the Next Month.....	15

9 CONCLUSIONS AND RECOMMENDATIONS	16
Conclusions	16
Recommendations	16

LIST OF TABLES

Table I	Summary Table for Events Recorded in the Reporting Month
Table II	Summary Table for Key Information in the Reporting Month
Table 2.1	Key Contacts of the Project
Table 2.2	Status of Environmental Licences, Notification and Permits
Table 3.1	Water Quality Monitoring Stations
Table 3.2	Water Quality Impact Monitoring Programme
Table 3.3	Laboratory analysis for SS
Table 4.1	Status of Required Submissions under EP
Table 5.1	Quantities of Waste Generated from the Project
Table 6.1	Observations and Recommendations of Site Audit

LIST OF FIGURE

Figure 1	Site Layout Plan
Figure 2	Locations of Water Quality Monitoring Stations

LIST OF APPENDICES

Appendix A	Action and Limit Levels
Appendix B	Water Quality Monitoring Schedule
Appendix C	Template for Summary of Exceedance
Appendix D	Site Audit Summary
Appendix E	Event and Action Plans
Appendix F	Updated Environmental Mitigation Implementation Schedule
Appendix G	Waste Generation in the Reporting Month
Appendix H	Complaint Log
Appendix I	Tentative Construction Programme

EXECUTIVE SUMMARY

Introduction

1. This is the 1st monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for MTR Contract no. 1108A “Shatin to Central Link - Kai Tak Barging Point Facilities”. This report documents the findings of EM&A Works conducted in September 2012.

Summary of Construction Works undertaken during Reporting Month

2. The major site activities undertaken in the reporting month included:
 - General site clearance.

Environmental Monitoring and Audit Progress

3. A summary of the monitoring activities in this reporting period is listed below:
 - Water Quality Monitoring at each monitoring station.....Nil
 - Environmental Site Inspection.....4 times

Water Quality

4. No water quality monitoring was carried out as no dredging activity was conducted during the reporting month.

Waste Management

5. Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. A total of 111 m³ of inert C&D materials and 285 m³ of non-inert C&D materials were generated during the reporting period. No chemical wastes were generated during the reporting period. Non-inert C&D materials are made up of general refuse, steel materials and paper/cardboard packaging materials.

Environmental Site Inspection

6. A monthly joint environmental site inspection was carried out by the representatives of the Contractor, the IEC and the ET. Details of the audit findings and implementation status are presented in Section 6.

Ecology/Landscape and Visual

7. Details of the audit findings and implementation status on Ecology/Landscape and Visual are presented in Section 6.

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

8. Summary of the events and action taken and key information in the reporting month is tabulated in **Table I** and **Table II** respectively.

Table I Summary Table for Events Recorded in the Reporting Month

Parameter	No. of Exceedance		Action Taken
	Action Level	Limit Level	
Water Quality Monitoring	N/A	N/A	N/A

Table II Summary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N/A	N/A	---
Notifications of any summons & prosecutions	0	---	N/A	N/A	---

Future Key Issues

9. Major site activities for the coming reporting month will include:

- Borehole drilling for ground investigation;
- Construction of pile foundation;
- Erection of site hoardings;
- Seabed dredging; and
- Site formation and construction of concrete pavement.

1 INTRODUCTION

- 1.1 Cinotech Consultants Limited (Cinotech) was appointed by Concentric – Hong Kong River JV as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the MTR Shatin to Central Link Works Contract 1108A –Kai Tak Barging Point Facilities (hereafter referred to the Project).

Purpose of the report

- 1.2 This is the first EM&A report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from 1 September to 30 September 2012.

Structure of the report

- 1.3 The structure of the report is as follows:

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

Section 2: **Project Information** - summarises background and scope of the project, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting period.

Section 3: **Environmental Monitoring Requirement** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, Event / Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

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

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

Section 6: **Environmental Site Inspection** - summarises the audit findings of the weekly site inspections undertaken within the reporting period.

Section 7: **Environmental Non-conformance** - summarises any monitoring exceedance, environmental complaints and environmental summons within the reporting period.

Section 8: **Future Key Issues** - summarises the impact forecast and monitoring schedule for the next three months.

Section 9: **Conclusions and Recommendation**

2 PROJECT INFORMATION

Background

- 2.1 The Shatin to Central Link – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH)) is an approximately 11 km long extension of the Ma On Shan Line and links up with the West Rail Line at Hung Hom forming a strategic east-west rail corridor. It is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO).
- 2.2 The construction of the SCL (TAW-HUH) has been divided into a series of civil construction Works Contracts. In addition to the temporary work site in the vicinity of the tunnel and station structures, there are some off-site temporary works sites/areas to facilitate the construction process. This Works Contract 1108A is one of the off-site temporary works sites covers the construction and operation of barging facilities.

General Site Description

- 2.3 The site layout plan is presented in **Figure 1**.

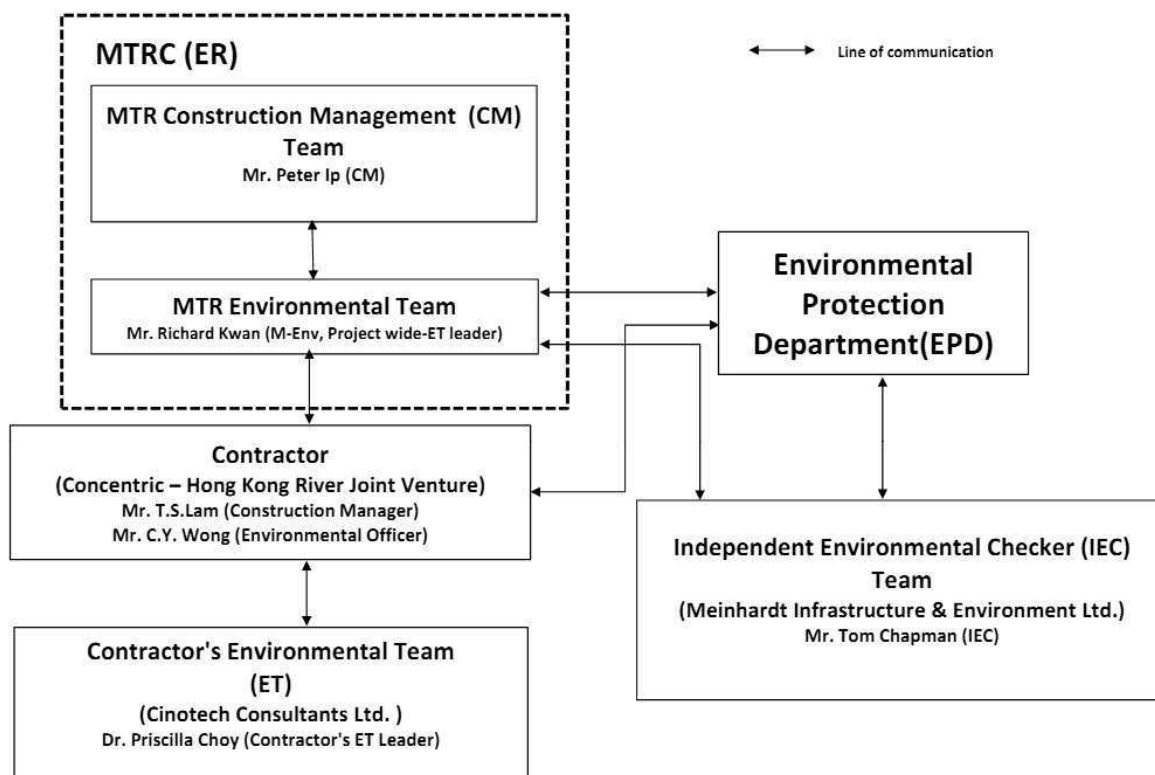
Construction Programme and Activities

- 2.4 A summary of the major construction activities undertaken in this reporting period is shown as follows. The tentative construction programme is presented in **Appendix I**.
- General site clearance.

Project Organisation

- 2.5 Different parties with different levels of involvement in the project organization include:
- Engineer or Engineer's Representative (ER) – MTR Corporation (MTRC)
 - Contractor's Environmental Team (ET) – Cinotech Consultants Ltd. (Cinotech)
 - Independent Environmental Checker (IEC) – Meinhardt Infrastructure & Environment Ltd. (Meinhardt)
 - Contractor – Concentric – Hong Kong River Joint Venture (CCL-HKR JV)
- 2.6 The responsibilities of respective parties are detailed in Section 3 of the SCL (TAW-HUH) EM&A Manual.

2.7 The project organisation chart is shown as follows:



2.8 The key contacts of the Project are shown in Table 2.1.

Table 2.1 Key Contacts of the Project

Party	Role	Name	Position	Phone No.	Fax No.
MTRC	ER	Mr. Peter IP	Construction Manager	3507 6889	2334 0323
	Environmental Team	Mr. Richard KWAN	SCL Project Environmental Team Leader	2688 1283	2993 7577
Cinotech	Contractor's Environmental Team	Dr. Priscilla CHOY	Contractor's ET Leader	2151 2089	3107 1388
		Ms. Ivy TAM	Project Coordinator and Audit Team Leader	2151 2090	
Meinhardt	Independent Environmental Checker	Mr. Tom CHAPMAN	Independent Environmental Checker	2858 0738	2540 1580
		Mr. Fredrick LEONG	Deputy Independent Environmental Checker	2859 1739	
CCL-HKR JV	Contractor	Mr. T.S. LAM	Construction Manager	9655 5486	2398 8301
		Mr. C.Y. WONG	Environmental Officer	9199 3188	
		Ms. Jane ZHU	Quality Engineer	6207 3974	

Status of Environmental Licences, Notification and Permits

2.9 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project is presented in **Table 2.2**.

Table 2.2 Status of Environmental Licences, Notification and Permits

Permit / License No.	Valid Period		Status
	From	To	
Environmental Permit (EP)			
EP-438/2012/A	12/7/2012	N/A	Valid
Construction Noise Permit (CNP)			
GW-RE0754-012	24/09/2012	23/03/2013	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation			
N/A	22/08/2012	N/A	Receipt acknowledged by EPD
Billing Account for Construction Waste Disposal			
A/C# 7015860	29/08/2012	N/A	Valid
Registration of Chemical Waste Producer			
WPN5213-286-C3752-01	17/09/2012	N/A	Valid

Note: Application of effluent discharge license for proposed discharge at barging point site has been submitted to EPD on 21/09/2012 and is under processing.

Summary of EM&A Requirements

2.10 The EM&A programme under 1108A require construction phase water quality monitoring as well as environmental site audits. The EM&A requirements are described in the following sections, including:

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

2.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 6 of this report.

2.12 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely water quality as well as audit works for the Project in the reporting month.

3 ENVIRONMENTAL MONITORING REQUIREMENTS

Water Quality Monitoring

Monitoring Location

- 3.1 In accordance with the EM&A Manual, marine water quality monitoring should be carried out while dredging activities are conducting. The water quality monitoring stations and control stations of Project are shown in **Figure 2**. The co-ordinates of the proposed monitoring stations (construction phase – dredging activities) are listed in **Table 3.1**. As shown in **Figure 2**, the proposed locations are classified as Impact Station and Control Station according to their functions.

Table 3.1 Water Quality Monitoring Stations

Station	Description	East	North	Parameters to be measured
IS-1 ⁽¹⁾	Impact Station for Dredging Activities	838499	819333	DO, Turbidity, SS
CS-1	Control Station for IS-1	838170	818903	DO, Turbidity, SS
CS-2	Control Station for IS-1	838912	818997	DO, Turbidity, SS

Note: (1) As per Baseline Monitoring Report under consultancy agreement No. NEX/2213, there was a slight adjustment for the monitoring station IS-1 due to the site constraint as the original monitoring location (Easting: 838450, Northing: 819399) has been occupied by barges/dredgers of other projects.

Monitoring Parameters, Frequency and Programme

- 3.2 Water quality monitoring was conducted in accordance with the requirements stipulated in the approved SCL(TAW-HUH) EM&A Manual. **Table 3.2** summarized the monitoring frequency and water quality parameters for the impact monitoring. The monitoring schedule for the next reporting period is shown in **Appendix B**.

Table 3.2 Water Quality Impact Monitoring Programme

	Impact Monitoring
Monitoring Period	During dredging period
Monitoring Frequency	3 Days in a Week, at mid-flood and mid-ebb tides
Monitoring Locations	IS-1, CS-1, CS-2
Monitoring Parameters	DO, temperature, turbidity, pH, salinity and SS
Intervals between 2 Sets of Monitoring	Not less than 36 hours
Tide Range	Individual flood and ebb tides not less than 0.5m

Monitoring Equipment and Methodology

Dissolved Oxygen and Temperature Measuring Equipment

- 3.3 The instrument should be portable and weatherproof dissolved oxygen (DO) measuring instrument complete with cable and sensor, and use a DC power source. The equipment should be capable of measuring:
- a DO level in the range of 0 - 20 mg/ L and 0 - 200% saturation; and
 - a temperature of 0 - 45 degree Celsius.
- 3.4 The equipment should have a membrane electrode with automatic temperature compensation complete with a cable.

- 3.5 Should salinity compensation not be built-in to the DO equipment, in-situ salinity should be measured to calibrate the DO equipment prior to each DO measurement.

Turbidity Measurement Instrument

- 3.6 The instrument should be a portable and weatherproof turbidity measuring instrument using a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0 - 1000 NTU (for example, Hach model 2100P or an approved similar instrument).

Water Sampler

- 3.7 A water sampler is required for SS monitoring. It should comprise a PVC cylinder, with a capacity of not less than 2 litres, which can be effectively sealed with latex cups at both ends. The sampler should have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth (for example, Kahlsico Water Sampler or an approved similar instrument).

Water Depth Detector

- 3.8 A portable, battery-operated echo sounder should be used for the determination of water depth at each designated monitoring station. This unit can either be hand held or affixed to the bottom of the work boat, if the same vessel is to be used throughout the monitoring programme.

Salinity Measuring Equipment

- 3.9 A portable salinometer capable of measuring salinity in the range of 0 - 40 parts per thousand (ppt) should be provided for measuring salinity of the water at each monitoring location.

pH Measuring Equipment

- 3.10 A portable pH meter capable of measuring a range between 0.0 and 14.0 shall be provided to measure pH under the specified conditions (e.g., Orion Model 250A or an approved similar instrument).

Sample Containers and Storage

- 3.11 Water samples for SS determinations should be stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen) and shipment to the testing laboratory. The samples shall be delivered to the laboratory within 24 hours of collection and be analysed as soon as possible after collection.

Position Equipment

- 3.12 A hand-held or boat-fixed type digital Differential Global Positioning System (DGPS) with way point bearing indication and Radio Technical Commission for maritime (RTCM) Type 16 error message 'screen pop-up' facilities (for real-time auto-display of error messages and DGPS corrections from the Hong Kong Hydrographic Office), or other equipment instrument of similar accuracy, should be provided and used during marine water monitoring to ensure the monitoring vessel is at the correct location before taking measurements.

Calibration of In-Situ Instruments

- 3.13 The pH meter, DO meter and turbidimeter shall be checked and calibrated before use. DO meter and turbidimeter shall be certified by a laboratory accredited under HOKLAS or any other international accreditation scheme, and subsequently re-calibrated at 3

monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes should be checked with certified standard solutions before each use. Wet bulb calibration for a DO meter shall be carried out before measurement at each monitoring location.

Back-up Equipment and Vessels

- 3.14 Sufficient stocks of spare parts shall be maintained for replacements when necessary. Backup monitoring equipment shall also be made available so that monitoring can proceed uninterrupted even when some equipment is under maintenance, calibration, malfunction, etc.
- 3.15 The water quality monitoring will involve three monitoring stations and measurements should be conducted within the prescribed tidal conditions in order to ensure the measurement/samples are representative. A multi-probe monitoring equipment set integrated with water sampler(s) is highly recommended to improve the monitoring efficiency. Depending on the actually operation, more than one field survey vessels might be required simultaneously to ensure the monitoring are conducted within the acceptable monitoring period. The ET shall also consider the use of unattended automatic sampling/monitoring devices at fixed stations where monitoring are required throughout the construction period. The use of such unattended automatic devices, however, shall be subject to the approval of the ER, IEC and EPD.

Laboratory Measurement / Analysis

- 3.16 At least 3 replicate samples from each independent sampling event are required for the suspended solids measurement which shall be carried in a HOKLAS or international accredited laboratory. Sufficient water samples shall be collected at the monitoring stations for carrying out the laboratory measurement and analysis. The laboratory determination work shall start within 24 hours after collection of the water samples. The analysis for SS is summarized in **Table 3.3**.

Table 3.3 Laboratory analysis for SS

Parameters	Analytical Method	Reporting Limit
Suspended Solid (SS)	APHA 2540-D	0.1 mg/L

Action and Limit Levels

- 3.17 The action and limit levels for water quality monitoring are presented in **Appendix A**.

Event and Action Plan

- 3.18 Should non-compliance of the criteria occur, action in accordance with the Event and Action Plan in **Appendix E** shall be carried out.

Cultural Heritage

- 3.19 According to the location of the Project and EIA report, there are no terrestrial archaeological resources and built heritage resources in vicinity of the Project. Archaeological monitoring works and the implementation of mitigation measures during the construction and operation phases of the Project is, therefore, not required.
- 3.20 However, the Contractor shall allow a 25m separation distance between the proposed dredging area and the Kowloon Rock as specified in the approved SCL(TAW-HUH) EIA Report.

Landscape and Visual

- 3.21 In accordance with the EM&A Manual, the landscape and visual mitigation measures shall be implemented and a site inspection shall be conducted once every two weeks throughout the construction period. The implementation status is summarised in **Table 6.1** of Section 6.

Ecology

- 3.22 In accordance with the EM&A Manual, weekly site audits should be conducted by the ET during construction phase of the Project to check the recommended mitigation measures should be properly implemented.

4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

- 4.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status of the environmental mitigation measures during the reporting period is summarized in **Appendix F**. Status of required submissions under the Environmental Permit (EP) during the reporting period is presented in **Table 4.1**.

Table 4.1 Status of Required Submissions under EP

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Status of submissions under EP	0	N/A	N/A	N/A	---

5 MONITORING RESULTS

Water Quality

- 5.1 No water quality monitoring was carried out at the monitoring stations as the dredging activity was not commenced during the reporting period.
- 5.2 Action and Limit Levels for water quality monitoring were established in the baseline water quality monitoring conducted by MTR between 16 June 2012 and 14 July 2012 under consultancy agreement no. NEX/2213. Action and Limit Levels for water quality is summarised in **Appendix A**.
- 5.3 No water quality monitoring was carried out during the reporting period.

Waste Management

- 5.4 Waste generated from this Project includes inert construction and demolition (C&D) materials, non-inert C&D materials and dredging materials. 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. 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 5.1**. No paper/cardboard packaging, plastics and steel material were generated during the reporting period. Detail of waste management data is presented in **Appendix G**.

Table 5.1 Quantities of Waste Generated from the Project

Reporting Month	Quantity						
	C&D Materials (inert) ^(a)	C&D Materials (non-inert) ^(b)	Dredging Quantity (in bulk volume)	Chemical Waste	Recycled materials		
					Paper/cardboard	Plastics	Metals
September 2012	111 m ³	285 m ³	0 m ³	0 L	0 kg	0 kg	0 kg

Notes:

(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil.

(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.

Landscape and Visual

- 5.5 The observations and recommendations made during the audit sessions are summarized in **Table 6.1**.

Ecology

- 5.6 The observations and recommendations made during the audit sessions are summarized in **Table 6.1**.

6 ENVIRONMENTAL SITE INSPECTION

Site Audits

- 6.1 Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix D**.
- 6.2 Site audits were conducted on 3rd, 12th, 17th and 24th September 2012 by ET. A joint site audit with the representative with IEC, ER, the Contractor and the ET was carried out on 12th September 2012. No site inspection was conducted by EPD during the reporting month. The details of observations during site audit can refer to **Table 6.1**.

Implementation Status of Environmental Mitigation Measures

- 6.3 According to the EIA Study Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the EMIS is provided in **Appendix F**.
- 6.4 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations made during the audit sessions are summarized in **Table 6.1**.

Table 6.1 Observations and Recommendations of Site Audit

Parameters	Date	Observations and Recommendations	Follow-up
<i>Water Quality</i>	17 Sep 2012	<u>Reminder:</u> Properly manage the site boundary to avoid surface runoff into the sea.	The observation was observed to be rectified by the Contractor during the audit session on 24 Sep 2012.
<i>Noise</i>	---	---	---
<i>Ecology/Landscape and Visual</i>	3 Sep 2012	<u>Reminder:</u> Fencing should be provided for protecting the retained tree.	The observation was observed to be rectified by the Contractor during the audit session on 12 Sep 2012.
<i>Air Quality</i>	12 Sep 2012	<u>Reminder:</u> Adequate air quality mitigation measures should be provided at dust-generating construction works.	The observation was observed to be rectified by the Contractor during the audit session on 17 Sep 2012.
<i>Waste / Chemical Management</i>	---	---	---
<i>Permits/Licenses</i>	3 Sep 2012	<u>Reminder:</u> Environmental Permit should be displayed conspicuously on site.	The observation was observed to be rectified by the Contractor during the audit session on 12 Sep 2012.
<i>IEC's observation/recommendation:</i> During the joint site audit on 12 Sep 2012, IEC's representative recommended to provide sand bags along the site boundary to de-site/avoid any muddy water into the sea.			

7 ENVIRONMENTAL NON-CONFORMANCE

Summary of Exceedances

- 7.1 No impact monitoring was conducted in the reporting month. The template for summary of exceedance is provided in **Appendix C**.

Summary of Environmental Non-Compliance

- 7.2 No environmental non-compliance was recorded in the reporting month.

Summary of Environmental Complaint

- 7.3 No environmental related complaint, prosecution or notification of summons was received in the reporting month. The Complaint Log is presented in **Appendix H**.

Summary of Environmental Summon and Successful Prosecution

- 7.4 There was no environmental complaint, prosecution or notification of summons received since the Project commencement.

8 FUTURE KEY ISSUES

Key Issues in the Coming Month

8.1 Key issues to be considered in the coming month include:

- Accumulation of C&D waste and general waste on site;
- Accumulation of stagnant water in the site areas; and
- Dust generated from excavation works, drilling works and stockpile of dusty materials;
- Effluent discharge generated from surface runoff; and
- Water quality impact in the vicinity of the seabed dredging activities.
- Disposal of dredged sediment including those contaminated ones.

Monitoring Schedule for the Next Month

8.2 The tentative water quality impact monitoring schedule for the next month is shown in **Appendix B**.

Construction Programme for the Next Month

8.3 A tentative construction programme is provided in **Appendix I**. The major construction activities in the coming month will include:

- Borehole drilling for ground investigation;
- Construction of pile foundation;
- Erection of site hoardings;
- Seabed dredging; and
- Site formation and construction of concrete pavement.

9 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 9.1 The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 September 2012 to 30 September 2012 in accordance with EM&A Manual and the requirement under EP-438/2012/A.
- 9.2 No impact monitoring was conducted in the reporting month.
- 9.3 There was no environmental complaint, prosecution or notification of summons received.
- 9.4 The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Recommendations

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

Water Impact

- Manage the site boundary properly to avoid surface runoff into the sea.

Dust Impact

- Cover the excavated dusty materials or stockpile of dusty materials by impervious sheeting, or spray water on the dusty materials so as to maintain entire surface wet.
- Regularly spray with water on the surface of unpaved area.

Waste / Chemical Management

- Avoid and check for any accumulation of waste materials or rubbish on site.
- Avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment.
- Provide drip tray with adequate capacity and maintain well for equipment and chemical waste.

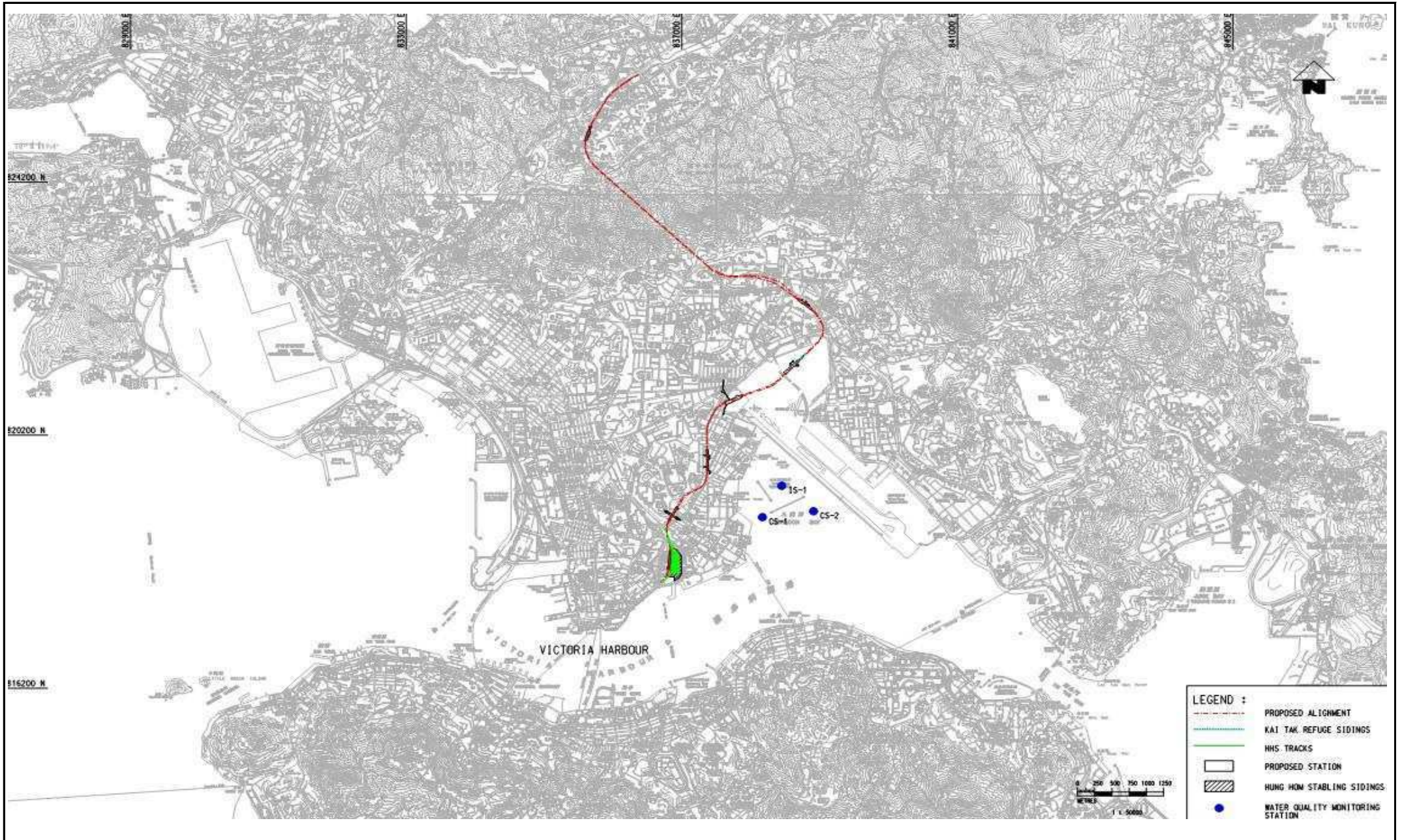
Ecology

- Prevent encroachment onto adjacent habitats by delineation of work sites.

