


MTR Corporation Limited

**Shatin to Central Link –
Tai Wai to Hung Hom Section and
Mong Kok East to Hung Hom Section**

Monthly EM&A Report No. 84

[Period from 1 to 31 August 2019]

(September 2019)

Verified by: Fredrick Leong 

Position: Independent Environmental Checker

Date: 12 September 2019


MTR Corporation Limited

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Certified by: _____ Lisa Poon 

Position: Environmental Team Leader

Date: 12 September 2019

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Consultancy Agreements
No. C11033 & C11033B

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Hom Section and Mong Kok East
to Hung Hom Section**

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[Period from 1 to 31 August 2019]

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Version: A Date: 12 September 2019

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1 INTRODUCTION

1.1 Background

- 1.1.1 The Shatin to Central Link (SCL) is a 17km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai to Hung Hom via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH) and Stabling Sidings at Hung Hom Freight Yard (HHS); and (ii) The North-South Corridor which is an extension of the East Rail Line (EAL) at Hung Hom across the harbour to Admiralty Station (ADM).
- 1.1.2 Shatin to Central Link – Tai Wai to Hung Hom Section [SCL (TAW-HUH)] and Shatin to Central Link – Mong Kok East to Hung Hom Section [SCL (MKK-HUH) (hereafter referred to as “the Project”) are parts of the SCL. Shatin to Central Link – Stabling Sidings at Hung Hom Freight Yard [SCL (HHS)] is a proposed stabling sidings option for SCL (TAW – HUH) at the former freight yard in Hung Hom.
- 1.1.3 The Environmental Impact Assessment (EIA) Reports for SCL (TAW-HUH) (Register No.: AEIAR-167/2012), SCL (MKK-HUH) (Register No.: AEIAR-165/2012) 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, two Environmental Permits (EPs) were granted on 22 March 2012, one covers SCL (TAW-HUH) and SCL (HHS) (EP No: EP-438/2012) and the other covers SCL (MKK-HUH) and SCL (HHS) (EP No.: EP-437/2012), for their construction and operation. Variations of environmental permit (VEP) were subsequently applied for EP-438/2012 and EP-437/2012. The latest Environmental Permits (EP Nos.: EP-438/2012/K and EP-437/2012/A) were issued by Director of Environmental Protection (DEP) on 4 October 2016 and 28 November 2017, respectively.

1.2 Project Programme

- 1.2.1 Eleven 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 2019 tentatively. Table 1.1 summarises the information of the awarded Works Contracts.

Table 1.1 Summary of Awarded Works Contracts

Works Contract	Description	Construction Start Date	Contractor	Environmental Team
1101 ⁽¹⁾	Ma On Shan Line Modification Works	December 2012	Sun Fook Kong Joint Venture (SFKJV)	ANewR Consulting Ltd. (ANewR)
1102 ⁽⁶⁾	Hin Keng Station and Approach Structures	October 2013	Penta-Ocean Construction Co. Ltd.	Wellab Limited (Wellab)
1103 ⁽⁷⁾	Hin Keng to Diamond Hill Tunnels	February 2013	Vinci Construction Grands Projets	Ove Arup & Partners Hong Kong Ltd. (Arup)
1106 ⁽⁸⁾	Diamond Hill Station	March 2013	Leader Joint Venture	Cinotech Consultants Ltd. (Cinotech)
1107 ⁽⁴⁾	Diamond Hill to Kai Tak Tunnels	May 2013	Chun Wo - SELI Joint Venture	Cinotech Consultants Ltd. (Cinotech)
1108 ⁽⁵⁾	Kai Tak Station and Associated Tunnels	June 2013	Kaden -Chun Wo Joint Venture	Environmental Pioneers & Solutions Ltd.

Works Contract	Description	Construction Start Date	Contractor	Environmental Team
1108A ⁽²⁾	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 (SSHCJV)	ERM-Hong Kong Limited (ERM)
1111 ⁽⁹⁾	Hung Hom North Approach Tunnels	January 2013	Gammon-Kaden SCL1111 JV	AECOM Asia Co. Ltd.
1112	Hung Hom Station and Stabling Sidings	June 2013	Leighton Contractors (Asia) Limited	SMEC Asia Ltd., HK
11240 ⁽³⁾	Excavation, Sorting and Disposal of Stockpiled Spoils to Approved Receptor Site	October 2017	Crown Asia Engineering Limited (CAEL)	MTR Co. Limited

Notes:

- (1) All construction works (works areas at Tai Wai Mei Tin Road and the offsite temporary storage areas) under Works Contract 1101 were completed on 29 February 2016.
- (2) All construction works (Kai Tak Barging Point Facilities) under Works Contract 1108A were completed on 29 September 2016.
- (3) All construction works (Excavation, Sorting and Disposal of Stockpiled Spoils to Approved Receptor Site) under Works Contract 11240 were completed on 3 January 2018.
- (4) All construction works (Diamond Hill to Kai Tak Tunnels) under Works Contract 1107 were completed on 22 February 2018.
- (5) All construction works (Kai Tak Station and associated tunnels) under Works Contract 1108 were completed in July 2018.
- (6) All construction works (Hin Keng Station and Approach Structures) under Works Contract 1102 were completed in December 2018. The Environmental Team was taken over by Wellab Limited starting from 1 January 2019.
- (7) All construction works (Hin Keng to Diamond Hill Tunnels) under Works Contract 1103 were completed in June 2019.
- (8) All construction works (Diamond Hill Station) under Works Contract 1106 **with significant environmental impacts** were substantially completed by 25 Jun 2019.
- (9) All major construction works (Hung Hom North Approach Tunnels) under Works Contract 1111 have been substantially completed since 18 Nov 2018 with only minor works remaining.

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 eighty-fourth EM&A Report for the Project which summarises the EM&A works undertaken by the respective Contractor's ETs during the period from 1 to 31 August 2019.

2 ENVIRONMENTAL MONITORING AND AUDIT

- 2.1.1 The construction of SCL has been divided into different civil construction works contracts which are covered by EP No. EP-437/2012/A and/or EP-438/2012/K. As per the EP Conditions, EM&A Reports for the works contracts as shown in the table below have been prepared by the respective Contractor's ETs.

Works Contract	Contract Title	Works Covered in Environmental Permit No.
1101	Ma On Shan Modification Works	EP-438/2012/K
1102	Hin Keng Station and Approach Structures	EP-438/2012/K
1103	Hin Keng to Diamond Hill Tunnels	EP-438/2012/K
1106	Diamond Hill Station	EP-438/2012/K
1107	Diamond Hill to Kai Tak Tunnels	EP-438/2012/K
1108	Kai Tak Station and Associated Tunnels	EP-438/2012/K
1108A	Kai Tak Barging Point Facilities	EP-438/2012/K
1109	Stations and Tunnels of Kowloon City Section	EP-438/2012/K
1111	Hung Hom North Approach Tunnels	EP-437/2012/A & EP-438/2012/K
1112	Hung Hom Station and Stabling Sidings	EP-437/2012/A & EP-438/2012/K
11240	Excavation, Sorting and Disposal of Stockpiled Spoils to Approved Receptor Site	EP-438/2012/K

- 2.1.2 The EM&A Reports for Works Contracts 1109 and 1112 prepared by the respective Contractor's ETs are provided in Appendices A to B respectively. The EM&A Reports provide details of the project information, EM&A requirements, impact monitoring and audit results for the corresponding Contracts.
- 2.1.3 The major construction works of Works Contract 1111 and 1106 were substantially completed by 18 Nov 2018 and 25 Jun 2019 respectively. The Final EM&A Review Reports for Works Contract 1106 and 1111 summarising the waste management details, EM&A findings, environmental complaint records and investigations, and any notification of summons, prosecutions and corrective actions throughout the whole construction period are provided in Appendices C to D respectively.
- 2.1.4 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
1109	Works in To Kwa Wan (TKW) (formerly named as Ma Tau Wai (MTW))	<ul style="list-style-type: none"> TKW station - ABWF works; Ma Tau Wai Road – Footpath reinstatement works and removal of D-wall; Lok Shan Road and To Kwa Wan Complex Playground (Ventilation Shaft and Entrance A) – Reinstatement works; Entrance B – Footpath reinstatement works; Entrance C – Installation of gully and footpath reinstatement works; and Ma Tau Wai Road/ To Kwa Wan Road Garden (Entrance D) – Reinstatement works.

Works Contract	Site	Construction Activities
	Works in Sung Wong Toi (SUW) (formerly named as To Kwa Wan (TKW))	<ul style="list-style-type: none"> • Olympic Garden – Reinstatement works; • Olympic Avenue – Reinstatement works; • Kowloon City Roundabout – Road remedial works; • SUW Station – ABWF works; and • Pet Garden – Reinstatement works of Sung Wong Toi Playground
1112	Hung Hom Station (HUH)	<ul style="list-style-type: none"> • Minor services connection at G.L J of HUH; • Platform ABWF and E&M works; • Gate 3 excavation works; and • Asphalt works to HHS
	SAT Ventilation Shaft	<ul style="list-style-type: none"> • Landscape preparation works
	Concourse level & Mid-level walkway	<ul style="list-style-type: none"> • Modification works

- 2.1.5 Impact monitoring for air quality and construction noise were conducted in accordance with the EM&A Manual in the reporting period. Continuous noise monitoring was not required in the reporting period for all Works Contracts according to the Continuous Noise Monitoring Plan (CNMP). The air quality and construction noise for this reporting month are summarised in Tables 2.2 and 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 to B.
- 2.1.6 Water quality monitoring was not carried out during this reporting period since no dredging activity was conducted in the reporting month.
- 2.1.7 No environmental complaint, exceedance of limit level, notification of summons or successful prosecutions was received during the reporting period. Log for environmental complaints, notification of summons and successful prosecutions are provided in **Table 2.4**.
- 2.1.8 Regular site inspections were conducted by the respective Contractor's ETs 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/ N/A)
Works Contracts 1102 and 1103					
DMS-1 ⁽¹¹⁾	C.U.H.K.A.A. Thomas Cheung School	N/A	148.7	260	N/A
Works Contract 1103					
DMS-2 ⁽¹²⁾	Price Memorial Catholic Primary School	N/A	167.4	260	No
Works Contracts 1103 and 1106					
DMS-3 ⁽¹³⁾	Hong Kong S.K.H Nursing Home ⁽¹⁾	N/A	159.1	260	No
Works Contract 1106 ⁽¹⁰⁾					
DMS-4 ⁽¹³⁾	Block 1, Rhythm Garden	N/A	160.4	260	No
Works Contract 1108 ⁽⁵⁾					
Works Contract 1109					
DMS-6	Katherine Building ⁽²⁾	21 – 65	156.8	260	No
DMS-7	Parc 22 ⁽³⁾	12 – 49	166.7	260	No
DMS-8	SKH Good Shepherd Primary School	16 – 47	152.2	260	No
DMS-9	No. 12 Pau Chung Street ⁽⁴⁾⁽⁹⁾	26 – 65	160.9	260	No
DMS-10	Chat Ma Mansion	15 – 58	170.4	260	No
Works Contract 1111					
AM1 ⁽⁶⁾⁽¹⁴⁾	No. 234 – 238 Chatham Road North ⁽⁷⁾	NA	183.9	260	No
Works Contract 1112					
AM2	Site Boundary of Finger Pier Adjacent To Harbourfront Horizon ⁽⁸⁾	42.1 – 56.0	182	260	No
Works Contract 11240 ⁽⁵⁾					

Notes:

- (1) Alternative monitoring location to Shek On House
- (2) Alternative monitoring location to Prosperity House
- (3) Alternative monitoring location to Skytower Tower 2
- (4) Alternative monitoring location to Lucky Building
- (5) No TSP monitoring is required under this contract
- (6) AM1 named as HUH-1-3 in SCL(TAW-HUH) and SCL(HHS) EIA Reports.
- (7) Alternative monitoring location to Wing Fung Building
- (8) Alternative monitoring location to Harbourfront Horizon
- (9) Alternative monitoring location of No. 26 Kowloon City Road
- (10) The 24-hour TSP monitoring works would be taken up by Works Contract 1106 since the completion of Works Contract 1107 in Feb 2018.
- (11) The cessation of monitoring works at DMS-1 was approved by EPD and the last monitoring was conducted on 16 Jul 2018.

- (12) The temporary cessation of monitoring works at DMS-2 was approved by EPD in end-June 2019. The last monitoring date was 27 June 2019.
- (13) The cessation of monitoring works at DMS-3 and DMS-4 was approved by EPD on 31 Jul 2019. The last monitoring was conducted on 30 Jul 2019.
- (14) The cessation of monitoring works at AM1 was proposed on 25 Jul 2019 and EPD expressed no objection on 31 Jul 2019.

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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 ⁽⁷⁾		
Works Contracts 1102 and 1103						
NMS-CA-1 ⁽¹²⁾	C.U.H.K.A.A. Thomas Cheung School	N/A	57.0	N/A	70 (65 during examination period)	No
Works Contract 1103						
NMS-CA-2 ⁽¹³⁾	Price Memorial Catholic Primary School	N/A	66.0	N/A	70 (65 during examination period)	No
Works Contracts 1103 and 1106						
NMS-CA-3 ⁽¹⁴⁾	Hong Kong S.K.H Nursing Home ⁽¹⁾	NA	73.0	NA	70	No
Works Contracts 1106 ⁽¹¹⁾						
NMS-CA-4 ⁽¹⁴⁾	Block 1, Rhythm Garden (north-eastern façade)	N/A	71.0	N/A	75	No
NMS-CA-5 ⁽¹⁴⁾	Block 1, Rhythm Garden (northern façade) ⁽²⁾	N/A	74.0	N/A	70 (65 during examination period)	No
Works Contract 1108 ⁽⁶⁾						
Works Contract 1109						
NMS-CA-6	No. 16-23 Nam Kok Road ⁽³⁾	61.6 – 62.0	76.1	< Baseline	75	No
NMS-CA-7	Skytower Tower 2	66.5 – 67.4	70.0	< Baseline	75	No
NMS-CA-8	SKH Good Shepherd Primary School	73.0 – 73.2	75.4	< Baseline	70 (65 during examination period) (79 during the period of conducting the continuous noise monitoring) ⁽⁸⁾	No
NMS-CA-9	Kong Yiu Mansion ⁽⁴⁾	69.9 – 71.5	69.2	61.6 – 67.6	75	No
NMS-CA-10	Chat Ma Mansion	75.7 – 76.6	76.6	< Baseline	75	No
Works Contract 1111						

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 ⁽⁷⁾		
NM1 ⁽¹⁵⁾	Carmel Secondary School (South Block)	NA	68.0	< Baseline	70 (65 during examination period) (68 during the period of conducting the continuous noise monitoring) ⁽⁹⁾	No
NM2 ⁽¹⁵⁾	No. 234 – 238 Chatham Road North ⁽⁵⁾	NA	79.0	< Baseline	75 (77) ⁽¹⁰⁾	No
Works Contract 1112 ⁽⁶⁾						
Works Contract 11240 ⁽⁶⁾						

Notes:

- (1) Alternative monitoring location to Shek On House.
- (2) Alternative monitoring location to Canossa Primary School (San Po Kong).
- (3) Alternative monitoring location to Prosperity House.
- (4) Alternative monitoring location to Lucky Building.
- (5) Alternative monitoring location to Wing Fung Building.
- (6) No construction noise monitoring is required under this contract.
- (7) The measured noise levels are corrected against the corresponding baseline noise levels.
- (8) The Limit Level of 79 dB(A) was updated on 22 Aug 2013 as per the latest Construction Noise Mitigation Measures Plan (CNMMP) and Continuous Noise Monitoring Plan (CNMP) which were approved by EPD.
- (9) The Limit of 68 dB(A) was updated on 20 Jan 2014 as per the latest CNMMP and CNMP which were approved by EPD.
- (10) Daytime noise Limit Level of 77 dB(A) applies during the continuous noise monitoring period.
- (11) The construction noise monitoring works would be taken up by Works Contract 1106 since the completion of Works Contract 1107 in Feb 2018.
- (12) The cessation of monitoring works at NMS-CA-1 was approved by EPD and the last monitoring was conducted on 17 Jul 2018.
- (13) The temporary cessation of monitoring works at NMS-CA-2 was approved by EPD in end-June 2019. The last monitoring date was 24 Jun 2019.
- (14) The cessation of monitoring works at NMS-CA-3, NMS-CA-4 and NMS-CA-5 was approved by EPD on 31 Jul 2019. The last monitoring proposed on 31 Jul 2019 was rescheduled to 1 Aug 2019 due to adverse weather and the hoist of Typhoon Signal No.8 (Typhoon "Wipha").
- (15) The cessation of monitoring works at NM1 and NM2 were proposed on 25 Jul 2019 and EPD expressed no objection on 31 Jul 2019.

Table 2.4 Log for Environmental Complaints, Notification of Summons and Successful Prosecutions for the Reporting Month

Works Contract	Environmental Complaints	Notification of Summons	Successful Prosecutions
1109	0	0	0
1112	0	0	0

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 EPs (EP-437/2012/A and EP-438/2012/K). The status of required submissions under the EPs as of the reporting period are summarised in Tables 3.1 and 3.2.

Table 3.1 Summary of Status of Required Submissions for and EP-438/2012/K

EP Condition (EP-438/2012/K)	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) 30 Nov 2012 (3 rd submission)
Condition 2.7	Management Organisation of Main Construction Companies	27 Jul 2012 (1 st submission) 21 Aug 2012 (2 nd submission) 19 Dec 2012 (3 rd submission) 22 Jan 2013 (4 th submission) 30 Apr 2013 (5 th submission) 21 May 2013 (6 th 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) 30 Nov 2012 (3 rd submission) 11 Jan 2013 (4 th submission) 8 Feb 2013 (Approved) 8 Feb 2013 (5 th submission) 26 Apr 2013 (6 th submission) 11 Jun 2013 (7 th submission) 12 Jul 2013 (Approved) 26 Jul 2013 (8 th submission) 22 Aug 2013 (Approved) 23 Aug 2013 (9 th submission) 13 Sep 2013 (Approved) 20 Jan 2014 (10 th submission) 26 Feb 2014 (Approved) 31 Mar 2015 (Contract 1106 submission only) 13 Apr 2015 (Contract 1106 submission only) 15 Apr 2015 (Approved)
Condition 2.10	Continuous Noise Monitoring Plan (CNMP)	1 Aug 2012 (1 st submission) 28 Sep 2012 (2 nd submission) 30 Nov 2012 (3 rd submission) 11 Jan 2013 (4 th submission) 8 Feb 2013 (Approved) 8 Feb 2013 (5 th submission) 26 Apr 2013 (6 th submission) 11 Jun 2013 (7 th submission) 12 Jul 2013 (Approved) 26 Jul 2013 (8 th submission) 22 Aug 2013 (Approved) 23 Aug 2013 (9 th submission) 13 Sep 2013 (Approved) 20 Jan 2014 (10 th submission)

EP Condition (EP-438/2012/K)	Submission	Submission date
		26 Feb 2014 (Approved) 7 Oct 2014 (11 th submission) 23 Oct 2014 (Approved)
Condition 2.11	Construction and Demolition Materials Management Plan (C&DMMP)	6 Jul 2012 (1 st submission) 12 Sep 2012 (2 nd submission) 10 Oct 2012 (Approved)
Condition 2.12	Sediment Management Plan	6 Jul 2012 (1 st submission) 12 Sep 2012 (2 nd submission) 5 Oct 2012 (3 rd submission) 10 Oct 2012 (Approved) 4 Mar 2013 (4 th submission) 9 May 2013 (5 th submission) 24 Jul 2013 (6 th submission) 26 Jul 2013 (Approved)
Condition 2.13	Visual, Landscape, Tree Planting & Tree Protection Plan	6 Jul 2012 (1 st submission) 30 Aug 2012 (2 nd submission) 3 Oct 2012 (3 rd submission) 13 Nov 2012 (Approved) 14 Nov 2012 (4 th submission) 8 Feb 2013 (5 th submission) 18 Mar 2013 (6 th submission) 18 Jun 2013 (7 th submission) 12 Jul 2013 (Approved) 23 Mar 2017 (8 th submission) 7 Mar 2018 (9 th submission) 30 Jul 2018 (10 th submission) 28 Feb 2019 (11 th submission) 5 Mar 2019 (12 th submission) 29 May 2019 (13 th submission) 19 Jul 2019 (Approved)
Condition 2.14	Transplantation Proposal for Plant Species of Conservation Importance	22 Aug 2012 (1 st submission) 5 Oct 2012 (2 nd submission) 26 Nov 2012 (3 rd submission) 4 Dec 2012 (Approved)
Condition 2.15	Conservation Plan	31 Jan 2013 (1 st submission) 18 Mar 2013 (2 nd submission) 24 Apr 2013 (Approved)
Condition 2.16	Archaeological Action Plan(s) (AAP(s)) for Works Contract 1109	10 Aug 2012 (1 st submission) 3 Sep 2012 (2 nd submission) 21 Sep 2012 (Approved) 11 Oct 2013 (3 rd submission) 1 Nov 2013 (Approved)
Condition 2.16	Archaeological Action Plan(s) (AAP(s)) for Works Contract 1106	29 Jan 2013 (1 st submission) 19 Mar 2013 (2 nd submission) 8 Apr 2013 (Approved)
Condition 2.23	Supplementary Contamination Assessment Report for New Territories South Animal Centre	28 Sep 2012 25 Oct 2012 (Approved)
Condition 2.27	Operational Ground-borne Noise Mitigation Measures Plan	18 Mar 2016 (Batch 1 Version A submission) 28 Apr 2016 (Batch 1 Version B submission) 28 Apr 2016 (Batch 2 Version A submission) 1 Jun 2016 (Batch 1 Version C submission)

EP Condition (EP-438/2012/K)	Submission	Submission date
		1 Jun 2016 (Batch 2 Version B submission) 23 Jun 2016 (Batch 1 Version D submission) 23 Jun 2016 (Batch 2 Version C submission) 15 Jul 2016 (Batch 1 Version D approved) 15 Jul 2016 (Batch 2 Version C approved) 15 Sep 2016 (Batch 3 Version A submission) 4 Oct 2016 (Batch 3 Version A approved) 8 Mar 2017 (Batch 4 Version A) 7 Apr 2017 (Batch 4 Version A approved) 7 Jun 2017 (Final) 20 Jul 2017 (Approved)
Condition 2.28	As-built Drawings for Operational Ground-borne Noise Mitigation Measures	10 Aug 2017 (1 st submission)
Condition 2.30	As-built Drawings for Operational Air-borne Noise Mitigation Measures	4 Dec 2015 (1 st submission) 28 Dec 2015 (2 nd submission) 4 Feb 2016 (Approved) 20 Mar 2018 (3 rd submission)
Condition 2.31	Performance Test Report for Train Noise – Operational Airborne Railway and Ground-borne Noise	15 Nov 2018 (Batch 1 Version A submission) 30 Jan 2019 (Batch 2 Version A submission) 29 Mar 2019 (Batch 1 Version A & Batch 2 Version B submission) 15 April 2019 (Approved)
Condition 2.32	Proposal for Updating Maximum Allowable Sound Power Levels of Fixed Plant Sources	30 Jan 2019 (Batch 1 Version A submission) 27 Feb 2019 (Batch 1 Version B submission) 13 Mar 2019 (Batch 1 Version B approved) 15 Mar 2019 (Batch 2 Version A submission) 8 Apr 2019 (Batch 2 Version A approved) 24 April 2019 (Batch 3 & 4 Version A submission) 21 May 2019 (Batch 3 Version B submission) 11 Jun 2019 (Batch 3 Version B & Batch 4 Version A approved) 21 Jun 2019 (Batch 5 Version A submission) 17 Jul 2019 (Batch 5 Version A approved) 19 Jul 2019 (Batch 6 Version A submission) 26 Jul 2019 (Batch 7 Version A submission)

EP Condition (EP-438/2012/K)	Submission	Submission date
		29 Jul 2019 (Batch 6 Version A approved) 14 Aug 2019 (Batch 7 Version A approved)
Condition 2.32	Fixed Plant Noise Audit Report	30 Jan 2019 (Batch 1 Version A submission) 15 Mar 2019 (Batch 1 Version B submission) 4 Apr 2019 (Batch 1 Version B approved) 16 Apr 2019 (Batch 2 Version A submission) 7 May 2019 (Batch 2 Version A approved) 24 Jun 2019 (Batch 3 Version A and Batch 4 Version A submission) 6 Jul 2019 (Batch 3 Version A and Batch 4 Version A approved) 2 Aug 2019 (Batch 5 Version A submission) 27 Aug 2019 (Batch 6 Version A submission) 29 Aug 2019 (Batch 7 Version A submission)
Condition 2.33	As-built Drawings for Landscape and Visual Mitigation Measures	4 Dec 2015 (1 st submission) 28 Dec 2015 (2 nd submission) 4 Feb 2016 (Approved) 22 Aug 2018 (3 rd submission) 5 Nov 2018 (4 th submission)
Condition 2.36	Contamination Assessment Plan (CAP) for the Temporary Magazine Site at TKO Area 137	23 Mar 2016 (1 st submission) 20 Apr 2016 (2 nd submission) 22 Apr 2016 (Approved)
Condition 2.36	Contamination Assessment Report (CAR) for the Temporary Magazine Site at TKO Area 137	19 May 2016 (1 st submission) 3 Jun 2016 (2 nd submission) 15 Jun 2016 (Approved)
Condition 3.1	Proposal for Termination of Environmental Monitoring and Audit (EM&A) Programme for Kai Tak Barging Point Facilities	7 Oct 2016 (Approved)
Condition 3.1	Proposal for Cessation of EM&A Works at Hin Keng	9 May 2018 (1 st submission) 16 July 2018 (Approved)
Condition 3.1	Proposal for Cessation of EM&A Programme at Diamond Hill Station	25 July 2019 (1 st submission) 31 July 2019 (Approved)
Condition 3.1	Proposal for Cessation of EM&A Programme at Hung Hom North Approach Tunnels	25 July 2019 (1 st submission) 31 July 2019 (Approved)
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

EP Condition (EP-438/2012/K)	Submission	Submission date
Condition 3.3	Baseline Monitoring Report (Works Contracts 1103, 1106 and 1111 – Hin Keng to Diamond Hill Tunnels, Diamond Hill Station, and Hung Hom North Approach Tunnels)	19 Oct 2012
Condition 3.4	Monthly EM&A Reports No. 1-82	Reported in previous Monthly EM&A Reports
	Monthly EM&A Report No. 83	14 Aug 2019

Table 3.2 Summary of Status of Required Submissions for EP-437/2012/A

EP Condition (EP-437/2012/A)	Submission	Submission date
Condition 1.11	Notification of Commencement Date of Construction of the Project	30 Nov 2012
Condition 2.3	Notification of Information of Community Liaison Groups	30 Nov 2012
Condition 2.5	Management Organisation of Main Construction Companies	19 Dec 2012 (1 st submission) 30 Apr 2013 (2 nd submission)
Condition 2.6	Construction Programme and EP Submission Schedule	19 Dec 2012
Condition 2.7	Construction Noise Mitigation Measures Plan (CNMMP)	30 Nov 2012 (1 st submission) 8 Feb 2013 (Approved) 26 Apr 2013 (2 nd submission) 11 Jun 2013 (3 rd submission) 27 Aug 2013 (Approved) 20 Jan 2014 (4 th submission) 28 Apr 2016 (Approved)
Condition 2.8	Continuous Noise Monitoring Plan (CNMP)	30 Nov 2012 (1 st submission) 11 Jan 2013 (2 nd submission) 8 Feb 2013 (Approved) 20 Jan 2014 (3 rd submission) 28 Apr 2016 (Approved)
Condition 2.9	Construction and Demolition Materials Management Plan (C&DMMP)	6 Jul 2012 (1 st submission) 12 Sep 2012 (2 nd submission) 15 Oct 2012 (Approved)
Condition 2.10	Sediment Management Plan	6 Jul 2012 (1 st submission) 12 Sep 2012 (2 nd submission) 5 Oct 2012 (3 rd submission) 15 Oct 2012 (Approved)
Condition 2.11	Visual, Landscape, Tree Planting & Tree Protection Plan (VLTP)	14 Nov 2012 (1 st submission) 8 Feb 2013 (2 nd submission) 4 Feb 2015 (3 rd submission) 26 Jun 2015 (4 th submission) 12 May 2017 (5 th submission) 17 Apr 2018 (6 th submission) 17 Apr 2019 (7 th submission) 19 July 2019 (8 th submission)
Condition 2.16	Operational Ground-borne Noise Mitigation Measures Plan	23 Mar 2017 (1 st submission) 17 May 2017 (2 nd submission) 28 Jun 2017 (3 rd submission) 20 Jul 2017 (Approved)
Condition 2.21	Proposal for Updating Maximum Allowable Sound Power Levels of Fixed Plant Sources	26 Jul 2019 (Batch 1 Version A submission) 14 Aug 2019 (Batch 1 Version A approved)
Condition 2.21	Fixed Plant Noise Audit Report	29 Aug 2019 (Batch 1 Version A submission)
Condition 3.3	Baseline Monitoring Report (Works Contracts 1103, 1106 and 1111 – Hin Keng to Diamond Hill Tunnels, Diamond Hill Station, and Hung Hom North Approach Tunnels)	19 Oct 2012
Condition 3.4	Monthly EM&A Reports No. 5-82	Reported in previous Monthly EM&A Reports
	Monthly EM&A Report No. 83	14 Aug 2019

Appendix A

84th Monthly 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. 84

[Period from 1 to 31 August 2019]

Works Contract 1109 - Stations and Tunnels of
Kowloon City Section

(12 September 2019)

Certified by:  Mandy To

Position: Environmental Team Leader

Date: 12 September 2019

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
Monthly EM&A Report No.84

August 2019

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Shatin to Central Link (SCL) - Tai
Wai to Hung Hom Section:
Works Contract 1109 – Stations and
Tunnels of Kowloon City Section
Monthly EM&A Report No.84

August 2019

Reference 0171181

For and on behalf of
ERM-Hong Kong, Limited

Approved by: Frank Wan

Signed:



Position: Partner

Date: 12 September 2019

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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 eighty-fourth monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 August 2019 to 31 August 2019 in accordance with the EM&A Manual.

Summary of the Construction Works undertaken during the Reporting Month

The major construction works undertaken during the reporting month include:

Construction Activities undertaken

Works in To Kwa Wan (TKW) (formerly named as Ma Tau Wai (MTW))

- TKW Station - ABWF works;
- Ma Tau Wai Road – Footpath reinstatement works;
- Ma Tau Wai Road – Removal of D-wall;
- Lok Shan Road and To Kwa Complex Playground (Ventilation Shaft and Entrance A) – Reinstatement works;
- Entrance B – Footpath reinstatement works;
- Entrance C – Installation of gully and footpath reinstatement works; and
- Ma Tau Wai Road / To Kwa Wan Road Garden (Entrance D) – Reinstatement works.

Works in Sung Wong Toi (SUW) (formerly named as To Kwa Wan (TKW))

- Olympic Garden – Reinstatement works;
 - Olympic Avenue – Reinstatement works;
 - Kowloon City Roundabout – Road remedial works;
 - SUW Station – ABWF works; and
 - Pet Garden – Reinstatement works of Sung Wong Toi Playground.
-

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 4 times
 - NMS-CA-7 4 times
 - NMS-CA-8 4 times
 - NMS-CA-9 4 times
 - NMS-CA-10 4 times
- Construction dust (24-hour TSP) monitoring
 - DMS-6 5 times
 - DMS-7 5 times
 - DMS-8 5 times
 - DMS-9 5 times
 - DMS-10 5 times

Continuous Noise Monitoring

No continuous noise monitoring was required during this reporting month, according to the schedule presented in the latest approved CNMP.

Cultural Heritage

A License to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance has been obtained from Antiquities and Monuments Office (AMO) on 29 October 2012. The archaeological survey-cum-excavation and additional investigation at the Sacred Hill (North) commenced on 1 November 2012 and was conducted in accordance with the License and the approved Archaeological Action Plan (AAP). An updated AAP was submitted to AMO for renewal of the 1 year archaeological license. The license was renewed and granted by AMO on 24 October 2013. The updated AAP was submitted to EPD for approval on 11 October 2013 and it was approved on 1 November 2013. The fieldworks of the archaeological survey-cum-excavation and additional investigation were completed on 27 December 2013. The Interim Archaeological Report was provided to AMO in April 2014. The Final Archaeological Report was accepted by AMO in June 2017. Artefacts handover to AMO was completed on 27 April 2018.

No vibration monitoring was conducted during the reporting period as relevant tunnelling work for this Works Contract had been completed in vicinity of the historical structures listed in EM&A Manual.

Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. 3,210 m³ of inert C&D material was generated from the Project during the reporting month. 264 kg of plastics was generated and sent to recyclers for recycling during the reporting period. About 331 m³ of non-recyclable non-inert C&D materials, such as general refuse, were disposed of at NENT Landfill. 117,170 kg of metal waste was generated during this reporting month. No paper/cardboard packaging was generated and sent to recyclers for recycling during the reporting period. 3,840 kg of chemical waste was generated during this reporting month.

Landscape and Visual

Bi-weekly inspections of the implementation of landscape and visual mitigation measures were conducted on 7 and 19 August 2019. No audit findings were observed during the reporting month. The implementation status is presented in *Section 5*.

Environmental Site Inspection

Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 7, 12, 19 and 28 August 2019. The representative of the IEC joined the site inspection on 28 August 2019. Details of the audit findings and implementation status are presented in *Section 6*.

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

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

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

No complaint was received during the reporting month.

No summon or prosecution was received in this reporting period.

Future Key Issues

The major construction works to be undertaken in the next reporting month include:

Construction Activities to be undertaken

Work in To Kwa Wan (TKW) (formerly named as Ma Tau Wai (MTW))

- TKW Station – ABWF works;
- Lok Shan Road and To Kwa Wan Complex Playground (Ventilation Shaft and Entrance A) – Reinstatement works;
- Entrance B – Footpath reinstatement works;
- Entrance C – Reinstatement of footpath, and installation of gully and street lighting;
- Ma Tau Wai Road / To Kwa Wan Road Garden (Entrance D) – Reinstatement works; and
- Ma Tau Wai Road – Removal of D-Wall.

Work in Sung Wong Toi (SUW) (formerly named as To Kwa Wan (TKW))

- Olympic Garden – Reinstatement works;
 - SUW Station – ABWF works;
 - Kowloon City Roundabout – Road remedial works;
 - Pet Garden – Reinstatement works of Sung Wong Toi Playground; and
 - Olympic Avenue – Reinstatement works.
-

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 eighty-fourth EM&A report which summarises the monitoring results and audit findings during the reporting period from 1 August to 31 August 2019.

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 organisation 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 the Environmental Protection Requirements

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 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**

2.1 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 Sung Wong Toi (SUW) (formerly named as To Kwa Wan (TKW)) and To Kwa Wan (TKW) (formerly named as Ma Tau Wai (MTW)), and the tunnels between the SUW station and Ho Man Tin station (HOM).

2.2 GENERAL SITE DESCRIPTION

For the Works Contract 1109, the alignment runs from SUW station below Ma Tau Chung Road/Ma Tau Wai Road towards the west, reaching the TKW station. After leaving TKW 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 SUW and HOM stations will be constructed by bored tunneling. Both the SUW and TKW 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	
<u>Works in To Kwa Wan (TKW) (formerly named as Ma Tau Wai (MTW))</u>	
•	TKW Station - ABWF works;
•	Ma Tau Wai Road – Footpath reinstatement works;
•	Ma Tau Wai Road – Removal of D-wall;
•	Lok Shan Road and To Kwa Complex Playground (Ventilation Shaft and Entrance A) – Reinstatement works;
•	Entrance B – Footpath reinstatement works;
•	Entrance C – Installation of gully and footpath reinstatement works; and
•	Ma Tau Wai Road / To Kwa Wan Road Garden (Entrance D) – Reinstatement works.

Construction Activities undertaken	
<i>Works in Sung Wong Toi (SUW) (formerly named as To Kwa Wan (TKW))</i>	
•	Olympic Garden – Reinstatement works;
•	Olympic Avenue – Reinstatement works;
•	Kowloon City Roundabout – Road remedial works;
•	SUW Station – ABWF works; and
•	Pet Garden – Reinstatement works of Sung Wong Toi Playground.

2.4 PROJECT ORGANISATION

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

2.5 STATUS OF ENVIRONMENTAL LICENCES, NOTIFICATION AND PERMITS

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

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

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Environmental Permit	EP-438/2012/K	Throughout the Contract	Permit granted on 4 October 2016
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation (Form NA)	348516	13 August 2012 – 30 April 2017	-
Notification of Construction Works under Air Pollution Control (Construction Dust) Regulation (Form NB)	351125	16 October 2012 – 30 April 2017	-
Wastewater Discharge Licence			
Site at Sung Wong Toi	WT00028970-2017	11-September-2017	-
Site at To Kwa Wan	WT00029103-2017	18-September-2017	-
Chemical Waste Producer Registration			
Site at Sung Wong Toi	5213-286-S3682-01	Throughout the Contract	-
Site at To Kwa Wan	5213-242-S3682-02	Throughout the Contract	-
Construction Noise Permit			
- PME at SUW works Area	GW-RE0234-19	1 April 2019 – 30 September 2019	-
- PME at Olympic Garden	GW-RE0258-19	19 April 2019 – 18 October 2019	-
- PME at TKW Station	GW-RE0059-19	6 February 2019 – 5 August 2019	Supereceded by GW-RE0617-19
-	GW-RE0617-19	5 August 2019 – 03 February 2020	-
- PME at Lok Shan Road and Kiang Su Street	GW-RE0064-19	5 February 2019 – 4 August 2019	Supereceded by GW-RE0602-19

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
-	GW-RE0602-19	4 August 2019 – 03 February 2020	-
- PME at Kowloon City Roundabout	GW-RE0605-19	6 August 2019 – 29 October 2019	-
- PME at TKW Road TTMS	GW-RE0592-19	03 August 2019 – 27 October 2019	-
SP-Licence for TBM operation	L-3-249(1)	19 May 2015 – 18 May 2018	Notification for the cancellation of the Specified Process Licence has been given to EPD in Nov 2016
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 designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was either rejected or unavailable; 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.16-23 Nam Kok Road	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 at 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. An alternative location (No.16-23 Nam Kok Road) was proposed and approved by the ER and agreed by the IEC and EPD.		
(b) As the Incorporated Owners Association of the monitoring location at 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 the A-weighted equivalent continuous sound pressure level (L_{Aeq}) in decibels dB(A). $L_{Aeq(30min)}$ 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	Monitoring Equipment (Sound Level Meter and Calibrator)
NMS-CA-6, NMS-CA-7,	Calibrator: NC 73 (Serial No. 10786708)
NMS-CA-8, NMS-CA-9 and NMS-CA-10	Sound Level Meter: NL 18 (Serial No. 00360030)

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 be 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 periods 79 dB(A) ^(b) during the period of conducting the continuous noise monitoring
	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)
Notes:			
(a) If works are to be carried out during restricted hours (ie, outside 0700 – 1900 from Monday to Saturday), the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.			
(b) The Limit Level of 79 dB(A) was updated on 22 August 2013 as per the latest Construction Noise Mitigation Measures Plan (CNMMP) and Continuous Noise Monitoring Plan (CNMP), which were approved by EPD.			