FIGURES



Title	SCL Contract 1108A The Shatin to Central Link - Kai Tak Barging Point Facilities Site Layout Plan	Scale	N.T.S	Propose No.	MA12028	CINOTECH
		Date	Oct-12	Figure	1	



Title

SCL Contract 1108A
The Shatin to Central Link -
Kai Tak Barging Point Facilities

Location of Water Monitoring Station and Control Stations

Scale	N.T.S	Propose No.	MA12028
Date	Oct-12	Figure	2



**APPENDIX A
ACTION AND LIMIT LEVELS**

APPENDIX A – Action and Limit Levels

Action and Limit Levels for Water Quality

Parameter	Action	Limit
DO in mg/L	<u>Surface & Middle:</u> 4.6 (5 percentile of baseline data) <u>Bottom:</u> 3.9 (5 percentile of baseline data)	<u>Surface & Middle:</u> 4 <u>Bottom:</u> 2
SS in mg/L	6.1 (95 percentile of baseline data)	6.3 (99 percentile of baseline data)
Turbidity in NTU	4.8 (95 percentile of baseline data)	5.0 (99 percentile of baseline data)

**APPENDIX B
WATER QUALITY MONITORING
SCHEDULE**

**Shatin to Central Link – Contract 1108A Kai Tak Barging Point Facilities
Tentative Impact Water Quality Monitoring for Dredging Works in October 2012**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct
7-Oct	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct
					<u>Water Quality Monitoring</u> Mid-Ebb 09:41 Mid-Flood 16:24	
14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct
<u>Water Quality Monitoring</u> Mid-Ebb 11:16 Mid-Flood 17:21		<u>Water Quality Monitoring</u> Mid-Ebb 12:45 Mid-Flood 18:31		<u>Water Quality Monitoring</u> Mid-Ebb 14:15 Mid-Flood 19:47		
21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct
	<u>Water Quality Monitoring</u> Mid-Ebb 05:32 Mid-Flood 13:12		<u>Water Quality Monitoring</u> Mid-Ebb 08:04 Mid-Flood 15:14		<u>Water Quality Monitoring</u> Mid-Ebb 09:55 Mid-Flood 16:26	
28-Oct	29-Oct	30-Oct	31-Oct			
	<u>Water Quality Monitoring</u> Mid-Ebb 11:55 Mid-Flood 17:47		<u>Water Quality Monitoring</u> Mid-Ebb 12:58 Mid-Flood 18:34			

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Remark: 1) Reference was made to the tidal information of Hong Kong Observatory

2) The commencement date of the water quality monitoring works is subject to the dredging programme

APPENDIX C
SUMMARY OF EXCEEDANCE

APPENDIX C – SUMMARY OF EXCEEDANCE

Reporting Month:

a) Exceedance Report for Water Quality Monitoring (NIL)

APPENDIX D
SITE AUDIT SUMMARY

*Shatin to Central Link -
Contract 1108A Kai Tak Barging Point Facilities*



Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	120903
Date	3 September 2012 (Monday)
Time	16:45-17:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
120903-R02	<p>Part B - Water Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part C - Ecology/Others</p> <ul style="list-style-type: none"> Fencing should be provided for protecting the retained tree. <p>Part D - Air Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part E - Construction Noise Impact</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part F - Waste/Chemical Management</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. 	C3
120903-R01	<p>Part G - Permit / Licenses</p> <ul style="list-style-type: none"> Environmental Permit should be displayed conspicuously on site. <p>Others</p> <ul style="list-style-type: none"> N/A 	G5

	Name	Signature	Date
Recorded by	Ken Cheng		3 September 2012
Checked by	Dr. Priscilla Choy		3 September 2012

*Shatin to Central Link -
Contract 1108A Kai Tak Barging Point Facilities*

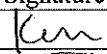

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	120912
Date	12 September 2012 (Wednesday)
Time	14:00-14:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
120912-R01	<p><i>Part B - Water Quality</i></p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p><i>Part C - Ecology/Others</i></p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p><i>Part D - Air Quality</i></p> <ul style="list-style-type: none"> Adequate air quality mitigation measures should be provided at dust-generating construction works. <p><i>Part E - Construction Noise Impact</i></p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p><i>Part F - Waste/Chemical Management</i></p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p><i>Part G - Permit / Licenses</i></p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p><i>Others</i></p> <ul style="list-style-type: none"> Follow-up on previous audit section (Ref. No.:120903), all environmental deficiencies were rectified by the Contractor. 	D6

	Name	Signature	Date
Recorded by	Ken Cheng		12 September 2012
Checked by	Dr. Priscilla Choy		12 September 2012

Shatin to Central Link -

Contract 1108A Kai Tak Barging Point Facilities

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	120917
Date	17 September 2012 (Monday)
Time	16:45-17:25

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
120917-R01	<p>Part B - Water Quality</p> <ul style="list-style-type: none">• Properly manage the site boundary to avoid surface runoff into the sea. <p>Part C - Ecology/Others</p> <ul style="list-style-type: none">• No environmental deficiency was identified during the site inspection. <p>Part D - Air Quality</p> <ul style="list-style-type: none">• No environmental deficiency was identified during the site inspection. <p>Part E - Construction Noise Impact</p> <ul style="list-style-type: none">• No environmental deficiency was identified during the site inspection. <p>Part F - Waste/Chemical Management</p> <ul style="list-style-type: none">• No environmental deficiency was identified during the site inspection. <p>Part G - Permit / Licenses</p> <ul style="list-style-type: none">• No environmental deficiency was identified during the site inspection. <p>Others</p> <ul style="list-style-type: none">• Follow-up on previous audit section (Ref. No.:120912), all environmental deficiency was rectified by the Contractor.	B1, B4 & B15i

	Name	Signature	Date
Recorded by	Ken Cheng		17 September 2012
Checked by	Dr. Priscilla Choy		17 September 2012

**Shatin to Central Link -
Contract 1108A Kai Tak Barging Point Facilities**



Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	120924
Date	24 September 2012 (Monday)
Time	16:45-17:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p>Part B - Water Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part C - Ecology/Others</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part D - Air Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part E - Construction Noise Impact</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part F - Waste/Chemical Management</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part G - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Others</p> <ul style="list-style-type: none"> Follow-up on previous audit section (Ref. No.:120917), all environmental deficiency was improved/rectified by the Contractor. 	

	Name	Signature	Date
Recorded by	Ken Cheng		24 September 2012
Checked by	Dr. Priscilla Choy		24 September 2012

APPENDIX E
EVENT AND ACTION PLANS

Event and Action Plan for Water Quality

Event	ET	IEC	ER	Contractor
Action level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Inform IEC, contractor and ER; 2. Check monitoring data, all plant, equipment and Contractor's working methods; and 3. Discuss remedial measures with IEC and Contractor and ER 	<ol style="list-style-type: none"> 1. Discuss with ET, ER and Contractor on the implemented mitigation measures; 2. Review proposals on remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> 1. Discuss with IEC, ET and Contractor on the implemented mitigation measures; and 2. Make agreement on the remedial measures to be implemented. 3. Supervise the implementation of agreed remedial measures 	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment; 5. Consider changes of working methods; 6. Discuss with ER, ET and IEC and propose remedial measures to IEC and ER; and 7. Implement the agreed mitigation measures.
Action level being exceeded by more than one consecutive sampling days	<ol style="list-style-type: none"> 1. Repeat in-situ measurement on next day of exceedance to confirm findings; 2. Inform IEC, contractor and ER; 3. Check monitoring data, all plant, equipment and Contractor's working methods; 4. Discuss remedial measures with IEC, contractor and ER 5. Ensure remedial measures are implemented 	<ol style="list-style-type: none"> 1. Discuss with ET Contractor and ER on the implemented mitigation measures; 2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> 1. Discuss with ET, IEC and Contractor on the proposed mitigation measures; 2. Make agreement on the remedial measures to be implemented; and 3. Discuss with ET IEC and Contractor on the effectiveness of the implemented remedial measures. 	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of remedial measures to ER and IEC within 3 working days of notification; and 6. Implement the agreed mitigation measures.
Limit level being	<ol style="list-style-type: none"> 1. Repeat measurement on next day 	<ol style="list-style-type: none"> 1. Discuss with ET , Contractor and 	<ol style="list-style-type: none"> 1. Discuss with IEC, ET and 	<ol style="list-style-type: none"> 1. Identify source(s) of impact;

Event	ET	IEC	ER	Contractor
<p>exceeded by one sampling day</p>	<p>of exceedance to confirm findings; 2. Inform IEC, contractor and ER; 3. Rectify unacceptable practice; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Consider changes of working methods 6. Discuss mitigation measures with IEC, ER and Contractor; and 7. Ensure the agreed remedial measures are implemented;</p>	<p>ER on possible remedial actions; 2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.</p>	<p>Contractor on the implemented remedial measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the remedial measures to be implemented; and 4. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures.</p>	<p>2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER within 3 working days of notification; and 6. Implement the agreed remedial measures.</p>
<p>Limit level being exceeded by more than one consecutive sampling days</p>	<p>1. Inform IEC, contractor, ER and EPD 2. Check monitoring data, all plant, equipment and Contractor's working methods; 3. Discuss mitigation measures with IEC, ER and Contractor; and 4. Ensure mitigation measures are implemented; and 5. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days.</p>	<p>1. Discuss with ET, ER and Contractor on possible remedial actions; 2. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.</p>	<p>1. Discuss with IEC, ET and Contractor on the implemented mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the remedial measures to be implemented; 4. Discuss with ET and IEC on the effectiveness of the implemented mitigation measures; and 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the dredging activities until no exceedance of Limit level.</p>	<p>1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; 6. Implement the agreed mitigation measures. 7. As directed by the ER, to slow down or to stop all or part of the dredging activities until no exceedance of Limit level.</p>

Event and Action Plan for Landscape and Visual during Construction Stage

Event	ET	IEC	ER	Contractor
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Inform the Contractor, the IEC and the ER 2. Discuss remedial actions with the IEC, the ER and the Contractor 3. Monitor remedial actions until rectification has been completed 	<ol style="list-style-type: none"> 1. Check inspection report 2. Check the Contractor's working method 3. Discuss with the ET, ER and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of non-conformity in writing 2. Review and agree on the remedial measures proposed by the Contractor 3. Supervise implementation of remedial measures 	<ol style="list-style-type: none"> 1. Identify Source and investigate the non-conformity 2. Implement remedial measures 3. Amend working methods agreed with the ER as appropriate 4. Rectify damage and undertake any necessary replacement
Repeated Non-conformity	<ol style="list-style-type: none"> 1. Identify Source 2. Inform the Contractor, the IEC and the ER 3. Increase inspection frequency 4. Discuss remedial actions with the IEC, the ER and the Contractor 5. Monitor remedial actions until rectification has been completed 6. If non-conformity stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Check inspection report 2. Check the Contractor's working method 3. Discuss with the ET and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures 	<ol style="list-style-type: none"> 1. Notify the Contractor 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented 3. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify Source and investigate the non-conformity implement remedial measures 2. Amend working methods agreed with the ER as appropriate 3. Rectify damage and undertake any necessary replacement. 4. Stop relevant portion of works as determined by the ER until the non-conformity is abated.

Note:

ET – Environmental Team

IEC – Independent Environmental Checker

ER – Engineer/Engineer’s Representative

**APPENDIX F
UPDATED ENVIRONMENTAL
MITIGATION IMPLEMENTATION
SCHEDULE**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
Ecology (Pre-Construction Phase)								
S5.7	E3	<p><u>Tree felling and vegetation removal</u></p> <p>Precautionary checks of the vegetation for the presence of nesting bird species of conservation interest should be carried out before vegetation clearance by an ecologist.</p>	Minimize ecological impacts to breeding bird species of conservation interest	Contractor	Works sites Kai Tak Barging Point	Prior to site clearance	• AFCD's requirements	^
Ecology (Construction Phase)								
S5.7	E5	<p><u>Good Site Practices</u></p> <p>Impact to any habitats or local fauna should be avoided by implementing good site practices, including the containment of silt runoff within the site boundary, the containment of contaminated soils for removal from the site, appropriate storage of chemicals and chemical waste away from sites of ecological value and the provision of sanitary facilities for on-site workers. Adoption of such measures should permit waste to be suitably contained within the site for subsequent removal and appropriate disposal.</p> <p>The following good site practices should also be implemented:</p> <ul style="list-style-type: none"> Erection of temporary geotextile silt or sediment fences/oil traps around any earth-moving works to trap any sediments and prevent them from entering watercourses in particular the Tei Lung Hau 	Minimise ecological impacts	Contractor	All construction sites	During Construction	• ProPECC PN 1/94	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		stream; <ul style="list-style-type: none"> Avoidance of soil storage against trees or close to waterbodies in particular the Tei Lung Hau stream; Delineation of works site by erecting hoardings to prevent encroachment onto adjacent habitats and fence off areas which have some ecological value. No on-site burning of waste; Waste and refuse in appropriate receptacles. 						^ ^ ^ ^
S5.7	E6	<u>Sediment Removal</u> <ul style="list-style-type: none"> Use closed grab in dredging works. Install silt curtain during the dredging. 	<ul style="list-style-type: none"> Reduce indirect impacts of suspended solids on sessile benthic and intertidal fauna Minimize marine water quality impacts 	Contractor	Dredging Area	During Dredging	•TM-Water	N/A ⁽²⁾ N/A ⁽²⁾
Landscape & Visual (Construction Phase)								
S6.9.3	LV1	The following good site practices and measures for minimisation and avoidance of potential impacts are recommended: <u>Re-use of Existing Soil</u>	Minimize visual & landscape impact	Contractor	Within Project Site	Constructi on stage	•TM-EIAO	

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<ul style="list-style-type: none"> For soil conservation, existing topsoil shall be re-used where possible for new planting areas within the project. The construction program shall consider using the soil removed from one phase for backfilling another. Suitable storage ground, gathering ground and mixing ground may be set up on-site as necessary. <p><u>No-intrusion Zone</u></p> <ul style="list-style-type: none"> To maximize protection to existing trees, ground vegetation and the associated under storey habitats, construction contracts may designate “No-intrusion Zone” to various areas within the site boundary with rigid and durable fencing for each individual no-intrusion zone. The contractor should closely monitor and restrict the site working staff from entering the “no-intrusion zone”, even for indirect construction activities and storage of equipment. <p><u>Protection of Retained Trees</u></p> <ul style="list-style-type: none"> All retained trees should be recorded photographically at the commencement of the Contract, and carefully protected during the construction period. Detailed tree protection specification shall be allowed and included in the Contract Specification, which specifying the tree protection requirement, submission and approval system, and the tree monitoring system. 						<p>N/A⁽²⁾</p> <p>^</p> <p>^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<ul style="list-style-type: none"> The Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works sites. 						^
S6.12	LV2	<p><u>Decorative Hoarding</u></p> <ul style="list-style-type: none"> Erection of decorative screen during construction stage to screen off undesirable views of the construction site for visual and landscape sensitive areas. Hoarding should be designed to be compatible with the existing urban context. <p><u>Management of facilities on work sites</u></p> <ul style="list-style-type: none"> To provide proper management of the facilities on the sites, give control on the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs. 	Minimize visual & landscape impact	Contractor	Within Project Site	Detailed design and construction stage	<ul style="list-style-type: none"> EIAO – TM ETWB TCW 2/2004 ETWB TCW 3/2006 	<p>N/A⁽²⁾</p> <p>N/A⁽¹⁾</p>
Construction Dust Impact								
S7.6.5	D1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	Minimize dust impact at the nearby sensitive receivers	Contractor	All Construction Sites	Construction stage	<ul style="list-style-type: none"> APCO To control the dust impact to meet HKAQO and 	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
							TM-EIA criteria	
S7.6.5	D2	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road in the Kowloon area should be conducted to achieve dust removal efficiencies of 91.7%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.8 L/m ² to achieve the dust removal efficiency	Minimize dust impact at the nearby sensitive receivers	Contractor	All Construction Sites	Construction on stage	<ul style="list-style-type: none"> • APCO • To control the dust impact to meet HKAQO and TM-EIA criteria 	^
S7.6.5	D3	<ul style="list-style-type: none"> • Proper watering of exposed spoil should be undertaken throughout the construction phase; • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the 	Minimize dust impact at the nearby sensitive receivers	Contractor	All Construction Sites	Construction on stage	<ul style="list-style-type: none"> • APCO • To control the dust impact to meet HKAQO and TM-EIA criteria 	^ * ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<p>pedestrian barriers, fencing or traffic cones;</p> <ul style="list-style-type: none"> • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided and properly maintained as far as practicable along the site boundary with provision for public crossing; Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; 						<p style="text-align: center;">^</p> <p style="text-align: center;">N/A⁽²⁾</p> <p style="text-align: center;">N/A⁽²⁾</p> <p style="text-align: center;">^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<ul style="list-style-type: none"> • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked 						<p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<p>with the material filling line and no overfilling is allowed;</p> <ul style="list-style-type: none"> • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies. 						<p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p>
S7.6.5	D4	<p>The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point:</p> <ul style="list-style-type: none"> • All road surface within the barging facilities will be paved; • Dust enclosures will be provided for the loading ramp; • Vehicles will be required to pass through designated wheels wash facilities; and • Continuous water spray at the loading points 	Control construction dust	Contractor	Kai Tak Barging Point	Constructi on stage	<ul style="list-style-type: none"> • Air Pollution Control (Construction Dust) Regulation 	<p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p>
S7.6.5	D5	For the unloading of spoil from trucks at barging point, installation of 3-sided screen with top cover and the provision of water sprays at the discharge point would be provided for an assumed 50% dust	Minimize dust impact at the nearby sensitive	Contractor	Barging Points	Constructi on stage	<ul style="list-style-type: none"> • APCO • To control the dust 	N/A ⁽²⁾

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		suppression.	receivers				impact to meet HKAQO and TM-EIA criteria	
S7.6.5	D6	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction stage	• TM-EIA	N/A ⁽¹⁾
Construction Noise (Airborne)								
S8.3.6	N1	Implement the following good site practices: <ul style="list-style-type: none"> only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; machines and plant (such as trucks, cranes) 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, where possible, be orientated so that the noise is directed away from nearby NSRs; 	Control construction airborne noise	Contractor	All Construction Sites	Construction stage	• Annex 5, TM-EIA	^ ^ N/A ⁽¹⁾

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<ul style="list-style-type: none"> silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; mobile plant should be sited as far away from NSRs as possible and practicable; material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 						<p>N/A⁽²⁾</p> <p>N/A⁽¹⁾</p> <p>N/A⁽²⁾</p>
S8.3.6	N2	Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All Construction Sites	Construction stage	• Annex 5, TM-EIA	N/A ⁽¹⁾
S8.3.6	N3	Install movable noise barriers (typical design is wooden framed barrier with a small-cantilevered on a skid footing with 25mm thick internal sound absorptive lining), acoustic mat or full enclosure, screen the noisy plants including air compressor, generators and saw.	Screen the noisy plant items to be used at all construction sites	Contractor	All Construction Sites	Construction stage	• Annex 5, TM-EIA	N/A ⁽¹⁾
S8.3.6	N4	Use “Quiet plants”	Reduce the noise levels of plant items	Contractor	All Construction Sites where	Construction stage	• Annex 5, TM-EIA	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
					practicable			
S8.3.6	N5	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All Construction Sites where practicable	Construction stage	• Annex 5, TM-EIA	^
S8.3.6	N6	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction stage	• TM-EIA	N/A ⁽¹⁾
Water Quality (Construction Phase)								
S10.7.1	W1	In accordance with the Practice Noise for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following: <u>Construction Runoff and Site Drainage</u> <ul style="list-style-type: none"> At the start of site establishment (including the barging facilities), perimeter cut-off drains to direct off-site water around the site 	To minimize water quality impact from construction site runoff and general construction activities	Contractor	All construction sites where practicable	Construction stage	<ul style="list-style-type: none"> Water Pollution Control Ordinance ProPECC PN1/94 TM-EIAO 	*

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<p>should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction.</p> <ul style="list-style-type: none"> The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1 m³/s a sedimentation basin of 30m³ would be required and for a flow rate of 0.5 m³/s the basin would be 150 m³. The detailed design of the sand/silt 					<ul style="list-style-type: none"> TM-Water 	<p>^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<p>traps shall be undertaken by the contractor prior to the commencement of construction.</p> <ul style="list-style-type: none"> • All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means. • The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows. • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. • Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is 						<p>N/A⁽²⁾</p> <p>^</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<p>necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.</p> <ul style="list-style-type: none"> • Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m³ should be covered with tarpaulin or similar fabric during rainstorms. • Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers • Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes • All vehicles and plant should be cleaned before leaving a 						<p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>^</p> <p>^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<p>construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.</p> <ul style="list-style-type: none"> • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. • Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. • All fuel tanks and storage areas should be provided with locks and 						<p>N/A⁽²⁾</p> <p>^</p> <p>^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<p>sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby</p> <ul style="list-style-type: none"> All the earth works involving should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable. Adopt best management practices. 						N/A ⁽²⁾ ^
S10.7.1	W3	<p><u>Sewage Effluent</u></p> <ul style="list-style-type: none"> Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance. 	To minimize water quality from sewage effluent	Contractor	All construction sites where practicable	Construction stage	<ul style="list-style-type: none"> Water Pollution Control Ordinance TM-water 	^
S10.7.1	W4	<p><u>Groundwater from Contaminated Area:</u></p> <ul style="list-style-type: none"> No direct discharge of groundwater from contaminated areas should be adopted. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed with reference to the site investigation data in this EIA report for compliance to the Technical Memorandum on Standards 	To minimize groundwater quality impact from contaminated area	Contractor	Excavation areas where contamination is found.	Construction stage	<ul style="list-style-type: none"> Water Pollution Control Ordinance TM-water TM-EIAO 	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<p>for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters (TM-Water) and the existence of prohibited substance should be confirmed. The review results should be submitted to EPD for examination. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated in compliance with the requirements of the TM-Water or properly recharged into the ground.</p> <ul style="list-style-type: none"> • If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. TPH) to undetectable range. All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-Water and should be discharged into the foul sewers • If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be 						<p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<p>affected by the recharge operation as indicated in the Section 2.3 of TM-Water. The baseline groundwater quality shall be determined prior to the selection of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as TPH products should be removed as necessary by installing the petrol interceptor. The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater.</p>						
S10.7.1	W5	<p><u>Dredging Works</u></p> <p>The following good practice shall apply for the dredging works:</p> <ul style="list-style-type: none"> • Install efficient silt curtains at the point of seawall dredging to control the dispersion of SS; • Implement water quality monitoring to ensure effective control of water pollution and recommend additional mitigation measures 	To minimize sediment suspension during dredging	Contractor	Kai Tak Barging Point during dredging works	Dredging period	<ul style="list-style-type: none"> • Water Pollution Control Ordinance • TM-EIAO 	<p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		required; <ul style="list-style-type: none"> The decent speed of grabs should be controlled to minimize the seabed impact and to reduce the volume of over-dredging; and All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash. 						N/A ⁽²⁾ N/A ⁽²⁾
S10.7.1	W6	<u>Operation of Barging Facilities</u> The following good practice shall apply for the barging facilities operations: <ul style="list-style-type: none"> All barges should be fitted with tight bottom seals to prevent leakage of materials during transport; Barges or hoppers should not be filled to a level that will cause overflow of materials or polluted water during loading or transportation; All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; Loading of barges and hoppers should be controlled to prevent 	To minimize water quality impact from operation of barging facility	Contractor	All barging facilities	Construction stage	<ul style="list-style-type: none"> Water Pollution Control Ordinance TM-EIA 	N/A ⁽²⁾ N/A ⁽²⁾ N/A ⁽²⁾ N/A ⁽²⁾

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		splashing of material into the surrounding water; and <ul style="list-style-type: none"> Mitigation measures as outlined in W1 should be applied to minimise water quality impacts from site runoff and open stockpile spoils at the proposed barging facilities where appropriate. 						N/A ⁽²⁾
S10.7.1	W7	In order to prevent accidental spillage of chemicals, the following is recommended: <ul style="list-style-type: none"> All the tanks, containers, storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and stormwater drains. The Contractor should register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities should be stored with suitable labels and warnings. Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation. 	To minimize water quality impact from accidental spillage	Contractor	All construction sites where practicable	Construction stage	<ul style="list-style-type: none"> Water Pollution Control Ordinance ProPECC PN1/94 TM-EIAO TM-Water 	^ ^ N/A ⁽²⁾
S10.7.1	W8	Implement a marine water quality monitoring programme	Monitor marine water quality prior to and during dredging	Contractor	At identified monitoring location	Prior to and during dredging	<ul style="list-style-type: none"> Water Pollution Control Ordinance 	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
			period			period	<ul style="list-style-type: none"> • TM-water • EIA-TM 	
Waste Management (Construction Waste)								
S11.4.1.1	WM1	<p><u>On-site sorting of C&D material</u></p> <ul style="list-style-type: none"> • Geological assessment should be carried out by competent persons on site during excavation to identify materials which are not suitable to use as aggregate in structural concrete (e.g. volcanic rock, Aplite dyke rock, etc). Volcanic rock and Aplite dyke rock should be separated at the source sites as far as practicable and stored at designated stockpile areas preventing them from delivering to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from ended up at concrete batching plants and be turned into concrete for structural use. Details regarding control measures at source site and crushing facilities should be submitted by the Contractors for the Engineer to review and agree. In addition, site records should also be kept for the types of rock materials excavated and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced by site supervisory staff as stipulated under DEVB TC(W) No. 6/2010 for 	Separation of unsuitable rock from ending up at concrete batching plants and be turned into concrete for structural use	Contractor	All construction sites	Construction on stage	<ul style="list-style-type: none"> • DEVB TC(W) No. 6/2010 	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		tracking of the correct delivery to the rock crushing facilities for processing into aggregates. Alternative disposal option for the reuse of volcanic rock and Aplite Dyke rock, etc should also be explored.						
S11.5.1	WM2	<p><u>Construction and Demolition Material</u></p> <ul style="list-style-type: none"> Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; Carry out on-site sorting; Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; and Implement an enhanced Waste Management Plan similar to ETWBTC (Works) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. 	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> Land (Miscellaneous Provisions) Ordinance Waste Disposal Ordinance ETWB TCW No. 19/2005 	<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<ul style="list-style-type: none"> In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation 						^
S11.5.1	WM3	<p><u>C&D Waste</u></p> <ul style="list-style-type: none"> Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage. The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such 	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> Land (Miscellaneous Provisions) Ordinance Waste Disposal Ordinance ETWB TCW No.19/2005 	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		segregation and storage.						
S11.5.1	WM4	<u>General Refuse</u> <ul style="list-style-type: none"> General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. 	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance	^ ^ ^
S11.5.1	WM6	<u>Land-based and Marine-based Sediment</u>	To control pollution due	Contractor	Within Project	Construction	• ETWB	

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<ul style="list-style-type: none"> • All construction plant and equipment shall be designed and maintained to minimize the risk of silt, sediments, contaminants or other pollutants being released into the water column or deposited in the locations other than designated location; • All vessels shall be sized such that adequate draft is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; • Before moving the vessels which are used for transporting dredged material, excess material shall be cleaned from the decks and exposed fittings of vessels and the excess materials shall never be dumped into the sea except at the approved locations; • Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action. • The Contractors shall monitor all vessels transporting material to ensure that no dumping outside the approved location takes place. The Contractor shall keep and produce logs and other records to demonstrate compliance and that journeys are consistent with designated locations and copies of such records shall be submitted to the engineers; 	to marine sediment		Site Area	on Stage	TCW No. 34/2002	^ N/A ⁽²⁾ N/A ⁽²⁾ N/A ⁽²⁾ N/A ⁽²⁾

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<ul style="list-style-type: none"> • The Contractors shall comply with the conditions in the dumping licence. • All bottom dumping vessels (Hopper barges) shall be fitted with tight fittings seals to their bottom openings to prevent leakage of material; • The material shall be placed into the disposal pit by bottom dumping; • Contaminated marine mud shall be transported by spit barge of not less than 750m³ capacity and capable of rapid opening and discharge at the disposal site; • Discharge shall be undertaken rapidly and the hoppers shall be closed immediately. Material adhering to the sides of the hopper shall not be washed out of the hopper and the hopper shall remain closed until the barge returns to the disposal site. • For Type 3 special disposal treatment, sealing of contaminant with geosynthetic containment before dropping into designated mud pit would be a possible arrangement. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, the containers would be dropped into the designated contaminated mud pit where they 						<p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p> <p>N/A⁽²⁾</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?	Status
		<p>would be covered by further mud disposal and later by the mud pit capping at the disposal site, thereby fulfilling the requirements for fully confined mud disposal.</p>						
S11.5.1	WM7	<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, 	<p>Control the chemical waste and ensure proper storage, handling and disposal.</p>	Contractor	All Construction Sites	Construction Stage	<ul style="list-style-type: none"> Waste Disposal (Chemical Waste) (General) Regulation Code of Practice on the Packaging, Labelling and Storage of Chemical Waste 	<p>^</p> <p>^</p> <p>^</p>

**APPENDIX G
WASTE GENERATION IN THE
REPORTING MONTH**

Concentric – Hong Kong River Joint Venture

MTR SCL Contract 1108A Kai Tak Barging Point Facilities

Monthly Summary Waste Flow Table for 2012 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0	0	0	0
Sub-total	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0
Sept	0	0	0	0	0.111	0	0	0	0	0	0.285
Oct	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0	0
G.Total	0	0	0	0	0.111	0	0	0	0	0	0.285

**APPENDIX H
COMPLAINT LOG**

Appendix H - Complaint Log

Log Ref.	Date/Location	Complainant/ Date of Contact	Details of Complaint	Investigation/ Mitigation Action	File Closed
--	--	--	--	--	--

**APPENDIX I
TENTATIVE CONSTRUCTION
PROGRAMME**



MTR SCL 1108A
KAI TAK BARGING POINT FACILITIES



3 Month Rolling Programme (Rev.02)

Act ID	Description	Orig Dur	Early Start	Early Finish	Total Float	%	Cal.	2012			2013			
								AUG	SEP	OCT	NOV	DEC	JAN	FEB
COMMENCEMENT & COMPLETION														
Completion of the Works														
1108ACD01	Letter of Acceptance	0	10AUG12 A			100	2							
1108ACD02	Commencement of Contract	0	13AUG12 A			100	2							
1108ACD03A	Completion of Specified Parts of the Works	0		14FEB13	1d	0	2							
1108ACD04B	Completion of 1st BPF for Operation	0		11DEC12	1d	0	2							
Time for Completion														
1108ACD04A	Completion of Specified Parts of the Works	187	13AUG12 A	14FEB13	1d	16	2							
1108ADC04B	Completion of 1st BPF for Operation	122	13AUG12 A	11DEC12	1d	25	2							
Time for Possession of Works Area														
1108AAC11	Portion 1108A.W1	52	13AUG12 A	02OCT12	10d	58	2							
1108AAC12	Portion 1108A.W2	21	13AUG12 A	13AUG12 A		100	2							
1108AAC13	Portion 1108A.W3	21	13AUG12 A	13AUG12 A		100	2							
1108AAC14	Portion 1108A.W4 (Access Only)	21	13AUG12 A	13AUG12 A		100	2							
1108AAC15	Portion 1108A.W5	52	13AUG12 A	02OCT12	10d	58	2							
1108AAC16	Portion 1108A.W6 (Access Only)	21	13AUG12 A	13AUG12 A		100	2							
1108AAC17	Portion 1108A.W7 (Access Only)	21	13AUG12 A	13AUG12 A		100	2							
+Vacation of Works Area														
		1215	01MAY13	28AUG16	0	0	2							
MILESTONES SCHEDULE														
Milestones for Cost Centre A														
1108AMSA11	Approval of EMP (G5.1.10)	0		16NOV12	1381d	0	2							
1108AMSA12	Approval of Quality Plan (G9.2.1)	0		16NOV12	1381d	0	2							
1108AMSA13	Approval of Method of Construction (G12.1.1)	0		14NOV12	1383d	0	2							
1108AMSA14	Approval of Submission Schedule	0		16NOV12	1381d	0	2							
1108AMSA15	Approval of RMP (P24.3.1)	0		16NOV12	1381d	0	2							
1108AMSA16	Approval of DSCP (PS Appendix Q)	0		23NOV12	1374d	0	2							
1108AMSA21	Approval of Health & Safety Plan (G3.6.1)	0		12DEC12	1355d	0	2							
1108AMSA22	Approval of Preliminary MP (G4.6.1)	0		12DEC12	1355d	0	2							
Milestones for Cost Centre B														
1108AMSB11	Approval: Design of BPF	0		08OCT12	1420d	0	2							
1108AMSB12	Approval: Operation Plan for BPF	0		20OCT12	1408d	0	2							
EXECUTION OF OPTIONS														
Option 01 - Lighting to All Access Roads														
1108AOP101	Time for Execution of Option 1	15	13AUG12 A	27AUG12 A		100	2							
Option 02 - Use of Floating Landing Barge in WA3														
1108AOP200	Time for Execution of Option 2	30	13AUG12 A	11SEP12 A		100	2							
1108AOP201	Extension of Time For Execution of Option 2	30	12SEP12 *	11OCT12	1417d	0	2							
1108AOP210	Review of MTIA Report	14	13AUG12 A	26AUG12 A		100	2							
1108APD220	Seek Advice / No-objection from Marine Dept.	14	27AUG12 A	09SEP12 A		100	2							
1108APD221	Seek No-objection from CEDD	21	27AUG12 A	11SEP12 A		100	1							
Value Engineering Proposals														
+Reuse of Existing BPF (Not Considered by MTR)														
		50	13AUG12 A	01OCT12	32d	51	2							
Reuse of Existing Footings														
1108AVE210	Preliminary Agreement w/Contractor of CV/2007/03	5	11SEP12	15SEP12	48d	0	2							

Act ID	Description	Orig Dur	Early Start	Early Finish	Total Float	%	Cal.	2012															
								AUG	SEP	OCT	NOV	DEC	2013										
								JAN			FEB			MAR									
1108AB2132	Foundation for BPF#2	14	31OCT12	13NOV12	24d	0	2																
1108AB2133	Pile Test for BPF#2 (if necessary)	14	14NOV12	27NOV12	24d	0	2																
1108AB2134	Substructures for BPF#2	14	28NOV12	11DEC12	24d	0	2																
1108AB2135	Erection of BPF#2	28	26DEC12	22JAN13	10d	0	2																
1108AB2136	Testing & Commissioning of BPF#2	7	23JAN13	29JAN13	17d	0	2																
1108AB2140	Beautification and Landscaping Works	28	09JAN13	05FEB13	10d	0	2																
1108AB2191	Operation of BPF#1	0	02JAN13		45d	0	2																
1108AB2192	Operation of BPF#2	0	30JAN13		17d	0	2																
Kai Tak BPF - Works Areas 1108A.W2 & W3																							
1108AB2201	Manufacture of BPF#3	42	11SEP12	22OCT12	23d	0	2																
1108AB2211	Site Clearance and Formation	42	03SEP12 A	10OCT12	38d	29	2																
1108AB2212	Erection of Hoarding & Project Signboards	42	22SEP12	02NOV12	27d	0	2																
1108AB2221	Foundation for BPF#3	28	09OCT12	05NOV12	2d	0	2																
1108AB2222	Erection of BPF#3	35	06NOV12	10DEC12	2d	0	2																
1108AB2223	Beautification and Landscaping Works	28	13NOV12	10DEC12	67d	0	2																
1108AB2299	Operation of BPF#3	0	11DEC12		2d	0	2																
Kai Tak BPF - Works Areas 1108A.W2 & W3 (Option)																							
1108AB2202	Manufacture Floating Landing Barge #3 (Option)	60	11SEP12	09NOV12	33d	0	2																
1108AB2213	Site Clearance and Formation	28	03SEP12 A	11OCT12	27d	29	2																
1108AB2231	Concrete Slab for Plank Gang to F.L.Barge	14	12OCT12	25OCT12	27d	0	2																
1108AB2232	Erection of Temp. Plank Gang to F.L.Barge	14	26OCT12	08NOV12	34d	0	2																
1108AB2233	Construction Roads & Pavements	21	26OCT12	15NOV12	27d	0	2																
1108AB2234	Installation of Weighbridge System	14	26OCT12	08NOV12	1389d	0	2																
1108AB2235	Installation of CCTV	14	26OCT12	08NOV12	1389d	0	2																
1108AB2236	Beautification and Landscaping Works	14	02NOV12	15NOV12	27d	0	2																
1108AB2239	Earlier Operation of BPF#3	0		15NOV12	27d	0	2																
Kai Tak BPF - Works Areas 1108A.W4, W6 & W7																							
1108AB3301	Construction of Temporary Access Roads	60	20SEP12	18NOV12	24d	0	2																
Kai Tak BPF - Dredging Area																							
1108AB2401	Application of Dumping License	62	13AUG12 A	12OCT12	20d	48	2																
1108AB2402	Baseline WQM by MTR	0		10SEP12 A		100	2																
1108AB2403	Submission & Approval: Method Statement	56	13AUG12 A	06OCT12	12d	54	2																
1108AB2410	Procurement of Geotubes	21	30SEP12	20OCT12	12d	0	2																
1108AB2421	Initial Echo-Sounding Survey	7	30SEP12	06OCT12	26d	0	2																
1108AB2422	Final Echo-Sounding Survey	7	03DEC12	11DEC12	969d	0	1																
1108AB2431	Dredging of Type 1 Sediment	1	21OCT12	21OCT12	12d	0	2																
1108AB2432	Dredging of Type 2 Sediment	20	22OCT12	10NOV12	12d	0	2																
1108AB2433	Dredging of Type 3 Sediment - Stage 1	20	11NOV12	30NOV12	12d	0	2																
1108AB2434	Dredging of Type 3 Sediment - Stage 2	0	01DEC12	30NOV12	75d	0	2																
1108AB2441	Disposal of Type 1 Sediment	1	22OCT12	22OCT12	76d	0	2																
1108AB2442	Disposal of Type 2 Sediment	20	23OCT12	11NOV12	76d	0	2																
1108AB2443	Disposal of Type 3 Sediment	20	13NOV12	02DEC12	75d	0	2																
+Kai Tak BPF - Mgt., Maintenance & Operation																							
		1248	30JAN13	30JUN16	59d	0	2																

Start date 10AUG12
 Finish date 26SEP16
 Data date 11SEP12
 Run date 23SEP12
 Page number 3A
 c Primavera Systems, Inc.



MTR SCL 1108A

KAI TAK BARGING POINT FACILITIES

- Early bar
- Target bar
- Progress bar
- Critical bar
- Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point

Date	Revision	Checked	Approved
13AUG12	1st Submission		
11SEP12	comments(SContE)		
21SEP12	comments(SContE)		

Appendix B

**1st EM&A Report for Works Contract 1109 –
Stations and Tunnels of Kowloon City Section**

MTR Corporation Limited

**Shatin to Central Link –
Tai Wai to Hung Hom Section**

Monthly EM&A Report No. 1

Works Contract 1109 - Stations and Tunnels of
Kowloon City Section
(October 2012)



Certified by: Winnie Ko

Position: Environmental Team Leader

Date: 12 October 2012

Samsung-Hsin Chong JV

Shatin to Central Link (SCL) - Tai
Wai to Hung Hom Section:
Works Contract 1109 – Stations and
Tunnels of Kowloon City Section
First Monthly EM&A Report

October 2012

Environmental Resources Management

16/F DCH Commercial Centre
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3000
Facsimile: (852) 2723 5660
E-mail: post.hk@erm.com
<http://www.erm.com>

Samsung-Hsin Chong JV

Shatin to Central Link (SCL) - Tai
Wai to Hung Hom Section:
Works Contract 1109 – Stations and
Tunnels of Kowloon City Section
First Monthly EM&A Report

October 2012

Reference 0171181

For and on behalf of
ERM-Hong Kong, Limited

Approved by: Frank Wan

Signed: 

Position: Partner

Date: 12 October 2012

CONTENTS

1	INTRODUCTION	1
1.1	PURPOSE OF THE REPORT	1
1.2	STRUCTURE OF THE REPORT	1
2	PROJECT INFORMATION	3
2.1	BACKGROUND	3
2.2	GENERAL SITE DESCRIPTION	3
2.3	CONSTRUCTION PROGRAMME AND ACTIVITIES	3
2.4	PROJECT ORGANISATION	4
2.5	STATUS OF ENVIRONMENTAL LICENCES, NOTIFICATION AND PERMITS	4
3	ENVIRONMENTAL MONITORING REQUIREMENTS	5
3.1	REGULAR CONSTRUCTION NOISE MONITORING	5
3.1.1	Monitoring Location	5
3.1.2	Monitoring Parameter and Frequency	5
3.1.3	Monitoring Equipment and Methodology	6
3.1.4	Action and Limit Levels	6
3.2	CONTINUOUS NOISE MONITORING	7
3.2.1	Monitoring Location	7
3.2.2	Monitoring Parameter and Frequency	7
3.2.3	Monitoring Equipment and Methodology	8
3.2.4	Action and Limit Levels	8
3.3	CONSTRUCTION DUST MONITORING	9
3.3.1	Monitoring Location	9
3.3.2	Monitoring Parameter and Frequency	9
3.3.3	Monitoring Equipment	9
3.3.4	Monitoring Methodology	10
3.3.5	Action and Limit Levels	12
3.4	CULTURAL HERITAGE	12
3.5	LANDSCAPE AND VISUAL	12
4	IMPLEMENTATION STATUS ON THE ENVIRONMENTAL PROTECTION REQUIREMENTS	14
5	MONITORING RESULTS	15
5.1	REGULAR CONSTRUCTION NOISE MONITORING	15
5.2	CONTINUOUS NOISE MONITORING	15
5.3	CONSTRUCTION DUST MONITORING	15
5.4	CULTURAL HERITAGE	16
5.5	WASTE MANAGEMENT	16
5.6	LANDSCAPE AND VISUAL	16
6	ENVIRONMENTAL SITE INSPECTION	18

7	ENVIRONMENTAL NON-CONFORMANCE	20
7.1	SUMMARY OF MONITORING EXCEEDANCE	20
7.2	SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE	20
7.3	SUMMARY OF ENVIRONMENTAL COMPLAINT	20
7.4	SUMMARY OF ENVIRONMENTAL SUMMON AND SUCCESSFUL PROSECUTION	20
8	FUTURE KEY ISSUES	21
8.1	KEY ISSUES FOR THE COMING MONTH	21
8.2	MONITORING SCHEDULE FOR THE NEXT MONTH	21
8.3	CONSTRUCTION PROGRAMME FOR THE NEXT MONTH	21
9	CONCLUSIONS	22

LIST OF ANNEXES

<i>Annex A</i>	<i>The Alignment and Works Area for Works Contract</i>
<i>Annex B</i>	<i>Construction Programme for the Reporting Month and Coming Month</i>
<i>Annex C</i>	<i>Project Organization Chart and Contact Detail</i>
<i>Annex D</i>	<i>Locations of Monitoring Stations for Noise and Dust Monitoring</i>
<i>Annex E</i>	<i>Monitoring Schedule of the Reporting Period and the Next Month</i>
<i>Annex F</i>	<i>Calibration Reports</i>
<i>Annex G</i>	<i>Summary of Event /Action Plans</i>
<i>Annex H</i>	<i>Summary of Implementation Status</i>
<i>Annex I</i>	<i>Regular Noise Monitoring Results</i>
<i>Annex J</i>	<i>Construction Dust Monitoring Results</i>
<i>Annex K</i>	<i>Waste Flow Table</i>
<i>Annex L</i>	<i>Environmental Complaint, Environmental Summon and Prosecution Log</i>

EXECUTIVE SUMMARY

The construction works of **MTR Shatin to Central Link Works Contract 1109 – Stations and Tunnels of Kowloon City Section** commenced on 1 September 2012. This is the first monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 September 2012 to 30 September 2012 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:

Ma Tau Wai (MTW) Works Area

- Underneath Kowloon East Corridor - site clearance, diversion of existing utilities, road drainage construction, cross road ducting;
- Removal of central divider along Ma Tau Wai Road - removal of the existing concrete divider; and
- MTW/TKW Road Garden - install and connect water supply, preparation works for demolishing existing public toilet, tree felling, preparation for transplanting and predrill for diaphragm wall panel.

To Kwa Wan (TKW) Works Area

- Site preparation works – site clearance and erection of site fencing and hoarding.

Regular Construction Noise and Construction Dust Monitoring

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

- Regular construction noise monitoring during normal working hours
 - NMS-CA-6 - times ⁽¹⁾
 - NMS-CA-7 - times ⁽¹⁾
 - NMS-CA-8 4 times
 - NMS-CA-9 2 times
 - NMS-CA-10 4 times
- Construction Dust (24-hour TSP) Monitoring
 - DMS-6 - times ⁽¹⁾
 - DMS-7 - times ⁽¹⁾
 - DMS-8 5 times
 - DMS-9 3 times
 - DMS-10 5 times

No exceedance of the Action and Limit Levels of regular noise monitoring and 24-hour TSP monitoring was recorded during the reporting period.

(1) Since the construction works have not started in the To Kwa Wan works area in the reporting month, therefore, no regular construction noise and dust monitoring were carried out at NMS-CA-6, NMS-CA-7, DMS-6 and DMS-7.

Continuous Noise Monitoring

As construction works that have been identified by the Construction Noise Mitigation Measures Plan (CNMMP) to be potentially causing exceedance of noise criteria have not commenced during this reporting month, no continuous noise monitoring was carried out.

Cultural Heritage

As tunnelling works have not yet commenced, no vibration monitoring was carried out during the reporting month.

Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. A total of 4m³ of inert C&D materials and 144m³ of non-inert C&D materials were generated during the reporting period. No chemical waste was generated during the reporting period. Non-inert C&D materials are made up of general refuse and vegetative waste. The inert C&D materials generated from the Project was disposed of at TKO137 Fill Bank and non-inert C&D materials were disposed of at NENT Landfill. In addition, 5,300kg of plastics were sent to Yan Oi Tong at EcoPark for recycling purpose.

Landscape and Visual

Most of necessary mitigation measures have been implemented and follow-up actions recommended to the Contractor have been conducted by the Contractor. Details of the audit findings and implementation status are presented in *Section 5*.

Environmental Site Inspection

Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 3, 10, 17 and 24 September 2012. The representative of the IEC joined the site inspection on 10 September 2012. Details of the audit findings and implementation status are presented in *Section 6*.

Non-conformance/Compliant/Summons and Prosecution

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

No environmental complaint and summons/prosecutions was received in this reporting period.

Future Key Issues

Works to be undertaken in the next reporting month include:

Ma Tau Wai (MTW) Works Area

- Underneath East Kowloon Corridor - site clearance, diversion of existing utilities, road drainage construction, cross road ducting;

- Removal of central divider along Ma Tau Wai Road - removal of the existing concrete divider;
- MTW/TKW Road Garden - installing and connecting water supply, demolishing existing public toilet, tree felling, preparing for transplanting and predrilling for diaphragm wall panel.

To Kwa Wan (TKW) Works Area

- General work - excavation of the trial pits for underground utilities and concrete pavement;
- Site preparation work - erection of site fencing & hoarding and site clearance;
- Demolition and site clearance - tree felling and preparation for transplanting;
- Piling - pre-drilling; and
- Preparation of tunnelling works - bored piling for Tunnel Boring Machine (TBM) shaft and pipe piling for TBM shaft.

ERM-Hong Kong, Limited (ERM) was appointed by Samsung-Hsin Chong JV (SSHCJV) as the Environmental Team (Contractor's ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during the construction phase of the **MTR Shatin to Central Link (SCL) Works Contract 1109 – Stations and Tunnels of Kowloon City Section** (the Project).

1.1 PURPOSE OF THE REPORT

This is the first EM&A report which summarises the monitoring results and audit findings during the reporting period from 1 September to 30 September 2012.

1.2 STRUCTURE OF THE REPORT

Section 1 : Introduction

It details the purpose 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, construction programme, construction works undertaken and status of the Environmental Permits/Licenses during the reporting period.

Section 3 : Environmental Monitoring Requirement

It summarises the monitoring parameters, programmes, methodologies, frequency, locations, Action and Limit Levels, Event / Action Plans.

Section 4 : Implementation Status of Environmental Mitigation Measures

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

Section 5 : Monitoring Results

It summarises the monitoring results obtained in the reporting period.

Section 6 : Environmental Site Inspection

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

Section 7 : Environmental Non-conformance

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

Section 8 : **Future Key Issues**

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

Section 9 : **Conclusions**

2 PROJECT INFORMATION

2.1 BACKGROUND

The Shatin to Central Link – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH)) is an extension of the Ma On Shan Line and is approximately 11 km long. It links up with the West Rail Line at Hung Hom forming a strategic east-west rail corridor. It is a Designated Project under the *Environmental Impact Assessment Ordinance* (Cap. 499) (EIAO).

The construction of the SCL (TAW-HUH) has been divided into a series of civil construction Works Contracts and this Works Contract 1109 covers the construction of stations in To Kwa Wan (TKW) and Ma Tau Wai (MTW), and the tunnels between TKW station and Ho Man Tin station (HOM).

2.2 GENERAL SITE DESCRIPTION

For the Works Contract 1109, the alignment runs from TKW station below Ma Tau Chung Road/Ma Tau Wai Road towards the west, reaching the MTW station. After leaving MTW station, the alignment passes Ko Shan Road and joins the HOM station at the intersection of Fat Kwong Street and Shun Yung Street. The underground sections of the alignment between TKW and HOM stations will be constructed by bored tunnelling. Both the TKW and MTW stations will be constructed by cut-and-cover method.

The alignment and works area for the Works Contract 1109 are shown in *Annex A*.

2.3 CONSTRUCTION PROGRAMME AND ACTIVITIES

A summary of the major construction activities undertaken in this reporting period is shown in *Table 2.1*. The construction programme is presented in *Annex B*.

Table 2.1 *Summary of the Construction Activities Undertaken during the Reporting Month*

Construction Activities Undertaken
Ma Tau Wai (MTW) Works Area
<ul style="list-style-type: none">• Underneath Kowloon East Corridor - site clearance, diversion of existing utilities, road drainage construction and cross road ducting;• Removal of central divider along Ma Tau Wai Road - removal of the existing concrete divider; and• MTW/TKW Road Garden - installing and connecting water supply, preparation works for demolishing existing public toilet, tree felling, preparation for transplanting and predrill for diaphragm wall panel.

Construction Activities Undertaken

To Kwa Wan (TKW) Works Area

- Site preparation work – site clearance and erection of site fencing and hoarding.
-

2.4 PROJECT ORGANISATION

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

2.5 STATUS OF ENVIRONMENTAL LICENCES, NOTIFICATION AND PERMITS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since the commencement of the construction works in September 2012 is presented in *Table 2.2*.

Table 2.2 Summary of the Status of Environmental Licence, Notification, Permit and Documentations

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Environmental Permit	EP-438/2012/A	Throughout the Contract	-
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation	348516	7 Aug 2012 – 30 Apr 2017	-
Wastewater Discharge Licence			
Site at MTW	-	-	Application was made on 13 Aug 2012 and is pending for EPD's approval
Site at TKW	-	-	Application was made on 13 Aug 2012 and pending for EPD's approval
Chemical Waste Producer Registration			
Site at MTW	5213-286-S3682-01	Throughout the Contract	-
Site at TKW	5213-242-S3682-02	Throughout the Contract	-
Construction Noise Permit	-	-	Application was made on 7 Aug 2012 and is pending for EPD's approval
Billing Account for Disposal of Construction Waste	7015758	Throughout the Contract	-

3.1 REGULAR CONSTRUCTION NOISE MONITORING

3.1.1 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 rejected or not available; alternative locations, were proposed and agreed by the ER (Engineer's Representative), IEC (Independent Environmental Checker) and EPD (Environmental Protection Department). The construction noise monitoring locations are listed in *Table 3.1* and shown in *Annex D*. The noise sensitive receivers (NSRs) related to this Works Contract are also shown in *Annex D*.

Table 3.1 Regular Construction Noise Monitoring Location

Proposed Regular Construction Noise Monitoring Location	Description	Type of Measurement
NMS-CA-6 ^(a)	No. 420 Prince Edward Road West	Façade
NMS-CA-7	Skytower Tower 2	Façade
NMS-CA-8	SKH Good Shepherd Primary School	Façade
NMS-CA-9 ^(b)	Kong Yiu Mansion	Façade
NMS-CA-10	Chat Ma Mansion	Façade

Notes:

(a) Access to the monitoring location (Prosperity House) originally proposed in the approved EM&A Manual was denied during the baseline monitoring. Furthermore, the alternative location, No. 420 Prince Edward Road West, used in the baseline monitoring was also not available as access permission was rejected by the owner of the building. Another location (No.16-23 Nam Kok Road) has been proposed by Contractor's ET and access has been granted. A proposal for this alternative location is prepared and the Contractor's ET is awaiting agreement by the IEC. The proposal will be submitted to EPD in October.

(b) As the Incorporated Owners Association of the monitoring location (i.e. Lucky Building) originally proposed in the approved EM&A Manual did not reply to our request for access to their premise, an alternative location, Kong Yiu Mansion, was proposed and approved by the ER and agreed by the IEC and EPD.

3.1.2 Monitoring Parameter and Frequency

Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual. If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed. The monitoring schedule for this reporting period is shown in *Annex E*.

The construction noise levels were measured in terms of A-weighted equivalent continuous sound pressure level (L_{eq}) in decibels dB(A). $L_{eq}(30min)$

was used as the monitoring metric for the time period between 0700 – 1900 hours on normal weekdays. The measured noise levels were logged every 5 minutes throughout the monitoring period.

3.1.3 *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 3.2*, compile with the IEC 651: 1979 and 804:1985 (Type 1) specification. The calibration certificates of the sound level meters are included in *Annex F*.

Table 3.2 *Noise Monitoring Equipment*

Monitoring Stations^(a)	Monitoring Equipment (Sound Level Meter and Calibrator)
NMS-CA-8, NMS-CA-9 and NMS-CA-10	Calibrator: NC 73 (Serial No. 10997142) Sound Level Meter: NL 18 (Serial No. 00360030) or NL 31 (Serial No. 00410224)
Note:	
(a) Since the construction works have not started in TKW works area in the reporting month, no construction noise monitoring was conducted at NMS-CA-6 and NMS-CA-7.	

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.

Measurements were accepted when the calibration level from before and after the noise measurement agreed to within 1.0 dB(A).

3.1.4 *Action and Limit Levels*

The Action and Limit Levels are presented in *Table 3.3* and the Event / Action Plan (EAP) for noise monitoring is presented in *Annex G*.

Table 3.3 Action and Limit Levels for Noise Monitoring

Time Period	Regular Noise Monitoring Location	Action Level	Limit Level
0700 - 1900 hours on normal weekdays	NMS- CA-6	When one documented valid complaint is received	75 dB(A)
	NMS- CA-7	When one documented valid complaint is received	75 dB(A)
	NMS- CA-8	When one documented valid complaint is received	70 dB(A) 65 dB(A) during examination period
	NMS- CA-9	When one documented valid complaint is received	75 dB(A)
	NMS- CA-10	When one documented valid complaint is received	75 dB(A)

Note:
(a) If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

3.2 CONTINUOUS NOISE MONITORING

3.2.1 Monitoring Location

With reference to the Continuous Noise Monitoring Plan (CNMP) and EP Condition 2.10, continuous noise monitoring should be conducted during the construction of the SCL (TAW-HUH) under Works Contract 1109 at nine noise sensitive receivers (NSRs), where the predicted residual air-borne construction noise impacts exceed the relevant noise criteria. The proposed continuous noise monitoring locations are presented in *Table 3.4* and shown in *Annex D*.

Table 3.4 Proposed Continuous Noise Monitoring Locations

Continuous Noise Monitoring Location ^(a)	Description
TKW-3-2(A)	No. 420 Prince Edward Road West
MTW-12-3	Lucky Mansion
MTW-12-4	352-354 Ma Tau Wai Rd (East Façade)
MTW-12-4-1(A)	Merricourt (59 Maidstone Road)
MTW-12-10	Lucky Building (South Façade)
MTW-12-10-1	Lucky Building (East Façade)
MTW-12-11	Jing Ming Building
MTW-16-1	SKH Good Shepherd Primary School
HOM-2-1-A	Faerie Court (East Façade)

Note:
(a) The final monitoring locations will be subject to the latest Continuous Noise Monitoring Plan (CNMP).

3.2.2 Monitoring Parameter and Frequency

Continuous monitoring of $L_{eq\ 30min}$ noise levels will be carried out at the nine NSRs identified in *Table 3.4* during the normal construction working hours (0700 – 1900 Monday to Saturday). The measurement period for the

continuous noise monitoring programme recommended in the CNMP are presented in *Table 3.5*. If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

3.2.3 *Monitoring Equipment and Methodology*

In accordance to the Technical Memorandum (TM) issued under the *Noise Control Ordinance* (NCO), sound level meters in compliance with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications will be used for carrying out the noise monitoring.

Immediately prior to the noise measurement, the accuracy of the sound level meter will be checked using an acoustic calibrator, which generated a known sound pressure level at a known frequency. The accuracy of the sound level meter will also be checked on an annual-basis. Measurements will be accepted as valid only if the calibration level before and after the noise measurement agrees to within 1.0 dB. Noise measurements will be made in accordance with standard acoustical principles and practices in relation to weather conditions.

3.2.4 *Action and Limit Levels*

The Action/Limit Levels for the continuous noise monitoring programme recommended in the CNMP are presented in *Table 3.5*.

Table 3.5 *Action/Limit Levels for Continuous Noise Monitoring* ^(a)

Proposed Continuous Noise Monitoring Stations	Description	Action / Limit Level ^(a)	Measurement Period ^(a)
TKW-3-2(A)	No. 420 Prince Edward Road West	80	Sept 2014 – Dec 2014
MTW-12-3	Lucky Mansion	80	Aug 2014 – Jan 2015, Mar 2015 – Jun 2015
MTW-12-4	352-354 Ma Tau Wai Rd (East Façade)	80	Aug 2014 – Jun 2015
MTW-12-4-1(A)	Merricourt (59 Maidstone Road)	82	Oct 2014, Dec 2014 – Jun 2015
MTW-12-10	Lucky Building (South Façade)	84	Mar 2015 – Apr 2015, Sept 2015 – Jan 2016
MTW-12-10-1	Lucky Building (East Façade)	80	Dec 2014 – May 2015, Sept 2015 – Jan 2016
MTW-12-11	Jing Ming Building	81	Sept 2014 – Jun 2015
MTW-16-1	SKH Good Shepherd Primary School	78	Apr 2013 – Dec 2013, Aug 2014 – Mar 2016
HOM-2-1-A	Faerie Court (East Façade)	78	Mar 2013 – Feb 2014

Note:

(a) The A/L Levels and Measurement Periods will be subject to the latest CNMMP and CNMP.

The Event/Action Plan (EAP) for continuous noise monitoring is presented in *Annex G*.

3.3 CONSTRUCTION DUST MONITORING

3.3.1 Monitoring Location

The proposed dust monitoring stations for the construction phase of the Project, as recommended in the approved EM&A Manual, are listed in *Table 3.6* and shown in *Annex D*. The proposed locations have been agreed with the ER, Environmental Protection Department (EPD) and Independent Environmental Checker (IEC).