3.2 CONTINUOUS NOISE MONITORING

3.2.1 Monitoring Locations

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 eight 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(B)	Hing Fu Building
MTW-12-3(A)	SKH Good Shepherd Primary School
MTW-12-4(A)	Kong Yiu Mansion
MTW-12-4-1(A)	59 Maidstone Road
MTW-12-10	Lucky Building (South Façade)
MTW-12-10-1	Lucky Building (East Façade)
MTW-12-11(A)	SKH Good Shepherd Primary School
MTW-16-1	SKH Good Shepherd Primary School
Note:	
(a) Subject to the latest Continuous Noise Monitoring Plan approved in October 2014 and	

Continuous Noise Monitoring Location ^(a)	Description
review in March 2015.	

3.2.2 *Monitoring Parameter and Frequency*

Continuous monitoring of $L_{Aeq(30min)}$ noise levels are required to be carried out at the eight proposed continuous noise monitoring locations identified in **Table 3.4** during the normal construction working hours (0700 – 1900 Monday to Saturday) in the period that presented in the CNMP. The recommended measurement period for the continuous noise monitoring programme in the CNMP are presented in **Table 3.6**. If works are to be carried out during restricted hours (ie, outside 0700 – 1900 from Monday to Saturday), 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 be within 1.0 dB(A). 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 latest CNMP are presented in **Table 3.6**.

Table 3.6 *Action/Limit Levels for Continuous Noise Monitoring* ^(a)

Proposed Continuous Noise Monitoring Stations	Description	Action/ Limit Level (a)	Measurement Period ^(a)
TKW-3-2(B)	Hing Fu Building	80	September 2014 – December 2014 ^(b)
MTW-12-3(A)	SKH Good Shepherd Primary School	80	August 2014 – January 2015 ^(b) , March 2015 – June 2015
MTW-12-4(A)	Kong Yiu Mansion	80	August 2014 – June 2015 ^(b)
MTW-12-4-1(A)	59 Maidstone Road	82	October 2014, December 2014 – June 2015
MTW-12-10	Lucky Building (South Façade)	84	March 2015 – April 2015, September 2015 – January 2016
MTW-12-10-1	Lucky Building (East Façade)	80	December 2014 – May 2015, September 2015 – January 2016
MTW-12-11(A)	SKH Good Shepherd Primary School	81	September 2014 – June 2015 ^(b)
MTW-16-1	SKH Good Shepherd Primary School	78	December 2012 – January 2013; April 2013 – 21 August 2013, 22 August 2013 – December 2013, August 2014 – March 2016

Notes:

- (a) The A/L Levels and Measurement Periods will be subject to the latest Construction Noise Mitigation Measures Plan (CNMMP) and Continuous Noise Monitoring Plan (CNMP).
- (b) The latest CNMP was approved by EPD in October 2014. Continuous noise monitoring at TKW-3-2 (B), MTW-12-3(A), MTW-12-4(A) and MTW-12-11(A) commenced in October 2014.
- (c) The A/L Level of 79 dB(A) was updated on 22 August 2013 as per the latest Construction Noise Mitigation Measures Plan (CNMMP) and Continuous Noise Monitoring Plan (CNMP) which were approved by EPD.

The Event/ Action Plan (EAP) of the latest CNMP 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 3.7* and shown in *Annex D*. The proposed locations have been agreed with the ER, EPD and IEC.

Table 3.7 Construction Dust Monitoring Location

Proposed Construction Dust Monitoring Location	Description
DMS-6 ^(a)	Katherine Building
DMS-7	Parc 22
DMS-8	SKH Good Shepherd Primary School
DMS-9 ^(b)	No. 12 Pau Chung Street
DMS-10	Chat Ma Mansion
Notes:	
(a) Access to the monitoring location at Prosperity House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. Furthermore, the alternative location at No. 420 Prince Edward Road West, which was used in the baseline monitoring, was also not available as access permission was not granted by the owner of the building. An alternative location, Katherine Building, was proposed and had been approved by the ER and agreed by the IEC and EPD.	
(b) As the Incorporated Owners Association of the originally proposed monitoring location at Lucky Building did not reply to our request for access to their premise, an alternative location, No. 26 Kowloon City Road, was proposed and had been approved by the ER and agreed by the IEC and EPD. However, 24-hour averaged dust monitoring had been suspended at DMS-9 No. 26 Kowloon City Road since March 2014 due to denied access by the occupant of the premise. No. 12 Pau Chung Street, as an alternative monitoring location, was formally approved by EPD on 19 May 2014. Impact dust monitoring at No. 12 Pau Chung Street commenced on 12 June 2014.	

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 3.8**. The TSP monitoring was conducted as per the schedule presented in **Annex E**.

Table 3.8 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 designated monitoring stations using High Volume Samplers (HVS) with the appropriate sampling inlets installed. 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 3.9** summarises the equipment that was deployed for the 24-hour averaged monitoring.

Table 3.9 Construction Dust Monitoring Equipment

Monitoring Location	Monitoring Equipment (HVS and Calibrator)
DMS-6	TE-5170 (Serial No. 0107), CM-AIR-43 (Orifice ID 2454)
DMS-7	TE-5170 (Serial No. 3574), CM-AIR-43 (Orifice ID 2454)
DMS-8	TE-5170 (Serial No. 3572), CM-AIR-43 (Orifice ID 2454)
DMS-9 ^(a)	TE-5170 (Serial No. 0814), CM-AIR-43 (Orifice ID 2454)
DMS-10	TE-5170 (Serial No. 3573), CM-AIR-43 (Orifice ID 2454)
Note:	
(a) 24-hour averaged dust monitoring at DMS-9 No. 26 Kowloon City Road had been suspended since March 2014 due to denied access by the occupant of the premise. However, No. 12 Pau Chung Street, as an alternative monitoring location, was formally approved by EPD on 19 May 2014. Impact dust monitoring at No. 12 Pau Chung Street commenced on 12 June 2014.	

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 area surrounding the filter were cleaned;
- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- the swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- the shelter lid was closed and secured with an aluminium strip;
- the HVS was warmed-up for about 5 minutes to establish run-temperature conditions;
- a new flow rate 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 filter number were recorded;
- the initial elapsed time was recorded;
- at the end of sampling, the sampled filter was removed carefully and folded in half so that only surfaces with collected particulate matter were in contact;
- the filter paper was placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- 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 HVSs using CM-AIR-43 Calibration Kit. HVSs are calibrated every six-month. The calibration records for the HVSs are given in *Annex F*.

Wind Data Monitoring

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

3.3.5 Action and Limit Levels

The Action and Limit levels have been established and are presented in *Table 3.10*.

Table 3.10 *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 ^(c)	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 ^(c)	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 a valid complaint is received.
- (c) 24-hour averaged dust monitoring at DMS-9 No. 26 Kowloon City Road had been suspended since March 2014 due to denied access by the occupant of the premise. However, No. 12 Pau Chung Street, as an alternative monitoring location, was formally approved by EPD on 19 May 2014. Impact dust monitoring at No. 12 Pau Chung Street commenced on 12 June 2014.

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

3.4 CULTURAL HERITAGE

A License to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance was obtained from the Antiquities and Monuments Office (AMO) on 29 October 2012. The archaeological survey-cum-excavation and additional investigation at the Sacred Hill (North) commenced on 1 November 2012 and was conducted in accordance with the Licence and the approved Archaeological Action Plan (AAP). An updated AAP was submitted to AMO for renewal of the 1 year archaeological license. The license was renewed and granted by AMO on 24 October 2013. The updated AAP was submitted to EPD for approval on 11 October 2013 and it was approved on 1 November 2013. The fieldworks of the archaeological survey-cum-excavation and additional investigation were completed on 27 December 2013. The Interim Archaeological Report was provided to AMO in April

2014. The Final Archaeological Report was accepted by AMO in June 2017. Artefacts handover to AMO was completed on 27 April 2018.

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 MITIGATION MEASURES

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 OF THE ENVIRONMENTAL PROTECTION REQUIREMENTS

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

Table 4.1 *Status of Required Submission under Works Contract 1109*

EP Condition	Submission	Submission Date
Condition 3.4	Eighty-third Monthly EM&A Report	14 August 2019

5.1 REGULAR CONSTRUCTION NOISE MONITORING

A total of 20 sets of 30-minute construction noise measurements were carried out at the monitoring stations during normal weekdays of the reporting period. The noise level recorded at all five monitoring locations during the whole reporting period are below baseline level or below limit level after baseline-level correction.

The monitoring results together with their graphical presentations are presented in *Annex I-1*.

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

5.2 CONTINUOUS NOISE MONITORING

No continuous noise monitoring was required during the reporting period in accordance with the schedule presented in the latest approved CNMP.

5.3 CONSTRUCTION DUST MONITORING

A total of 25 sets of 24-hr TSP monitoring were carried out at the designated monitoring stations during normal weekdays of the reporting period. The monitoring results together with their 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	38	21 – 65	156.8	260
DMS-7	27	12 – 49	166.7	260
DMS-8	26	16 – 47	152.2	260
DMS-9 (a)	37	26 – 65	160.9	260
DMS-10	28	15 – 58	170.4	260
Note:				
(a) 24-hour averaged dust monitoring at DMS-9 No. 26 Kowloon City Road has been suspended since March 2014 due to denied access by the occupant of the premise. However, No. 12 Pau Chung Street, as an alternative monitoring location, was approved by EPD. 24-hour averaged dust monitoring commenced on 12 June 2014.				

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

A License to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance was obtained from Antiquities and Monuments Office (AMO) on 29 October 2012. The archaeological survey-cum-excavation and additional investigation at the Sacred Hill (North) commenced on 1 November 2012 and was conducted in accordance with the License and the approved Archaeological Action Plan (AAP). An updated AAP was submitted to AMO for renewal of the 1 year archaeological license. The license was renewed and granted by AMO on 24 October 2013. The updated AAP was submitted to EPD for approval on 11 October 2013 and it was approved on 1 November 2013. The fieldworks of the archaeological survey-cum-excavation and additional investigation were completed on 27 December 2013. The Interim Archaeological Report was provided to AMO in April 2014. The Final Archaeological Report was accepted by AMO in June 2017. Artefacts handover to AMO was completed on 27 April 2018.

No vibration monitoring was conducted during the reporting period as relevant tunnelling work for this Works Contract had been completed in vicinity of the historical structures listed in EM&A Manual.

WASTE MANAGEMENT

The 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, vegetative wastes and recyclable wastes such as plastics and paper/cardboard packaging waste. 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*. Details of waste management data are presented in *Annex K*.

Table 5.2 *Quantities of Waste Generated from the Project*

Reporting Month	Quantity					
	Inert C&D Materials (a) (b)	Chemical Waste (c)	Non-inert C&D Materials			
			General Refuse/Vegetative Waste	Recycled materials		
				Paper/card board	Plastics	Metals
August 2019	3,210 m ³	3,840 kg	331 m ³	0 kg	264 kg	117,170 kg
Notes:						
(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil.						
(b) 3,210 m ³ of inert C&D materials was generated from the Project during the reporting month.						
(c) Chemical waste includes waste oil. It is assumed density of waste oil to be 0.8 kg/L.						

5.6

LANDSCAPE AND VISUAL MITIGATION MEASURES

Bi-weekly inspections of the implementation of landscape and visual mitigation measures were conducted on 7 and 19 August 2019. Most of the mitigation measures given in *Annex H* have been implemented. Required Actions that were found are listed below:

7 August 2019

- There was no major observation during the site inspection.

19 August 2019

- There was no major observation during the site inspection.

Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 7, 12, 19 and 28 August 2019. The representative of the IEC joined the site inspection on 28 August 2019. No non-compliance was recorded during the site inspections.

Findings and recommendations for the site inspection in this reporting month are summarised as follows:

7 August 2019

- The Contractor was reminded to cover stockpiles at SUW works area.

12 August 2019

- The Contractor was reminded to cover stockpiles at SUW works area.

19 August 2019

- The Contractor was reminded to cover stockpiles near the Vent Shaft B of Sung Wong Toi Station.

28 August 2019

- There was no major observation during the site inspection.

All follow-up actions requested by Contractor's ET and IEC during the site inspections were undertaken as reported by the Contractor. The abovementioned environmental issues had been addressed and mitigated during the reporting period.

7 ENVIRONMENTAL NON-CONFORMANCE

7.1 SUMMARY OF MONITORING EXCEEDANCE

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

No exceedance of the Action and Limit Levels of 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 received 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 summon/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 summarised in *Table 8.1*.

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

Construction Activities to be undertaken
<u>Work in To Kwa Wan (TKW) (formerly named as Ma Tau Wai (MTW))</u>
<ul style="list-style-type: none"> • TKW Station – ABWF works; • Lok Shan Road and To Kwa Wan Complex Playground (Ventilation Shaft and Entrance A) – Reinstatement works; • Entrance B – Footpath reinstatement works; • Entrance C – Reinstatement of footpath, and installation of gully and street lighting; • Ma Tau Wai Road / To Kwa Wan Road Garden (Entrance D) – Reinstatement works; and • Ma Tau Wai Road – Removal of D-Wall.
<u>Work in Sung Wong Toi (SUW) (formerly named as To Kwa Wan (TKW))</u>
<ul style="list-style-type: none"> • Olympic Garden – Reinstatement works; • SUW Station – ABWF works; • Kowloon City Roundabout – Road remedial works; • Pet Garden – Reinstatement works of Sung Wong Toi Playground; and • Olympic Avenue – Reinstatement works.

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 construction programme for the Project for the next reporting month is presented in *Annex B*.

This 84th monthly Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 August 2019 to 31 August 2019 in accordance with the EM&A Manual and the requirement under EP-438/2012/K.

No exceedance of the Action and Limit Levels of the regular construction noise was recorded 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.

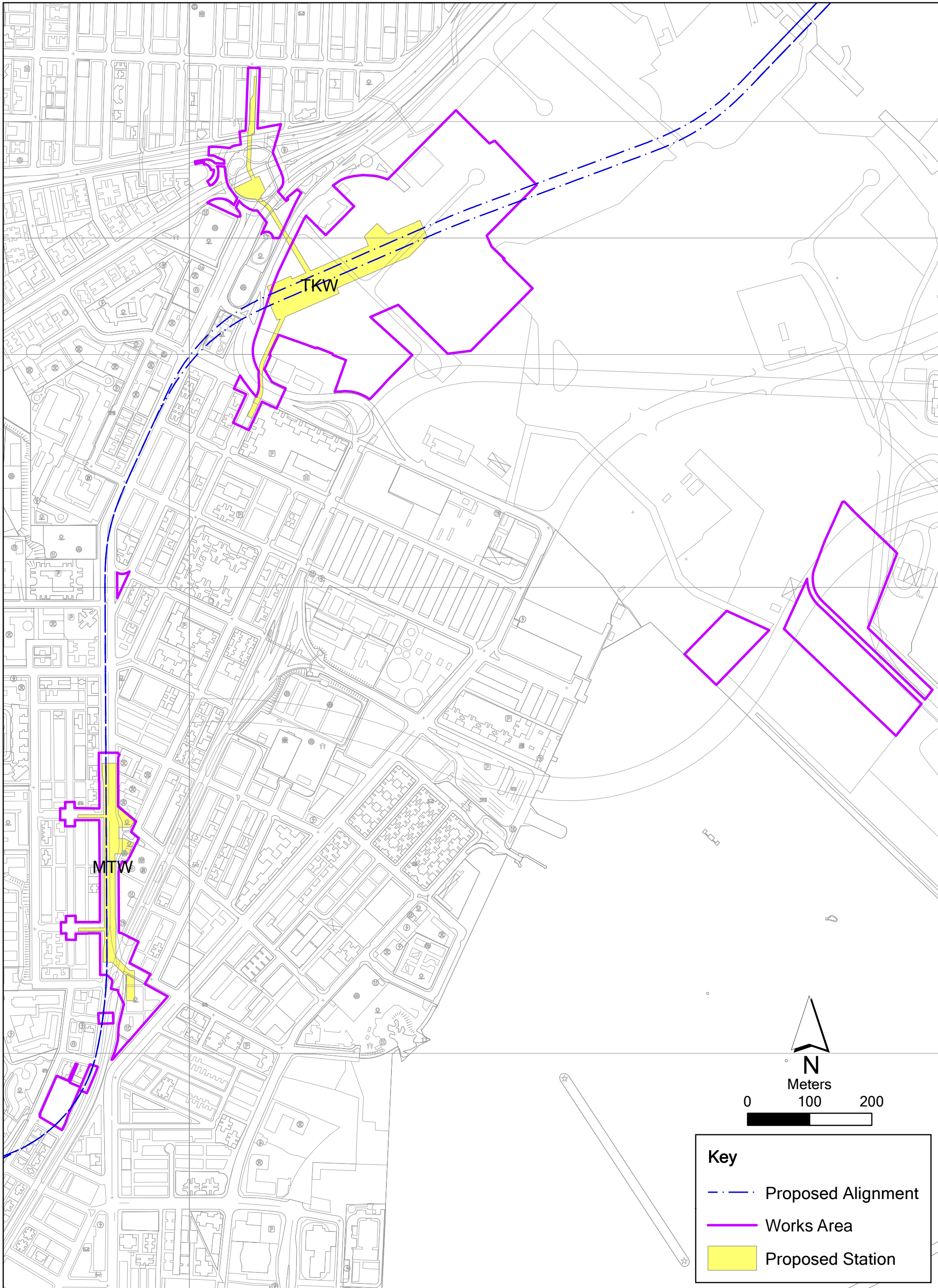
No complaint was received during the reporting month.

No summon or prosecution was received during the reporting period.

The Contractor has implemented possible and feasible mitigation measures to mitigate the potential environmental impacts during construction. The Contractor's ET will continue to keep track of the EM&A programme to ensure compliance of environmental requirements and the effectiveness and efficiency of the mitigation measures implemented. If necessary, the Contractor will provide more mitigation measures to further alleviate the impacts.

Annex A

The Alignment and Works Area for Works Contract



Key



- · — · — Proposed Alignment
- Works Area
- Proposed Station

Annex B

Construction Programme for the Reporting Month and the Coming Month

Data Date: 31-Aug-19		SAMSUNG - HSIN CHONG JOINT VENTURE							
		THREE MONTH ROLLING PROGRAMME - AUG 2019							
Activity ID	Activity Name	Remaining Duration	Physical % Complete	Planned / Actual Start	Planned / Actual Finish	2019			
						Aug	Sep	Oct	Nov
1109 - SUW & TKW Stations and Tunnels Aug 2019 (MPR2)									
PROJECT DATES									
Table 1 - The Whole of the Works									
01109.CD1020D	Substantial Completion for the Whole of the Works (DRM: 16 Sep 18, 37/18), station entrances	0	0%		05-Dec-19*				
01109.CD1020	Substantial Completion for the Whole of the Works (DRM: 16 Sep 18, 37/18)	0	0%		26-Apr-20*				
01109.CD1020C	Substantial Completion for the Whole of the Works (DRM: 16 Sep 18, 37/18), excl TKW RRIW	0	0%		26-Apr-20*				
Table 2 - Completion of Specified Parts of the Works									
01109.CD1030	2A - Complete reinstatement of Sung Wong Toi Playground in Works Area 1109.W2 (DRM: 30 Jul 17, 30/17)	0	0%		29-Sep-19*				
01109.CD1050A	Complete reinstatement of TKW Gardens	0	0%		17-Jan-20*				
Table 4 - Specified Degrees of Completion									
Degree 3 Dates									
TKW Station - Key Area									
01109.CD1700	4T Deg 3 - TKW Adits and Entrances (DRM: 10 Dec 17, 49/17)	0	0%		05-Dec-19*				
SUW Station									
01109.CD1650	4J Deg 3 - SUW Entrances A & D All areas incl all vent shafts & ducts etc. (DRM: 15 Apr 18, 15/18)	0	0%		05-Dec-19*				
Specified Milestone Dates (Revised)									
CC-A Milestones									
01109.MSA26-P	A26 - Approval of Operating & Maintenance Manuals & as - built dwgs for Whole of the Works. (DRM: 19 Aug 2018)	0	0%		26-Apr-20*				
CC-B Milestones									
01109.MSB24ii-P	B24(ii) - All works complete & stat inspections successfully undertaken Eng's satisfaction .(29 Apr 2018)	0	0%		31-Aug-19*				
01109.MSB24i-P	B24(i) - All Operations & Maintenance manuals & As Built dwgs submitted. (DRM: 29 Apr 2018)	0	0%		26-Apr-20*				
CC-C Milestones									
01109.MSC23ii-P	C23(ii) - All works complete & stat inspections successfully undertaken to Eng's satisfaction (29 Apr 2018)	0	0%		05-Dec-19*				
01109.MSC23i-P	C23(i) - All Operations & Maintenance manuals & As Built dwgs submitted (DRM: 29 Apr 2018)	0	0%		04-Feb-20*				
CC-D Milestones									
01109.MSD20ii-P	D20(ii) - All works complete & stat inspections successfully undertaken to Eng's satisfaction (29 Apr 2018)	0	0%		31-Aug-19*				
01109.MSD20i-P	D20(i) - All Operations & Maintenance manuals & As Built dwgs submitted. (29 Apr 2018)	0	0%		06-Dec-19*				
CC-E Milestones									
01109.MSE07iv-P10	E07(iv) - All civil and structural works at Ma Tau Wai Rd/Tam Kung Rd Garden complete (31 Dec 2017)	0	0%		31-Aug-19*				
01109.MSE08i-P10	E08(i) - All ABWF & E&M wks for reprovisioned LCSD toilet at Ma Tau Wai Rd/TKW Rd Gdn comp (25 Feb 2018)	0	0%		10-Sep-19*				
01109.MSE07iii-P10	E07(iii)(a) - 80% of civil and structural works at Ma Tau Wai/TKW Rd Garden complete	0	0%		30-Sep-19*				
		MTR Corporation Limited				1109-MPR2-2R8, Page 1 of 6			
		Shatin to Central Link Contract 1109				AUG 2019 TASK filters: 3MRP Dates, MTRC 1109 - 3MRP, Physical % Complete 100%.			
						Printed:28-Aug-19			
						<div><div><div></div><div></div><div></div><div></div></div><div><div>Actual Work</div><div>Remaining Work</div><div>Master Programme Rev.2</div><div>Last Month Update</div></div><div><div>◆</div><div>●</div><div>▼</div><div>◆</div></div><div><div>Milestone</div><div>MP Rev.2 Milestone</div><div>Last Month Milestone</div></div></div>			

Activity ID	Activity Name	Remaining Duration	Physical % Complete	Planned / Actual Start	Planned / Actual Finish	2019			
						Aug	Sep	Oct	Nov
01109.MSE06ii-P	E06(ii) - All civil and structural wks at Lok Shan Rd & TKW complex playground complete(1 Oct 2017)	0	0%		02-Oct-19*			◆	
01109.MSE06ii-P10	E06(ii) - All civil and structural wks at Lok Shan Rd & TKW complex playground complete(1 Oct 2017)	0	0%		02-Oct-19*			◆	
01109.MSE08iii-P	E08(iii) - All works complete, inspected and accepted by Governments and relevant authorities (25 Feb 2018)	0	0%		12-Nov-19*				◆
01109.MSE08ii-P	E08(ii) - All hard landscaping and E&M works complete (25 Feb 2018)	0	0%		12-Nov-19*			▼	◆
01109.MSE08iv-P	E08(iv) - All O&M manuals and As Built drawings submitted (DRM: 25 Feb 2018) supersede	0	0%		06-Dec-19*			▼	
01109.MSE07iii-P	E07(iii) - All civil and structural works at Ma Tau Wai/TKW Rd Garden complete (31 Dec 2017)	0	0%		14-Dec-19*				
01109.MSE07iii-P20	E07(iii) (b) - All civil and structural works at Ma Tau Wai/TKW Rd Garden complete	0	0%		30-Dec-19*				
01109.MSE08iv-P10	E08(iv) - All O&M manuals and As Built drawings submitted (DRM: 25 Feb 2018)	0	0%		31-Dec-19*				
01109.MSE08i-P	E08(i) - All ABWF & E&M wks for reprovisioned LCSD toilet at Ma Tau Wai Rd/TKW Rd Gdn comp (25 Feb 2018)	0	0%		17-Jan-20*				
01109.MSE07iv-P	E07(iv) - All civil and structural works at Ma Tau Wai Rd/Tam Kung Rd Garden complete (31 Dec 2017)	0	0%		17-Jan-20*				
CC-F Milestones									
01109.MSF03i-P10	F03(iii) - All Operations & Maintenance manuals & As Built dwgs submitted.	0	0%		31-Aug-19*		◆		
01109.MSF03i-P	F03(i) - All Operations & Maintenance manuals & As Built dwgs submitted. (DRM: 29 Apr 2018)	0	0%		06-Dec-19*				
CC-J Milestones									
01109.MSJ06I	J6i-All Operations and Maintenance Manuals and as-built drawings submitted (29 Apr 2018)	0	0%		31-Aug-19*		◆		
01109.MSJ06II	J6ii-All works complete and statutory inspections successfully undertaken tot the satisfaction of the Engr. (29 Apr 2016	0	0%		31-Aug-19*		◆		
Works Areas									
Return Dates									
01109.RDA1	Vacation date for Works Area 1109.A1 (Wk15/19;14Apr19)	0	0%		31-Aug-19*		◆		
Specified Milestone Dates (AMP)									
CC-A Milestones									
01109.MSA20	A20 - Approval of Operating & Maintenance Manuals & as-built dwgs for Whole of the Works.(Wk11/18;18Mar18)	0	0%		26-Apr-20				
CC-B Milestones									
01109.MSB21ii	B21(ii)-All works complete & stat inspections successfully undertaken Eng's satisfaction .(Wk7/18;18Feb18)	0	0%		31-Aug-19		◆		
01109.MSB21i	B21(i)-All Operations & Maintenance manuals & As Built dwgs submitted.(Wk7/18;18Feb18)	0	0%		26-Apr-20				
CC-C Milestones									
01109.MSC21ii	C21(ii)-All works complete & stat inspections successfully undertaken to Eng's satisfaction (Wk7/18;18Feb18)	0	0%		05-Dec-19				
01109.MSC21i	C21(i)-All Operations & Maintenance manuals & As Built dwgs submitted.(Wk07/18;18Feb18)	0	0%		04-Feb-20				
CC-E Milestones									
01109.MSE05i	E05(i) - Reinstatement of SWT playground complete incl sub of all relevant O&M & As-built dwg (32/16;14Aug16)	0	0%		31-Aug-19		◆		
01109.MSE05ii	E05(ii) - All civil and structural wks at Lok Shan Rd & TKW complex playground complete (32/16;14Aug16)	0	0%		02-Oct-19			◆	
01109.MSE08i	E08(i) - All works complete, inspected and accepted by Governments and relevant authorities (50/17;17Dec17)	0	0%		12-Nov-19			▼	◆
01109.MSE07ii	E07(ii) - All hard landscaping and E&M works complete (24/17;18Jun17)	0	0%		12-Nov-19			▼	◆
01109.MSE08ii	E08(ii) - All O&M manuals and As Built drawings submitted (50/17;17Dec17)	0	0%		06-Dec-19				

Activity ID	Activity Name	Remaining Duration	Physical % Complete	Planned / Actual Start	Planned / Actual Finish	2019			
						Aug	Sep	Oct	Nov
01109.MSE06iii	E06(iii) - All civil and structural works at Ma Tau Wai TKW Rd Garden complete (50/16;18Dec16)	0	0%		14-Dec-19				
01109.MSE07i	E07(i) - All ABWF & E&M wks for reprovisioned LCSD toilet at Ma Tau Wai Rd/TKW Rd Gdn comp (24/17;18Jun17)	0	0%		17-Jan-20				
01109.MSE06iv	E06(iv) - All civil and structural works at Ma Tau Wai Rd/Tam Kung Rd Garden complete (50/16;18Dec16)	0	0%		17-Jan-20				
CC-F Milestones									
01109.MSF04ii	F04(ii)- All works complete & stat inspections successfully undertaken to the satisfaction of the Eng.(Wk7/18;18Feb18)	0	0%		31-Aug-19	◆			
01109.MSF04i	F04(i) - All Operations & Maintenance manuals & As Built dwgs submitted.(Wk7/18;18Feb18)	0	0%		06-Dec-19				
CC-A - PRELIMINARIES AND GENERAL REQUIREMENTS									
Management Systems									
Other Specified Requirements - Submission									
01109.PDA3410	Prepare and submit Operations & Maintenance manuals & As Built dwgs for TKW	130	35%	18-Feb-18 A	07-Jan-20	<div></div>	<div></div>	<div></div>	<div></div>
01109.PDA3441	Prepare and submit Operations & Maintenance manuals & As Built dwgs for TKA, EEP and Tunnel	70	35%	19-Mar-18 A	08-Nov-19	<div></div>	<div></div>	<div></div>	<div></div>
01109.PDA3380	Prepare and submit Operations & Maintenance manuals & As Built dwgs for Olympic Gdn and others RRIW areas	70	35%	19-Mar-18 A	08-Nov-19	<div></div>	<div></div>	<div></div>	<div></div>
01109.PDA3450	Prepare and submit Operations & Maintenance manuals & As Built dwgs for remaining	15	35%	19-Mar-18 A	14-Sep-19	<div></div>	<div></div>	<div></div>	<div></div>
01109.PDA3430	Prepare and submit Operations & Maintenance manuals & As Built dwgs for SUW	130	35%	19-Mar-18 A	07-Jan-20	<div></div>	<div></div>	<div></div>	<div></div>
01109.PDA3440	Prepare and submit Operations & Maintenance manuals & As Built dwgs for HOM	70	35%	19-Mar-18 A	08-Nov-19	<div></div>	<div></div>	<div></div>	<div></div>
Other Specified Requirements - Approval									
01109.PDA3520	Review & Approve - Operations & Maintenance manuals & As Built dwgs for SUW(DRM: 29 Apr 2018)	110	35%	06-Jul-19 A	26-Apr-20	<div></div>	<div></div>	<div></div>	<div></div>
01109.PDA3531	Review & Approve - Operations & Maintenance manuals & As Built dwgs for TKA, EEP and Tunnel (DRM: 29 Apr 2018)	28	0%	09-Nov-19	06-Dec-19				<div></div>
01109.PDA3530	Review & Approve - Operations & Maintenance manuals & As Built dwgs for HOM (DRM: 29 Apr 2018)	28	0%	09-Nov-19	06-Dec-19				<div></div>
01109.PDA3470	Review & Approve - Operations & Maintenance manuals & AsBuilt dwgs for Olympic Gdn & others RRIW areas(DRM: 25 Feb 2018)	28	0%	09-Nov-19	06-Dec-19				<div></div>
01109.PDA3580	Completion of All Key Dates	0	0%		05-Dec-19				<div></div>
01109.PDA3500	Review & Approve - Operations & Maintenance manuals & As Built dwgs for TKW (DRM: 29 Apr 2018)	28	0%	08-Jan-20	04-Feb-20				
01109.PDA3540	Review & Approve - Operations & Maintenance manuals & As Built dwgs for remaining (DRM: 19 Aug 2018)	65	0%	22-Feb-20	26-Apr-20				
01109.PDA3590	Completion of All Operations & Maintenance manuals	0	0%		26-Apr-20				
CC-B - SUW STATION, ENTRANCES AND ADITS									
SUW Station Construction Works									
01109.PDB10201	Ready for statutory inspections & obtain approval for SUW	0	80%	10-Dec-18 A	31-Aug-19	<div></div>	<div></div>	<div></div>	<div></div>
Station - ABWF Works - Degree 3									
GL 1 - 5 - Works to Degree 3, Platform Level									
01109.PDB17160B	Rectify and Complete all ABWF Defect and outstanding work (FoH)	20	97%	01-Dec-18 A	24-Sep-19	<div></div>	<div></div>	<div></div>	<div></div>
GL 5 - 23 - Works to Degree 3, Platform Level									
01109.PDB18120B	Rectify and Complete all ABWF Defect and outstanding work (FoH)	20	97%	01-Dec-18 A	24-Sep-19	<div></div>	<div></div>	<div></div>	<div></div>
GL 1 - 5 - Works to Degree 3, Concourse Level									
01109.PDB18340B	Rectify and Complete all ABWF Defect and outstanding work (BoH)	26	97%	01-Dec-18 A	02-Oct-19	<div></div>	<div></div>	<div></div>	<div></div>
<div><div></div><div>SAMSUNG-HSIN CHONG JOINT VENTURE</div></div>		<div>MTR Corporation Limited</div> <div>Shatin to Central Link Contract 1109</div>		<div>1109-MPR2-2R8, Page 3 of 6</div> <div>AUG 2019 TASK filters: 3MRP Dates, MTRC 1109 - 3MRP, Physical % Complete 100%.</div> <div>Printed:28-Aug-19</div>		<div><div><div><div></div><div>Actual Work</div></div><div><div></div><div>Remaining Work</div></div><div><div></div><div>Master Programme Rev.2</div></div><div><div></div><div>Last Month Update</div></div></div><div><div>◆ Milestone</div><div>● MP Rev.2 Milestone</div><div>▼ Last Month Milestone</div></div></div>			

Activity ID	Activity Name	Remaining Duration	Physical % Complete	Planned / Actual Start	Planned / Actual Finish	2019			
						Aug	Sep	Oct	Nov
01109.PDB18440B	Rectify and Complete all ABWF Defect and outstanding work (FoH)	20	97%	01-Dec-18 A	24-Sep-19				
GL 5 - 23 - Works to Degree 3, Concourse Level									
01109.PDB18660B	Rectify and Complete all ABWF Defect and outstanding work (BoH)	26	97%	01-Dec-18 A	02-Oct-19				
01109.PDB18760B	Rectify and Complete all ABWF Defect and outstanding work (FoH)	20	97%	01-Dec-18 A	24-Sep-19				
Vent Shaft									
Vent Shaft - Works for Degree 3 Finish									
01109.PDB14181	For 4J Deg 3 handover, parepare SUW Vent shafts & ducts etc.(DRM: 15 Apr 18, 15/18)	80	97%	01-Mar-18 A	05-Dec-19				
01109.PDB14180	All Vent Shaft Works Complete	0	0%		05-Dec-19				
Entrance B & Adit B									
01109.3MS10220B4	Rectify and Complete all ABWF Defect and outstanding work (NKR)	20	97%	01-Dec-18 A	24-Sep-19				
Entrance B & Adit B - External Works									
Portion 1									
01109.PDB14540	Complete Civil reinstatement of Sung Wong Toi Playground in Works Area 1109.W2	30	97%	31-Dec-17 A	29-Sep-19				
Entrance B & Adit B - Works for Degree 3 Finish									
01109.PDB13523	For 4K Deg 3 handover, prepare SUW Adits B incl Ent, all rooms and vent shafts at Adit B (DRM: 15 Apr 18, 15/18)	21	97%	19-Mar-18 A	20-Sep-19				
01109.PDB19280	All Works for Adit B Complete	0	0%		27-Sep-19				
Portion 1									
01109.PDB14920	ABWF Internal Works Adit B; GL B2 to B12 - to Degree 3 completion	18	97%	15-Jan-18 A	21-Sep-19				
Portion 2									
01109.PDB14940	ABWF Internal Works Adit B; GL B12 to B23 - to Degree 3 completion	18	97%	15-Jan-18 A	21-Sep-19				
Portion 3									
01109.PDB14960	ABWF External & Internal Works Adit B; GL B23 to B31 - to Degree 3 completion	18	97%	19-Mar-18 A	21-Sep-19				
01109.PDB15970	E&M Internal & External Works Adit B; GL B23 to B31 - to Degree 3 completion	18	97%	19-Mar-18 A	21-Sep-19				
CC-C - TKW STATION, ENTRANCES AND ADITS									
TKW Station									
01109.PDC28291	Ready for statutory inspections & obtain approval for TKW	0	80%	01-Nov-18 A	30-Sep-19				
01109.PDC28291RB12	Ready for RB inspections for TKW	0	0%		30-Sep-19*				
Station - ABWF Works (Concourse Level and Above)									
Major Works to Degree 3									
01109.PDC27000B	Rectify and Complete all ABWF Defect and outstanding work (BoH)	95	97%	01-Dec-18 A	23-Dec-19				
01109.PDC27930B	Rectify and Complete all ABWF Defect and outstanding work (FoH)	95	97%	01-Dec-18 A	23-Dec-19				
Station - ABWF Works (Upper Platform Level)									
Major Works to Degree 3									
01109.PDC28150B	Rectify and Complete all ABWF Defect and outstanding work (BoH)	25	97%	01-Dec-18 A	30-Sep-19				



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AUG 2019 TASK filters: 3MRP Dates, MTRC 1109 - 3MRP, Physical % Complete 100%.
Printed:28-Aug-19

- Actual Work
- Remaining Work
- Master Programme Rev.2
- Last Month Update
- Milestone
- MP Rev.2 Milestone
- Last Month Milestone