Table 3.6 Construction Dust Monitoring Location

Proposed Construction Dust Monitoring Location	Description
DMS-6 ^(a)	No. 420 Prince Edward Road West
DMS-7	Parc 22
DMS-8	SKH Good Shepherd Primary School
DMS-9 ^(b)	No. 26 Kowloon city road
DMS-10	Chat Ma Mansion

Notes:

(a) Access to the monitoring location (i.e. Prosperity House) originally proposed in the approved EM&A Manual was denied during the baseline monitoring. Furthermore, the alternative location, No. 420 Prince Edward Road West, used in the baseline monitoring was also not available as access permission was rejected by the owner of the building. Another location (Katherine Building) is proposed and access has been granted. A proposal for this alternative location is prepared and the Contractor's ET is awaiting agreement by the IEC. The proposal will be submitted to EPD in October.

(b) As the Incorporated Owners Association of the originally proposed monitoring location (i.e. Lucky Building) did not reply to our request for access to their premise, an alternative location, No. 26 Kowloon City Road, was proposed and it has been approved by the ER and agreed by the IEC and EPD.

3.3.2 Monitoring Parameter and Frequency

The construction dust monitoring (in terms of Total Suspended Particulates (TSP)) was conducted at the designated monitoring stations in accordance with the requirements stipulated in the EM&A Manual. The 24-hour TSP levels were monitored at the frequency and duration stated in *Table 3.7*. The TSP monitoring was conducted as per the schedule presented in *Annex E*.

Table 3.7 Construction Dust Monitoring Parameters and Frequency

Monitoring Period	Duration	Parameter	Frequency
Dust Monitoring	Throughout the construction period of the Project	24-hour TSP	Once per 6 days

3.3.3 Monitoring Equipment

24-hour averaged TSP monitoring was performed at the designated monitoring stations using High Volume Samplers (HVS) with the appropriate

sampling inlets installed, located. 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 3.8** summarises the equipment that were deployed for the 24-hour averaged monitoring.

Table 3.8 Construction Dust Monitoring Equipment

Monitoring Location	Monitoring Equipment (HVS and Calibrator)
<i>24-hr TSP</i>	
DMS-6	- (a)
DMS-7	- (a)
DMS-8	TE-5170 (Serial No. 3572), CM-AIR-43 (Serial No. 0438320)
DMS-9	TE-5170 (Serial No. 0814), CM-AIR-43 (Serial No. 0438320)
DMS-10	TE-5170 (Serial No. 3573), CM-AIR-43 (Serial No. 0438320)
Note:	
(a)	Since the construction works have not started in the TKW works area in the reporting month, no construction dust monitoring was conducted at DMS-6 and DMS-7.

3.3.4 Monitoring Methodology

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 needed to be provided at the monitoring stations;
- a minimum of 2m separation from walls, parapets and penthouses was required for rooftop samplers;
- no furnace or incinerator flues was nearby;
- airflow around the sampler was unrestricted; and
- permission could be 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 varied by more than $\pm 3^\circ\text{C}$; the relative humidity (RH) was 40%; and
- SGS Hong Kong Ltd, a HOKLAS accredited laboratory, implemented comprehensive quality assurance and quality control programmes on the filters.

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 four 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 run-temperature conditions;
- a new flowrate record sheet was inserted into the flow recorder;
- the flow rates of the HVSs were checked and adjusted to between 1.22 - 1.37 m³min⁻¹, which was within the range specified in the EM&A Manual (i.e. 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 l so that only surfaces with collected particulate matter were in contact;
- the filter paper was then placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- the filters were sent to SGS Hong Kong Ltd for analysis.

Maintenance and Calibration

- the HVSs and their accessories were maintained in a good working condition. For example, motor brushes were replaced routinely and electrical wiring was checked to ensure a continuous power supply; and
- the flow rate of each HVS with mass flow controller was calibrated using an orifice calibrator. Initial calibrations of the dust monitoring

equipment were conducted upon installation and prior to commissioning. Five-point calibration was carried out for HVSSs using CM-AIR-43 Calibration Kit. HVSSs are calibrated every six-month. The calibration records for the HVSSs are given in *Annex F*.

Wind Data Monitoring

- Average wind data (wind speed and direction) during the monitoring period were obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO) and were presented in *Annex J*.

3.3.5 *Action and Limit Levels*

The Action and Limit levels have been established and presented in *Table 3.9*.

Table 3.9 *Action and Limit Levels for Dust Monitoring*

Parameters	Dust Monitoring Station	Action Level ($\mu\text{g m}^{-3}$) ^(a)	Limit Level ($\mu\text{g m}^{-3}$) ^(a)
24-hour TSP	DMS-6	156.8	260
	DMS-7	166.7	260
	DMS-8	152.2	260
	DMS-9	160.9	260
	DMS-10	170.4	260
1-hour TSP ^(b)	DMS-6	288.8	500
	DMS-7	289.7	500
	DMS-8	300.0	500
	DMS-9	303.0	500
	DMS-10	294.7	500

Notes:
 (a) Reference to the Baseline Monitoring Report submitted in July 2012.
 (b) Action and Limit Levels for 1-hour TSP will only be used when 1-hour TSP is required to be monitored when one documented valid complaint is received.

The Event/Action Plan (EAP) for dust monitoring is presented in *Annex G*.

3.4 *CULTURAL HERITAGE*

In accordance with the EM&A Manual, appropriate vibration monitoring on the identified built heritage will be agreed with the Building Department (BD)/Geotechnical Engineering Office (GEO) under the requirement of Buildings Ordinance and/or Blasting Permit as appropriate. Vibration levels will be controlled to appropriate levels. Vibration monitoring will be carried out by the Contractor. The structures requiring vibration monitoring during the relevant tunneling work for this Works Contract include S.K.H. Holy Trinity Church and Old Fast East Flying Training School.

3.5 *LANDSCAPE AND VISUAL*

In accordance with the EM&A Manual, the landscape and visual mitigation measures shall be implemented and a site inspection shall be conducted once

every two weeks throughout the construction period. The implementation status is given in *Annex H*.

IMPLEMENTATION STATUS ON THE ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented all environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status of the environmental mitigation measures for this Works Contract during the reporting period is summarized in *Annex H*. The status of required submissions under the EP for this Works Contract during the reporting period is presented in *Table 4.1*.

Table 4.1 Status of Required Submission under Works Contract 1109

EP Condition	Submission	Submission Date
Condition 2.9	Construction Noise Mitigation Measures Plan (CNMMP)	1 Aug 2012 (1 st submission)
		28 Sep 2012 (2 nd submission)
Condition 2.10	Continuous Noise Monitoring Plan	1 Aug 2012 (1 st submission)
		28 Sep 2012 (2 nd submission)
Condition 2.16	Archaeological Action Plan(s) (AAP(s))	10 Aug 2012 (1 st submission)
		3 Sep 2012 (2 nd submission)
Condition 3.3	Baseline Monitoring Report (1109)	27 Jul 2012

5.1 *REGULAR CONSTRUCTION NOISE MONITORING*

A total of 10 sets of 30-minute construction noise measurements were carried out at the monitoring stations during normal weekdays of the reporting period. The monitoring results together with graphical presentations are presented in *Annex I*. Since the construction works have not started in the Ma Tau Wai area in the reporting month, therefore, no regular construction noise monitoring was conducted at NMS-CA-6 and NMS-CA-7.

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

5.2 *CONTINUOUS NOISE MONITORING*

As the construction works that have been identified by the Construction Noise Mitigation Measures Plan (CNMMP) to be potentially causing exceedance of noise criteria have not commenced during this reporting month, no continuous noise monitoring was carried out.

5.3 *CONSTRUCTION DUST MONITORING*

A total of 13 sets of 24-hr TSP monitorings were carried out at the designated monitoring stations during normal weekdays of the reporting period. The monitoring results together with graphical presentations are presented in *Annex J* and a summary of the dust monitoring results in this reporting month is given in *Table 5.1*.

Table 5.1 Summary of the Dust Monitoring Results in this Reporting Month

Monitoring Station	24-hour TSP Monitoring Results measured, μgm^{-3} (a)		Action Level, μgm^{-3}	Limit Level, μgm^{-3}
	Average	Range		
DMS-6 (a)	-	-	156.8	260
DMS-7 (a)	-	-	166.7	260
DMS-8	84	80 – 90	152.2	260
DMS-9	82	79 – 86	160.9	260
DMS-10	84	80 – 88	170.4	260

Note:

(a) Since the construction works have not started in the TKW works area in the reporting month, therefore, no construction dust monitoring was conducted at DMS-6 and DMS-7.

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

5.4 CULTURAL HERITAGE

As tunnelling works have not commenced, no vibration monitoring was conducted during the reporting month.

5.5 WASTE MANAGEMENT

Waste generated from this Project includes inert construction and demolition (C&D) materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse and vegetative wastes. 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. 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 5.2*. The inert C&D materials generated from the Project was disposed of at TKO137 Fill Bank and non-inert C&D materials were disposed of at NENT Landfill. 5,300kg plastics were sent to Yan Oi Tong at EcoPark for recycling purpose. No paper/cardboard packaging and steel material was generated during the reporting period. Detail of waste management data is presented in *Annex K*.

Table 5.2 Quantities of Waste Generated from the Project

Reporting Month	Quantity					
	C&D Materials (inert) ^(a)	C&D Materials (non-inert) ^(b)	Chemical Waste	Recycled materials		
				Paper/cardboard	Plastics	Metals
September 2012	4 m ³	144 m ³	0 L	0 kg	5,300 kg	0 kg
Notes:						
(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil.						
(b) Non-inert C&D materials include steel, paper/cardboard packaging waste, plastics and other wastes such as general refuse and vegetative wastes. No paper/cardboard packaging and steel material was generated.						

5.6 LANDSCAPE AND VISUAL

Bi-weekly inspection of the implementation of landscape and visual mitigation measures were conducted on 3 and 17 September 2012. Most of the mitigation measures given in *Annex H* have been implemented. Actions that were found to be required are listed below:

3 September 2012

- Construction material was stored near Trees MT0115, MT 0116 and MT 0117 at Ma Tau Wai Road/To Kwa Wan Road Garden. The Contractor was reminded to move the materials away from the trees and install sufficient tree protection zone in order to protect the trees.
- Tree protection zone of the retained tree MT0134 was observed to be insufficient considering the size of the tree at Ma Tau Wai Road/To Kwa

Wan Road Garden. The Contractor was reminded to adjust the size of the tree protection zone in order to protect the tree sufficiently.

17 September 2012

- Workers walked inside the tree protection zone of the transplant trees nos. 47, 48 and 49 at Ma Tau Wai Road/To Kwa Wan Road Garden. The Contractor was reminded not to enter the tree protection zone.

Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 3, 10, 17 and 24 September 2012. The representative of the IEC joined the site inspection on 10 September 2012. There was no non-compliance recorded during the site inspections.

Major findings and recommendations are summarized as follows:

3 September 2012

- Stagnant water was observed inside the drip trays of an engine and chemical drum. The Contractor was reminded to remove the stagnant water and cover them with impervious sheet during rainy days. The stagnant water has been removed, as confirmed by the Contractor's ET during the site inspection on 10 September.
- A pile of excavated soil was not fully covered by an impervious sheet at Ma Tau Wai Road/To Kwa Wan Road Garden. The Contractor was reminded to cover the pile sufficiently. The pile of excavated soil has been sufficiently covered by impervious sheet, as confirmed by the Contractor's ET during the site inspection on 10 September.

10 September 2012

There was no major observation but the IEC has provided the following reminders:

- Temporary hoarding had been erected at Ma Tau Wai Road/To Kwa Wan Road Garden. The Contractor was reminded by the IEC to erect the permanent hoarding as soon as possible, especially before the commencement of the underground utility work. According to the Contractor's latest plan, traffic diversion work instead of the underground utility work will be conducted. Hence, the installation of permanent hoarding will not be affected.
- The Contractor was reminded by the IEC to provide proper a chemical waste storage area (e.g. chemical waste) on site as soon as possible. The chemical waste storage has been ordered and it will be installed on site.
- The Contractor was reminded by the IEC to provide sufficient watering to suppress dust generation during the demolition of concrete pavement and removal of plants on site. Water spraying has been conducted to suppress dust generation on site, as confirmed by the Contractor's ET during site inspection on 17 September.
- The Contractor was reminded by the IEC to make sure that noise measures are provided and consistent with the submitted/endorsed CNMMP to all works sites.

17 September 2012

- Stagnant water was observed inside the blocked drainage channels at Ma Tau Wai Road/To Kwa Wan Road Garden. The Contractor was reminded to clean the channels regularly. The stagnant water inside the blocked drainage channels at Ma Tau Wai Road/To Kwa Wan Road Garden has been removed, as confirmed by the Contractor's ET during site inspection on 24 September.

24 September 2012

- Stagnant water was observed inside a drip tray at Ma Tau Wai Road/To Kwa Wan Road Garden. The Contractor was reminded to remove the stagnant water and cover the chemical drum and drip tray with an impervious sheet. The stagnant water has been cleared properly and the chemical drum and drip tray were covered with impervious sheet. The completion of the rectified action was confirmed by the Contractor's ET during site inspection on 3 October.
- Manual wheel washing took place at the site exit of Ma Tau Wai Road/To Kwa Wan Road Garden. The Contractor explained small amount of water was utilized for wheel washing and the number of truck leaving the site was small. Proper channel for collecting wastewater generated from wheel washing is under construction and the Contractor was advised that the channel should be provided as soon as possible.

All follow-up actions being requested by Contractor's ET and IEC during site inspection were undertaken as reported by the Contractor and observed in the weekly site inspection conducted in the reporting period.

7 *ENVIRONMENTAL NON-CONFORMANCE*

7.1 *SUMMARY OF MONITORING EXCEEDANCE*

No exceedance of Action and Limit Levels of regular construction noise and 24-hour TSP monitoring was recorded during the reporting month.

7.2 *SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE*

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

7.3 *SUMMARY OF ENVIRONMENTAL COMPLAINT*

No complaint was documented during the reporting month. The cumulative environmental complaint log is shown in *Annex M*.

7.4 *SUMMARY OF ENVIRONMENTAL SUMMON AND SUCCESSFUL PROSECUTION*

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

8.1 KEY ISSUES FOR THE COMING MONTH

Works to be undertaken in the next reporting month are summarized in *Table 8.1*.

Table 8.1 Construction Works to be undertaken in the Next Reporting Month

Work to be taken
<u>Work in MTW Area</u>
<ul style="list-style-type: none"> • Underneath Kowloon East Corridor - site clearance, diversion of existing utilities, road drainage construction and cross road ducting; • Removal of central divider along Ma Tau Wai Road - removal of the existing concrete divider; and • MTW/TKW Road Garden - install and connect water supply, demolish existing public toilet, tree felling, preparation for transplanting and predrill for diaphragm wall panel.
<u>Work in TKW Area</u>
<ul style="list-style-type: none"> • General Work - excavation of the trial pits for underground utilities and concrete pavement; • Site Preparation Work - erection of site fencing & hoarding and site clearance; • Demolition and site Clearance - tree felling and preparation for transplanting; • Piling - pre-drilling; and • Preparation of tunnelling works - bored piling for Tunnel Boring Machine (TBM) shaft and pipe piling for TBM shaft

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

8.2 MONITORING SCHEDULE FOR THE NEXT MONTH

The tentative schedule of regular construction noise monitoring and 24-hour TSP monitoring in the next reporting period is presented in *Annex E*. The regular construction noise monitoring and 24-hour TSP monitoring will be conducted at the same monitoring locations in the next reporting period.

8.3 CONSTRUCTION PROGRAMME FOR THE NEXT MONTH

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

CONCLUSIONS

This 1st monthly Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 September 2012 to 30 September 2012 in accordance with the EM&A Manual and the requirement under EP-438/2012/A.

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

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

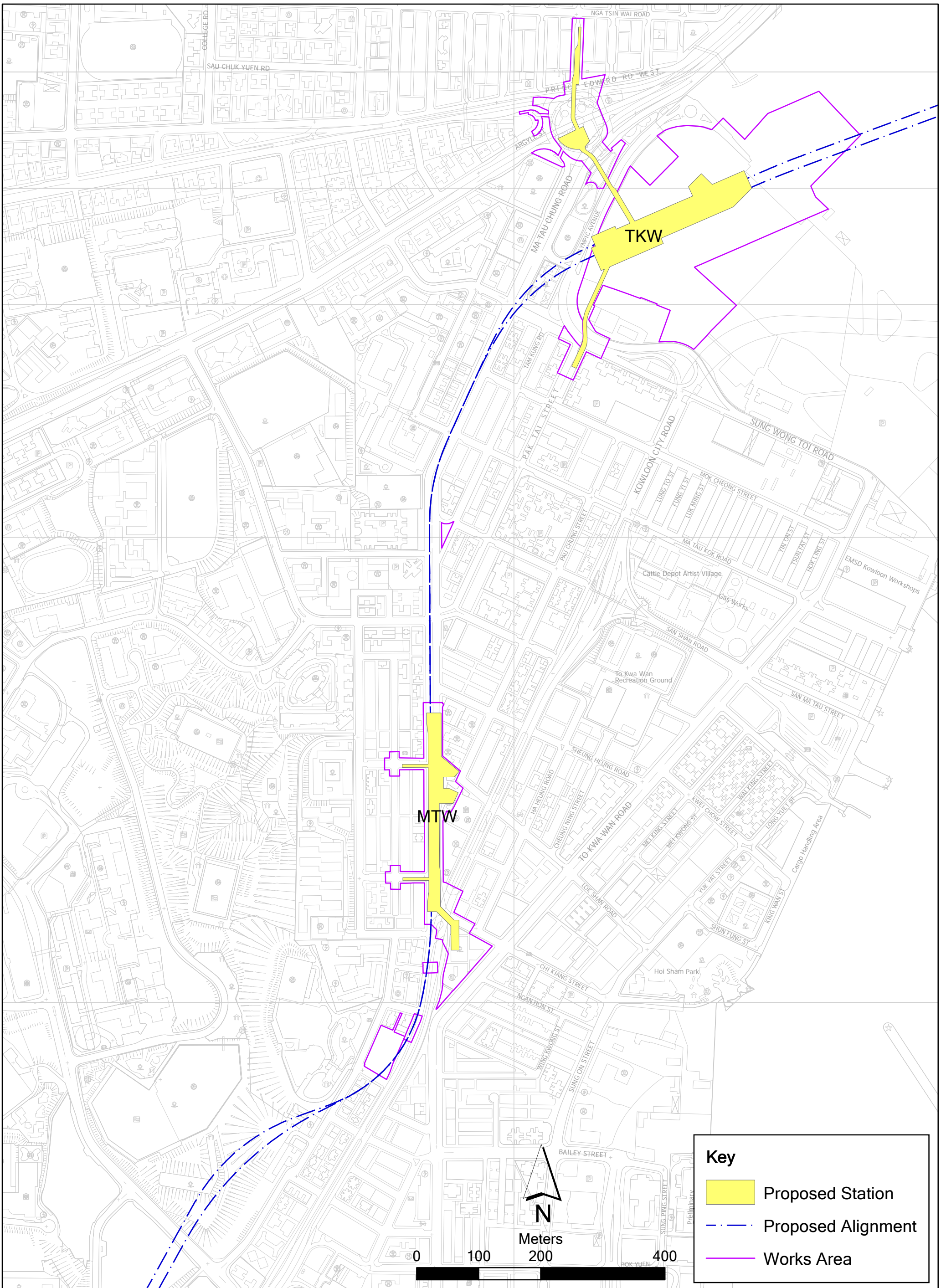
No non-compliance event was recorded during the reporting period.

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

The Contractor's ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Annex A

The Alignment and Works Area for Works Contract



Annex A


Alignment, Stations and Works Area of SCL Works Contract 1109

Name: 0171181_Works_Area_Annex.mxd
Date: 10-Oct-12

Key

- Proposed Station
- Proposed Alignment
- Works Area

Environmental Resources Management



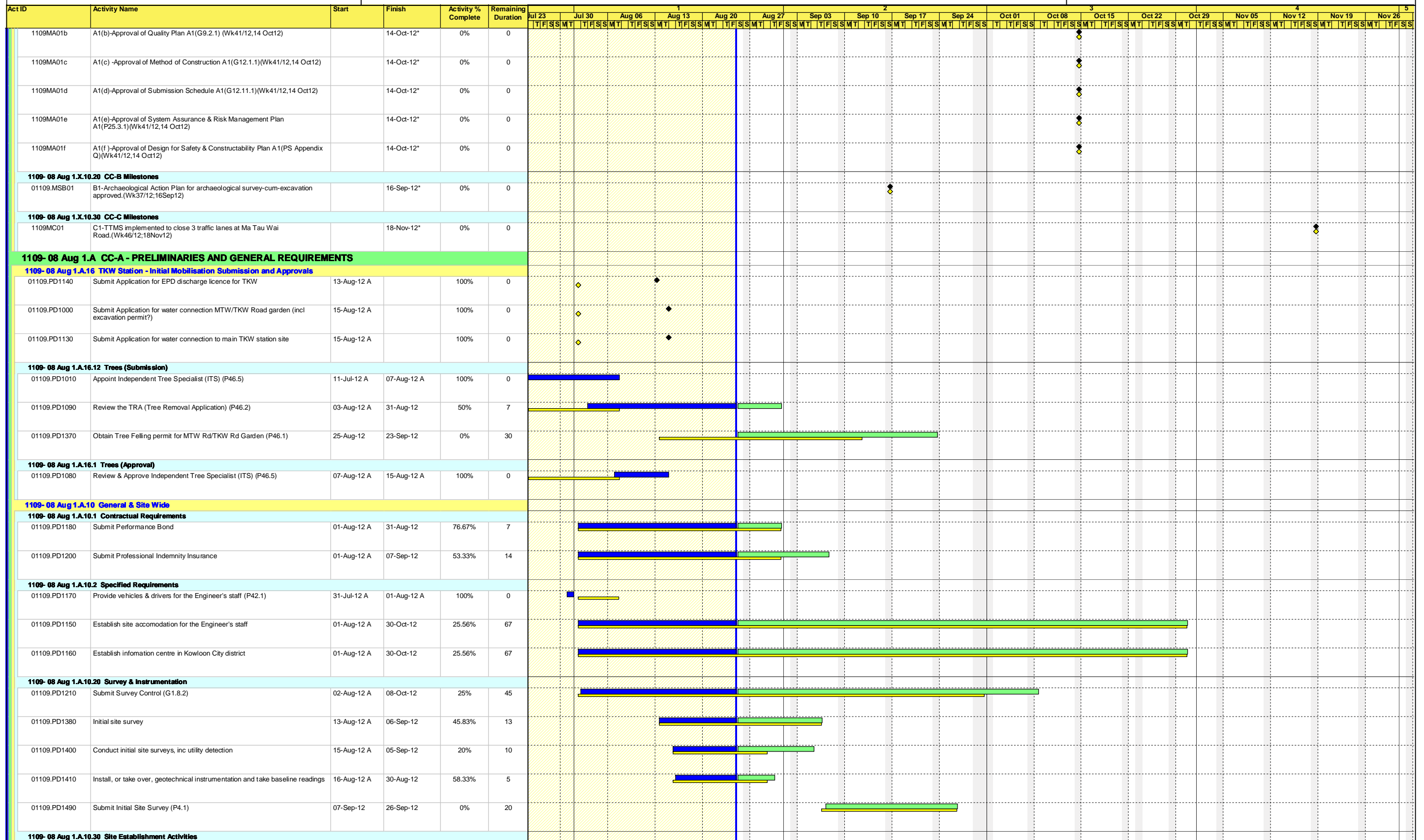
Annex B

Construction Programme for the Reporting Month and the Coming Month ⁽¹⁾

(1) Sung Wong Toi and To Kwa Wan Stations in the programme mean To Kwa Wan and Ma Tau Wai Stations in the Monthly EM&A Report respectively.



Shatin to Central Link- 1109 SUW/TKW Stations and Tunnels



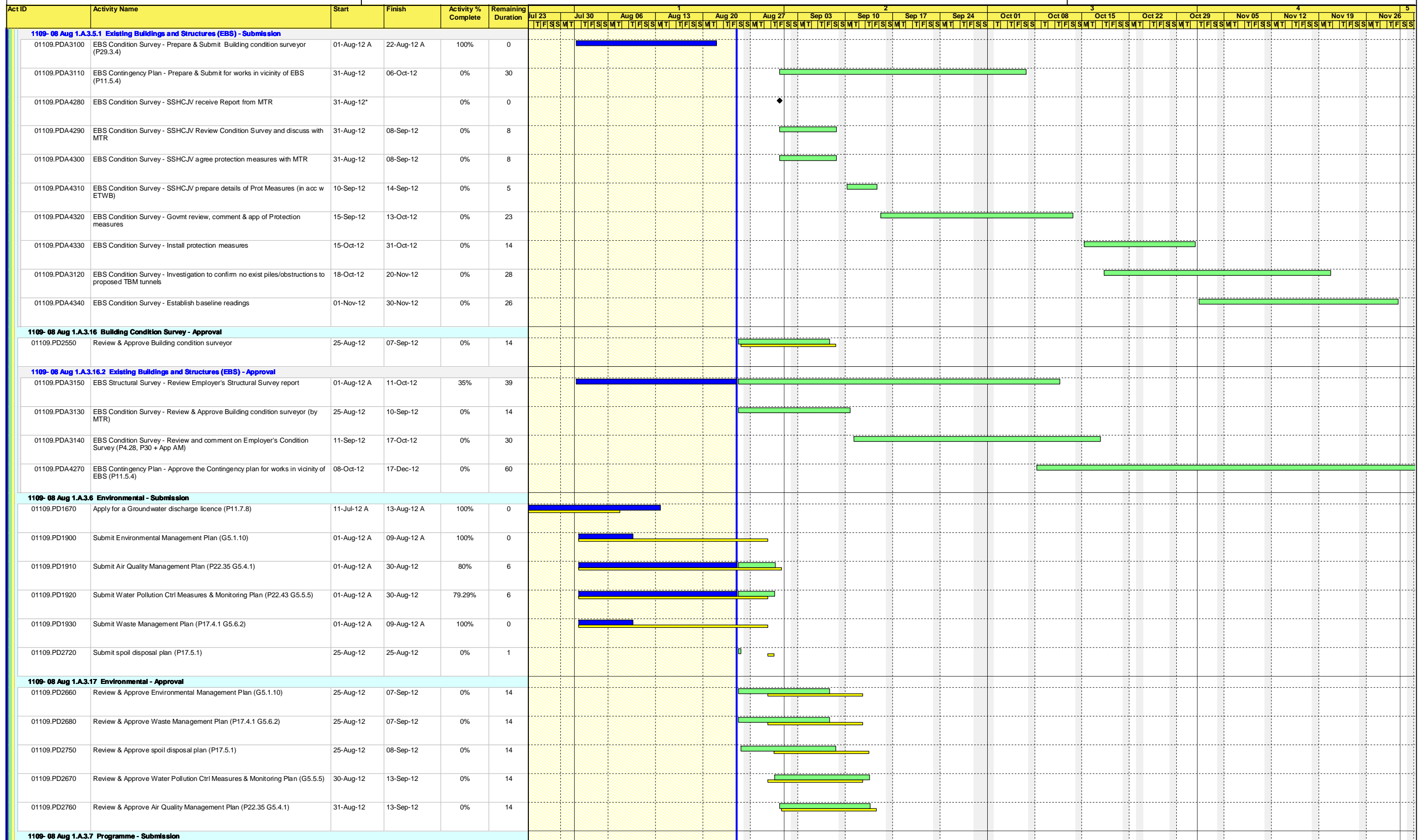
SAMSUNG - HSIN CHONG JOINT VENTURE
THREE MONTH ROLLING PROGRAMME -AUGUST 2012 (Resubmission)

Date	Revision	Checked	Approved
Sep	3MR AUG12a	RY	HY

JUL	Critical Bar
Actual Work	JUL Milestone
Early Bar	Milestone



Shatin to Central Link- 1109 SUW/TKW Stations and Tunnels



SAMSUNG - HSIN CHONG JOINT VENTURE

THREE MONTH ROLLING PROGRAMME -AUGUST 2012 (Resubmission)

Date	Revision	Checked	Approved
Sep	3MR AUG12a	RY	HY

- JUL
- Critical Bar
- Actual Work
- Early Bar
- JUL Milestone
- Milestone



Shatin to Central Link- 1109 SUW/TKW Stations and Tunnels

Act ID	Activity Name	Start	Finish	Activity % Complete	Remaining Duration	1							2							3							4							5						
						Jul 23	Jul 30	Aug 06	Aug 13	Aug 20	Aug 27	Sep 03	Sep 10	Sep 17	Sep 24	Oct 01	Oct 08	Oct 15	Oct 22	Oct 29	Nov 05	Nov 12	Nov 19	Nov 26																
01109.PD1680	Prepare & Submit first Three-Month Rolling Programme (G4.8.1)	11-Jul-12 A	25-Jul-12 A	100%	0																																			
01109.PD1690	Prepare & Submit Time-chainage Programme (G4.11.1)	11-Jul-12 A	08-Sep-12	75%	15	[Gantt bars for PD1690]																																		
01109.PD1700	Prepare & Submit Preliminary Master Programme (G4.6.1)	11-Jul-12 A	08-Sep-12	75%	15	[Gantt bars for PD1700]																																		
01109.PD1940	Prepare & Submit Preliminary ABWF Programme (CoC 15)	25-Jul-12 A	05-Sep-12	57.14%	12	[Gantt bars for PD1940]																																		
01109.PD2730	Prepare & Submit Co-ordinated installation programme (CoC 15)	25-Jul-12 A	05-Sep-12	57.14%	12	[Gantt bars for PD2730]																																		
1109- 08 Aug 1.A.3.18 Programme - Approval																																								
01109.PD1860	Review & Approve 3 month rolling programme (CoC 15)	01-Aug-12 A	06-Aug-12 A	100%	0	[Gantt bars for PD1860]																																		
01109.PD2710	Review & Approve Preliminary ABWF Programme (CoC 15)	06-Sep-12	19-Sep-12	0%	14	[Gantt bars for PD2710]																																		
01109.PD2940	Review & Approve Time-chainage Programme (G4.11.1)	09-Sep-12	22-Sep-12	0%	14	[Gantt bars for PD2940]																																		
01109.PD2950	Review & Approve Preliminary Master Programme (G4.6.1)	09-Sep-12	22-Sep-12	0%	14	[Gantt bars for PD2950]																																		
01109.PD3050	Review & Approve Co-ordinated installation programme (CoC 15)	20-Sep-12	03-Oct-12	0%	14	[Gantt bars for PD3050]																																		
1109- 08 Aug 1.A.3.8 Other Specified Requirements - Submission																																								
01109.PD2000	Arrange a formal risk workshop (within 2M)	01-Aug-12 A	18-Sep-12	58.33%	25	[Gantt bars for PD2000]																																		
1109- 08 Aug 1.A.3.9 System Assurance - Submission																																								
01109.PD1990	Submit System Assurance Plan (P25 + Appx P)	01-Aug-12 A	10-Aug-12 A	100%	0	[Gantt bars for PD1990]																																		
1109- 08 Aug 1.A.3.20 System Assurance - Approval																																								
01109.PD2700	Review & Approve System Assurance Plan (P25 + Appx P)	25-Aug-12	07-Sep-12	0%	14	[Gantt bars for PD2700]																																		
1109- 08 Aug 1.A.3.11 Design Management - Submission																																								
01109.PD1710	Submit for Approval details of TTA Consultant (P19.2)	11-Jul-12 A	31-Jul-12 A	100%	0	[Gantt bars for PD1710]																																		
01109.PD1950	Appoint an ICE (P7.12, G12.2.3)	11-Jul-12 A	30-Jul-12 A	100%	0	[Gantt bars for PD1950]																																		
01109.PD1720	Submit preliminary design programme (PS App Z2.1)	11-Jul-12 A	24-Jul-12 A	100%	0	[Gantt bars for PD1720]																																		
01109.PD1960	Submit Schedule of Designs (PS App Z2.5)	11-Jul-12 A	31-Jul-12 A	100%	0	[Gantt bars for PD1960]																																		
01109.PD1730	Design for Safety and Constructability Plan System Assurance (PS App Q) include in System Assurance	11-Jul-12 A	03-Aug-12 A	100%	0	[Gantt bars for PD1730]																																		
01109.PD1970	Appoint an RGE (P4.3.1)	25-Aug-12	25-Aug-12	0%	1	[Gantt bars for PD1970]																																		
1109- 08 Aug 1.A.3.22 Design Management - Approval																																								
01109.PD1820	Review & Approve Preliminary design programme (PS App Z2.1)	25-Jul-12 A	13-Aug-12 A	100%	0	[Gantt bars for PD1820]																																		
01109.PD1790	Review & Approve for Approval details of TTA Consultant (P19.2)	01-Aug-12 A	10-Aug-12 A	100%	0	[Gantt bars for PD1790]																																		
01109.PD2260	Review & Approve System Assurance Plan (PS App Q)	25-Aug-12	07-Sep-12	0%	14	[Gantt bars for PD2260]																																		
01109.PD2390	Review & Approve Schedule of Designs (PS App Z2.5)	25-Aug-12	07-Sep-12	0%	14	[Gantt bars for PD2390]																																		
1109- 08 Aug 1.A.3.12 Sub-Contractors - Submission																																								
01109.PD1980	Submit Subcontractor Management Plan (PS App S)	01-Aug-12 A	01-Sep-12	73.68%	8	[Gantt bars for PD1980]																																		
1109- 08 Aug 1.A.3.23 Sub-Contractors - Approval																																								
01109.PD2790	Review & Approve Subcontractor Management Plan (PS App S)	02-Sep-12	15-Sep-12	0%	14	[Gantt bars for PD2790]																																		
1109- 08 Aug 1.A.3.13 Health & Safety - Submission																																								



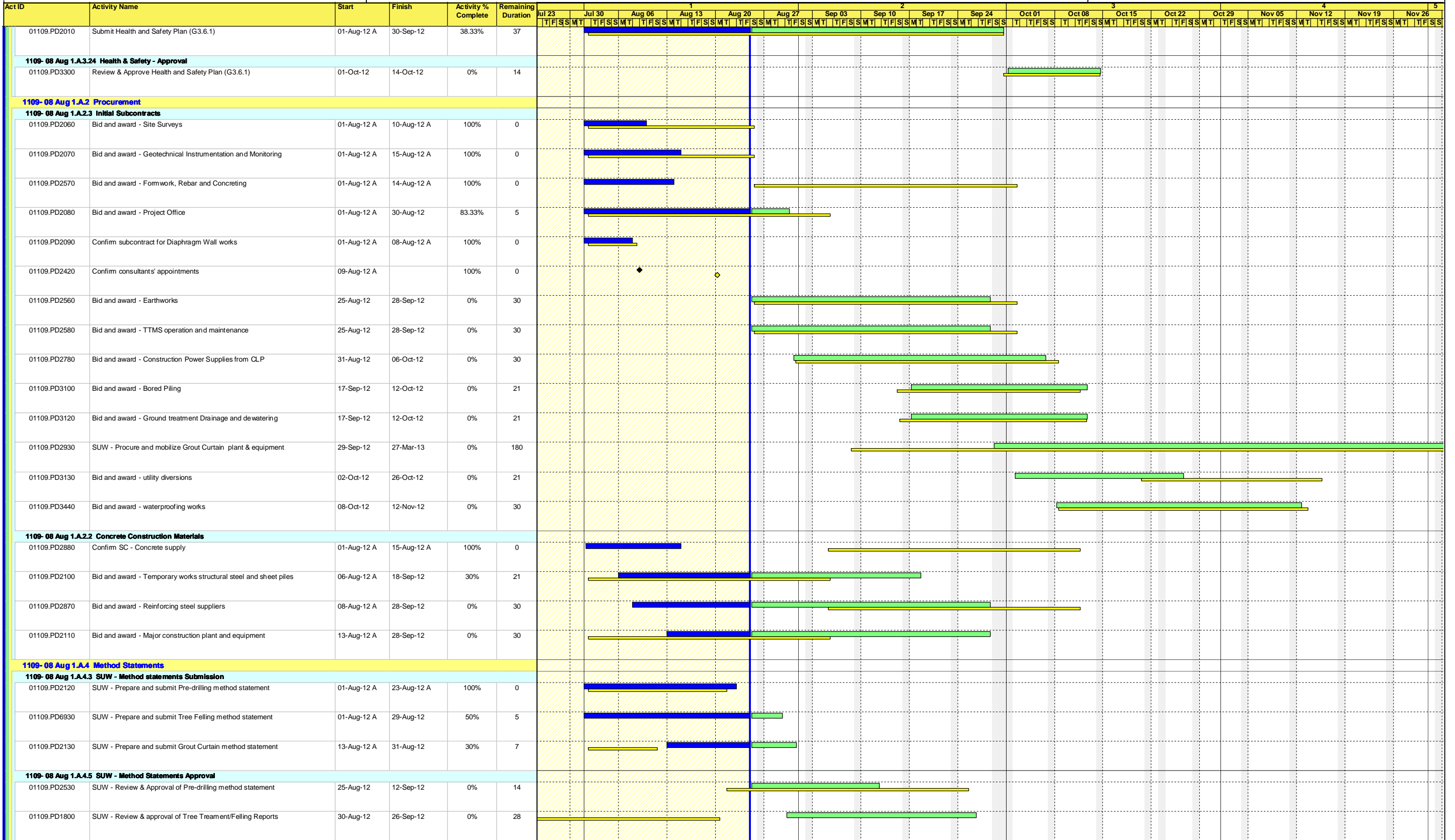
SAMSUNG - HSIN CHONG JOINT VENTURE
THREE MONTH ROLLING PROGRAMME -AUGUST 2012 (Resubmission)

Date	Revision	Checked	Approved
Sep	3MR AUG12a	RY	HY

- JUL
- Actual Work
- Early Bar
- Critical Bar
- JUL Milestone
- Milestone



Shatin to Central Link- 1109 SUW/TKW Stations and Tunnels



SAMSUNG - HSIN CHONG JOINT VENTURE
THREE MONTH ROLLING PROGRAMME -AUGUST 2012 (Resubmission)

Date	Revision	Checked	Approved
Sep	3MR AUG12a	RY	HY

- JUL
- Actual Work
- Early Bar
- Critical Bar
- JUL Milestone
- Milestone



Shatin to Central Link- 1109 SUW/TKW Stations and Tunnels

Act ID	Activity Name	Start	Finish	Activity % Complete	Remaining Duration	Weeks																											
						1 Jul 23	1 Jul 30	1 Aug 06	1 Aug 13	1 Aug 20	1 Aug 27	1 Sep 03	1 Sep 10	1 Sep 17	1 Sep 24	1 Oct 01	1 Oct 08	1 Oct 15	1 Oct 22	1 Oct 29	1 Nov 05	1 Nov 12	1 Nov 19	1 Nov 26									
01109.PD2800	CCTV Record Survey of Public drains	31-Aug-12	05-Oct-12	0%	28																												
01109.PD2810	Excavation of Trial Pits for utility Services in SUW areas	31-Aug-12	26-Oct-12	0%	45																												
01109.PD2820	Excavation of Trial Pits for underground structures in SUW areas	31-Aug-12	26-Oct-12	0%	45																												
1109-08 Aug 1.B.1.1 Site Preparation																																	
1109-08 Aug 1.B.1.1.0 Site Hoarding & Facilities Establishment Works																																	
01109.PD3460	Trial Pits Excavation	03-Sep-12	19-Sep-12	0%	14																												
01109.PD2890	Fabrication & erection of site hoarding to handed over areas	08-Sep-12	15-Oct-12	0%	30																												
01109.PD3090	Construction of Site wheel wash facilities	14-Sep-12	10-Oct-12	0%	21																												
01109.PD3330	Fabrication & erection of Site Gates to handed over areas	02-Oct-12	06-Nov-12	0%	30																												
01109.PD3340	Erection of site fencing to handed over areas	02-Oct-12	23-Nov-12	0%	45																												
C1109_GS018	Establish D/Wall rebar cage steel fixing area	24-Nov-12	10-Dec-12	0%	14																												
1109-08 Aug 1.B.1.1.1 Demolition and Site Clearance																																	
1109-08 Aug 1.B.1.1.1.2 Tree Felling																																	
01109.PD2440	SUW - Fell Trees	27-Sep-12	08-Dec-12	0%	60																												
01109.PD3070	Prepare trees for transplanting Stage 1	27-Sep-12	03-Nov-12	0%	30																												
01109.PD3290	Prepare trees for transplanting Stage 2	16-Oct-12	20-Nov-12	0%	30																												
C1109_UD045	Prepare trees for transplanting Stage 3	10-Nov-12	14-Dec-12	0%	30																												
1109-08 Aug 1.B.1.1.4 Install Monitoring Instruments/Take Initial Readings																																	
01109.PD2140	Prepare and submit monitoring works method statement	30-Jul-12 A	07-Aug-12 A	100%	0																												
01109.PD2340	Review & Approval of monitoring works method statement	25-Aug-12	26-Sep-12	0%	28																												
01109.PD3020	Approval of monitoring scheme	19-Sep-12	26-Sep-12	0%	7																												
01109.PD3140	Install monitoring instruments/take initial readings ; Part 2- GL 04 to 12	27-Sep-12	01-Nov-12	0%	28																												
01109.PD3150	Install monitoring instruments/take initial readings ; Part 3- GL 12 to 19	27-Sep-12	21-Nov-12	0%	45																												
01109.PD3160	Install monitoring instruments/take initial readings ; Part 4- GL 19 to 24	27-Sep-12	01-Nov-12	0%	28																												
01109.PD3170	Install monitoring instruments/take initial readings ; Part 1- GL 01 to 04 / cofferdam areas)	27-Sep-12	01-Nov-12	0%	28																												
01109.PD3180	Install monitoring instruments/take initial readings ; Archeological Study Area	27-Sep-12	21-Nov-12	0%	45																												
C1109_PD210	Install monitoring instruments/ initial readings works complete		21-Nov-12*	0%	0																												
1109-08 Aug 1.B.1.1.3 Archaeological Survey																																	
01109.PD1740	Appoint Archeological Survey expert	11-Jul-12 A	01-Aug-12 A	100%	0																												
01109.PD1750	Archeological Survey Works (Summary Bar)	11-Jul-12 A	09-May-13	8.81%	207																												
01109.PD1810	Review & Approval of Archeological Action Plan (AAP)	02-Aug-12 A	10-Aug-12 A	100%	0																												
01109.PD1780	Prepare and submit Archeological Action Plan (AAP) / Desktop Study	02-Aug-12 A	09-Aug-12 A	100%	0																												



SAMSUNG - HSIN CHONG JOINT VENTURE
THREE MONTH ROLLING PROGRAMME -AUGUST 2012 (Resubmission)

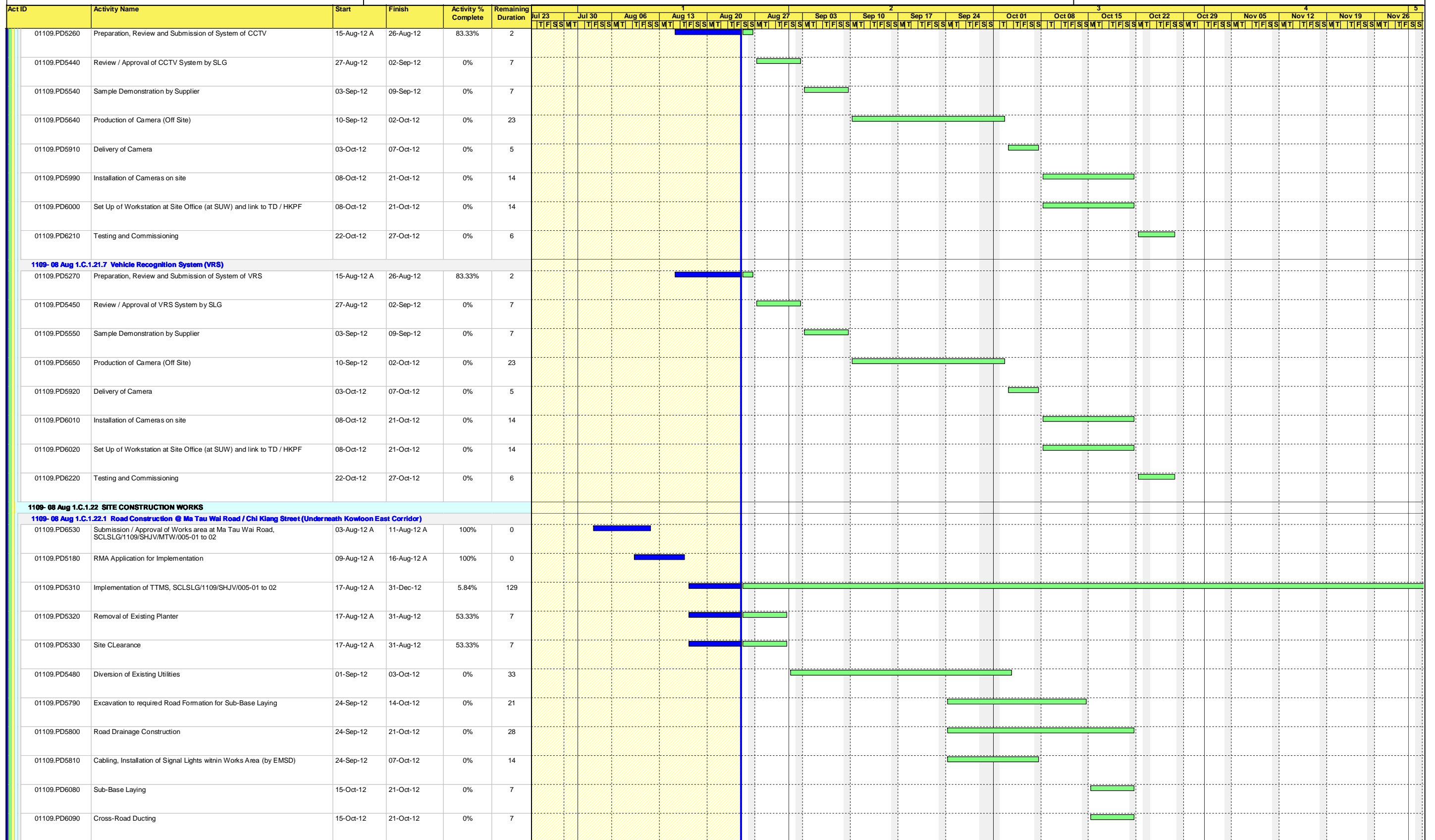
Date	Revision	Checked	Approved
Sep	3MR AUG12a	RY	HY

	JUL		Critical Bar
	Actual Work		JUL Milestone
	Early Bar		Milestone

MTR Corporation Limited



Shatin to Central Link- 1109 SUW/TKW Stations and Tunnels



SAMSUNG - HSIN CHONG JOINT VENTURE

THREE MONTH ROLLING PROGRAMME -AUGUST 2012 (Resubmission)

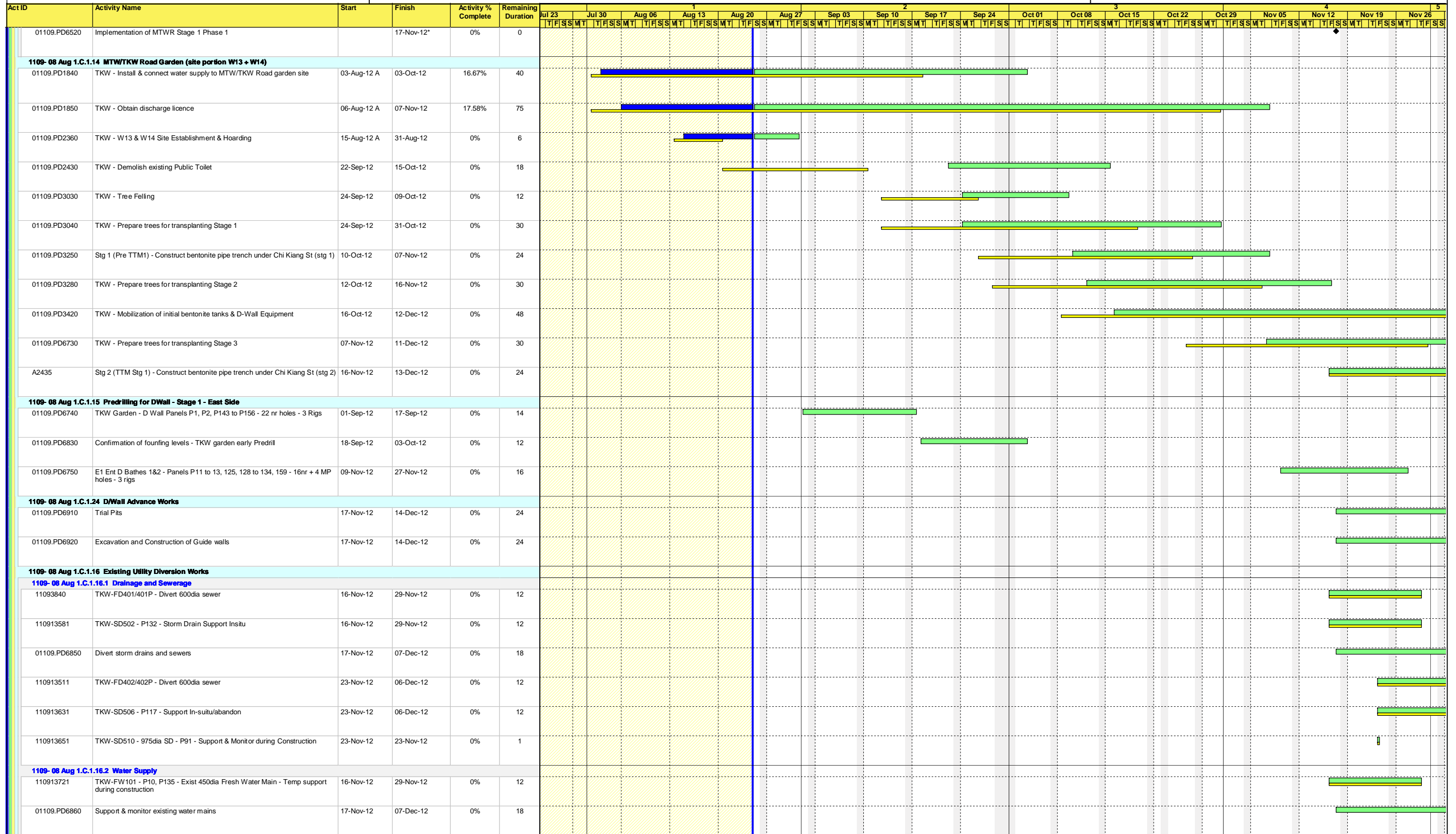


Date	Revision	Checked	Approved	JUL	Critical Bar
Sep	3MR AUG12a	RY	HY	Actual Work	JUL Milestone
				Early Bar	Milestone

MTR Corporation Limited



Shatin to Central Link- 1109 SUW/TKW Stations and Tunnels



SAMSUNG - HSIN CHONG JOINT VENTURE
THREE MONTH ROLLING PROGRAMME -AUGUST 2012 (Resubmission)



Date	Revision	Checked	Approved
Sep	3MR AUG12a	RY	HY

Legend:

- Yellow Bar: JUL
- Blue Bar: Actual Work
- Green Bar: Early Bar
- Red Bar: Critical Bar
- Yellow Diamond: JUL Milestone
- Black Diamond: Milestone



Shatin to Central Link- 1109 SUW/TKW Stations and Tunnels

Act ID	Activity Name	Start	Finish	Activity % Complete	Remaining Duration	1																																																							
						Jul 23	Jul 30	Aug 06	Aug 13	Aug 20	Aug 27	Sep 03	Sep 10	Sep 17	Sep 24	Oct 01	Oct 08	Oct 15	Oct 22	Oct 29	Nov 05	Nov 12	Nov 19	Nov 26																																					
110913681	TKW-FW501 - P10 + P135 - 6" Fresh Water Main - Suport & monitor during construction	23-Nov-12	06-Dec-12	0%	12	[Gantt bar: Jul 23 to Aug 20]																																																							
110913771	TKW-SW101/101P - P89 - Relocate exist 200dia Salt Watermain	23-Nov-12	13-Dec-12	0%	18	[Gantt bar: Jul 23 to Sep 03]																																																							
1109- 08 Aug 1.C.1.16.3 Power Supply																																																													
110913801	TKW-CLP405 - P13 & P132 - (Existing Abandoned 66 kV) - Remove	16-Nov-12	22-Nov-12	0%	6	[Gantt bar: Nov 12 to Nov 19]																																																							
110913811	TKW-CLP406 - P9 & P135 - (Existing Abandoned 33 kV) - Remove	16-Nov-12	22-Nov-12	0%	6	[Gantt bar: Nov 12 to Nov 19]																																																							
110913821	TKW-CLP407 - P9 & P135 - (Existing Abandoned 33 kV) - Remove	16-Nov-12	22-Nov-12	0%	6	[Gantt bar: Nov 12 to Nov 19]																																																							
110913831	TKW-CLP602 - P123 - New 132 kV supply - Install	16-Nov-12	13-Dec-12	0%	24	[Gantt bar: Nov 12 to Dec 03]																																																							
110913841	TKW-CLP114 - P104 - (Existing Abandoned 33 kV) - Remove	16-Nov-12	22-Nov-12	0%	6	[Gantt bar: Nov 12 to Nov 19]																																																							
110913851	TKW-CLP503 - P61 & P87 - 11 kV Supply - Support insitu	16-Nov-12	22-Nov-12	0%	6	[Gantt bar: Nov 12 to Nov 19]																																																							
110913861	TKW-CLP505 - P76 to P93 - 11 kV Supply - Slew & support	16-Nov-12	29-Nov-12	0%	12	[Gantt bar: Nov 12 to Dec 03]																																																							
110913871	TKW-CLP506 - P76 to P93 - 415V - Slew & support	16-Nov-12	22-Nov-12	0%	6	[Gantt bar: Nov 12 to Nov 19]																																																							
01109.PD6870	Remove existing abandoned power cables	17-Nov-12	04-Dec-12	0%	18	[Gantt bar: Nov 19 to Dec 10]																																																							
110913781	TKW-CLP401 - P7 & P142 - (11kV) Locally Slew	23-Nov-12	13-Dec-12	0%	18	[Gantt bar: Nov 26 to Dec 17]																																																							
110913791	TKW-CLP404 - P7 & P142 - (415 V) - Support in-situ & close monitoring	23-Nov-12	13-Dec-12	0%	18	[Gantt bar: Nov 26 to Dec 17]																																																							
1109- 08 Aug 1.C.1.16.4 Gas Supply																																																													
01109.PD6890	TKW Garden - Check existing gas main abandoned (TKW-GAS401)	27-Oct-12	29-Oct-12	0%	3	[Gantt bar: Oct 22 to Oct 29]																																																							
01109.PD6900	Divert & Abandon existing gas mains	17-Nov-12	04-Dec-12	0%	18	[Gantt bar: Nov 19 to Dec 10]																																																							
110913881	TKW-GAS401 - P155, P156, P138 - Exist MP400 Gas Main - Abandon	23-Nov-12	13-Dec-12	0%	18	[Gantt bar: Nov 26 to Dec 17]																																																							
110913891	TKW-GAS503 - P42 & P108 - Temporarily Abandon	23-Nov-12	13-Dec-12	0%	18	[Gantt bar: Nov 26 to Dec 17]																																																							
110913911	TKW-GAS505 - Proposed LPA300 Gas Main	23-Nov-12	13-Dec-12	0%	18	[Gantt bar: Nov 26 to Dec 17]																																																							
110913921	TKW-GAS506 - P78, P77, P76 - Exist LPA300 Gas Main - Abandon	23-Nov-12	29-Nov-12	0%	6	[Gantt bar: Nov 26 to Dec 03]																																																							
110913931	TKW-GAS602 - Proposed MP315PE Gas Main - Subject to discussion	23-Nov-12	29-Nov-12	0%	6	[Gantt bar: Nov 26 to Dec 03]																																																							
1109- 08 Aug 1.C.1.16.5 Telecommunication System																																																													
110913941	TKW-HGC401 - P142 & P4,5,6 - Telecom Cable - Slew & Support	16-Nov-12	29-Nov-12	0%	12	[Gantt bar: Nov 12 to Dec 03]																																																							
110913951	TKW-HKT503/503P - P76 to 87incl. - Telecom Cable - Slew	16-Nov-12	29-Nov-12	0%	12	[Gantt bar: Nov 12 to Dec 03]																																																							
01109.PD6880	Slew & Support Telecom cables	17-Nov-12	04-Dec-12	0%	18	[Gantt bar: Nov 19 to Dec 10]																																																							
1109- 08 Aug 1.C.1.2 Station - Excavation and Foundation																																																													
1109- 08 Aug 1.C.1.2.2 Diaphragm Wall																																																													
1109- 08 Aug 1.C.1.2.2.2 Diaphragm Wall during TTMS Stage 1																																																													
1109- 08 Aug 1.C.1.2.2.2.1 Area E1 (Station)																																																													
C1109_DWP201	Area E1 - Prelim Wks; Site Investigation & Approval	23-Nov-12	07-Jan-13	0%	36	[Gantt bar: Nov 26 to Jan 07]																																																							
C1109_DWP202	Area E1 - Preliminary Works; Excavation for Trial trench and guide walls	23-Nov-12	07-Jan-13	0%	36	[Gantt bar: Nov 26 to Jan 07]																																																							



SAMSUNG - HSIN CHONG JOINT VENTURE

THREE MONTH ROLLING PROGRAMME -AUGUST 2012 (Resubmission)