Activity ID	Activity Name	Remaining Duration	Physical % Complete	Planned / Actual Start	Planned / Actual Finish	2019			
						Aug	Sep	Oct	Nov
01109.PDC28250B	Rectify and Complete all ABWF Defect and outstanding work (FoH)	25	97%	01-Dec-18 A	30-Sep-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
Station - ABWF Works (Lower Platform Level)									
Major Works to Degree 3									
01109.PDC28460B	Rectify and Complete all ABWF Defect and outstanding work (BoH)	25	97%	01-Dec-18 A	30-Sep-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
01109.PDC28560B	Rectify and Complete all ABWF Defect and outstanding work (FoH)	25	97%	01-Dec-18 A	30-Sep-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
TKW Station External Landscaping Works									
RRIW (TKW)									
01109.PDC1440	TKW - Re-construct new LCSD Public Toilet	8	93%	20-Nov-17 A	10-Sep-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
01109.PDC1450	TKW - Civil and structural wks at Lok Shan Rd & TKW complex playground	26	60%	11-Jun-18 A	02-Oct-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
01109.PDC1460-1A	TKW - Civil and structural works at Ma Tau Wai/TKW Rd Garden	80	60%	03-Sep-18 A	14-Dec-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
01109.PDC1470-1A	TKW - Other misc. works at Ma Tau Wai Rd/Tam Kung Rd Garden	80	60%	15-Oct-18 A	05-Dec-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
01109.PDE1100	ABWF & E&M wks for reprovisioned LCSD toilet at Ma Tau Wai Rd/TKW Rd Gdn	3	61%	13-May-19 A	03-Sep-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
TKW Road Garden, D-Wall and TTMS (TKW Entrance D)									
01109.PDC1460A	TKW Road Garden Stage 1	28	70%	31-Mar-19 A	04-Oct-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
01109.PDC1470A	TKW Road Garden Stage 2	80	0%	05-Oct-19	23-Dec-19		<div><div></div><div></div></div>		
Covered Walkway, Volley Ball Court, Garden, D-Wall and TTMS (TKW Vent Shaft)									
01109.PDC1450A	Covered Walkway	27	95%	01-Feb-19 A	03-Oct-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
01109.PDC1450B	VolleyBall Court	23	95%	01-Feb-19 A	27-Sep-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
01109.PDC1450D	RemainingDrainage Work / Finishing	15	70%	03-Apr-19 A	18-Sep-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
Sheung Heung Road Garden, D-Wall next to SKH Good Shepherd Primary School and TTMS									
01109.PDE1130A11	D-Wall & Drainage at West (Bay 13)	6	0%	30-Sep-19*	08-Oct-19		<div><div></div><div></div></div>		
01109.PDE1130A20	D-Wall & Drainage at East (next to SKH Good Shepherd Primary School)	70	0%	09-Oct-19	31-Dec-19		<div><div></div><div></div></div>		
01109.PDE1130A30	RRIW at Sheung Heung Road Garden	15	0%	01-Jan-20	17-Jan-20				
Tam Kung Road Garden and TTMS									
01109.PDE1130A63	K3 Kerb & E2 Planter kerb with Type 2 railing at boundary wall (San shan road & some section of Ma tau Chung road)	7	90%	17-Dec-18 A	09-Sep-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
Chikiang Street Amenity Area and TTMS									
01109.PDE1130A71	D-Wall & Drainage at West (Bay 1-4)	53	20%	30-Jun-19 A	04-Nov-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
01109.PDE1130A72	D-Wall & Drainage at Center (Bay 1-3)	30	20%	30-Jun-19 A	31-Oct-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
01109.PDE1130A81	RRIW at Chikiang Street Amenity Area	21	0%	31-Oct-19	23-Nov-19			<div><div></div><div></div></div>	
Other D-Wall & Drainage									
01109.PDE1130A82	D-Wall & Drainage at Center (Bay 4-7)	26	0%	02-Sep-19*	03-Oct-19		<div><div></div><div></div></div>		
01109.PDE1130A92	D-Wall & Drainage at Center (Bay 8-13)	30	0%	30-Nov-19	06-Jan-20				<div><div></div><div></div></div>
Watermain Reinstatement									
01109.PDC29535	Phase 2 - SW at North bound side (GL8-24)	68	95%	14-Sep-17 A	21-Nov-19	<div><div></div><div></div></div>	<div><div></div><div></div></div>		



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AUG 2019 TASK filters: 3MRP Dates, MTRC 1109 - 3MRP, Physical % Complete 100%.
Printed:28-Aug-19

- Actual Work
-
- Remaining Work

Activity ID	Activity Name	Remaining Duration	Physical % Complete	Planned / Actual Start	Planned / Actual Finish	2019			
						Aug	Sep	Oct	Nov
01109.PDC29545	Phase 2 - FW at North bound side (GL8-24)	68	95%	14-Sep-17 A	21-Nov-19				
01109.PDC29365	Phase 1 - Watermains along MTW Rd (GL3-GL20)	68	95%	14-Sep-17 A	21-Nov-19				
01109.PDC29385	Phase 1 - Watermains along MTW Rd (GL20-GL28)	68	95%	13-Nov-17 A	21-Nov-19				
01109.PDC30090	Implement TTMS S3P6A - West 2+2 lane system (along full station)	1	0%	31-Aug-19*	31-Aug-19				
01109.PDC30100	Implement TTMS S3P7 - 2 West + 2 East road lane system	1	0%	31-Aug-19*	31-Aug-19				
01109.PDC30110	Implement TTMS S3P8 - Central divider	1	0%	02-Dec-19*	02-Dec-19				
01109.PDC30120	Implement Permanent TTMs	1	0%	29-Feb-20*	29-Feb-20				
01109.PDC29525	Phase 3 - Implement TTMS S3P8	0	0%	29-Feb-20*					
General Works for Achievement of Degree Completions									
Remaining Works to Degree 3									
TKW Adits and Entrances									
01109.PDC22590	For 4T Deg 3 handover, prepare TKW Adits and Entrances (DRM: 10 Dec 17, 49/17)	80	98%	22-Jan-18 A	05-Dec-19				
Entrance A & Vent Shaft A									
01109.3MT10050	TKW Internal Wall Stone Installation at Entrance A	25	99%	12-Mar-18 A	30-Sep-19				
01109.3MT10050A	TKW Entrance A External Stone Cladding Installation	25	99%	19-Mar-18 A	30-Sep-19				
01109.3MT10050B	Rectify and Complete all ABWF Defect and outstanding work (Entrance A)	25	99%	01-Dec-18 A	30-Sep-19				
01109.PDC27510B	Rectify and Complete all ABWF Defect and outstanding work (Vent Shaft)	25	99%	01-Dec-18 A	30-Sep-19				
Vent Shaft - ABWF Works									
01109.PDC27510	Deg 3 - ABWF to Vent Shaft A (DRM: 10 Dec 17, 49/17)	80	99%	15-Jan-18 A	05-Dec-19				
Entrances - ABWF Works									
01109.PDC26980	Deg 3 - ABWF to Entrance A (DRM: 10 Dec 17, 49/17)	80	99%	15-Jan-18 A	05-Dec-19				
Entrance D & Vent Shaft									
01109.3MT10060	TKW Internal Wall Stone Installation at Entrance D	14	99%	12-Mar-18 A	17-Sep-19				
01109.3MT10060A	TKW Entrance D External Stone Cladding Installation	15	98%	19-Mar-18 A	18-Sep-19				
01109.3MT10060B	Rectify and Complete all ABWF Defect and outstanding work (Entrance D)	35	70%	01-Dec-18 A	14-Oct-19				
Entrances - ABWF Works									
01109.PDC27280	Deg 3 - ABWF to Entrance D (DRM: 10 Dec 17, 49/17)	80	93%	15-Jan-18 A	05-Dec-19				
CC-E - REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS (RRIW)									
Government Statutory Acceptance Inspections									
01109.PDE1140	Work inspections and acceptance by Governments and relevant authorities	60	0%	31-Aug-19	12-Nov-19				
01109.PDE1150	Finalize all O&M manuals and As Built drawings	60	0%	31-Aug-19	12-Nov-19				
TESTING & COMMISSIONING									
01109.PDT1221	For Substantial Completion for the Whole of the Works (DRM: 16 Sep 18, 37/18)	17	0%	10-Apr-20	26-Apr-20				



MTR Corporation Limited
Shatin to Central Link Contract 1109

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AUG 2019 TASK filters: 3MRP Dates, MTRC 1109 - 3MRP, Physical % Complete 100%.
Printed:28-Aug-19

- Actual Work

Remaining Work

Master Programme Rev.2

Last Month Update
- Milestone

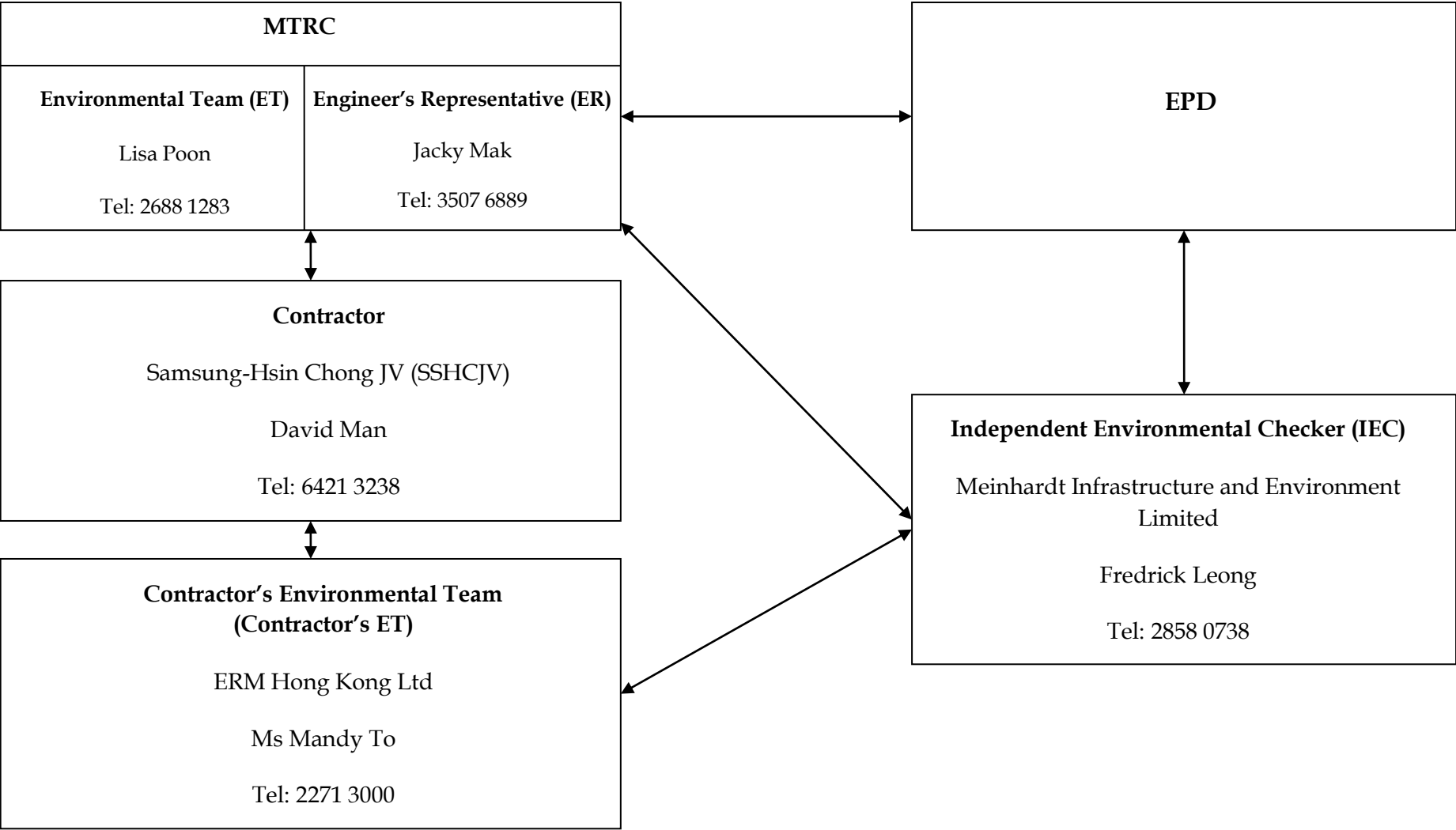
MP Rev.2 Milestone

Last Month Milestone

Annex C

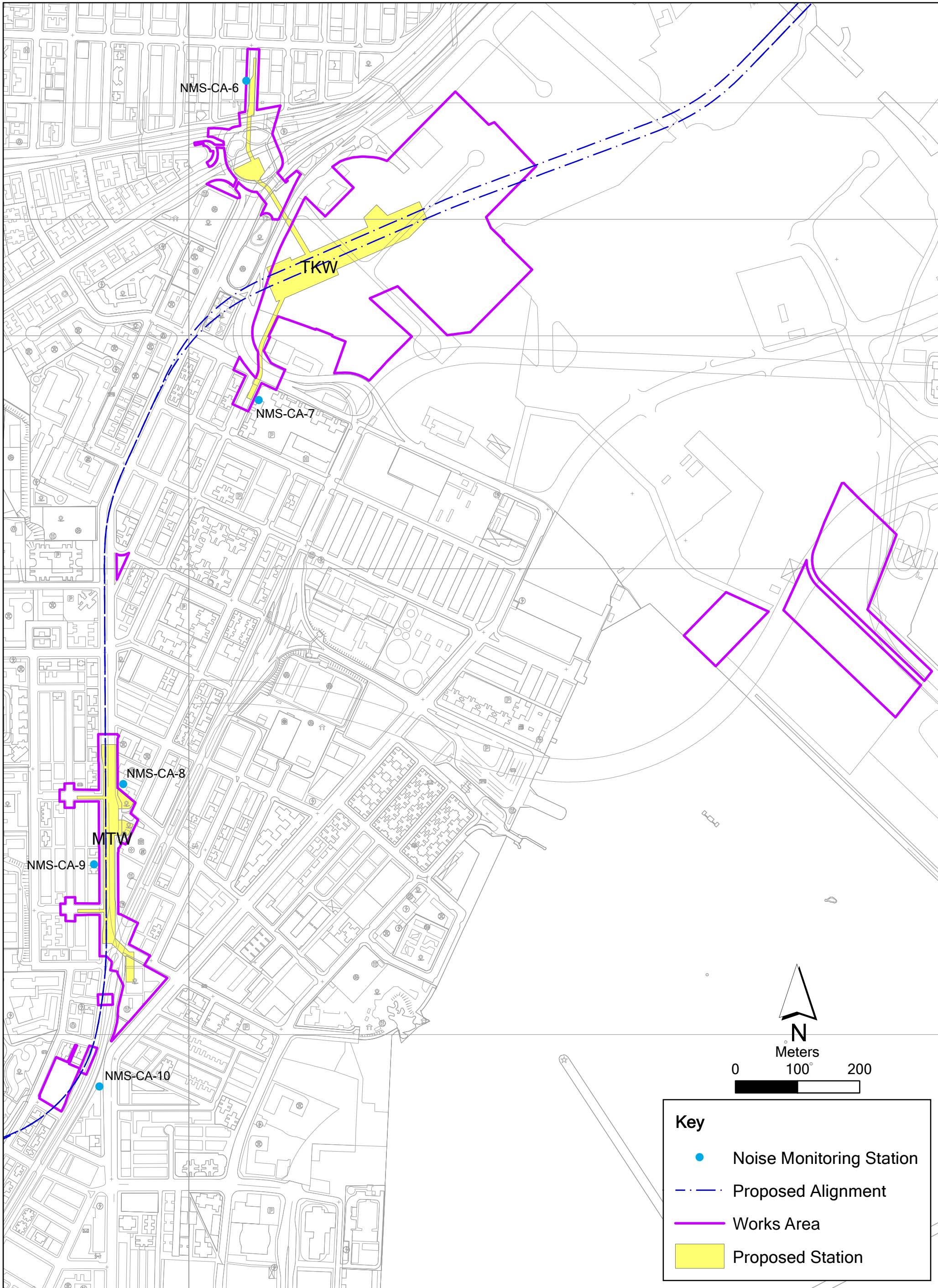
Project Organization Chart and Contact Detail

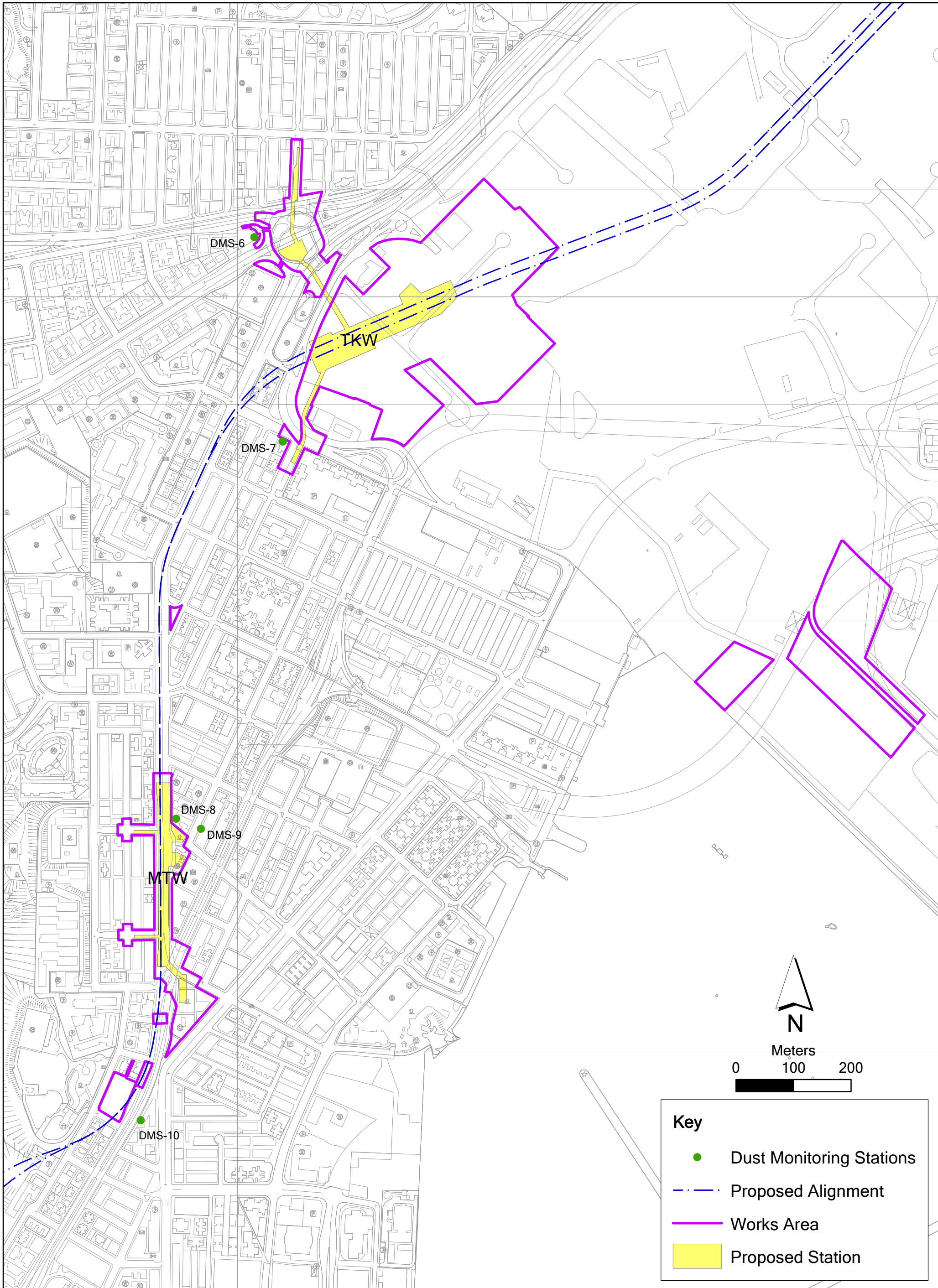
Annex C Project Organization of SCL Works Contract 1109

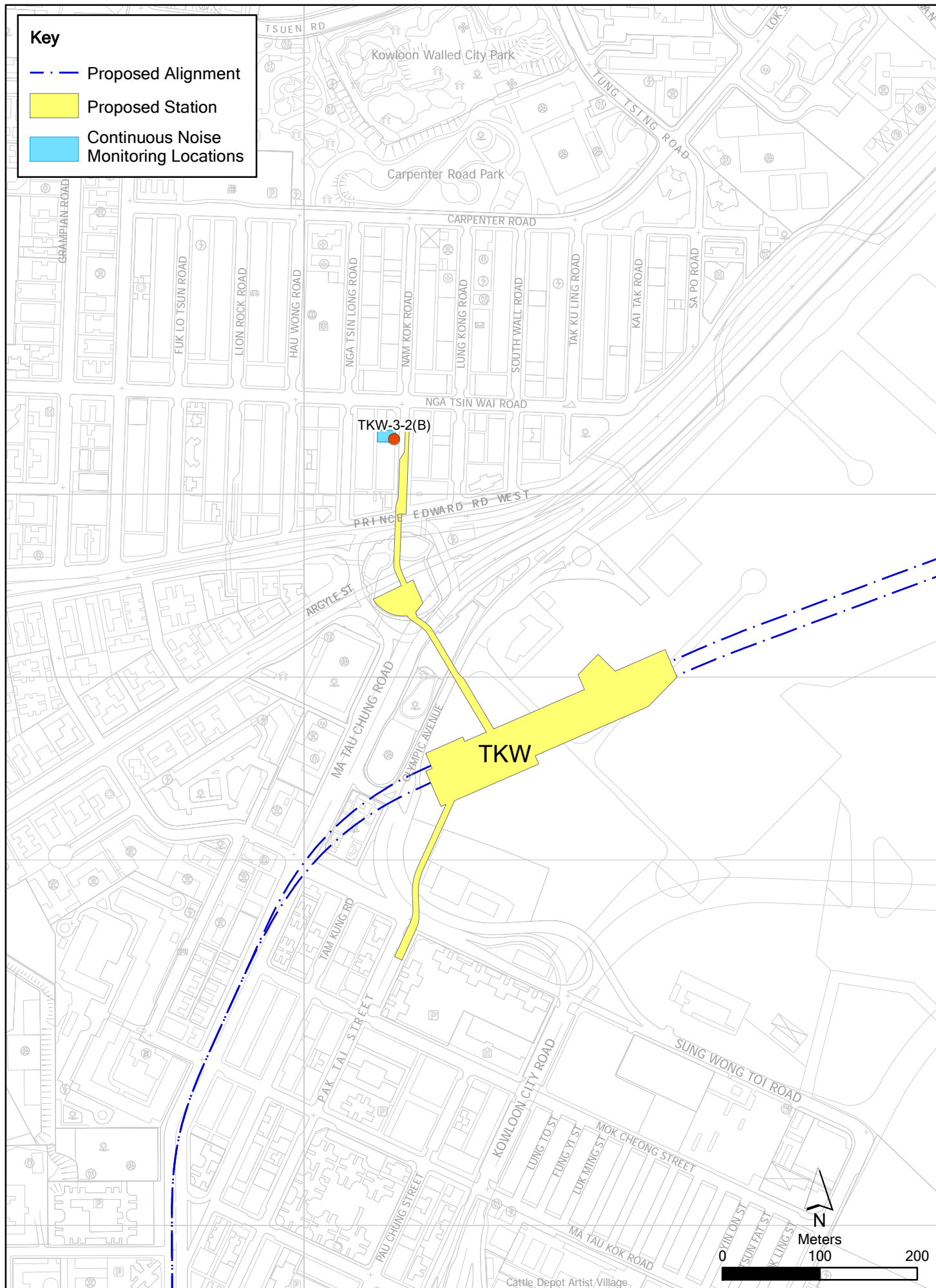


Annex D

Locations of Noise and Dust Monitoring Stations







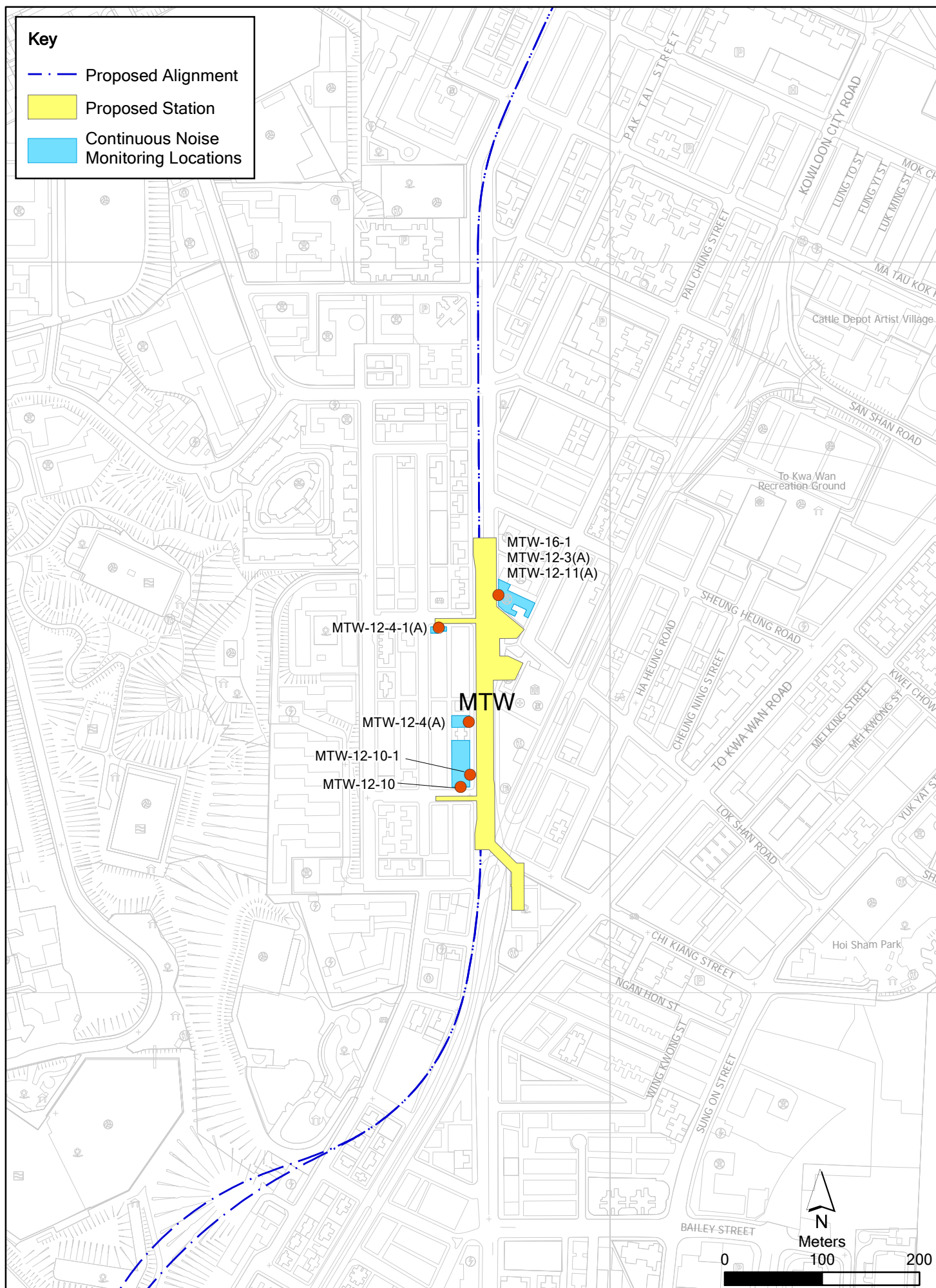


Figure 2.2b

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
Regular Noise Monitoring Schedule**

**Noise Monitoring Stations:
NMS-CA-6, NMS-CA-7, NMS-CA-8, NMS-CA-9 and NMS-CA-10
Monitoring Month : August 2019**

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

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

**Noise Monitoring Stations:
NMS-CA-6, NMS-CA-7, NMS-CA-8, NMS-CA-9 and NMS-CA-10
Monitoring Month : September 2019**

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

**Shatin to Central Link
Works Contract 1109
Stations and Tunnels of Kowloon City Section
Regular Dust Monitoring Schedule**

**24-hr TSP Monitoring Stations:
DMS-6, DMS-7, DMS-8, DMS-9 and DMS-10
Monitoring Month: August 2019**

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

**Shatin to Central Link
Works Contract 1109
Stations and Tunnels of Kowloon City Section
Regular Dust Monitoring Schedule**

**24-hr TSP Monitoring Stations:
DMS-6, DMS-7, DMS-8, DMS-9 and DMS-10
Monitoring Month: September 2019**

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

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</i>		HVS	Calibrator		
DMS-6	Katherine Building	TE-5170 (S/N 0107)	CM-AIR-43 (Orifice I.D. 2454)	5 May 2019	5 November 2019
DMS-7	Parc 22	TE-5170 (S/N 3574)	CM-AIR-43 (Orifice I.D. 2454)	5 May 2019	5 November 2019
DMS-8	SKH Good Shepherd Primary School	TE-5170 (S/N 3572)	CM-AIR-43 (Orifice I.D. 2454)	5 May 2019	5 November 2019
DMS-9	No. 12 Pau Chung Street	TE-5170 (S/N 0814)	CM-AIR-43 (Orifice I.D. 2454)	5 May 2019	5 November 2019
DMS-10	Chat Ma Mansion	TE-5170 (S/N 3573)	CM-AIR-43 (Orifice I.D. 2454)	5 May 2019	5 November 2019

Noise Monitoring Equipment

Monitoring Station ID	Monitoring Equipment	Model & Serial No.	Last Calibration Date	Next Calibration Date
NMS-CA-6, NMS-CA-7, NMS-CA-8, NMS-CA-9 and NMS-CA-10	Calibrator	Rion NC-73 (S/N 10786708)	14 October 2018	14 October 2019
	Sound Level Meter	Rion NL-18 (S/N 00360030)	17 March 2019	17 March 2020

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : DMS-6(Katherine Building)
Calibrated by : K.T.Ho
Date : 05/05/2019

Sampler

Model : TE-5170
Serial Number : S/N 0107

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
Service Date : 25 February 2019
Slope (m) : 2.07076
Intercept (b) : -0.02917
Correlation Coefficient(r) : 1.00000

Standard Condition

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

Calibration Condition

Pa (hpa) : 1010
Ta(K) : 295

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.8	3.591	1.748	54	54.19
2	13 holes	9.4	3.077	1.500	48	48.17
3	10 holes	7.2	2.693	1.315	38	38.14
4	7 holes	4.4	2.105	1.031	28	28.10
5	5 holes	3.0	1.738	0.854	20	20.07

Sampler Calibration Relationship (Linear Regression)

Slope(m): 38.943 Intercept(b): -12.477 Correlation Coefficient(r): 0.9949

Checked by: Magnum Fan

Date: 09/05/2019

High-Volume TSP Sampler
5-Point Calibration Record

Location : DMS-7(Parc 22)
Calibrated by : K.T.Ho
Date : 05/05/2019

Sampler

Model : TE-5170
Serial Number : S/N 3574

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
Service Date : 25 February 2019
Slope (m) : 2.07076
Intercept (b) : -0.02917
Correlation Coefficient(r) : 1.00000

Standard Condition

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

Calibration Condition

Pa (hpa) : 1010
Ta(K) : 295

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.4	3.534	1.721	64	64.23
2	13 holes	9.6	3.109	1.516	56	56.20
3	10 holes	7.8	2.803	1.368	50	50.18
4	7 holes	4.4	2.105	1.031	40	40.14
5	5 holes	3.0	1.738	0.854	30	30.11

Sampler Calibration Relationship (Linear Regression)

Slope(m): 37.706 Intercept(b): -0.757 Correlation Coefficient(r): 0.9960

Checked by: Magnum Fan

Date: 09/05/2019

High-Volume TSP Sampler
5-Point Calibration Record

Location : DMS-8(SHK Good Shepherd Primary School)
Calibrated by : K.T.Ho
Date : 05/05/2019

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
Service Date : 25 February 2019
Slope (m) : 2.07076
Intercept (b) : -0.02917
Correlation Coefficient(r) : 1.00000

Standard Condition

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

Calibration Condition

Pa (hpa) : 1010
Ta(K) : 295

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.4	3.534	1.721	62	62.22
2	13 holes	9.6	3.109	1.516	56	56.20
3	10 holes	7.6	2.767	1.350	50	50.18
4	7 holes	4.6	2.152	1.054	40	40.14
5	5 holes	3.2	1.795	0.881	30	30.11

Sampler Calibration Relationship (Linear Regression)

Slope(m): 37.426 Intercept(b): -1.042 Correlation Coefficient(r): 0.9935

Checked by: Magnum Fan

Date: 09/05/2019

High-Volume TSP Sampler
5-Point Calibration Record

Location : DMS-9(No. 12 Pau Chung Street)
Calibrated by : K.T.Ho
Date : 05/05/2019

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
Service Date : 25 February 2019
Slope (m) : 2.07076
Intercept (b) : -0.02917
Correlation Coefficient(r) : 1.00000

Standard Condition

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

Calibration Condition

Pa (hpa) : 1010
Ta(K) : 295

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.8	3.591	1.748	68	68.24
2	13 holes	9.8	3.142	1.531	58	58.21
3	10 holes	7.6	2.767	1.350	50	50.18
4	7 holes	4.6	2.152	1.054	40	40.14
5	5 holes	2.8	1.679	0.825	28	28.10

Sampler Calibration Relationship (Linear Regression)

Slope(m): 42.207

Intercept(b): -5.962

Correlation Coefficient(r): 0.9978

Checked by: Magnum Fan

Date: 09/05/2019

High-Volume TSP Sampler
5-Point Calibration Record

Location : DMS-10(Chat Ma Mansion)
Calibrated by : K.T.Ho
Date : 05/05/2019

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
Service Date : 25 February 2019
Slope (m) : 2.07076
Intercept (b) : -0.02917
Correlation Coefficient(r) : 1.00000

Standard Condition

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

Calibration Condition

Pa (hpa) : 1010
Ta(K) : 295

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.4	3.534	1.721	60	60.21
2	13 holes	9.4	3.077	1.500	52	52.19
3	10 holes	7.2	2.693	1.315	46	46.16
4	7 holes	4.8	2.199	1.076	34	34.12
5	5 holes	2.8	1.679	0.825	26	26.09

Sampler Calibration Relationship (Linear Regression)

Slope(m): 38.997
0.9973

Intercept(b): -6.442

Correlation Coefficient(r):

Checked by: Magnum Fan

Date: 09/05/2019



RECALIBRATION

DUE DATE:

February 25, 2020

Certificate of Calibration

Calibration Certification Information

Cal. Date: February 25, 2019 Rootsmeter S/N: 438320 Ta: 294 °K
 Operator: Jim Tisch Pa: 762.0 mm Hg
 Calibration Model #: TE-5025A Calibrator S/N: 2454

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4400	3.2	2.00
2	3	4	1	1.0200	6.4	4.00
3	5	6	1	0.9120	7.9	5.00
4	7	8	1	0.8700	8.8	5.50
5	9	10	1	0.7180	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)}$ (y-axis)
1.0120	0.7028	1.4257	0.9958	0.6915	0.8784
1.0077	0.9880	2.0162	0.9916	0.9722	1.2423
1.0057	1.1028	2.2542	0.9896	1.0851	1.3889
1.0045	1.1546	2.3642	0.9885	1.1362	1.4567
0.9992	1.3916	2.8513	0.9832	1.3694	1.7569
QSTD	m=	2.07076	QA	m=	1.29667
	b=	-0.02917		b=	-0.01797
	r=	1.00000		r=	1.00000

Calculations

Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= Vstd/ΔTime	Qa= Va/ΔTime
For subsequent flow rate calculations:	
Qstd= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$

Standard Conditions

Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsmeter manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc.
 145 South Miami Avenue
 Village of Cleves, OH 45002

www.tisch-env.com
 TOLL FREE: (877)263-7610
 FAX: (513)467-9009



輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration

校正證書

Certificate No. : C185606

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC18-1968) Date of Receipt / 收件日期 : 27 September 2018

Description / 儀器名稱 : Sound Level Calibrator

Manufacturer / 製造商 : Rion

Model No. / 型號 : NC-73

Serial No. / 編號 : 10786708

Supplied By / 委託者 : Envirotech Services Co.

Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$

Relative Humidity / 相對濕度 : $(50 \pm 25)\%$

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 14 October 2018

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.


The results do not exceed manufacturer's specification.

The results are detailed in the subsequent page(s).

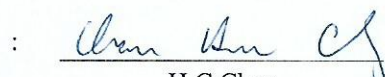
The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By
測試


K C Lee
Engineer

Certified By
核證


H C Chan
Engineer

Date of Issue
簽發日期

19 October 2018

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

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Sun Creation Engineering Limited - Calibration & Testing Laboratory

c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

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Website/網址: www.suncreation.com

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校正證書

Certificate No. : C185606

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 :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C183775
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	C181288

- 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	0.986	1 kHz $\pm 2\%$	± 1

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

Note :

Only the original copy or the laboratory's certified true copy is valid.

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.



輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration

校正證書

Certificate No. : C191409

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-0396) Date of Receipt / 收件日期 : 26 February 2019

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.

Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$

Relative Humidity / 相對濕度 : $(50 \pm 25)\%$

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 17 March 2019

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

The results do not exceed 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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

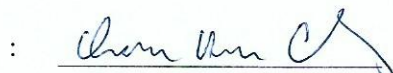
Tested By

測試


K C Lee
Engineer

Certified By

核證


H C Chan
Engineer

Date of Issue

簽發日期

18 March 2019

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Certificate No. : C191409
證書編號

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

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C190176
CL281	Multifunction Acoustic Calibrator	CDK1806821

5. Test procedure : MA101N.

6. Results :

- 6.1 Sound Pressure Level

- 6.1.1 Reference Sound Pressure Level

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

- 6.1.2 Linearity

UUT Setting				Applied Value		UUT
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
60 - 120	LA	A	Fast	94.00	1	93.9 (Ref.)
				104.00		103.9
				114.00		113.9

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	IEC 60651 Type 1
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Spec. (dB)
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.

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Certificate No. : C191409
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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	54.2	-39.4 ± 1.5
					63 Hz	67.5	-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	94.9	+1.0 ± 1.0
					8 kHz	92.8	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.6	-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	90.9	-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	93.8	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)

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Certificate of Calibration

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6.4 Time Averaging

UUT Setting				Applied Value					UUT	IEC 60804
Range (dB)	Mode	Frequency Weighting	Integrating Time	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
50 - 110	LAeq	A	10 sec.	4	1	1/10	110	100	100.1	± 0.5
						1/10 ²		90	90.0	± 0.5
			60 sec.			1/10 ³		80	79.6	± 1.0
			5 min.			1/10 ⁴		70	69.8	± 1.0

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 307435

- 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 :

Only the original copy or the laboratory's certified true copy is valid.

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.

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Annex G

Summary of Event/ Action Plans

Annex G1 *Event 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 is 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				
	Works Contract 1109 ET	IEC	ER	Contractor	
Exceeding Action/Limit Level	<ol style="list-style-type: none"> 1. Identify source 2. Repeat measurement. If two consecutive measurements exceed Action/Limit Level, the exceedance is then confirmed 3. If exceedance is confirmed, notify IEC, ER and Contractor 4. Investigate the cause of exceedance and check Contractor's working procedures to determine possible mitigation to be implemented 5. Discuss jointly with the IEC, ER and Contractor and formulate remedial measures 6. Assess effectiveness of Contractor's remedial actions and keep IEC and ER informed of the results 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the Works Contract 1109 ET 2. Check the Contractor's working method 3. Discuss with the ER, Works Contract 1109 ET and Contractor on the potential remedial measures 4. Review and advise the Works Contract 1109 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 Works Contract 1109 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 source with Works Contract 1109 ET 2. If exceedance is confirmed, investigate the cause of exceedance and 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 the 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 return to 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 actions 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 Impacts 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 of Environmental Mitigation

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
- Δ 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	✓

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>ground may be set up on-site as necessary.</p> <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	<>

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	✓
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	<p>In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following:</p> <p><u>Construction Runoffs and Site Drainage</u></p> <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 minimise 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></p> <p>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
		<p>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.</p> <ul style="list-style-type: none"> 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	<p><u>On-site sorting of C&D (Construction and Demolition) 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 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	<u>Construction and Demolition (C&D) Material</u> <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	<u>C&D Waste</u> <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
		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.					
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	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	✓

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-6 No. 16-23 Nam Kok Road

Date	Start Time	End Time	Weather	Measured Noise level (dB(A)), L _{Aeq} (30 min)	Baseline (dB(A)), L _{Aeq} (30 min)	Corrected LAeq(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
5-Aug-19	11:20	11:50	Sunny	62.0	76.1	-(b)	-	Traffic noise	29	0.5	NL-18 00360030	NC-73 10786708
15-Aug-19	11:15	11:45	Fine	61.6	76.1	-(b)	-	Traffic noise	30	0.5	NL-18 00360030	NC-73 10786708
21-Aug-19	11:18	11:48	Sunny	62.0	76.1	-(b)	-	Traffic noise	30	0.5	NL-18 00360030	NC-73 10786708
27-Aug-19	11:20	11:50	Fine	61.8	76.1	-(b)	-	Traffic noise	29	0.5	NL-18 00360030	NC-73 10786708

Station NMS-CA-7 Skytower Tower 2

Date	Start Time	End Time	Weather	Measured Noise level (dB(A)), L _{Aeq} (30 min)	Baseline (dB(A)), L _{Aeq} (30 min)	Corrected LAeq(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
5-Aug-19	10:22	10:52	Sunny	67.0	70.0	-(b)	-	Traffic noise	28	0.5	NL-18 00360030	NC-73 10786708
15-Aug-19	10:21	10:51	Fine	67.4	70.0	-(b)	-	Traffic noise	29	0.5	NL-18 00360030	NC-73 10786708
21-Aug-19	10:20	10:50	Sunny	66.5	70.0	-(b)	-	Traffic noise	29	0.5	NL-18 00360030	NC-73 10786708
27-Aug-19	10:20	10:50	Fine	67.1	70.0	-(b)	-	Traffic noise	28	0.5	NL-18 00360030	NC-73 10786708

Station NMS-CA-8 SKH Good Shepherd Primary School

Date	Start Time	End Time	Weather	Measured Noise level (dB(A)), L _{Aeq} (30 min)	Baseline (dB(A)), L _{Aeq} (30 min)	Corrected LAeq(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
5-Aug-19	8:00	8:30	Sunny	73.0	75.4	-(b)	-	Traffic noise	27	0.5	NL-18 00360030	NC-73 10786708
15-Aug-19	8:00	8:30	Fine	73.1	75.4	-(b)	-	Traffic noise	28	0.5	NL-18 00360030	NC-73 10786708
21-Aug-19	8:00	8:30	Sunny	73.2	75.4	-(b)	-	Traffic noise	28	0.5	NL-18 00360030	NC-73 10786708
27-Aug-19	8:00	8:30	Cloudy	73.0	75.4	-(b)	Backhoe	Traffic noise	27	0.5	NL-18 00360030	NC-73 10786708

Station NMS-CA-9 Kong Yiu Mansion

Date	Start Time	End Time	Weather	Measured Noise level (dB(A)), L _{Aeq} (30 min)	Baseline (dB(A)), L _{Aeq} (30 min)	Corrected LAeq(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
5-Aug-19	9:25	9:55	Sunny	70.5	69.2	64.6	-	Traffic noise	27	0.5	NL-18 00360030	NC-73 10786708
15-Aug-19	9:25	9:55	Fine	71.5	69.2	67.6	Backhoe	Traffic noise	28	0.5	NL-18 00360030	NC-73 10786708
21-Aug-19	9:26	9:56	Sunny	69.9	69.2	61.6	-	Traffic noise	28	0.5	NL-18 00360030	NC-73 10786708
27-Aug-19	9:25	9:55	Fine	70.0	69.2	62.3	Backhoe	Traffic noise	27	0.5	NL-18 00360030	NC-73 10786708

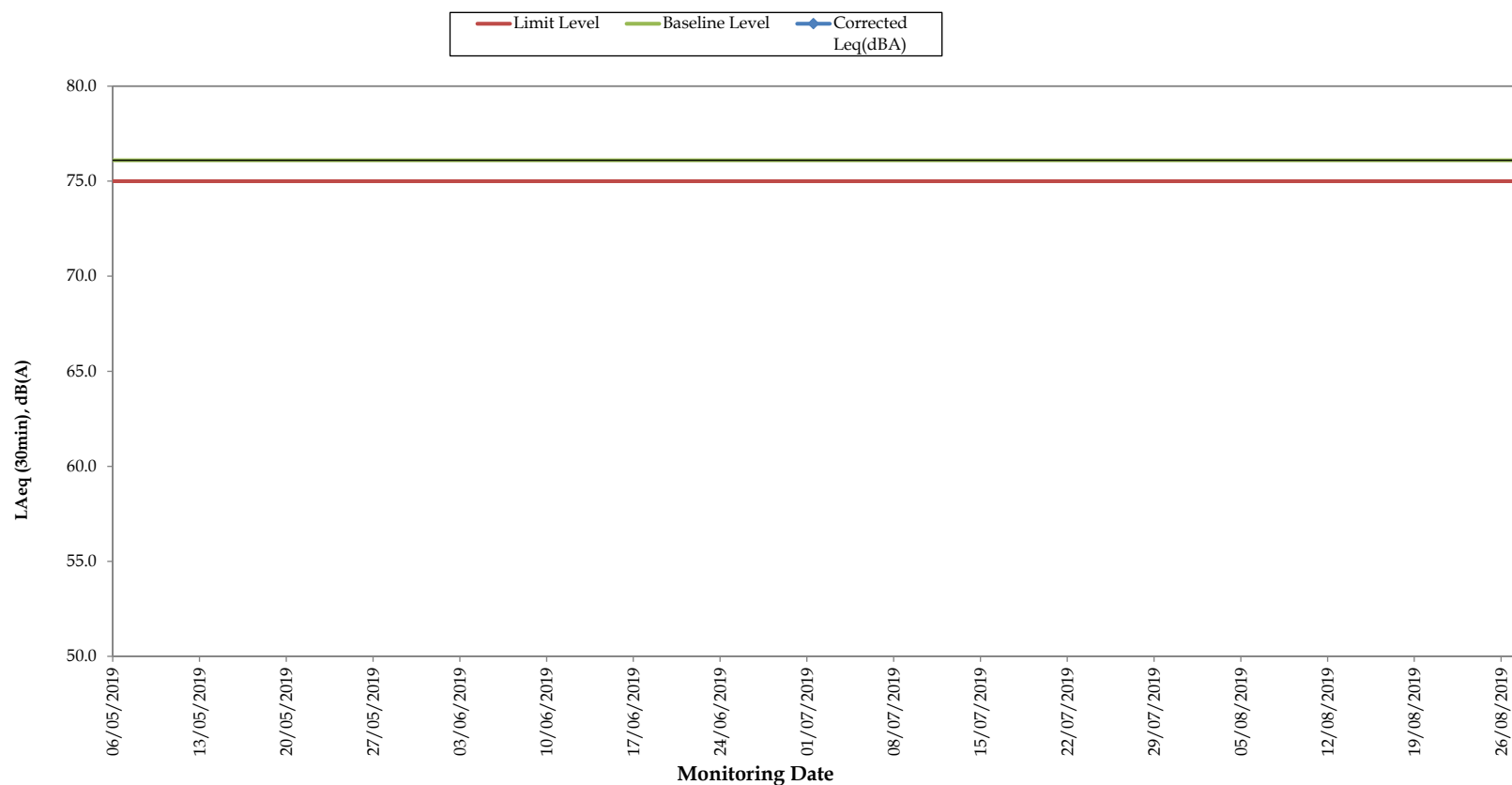
Station NMS-CA-10 Chat Ma Mansion

Date	Start Time	End Time	Weather	Measured Noise level (dB(A)), L _{Aeq} (30 min) ^(c)	Baseline (dB(A)), L _{Aeq} (30 min)	Corrected LAeq(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
5-Aug-19	8:42	9:12	Sunny	75.7	76.6	-(b)	-	Traffic noise	27	0.5	NL-18 00360030	NC-73 10786708
15-Aug-19	8:42	9:12	Fine	76.2	76.6	-(b)	-	Traffic noise	28	0.5	NL-18 00360030	NC-73 10786708
21-Aug-19	8:43	9:13	Sunny	76.6	76.6	-(b)	-	Traffic noise	28	0.5	NL-18 00360030	NC-73 10786708
27-Aug-19	8:42	9:12	Cloudy	75.9	76.6	-(b)	Backhoe	Traffic noise	27	0.5	NL-18 00360030	NC-73 10786708

Remarks:

- (a) The Measured LAeq is corrected against the corresponding Baseline Level.
(b) No correction was made as the measured noise levels were equal to or below the baseline noise levels.
(c) The noise monitoring results carried out at NMS-CA-8 and NMS-CA-10 on 5, 15, 21 and 27 August 2019 are higher than the daytime construction noise criterion. However, those results are not considered as exceedances as they are below the limit level after deducting the baseline noise level.

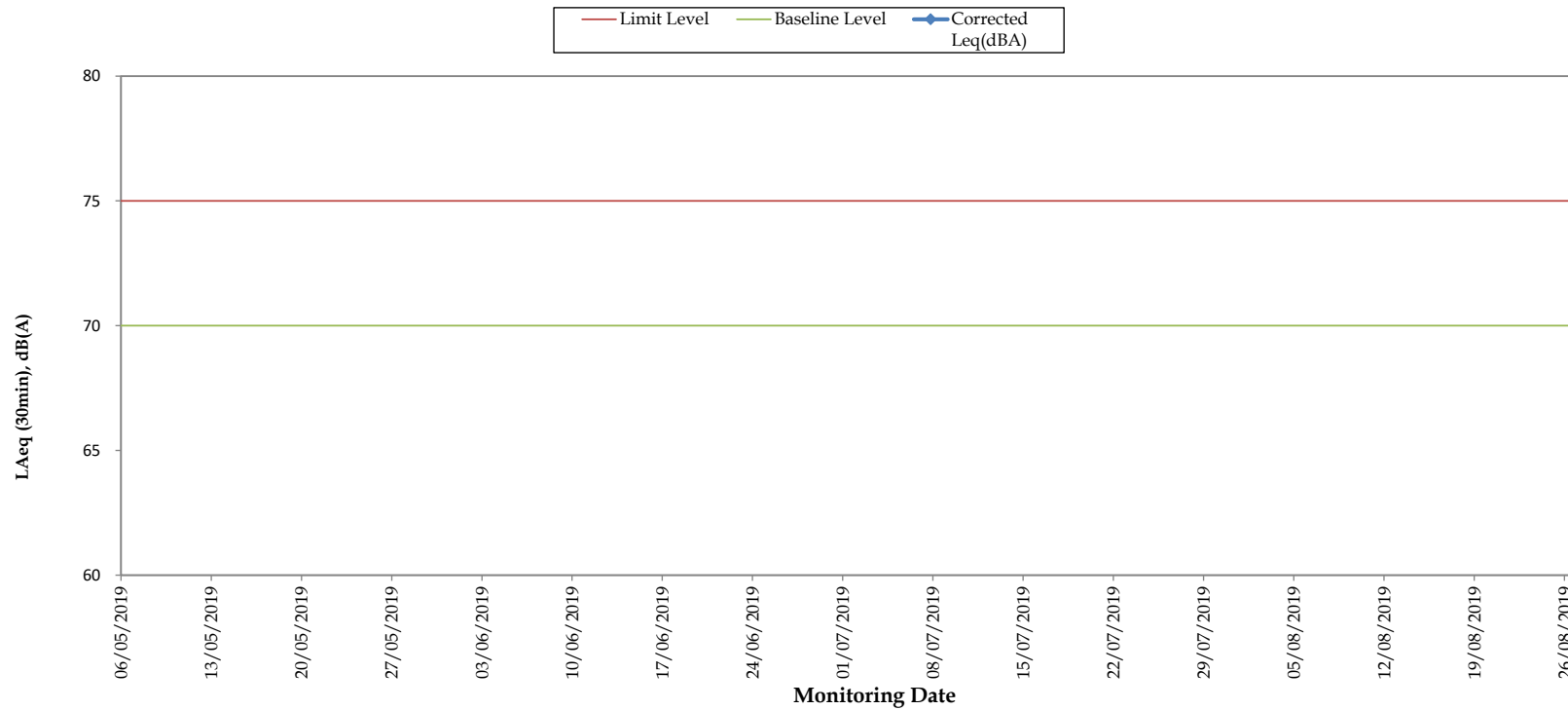
**Regular Noise Monitoring Results at NMS-CA-6 (No. 16-23 Nam Kok Road) (LAeq, 30min)
for the Past 4 Months**



Remarks:

- For those corrected noise levels that are not shown in this graph, the measured noise levels are equal to or below baseline level.

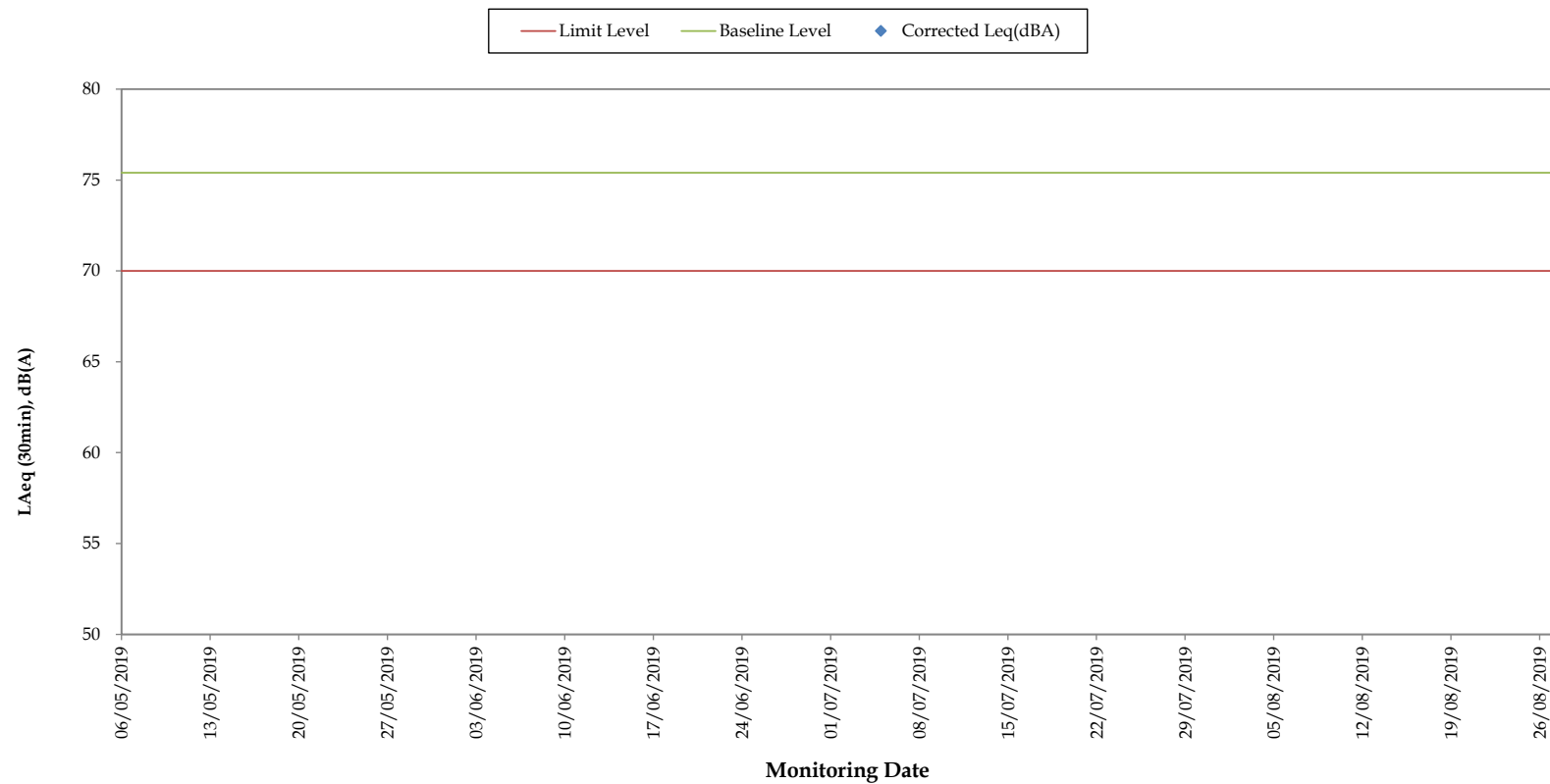
Regular Noise Monitoring Results at NMS-CA-7 (Skytower Tower 2) (LAeq, 30min) for the Past 4 Months



Remarks:

- For those corrected noise levels that are not shown in this graph, the measured noise levels are equal to or below baseline level.

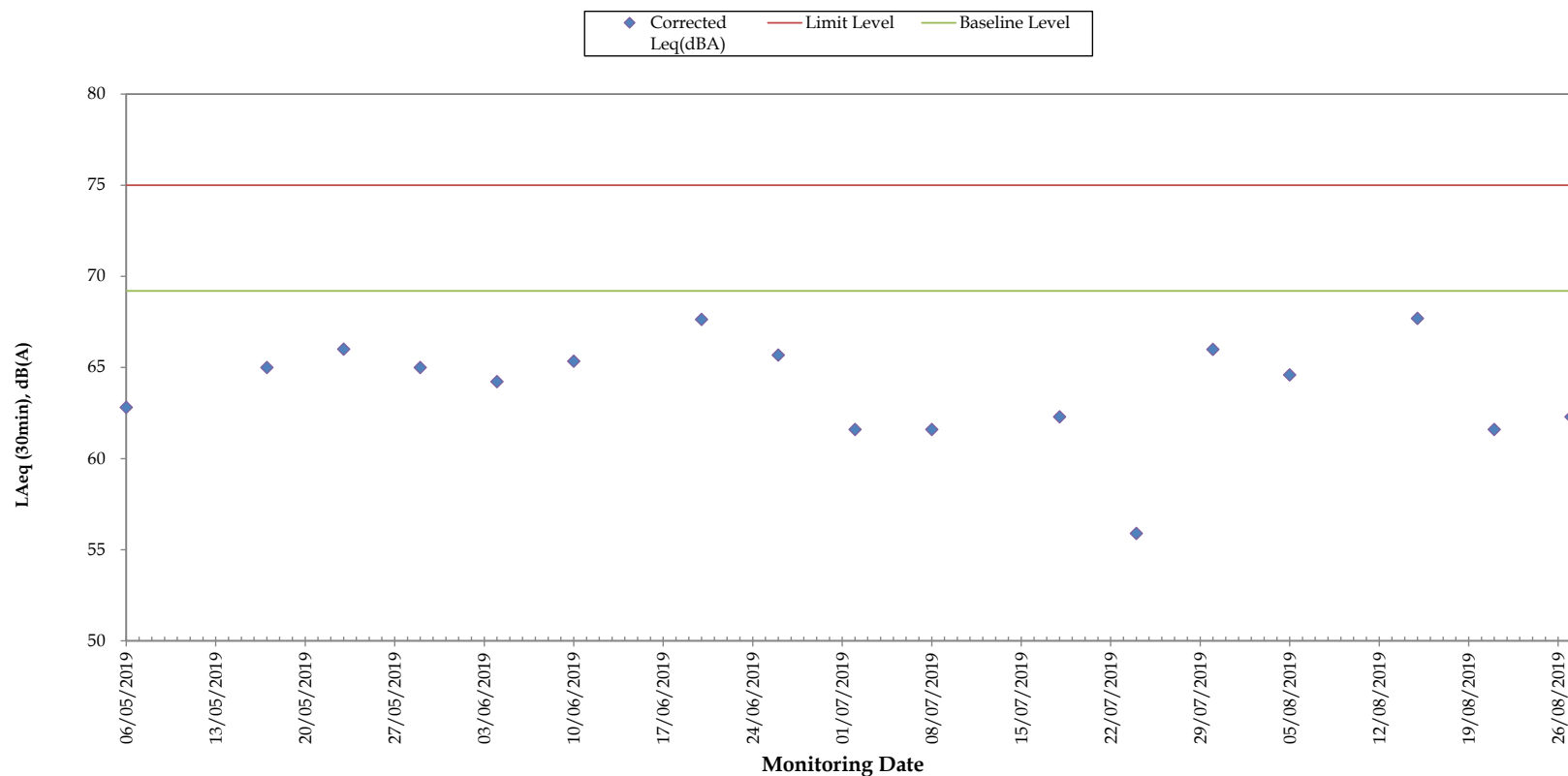
Regular Noise Monitoring Results at NMS-CA- 8 (SKH Good Shepherd Primary School) (LAeq, 30min) for the Past 4 Months



Remarks:

- For those corrected noise levels that are not shown in this graph, the measured noise levels are equal to or below baseline level.
- The limit level was updated from 78dB(A) to 79 dB(A) on 22 Aug 2013 as per the latest CNMP and CNMMP.
- The limit level was updated from 79dB(A) to 70dB(A)/65dB(A) (during normal/examination period) from April 2016, as the continuous noise monitoring was completed in March 2016 according to the latest CNMP

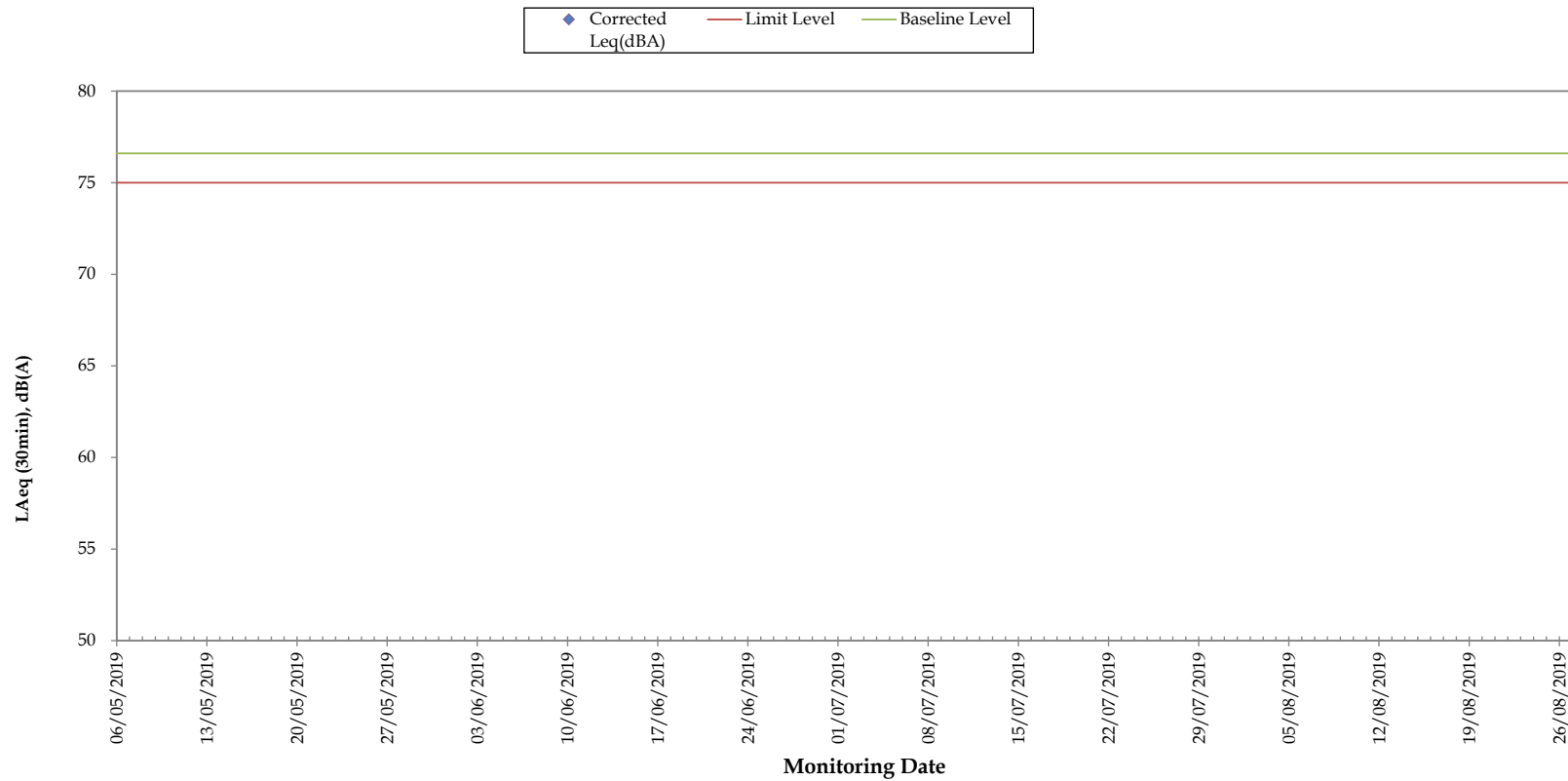
Regular Noise Monitoring Results at NMS-CA-9 (Kong Yiu Mansion) (LAeq, 30min)) for the Past 4 Months



Remarks:

- For those corrected noise levels that are not shown in this graph, the measured noise level s are equal to or below baseline level.

**Regular Noise Monitoring Results at NMS-CA-10 (Chat Ma Mansion) (LAeq, 30min)
for the Past 4 Months**



Remarks:

- For those corrected noise levels that are not shown in this graph, the measured noise levels are equal to or below baseline level.

Annex J

Construction Dust Monitoring Results and Wind Data Monitoring Results

Annex J Construction Dust Monitoring Results

Station		DMS-6		Katherine Building														
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m ³ /min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m ³)	(µg/m ³)	(µg/m ³)		ID	ID
5-Aug-19	11:05	6-Aug-19	11:05	Sunny	2.7050	2.7533	20744.30	20768.30	24.00	1.27	1.27	1.27	26	156.8	260	-	0107	059182
9-Aug-19	8:55	10-Aug-19	8:55	Sunny	2.7227	2.8417	20768.30	20792.30	24.00	1.27	1.27	1.27	65	156.8	260	-	0107	059381
15-Aug-19	11:03	16-Aug-19	11:03	Fine	2.7213	2.7599	20792.30	20816.30	24.00	1.27	1.27	1.27	21	156.8	260	-	0107	059189
21-Aug-19	11:05	22-Aug-19	11:05	Sunny	2.6823	2.7594	20816.30	20840.30	24.00	1.27	1.27	1.27	42	156.8	260	-	0107	059388
27-Aug-19	11:05	28-Aug-19	11:05	Fine	2.6910	2.7550	20840.30	20864.30	24.00	1.27	1.27	1.27	35	156.8	260	-	0107	059395
													Minimum	21				
													Average	38				
													Maximum	65				

Station		DMS-7		Parc 22														
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m ³ /min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m ³)	(µg/m ³)	(µg/m ³)		ID	ID
5-Aug-19	10:10	6-Aug-19	10:10	Sunny	2.6919	2.7120	9992.17	10016.17	24.00	1.18	1.18	1.18	12	166.7	260	-	3574	059181
9-Aug-19	8:40	10-Aug-19	8:40	Sunny	2.7212	2.8045	9872.17	9896.17	24.00	1.18	1.18	1.18	49	166.7	260	-	3574	059380
15-Aug-19	10:10	16-Aug-19	10:10	Fine	2.6984	2.7510	10040.17	10064.17	24.00	1.18	1.18	1.18	31	166.7	260	-	3574	059188
21-Aug-19	10:10	22-Aug-19	10:10	Sunny	2.7032	2.7387	10064.17	10088.17	24.00	1.18	1.18	1.18	21	166.7	260	-	3574	059387
27-Aug-19	10:10	28-Aug-19	10:10	Fine	2.6938	2.7303	10088.00	10112.00	24.00	1.18	1.18	1.18	21	166.7	260	-	3574	059394
													Minimum	12				
													Average	27				
													Maximum	49				

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)		Average	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final		(µg/m ³)	(µg/m ³)	(µg/m ³)			
5-Aug-19	8:05	6-Aug-19	8:05	Sunny	2.7004	2.7290	10949.11	10973.11	24.00	1.21	1.21	1.21	16	152.2	260	-	3572	059180
9-Aug-19	8:27	10-Aug-19	8:27	Sunny	2.7308	2.8135	10829.11	10853.11	24.00	1.21	1.21	1.21	47	152.2	260	-	3572	059379
15-Aug-19	8:05	16-Aug-19	8:05	Fine	2.6782	2.7114	10999.11	11023.11	24.00	1.21	1.21	1.21	19	152.2	260	-	3572	059187
21-Aug-19	8:05	22-Aug-19	8:05	Sunny	2.6934	2.7369	11023.11	11047.11	24.00	1.21	1.21	1.21	25	152.2	260	-	3572	059386
27-Aug-19	8:05	28-Aug-19	8:05	Fine	2.7179	2.7550	11047.11	11071.11	24.00	1.21	1.21	1.21	21	152.2	260	-	3572	059393
													Minimum	16				
													Average	26				
													Maximum	47				

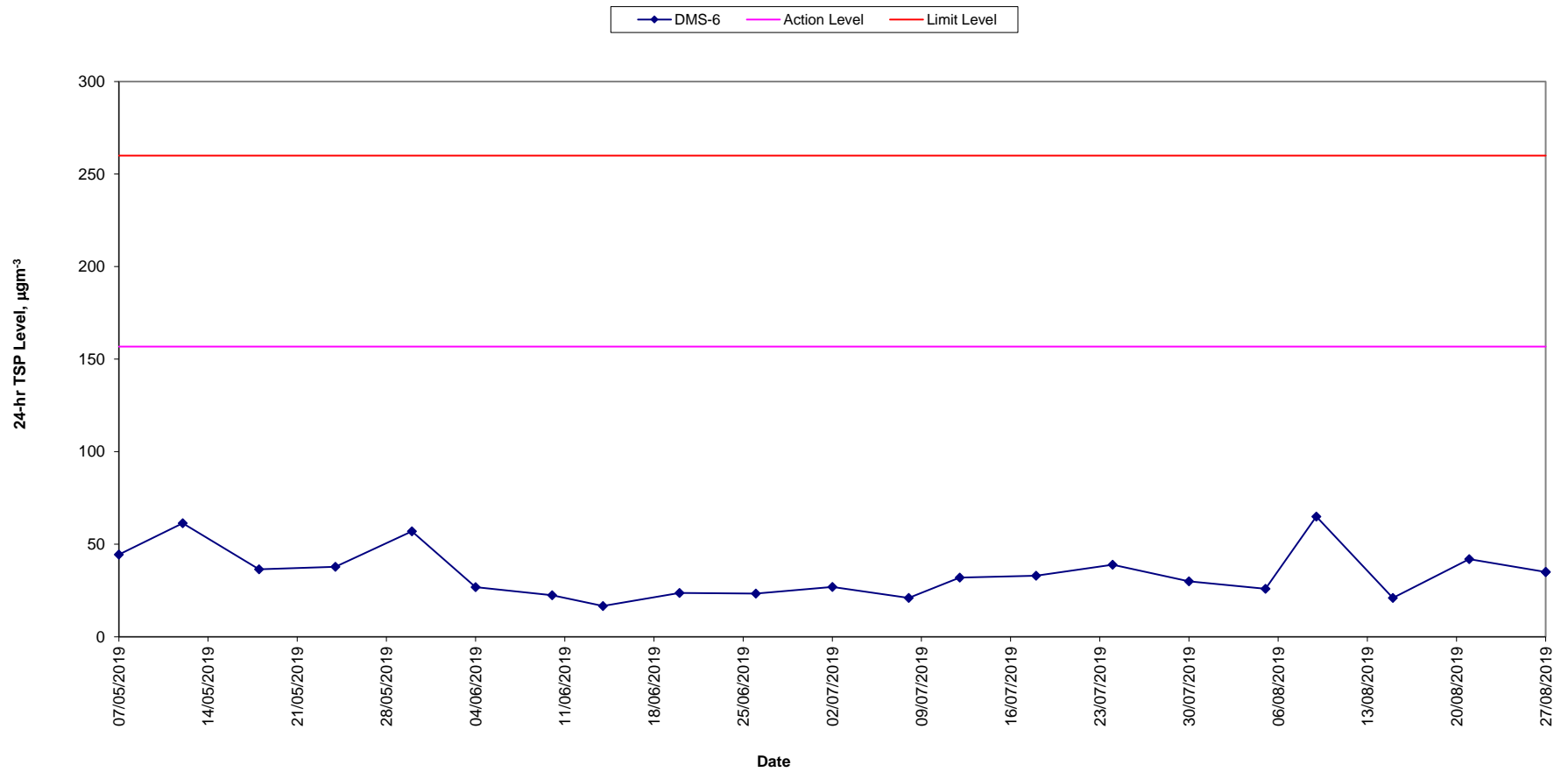
Station DMS-9 No. 12 Pau Chung Street

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)		Average	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final		(µg/m ³)	(µg/m ³)	(µg/m ³)			
5-Aug-19	8:15	6-Aug-19	8:15	Sunny	2.7010	2.7443	20916.40	20940.40	24.00	1.14	1.14	1.14	26	160.9	260	-	0814	059179
9-Aug-19	8:17	10-Aug-19	8:17	Sunny	2.6529	2.7604	20796.40	20820.40	24.00	1.14	1.14	1.14	65	160.9	260	-	0814	059378
15-Aug-19	8:15	16-Aug-19	8:15	Fine	2.7050	2.7554	20964.40	20988.40	24.00	1.14	1.14	1.14	31	160.9	260	-	0814	059186
21-Aug-19	8:17	22-Aug-19	8:17	Sunny	2.6842	2.7355	20988.40	21012.40	24.00	1.14	1.14	1.14	31	160.9	260	-	0814	059385
27-Aug-19	8:15	28-Aug-19	8:15	Fine	2.6972	2.7500	21012.40	21036.40	24.00	1.14	1.14	1.14	32	160.9	260	-	0814	059392
													Minimum	26				
													Average	37				
													Maximum	65				

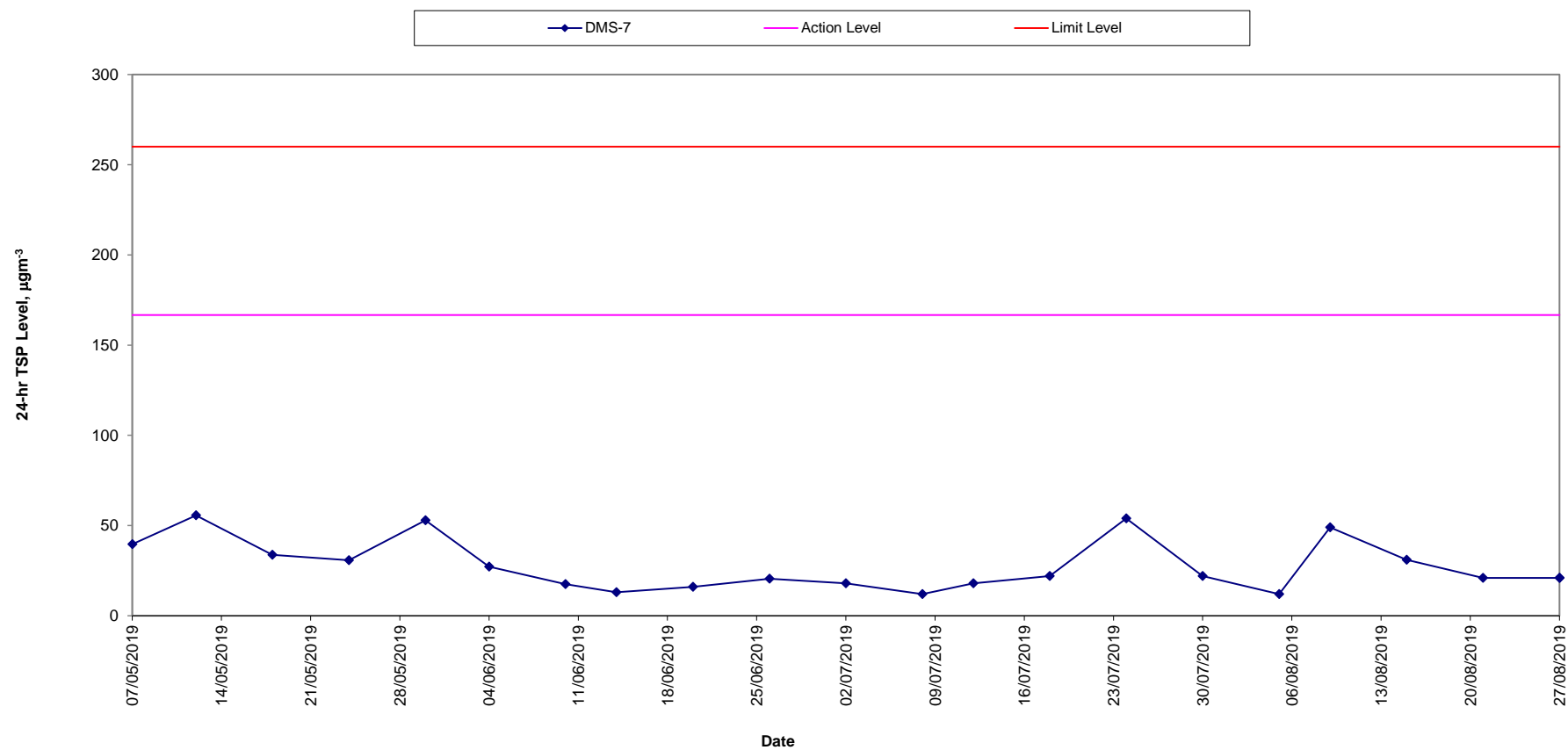
Station DMS-10 Chat Ma Mansion

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)		Average	TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final		(µg/m ³)	(µg/m ³)	(µg/m ³)			
5-Aug-19	8:45	6-Aug-19	8:45	Sunny	2.7131	2.7373	11365.40	11389.40	24.00	1.13	1.13	1.13	15	170.4	260	-	3573	059178
9-Aug-19	8:05	10-Aug-19	8:05	Sunny	2.6755	2.7696	11245.40	11269.40	24.00	1.13	1.13	1.13	58	170.4	260	-	3573	059377
15-Aug-19	8:45	16-Aug-19	8:45	Fine	2.6752	2.7080	11413.40	11437.40	24.00	1.13	1.13	1.13	20	170.4	260	-	3573	059185
21-Aug-19	9:15	22-Aug-19	9:15	Sunny	2.7170	2.7633	11437.40	11461.40	24.00	1.13	1.13	1.13	28	170.4	260	-	3573	059384
27-Aug-19	8:45	28-Aug-19	8:45	Fine	2.7119	2.7439	11317.40	11341.40	24.00	1.13	1.13	1.13	20	170.4	260	-	3573	059391
													Minimum	15				
													Average	28				
													Maximum	58				