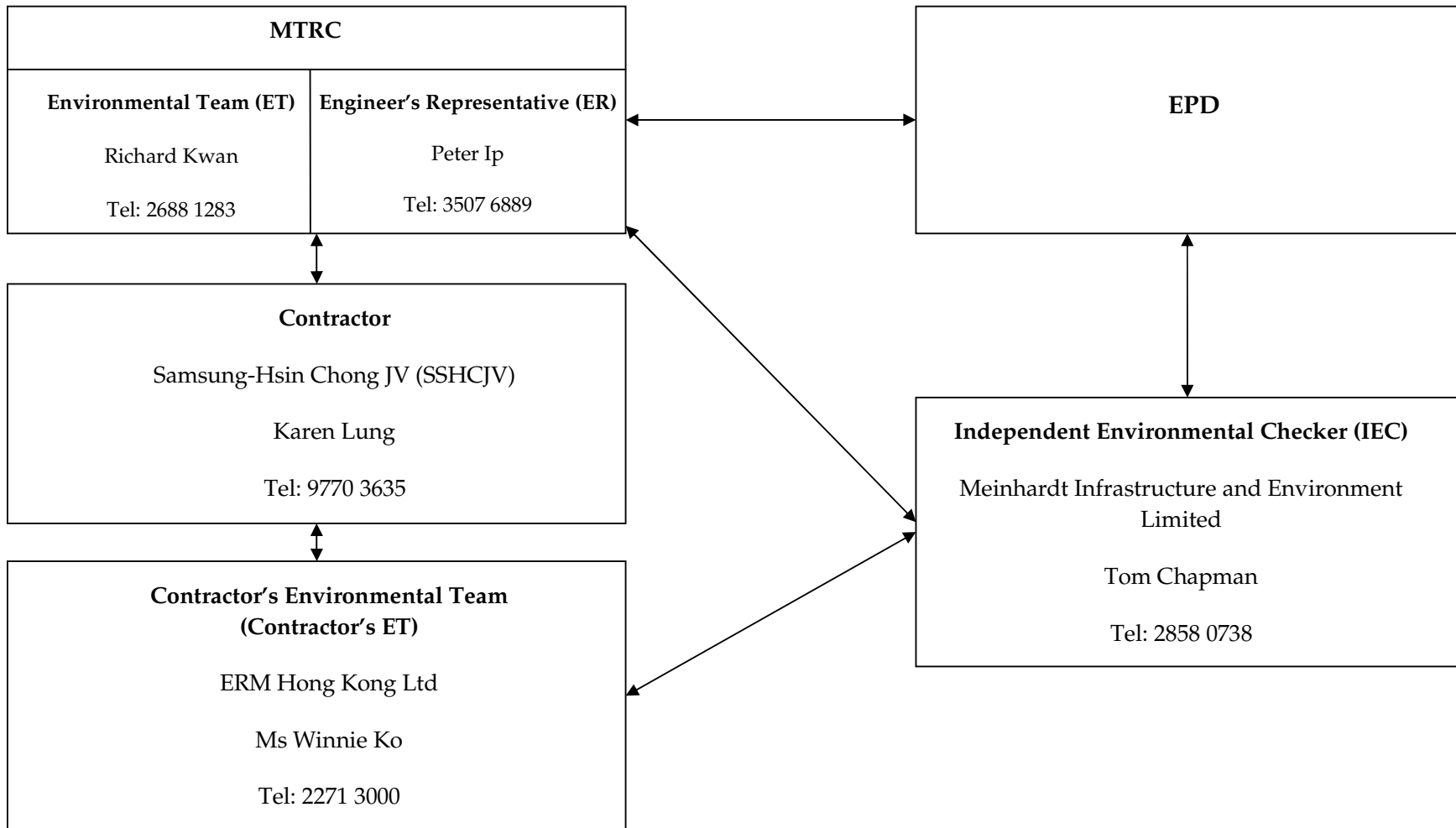
Date	Revision	Checked	Approved
Sep	3MR AUG12a	RY	HY

- JUL
- Actual Work
- Early Bar
- Critical Bar
- ◆ JUL Milestone
- ◆ Milestone

Annex C

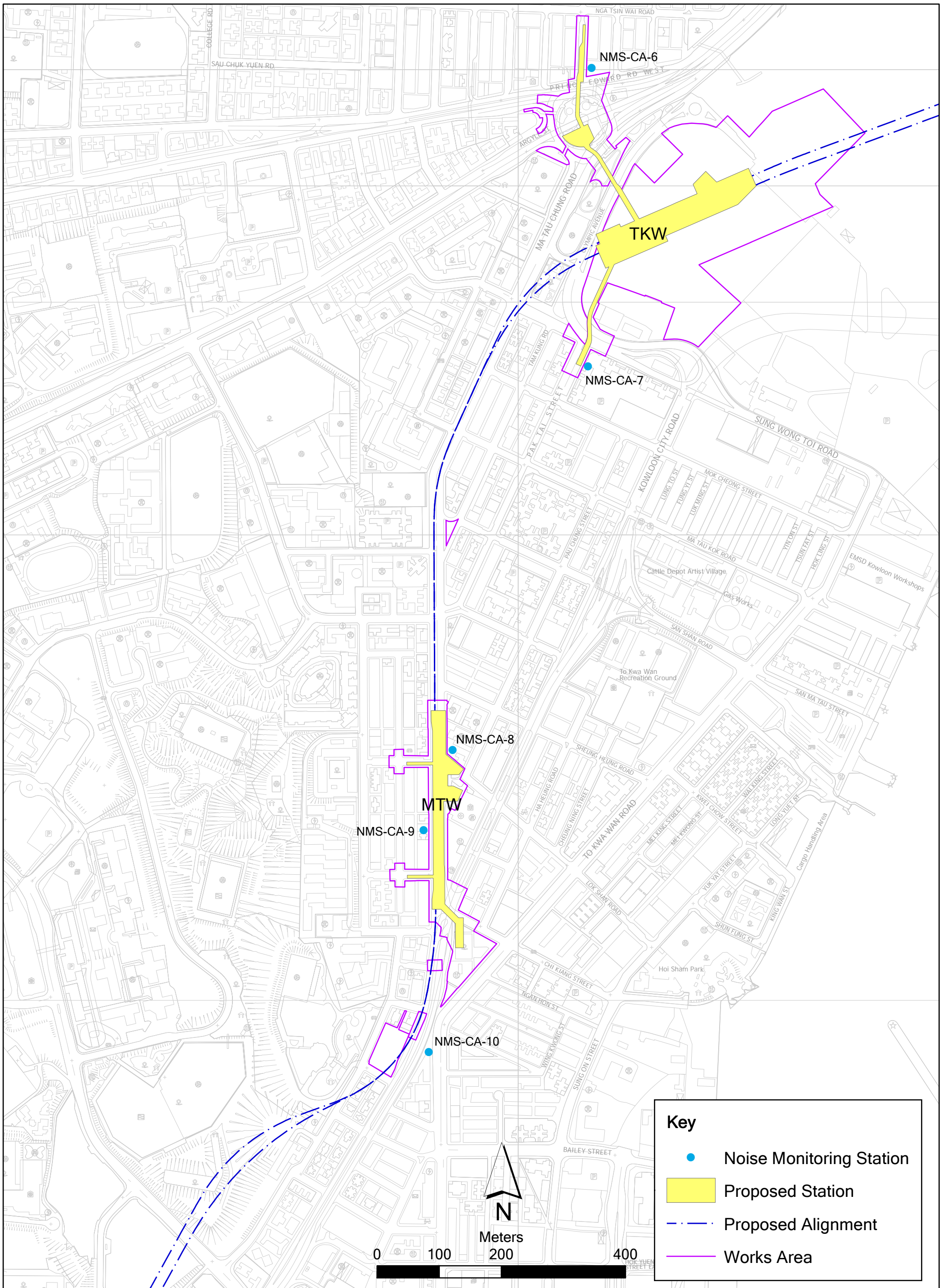
Project Organization Chart and Contact Detail

Annex C Project Organization of SCL Works Contract 1109



Annex D

Locations of Monitoring Stations for Noise and Dust Monitoring



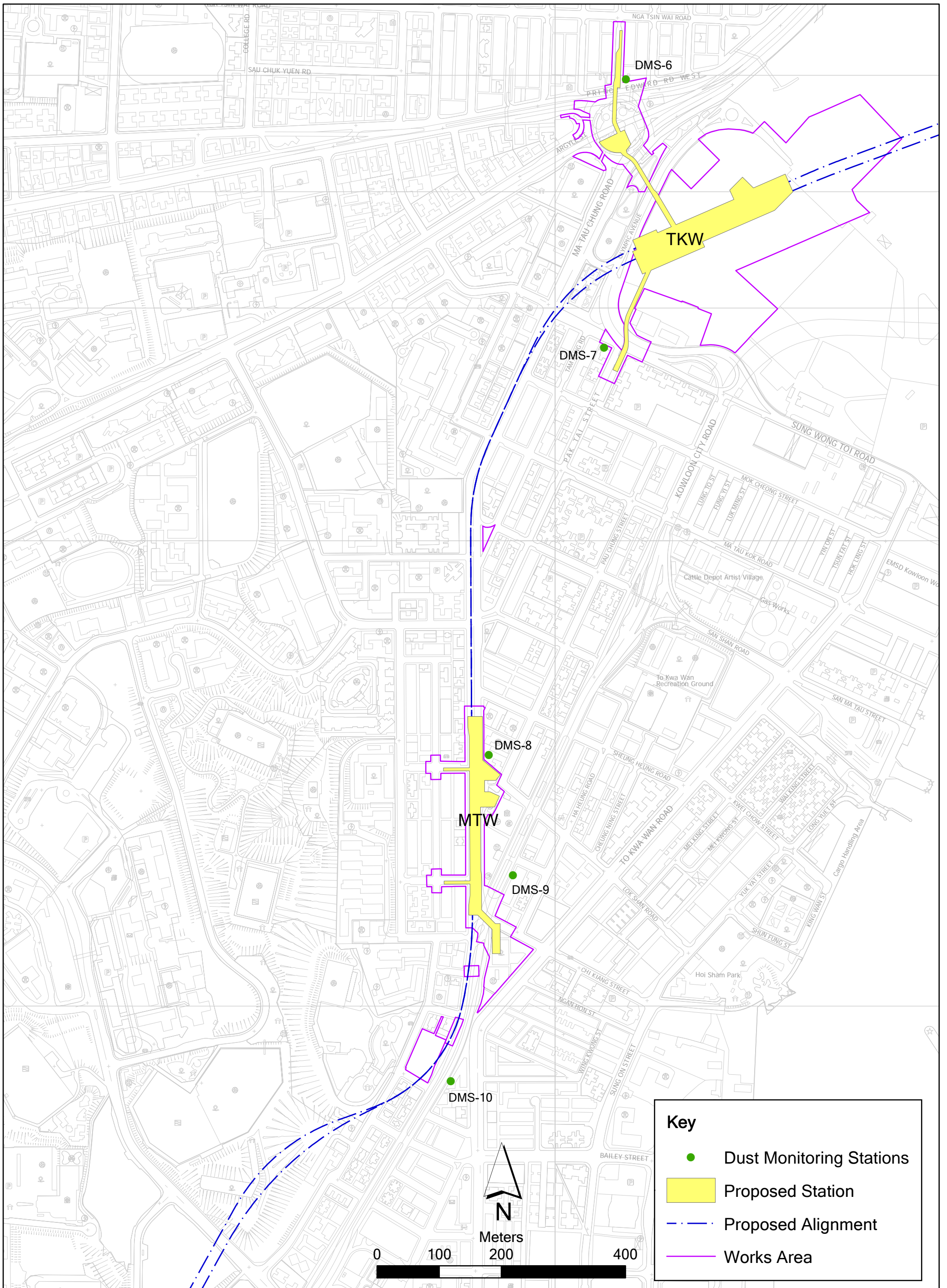
Annex D1

Location of Regular Construction Noise Monitoring Stations

Name: 0171181_Airborne_Noise_Monitoring_Stations_Annex.mxd
 Date: 10-Oct-12

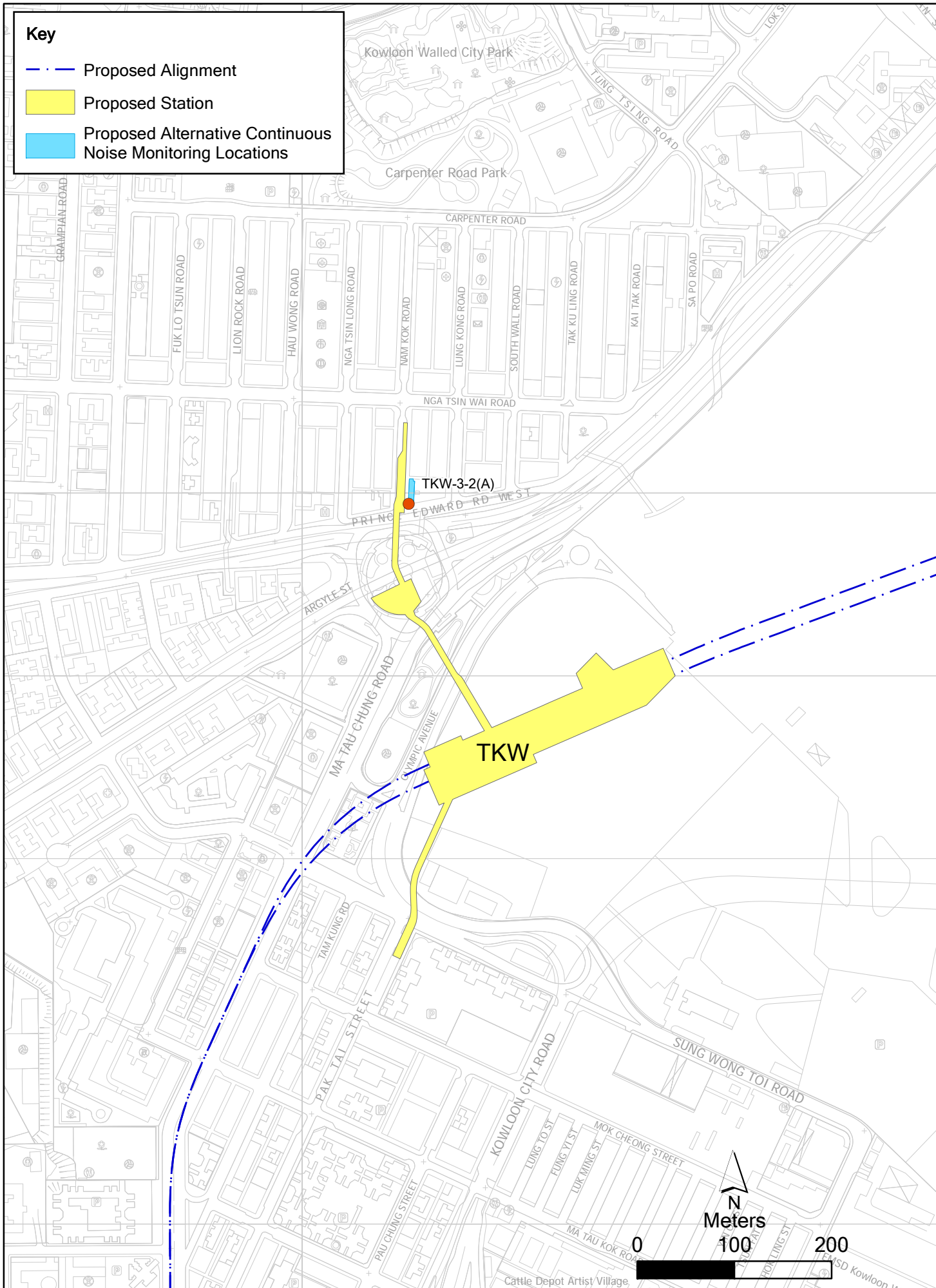
Environmental
 Resources
 Management





Key

- Proposed Alignment
- Proposed Station
- Proposed Alternative Continuous Noise Monitoring Locations

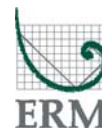


Annex D3

Proposed Continuous Noise Monitoring Locations

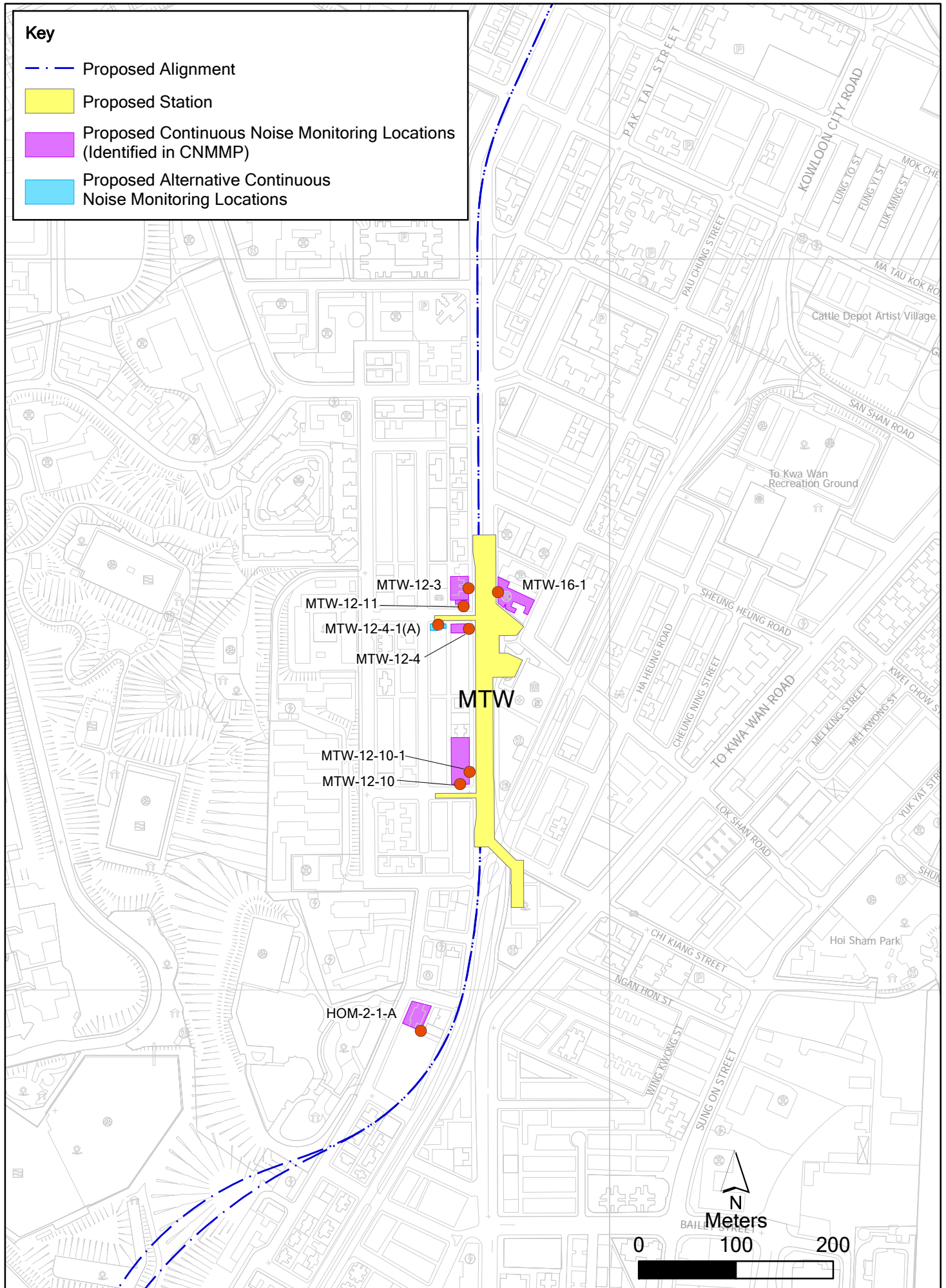
Name: 171181_Annex_Continuous
Noise_Monitoring_Locations_TKW.mxd
Date: 10-Oct-12

**Environmental
Resources
Management**



Key

- Proposed Alignment
- Proposed Station
- Proposed Continuous Noise Monitoring Locations (Identified in CNMMP)
- Proposed Alternative Continuous Noise Monitoring Locations



Annex E

Monitoring Schedule of the Reporting Period and the Next Month

**Shatin to Central Link
Works Contract 1109
Stations and Tunnels of Kowloon City Section
Construction Air Quality and Regular Noise Monitoring Schedule**

**DMS-8 & NMS-CA-8
Monitoring Month : Sep 2012**

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

**Shatin to Central Link
Works Contract 1109
Stations and Tunnels of Kowloon City Section
Construction Air Quality and Regular Noise Monitoring Schedule**

**DMS-9 &NMS-CA-9
Monitoring Month : Sep 2012**

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

**Shatin to Central Link
Works Contract 1109
Stations and Tunnels of Kowloon City Section
Construction Air Quality and Regular Noise Monitoring Schedule**

**DMS-10 & NMS-CA-10
Monitoring Month : Sep 2012**

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

**Shatin to Central Link
Works Contract 1109
Stations and Tunnels of Kowloon City Section
Construction Air Quality and Regular Noise Monitoring Schedule**

**DMS-8 & NMS-CA-8
Monitoring Month : Oct 2012**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct
	The day following the Chinese Mid-Autumn Festival	The day following National Day			24-hr TSP Monitoring Noise Monitoring	
07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct
				24-hr TSP Monitoring Noise Monitoring		
14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct
			24-hr TSP Monitoring Noise Monitoring			
21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct
	24-hr TSP Monitoring Noise Monitoring	Chung Yeung Festival				24-hr TSP Monitoring
28-Oct	29-Oct	30-Oct	31-Oct			

**Shatin to Central Link
Works Contract 1109
Stations and Tunnels of Kowloon City Section
Construction Air Quality and Regular Noise Monitoring Schedule**

**DMS-9 & NMS-CA-9
Monitoring Month : Oct 2012**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct
	The day following the Chinese Mid-Autumn Festival	The day following National Day			24-hr TSP Monitoring Noise Monitoring	
07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct
				24-hr TSP Monitoring Noise Monitoring		
14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct
			24-hr TSP Monitoring Noise Monitoring			
21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct
	24-hr TSP Monitoring Noise Monitoring	Chung Yeung Festival				24-hr TSP Monitoring
28-Oct	29-Oct	30-Oct	31-Oct			

**Shatin to Central Link
Works Contract 1109
Stations and Tunnels of Kowloon City Section
Construction Air Quality and Regular Noise Monitoring Schedule**

**DMS-10 & NMS-CA-10
Monitoring Month : Oct 2012**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct
	The day following the Chinese Mid-Autumn Festival	The day following National Day			24-hr TSP Monitoring Noise Monitoring	
07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct
				24-hr TSP Monitoring Noise Monitoring		
14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct
			24-hr TSP Monitoring Noise Monitoring			
21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct
	24-hr TSP Monitoring Noise Monitoring	Chung Yeung Festival				24-hr TSP Monitoring
28-Oct	29-Oct	30-Oct	31-Oct			

Annex F

Calibration Reports

Annex F Calibration Reports

Dust Monitoring Equipment

Monitoring Station ID	Location	Monitoring Equipment		Last Calibration Date	Next Calibration Date
<i>24-hr TSP (a)</i>		HVS	Calibrator		
DMS-8	SHK Good Shepherd Primary School	TE-5170 (S/N 3572)	CM-AIR-43 (S/N 0438320)	7 Sept 2012	7 Feb 2013
DMS-9	No. 26 Kowloon City Road	TE-5170 (S/N 0814)	CM-AIR-43 (S/N 0438320)	21 Sept 2012	21 Feb 2013
DMS-10	Chat Ma Mansion	TE-5170 (S/N 3573)	CM-AIR-43 (S/N 0438320)	7 Sept 2012	7 Feb 2013

Note:

(a) Since the construction works have not been started in TKW works area in the reporting month, therefore, no construction dust monitoring was conducted at DMS-6 and DMS-7.

Noise Monitoring Equipment

Monitoring Station ID	Monitoring Equipment	Model & Serial No.	Last Calibration Date	Next Calibration Date
NMS-CA-8 – NMS-CA-10 ^(a)	Calibrator	Rion NC-73 (S/N 10997142)	9 July 2012	9 July 2013
	Sound Level Meter	Rion NL-31 (S/N 00410224)	15 June 2012	15 June 2013
		Rion NL-18 (S/N 00360030)	13 June 2012	13 June 2013

(a) Since the construction works have not been started in Sung Wong Toi area in the reporting month, therefore, no construction dust monitoring was conducted at DMS-6 and 7.

High-Volume TSP Sampler
5-Point Calibration Record

Location : DMS-8(SHK Good Shepherd Primary School)
 Calibrated by : P.F.Yeung
 Date : 07/09/2012

Sampler

Model : TE-5170
 Serial Number : S/N 3572

Calibration Office and Standard Calibration 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) : 1013
 Ta(K) : 299

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1 18 holes	11.8	3.429	1.722	60	59.9
2 13 holes	9.2	3.028	1.521	54	53.9
3 10 holes	6.8	2.603	1.308	48	47.9
4 7 holes	4.4	2.094	1.052	41	40.9
5 5 holes	2.2	1.481	0.745	32	31.9

Sampler Calibration Relationship

Slope(m):28.429 Intercept(b):10.836 Correlation Coefficient(r):0.9998

Checked by: Magnum Fan

Date: 10/09/2012

High-Volume TSP Sampler
5-Point Calibration Record

Location : DMS-10(Chat Ma Mansion)
 Calibrated by : P.F.Yeung
 Date : 07/09/2012

Sampler

Model : TE-5170
 Serial Number : S/N 3573

Calibration Office and Standard Calibration 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) : 1013
 Ta(K) : 299

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1 18 holes	11.4	3.371	1.692	59	58.9
2 13 holes	9.1	3.012	1.512	53	52.9
3 10 holes	6.9	2.622	1.317	47	46.9
4 7 holes	4.5	2.118	1.064	39	38.9
5 5 holes	2.7	1.640	0.825	32	31.9

Sampler Calibration Relationship

Slope(m):31.054 Intercept(b):6.109 Correlation Coefficient(r):0.9998

Checked by: Magnum Fan

Date: 10/09/2012

High-Volume TSP Sampler
5-Point Calibration Record

Location : DMS-9(No. 26 Kowloon City Road)
Calibrated by : P.F.Yeung
Date : 21/09/2012

Sampler

Model : TE-5170
Serial Number : S/N 0814

Calibration Office and Standard Calibration 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) : 1010
Ta(K) : 300

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1 18 holes	12.4	3.500	1.757	65	64.6
2 13 holes	9.2	3.015	1.514	56	55.7
3 10 holes	7.2	2.667	1.340	50	49.7
4 7 holes	4.5	2.109	1.059	40	39.8
5 5 holes	2.7	1.633	0.821	30	29.8

Sampler Calibration Relationship

Slope(m):36.768 Intercept(b):0.175 Correlation Coefficient(r):0.9995

Checked by: Magnum Fan

Date: 23/09/2012



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

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Feb 22, 2012 Rootmeter S/N 0438320 Ta (K) - 295
 Operator Tisch Orifice I.D. - 1378 Pa (mm) - 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	NA	NA	1.00	1.3940	3.2	2.00
2	NA	NA	1.00	0.9740	6.4	4.00
3	NA	NA	1.00	0.8720	8.0	5.00
4	NA	NA	1.00	0.8340	8.8	5.50
5	NA	NA	1.00	0.6870	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9799	0.7029	1.4029	0.9957	0.7142	0.8927
0.9756	1.0017	1.9841	0.9914	1.0178	1.2624
0.9734	1.1163	2.2183	0.9891	1.1343	1.4114
0.9724	1.1660	2.3265	0.9881	1.1848	1.4803
0.9671	1.4077	2.8059	0.9827	1.4304	1.7853
Qstd slope (m) = 1.99405			Qa slope (m) = 1.24864		
intercept (b) = -0.00397			intercept (b) = -0.00252		
coefficient (r) = 0.99984			coefficient (r) = 0.99984		
y axis = SQRT[H2O(Pa/760)(298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

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

Va = Diff Vol [(Pa-Diff Hg)/Pa]
 Qa = Va/Time

For subsequent flow rate calculations:

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



Certificate of Calibration

校正證書

Certificate No. : C123580
證書編號

ITEM TESTED / 送檢項目 (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 : (23 ± 2)°C
 Relative Humidity / 相對濕度 : (55 ± 20)%
 Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 15 June 2012

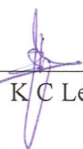
TEST RESULTS / 測試結果

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

Certified By : 
 核證 : K C Lee

Date of Issue : 15 June 2012
 簽發日期

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。

Certificate of Calibration

校正證書

Certificate No. : C123580
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 up for over 10 minutes before the commencement of the test.
- Self-calibration was performed before the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

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

- Test procedure : MA101N.