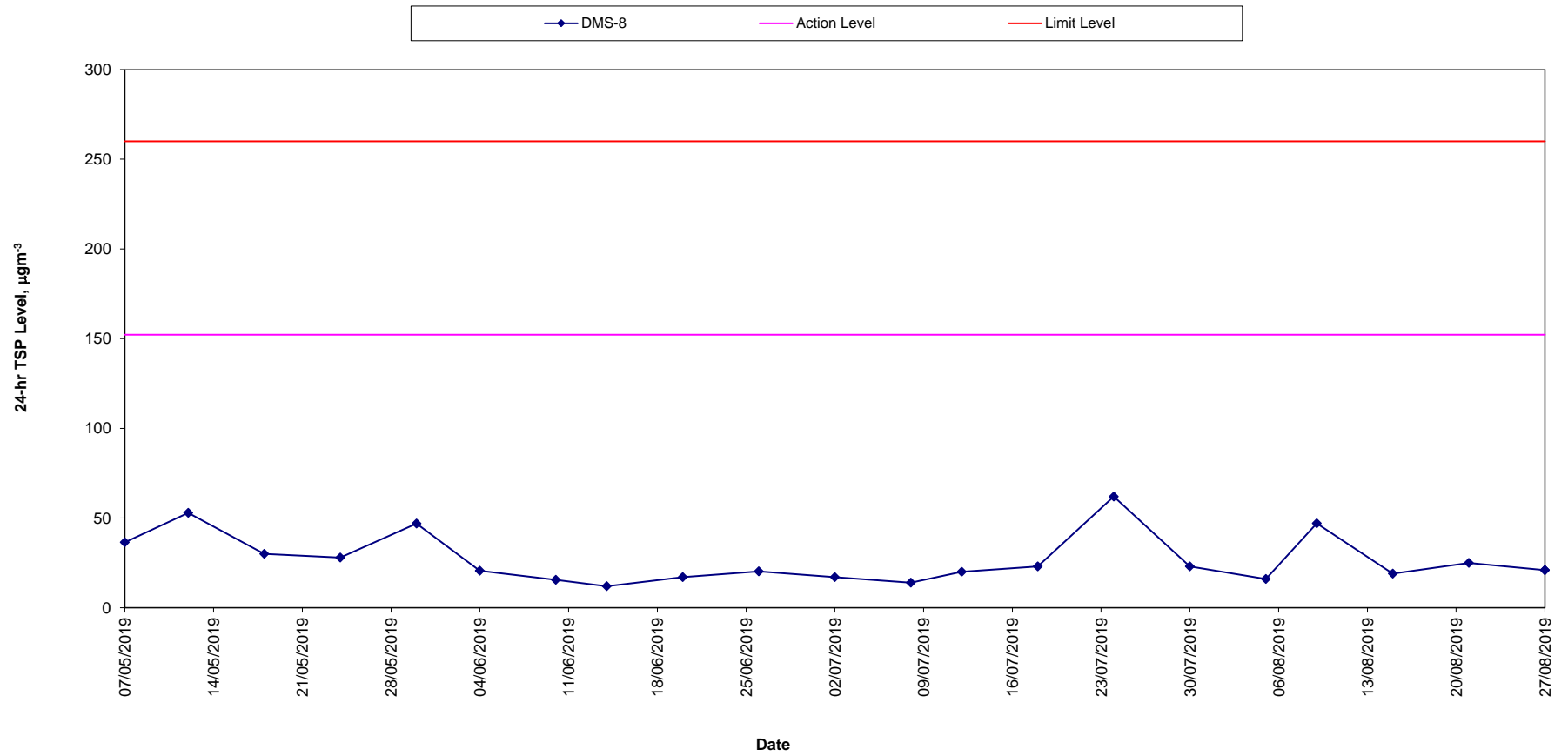
**Construction Dust Monitoring Results for the Past 4 Months
DMS-6 (Katherine Building)**



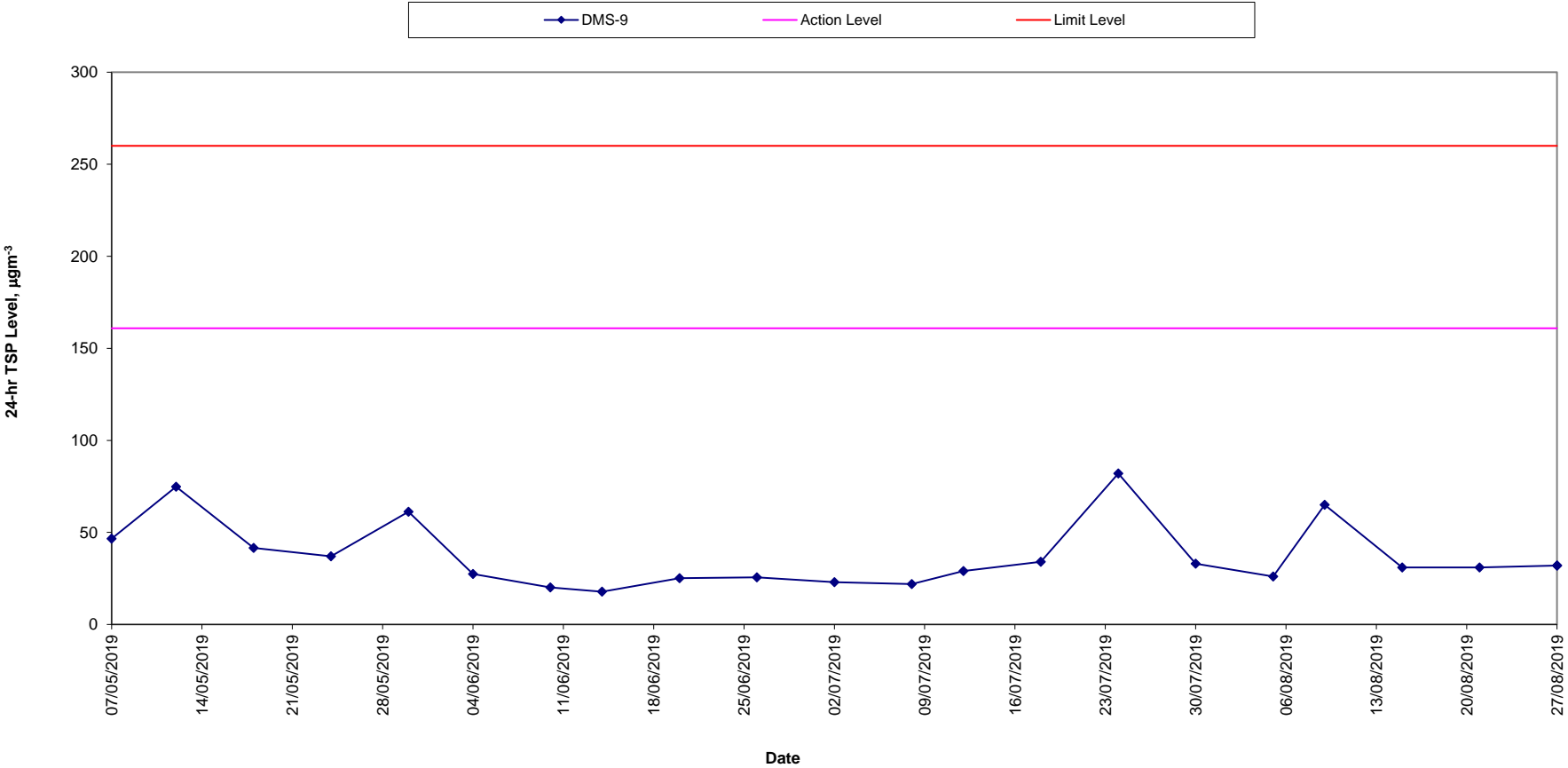
Construction Dust Monitoring Results for the Past 4 Months
DMS- 7 (Parc 22)



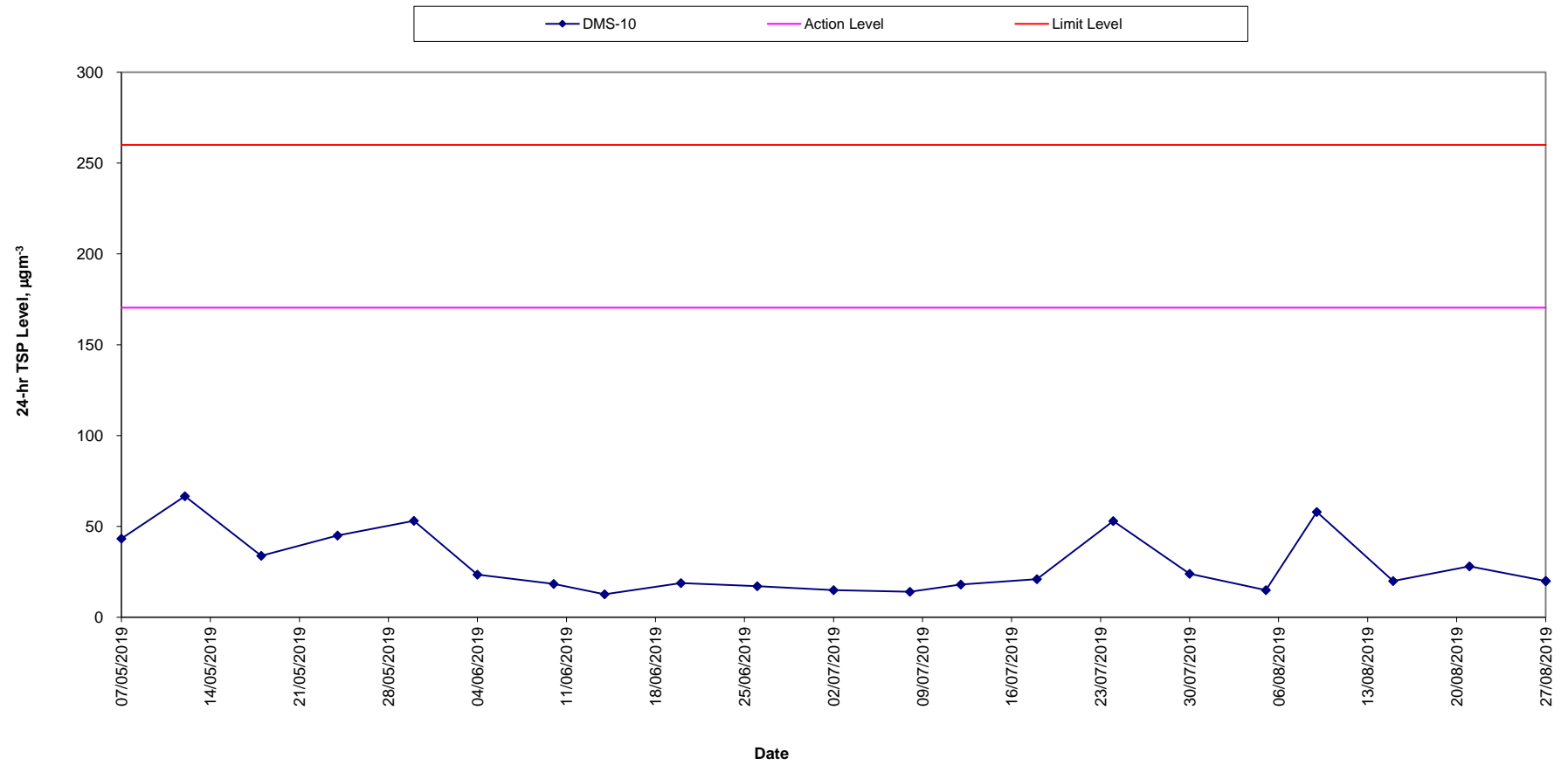
Construction Dust Monitoring Results for the Past 4 Months
DMS-8 (SKH Good Shepherd Primary School)



Construction Dust Monitoring Results for the Past 4 Months
DMS-9 (No.12 Pau Chung Street)



Construction Dust Monitoring Results for the Past 4 Months
DMS-10 (Chat Ma Mansion)

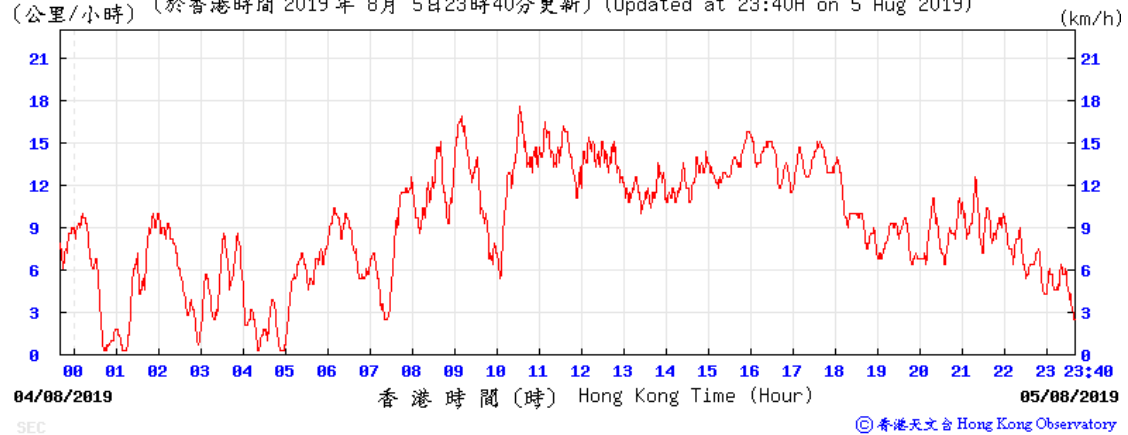


Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

5-6 August 2019

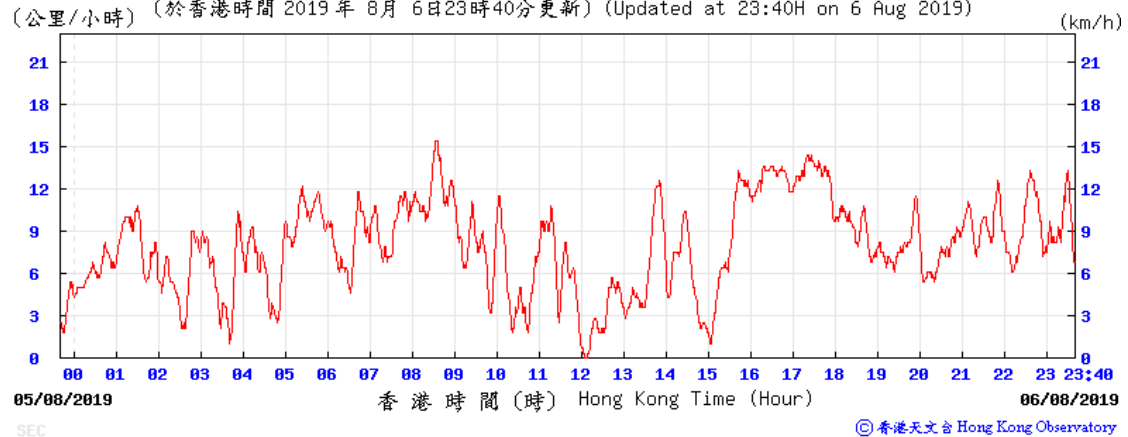
Wind Speed:

(公里/小時) (於香港時間 2019 年 8 月 5 日 23 時 40 分更新) (Updated at 23:40H on 5 Aug 2019)



Wind Speed:

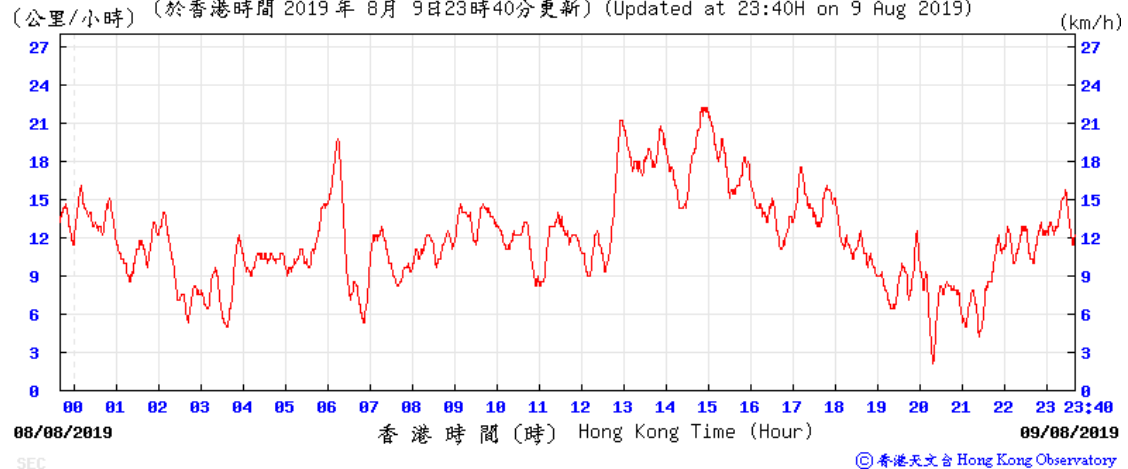
(公里/小時) (於香港時間 2019 年 8 月 6 日 23 時 40 分更新) (Updated at 23:40H on 6 Aug 2019)



9-10 August 2019

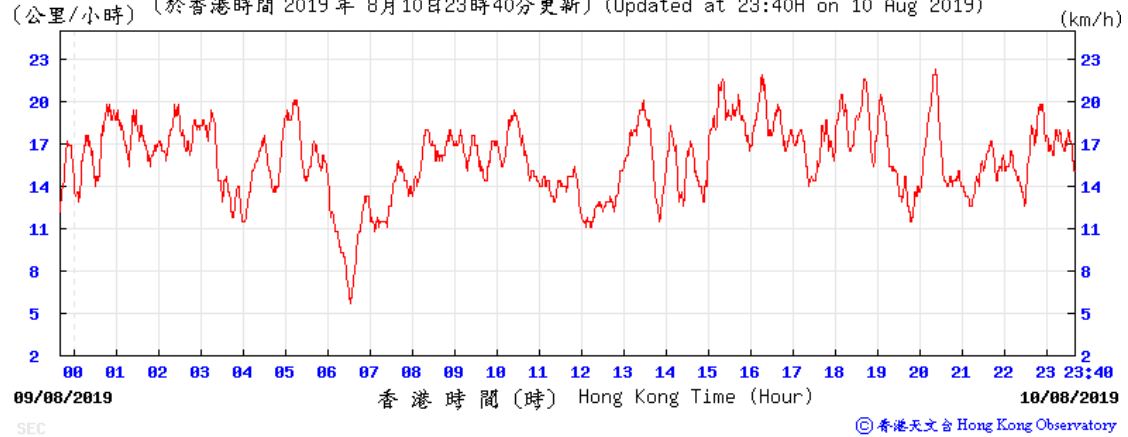
Wind Speed:

(公里/小時) (於香港時間 2019 年 8 月 9 日 23 時 40 分更新) (Updated at 23:40H on 9 Aug 2019)



Wind Speed:

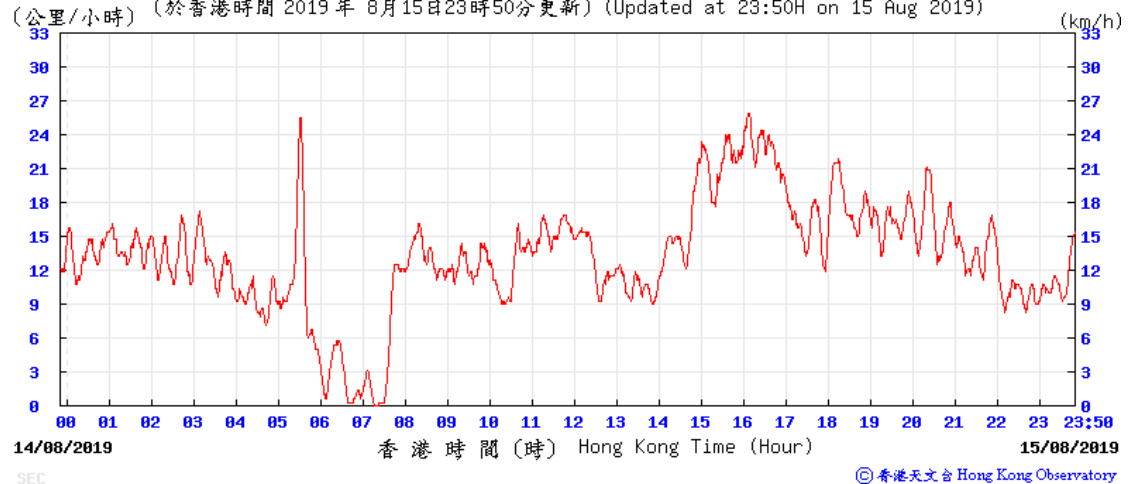
(公里/小時) (於香港時間 2019 年 8月10日23時40分更新) (Updated at 23:40H on 10 Aug 2019)



15-16 August 2019

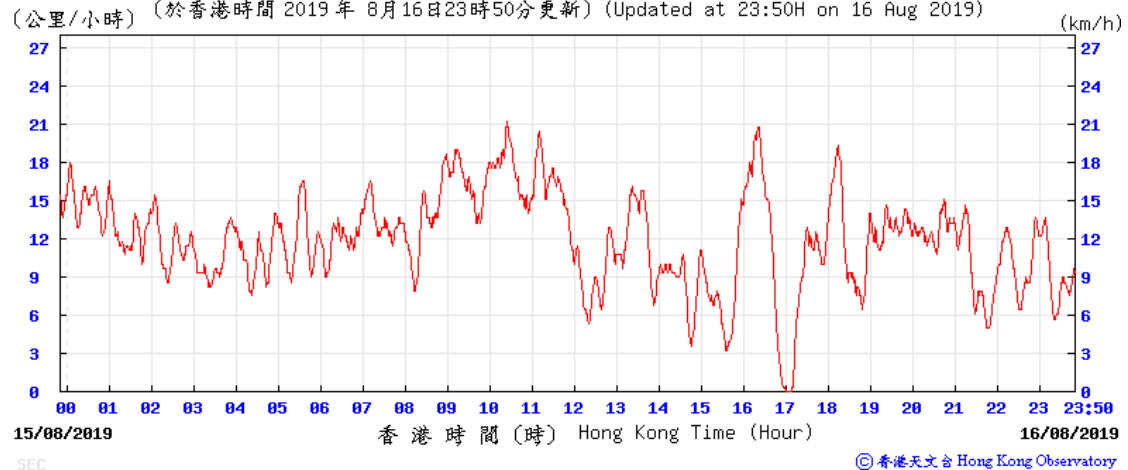
Wind Speed:

(公里/小時) (於香港時間 2019 年 8月15日23時50分更新) (Updated at 23:50H on 15 Aug 2019)



Wind Speed:

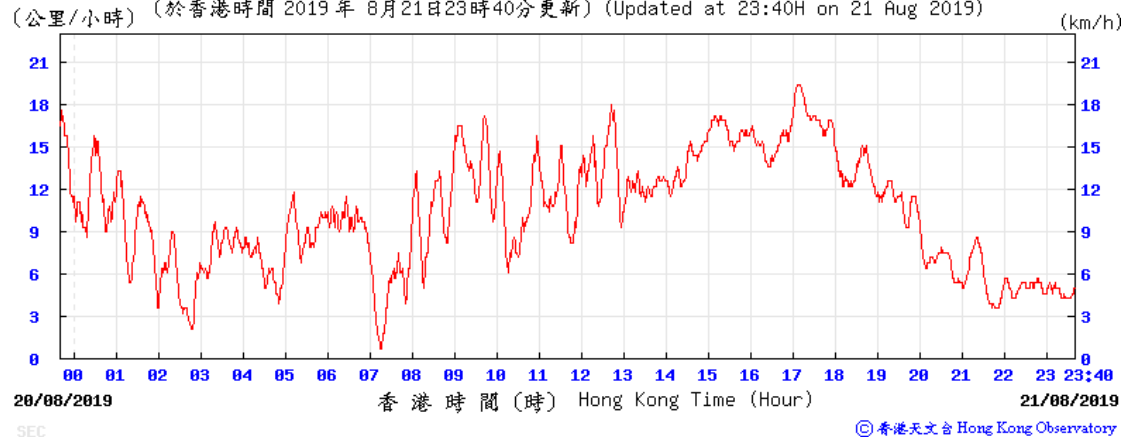
(公里/小時) (於香港時間 2019 年 8月16日23時50分更新) (Updated at 23:50H on 16 Aug 2019)



21-22 August 2019

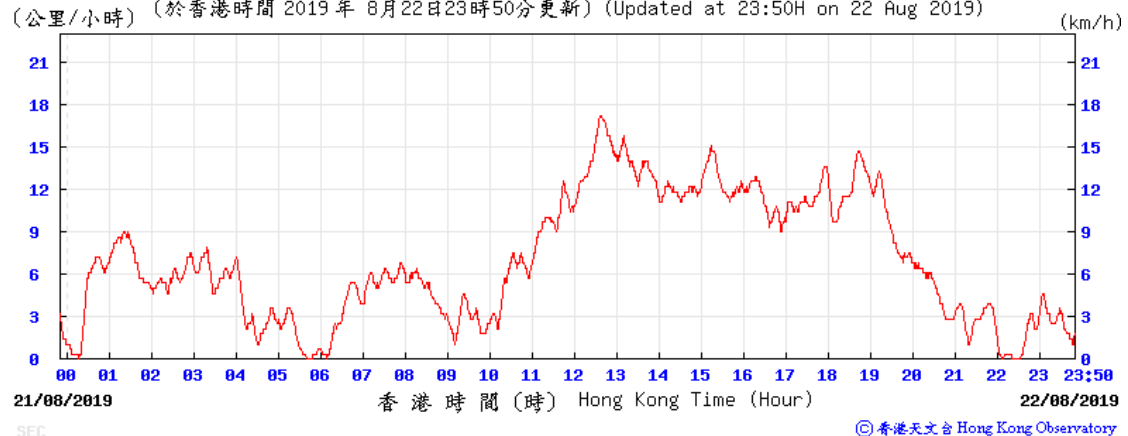
Wind Speed:

(公里/小時) (於香港時間 2019 年 8月21日23時40分更新) (Updated at 23:40H on 21 Aug 2019)



Wind Speed:

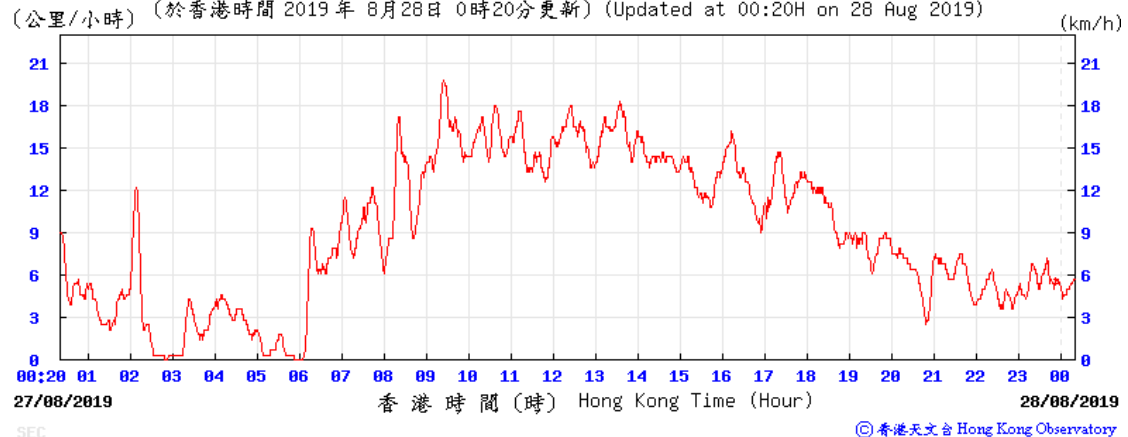
(公里/小時) (於香港時間 2019 年 8月22日23時50分更新) (Updated at 23:50H on 22 Aug 2019)



27-28 August 2019

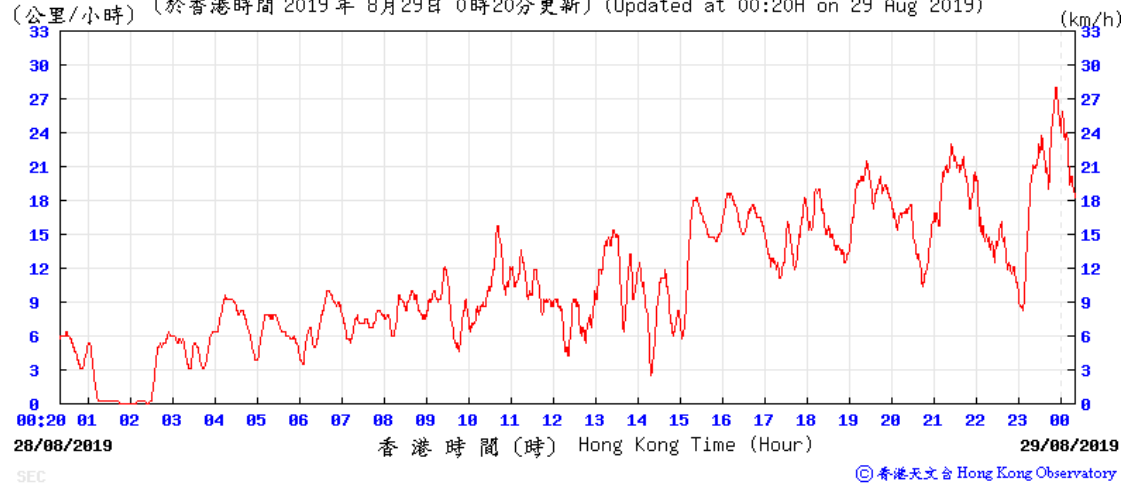
Wind Speed:

(公里/小時) (於香港時間 2019 年 8月28日 0時20分更新) (Updated at 00:20H on 28 Aug 2019)



Wind Speed:

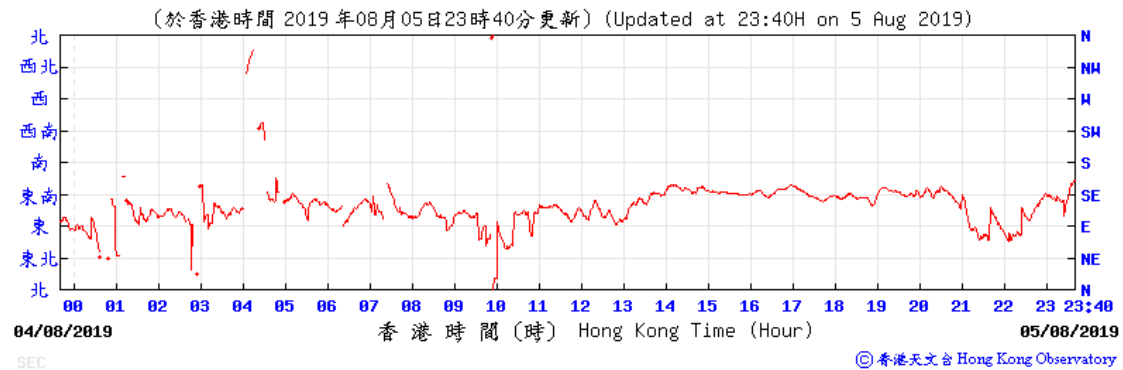
(公里/小時) (於香港時間 2019 年 8月29日 0時20分更新) (Updated at 00:20H on 29 Aug 2019)



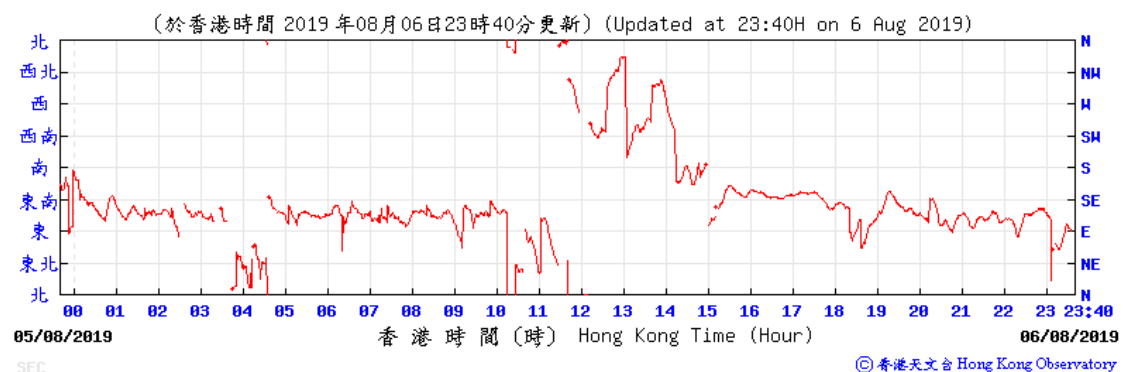
Average wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

5-6 August 2019

Wind direction:

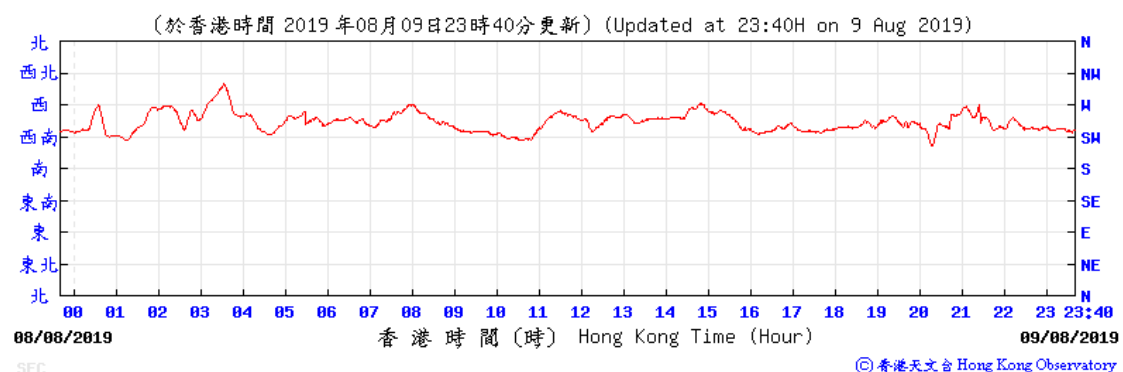


Wind direction:

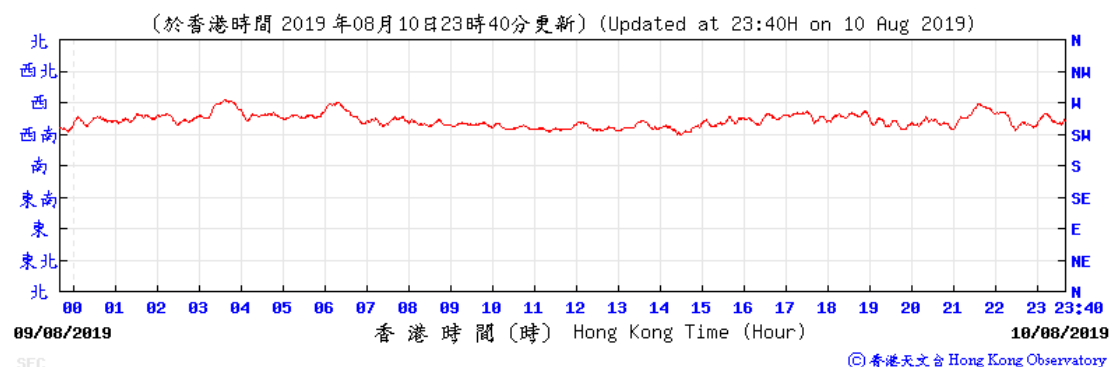


9-10 August 2019

Wind direction:

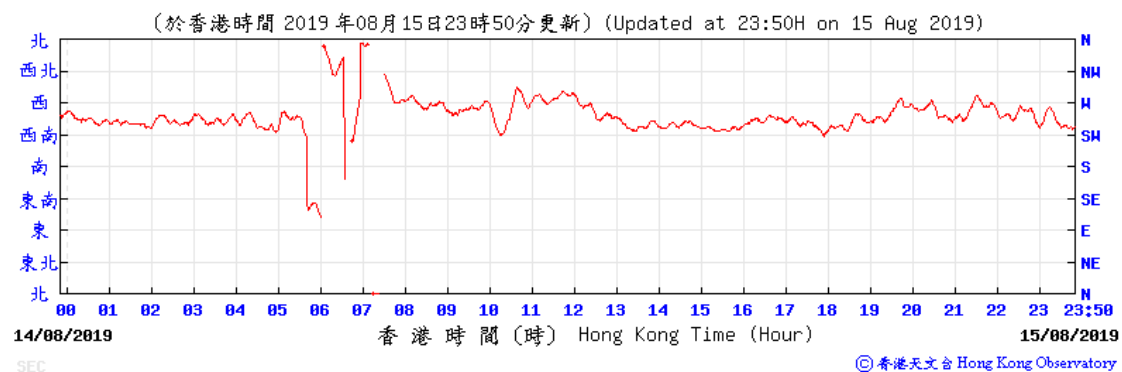


Wind direction:

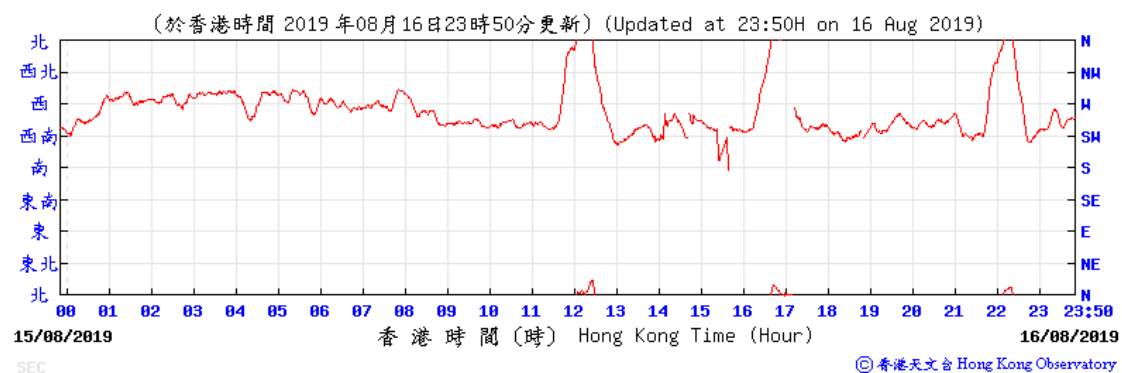


15-16 August 2019

Wind direction:

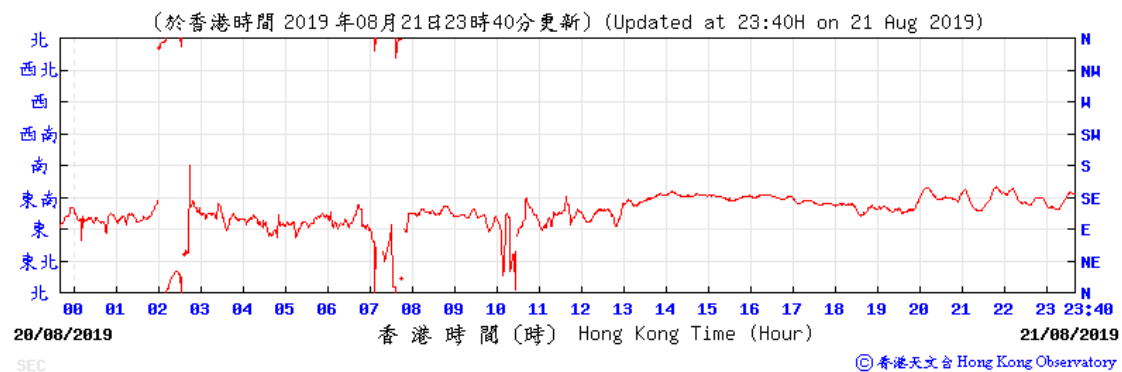


Wind direction:

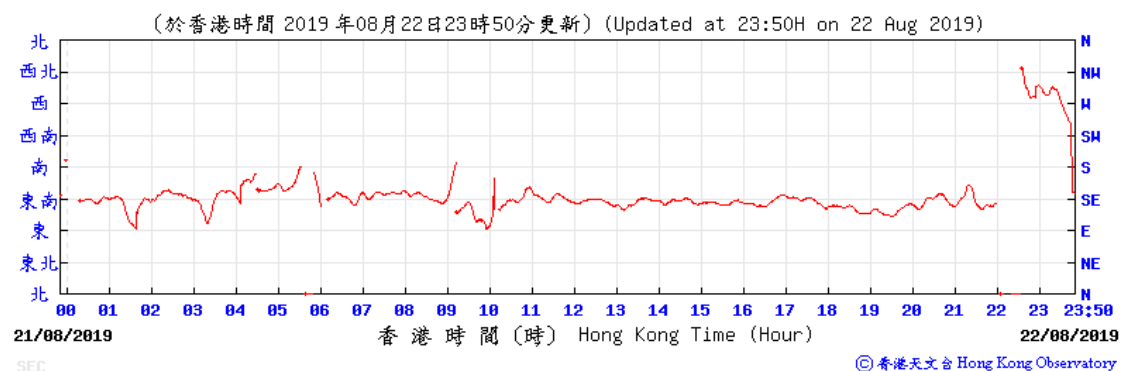


21-22 August 2019

Wind direction:

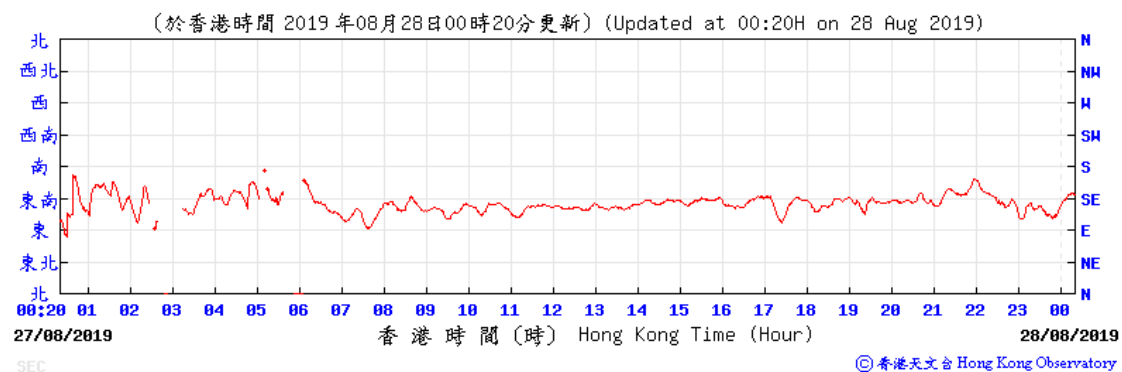


Wind direction:

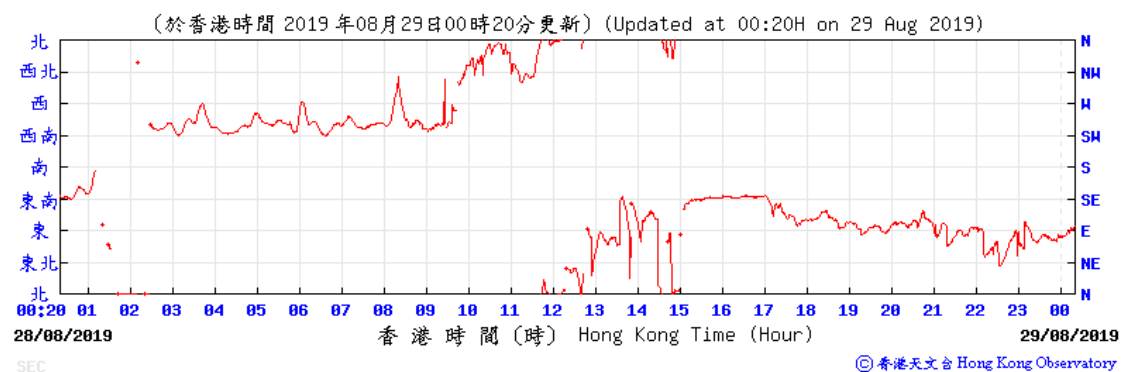


27-28 August 2019

Wind direction:



Wind direction:



Annex K

Waste Flow Table

Annex K – Waste Flow Table

Monthly Summary Waste Flow Table for the year 2012-2018

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of Non-inert C&D Wastes Generated Monthly					Imported Fill
	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)	Inert C&D Materials Delivered to 1108A Kai Tai Barging Facilities (See Note 6)	Inert C&D Materials Delivered to 1123 Kai Tai Barging Facilities (See Note 12)	Inert C&D Materials Delivered to Receptor Site of Green Valley Landfill Ltd. (See Note 13)	Metals	Paper/ cardboard packaging	Plastics (See Note 2)	Chemical Waste (See Note 10)	Others, e.g. general refuse (See Note 5)	
	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000kg)	(in '000kg)	(in '000kg)	(in'000kg)	(in '000m³)	(in '000m³)
Sep 2012	0.004	0.000	0.000	0.000	0.004	-	-	-	0.000	0.000	5.300	0.000	0.144	0.000
Oct 2012	0.000	0.000	0.000	0.000	0.000	-	-	-	12.800	0.242	0.013	0.000	0.514	0.000
Nov 2012	0.624	0.000	0.605	0.000	0.019	-	-	-	0.000	0.154	0.002	0.000	0.172	6.804
Dec 2012	16.844	0.000	0.000	0.000	0.005	16.839	-	-	0.000	0.000	0.000	0.000	0.057	0.000
Sub-total	17.472	0.000	0.605	0.000	0.028	16.839	0.000	0.000	12.800	0.396	5.315	0.000	0.887	6.804
Jan 2013	19.828	0.000	0.000	0.000	0.006	19.822	-	-	0.000	0.036 (See Note 7)	0.416	0.000	0.081 (See Note 8)	0.000
Feb 2013	8.372	0.000	0.000	0.000	0.005	8.366	-	-	0.000	0.036	0.443	0.000	0.021	0.000
Mar 2013	14.673	0.000	0.000	0.000	0.000	14.673	-	-	0.000	0.036	0.463	0.000	0.064 (See Note 9)	0.000
Apr 2013	13.557	0.000	0.000	0.000	0.025	13.533	-	-	0.000	0.036	0.148	0.000	0.086	0.000
May 2013	9.969	0.000	0.000	0.000	0.000	9.969	-	-	0.000	0.000	0.481	0.000	0.065	0.000
Jun 2013	5.538	0.000	0.000	0.000	0.000	5.538	-	-	0.000	0.045	0.784	0.32 (See Note 11)	0.065	0.000
Jul 2013	6.116	0.000	0.000	0.000	0.000	6.116	-	-	0.000	0.063	0.868	0.400	0.058	0.000
Aug 2013	11.537	0.000	0.000	0.000	0.000	11.537	-	-	0.000	0.068	0.464	0.000	0.071	0.000
Sep 2013	4.641	0.000	0.000	0.000	0.000	4.641	-	-	0.000	0.027	0.522	0.000	0.110	0.000
Oct 2013	9.708	0.000	0.000	0.000	0.000	9.708	-	-	0.000	0.036	0.348	0.000	0.086	0.000
Nov 2013	7.199	0.000	0.000	0.000	0.000	7.199	-	-	0.000	0.068	0.506	0.000	0.678	0.000
Dec 2013	6.973	0.000	0.000	0.000	0.000	6.973	-	-	0.000	0.090	0.383	0.000	1.344	0.000
Sub-total	118.111	0.000	0.000	0.000	0.036	118.075	0.000	0.000	0.000	0.541	5.826	0.720	2.729	0.000
Jan 2014	11.870	0.000	0.000	0.000	0.000	11.870	-	-	0.000	0.121	0.270	0.400	0.100	0.000
Feb 2014	15.316	0.000	0.000	0.000	0.000	15.316	-	-	0.000	0.067	0.396	0.000	0.095	0.000
Mar 2014	18.734	0.000	0.000	0.000	0.000	18.734	-	-	0.000	0.067	0.320	0.200	0.107	0.000
Apr 2014	23.539	0.000	0.000	0.000	0.000	23.539	-	-	0.000	0.000	0.344	0.415	0.064	0.000
May 2014	11.327	0.000	0.000	0.000	0.000	11.327	-	-	0.000	0.000	0.371	0.000	0.130	0.000
Jun 2014	10.440	0.000	0.000	0.000	0.000	10.440	-	-	0.000	0.090	0.332	0.000	0.164	0.000
Jul 2014	2.103	0.000	0.000	0.000	0.000	2.103	-	-	0.000	0.099	0.544	0.200	0.131	0.000
Aug 2014	1.446	0.000	0.000	0.000	0.000	1.446	-	-	0.000	0.189	0.584	0.000	0.129	0.000
Sep 2014	1.980	0.000	0.000	0.000	0.000	1.980	-	-	0.000	0.225	0.284	0.000	0.099	0.000
Oct 2014	16.902	0.000	0.000	0.000	0.000	16.902	-	-	0.000	0.050	0.492	1.120	0.109	0.000
Nov 2014	27.687	0.000	0.000	0.000	0.000	27.687	-	-	0.000	0.140	0.352	0.000	0.083	0.000
Dec 2014	44.771	0.000	0.000	0.000	0.000	44.771	-	-	0.000	0.090	0.284	0.400	0.103	0.000
Sub-total	186.115	0.000	0.000	0.000	0.000	186.115	0.000	0.000	0.000	1.048	4.573	2.335	1.314	0.000

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of Non-inert C&D Wastes Generated Monthly					Imported Fill
	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)	Inert C&D Materials Delivered to 1108A Kai Tai Barging Facilities (See Note 6)	Inert C&D Materials Delivered to 1123 Kai Tai Barging Facilities (See Note 12)	Inert C&D Materials Delivered to Receptor Site of Green Valley Landfill Ltd. (See Note 13)	Metals	Paper/ cardboard packaging	Plastics (See Note 2)	Chemical Waste (See Note 10)	Others, e.g. general refuse (See Note 5)	
	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000kg)	(in '000kg)	(in '000kg)	(in'000kg)	(in '000m³)	(in '000m³)
Jan 2015	64.165	0.000	0.000	0.266	0.000	63.899	-	-	0.000	0.077	0.328	0.180	0.150	0.000
Feb 2015	46.884	0.000	0.000	2.599	0.000	44.285	-	-	0.000	0.090	3.102	0.000	0.106	0.000
Mar 2015	41.498	0.000	0.000	0.000	0.000	41.498	-	-	0.000	0.072	2.321	0.600	0.126	0.000
Apr 2015	13.049	0.000	0.000	0.000	0.000	13.049	-	-	0.000	0.081	1.598	0.000	0.119	0.000
May 2015	54.559	0.000	0.000	0.000	0.000	54.559	-	-	0.000	0.063	0.548	0.000	0.099	0.000
Jun 2015	48.857	0.000	0.000	0.000	0.000	48.857	-	-	0.000	0.041	0.880	0.000	0.144	0.000
Jul 2015	34.471	0.000	0.000	0.000	0.000	34.471	-	-	0.000	0.090	4.972	0.720	0.218	0.000
Aug 2015	28.330	0.000	0.000	0.000	0.000	28.330	-	-	0.000	0.077	1.027	1.240	0.244	0.000
Sep 2015	25.376	0.000	0.000	0.000	0.000	25.376	-	-	0.000	0.068	0.845	2.080	0.224	0.000
Oct 2015	45.061	0.000	0.000	0.000	0.000	45.061	-	-	0.000	0.072	0.743	0.000	0.336	0.000
Nov 2015	45.607	0.000	0.000	0.000	0.000	45.607	-	-	0.000	0.085	4.719	1.760	0.344	0.000
Dec 2015	43.527	0.000	0.000	0.000	0.000	43.527	-	-	0.000	0.090	0.669	0.048	0.286	0.000
Sub-total	491.384	0.000	0.000	2.865	0.000	488.519	0.000	0.000	0.000	0.906	21.752	6.628	2.396	0.000
Jan 2016	28.064	0.000	0.000	0.000	0.000	28.064	-	-	0.000	0.855	0.494	0.000	0.276	0.000
Feb 2016	4.768	0.000	0.000	0.000	0.000	4.768	-	-	0.000	0.230	0.327	0.000	0.280	0.000
Mar 2016	13.662	0.000	0.000	0.000	0.000	13.662	-	-	0.000	0.000	0.316	0.000	0.232	0.000
Apr 2016	21.282	0.000	0.000	0.000	0.000	21.282	-	-	0.000	0.167	0.674	4.000	0.378	0.000
May 2016	28.466	0.000	0.000	0.000	0.000	28.466	-	-	0.000	0.072	0.580	0.000	0.315	0.000
Jun 2016	29.018	0.000	0.000	0.000	0.000	29.018	-	-	0.000	0.045	1.480	3.360	0.292	0.000
Jul 2016	3.727	0.000	0.000	0.000	0.000	3.727	-	-	0.000	0.045	0.860	0.000	0.347	0.000
Aug 2016	0.197	0.000	0.000	0.000	0.000	0.197	-	-	0.000	0.140	1.648	0.000	0.382	0.000
Sep 2016	0.000	0.000	0.000	0.000	0.000	0.000	-	-	0.000	0.122	0.680	0.000	0.443	0.000
Oct 2016	0.000	0.000	0.000	0.000	0.000	0.000	-	-	0.000	0.144	0.575	0.000	0.435	0.000
Nov 2016	0.000	0.000	0.000	0.000	0.000	0.000	-	-	0.000	0.133	0.900	9.600	0.589	0.000
Dec 2016	0.000	0.000	0.000	0.000	0.000	0.000	-	-	0.000	0.063	0.562	0.000	0.696	0.000
Sub-total	129.184	0.000	0.000	0.000	0.000	129.184	0.000	0.000	0.000	2.016	9.096	16.960	4.665	0.000

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of Non-inert C&D Wastes Generated Monthly					Imported Fill
	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)	Inert C&D Materials Delivered to 1108A Kai Tai Barging Facilities (See Note 6)	Inert C&D Materials Delivered to 1123 Kai Tai Barging Facilities (See Note 12)	Inert C&D Materials Delivered to Receptor Site of Green Valley Landfill Ltd. (See Note 13)	Metals	Paper/ cardboard packaging	Plastics (See Note 2)	Chemical Waste (See Note 10)	Others, e.g. general refuse (See Note 5)	
	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000kg)	(in '000kg)	(in '000kg)	(in'000kg)	(in '000m³)	(in '000m³)
Jan 2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.126	0.276	0.000	0.769	0.000
Feb 2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.059	0.417	0.000	0.745	0.000
Mar 2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.077	0.448	0.000	0.618	0.000
Apr 2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.108	0.504	0.000	0.618	0.000
May 2017	10.676	0.000	0.000	0.000	0.000	0.000	10.676	-	0.000	0.158	0.296	0.000	0.619	0.000
Jun 2017	13.390	0.000	0.000	0.000	0.000	0.000	13.390	-	0.000	0.090	0.308	0.000	1.072	0.000
Jul 2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.135	0.740	0.000	1.147	0.000
Aug 2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.045	0.780	0.000	0.959	0.000
Sep 2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.234	0.460	0.000	0.621	0.000
Oct 2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.095	0.427	0.000	0.599	0.000
Nov 2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.121	0.607	0.000	0.866	0.000
Dec 2017	3.964	0.000	0.000	0.000	3.964	0.000	0.000	-	0.000	0.099	0.450	0.000	0.692	0.000
Sub-total	28.030	0.000	0.000	0.000	3.964	0.000	24.066	0.000	0.000	1.347	5.713	0.000	9.325	0.000
Jan 2018	2.938	0.000	0.000	0.000	2.938	0.000	0.000	-	0.000	0.095	0.617	4.480	0.846	0.000
Feb 2018	5.529	0.000	0.000	0.000	5.529	0.000	0.000	-	0.000	0.117	0.227	0.000	0.374	0.000
Mar 2018	3.746	0.000	0.000	0.000	3.746	0.000	0.000	-	0.000	0.000	0.450	0.000	0.468	0.000
Apr 2018	11.039	0.000	0.000	0.628	8.235	0.000	0.000	2.176	0.000	0.104	1.430	0.000	0.473	0.000
May 2018	6.787	0.000	0.000	0.150	6.145	0.000	0.000	0.492	0.000	0.068	0.735	0.000	0.595	0.000
Jun 2018	6.956	0.000	0.000	1.777	5.179	0.000	0.000	0.000	0.000	0.314	1.696	0.000	0.461	0.000
Jul 2018	4.751	0.000	0.000	0.494	4.257	0.000	0.000	0.000	0.000	0.131	0.568	0.000	0.490	0.000
Aug 2018	2.416	0.000	0.000	0.401	2.015	0.000	0.000	0.000	0.000	0.198	0.827	0.000	0.560	0.000
Sep 2018	1.533	0.000	0.000	0.409	1.124	0.000	0.000	0.000	0.000	0.054	0.316	0.000	0.403	0.000
Oct 2018	1.537	0.000	0.000	0.298	1.239	0.000	0.000	0.000	0.000	0.050	0.216	0.000	0.450	0.000
Nov 2018	1.569	0.000	0.000	0.743	0.826	0.000	0.000	0.000	0.000	0.108	0.589	0.000	0.395	0.000
Dec 2018	0.713	0.000	0.000	0.326	0.387	0.000	0.000	0.000	0.000	0.099	0.146	0.000	0.389	0.000
Sub-total	49.514	0.000	0.000	5.226	41.620	0.000	0.000	2.668	0.000	1.338	7.817	4.480	5.904	0.000
Jan 2019	1.075	0.000	0.000	0.738	0.337	0.000	0.000	0.000	0.000	0.027	0.131	0.000	0.196	0.000
Feb 2019	0.392	0.000	0.000	0.047	0.345	0.000	0.000	0.000	0.000	0.077	0.084	0.000	0.264	0.000
Mar 2019	0.620	0.000	0.000	0.075	0.545	0.000	0.000	0.000	0.000	0.000	0.136	0.000	0.200	0.000
Apr 2019	1.744	0.000	0.000	0.186	1.558	0.000	0.000	0.000	0.000	0.000	0.092	0.000	0.202	0.000
May 2019	0.823	0.000	0.000	0.000	0.823	0.000	0.000	0.000	0.000	0.000	0.401	0.000	0.244	0.000
Jun 2019	0.919	0.000	0.000	0.022	0.897	0.000	0.000	0.000	12.410	0.000	0.168	0.000	0.262	0.000
Jul 2019	5.703	0.000	0.000	3.761	1.942	0.000	0.000	0.000	0.065	0.000	0.386	0.000	0.422	0.000
Aug 2019	3.210	0.000	0.000	0.595	2.615	0.000	0.000	0.000	117.170	0.000	0.264	3.840	0.331	0.000
Sub-total	14.486	0.000	0.000	5.424	9.062	0.000	0.000	0.000	129.645	0.104	1.662	3.840	2.121	0.000
Total	1034.297	0.000	0.605	13.515	54.710	938.732	24.066	2.668	142.445	7.696	61.754	34.963	29.341	6.804

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
- 6

Inert C&D Material was delivered to contract 1108A from 10-Dec-2012.
- 7

The quantity of paper/ cardboard packaging generated in January 2013 was updated by the Contractor in March 2013.
- 8

The quantity of general refuse generated in January 2013 was updated by the Contractor in March 2013.
- 9

The quantity of general refuse generated in March 2013 was updated by the Contractor in April 2013.
- 10

Chemical waste includes waste oil. It is assumed density of waste oil to be 0.8 kg/L..
- 11

The quantity of chemical waste generated in June 2013 was updated by the Contractor in August 2013.
- 12

Inert C&D Material was delivered to contract SCL1123 from 20-May-2017.
- 13

Inert C&D Material was delivered to Receptor Site of Green Valley Landfill Ltd. from April 2018.

Annex L

(Not Used)

Annex M

Environmental Complaint,
Environmental Summon
and Prosecution Log

Annex M 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
October 2012	0	0
November 2012	0	0
December 2012	0	0
January 2013	0	0
February 2013	0	0
March 2013	0	0
April 2013	0	0
May 2013	0	0
June 2013	0	0
July 2013	0	0
August 2013	0	0
September 2013	0	0
October 2013	0	0
November 2013	0	0
December 2013	0	0
January 2014	0	0
February 2014	0	0
March 2014	0	0
April 2014	0	0
May 2014	0	0
June 2014	0	0

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
July 2014	0	0
August 2014	0	0
September 2014	1	0
October 2014	0	0
November 2014	0	0
December 2014	0	0
January 2015	3	0
February 2015	0	0
March 2015	0	0
April 2015	3	0
May 2015	2	0
June 2015	7	0
July 2015	0	0
August 2015	1	0
September 2015	2	0
October 2015	2	0
November 2015	0	0
December 2015	0	0
January 2016	2	0
February 2016	0	0
March 2016	1	0
April 2016	2	0
May 2016	1	0
June 2016	2	0

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
July 2016	0	0
August 2016	0	0
September 2016	0	0
October 2016	1	0
November 2016	0	0
December 2016	2	0
January 2017	0	0
February 2017	0	0
March 2017	1	0
April 2017	0	0
May 2017	0	0
June 2017	0	0
July 2017	1	0
August 2017	1	0
September 2017	2	0
October 2017	3	0
November 2017	1	0
December 2017	0	0
January 2018	0	0
February 2018	0	0
March 2018	0	0
April 2018	2	0
May 2018	0	0
June 2018	0	0

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
July 2018	0	0
August 2018	0	0
September 2018	1	0
October 2018	0	0
November 2018	0	0
December 2018	0	0
January 2019	0	0
February 2019	0	0
March 2019	0	0
April 2019	1	0
May 2019	0	0
June 2019	0	0
July 2019	3	0
August 2019	0	0
Overall Total	48	0

Appendix B

75th Monthly EM&A Report for Works Contract 1112 –
Hung Hom Station and Stabling Sidings

MTR Corporation Limited

**Shatin to Central Link –
Tai Wai to Hung Hom Section and
Mong Kok East to Hung Hom Section**

Monthly EM&A Report

[Period from 1 to 31 August 2019]

(September 2019)

Certified by: Vivian Chan 

Position: Environmental Team Leader

Date: 12 September 2019



D248 74th Monthly EM&A Report for August 2019

Shatin to Central Link – Works Contract 1112 Hung Hom Station and Stabling Sidings

Prepared for Leighton Contractors (Asia) Limited
12 September 2019

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EXECUTIVE SUMMARY

Introduction

The construction works of MTRC Shatin to Central Link Works Contract 1112- Hung Hom Station and Stabling Sidings (the Project) comprise permanent works and the necessary temporary works for Hung Hom Station (HUH), Hung Hom Stabling Sidings (HHS), the South Approach Tunnels (SAT) and the North Approach Tunnels (NAT) to the new station, HHS and any reprovisioning remedial and improvement works (RRIW).

Construction works of the Project commenced on 3 June 2013. This is the 75th Monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works carried out during the period from 1 to 31 August 2019 in accordance with the EM&A manual.

During the reporting month, the following activity took place for the Project:

- Minor services connection at G.L.J of HUH
- Platform ABWF and E&M works at HUH
- Modification works at Concourse level, mid-level walkway
- Landscape preparation works
- Gate 3 excavation works
- Asphalt works to HHS

Landscape and Visual Monitoring

Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 7 and 21 August 2019. All necessary mitigation measures have been implemented by the Contractor.

Air Quality Monitoring

Air quality (24-hour TSP) monitoring was carried out on 1, 7, 13, 19, 24 and 30 August 2019. No exceedance of Action and Limit Level of 24-hour TSP monitoring was recorded at the monitoring location in the reporting month.

Noise Quality Monitoring

Construction airborne noise monitoring can be referred to the Monthly EM&A Report for Contract 1111.

Waste Management

Receptacles for collection of general refuse were provided at the site. As advised by the Contractor, 72,450 kg of general refuse was generated from the Project and disposed of at NENT landfill. A total of 80 m³ inert construction and demolition (C&D) materials were generated from the Project, and 80 m³ was disposed as public fills at TM38. No chemical waste was disposed. No Type 1 and Type 2 marine sediments were generated from SCL1112. No metals, paper/cardboard packaging, plastics or asphalt were recycled from the Project.

Environmental Auditing

A total of 5 weekly environmental site audits were conducted on 1, 7, 14, 21 and 28 August 2019. The IEC joint site audit was undertaken on 21 August 2019.

Complaint, Notification of Summons and Successful Prosecution

No environmental complaint was received during the reporting month.

No summons or prosecution related to the environmental issues were received in the reporting period.

Future Key Issues

Major site activities for the coming reporting month will include:

- Minor services connection at G.L.J of HUH
- Platform ABWF and E&M works at HUH
- Modification works at Concourse level, mid-level walkway
- Landscape preparation works
- Gate 3 excavation works

- Asphalt works to HHS
- Remedial works at HUH/HHS

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

1 INTRODUCTION

1.1 Project Background

- 1.1.1 The Shatin to Central Link (SCL) is a designated project (DP) under the Environmental Impact Assessment Ordinance (EIAO). For the purposes of the Environmental Impact Assessment (EIA), five EIA studies have been conducted to cover different sections of the SCL. These are Tai Wai to Hung Hom Section (SCL (TAW-HUH)), Mong Kok East to Hung Hom Section (SCL (MKK-HUH)), Hung Hom to Admiralty Section (SCL (HUH-ADM)), Protection Works at Causeway Bay Typhoon Shelter and Stabling Sidings at Hung Hom Freight Yard (SCL (HHS)).
- 1.1.2 Three EIA reports are of relevance to Works Contract 1112 (the Project), namely EIA for SCL (TAW-HUH) (Register No. AEIAR-167/2012), EIA for SCL (MKK-HUH) (Register No. AEIAR-165/2012) and EIA for SCL (HHS) (Register No. AEIAR-164/2012). These were submitted and subsequently approved with conditions by the Environmental Protection Department (EPD) on 17 March 2012. Two Environmental Permits (EPs), Environmental Permit No. EP-437/2012 for SCL (MKK-HUH) and Environmental Permit No. EP-438/2012 for SCL (TAW-HUH) were subsequently obtained on 22 March 2012. An application for variation of the EP for SCL (TAW-HUH) was approved and a varied EP (EP No. EP-438/2012/K) was issued by Director of Environmental Protection (DEP) on 4 October 2016. An application for variation of the EP for SCL (MKK-HUH) was approved and a varied EP (EP No. EP-437/2012/A) was issued on 28 November 2017.
- 1.1.3 Construction of the SCL has been divided into a number of works contracts. This Works Contract 1112 was awarded to Leighton Contractors (Asia) Limited (the Contractor) in March 2013. Leighton has engaged SMEC Asia Limited as the Environmental Team under the EIAO for Works Contract 1112.

1.2 Purpose of the Report

- 1.2.1 This is the 75th EM&A report which summarizes the monitoring results and audit findings during the reporting period from 1 to 31 August 2019.

1.3 Report Structure

- Section 1: Introduction
- Section 2: Project Information
- Section 3: Environmental Monitoring Parameters
- Section 4: Implementation Status of Environmental Mitigation Measures
- Section 5: Monitoring Results
- Section 6: Environmental Site Inspection and Audit
- Section 7: Environmental Non-conformance
- Section 8: Future Key Issues
- Section 9: Conclusions and Recommendations

2 PROJECT INFORMATION

2.1 General Site Description

2.1.1 The works under Works Contract 1112 comprise permanent works and the necessary temporary works for Hung Hom Station (HUH), Hung Hom Stabling Sidings (HHS), the South Approach Tunnels (SAT) and the North Approach Tunnels (NAT) to the new station, HHS and any reprovisioning remedial and improvement works (RRIW). The major permanent works under Works Contract 1112 generally comprise the following:

- New HUH integrated with the existing HUH station, with associated entrances, ventilation facilities, plant rooms, other ancillary facilities, and ABWF works.
- Modification of the existing HUH station to allow interchange between Existing East Rail Line and SCL(TAW-HUH), and between SCL(MKK-HUH) and SCL(TAW-HUH) comprising alteration and addition works at podium level, mid-level, and platform level.
- Running tunnels of the SCL(TAW-HUH) at the south and north ends of the new HUH to the existing stub tunnel of Existing West Rail and interface with Works Contract 1111.
- Running tunnels of the SCL(MKK-HUH) at the south and north ends of the new HUH to the proposed North Ventilation Building and interface with Works Contract 1111.
- Extensive underpinning and modification of the existing podium structure of HUH and the Hong Kong Coliseum, and associated protection works.
- Diversion, modification and dismantling of existing building services associated with underpinning and modification of existing structures.
- Demolition and clearance of the majority of the existing Hung Hom Freight Terminal infrastructure.
- Protection, diversion, and modification of utilities and services.
- Launching and retrieval track connecting the SCL(TAW-HUH) to HHS from the turnout close to WRL at the south and interface with Works Contract 1111 at the north.
- CLP Transformer Building.
- Demolition of the existing International Mail Centre adjacent to Salisbury Road, the MTR Freight Operations Building within the southern end of the Hung Hom Freight Terminal, and other ancillary buildings.
- Reconstruction of Cheong Wan Road Viaduct.
- Civil, BS and ABWF provisions for designated and interfacing contracts.
- Landscape works.
- Modification to various parts of existing disused Freight Yard structure for provision of HHS, comprising alteration and addition works at underground level, ground level, mezzanine level and podium level including new accommodation and plant areas and stabling and associated track provisions connecting to the interface with Works Contract 1111.
- Extensive underpinning of the podium structures above the existing disused Freight Yard for provision of HHS and its associated works.
- Construct part of the shunting track.
- Construct the emergency track and its associated works which connect the stabling siding to the mainline which run parallel with the northern approach of HUH.
- Construct the semi-enclosed noise enclosure and its associated works over the entire HHS north fan area.
- Preparation works, operation, and reinstatement of an additional storage area near Muk Chui Street, Kai Tak.

2.1.2 The works area for the Works Contract 1112 is shown in [Appendix A](#).

2.2 Construction Programme and Activities

2.2.1 The summary of construction programme is presented in **Appendix B**.

2.2.2 The major construction activities carried out by the Contractor in the reporting period are summarized as below:

- Minor services connection at G.L.J of HUH
- Platform ABWF and E&M works at HUH
- Modification works at Concourse level, mid-level walkway
- Landscape preparation works
- Gate 3 excavation works
- Asphalt works to HHS

2.3 Project Organisation

2.3.1 The project organization structure is presented in **Appendix C**. The contact names and numbers for key personnel of the Project are summarized in **Table 2-1**.

Table 2-1 Contact Information of Key Personnel

COMPANY	POSITION	NAME	TELEPHONE	FAX
MTR	Construction Manager	Mr Michael FU	3127 6201	3127 6422
	SCL Project Environmental Team Leader	Ms Lisa POON	3127 6295	2993 7577
Meinhardt	Independent Environmental Checker	Mr Fredrick LEONG	2859 1739	2540 1580
Leighton	Environmental Manager	Mr Kevin HARMAN	3973 0270	2356 9355
SMEC	ET Leader	Ms Vivian CHAN	3995 8140	3995 8101

2.4 Status of Environmental Licences, Notification and Permits

2.4.1 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 Licenses, Notification and Permits

PERMIT / LICENCE NO. / NOTIFICATION / REFERENCE NO.	VALID PERIOD		STATUS	REMARK
	From	To		
Environmental Permit				
EP-437/2012/A	28 Nov 2017	-	Valid	EP for SCL (MKK-HUH)
EP-438/2012/K	4 Oct 2016	-	Valid	EP for SCL (TAW-HUH)
Construction Noise Permit				
GW-RE0217-19	9 Apr 2019	8 Oct 2019	Valid	Works in Concourse
GW-RE0374-19	14 May 2019	9 Nov 2019	Valid	Works for SAT, NAT and Under Podium
GW-RE0494-19	30 Jun 2019	29 Sep 2019	Valid	External work for Concourse involving TTM + Mid-level Walkway+ Installation of Instrument

PERMIT / LICENCE NO. / NOTIFICATION	VALID PERIOD		STATUS	REMARK
				near NAT Track + Painting outside Concourse for North East Corner+ Protective Barrier Removal adjoining NAT
Wastewater Discharge License				
WT00033946-2019	17 Jun 2019	30 Jun 2023	Valid	-
Chemical Waste Producer Registration				
5213-213-L2603-03	28 Jun 2013	-	Valid	-
Billing Account for Construction Waste Disposal				
7017179	27 Mar 2013	-	Active Account	-
Notification Under Air Pollution Control (Construction Dust) Regulation				
357078	18 Mar 2013	-	Notified	-
Notification of Asbestos Abatement Works				
AX141187	11 Oct 2014 (earliest commencement date)	-	Notified	Demolition of International Mail Centre, 80 Salisbury Road, Hung Hom
AX141235	27 Oct 2014 (earliest commencement date)	-	Notified	Demolition of Freight Operation Building, MTR Hung Hom Depot

3 ENVIRONMENTAL MONITORING PARAMETERS

3.1 Landscape and Visual Impact Monitoring

- 3.1.1 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.

3.2 Air Quality Monitoring

Parameter, Frequency and Duration

- 3.2.1 In accordance with the EM&A Manual, 24-hour Total Suspended Particulates (TSP) level at the designated air quality monitoring station is required throughout the construction period. The monitoring parameters and frequency are provided in **Table 3-1**.

Table 3-1 Air Quality Monitoring Parameters and Frequency

PARAMETER	FREQUENCY
1-hour TSP	3 times in every 6 days when one documented valid complaint is received
24-hour TSP ^[1]	Once per 6 days

Note:

1. 24-hour TSP will be conducted when project-related construction activities are being undertaken within a radius of 500m from monitoring stations.

Monitoring Location

- 3.2.2 One air quality monitoring station was set up at the location in accordance with the approved EM&A Manuals. The location of the construction dust monitoring station is summarised in **Table 3-2** and shown in **Appendix D**.
- 3.2.3 The monitoring location of AM2 has been located on the roof of the Site Office Building next to Harbourfront Horizon since 19 March 2014.

Table 3-2 Air Quality Monitoring Location

ID	LOCATION
AM2 ^[1]	Harbourfront Horizon ^[2]

Note:

1. Different IDs were used in various EM&A Manuals for dust monitoring location at Harbourfront Horizon, DMS-12 was used in EM&A Manual for SCL(TAW-HUH), AM2 were used in EM&A Manual and EIA report for SCL(MKK-HUH), and DMS-1 Works Contract 1112 were used in EM&A Manual and EIA report for HHS. For ease of future reference, AM2 will be adopted for EM&A reporting for Works Contract 1112 when referring to this monitoring location.
2. Air quality monitoring location at Harbourfront Horizon is the same as monitoring station CD6a as proposed in the EM&A Manual for "Kwun Tong Line Extension (KTE)". Access to Harbourfront Horizon was rejected by the owner during preparation for baseline monitoring for the KTE in early 2011. A representative monitoring location at the adjacent Finger Pier, at about 25m from Harbourfront Horizon, was adopted as an alternative monitoring location for KTE. This monitoring location is considered the most appropriate alternative monitoring location for AM2 and have been adopted for dust monitoring for Contract 1112.

Monitoring Equipment

- 3.2.4 The air quality monitoring was performed using High Volume Sampler (HVS). The HVS meets all the requirements of the EM&A Manual. Detail of the HVS used in air quality monitoring is provided in **Table 3-3**.

Table 3-3 Air Quality Monitoring Equipment

EQUIPMENT	BRAND AND MODEL	SERIAL NUMBER
High Volume Sampler	GS-2310 Accu-vol	694-0665
Calibration Kit	Tisch (TE-5025A)	1941

- 3.2.5 The HVS were calibrated in every six months interval using calibration kit which is re-calibrated by the manufacturer after one year of use. The calibration certificate of the calibration kit and the calibration spreadsheet of the HVS is provided in **Appendix E**.

Monitoring Procedures

- 3.2.6 Specifications of HVS are as follow:

- i. 0.6 - 1.7m3 per minute adjustable flow range
- ii. Equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation
- iii. Installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation
- iv. Capable of providing a minimum exposed area of 406cm²
- v. Flow control accuracy: +/- 2.5% deviation over 24-hour sampling period
- vi. Equipped with a shelter to protect the filter and sampler
- vii. Incorporated with an electronic mass flow rate controller or other equivalent devices
- viii. Equipped with a flow recorder for continuous monitoring
- ix. Provided with a peaked roof inlet
- x. Incorporated with a manometer
- xi. Able to hold and seal the filter paper to the sampler housing at horizontal position
- xii. Easily changeable filter and
- xiii. Capable of operating continuously for a 24-hour period.

- 3.2.7 Preparation of Filter Papers

- i. Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.
- ii. All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25°C and not variable by more than ± 3 °C; the relative humidity (RH) was < 50% and not variable by more than ± 5 %. A convenient working RH was 40%.
- iii. All filter papers were prepared and analysed by ALS Technichem (HK) Pty Ltd., which is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes.

- 3.2.8 Field Monitoring

- i. The power supply was checked to ensure the HVS works properly.
- ii. The filter holder and the area surrounding the filter were cleaned.
- iii. 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.
- iv. The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
- v. The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied was sufficient to avoid air leakage at the edges.
- vi. Then the shelter lid was closed and was secured with the aluminium strip.
- vii. The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.