- Results :

- 6.1 Sound Pressure Level

- 6.1.1 Reference Sound Pressure Level

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

- 6.1.2 Linearity

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

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

- 6.2 Time Weighting

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

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室書面批准。

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 Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L _A	A	Fast	94.00	63 Hz	67.3	-26.2 ± 1.5
					125 Hz	77.4	-16.1 ± 1.5
					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 ± 1.6
					4 kHz	94.8	+1.0 ± 1.6
					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

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
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
					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 : 63 Hz - 125 Hz : ± 0.35 dB
 250 Hz - 500 Hz : ± 0.30 dB
 1 kHz : ± 0.20 dB
 2 kHz - 4 kHz : ± 0.35 dB
 8 kHz : ± 0.45 dB
 12.5 kHz : ± 0.70 dB
 104 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)
 114 dB : 1 kHz : ± 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室所書面批准。

Certificate of Calibration 校正證書

Certificate No. : C123522
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC12-1472)

Description / 儀器名稱 : Precision Integrating Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-18
Serial No. / 編號 : 00360030
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 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(55 \pm 20)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 13 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

Certified By : 
核證 : _____
K C Lee

Date of Issue : 15 June 2012
簽發日期

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。

Certificate of Calibration

校正證書

Certificate No. : C123522

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 up for over 10 minutes before the commencement of the test.
- Self-calibration was performed before the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

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

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	93.8	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
60 - 120	LA	A	Fast	94.00	1	93.9 (Ref.)
				104.00		103.9
				114.00		113.8

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	93.8	Ref.
			Slow			93.8	± 0.1

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室書面批准。

Certificate of Calibration

校正證書

Certificate No. : C123522

證書編號

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
50 - 110	LA	A	Fast	106.00	Continuous	106.0	Ref.
	LAmx				200 ms	105.1	-1.0 ± 1.0
	LA	Slow	Continuous		106.0	Ref.	
	LAmx		500 ms		102.5	-4.1 ± 1.0	

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 110	LA	A	Fast	94.00	31.5 Hz	54.1	-39.4 ± 1.5
					63 Hz	67.4	-26.2 ± 1.5
					125 Hz	77.5	-16.1 ± 1.0
					250 Hz	85.1	-8.6 ± 1.0
					500 Hz	90.5	-3.2 ± 1.0
					1 kHz	93.8	Ref.
					2 kHz	95.1	+1.2 ± 1.0
					4 kHz	94.8	+1.0 ± 1.0
					8 kHz	92.7	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.4	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 110	LC	C	Fast	94.00	31.5 Hz	90.7	-3.0 ± 1.5
					63 Hz	93.0	-0.8 ± 1.5
					125 Hz	93.6	-0.2 ± 1.0
					250 Hz	93.8	0.0 ± 1.0
					500 Hz	93.9	0.0 ± 1.0
					1 kHz	93.9	Ref.
					2 kHz	93.7	-0.2 ± 1.0
					4 kHz	93.1	-0.8 ± 1.0
					8 kHz	90.8	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.6	-6.2 (+3.0 ; -6.0)

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室所書面批准。

Certificate of Calibration

校正證書

Certificate No. : C123522
證書編號

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Integrating Time	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
50 - 110	LAeq	A	10 sec.	4	1	1/10	110	100	100.1	± 0.5
						1/10 ²		90	89.9	± 0.5
			60 sec.			1/10 ³		80	79.6	± 1.0
			5 min.			1/10 ⁴		70	69.8	± 1.0

Remarks : - Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value : 94 dB : 31.5 Hz - 125 Hz: ± 0.35 dB
250 Hz - 500 Hz : ± 0.30 dB
1 kHz : ± 0.20 dB
2 kHz - 4 kHz : ± 0.35 dB
8 kHz : ± 0.45 dB
12.5 kHz : ± 0.70 dB
104 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)
114 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)
Burst equivalent level : ± 0.2 dB (Ref. 110 dB continuous sound level)

- 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室所書面批准。

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 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(55 \pm 20)\%$
Line Voltage / 電壓 : ---

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

Tested By : 
測試 : L K Yeung

Certified By : 
核證 : K C Lee

Date of Issue : 10 July 2012
簽發日期

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室所書面批准。

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 of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL130	Universal Counter	C123541
CL281	Multifunction Acoustic Calibrator	DC110233
TST150A	Measuring Amplifier	C120886

- Test procedure : MA100N.

- Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (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.

Annex G

Summary of Event/ Action Plans

Annex G1 Even and Action Plan for Regular Construction Noise Monitoring

EVENT	Action			
	Contractor's Environmental Team (Contractor's ET)	Independent Environmental Checker (IEC)	Engineer Representative (ER)	The Contractor
Exceeding Action Level	<ol style="list-style-type: none"> 1. Notify the IEC, Contractor and ER; 2. Discuss with the ER, IEC and Contractor on the remedial measures required; 3. Increase the monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the investigation results submitted by the contractor; 2. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of complaint in writing ; 2. Notify the Contractor, IEC and ET; 3. Review and agree on the remedial measures proposed by the Contractor; 4. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Investigate the complaint and propose remedial measures; 2. Report the results of investigation to the IEC, ET and ER; 3. Submit noise mitigation proposals to the ER with copy to the IEC and ET within 3 working days of notification; 4. Implement noise mitigation proposals.
Exceeding Limit Level	<ol style="list-style-type: none"> 1. Notify the IEC, Contractor and EPD; 2. Repeat measurement to confirm findings; 3. Increase the monitoring frequency; 4. Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented; 5. Arrange meeting with the IEC, Contractor and ER to discuss the remedial measures to be taken; 6. Inform the IEC, ER and EPD the causes and actions taken for the exceedances 7. Assess the effectiveness of the Contractor's remedial measures and keep the IEC, ER and EPD informed of the results 	<ol style="list-style-type: none"> 1. Check the monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Discuss with the ET, ER, and Contractor on the potential remedial measures; 4. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor, IEC and ET; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Identify reason(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to the ER with a copy to the IEC and ET within three working days of notification; 4. Implement the agreed proposals; 5. Revise and resubmit proposals if problem still not under control; 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Annex G2 *Event and Action Plan for Continuous Noise Monitoring*

Event	Action			
	Contractor's Environmental Team (Contractor's ET)	Independent Environmental Checker (IEC)	Engineer Representative (ER)	The Contractor
Exceeding Action/Limit Level	<ol style="list-style-type: none"> 1. Notify the IEC, Contractor and ER 2. Identify source and investigate the causes of exceedance 3. Inform the IEC, ER and Contractor the causes and actions taken for the exceedances 4. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 5. Arrange meeting with the IEC, Contractor and ER to discuss the remedial measures to be taken if necessary; 6. Assess the effectiveness of the Contractor's remedial measures and keep the IEC and ER informed of the results 7. Repeat measurement to confirm findings if exceedance is caused by the 1109 works and if necessary 	<ol style="list-style-type: none"> 1. Check the monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Discuss with the ER, ET and Contractor on the potential remedial measures 4. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing 2. Notify the Contractor, and IEC 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented 4. Ensure the proper implementation of remedial measures 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated 	<ol style="list-style-type: none"> 1. Identify reason and investigate the causes of exceedance 2. Take immediate action to avoid further exceedance 3. Submit proposals for remedial measures to the ER with copy to the IEC and ET of notification 4. Implement the agreed proposals 5. Liaise with ER to optimize the effectiveness of the agreed mitigation 6. Revise and resubmit proposals if problem still not under control 7. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Annex G3 Event and Action Plan for Construction Dust Monitoring

Event	Action			
	Contractor's Environmental Team (Contractor's ET)	Independent Environmental Checker (IEC)	Engineer Representative (ER)	The Contractor
Action Level				
Exceedance for one sample	<ol style="list-style-type: none"> 1. Inform the IEC, Contractor and ER; 2. Discuss with the Contractor, IEC and ER on the remedial measures required; 3. Repeat measurement to confirm findings; 4. Increase the monitoring frequency 	<ol style="list-style-type: none"> 1. Check the monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notifications of exceedance in writing; 	<ol style="list-style-type: none"> 1. Identify reason(s), investigate the causes of exceedance and propose remedial measures; 2. Implement remedial measures; 3. Amend working methods and agree them with the ER as appropriate.
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Inform the IEC, Contractor and ER; 2. Discuss with the ER, IEC and Contractor on the remedial measures required; 3. Repeat measurements to confirm findings; 4. Increase the monitoring frequency to daily; 5. If exceedance continues, arrange meeting with the IEC, ER and Contractor; 6. If exceedance stops, the monitoring frequency will resume normal. 	<ol style="list-style-type: none"> 1. Check the monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor, IEC and ET; 3. Review and agree on the remedial measures proposed by the Contractor; 4. Supervise the Implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify reasons and investigate the causes of exceedance; 2. Submit proposals of remedial measures to the ER with a copy to the ET and IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal as appropriate.

Event	Action			
	Contractor's Environmental Team (Contractor's ET)	Independent Environmental Checker (IEC)	Engineer Representative (ER)	The Contractor
Limit Level				
Exceedance for one sample	<ol style="list-style-type: none"> 1. Inform the IEC, Contractor and ER; 2. Repeat measurement to confirm findings; 3. Increase the monitoring frequency to daily; 4. Discuss with the ER, IEC and contractor on the remedial measures and assess the effectiveness. 	<ol style="list-style-type: none"> 1. Check the monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Discuss with the ET, ER and Contractor on possible remedial measures; 4. Review and advise the ER and ET on the effectiveness of Contractor's remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor, IEC and ET; 3. Review and agree on the remedial measures proposed by the Contractor; 4. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify reason(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals of remedial measures to ER with a copy to the ET and IEC within three working days of notification; 4. Implement the agreed proposals; 5. Amend proposal if appropriate.
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Notify the IEC, Contractor and EPD; 2. Repeat measurement to confirm findings; 3. Increase the monitoring frequency to daily; 4. Carry out analysis of the Contractor's working procedures with the ER to determine possible mitigation to be implemented; 5. Arrange meeting with the IEC, Contractor and ER to discuss the remedial measures to be taken; 6. Review the effectiveness of the Contractor's remedial measures and keep the IEC, EPD and ER informed of the results; 7. If exceedance stops, the monitoring frequency will resume normal. 	<ol style="list-style-type: none"> 1. Check the monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Discuss with the ET, ER, and Contractor on the potential remedial measures; 4. Review and advise the ER and ET on the effectiveness of Contractor's remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor, IEC and ET; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Identify reason(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals of remedial measures to the ER with a copy to the IEC and ET within three working days of notification; 4. Implement the agreed proposals; 5. Revise and resubmit proposals if problem still not under control; 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Annex G4 Event and Action Plan for Landscape and Visual during the Construction Phase

Event	Action			
	Contractor's Environmental Team (Contractor's ET)	Independent Environmental Checker (IEC)	Engineer Representative (ER)	The Contractor
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Inform the Contractor, the IEC and the ER. 2. Discuss remedial actions with the IEC, ER and Contractor. 3. Monitor remedial actions until rectification has been completed. 	<ol style="list-style-type: none"> 1. Check the inspection report. 2. Check the Contractor's working method. 3. Discuss with the ET, ER and Contractor on possible remedial measures. 4. Advise the ER on the effectiveness of proposed remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notifications of nonconformity in writing. 2. Review and agree on the remedial measures proposed by the Contractor. 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify reasons and investigate the non-conformity. 2. Implement remedial measures 3. Amend working methods and agree them with the ER as appropriate. 4. Rectify the damage and undertake any necessary replacement.
Repeated Nonconformity	<ol style="list-style-type: none"> 1. Identify Reasons. 2. Inform the Contractor, IEC and ER. 3. Increase the inspection frequency. 4. Discuss remedial actions with the IEC, ER and Contractor. 5. Monitor remedial actions until rectification has been completed. 6. If non-conformity stops, the inspection frequency return to normal (ie., Once every two weeks) 	<ol style="list-style-type: none"> 1. Check the inspection report. 2. Check the Contractor's working method. 3. Discuss with the ET and Contractor on possible remedial measures. 4. Advise the ER on the effectiveness of proposed remedial measures. 	<ol style="list-style-type: none"> 1. Notify the Contractor. 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented. 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify Reasons and investigate the non-conformity. 2. Implement remedial measures. 3. Amend working methods and agree them with the ER as appropriate. 4. Rectify the damage and undertake any necessary replacement. 5. Stop relevant works as determined by the ER until the non-conformity is abated.

Annex H

Summary of Implementation Status

Annex H Environmental Mitigation Implementation Status – SCL Works Contract 1109 (Stations and Tunnels of Kowloon City Section)

Note:

- * Reference has been made to the approved SCL (TAW-HUH) EM&A Manual.
- ✓ Compliance of Mitigation Measures
- <> Compliance of Mitigation but need improvement
- x Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by Samsung-Hsin Chong JV
- △ Deficiency of Mitigation Measures but rectified by Samsung-Hsin Chong JV
- N/A Not Applicable in Reporting Period

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
Cultural Heritage Impact							
S4.9	CH3	<u>Submit an Archaeological Action Plan</u> Conduct survey-cum-excavation and additional boreholes/trenches investigation at the Sacred Hill (North) Study Area prior to construction.	Salvage cultural remains at the Sacred Hill (North) Study Area	Contractor	Sacred Hill (North) Area	Prior to the Construction Phase of TKW and associated tunnels	✓
Ecology (Construction Phase)							
S5.7	E5	<u>Good Site Practices</u> Impact on any habitats or local fauna should be avoided by implementing good site practices, including the containment of silt runoff within the site boundary, containment of contaminated soils for removal from the site, appropriate storage of chemicals and chemical waste away from sites of ecological value and the provision of sanitary facilities for on-site workers. Adoption of such measures should permit waste to be suitably contained within the site for subsequent removal and appropriate disposal.	Minimise ecological impacts	Contractor	All construction sites	Construction Stage	✓

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<p>The following good site practices should also be implemented:</p> <ul style="list-style-type: none"> Erection of temporary geotextile silt or sediment fences/oil traps around earth-moving works to trap sediments and prevent them from entering watercourses; Avoidance of soil storage against trees or close to water bodies; Delineation of works site by erecting hoardings to prevent encroachment onto adjacent habitats and fence off areas which have some ecological value e.g. tunnel on hill at top of slope stabilisation works; No on-site burning of waste; Store waste and refuse in appropriate receptacles. 					
Landscape & Visual (Construction Phase)							
S6.9.3	LV1	<p>The following good site practices and measures for minimisation and avoidance of potential impacts are recommended:</p> <p><u>Re-use of Existing Soil</u></p> <ul style="list-style-type: none"> For soil conservation, existing topsoil shall be re-used where possible for new planting areas within the project. The construction program shall consider using the soil removed from one phase for backfilling another. Suitable storage ground, gathering ground and mixing 	Minimize visual & landscape impact	Contractor	Within Project Site	Construction Stage	Δ

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		ground may be set up on-site as necessary.					
		<p><u>No-intrusion Zone</u></p> <ul style="list-style-type: none"> To maximize protection to existing trees, ground vegetation and associated under storey habitats, construction contracts may designate “No-intrusion Zone” to various areas within the site boundary with rigid and durable fencing . The contractor should closely monitor and restrict the site working staff from entering the “no-intrusion zone”, even for indirect construction activities and storage of equipment. 					
		<p><u>Protection of Retained Trees</u></p> <ul style="list-style-type: none"> All retained trees including trees in contractor’s works sites should be recorded and photographed at the commencement of the Contract, and carefully protected during the construction period. Detailed tree protection specification shall be allowed and included in the Contract Specification, which specifies the tree protection requirement, submission and approval system, and the tree monitoring system. The Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including 					

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
S6.12	LV2	<p>trees in Contractor's works sites.</p> <p><u>Decorative Hoarding</u></p> <ul style="list-style-type: none"> Erection of decorative screen in visual and landscape sensitive areas during the construction stage to screen off undesirable views of the construction site. Hoarding should be designed to be compatible with the existing urban context. <p><u>Management of facilities on work sites</u></p> <ul style="list-style-type: none"> To provide proper management of the on-site facilities, control the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent Visual Sensitive Receivers (VSRs). <p><u>Tree Transplanting</u></p> <ul style="list-style-type: none"> Trees of high to medium survival rates that would be affected by the works shall be transplanted where possible and practicable. Tree transplanting proposal including the final locations for the transplanted trees shall be submitted separately to seek relevant government department's approval, in accordance with ETWB TCW No 3/2006. 	Minimize visual & landscape impact	Contractor	Within Project Site	Construction Stage	√
Construction Dust							
S7.6.5	D1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	√

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
S7.6.5	D2	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul roads in the Kowloon area should be conducted to achieve dust removal efficiencies of 91.7%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.8 l/m ² to achieve the dust removal efficiency	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	√
S7.6.5	D3	<ul style="list-style-type: none"> • Proper watering of exposed spoil should be undertaken throughout the construction phase; • Any excavated or stockpile of dusty material should be covered entirely by an impervious sheeting or sprayed with water to maintain an entirely wet surface and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile has been removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty materials should not be extended beyond the pedestrian barriers, fencing or traffic cones. • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by an impervious 	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	Δ

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<p>sheeting to ensure that the dusty materials do not leak from the vehicle;</p> <ul style="list-style-type: none"> • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided and properly maintained as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road which leads only to construction site and is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operations take place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or 					

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<p>a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain an entirely wet surface</p> <ul style="list-style-type: none"> • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building upward, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by an impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by an impervious sheeting or placed in an area sheltered on the top and 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; 					

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		and <ul style="list-style-type: none"> Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies. 					
S7.6.5	D6	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction stage	√
EP Condition 2.18(a)	D7	Watering once every working hour for active works areas, exposed areas and paved haul roads shall be provided in Kowloon area to keep these active works areas, exposed areas and paved haul roads wet.	Minimize construction dust impact	Contractor	All construction sites	Construction stage	√
EP Condition 2.19	D8	All diesel fuelled construction plant, including marine vessels if possible, used by the contractors within the works areas of the Project shall be powered by ultra low sulphur diesel fuel.	Minimize aerial emissions of sulphur dioxide from construction plant	Contractor	All construction sites	Construction stage	√
Construction Noise (Airborne)							
S8.3.6	N1	Implement the following good site practices: <ul style="list-style-type: none"> only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work 	Control construction airborne noise	Contractor	All construction sites	Construction stage	√

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<p>periods or should be throttled down to a minimum;</p> <ul style="list-style-type: none"> • plant known to emit noise strongly in one direction, where possible, should be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction equipment should be properly fitted and maintained during the period of construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; • material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 					
S8.3.6	N2	Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites	Construction stage	✓
S8.3.6	N3	Install movable noise barriers (typical design is wooden framed barrier with a small-cantilevered on a skid footing with 25mm thick internal sound absorptive lining), acoustic mat or full enclosure, screen the noisy plants including air compressor, generators and saw.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction stage	N/A
S8.3.6	N4	Use "Quiet plants"	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction stage	✓
S8.3.6	N5	Sequencing operation of construction plants	Operate sequentially within	Contractor	Contractor All	Construction stage	✓

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		where practicable.	the same work site to reduce the construction airborne noise		construction sites where practicable		
S8.3.6	N6	Implement noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction stage	√
Water Quality							
S10.7.1	W1	In accordance with the Practice Noise for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following: <u>Construction Runoffs and Site Drainage</u> <ul style="list-style-type: none"> At the start of the site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the Contractor prior to the commencement of construction. The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to 	To minimize water quality impact from construction site runoffs and general construction activities	Contractor	All construction sites where practicable	Construction stage	√

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<p>facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates.</p> <ul style="list-style-type: none"> • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1 m³/s, a sedimentation basin of 30m³ would be required and for a flow rate of 0.5 m³/s the basin would be 150 m³. The detailed design of the sand/silt traps shall be undertaken by the Contractor prior to the commencement of construction. • All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, and definitely, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means. • The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by 					

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<p>coarse stone ballast. An additional advantage from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows.</p> <ul style="list-style-type: none"> • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operations at all times and particularly following rainstorms. Deposited silts and grits should be removed regularly and disposed of by spreading them evenly over stable, vegetated areas. • Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, trenches should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. • Manholes (including newly constructed 					

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<p>ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.</p> <ul style="list-style-type: none"> • Precautions should be taken at any time of year when rainstorms are likely. Actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoffs during storm events, especially for areas located near steep slopes. • All vehicles and plant should be cleaned before leaving a construction site to ensure that no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and 					

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<p>silty water to public roads and drains.</p> <ul style="list-style-type: none"> Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. All fuel tanks and storage areas should be provided with locks and sited in sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching nearby water sensitive receivers. All the earth works should be conducted sequentially to limit the amount of construction runoffs generated from exposed areas during the wet season (April to September) as far as practicable. Adopt best management practices 					
S10.7.1	W2	<p><u>Tunnelling Works</u></p> <ul style="list-style-type: none"> Uncontaminated discharge should pass through sedimentation tanks prior to off-site discharge. The wastewater with a high concentration 	To minimize construction water quality impact from tunnelling works	Contractor	All tunnelling portion	Construction stage	N/A

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<p>of suspended solids should be treated (e.g. by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove oil, lubricants and grease from the wastewater.</p> <ul style="list-style-type: none"> Direct discharge of the bentonite slurry (as a result of D-wall and bored tunnelling construction) is not allowed. The slurry should be reconditioned and reused wherever practicable. Temporary storage locations (typically a properly closed warehouse) should be provided on site for any unused bentonite that needs to be transported away after all the related construction activities have been completed. The requirements in ProPECC PN 1/94 should be adhered to in the handling and disposal of bentonite slurries. 					
S10.7.1	W3	<p><u>Sewage Effluent</u> Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for their appropriate disposal and maintenance.</p>	To minimize water quality from sewage effluent	Contractor	All construction sites where practicable	Construction stage	✓
S10.7.1	W4	<p><u>Groundwater from Contaminated Area in case contamination is found:</u></p> <ul style="list-style-type: none"> No direct discharge of groundwater from 	To minimize groundwater quality impact from contaminated area	Contractor	Excavation areas where contamination is found.	Construction stage	N/A

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<p>contaminated areas is allowed. Prior to the excavation works within potentially contaminated areas, the groundwater quality should be reviewed with reference to the site investigation data in the EIA report for compliance and the Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters (TM-Water). The existence of prohibited substance should be confirmed. The review results should be submitted to EPD for examination if the review results indicate that the groundwater to be generated from the excavation works would be contaminated. The contaminated groundwater should be either properly treated in compliance with the requirements of the TM-Water or properly recharged into the ground.</p> <ul style="list-style-type: none"> • If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. total petroleum hydrocarbon (TPH)) to undetectable range. All treated effluent from the wastewater treatment plant shall meet the requirements as stated in TM Water and should be discharged into the foul sewers. 					

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<ul style="list-style-type: none"> If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Section 2.3 of TM-Water. The baseline groundwater quality shall be determined prior to the selection of the recharge wells. It is necessary to submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than the pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as TPH products should be removed as necessary by installing the petrol interceptor. The Contractor should apply for a discharge licence under the Water Pollution Control Ordinance (WPCO) through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater. 					
S10.7.1	W7	In order to prevent accidental spillage of chemicals, the following is recommended:	To minimize water quality impact from accidental	Contractor	All construction sites where practicable	Construction stage	√

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<ul style="list-style-type: none"> All the tanks, containers, storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and stormwater drains. The Contractor should register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities should be stored with suitable labels and warnings. Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation. 	spillage				
Waste Management (Construction Waste)							
S11.4.1.1	WM1	<u>On-site sorting of C&D (Construction and Demolition) material</u> <ul style="list-style-type: none"> Geological assessment should be carried out by competent persons on site during excavation to identify materials which are not suitable to use as aggregate in structural concrete (e.g. volcanic rock, Aplite dyke rock, etc). Volcanic rock and Aplite dyke rock should be separated at the source sites as far as practicable and stored in the designated stockpile areas avoiding delivering them to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from 	Separation of unsuitable rock from ending up at Concrete batching plants and be turned into concrete for structural use	Contractor	All construction sites	Construction stage	√

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		being ended up at concrete batching plants and turned into concrete for structural use. Details regarding control measures at source sites and crushing facilities should be submitted by the Contractors for the Engineer to review and agree. In addition, site records should also be kept for the types of rock materials excavated. The traceability of delivery will be ensured via the implementation of Trip Ticket System and enforcement by site supervisory staff as stipulated under DEVB TC(W) No. 6/2010 for tracking of the correct delivery to the rock crushing facilities for processing into aggregates. Alternative disposal option for the reuse of volcanic rock and Aplite Dyke rock, etc should also be explored.					
S11.5.1	WM2	<p><u>Construction and Demolition (C&D) Material</u></p> <ul style="list-style-type: none"> • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; • Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; 	Good site practice to minimize waste generation and recycle C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	√

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<ul style="list-style-type: none"> Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; Implement an enhanced Waste management Plan similar to ETWBTC (Works) No. 19/2005 – “Environmental Management on Construction Sites” to encourage on-site sorting of C&D materials and minimize waste generation during the course of construction. Disposal of the C&D materials to any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get his approval before implementation 					
S11.5.1	WM3	<p><u>C&D Waste</u></p> <ul style="list-style-type: none"> Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used. Metal hoarding should be used to enhance the possibility of recycling. The purchase of construction materials will be carefully planned in order to avoid over ordering and wastage. The Contractor should recycle as much of the C&D materials as possible on-site. 	Good site practice to minimize waste generation and recycle C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	√

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
S11.5.1	WM4	<p>Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.</p> <p><u>General Refuse</u></p> <ul style="list-style-type: none"> • General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. • A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. • Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. • Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme 	Minimize the production of general refuse and minimise odour, pest and litter impacts	Contractor	All construction sites	Construction stage	√

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
S11.5.1	WM7	<p>should be considered by the Contractor.</p> <p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> Chemical waste as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, that is produced should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed. They should have a capacity of less than 450 litres unless the specification has been approved by the EPD. A label in English and Chinese should be displayed in accordance with instructions prescribed in Schedule 2 of the regulation. The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides. It should also have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest. It should have adequate ventilation and be covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated. 	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	Δ

EIA Ref.	EM&A Log Ref*	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the implementation of measures	When to implement the measures?	Implementation Status
		<ul style="list-style-type: none"> Disposal of chemical waste should be via a licensed waste collector; to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre (which also offers a chemical waste collection service and can supply the necessary storage containers); or to a reuser of the waste, under the approval from the EPD. 					

Annex I

Regular Noise Monitoring Results

Annex I Regular Noise Monitoring Results

Station NMS-CA-8 SKH Good Shepherd Primary School

Date	Start Time	End Time	Weather	Measured Noise level (dB(A)), Leq(30 min)	Baseline (dB(A)), Leq(30 min)	Corrected Leq(dBA) ^(a)	Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
07-Sep-12	14:25	14:55	Cloudy	74.6	75.0	-(b)	-	Traffic noise	30	0.4	NL-31 00410224	NC-73 10997142
13-Sep-12	8:50	9:20	Sunny	73.5	75.0	-(b)	-	Traffic noise	33	0.5	NL-18 00360030	NC-73 10997142
19-Sep-12	13:45	14:15	Cloudy	73.6	75.0	-(b)	-	Traffic noise	28	0.5	NL-18 00360030	NC-73 10997142
25-Sep-12	8:57	9:27	Fine	75.3	75.0	63.5	-	Traffic noise	29	0.5	NL-18 00360030	NC-73 10997142

Remarks:

- (a) The Measured Leq is corrected against the corresponding Baseline Level.
 (b) No correction was made as the measured noise levels were below the baseline noise levels.

Station NMS-CA-9 Kong Yiu Mansion

Date ^(c)	Start Time	End Time	Weather	Measured Noise level (dB(A)), Leq(30 min)	Baseline (dB(A)), Leq(30 min)	Corrected Leq(dBA) ^(a)	Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
21-Sep-12	17:30	18:00	Cloudy	71.3	69.0	67.4	-	Traffic noise	29	0.5	NL-18 00360030	NC-73 10997142
25-Sep-12	9:35	10:05	Fine	71.6	69.0	68.1	Site investigation	Traffic noise	29	0.8	NL-18 00360030	NC-73 10997142

Remarks:

- (a) The Measured Leq is corrected against the corresponding Baseline Level.
 (b) No correction was made as the measured noise levels were below the baseline noise levels.
 (c) Monitoring in September 2012 was started on 21 September 2012 due to the construction works in Ma Tau Wai Road area has not yet commenced, therefore noise monitoring is not required.