- viii. A new flow rate record sheet was set into the flow recorder.
- ix. On site temperature and atmospheric pressure readings were taken and the flow rate of the HVS was checked and adjusted at around 1.3 m³/min, and complied with the range specified in the EM&A Manual (i.e. 0.6-1.7 m³/min).
- x. The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
- xi. The initial elapsed time was recorded.
- xii. At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
- xiii. The final elapsed time was recorded.
- xiv. The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
- xv. It was then placed in a clean plastic envelope and sealed.
- xvi. All monitoring information was recorded on a standard data sheet.
- xvii. Filters were then sent to ALS Technichem (HK) Pty Ltd. for analysis.

Wind Data Monitoring

- 3.2.9 Average wind data (wind speed and direction) at the King's Park meteorological station during the monitoring period were obtained from the Hong Kong Observatory (HKO) and presented in **Appendix F**.

Monitoring Schedule

- 3.2.10 The schedule for environmental monitoring in August 2019 is provided in **Appendix G**.

3.3 Construction Noise Monitoring

- 3.3.1 In accordance with the approved EM&A Manuals for SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS), construction noise monitoring is required at No. 234-238 Chatham Road North (originally proposed as Wing Fung Building in the approved EM&A Manuals).
- 3.3.2 Construction airborne noise monitoring requirement details at No. 234 -238 Chatham Road North (NM2) can be referred to the Monthly EM&A Report for Contract 1111.

4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

- 4.1.1 All environmental mitigation measures and requirements as stated in EIA Reports, Environmental Permits and EM&A Manuals are implemented. The implementation status of the environmental mitigation measures for this Works Contract during the reporting period is summarized in **Appendix H**.
- 4.1.2 Submissions to EPD during construction stage had been made in accordance with the EP requirements. A summary of EP submission requirements and their status is presented in **Table 4-1**.

Table 4-1 Summary of Status of Required Submission under EP

REQUIRED SUBMISSION	ENVIRONMENTAL PERMIT	DATE OF SUBMISSION	STATUS
EP Condition 3.4 - Monthly Environmental Monitoring & Audit (EM&A) Report	EP-437/2012/A	14 August 2019	Submitted
	EP-438/2012/K	14 August 2019	Submitted

5 MONITORING RESULTS

5.1 Landscape and Visual

- 5.1.1 Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 7 and 21 August 2019. All necessary mitigation measures have been implemented by the Contractor.
- 5.1.2 The Event and Action Plan for Landscape and Visual Impact Monitoring is provided in [Appendix I](#).

5.2 Air Quality Monitoring

- 5.2.1 The monitoring results for 24-hour TSP are summarized in [Table 5-1](#). Detailed air quality monitoring results are presented in [Appendix J](#).

Table 5-1 Summary of 24-hour TSP Monitoring Results

ID	AVERAGE ($\mu\text{G}/\text{M}^3$)	RANGE ($\mu\text{G}/\text{M}^3$)	ACTION LEVEL ($\mu\text{G}/\text{M}^3$)	LIMIT LEVEL ($\mu\text{G}/\text{M}^3$)
AM2	46.4	42.1 – 56.0	182	260

- 5.2.2 No Action and Limit Level exceedance was recorded in the reporting month.
- 5.2.3 The Event and Action Plan is provided in [Appendix I](#).

5.3 Regular Construction Noise Monitoring

- 5.3.1 Construction airborne noise monitoring results in the reporting month can be referred to the Monthly EM&A Report for Contract 1111.
- 5.3.2 The Action and Limit levels for construction noise are summarised in [Table 5-1](#).

Table 5-2 Action and Limit Levels

TIME PERIOD	ACTION LEVEL	LIMIT LEVEL
07:00-19:00 hours on normal weekdays	When one documented valid complaint is received	75dB(A)*

Note:

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.

* Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

- 5.3.3 The Event and Action Plan for construction noise is provided in [Appendix I](#).

5.4 Waste Management

- 5.4.1 Receptacles for collection of general refuse were provided at the site. As advised by the Contractor, 72,450 kg of general refuse was generated from the Project and disposed of at NENT landfill. A total of 80 m³ inert construction and demolition (C&D) materials were generated from the Project, and 80 m³ was disposed as public fills at TM38. No chemical waste was disposed. No Type 1 and Type 2 marine sediments were generated from SCL1112. No metals, paper/cardboard packaging, plastics or asphalt were recycled from the Project. The waste flow table and marine sediment flow table were presented in [Appendix K](#).
- 5.4.2 A billing account for construction waste disposal has been approved and a trip ticket system was implemented to record the waste generated from the Project in the reporting month.

6 ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 6.1.1 Weekly site audits were conducted by the ET and attended by the ER and the Contractor to monitor the timely implementation of proper environmental management practices and mitigation measures at the site. 5 site audits were carried out on 1, 7, 14, 21 and 28 August 2019 during the reporting month. Representative of the IEC joined the site inspection on 21 August 2019. A summary of the implementation schedule of environmental mitigation measures is provided in [Appendix H](#).
- 6.1.2 No EPD inspections were conducted during the reporting month.
- 6.1.3 During the weekly site inspections, no non-conformance was identified. Details of observations recorded during site inspection are summarized in [Table 6-1](#).

Table 6-1 Observations and Recommendations of Site Audits

PARAMETERS	DESCRIPTION	WORKS AREA	OBSERVATION DATE	STATUS
Air Quality	NRMM label was observed missing on excavator. The Contractor should ensure provision of NRMM label on all non-road mobile machineries.	Gate 3	24 July 2019	The item was rectified by the Contractor on 1 August 2019.
	Dust was observed emitted from drilling activities. The Contractor should provide dust suppression measure to prevent dust emission.	Gate 3	7 August 2019	The item was rectified by the Contractor on 14 August 2019.

Note:

1. HUH: Hung Hom Station
2. HHS: Hung Hom Stabling Sidings
3. NAT: North Approach Tunnels
4. SAT: South Approach Tunnels
5. HKC: Hong Kong Coliseum
6. NSL: North South Line
7. BoH: Back of House
8. EWL: East West Line
9. NFA: North Fan Area

- 6.1.4 Follow-up actions requested by Contractor's ET and IEC during site inspections were undertaken by the Contractor and the work were confirmed in the following weekly site inspection. Follow-up actions that are still outstanding in the reporting month will be inspected in site inspections in following month, until the corresponding action has been satisfactorily completed by the Contractor.

7 ENVIRONMENTAL NON-CONFORMANCE

7.1 Summary of Monitoring Exceedances

7.1.1 All 24-hour TSP results were below the Action and Limit level at all monitoring locations in the reporting month.

7.2 Summary of Environmental Non-Compliance

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

7.3 Summary of Environmental Complaint

7.3.1 Details and cumulative statistics on environmental complaints can be referred to **Appendix L**.

7.4 Summary of Environmental Summons and Successful Prosecution

7.4.1 No summon was received during the reporting month.

7.4.2 The cumulative statistics on notification of summons and successful prosecutions is provided in **Appendix L**.

8 FUTURE KEY ISSUES

8.1 Construction Programme for Next Month

8.1.1 The construction programme for the next reporting month is provided in **Appendix B** and the key issues to be considered in the upcoming months include:

- Minor services connection at G.L J of HUH
- Platform ABWF and E&M works at HUH
- Modification works at Concourse level, mid-level walkway
- Landscape preparation works
- Gate 3 excavation works
- Asphalt works to HHS
- Remedial works at HUH

8.2 Key Issues for the Coming Months

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

8.3 Monitoring Schedule for Next Month

8.3.1 The tentative schedule for environmental monitoring in September 2019 is provided in **Appendix G**.

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

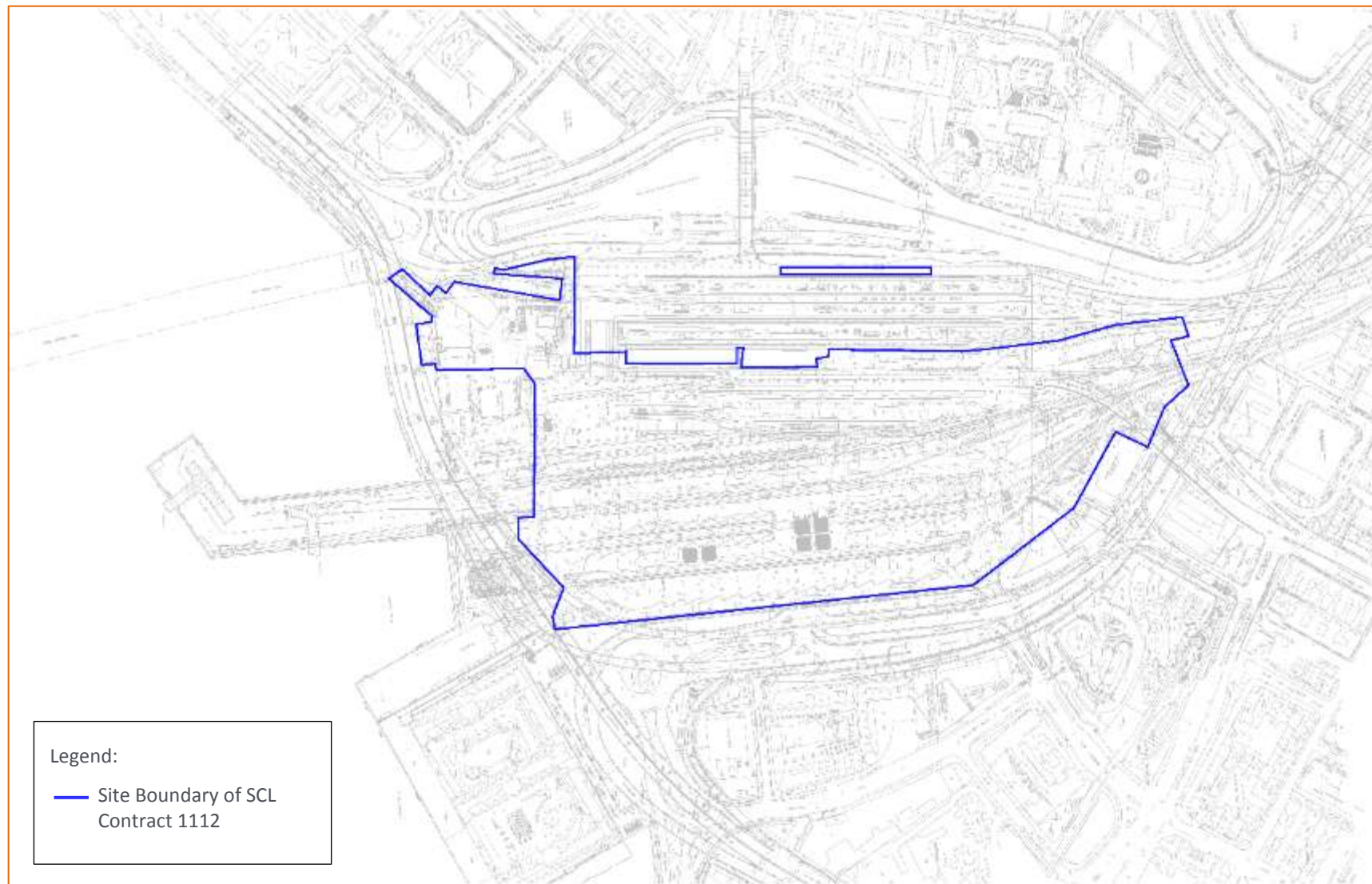
- 9.1.1 The construction phase of the Project was commenced on 3 June 2013. The EM&A programme have been implemented to include air quality monitoring and environmental site audits. This is the 75th Monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works carried out during the period from 1 to 31 August 2019.
- 9.1.2 6 nos. of 24-hour TSP monitoring were carried out in the reporting month.
- 9.1.3 No exceedance of the Action and Limit Levels of air quality monitoring was recorded at the designated monitoring stations during reporting period.
- 9.1.4 Two landscape and visual monitoring and five environmental site audits were conducted in the reporting month. Recommendations on remedial actions were provided to the Contractor for deficiencies identified during the site audits.
- 9.1.5 The ET will keep track on the EM&A programme to ensure the compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

9.2 Recommendations

Air Quality

- Ensure provision of NRMM label on all non-road mobile machineries.
- Provide dust suppression measures to prevent dust emission.

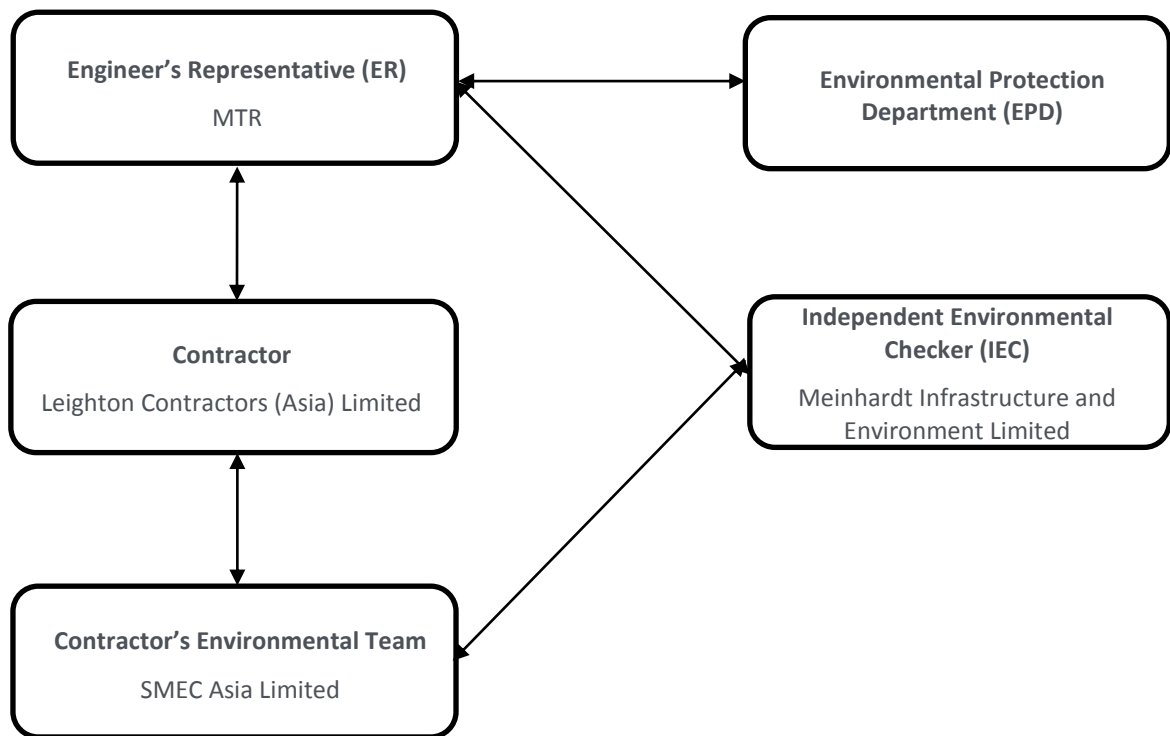
Appendix A **PROJECT WORKS BOUNDARY**



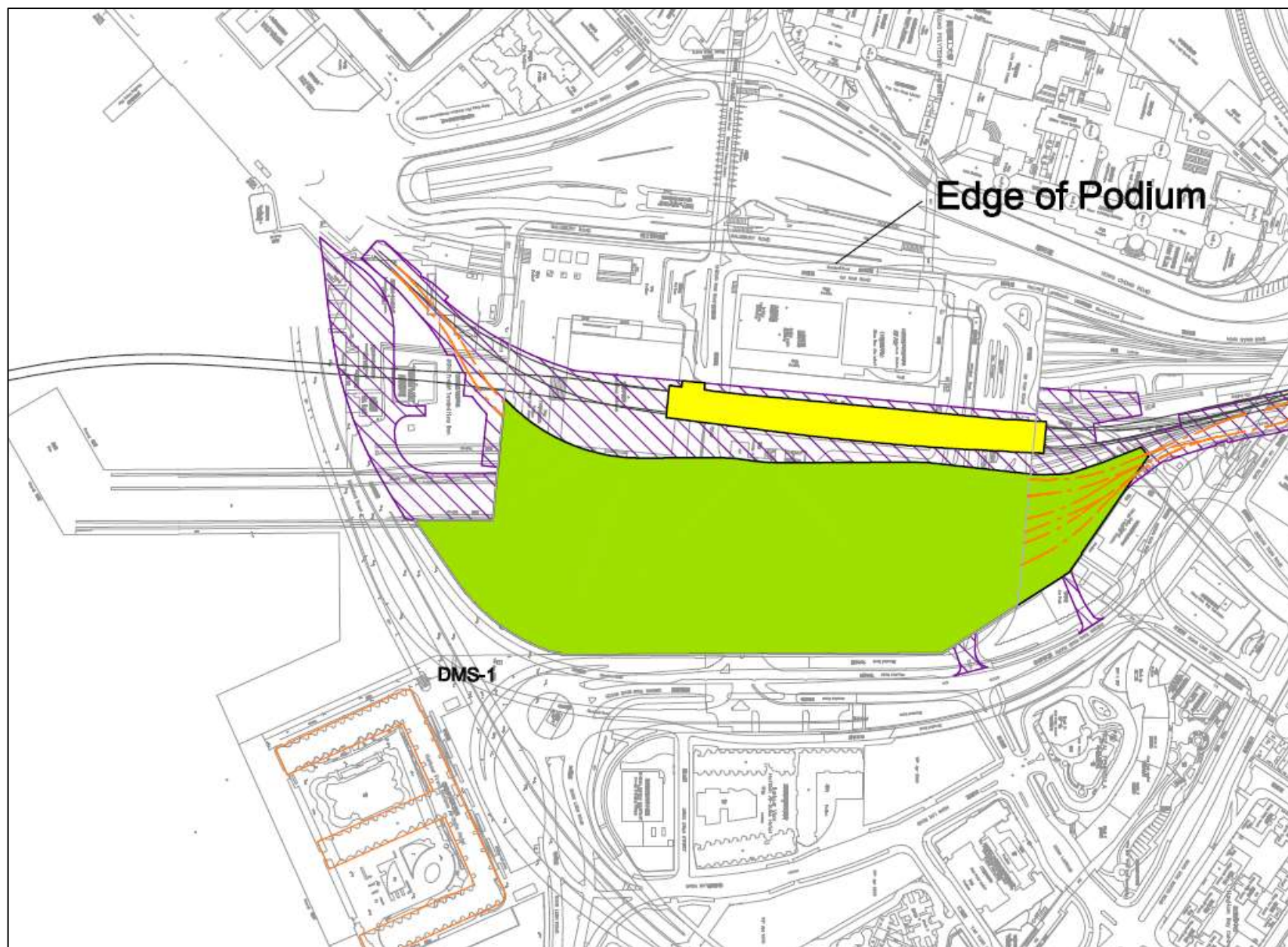
Appendix B **CONSTRUCTION PROGRAM**

MTR Shatin to Central Link - Contract 1112			
Hung Hom Station and Stabling Sidings			
Simplified Works Programme	Duration of Work		
	Sep-19	Oct-19	Nov-19
HUH - Platform ABWF and E&M Remaining Work			
HUH - Drainage Works / Building Service Works at G.L. J			
HHS - HHS Remaining Work including Drainage Work at Gate 3			
Concourse Modification			
Landscape Work			

Appendix C **PROJECT ORGANISATION FOR ENVIRONMENTAL WORKS**



Appendix D **LOCATION OF AIR QUALITY MONITORING STATION**



Appendix E **CALIBRATION CERTIFICATES FOR MONITORING EQUIPMENT**

TSP Sampler Calibration

SITE

Location: Hung Hom
 Sampler: Hunghom MTR TSP
 Serial No 694-0665

Calibration Date: July 15, 2019
 Next Calibration Date: September 15, 2019
 Tech: Sam Wong

CONDITIONS

Barometric Pressure (in Hg): <u>39.55</u>	Corrected Pressure (mm Hg): <u>1005</u>
Temperature (deg F): <u>88</u>	Temperature (deg K): <u>304</u>
Average Press. (in Hg): <u>39.55</u>	Corrected Average (mm Hg): <u>1005</u>
Average Temp. (deg F): <u>88</u>	Average Temp. (deg K): <u>304</u>

-2017-2017-2017-2017-2017

CALIBRATION ORIFICE

Make: Tisch
 Model: TE-5025A
 Serial#: 1941

Qstd Slope: 2.09680
 Qstd Intercept: -0.00065
 Date Certified: February 5, 2019

CALIBRATIONS

Plate or Test #	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION
1	12.00	1.881	58.0	66.01	
2	10.00	1.717	54.0	61.46	
3	7.80	1.516	48.0	54.63	
4	5.00	1.214	38.0	43.25	
5	3.00	0.940	30.0	34.14	
					Slope = <u>34.5287</u>
					Intercept = <u>1.7069</u>
					Corr. coeff. = <u>0.9992</u>
					# of Observations: <u>5</u>

Calculations

$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta)) - b]$
 $IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$

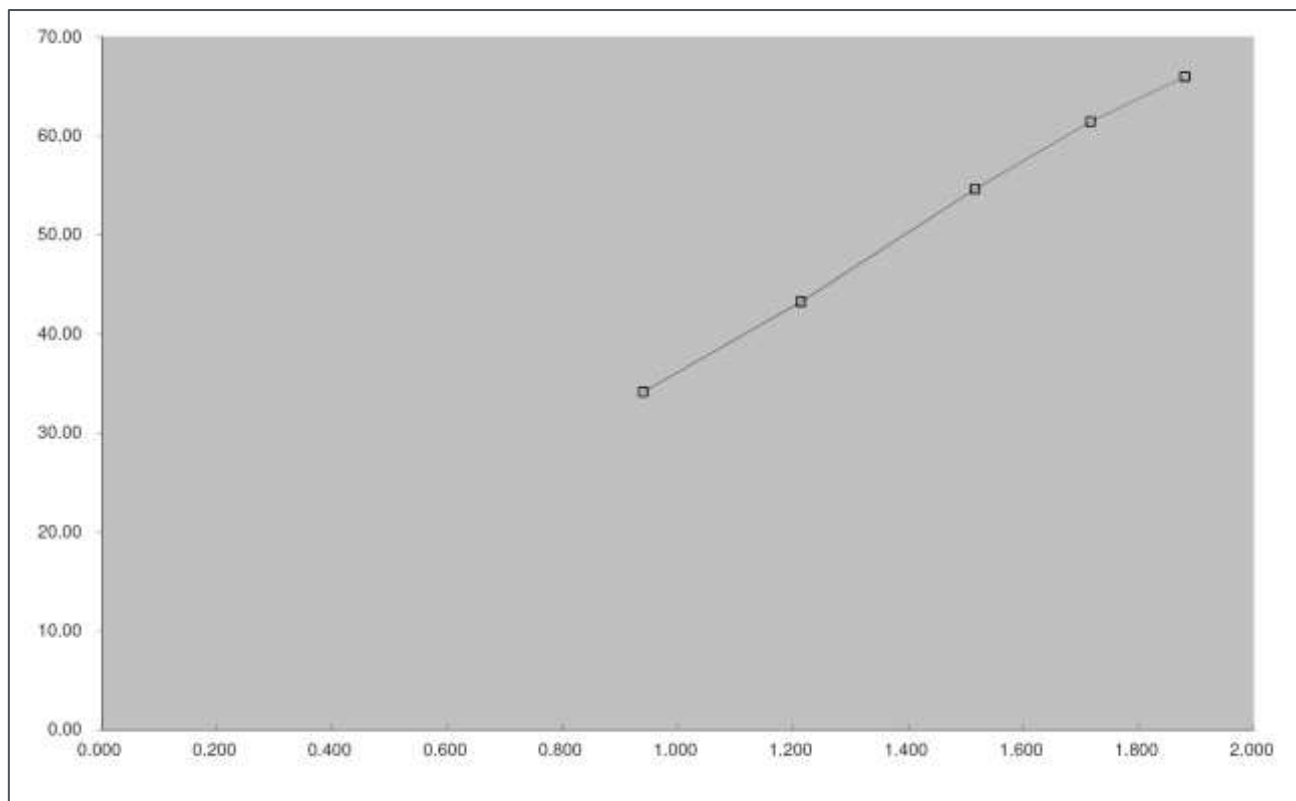
Qstd = standard flow rate
 IC = corrected chart response
 I = actual chart response
 m = calibrator Qstd slope
 b = calibrator Qstd intercept
 Ta = actual temperature during calibration (deg K)
 Pa = actual pressure during calibration (mm Hg)
 Tstd = 298 deg K
 Pstd = 760 mm Hg
 For subsequent calculation of sampler flow:
 $1/m((I) [\text{Sqrt}(298/Tav) (Pav/760)] - b)$

m = sampler slope
 b = sampler intercept
 I = chart response
 Tav = daily average temperature
 Pav = daily average pressure

Reviewer: Sam Wong

Signature: 

Date: July 15, 2019



Certificate of Calibration

Calibration Certification Information

Cal. Date: February 5, 2019	Rootsometer S/N: 438320	Ta: 293 °K
Operator: Jim Tisch		Pa: 753.1 mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: 1941	

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4830	3.2	2.00
2	3	4	1	1.0430	6.4	4.00
3	5	6	1	0.9300	7.9	5.00
4	7	8	1	0.8870	8.7	5.50
5	9	10	1	0.7320	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(\frac{Ta}{Pa}\right)}$ (y-axis)
1.0036	0.6767	1.4197	0.9958	0.6714	0.8821
0.9993	0.9581	2.0078	0.9915	0.9506	1.2475
0.9973	1.0723	2.2448	0.9895	1.0640	1.3947
0.9962	1.1231	2.3544	0.9884	1.1144	1.4628
0.9908	1.3536	2.8395	0.9831	1.3431	1.7642
QSTD	m=	2.09680	QA	m=	1.31298
	b=	-0.00065		b=	-0.00040
	r=	0.99999		r=	0.99999

Calculations

Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
For subsequent flow rate calculations:	
Qstd= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$

Standard Conditions

Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsometer manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

RECALIBRATION

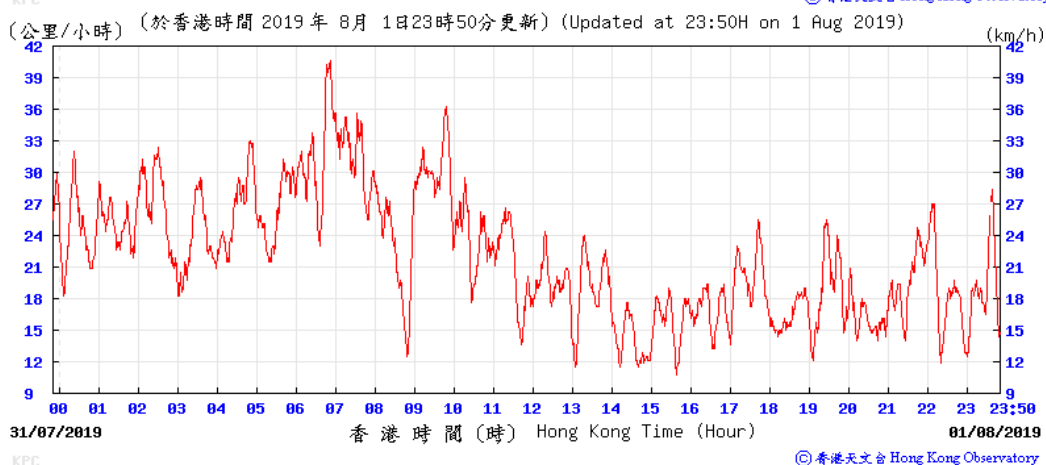
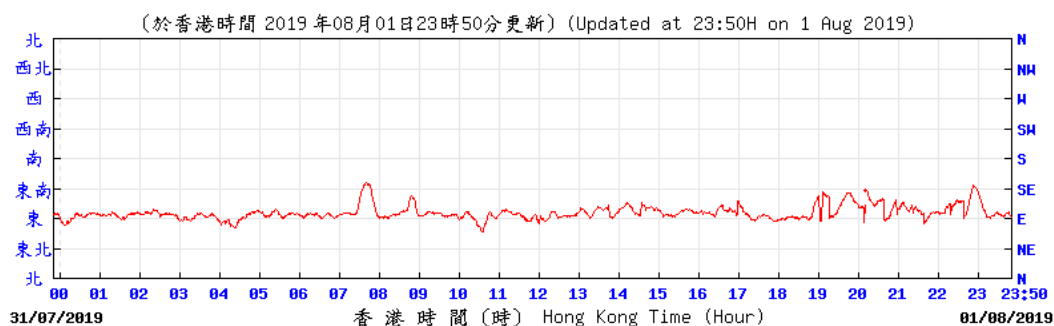
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

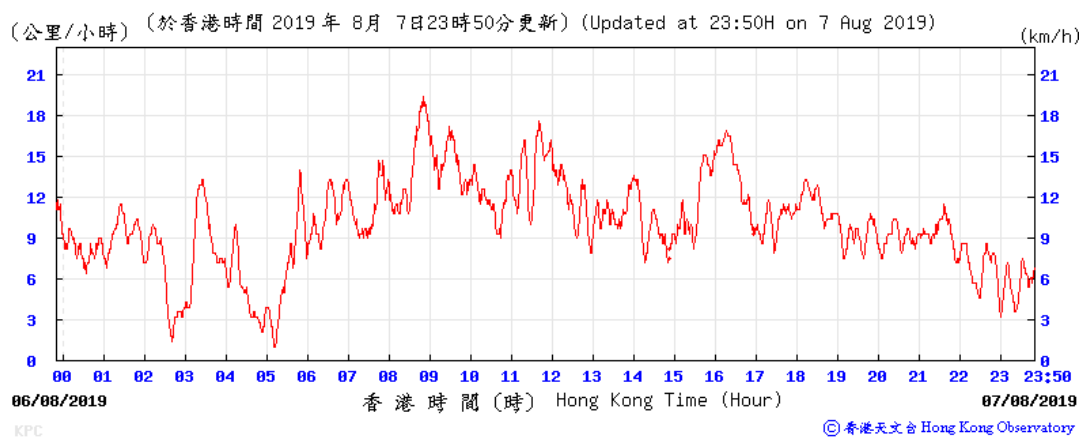
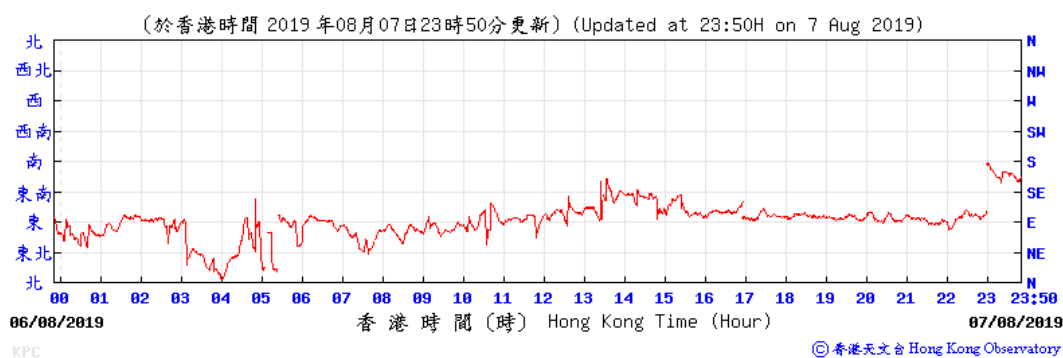
www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

Appendix F **WIND DATA**

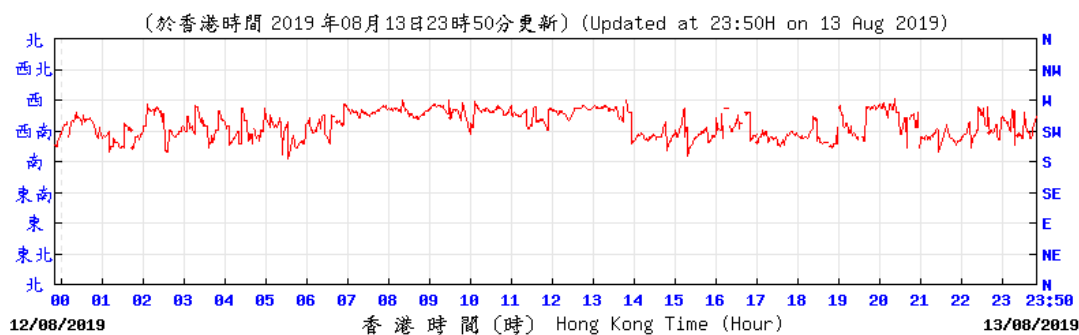
1 August 2019



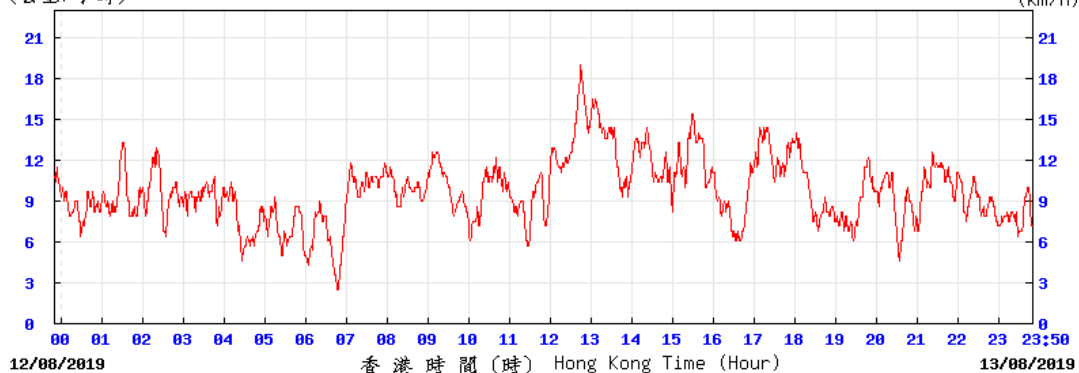
7 August 2019



13 August 2019

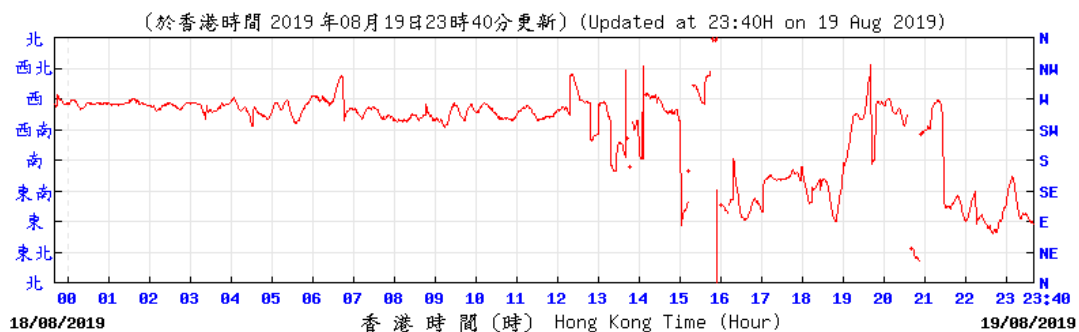


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(公里/小時) (於香港時間 2019 年 8 月 13 日 23 時 50 分更新) (Updated at 23:50H on 13 Aug 2019) (km/h)

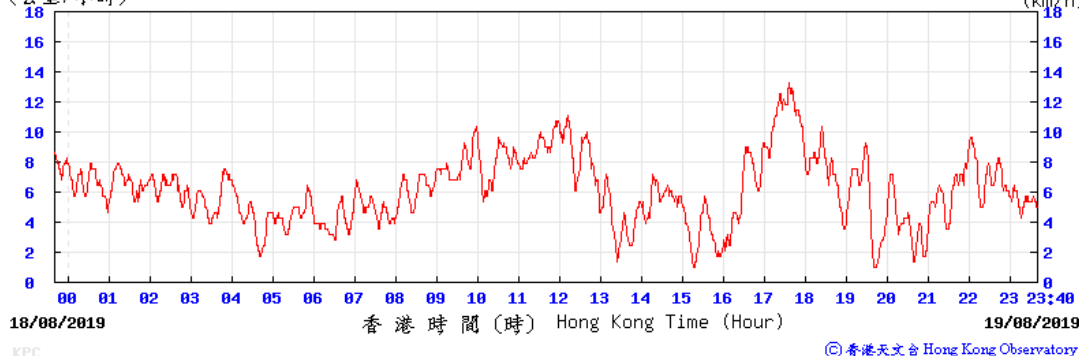


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19 August 2019

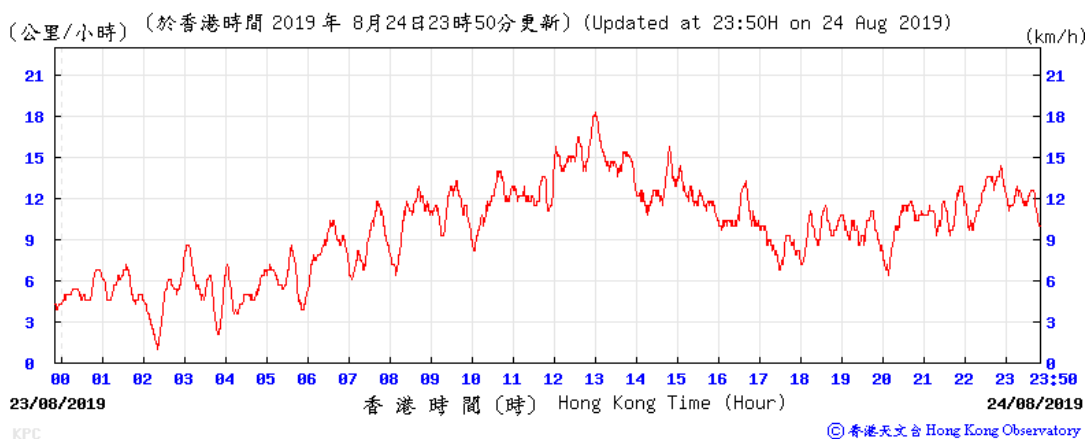
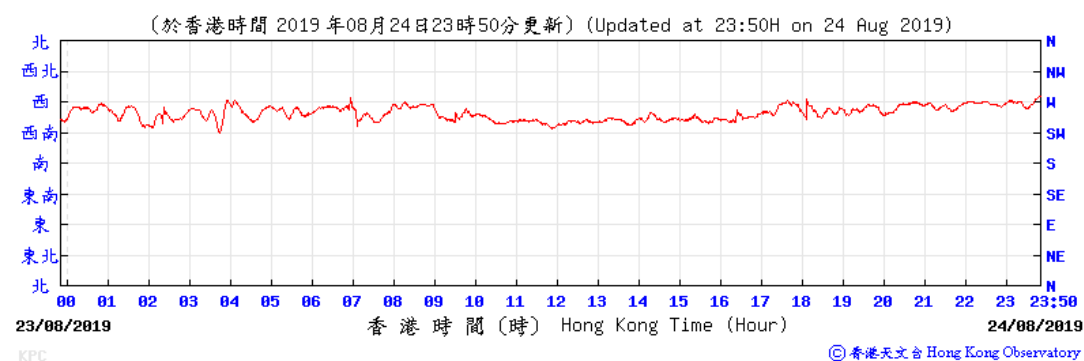