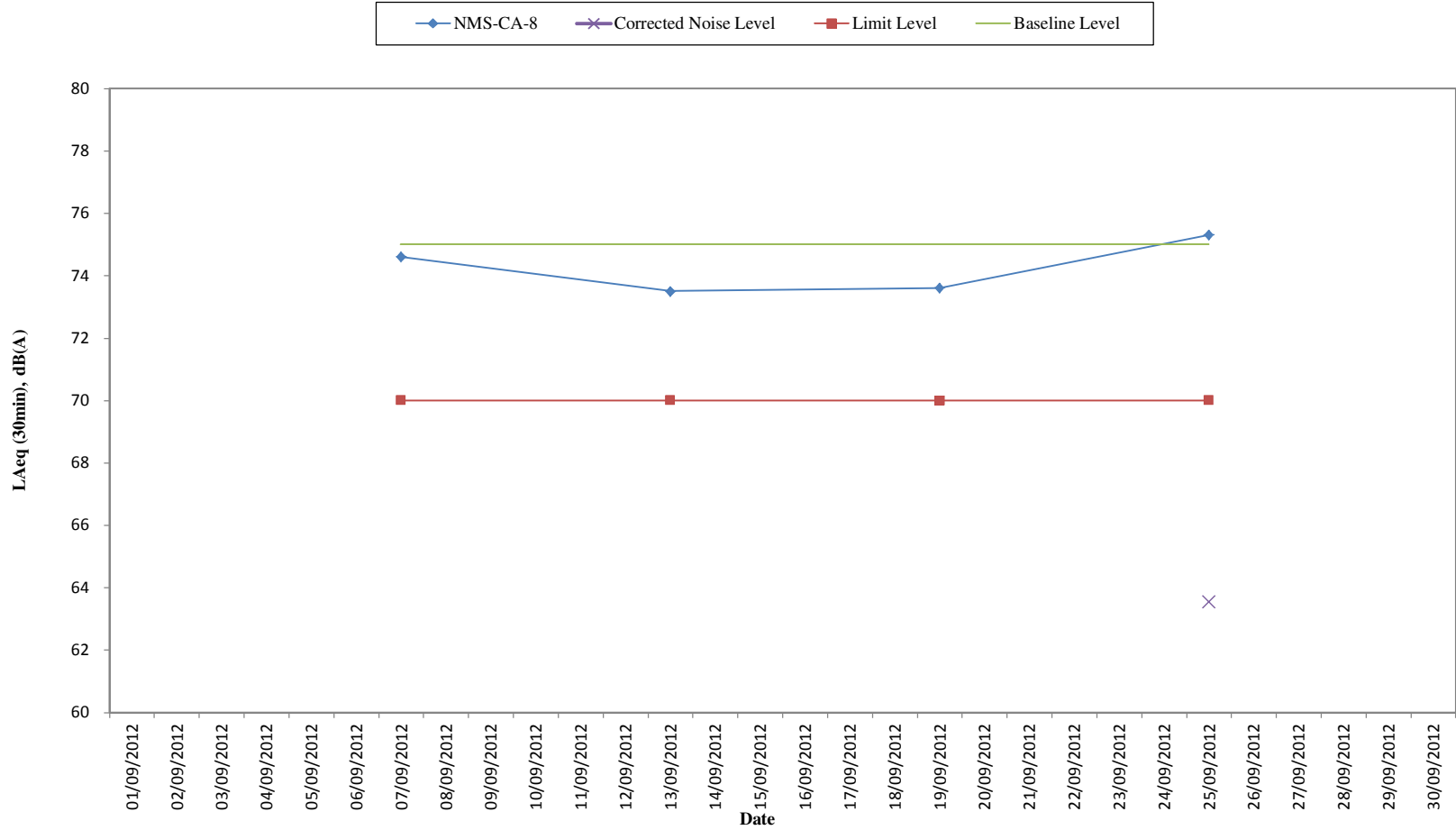
Station NMS-CA-10 Chat Ma Mansion

Date	Start Time	End Time	Weather	Measured Noise level (dB(A)), Leq(30 min)	Baseline (dB(A)), Leq(30 min)	Corrected Leq(dBA) ^(a)	Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
07-Sep-12	14:00	14:30	Cloudy	76.9	77.0	-(b)	-	Traffic noise	30	0.3	NL-31 00410224	NC-73 10997142
13-Sep-12	9:35	10:05	Sunny	75.6	77.0	-(b)	-	Traffic noise	33	0.5	NL-18 00360030	NC-73 10997142
19-Sep-12	13:00	13:30	Cloudy	74.9	77.0	-(b)	-	Traffic noise	28	0.8	NL-18 00360030	NC-73 10997142
25-Sep-12	8:05	8:35	Fine	76.2	77.0	-(b)	Site Investigation	Traffic noise	29	0.8	NL-18 00360030	NC-73 10997142

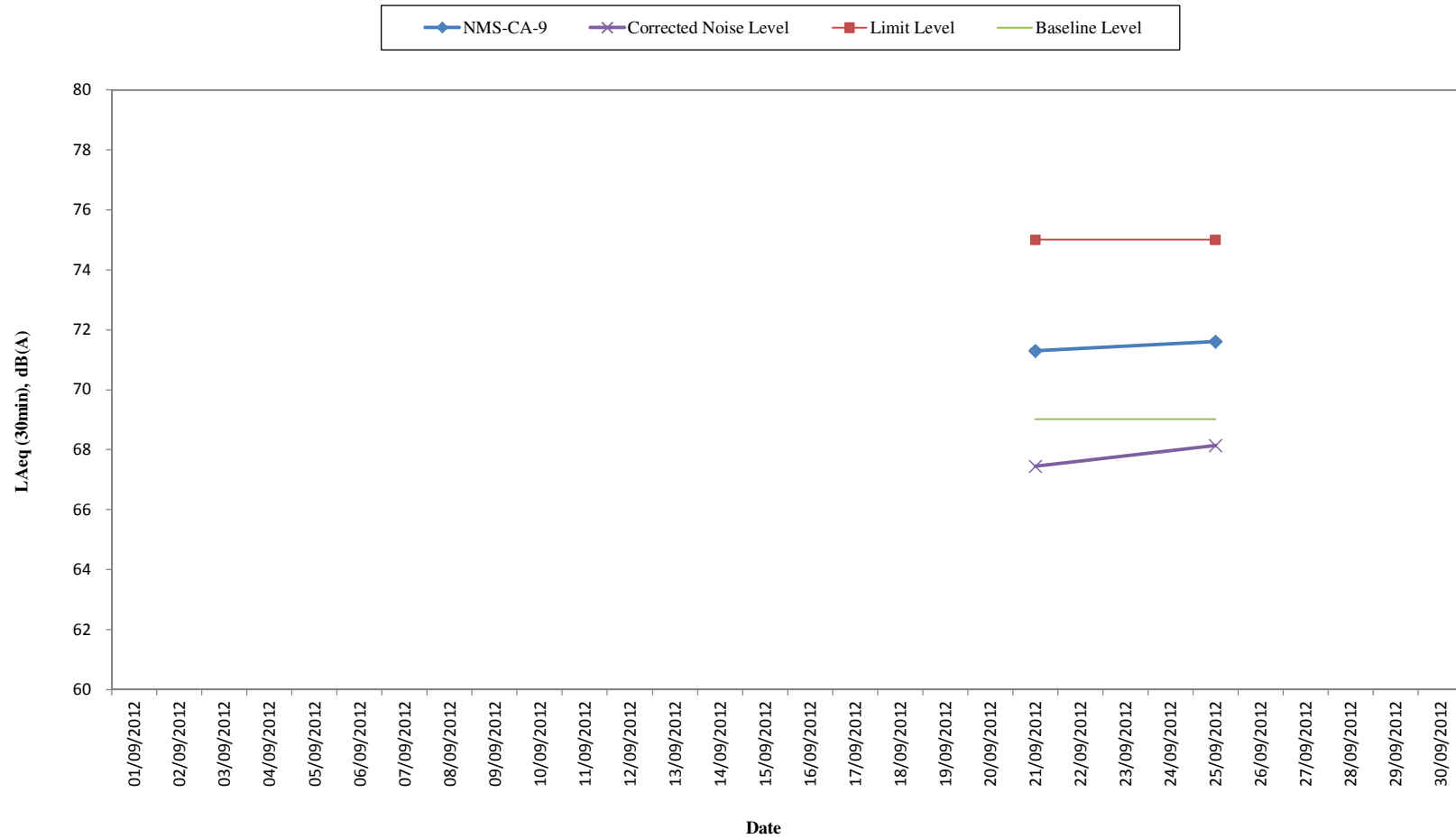
Remarks:

- (a) The Measured Leq is corrected against the corresponding Baseline Level.
 (b) No correction was made as the measured noise levels were below the baseline noise levels.

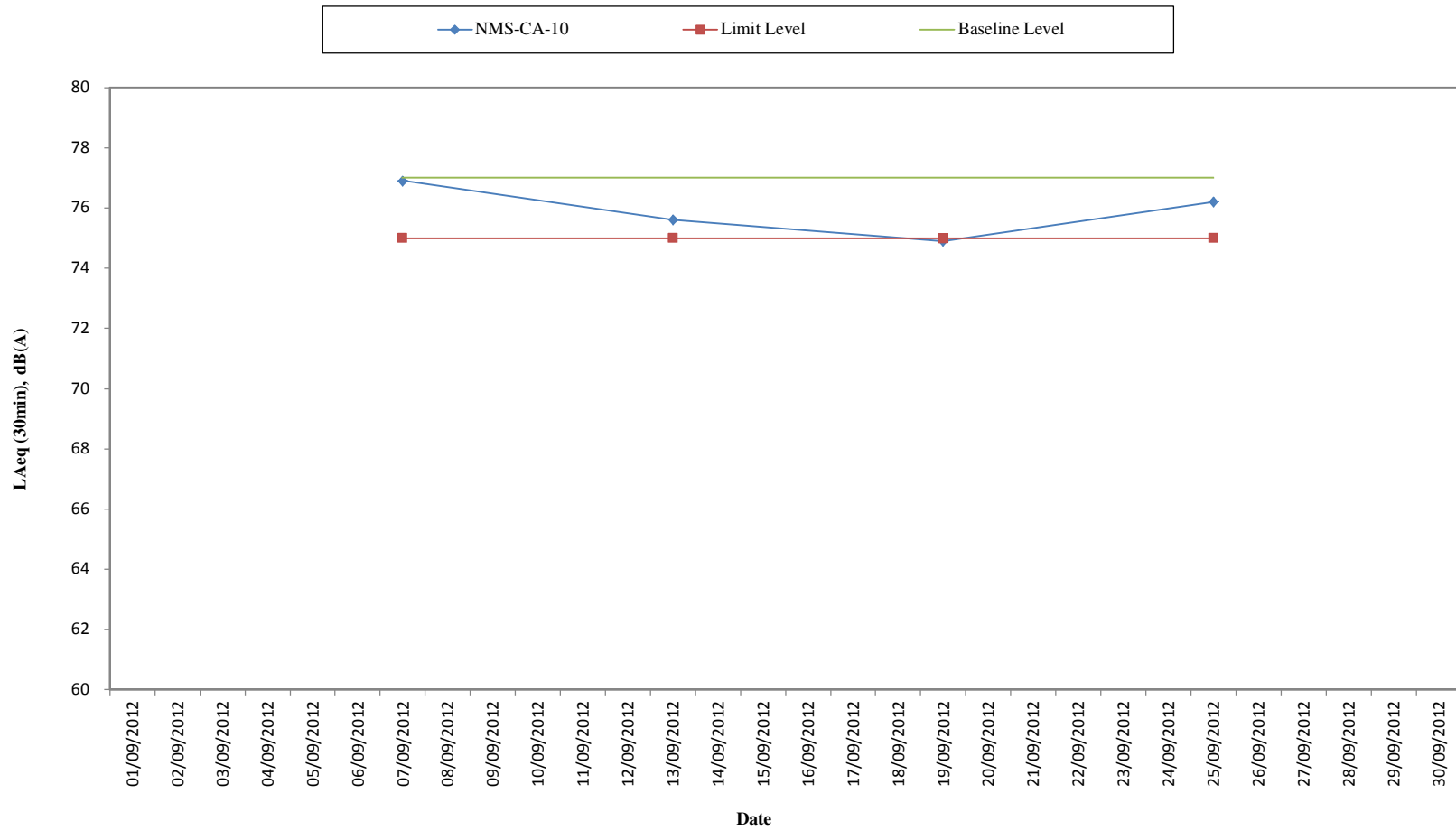
Regular Noise Monitoring Results at NMS-CA-8 (Leq, 30min) during Normal Working Hours



Regular Noise Monitoring Results at NMS-CA-9 (Leq, 30min) during Normal Working Hours



Normal Weekdays Regular Noise Monitoring Results at NMS-CA-10 (Leq, 30min) during Normal Working Hours



Annex J

Construction Dust Monitoring Results

Annex J Construction Dust Monitoring Results

Station DMS-8 SKH Good Shepherd Primary School

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
07-Sep-12	8:30	08-Sep-12	8:30	Cloudy	2.7819	2.9411	259.11	283.11	24.00	1.23	1.23	1.23	90	152.2	260	Construction work in progress	3572	5157
13-Sep-12	9:00	14-Sep-12	9:00	Sunny	2.7588	2.9085	283.11	307.11	24.00	1.23	1.23	1.23	85	152.2	260	Construction work in progress	3572	5157
19-Sep-12	13:50	20-Sep-12	13:50	Cloudy	2.7521	2.9034	307.11	331.11	24.00	1.23	1.23	1.23	85	152.2	260	Construction work in progress	3572	5301
25-Sep-12	9:00	26-Sep-12	9:00	Fine	2.7431	2.8866	331.11	355.11	24.00	1.23	1.23	1.23	81	152.2	260	Construction work in progress	3572	5321
29-Sep-12	9:20	30-Sep-12	9:20	Sunny	2.7688	2.9098	355.11	379.11	24.00	1.23	1.23	1.23	80	152.2	260	Construction work in progress	3572	5416
												Average	84					
												Minimum	80					
												Maximum	90					

Station DMS-9 No. 26 Kowloon city road

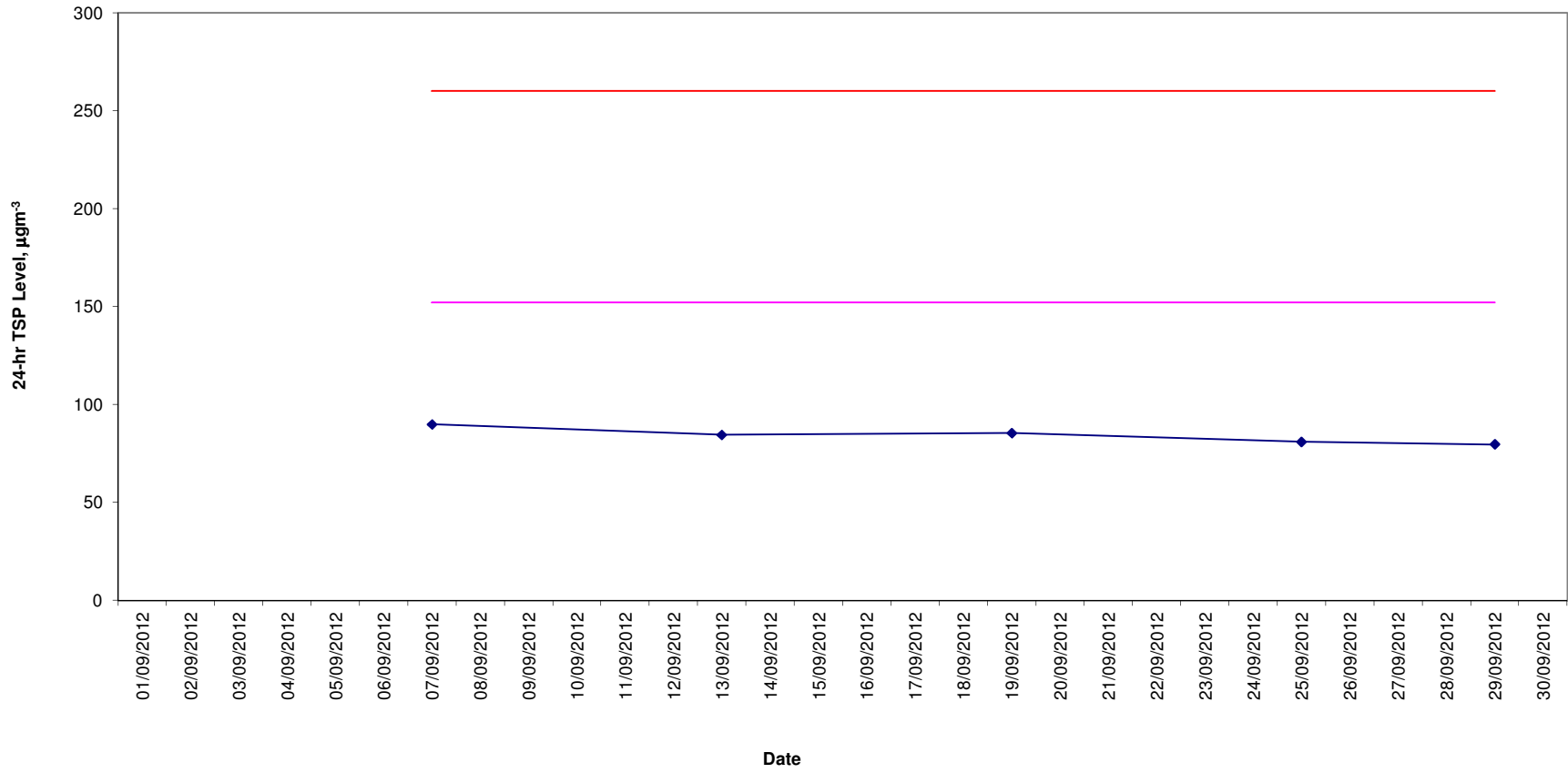
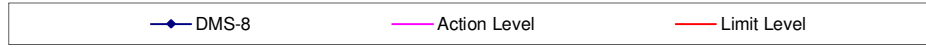
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
21-Sep-12	17:15	22-Sep-12	17:15	Cloudy	2.7681	2.9110	11025.39	11049.39	24.00	1.25	1.25	1.25	79	160.9	260	Construction work in progress	0814	5228
25-Sep-12	8:47	26-Sep-12	8:47	Fine	2.7559	2.9101	11049.40	11073.40	24.00	1.25	1.25	1.25	86	160.9	260	Construction work in progress	0814	5417
29-Sep-12	9:12	30-Sep-12	9:12	Sunny	2.7657	2.9091	11073.40	11097.40	24.00	1.25	1.25	1.25	80	160.9	260	Construction work in progress	0814	5419
												Average	82					
												Minimum	79					
												Maximum	86					

Remark: Monitoring in September 2012 was started on 21 September 2012 due to the construction works in Ma Tau Wai Road area has not yet commenced, therefore dust monitoring is not required.

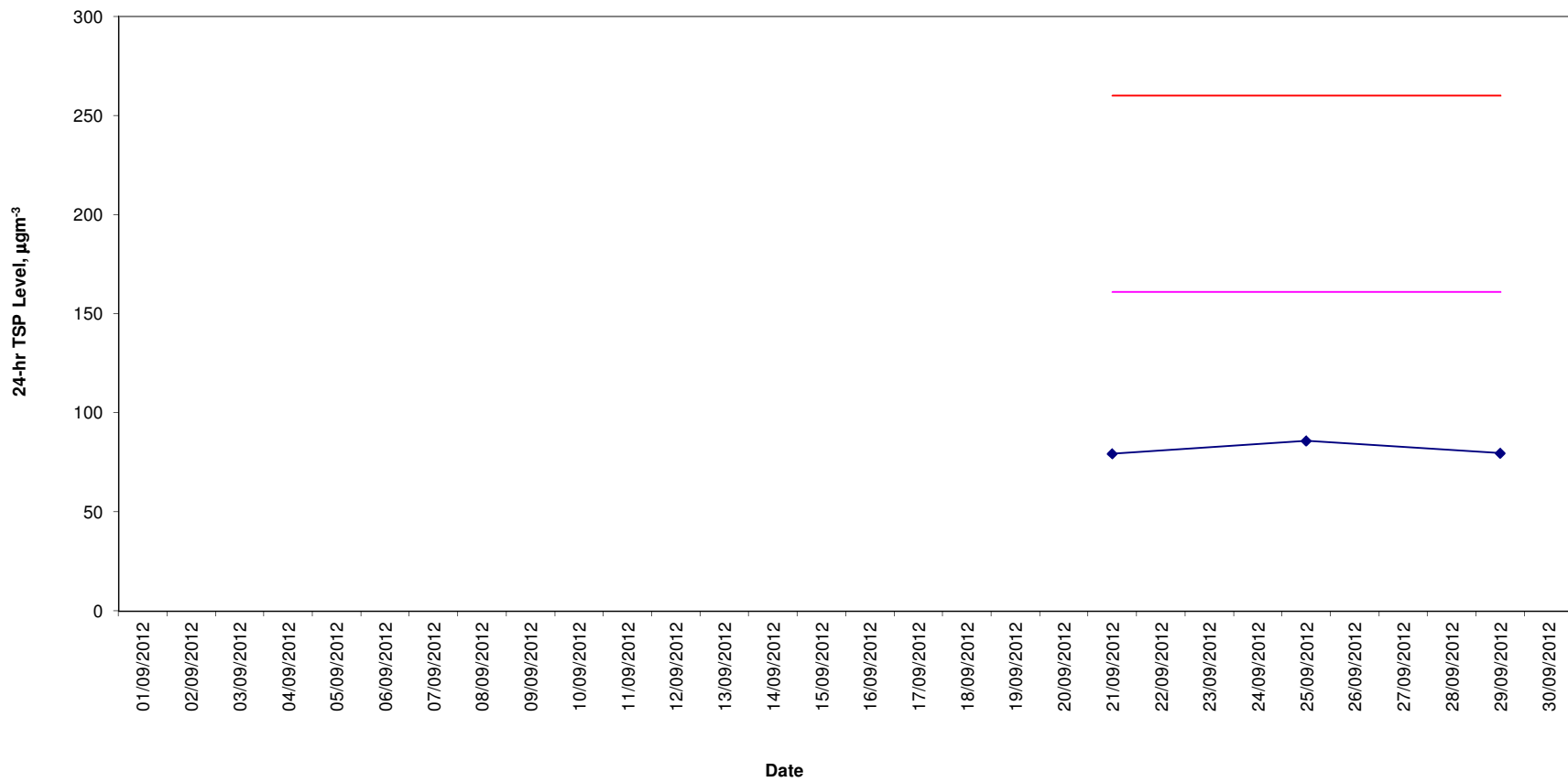
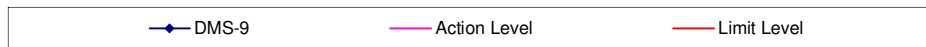
Station DMS-10 Chat Ma Mansion

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
07-Sep-12	8:10	08-Sep-12	8:10	Cloudy	2.7863	2.9311	203.20	227.20	24.00	1.22	1.22	1.22	82	170.4	260	Construction work in progress	3573	5099
13-Sep-12	9:42	14-Sep-12	9:42	Sunny	2.7741	2.9149	277.20	301.20	24.00	1.22	1.22	1.22	80	170.4	260	Construction work in progress	3573	5158
19-Sep-12	13:05	20-Sep-12	13:05	Cloudy	2.7486	2.9000	301.20	325.20	24.00	1.22	1.22	1.22	86	170.4	260	Construction work in progress	3573	5302
25-Sep-12	8:10	26-Sep-12	8:10	Fine	2.7459	2.9006	325.20	349.20	24.00	1.22	1.22	1.22	88	170.4	260	Construction work in progress	3573	5320
29-Sep-12	9:00	30-Sep-12	9:00	Sunny	2.7748	2.9211	349.20	373.20	24.00	1.22	1.22	1.22	83	170.4	260	Construction work in progress	3573	5415
												Average	84					
												Minimum	80					
												Maximum	88					

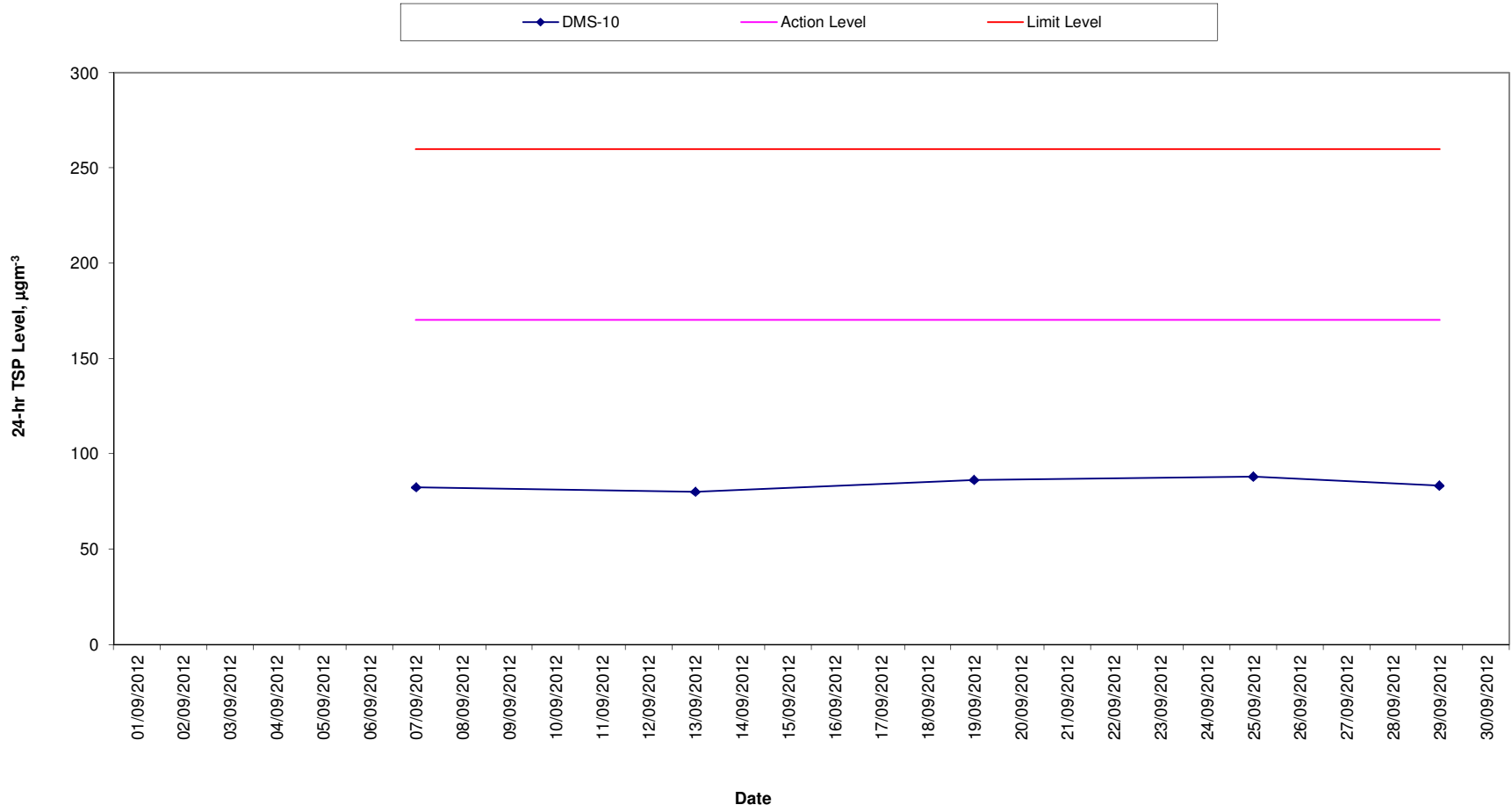
Construction Dust Monitoring Results DMS-8 (SKH Good Shepherd Primary School)



Construction Dust Monitoring Results DMS-9 (No. 26 Kowloon city road)



Construction Dust Monitoring Results DMS-10 (Chat Ma Mansion)



Annex K

Waste Flow Table

Annex K – Waste Flow Table

Monthly Summary Waste Flow Table for the year 2012

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rocks and Large Broken Concrete (See Note 3)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill (See Note 5)	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse (See Note 5)
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in'000kg)	(in '000m ³)
Jan	--	--	--	--	--	--	--	--	--	--	--
Feb	--	--	--	--	--	--	--	--	--	--	--
Mar	--	--	--	--	--	--	--	--	--	--	--
Apr	--	--	--	--	--	--	--	--	--	--	--
May	--	--	--	--	--	--	--	--	--	--	--
June	--	--	--	--	--	--	--	--	--	--	--
July	--	--	--	--	--	--	--	--	--	--	--
Aug	--	--	--	--	--	--	--	--	--	--	--
Sub-total											
Sept	0.004	0.000	0.000	0.000	0.004	0.000	0.000	0.000	5.300	0.000	0.144
Oct											
Nov											
Dec											
Total	0.004	0.000	0.000	0.000	0.004	0.000	0.000	0.000	5.300	0.000	0.144

Notes:

- 1 The performance targets are given below:
 - All excavated materials to be sorted for recovering the inert portion of C&D materials, e.g. hard rocks, soil and broken concrete, for reuse on the Site or disposal to designated outlets;
 - All metallic waste to be recovered for collection by recycling contractors;
 - All cardboard and paper packaging (for plant, equipment and materials) to be recovered, properly stockpiled in dry and covered condition to prevent cross contamination;
 - All chemical wastes to be collected and properly disposed of by specialist contractors; and
 - All demolition debris to be stored to recover broken concrete, reinforcement bars, mechanical and electrical fittings, hardware as well as other fitting / materials that have established recycling outlets.
- 2 Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- 3 Broken concrete for recycling into aggregates.
- 4 The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- 5 Density Assumption: 1.6(kg/l) for Public Fill and 0.9(kg/l) for General Refuse

Annex L

Environmental Complaint,
Environmental Summon
and Prosecution

Annex L Environmental Complaint, Environmental Summon and Prosecution Log

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
September 2012	0	0
Overall Total	0	0