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(公里/小時) (於香港時間 2019 年 8 月 19 日 23 時 40 分更新) (Updated at 23:40H on 19 Aug 2019) (km/h)

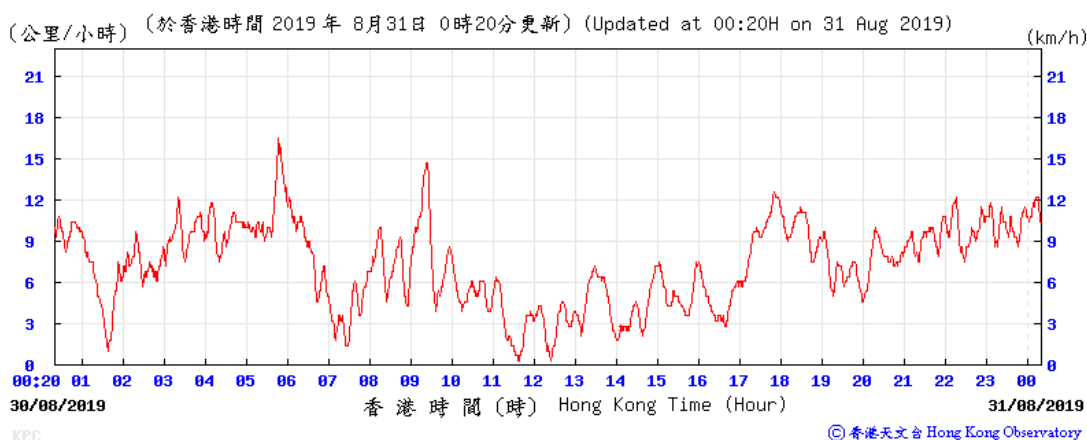
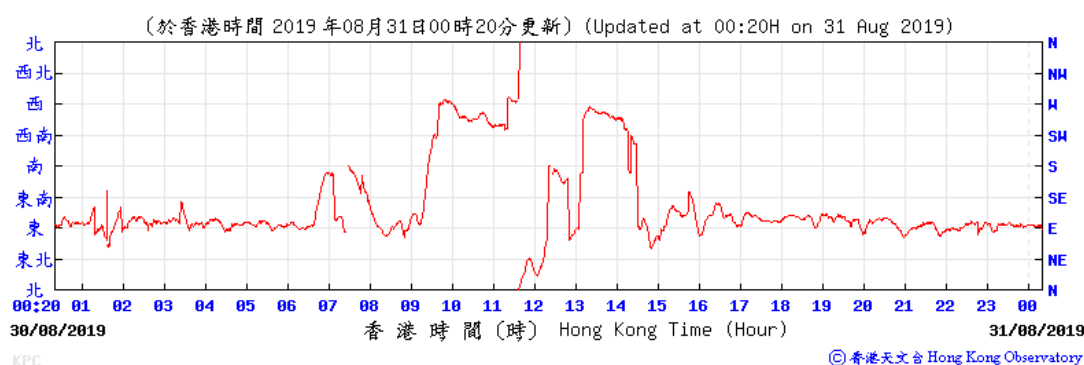


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24 August 2019



30 August 2019



Appendix G ENVIRONMENTAL MONITORING PROGRAMME

Environmental Monitoring Schedule for SCL1112 in August 2019

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

Environmental Monitoring Schedule for SCL1112 in September 2019

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

Appendix H **IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES**

EIA REF.	RECOMMENDED MITIGATION MEASURES FOR WORKS CONTRACT 1112	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 MEASURES TO ACHIEVE?	STATUS
Landscape & Visual (Construction Phase)							
S6.9.3 and S6.12 of Ref.1; Table 4.9 of Ref. 2; S6.12 of Ref. 3	<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 will be re-used where possible for new planting areas within the project. The construction programme will consider using the soil removed from one phase for backfilling another. Suitable storage ground, gathering ground and mixing ground may be set up onsite as necessary. <p><u>No-intrusion zone</u></p> <ul style="list-style-type: none"> To maximise 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 will 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 will be recorded photographically at the commencement of the contract, and carefully protected during the construction period. <ul style="list-style-type: none"> The contractor will 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. 	Minimise visual and landscape impact	Contractor	Within project site	Construction Stage	EIAO-TM	<p>^</p> <p>^</p> <p>^</p> <p>^</p>
S6.12 of Ref.1; Table 4.9 of Ref. 2; Table 6.9 of Ref. 3	<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 will 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 site, give control on the height and disposition/ arrangement of all facilities on the works site to minimise visual impact to adjacent VSRs. <p><u>Tree transplanting</u></p> <ul style="list-style-type: none"> Trees of medium to high survival rate that would be affected by 	Minimise the visual and landscape impact of the Project during construction phase	Contractor	Within project site	Detailed design and construction stage	EIAO-TM ETWB TCW 2/2004 ETWB TCW 3/2006	<p>^</p> <p>^</p>

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	the works will be transplanted where possible and practicable. Tree transplanting proposal including final location for transplanted trees will be submitted separately to seek relevant government department's approval, in accordance with ETWB TCW No 3/2006.						^
Air Quality (Construction Phase)							
N.A.	Emission from Vehicles and Plants: <ul style="list-style-type: none"> All vehicles shall be shut down in intermittent use. Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke. All diesel fuelled construction plant within the works areas shall be powered by ultra-low sulphur diesel fuel (ULSD). 	Reduce air pollution emission from construction vehicles and plants	Contractor	All constructions sites	Construction stage	Air Pollution Control Ordinance (APCO)	^ ^ ^
Construction Dust Impact							
S7.6.5 of Ref. 1; S7.6.6 of Ref. 3	The contractor will follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation.	Minimise dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	APCO To control the dust impact to meet HKAQO and EIAO-TM criteria	^
S5.20, S5.21, S5.50 and Table 5.4 of Ref. 2	Barging Facility: <ul style="list-style-type: none"> Unloading of spoils to barge – the unloading process should be undertaken within a 3-sided screen with top tipping hall. Water spraying and flexible dust curtains should be provided at the discharge point for dust suppression. Transportation of the spoil from the construction sites to the Barging Point – watering once along all paved haul roads to reduce dust emission by 91.7%. This dust suppression efficiency is derived based on the average haul road traffic, average evaporation rate and an assumed application intensity of 1.7 L/m² once every working hour. Any potential dust impact and watering mitigation would be subject to the actual site condition. For example, a construction activity that produces inherently wet conditions or in cases under rainy weather, the above water application intensity may not be unreservedly applied. While the above watering frequency is 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 1.7L/m² to achieve the removal efficiency. The dust levels would be monitored and managed under an EM&A programme as specified in the EM&A Manual. 	To minimize the construction dust impacts to the nearby sensitive receivers	Contractor	Barging point at Hung Hom Freight Pier	Construction stage	APCO	N/A N/A

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	<ul style="list-style-type: none"> Vehicles leaving the barging facilities – vehicles would be required to pass through the wheel washing facilities to be provided at site exit. 						N/A
S7.6.5 of Ref. 1; S5.50 of Ref. 2; S7.6.6 of Ref. 3	Mitigation measures in form of regular watering under a good site practice will be adopted. Watering once per hour on exposed worksites and haul road will 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 will be sufficient to maintain an equivalent intensity of no less than 1.8 L/m ² to achieve the dust removal efficiency.	Minimise dust impact at the nearby sensitive receivers	Contractor	Active works areas, exposed areas and paved haul roads	Construction stage	APCO To control the dust impact to meet HKAQO and EIAO-TM criteria	^
S7.6.5 of Ref. 1; S5.51 of Ref. 2; S7.6.6 of Ref. 3	<ul style="list-style-type: none"> Any excavated or stockpile of dusty material will 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 stockpiles are removed will be wetted and cleared from the surface of roads. A stockpile of dusty material will not be extended beyond the pedestrian barriers, fencing or traffic cones. The load of dusty materials on a vehicle leaving a construction site will 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 will 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 will be paved with concrete, bituminous materials or hardcore. When there are open excavation and reinstatement works, hoarding of not less than 2.4m high will be provided and properly maintained as far as practicable along the site boundary with provision for public crossing; Good site practice will also be adopted by the contractor to ensure the conditions of the hoardings are properly maintained in construction period. The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit will be kept clear of dusty materials. Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place will be sprayed with water or a dust suppression chemical continuously. Any area that involves demolition activities will be sprayed with 	Minimise dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	APCO Air Pollution Control (Construction Dust) Regulation To control the dust impact to meet HKAQO and EIAO-TM criteria	* ^ ^ ^ ^ ^ *

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	<p>water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet.</p> <ul style="list-style-type: none"> Where scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting will be provided to enclose the scaffolding from the ground floor level of the building, or a canopy will be provided from the first floor level up to the highest level of the scaffolding. Any skip hoist for material transport will be totally enclosed by impervious sheeting. Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) will 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 will 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 will be carried out in a totally enclosed system or facility, and any vent or exhaust will be fitted with an effective fabric filter or equivalent air pollution control system. Exposed earth will 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>^</p> <p>N/A</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
S7.6.5 of Ref. 1; S5.57 of Ref. 2; S7.6.6 of Ref. 3	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Harbourfront Horizon	Construction stage	EIAO-TM APCO	^

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Construction Airborne Noise							
S8.3.6 of Ref. 1; S6.61 of Ref. 2; S8.5.6 of Ref. 3	Implement the following good site practices: <ul style="list-style-type: none"> Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction programme. Machines and plant (such as trucks, cranes) that may be in intermittent use will be shut down between work periods or will 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. Silencers or mufflers on construction equipment will be properly fitted and maintained during the construction works. Mobile plant will be sited as far away from NSRs as possible and practicable. Material stockpiles, mobile container site office and other structures will be effectively utilised, where practicable, to screen noise from onsite construction activities. 	Control construction airborne noise	Contractor	All construction sites where practicable	Construction stage	Annex 5, EIAO-TM	^ ^ ^ ^ ^
S8.3.6 of Ref. 1; S6.68 of Ref. 2; S8.5.6 of Ref. 3	Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings will 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 where practicable	Construction stage	Annex 5, EIAO-TM	^
S8.3.6 of Ref. 1; S6.64 – 6.67 and Table 6.20 of Ref. 2; S8.5.6 of Ref. 3	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	Annex 5, EIAO-TM	^
S8.3.6 of Ref. 1; S6.62 – 6.63 and Table 6.19 of Ref. 2; S8.5.6 of Ref. 3	The following quiet PME should be used: <ul style="list-style-type: none"> Asphalt Paver (SWL=101dB(A)) Backhoe (SWL=106dB(A)) Backhoe with Hydraulic Breaker (SWL=110dB(A)) Concrete lorry mixer (SWL=96dB(A)) Concrete mixer truck (SWL=96dB(A)) Concrete Pump (SWL=106dB(A)) Concrete Pump Truck (SWL=106dB(A)) Crane, mobile (SWL=94dB(A)) Crawler Crane (SWL=102dB(A)) Drill, hand-held (SWL=98dB(A)) 	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction stage	Annex 5, EIAO-TM	^

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	<ul style="list-style-type: none"> • Dump truck (SWL=104dB(A)) • Excavator (SWL=106dB(A)) • Flat Bed Lorry (SWL=102dB(A)) • Generator (SWL=95dB(A)) • Giken Piler and Power-pack (SWL=94dB(A)) • Hydraulic breaker (SWL=110dB(A)) • Hydraulic excavator (SWL=106dB(A)) • Lorry (SWL=102dB(A)) • Lorry with crane/ grab (SWL=94dB(A)) • Mini Piling Rig (SWL=112dB(A)) • Piling Rig (SWL=112dB(A)) • Poker, vibrator, hand-held (SWL=98dB(A)) • Road Roller (SWL=101dB(A)) • Rock Drill (SWL = 108dB(A)) • Roller (SWL = 101dB(A)) • Truck (SWL=103dB(A)) • Vibratory Hammer (SWL=118dB(A)) 						
S8.3.6 of Ref. 1; S8.5.6 of Ref. 3	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, EIAO-TM	^
S8.3.6 of Ref. 1; S8.5.6 of Ref. 3	Implement noise monitoring under EM&A programme.	Monitoring of construction noise impact	Contractor	Wing Fung Building	Construction stage as required by IEC	TM-EIA	^

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Water Quality (Construction Phase)							
S10.7.1 of Ref. 1; S8.41 – 8.39 and S8.50 of Ref. 2; S10.7.1 of Ref. 3	<p>In accordance with the Practice Noise for Professional Persons on Construction Site Drainage, EPD, 1994 (ProPECC PN1/94), construction phase mitigation measures will include the following:</p> <p><u>Construction runoff and site drainage</u></p> <ul style="list-style-type: none"> At the start of site establishment, perimeter cut-off drains to direct off-site water around the site will 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 will be provided onsite to direct stormwater to silt removal facilities. The design of the temporary onsite drainage system will be undertaken by the contractor prior to commencement of construction. The dikes or embankments for flood protection will be implemented around the boundaries of earthwork areas. Temporary ditches will be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap. The sediment/silt traps will be incorporated in the permanent drainage channels to enhance deposition rates. The design of silt removal facilities will be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps will be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1m³/s a sedimentation basin of 30m³ would be required and for a flow rate of 0.5m³/s the basin would be 150m³. Detailed design of the sand/silt traps will be undertaken by the contractor prior to the commencement of works. All exposed earth areas will 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 will be covered by tarpaulin or other means. All drainage facilities and erosion and sediment control structures will be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit will be removed regularly and disposed of by spreading evenly over stable, vegetated areas. Measures will be taken to minimise the ingress of site drainage 	To minimize water quality impact from construction site runoff and general construction activities	Contractor	All construction sites where practicable	Construction stage	<p>Water Pollution Control Ordinance (WPCO)</p> <p>ProPECC PN1/94</p> <p>EIAO-TM</p> <p>TM-Water Technical Memorandum on Effluent Discharge Standard (TM-DSS)</p>	<p>^</p> <p>^</p> <p>^</p> <p>^</p>

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	<p>into excavations. If the excavation of trenches in wet periods is necessary, they will be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations will 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 will be covered with tarpaulin or similar fabric during rainstorms. • Measures will be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. • Manholes (including newly constructed ones) will 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 will be paid to the control of silty surface runoff during storms, especially areas near steep slopes. • All vehicles and plant will be cleaned before leaving a 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 will be provided at every construction site exit where practicable. Wash-water will 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 will be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. • Oil interceptors will be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors will be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass will be provided for the oil interceptors to prevent flushing during heavy rain. • Construction solid waste, debris and rubbish on site will be collected, handled and disposed of properly to avoid water quality impacts. • All fuel tanks and storage areas will be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% 						<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

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	<p>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 will 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. 						<p>^</p> <p>^</p>
S10.7.1 of Ref. 1; S10.7.1 of Ref. 3	<p><u>Tunnelling works</u></p> <ul style="list-style-type: none"> Cut-and-cover/ open-cut tunnelling work will 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. Uncontaminated discharge will pass through sedimentation tanks prior to off-site discharge. The wastewater with a high concentration of SS will be treated (eg, by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater. Direct discharge of the bentonite slurry (as a result of D-wall and bored tunnelling construction) is not allowed. It will be reconditioned and reused wherever practicable. Temporary storage locations (typically a properly closed warehouse) will be provided on site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC PN 1/94 will be adhered to in the handling and disposal of bentonite slurries. 	To minimize construction water quality impact from tunnelling works	Contractor	All tunnelling portion	Construction stage	WPCO ProPECC PN1/94 EIAO-TM TM-Water	<p>^</p> <p>^</p> <p>^</p> <p>^</p>

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S8.68 of Ref. 2; S10.7.1 of Ref. 1	<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; and Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Mitigation measures as outlined for control of <i>construction runoff and site drainage</i> provide above should be applied to minimise water quality impacts from site runoff and open stockpile spoils at the proposed barging facilities where appropriate. 	To minimize water quality impact from operation of barging facility	Contractor	All barging facilities	Construction stage	WPCO TM-EIA	N/A N/A N/A N/A N/A
S8.51 – 8.52 of Ref. 2	<u>Bentonite Slurries:</u> <ul style="list-style-type: none"> Bentonite slurries used in diaphragm wall construction should be reconditioned and used again wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the used slurry should either be dewatered or mixed with inert fill material for disposal to a public filling area. If the used bentonite slurry is intended to be disposed of through the public drainage system, it should be treated to the respective effluent standards applicable to foul sewer, storm drains or the receiving waters as set out in the TM-DSS. 	To minimize water quality impact from bentonite slurries	Contractor	All works area	Construction stage	WPCO TM-EIA	^ ^
S8.53 – 8.54 of Ref. 2	<u>Wastewater from Building Construction:</u> <ul style="list-style-type: none"> Before commencing any demolition works, all sewer and drainage connections should be sealed to prevent building debris, soil, sand etc. from entering public sewers/drains Wastewater generated from building construction activities including concreting, plastering, internal decoration, cleaning of works and similar activities should not be discharged into the stormwater drainage system. If the wastewater is to be discharged into foul sewers, it should undergo the removal of settleable solids in a silt removal facility, and pH adjustment as washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If 	To minimize water quality impact from building construction	Contractor	All construction sites where practicable	Construction stage	WPCO EIAO-TM	^ N/A

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	monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence which is under the ambit of regional office of EPD.						
S8.62 of Ref. 2	<u>Excavation Activities:</u> <ul style="list-style-type: none"> The construction programme should be properly planned to minimise soil excavation, if any, in rainy seasons. This prevents soil erosion from exposed soil surfaces. Any exposed soil surfaces should also be properly protected to minimise the potential for dust emission, increased siltation and contamination of runoff. In areas where a large amount of exposed soils exist, earth bunds or sand bags should be provided. Exposed stockpiles should be covered with tarpaulin or impervious sheets at all times. The stockpiles of materials should be placed at locations away from water environment so as to avoid releasing materials into the water bodies. Final surfaces of earthworks should be compacted and protected by permanent work. 	To minimize water quality impact from excavation activities	Contractor	All excavation works areas	Construction stage	WPCO EIAO-TM	^
S8.63 of Ref. 2	<u>Diaphragm Wall</u> <ul style="list-style-type: none"> The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be implemented to control site run-off and drainage as well as any site effluents generated from the works areas, and to prevent run-off and construction wastes from entering nearby water environment. Proper handling of bentonite slurries used in diaphragm wall construction should be adopted. 	To minimize water quality impact from diaphragm walling	Contractor	All diaphragm walling works areas	Construction stage	WPCO EIAO-TM	^
S8.60 – 8.61 of Ref. 2; S10.7.1 of Ref. 3	<u>Sewage effluent</u> Portable chemical toilets are recommended for handling the construction sewage generated by the workforce. A licensed contractor will 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	WPCO TM-Water	^
S8.64 of Ref. 2; S10.7.1 of Ref. 3	<u>Groundwater seepage</u> As some proposed works areas at Hung Hom are near Victoria Harbour, high ground water level regime due to both tidal effects and rainwater infiltration is anticipated. Appropriate measures will be deployed to minimise the intrusion of groundwater into excavation works areas. In case seepage of groundwater occurs, groundwater will be pumped out from the works areas and discharged into the storm system via silt removal facilities. Groundwater from dewatering process will also be discharged into the storm system via silt traps.	To minimize groundwater quality impact from contaminated area	Contractor	Excavation areas where contamination is found.	Construction stage	WPCO TM-Water EIAO-TM	^

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S10.7.1 of Ref. 1; S8.57 – 8.59 of Ref. 2; S10.7.1 of Ref. 3	<u>Accidental spillage</u> To prevent accidental spillage of chemicals, the following is recommended: <ul style="list-style-type: none"> • Proper storage and handling facilities will be provided. • All the tanks, containers, storage area will be bunded and the locations will be locked as far as possible from the sensitive watercourse and stormwater drains. • The contractor will register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities will be stored with suitable labels and warnings. • Disposal of chemical wastes will 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	WPCO ProPECC PN1/94 EIAO-TM TM-Water	^ ^ ^ ^
S8.72 of Ref.2	Regular site inspections should be undertaken to inspect the construction activities and works areas	To ensure the recommended water quality mitigation measures are properly implemented	Contractor	All construction sites	Construction stage	EIAO-TM WPCO ProPECC PN 1/94 TM-DSS WDO	^

EIA REF.	RECOMMENDED MITIGATION MEASURES FOR WORKS CONTRACT 1112	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 MEASURES TO ACHIEVE?	STATUS
Waste Management (Construction Phase)							
S11.4.1.1 of Ref. 1; S9.80 – 9.83 of Ref. 2; S11.4.1.1 of Ref.3	<u>Onsite sorting of C&D material</u> Geological assessment will be carried out by competent persons onsite during excavation to identify materials which are not suitable to use as aggregate in structural concrete (eg, volcanic rock, Aplite dyke rock, etc). Volcanic rock and Aplite dyke rock will 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 will 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 will be submitted by the Contractors for the Engineer to review and agree. In addition, site records will 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) ref: 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 will also be explored.	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	DEVB TC(W) ref. 6/2010	^
S11.5.1 of Ref.1; S9.72 – 9.74 of Ref. 2; S11.5.1 of Ref.3	<u>Construction and demolition material</u> <ul style="list-style-type: none"> • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement. • Carry out onsite 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. • Implement an enhanced Waste Management Plan similar to ETWBTC (Works) ref 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. • In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. will be avoided. The contractor will propose the final disposal sites to the Project Proponent and EPD and get their approval before 	Good site practice to minimise 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	Land (Miscellaneous Provisions) Ordinance Waste Disposal Ordinance ETWB TCW Ref 19/2005	^ ^ ^ ^ ^ ^ ^

EIA REF.	RECOMMENDED MITIGATION MEASURES FOR WORKS CONTRACT 1112	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 MEASURES TO ACHIEVE?	STATUS
	implementation.						
S11.5.1 of Ref.1; S9.73 of Ref. 2; S11.5.1 of Ref.3	<u>C&D waste</u> <ul style="list-style-type: none"> Standard formwork or pre-fabrication will 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 will be considered. Use of wooden hoardings will not be used, as in other projects. Metal hoarding will 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 will recycle as much of the C&D materials as possible onsite. Public fill and C&D waste will 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 will be considered for such segregation and storage. 	Good site practice to minimise 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	Land (Miscellaneous Provisions) Ordinance Waste Disposal Ordinance ETWB TCW Ref 19/2005	<p>^</p> <p>^</p>
S11.5.1 of Ref.1; S9.100-9.102 of Ref.2; S11.5.1 of Ref. 3	<u>General refuse</u> <ul style="list-style-type: none"> General refuse generated onsite will be stored in enclosed bins or compaction units separately from construction and chemical wastes. A reputable waste collector will be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. Aluminium cans will be often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit will be provided if feasible. Office wastes will be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme will 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	<p>^</p> <p>^</p> <p>^</p> <p>^</p>

EIA REF.	RECOMMENDED MITIGATION MEASURES FOR WORKS CONTRACT 1112	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 MEASURES TO ACHIEVE?	STATUS
S11.5.1 of Ref.1; S9.84 – 9.93 of Ref. 2	<u>Land-based sediment</u> <ul style="list-style-type: none"> The basic requirements and procedures for excavated sediment disposal specified under ETWB TC(W) No. 34/2002 shall be followed. The Project Proponent should agree in advance with MFC of CEDD on the site allocation. Subject to the final decision by MFC, Type 1 sediments are typically disposed to South Cheung Chau and/or East of Ninepin as open sea disposal while Type 2 sediments are disposed to East Sha Chau as confined marine disposal. Sampling and Testing Plan(s) should be prepared in accordance with ETWB TC(W) No. 34/2002. Site investigation, based on the Sediment Sampling and Testing Plan(s), should be carried out in order to confirm the disposal arrangements for the proposed excavated sediments. A Sediment Quality Report (SQR) should then be submitted to EPD for agreement prior to the tendering of the construction contract, discussing in details the site investigation, testing results as well as the delineation of each of the categories of excavated materials and the corresponding types of disposal. The excavated sediments is expected to be loaded onto the dumping trucks and transferred to the barging point where the sediments would be transported via barge to the existing designated disposal sites allocated by the MFC. The excavated sediment would be disposed of according to its determined disposal options and ETWB TC(W) No. 34/2002. Requirements of the Air Pollution Ordinance (Construction Dust) Regulation, where relevant, shall be adhered to during excavation, transportation and disposal of sediments. Stockpiling of contaminated sediments should be avoided as far as possible. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment should be covered by tarpaulin and the area should be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and/or surrounding water bodies. The stockpiling areas should be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas should be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, should be collected and discharged according to the Water Pollution Control Ordinance (WPCO). In order to minimize the potential odour / dust emissions during excavation and transportation of the sediment, the excavated 	To ensure the sediment is handled and disposed of in a least impacted way and in accordance to the statutory	Contractor	All construction sites	Construction stage	ETWB TC(W) NO. 34/2002 Dumping at Sea Ordinance (DASO) APCO WPCO	N/A N/A N/A N/A N/A

EIA REF.	RECOMMENDED MITIGATION MEASURES FOR WORKS CONTRACT 1112	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 MEASURES TO ACHIEVE?	STATUS
	<p>sediments should be wetted during excavation / material handling and should be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge should be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.</p> <ul style="list-style-type: none"> The barge transporting the sediments to the designated disposal sites should be equipped with tight fitting seals to prevent leakage and should not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In order to minimize the exposure to contaminated materials, workers should, when necessary, wear appropriate personal protective equipment (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities should also be provided on site. 						<p>N/A</p> <p>N/A</p>
S11.5.1 of Ref.1; S8.94 – 9.97 of Ref. 2; S11.5.1 of Ref. 3	<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, will 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 will 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 450L 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 will be clearly labelled and used solely for the storage of chemical waste; be 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, whichever is the greatest; have adequate ventilation; be covered to prevent rainfall entering; and be arranged so that incompatible materials are adequately separated. Disposal of chemical waste will be via a licensed waste collector; and be 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 be to a reuser of the waste, under approval from the EPD. 	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	<p>Waste Disposal (Chemical Waste) (General) Regulation</p> <p>Code of Practice on the Packaging, Labelling and Storage of Chemical Waste</p>	<p>^</p> <p>^</p> <p>^</p> <p>^</p>
S9.98 – 9.99 of	<u>Asbestos wastes</u>	To ensure the asbestos	Contractor	All construction	Construction	Code of practice	

EIA REF.	RECOMMENDED MITIGATION MEASURES FOR WORKS CONTRACT 1112	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 MEASURES TO ACHIEVE?	STATUS
Ref 2	<ul style="list-style-type: none"> All storage of asbestos waste should be carried out properly in a secure place isolated from other substances so as to prevent any possible release of asbestos fibres into the atmosphere and contamination of other substances. The storage area should bear warning panels to alert people of the presence of asbestos waste. Collection, transportation and disposal of asbestos waste will follow the trip-ticket system. Licensed asbestos waste collectors will be appointed to collect the asbestos waste and deliver to the designated landfill for disposal. The Project Proponent should notify to EPD in advance for disposal of asbestos waste. After processing the notification, EPD will issue specific instructions and directions for disposal. The waste producer must strictly follow these directions 	wastes are handled and disposed of in accordance with the statutory requirements		sites	stage	on the Handling, Transportation and Disposal of Asbestos Waste	<p>^</p> <p>N/A</p>

EIA REF.	RECOMMENDED MITIGATION MEASURES FOR WORKS CONTRACT 1112	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 MEASURES TO ACHIEVE?	STATUS
Land Contamination							
S10.24 – 10.34 of Ref 2	<u>Precautionary measures</u> <ul style="list-style-type: none"> • Precautionary measures such as visual inspection are recommended to be undertaken during construction activities that disturb soil. The inspection process should involve a visual observation of excavated soils for discolouration and the presence of oils, together with identifying the presence of odours, which may also indicate soil and/or groundwater contamination. • If soil discolouration or the presence of oil/unnatural odour is noted during visual inspection, sampling and testing should also be undertaken to verify the presence of contamination. 	To act as a general precautionary measure to screen soils for the presence contamination during construction	Contractor	All construction sites	Construction stage	“Guidance Note for Contaminated Land Assessment and Remediation” “Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management”	<div>^</div> <div>^</div>
S10.35 of Ref 2	<ul style="list-style-type: none"> • Potential remediation of contaminated soil • If land contamination is identified, CAR and RAP detailing the proposed remediation works should be prepared. RR should then be prepared and submitted to EPD to demonstrate that the decontamination work is adequate and has been carried out in accordance with the endorsed CAR and RAP. Information such as soil treatment/disposal records (including trip tickets), confirmatory sampling results and photographs should be included in the RR. No construction work should be carried out prior to endorsement of the RR by EPD. • In order to minimise environmental impacts arising from the handling of potentially contaminated materials, the following environmental precautionary measures are recommended to be utilised during the course of any required site remediation: • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; • Excavation should be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils; • Supply of suitable clean backfill material is needed after excavation; • If proposed remediation methods employ chemical oxidation methods as the contaminant mass reduction technology, chemicals will be securely and separately stored away from sources of ignition or oxidisable items. Handling will be undertaken by personnel with appropriate training and Personal Protective Equipment 	To remediate contaminated soil	Contractor	All construction sites	Construction stage	“Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards and Car Repair /Dismantling Workshop”	<div>N/A N/A</div> <div>N/A</div> <div>N/A</div> <div>N/A</div> <div>N/A</div> <div>N/A</div>

EIA REF.	RECOMMENDED MITIGATION MEASURES FOR WORKS CONTRACT 1112	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 MEASURES TO ACHIEVE?	STATUS
	<ul style="list-style-type: none"> Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet conditions; Speed control for the trucks carrying coVehicle wheel and body washing facilities at the site's exit points should be established and used; and contaminated materials should be enforced; Pollution control measures for air emissions e.g. from biopile blower, noise emissions e.g. from blower, and water discharges e.g. runoff control should be implemented and complied with relevant regulations and guidelines. 						N/A
							N/A
							N/A
S10.36 of Ref 2	<p>The Occupation Safety and Health Ordinance (OSHO) (Chapter 509) and its subsidiary Regulations should be followed by all site personnel working on the site at all times. In addition, the following basic health and safety measures should be implemented as far as possible:</p> <p>Set up a list of safety measures for site workers.</p> <p>Provide written information and training on safety for site workers.</p> <p>Keep a log-book and plan showing the contaminated zones and clean zones.</p> <p>Maintain a hygienic working environment.</p> <p>Avoid dust generation.</p> <p>Provide face and respiratory protection gear to site workers.</p> <p>Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight gloves) to site workers.</p> <p>Provide first aid training and materials to site workers.</p>	To minimise the potentially adverse effects on health and safety of construction workers during the course of site remediation.	Contractor	All construction sites	Site remediation and prior to construction phase	<p>"Guidance Note for Contaminated Land Assessment and Remediation"</p> <p>"Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management"</p> <p>"Occupation Safety and Health Ordinance (Chapter 509)"</p>	N/A
EM&A Project							
S14.2 – 14.4 of Ref. 1; S13.2 – 13.4 of Ref. 3 1.	<ul style="list-style-type: none"> An Environmental Team needs to be employed as per this EM&A Manual. Prepare a systematic EMP to ensure effective implementation of the mitigation measures. An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in this EM&A Manual are fully complied with. 	Perform environmental monitoring & auditing	Contractor	All construction sites	Construction stage	EIAO Guidance Note Ref4/2010 EIAO-TM	^

Remark for Status:

^ Compliance of mitigation measure
+ Non-compliance but rectified by the contractor
N/A Not Applicable

X Non-compliance of mitigation measure
* Recommendation was made during site audit but improved/rectified by the contractor
Recommendation was made during site audit and improvement/rectification not yet completed by the contractor

Notes:

Ref. 1 – EIA Report for SCL (TAW-HUH)

Ref. 2 – EIA Report for SCL (MKK-HUH)

Ref. 3 – EIA Report for SCL (HHS)

This EMIS contains only those requirements that are relevant to Works Contract 1112 in terms of:

- EM&A required under Works Contract 1112
- Who to implement the measures – the Contractor (Leighton)
- The location of the measures – within and in the vicinity of the Works Contract 1112 Site Boundary
- When to implement the measures – during the design and construction

Appendix I **EVENT AND ACTION PLAN**

Event and Action Plan for Landscape and Visual Impact Monitoring

EVENT	ET	IEC	ER	CONTRACTOR
Action level				
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 2. Implement remedial measures 3. Amend working methods agreed with the ER as appropriate 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by the ER until the non-conformity is abated.

Event and Action Plan for Air Quality

EVENT	ET	IEC	ER	CONTRACTOR
Action level				
1. 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 monitoring frequency 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET 2. Check 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 	<ol style="list-style-type: none"> 1. Identify source(s), investigate the causes of exceedance and propose remedial measures; 2. Implement remedial measures; 3. Amend working methods agreed with the ER as appropriate
2.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 monitoring frequency to daily 5. If exceedance continues, arrange meeting with the IEC, ER and Contractor 6. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET 2. Check 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. 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 causes of exceedance 2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification 3. Implement the agreed proposals 4. Amend proposal as appropriate

EVENT	ET	IEC	ER	CONTRACTOR
Limit Level				
1.Exceedance for one sample	<ol style="list-style-type: none"> 1. Inform the IEC, EPD, Contractor and ER 2. Repeat measurement to confirm findings 3. Increase 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 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 implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify source(s) and investigate the causes of exceedance 2. Take immediate action to avoid further exceedance 3. Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification 4. Implement agreed proposals 5. Amend proposal if appropriate.
2.Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Notify IEC, Contractor & EPD 2. Repeat measurement to confirm findings 3. Increase 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 IEC, EPD and ER informed of the results 7. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET 2. Check the Contractor's working method 3. Discuss with 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 source(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.

Event and Action Plan for Construction Noise

EVENT	ET	IEC	ER	CONTRACTOR
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 and assess the effectiveness. 3. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the investigation results submitted by Contractor. 2. 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 complaint in writing 2. Notify the Contractor, IEC and ET 3. Review and agree on the remedial measures proposed by the Contractor 4. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Investigate the complaint and propose remedial measure. 2. Report the results of investigation to the IEC, ET and ER. 3. Submit noise mitigation proposals to ER with a copy to ET and IEC within three working days of notification 4. Implement noise mitigation proposal.
Limit Level	<ol style="list-style-type: none"> 1. Notify IEC, Contractor & EPD 2. Repeat measurement to confirm findings 3. Increase 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. Inform IEC, ER and EPD the causes and actions taken for the exceedances. 7. Assess effectiveness of the Contractor's remedial measures and keep IEC, ER and EPD informed of the results. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET 2. Check the Contractor's working method 3. Discuss with 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 source(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.

Note:

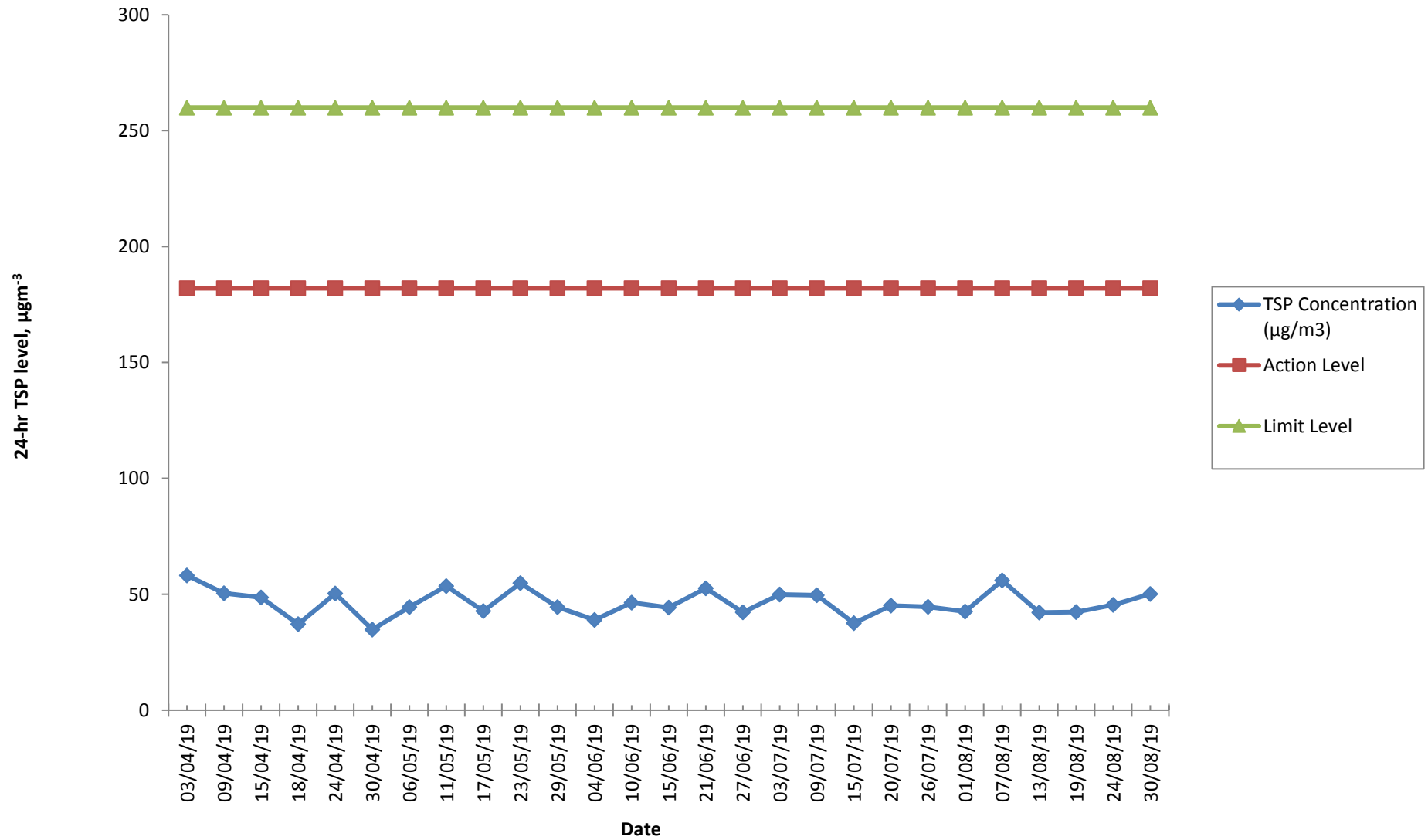
ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative

Appendix J **MONITORING RESULTS AND THEIR GRAPHICAL PRESENTATION**

Air Quality Monitoring Results for AM2

SAMPLING DATE	WT. OF PAPER (G)				ELAPSE TIME			FLOW RATE (CFM)			TOTAL VOLUME (M ³)	TSP CONCENTRATION (MG/M3)	WEATHER	REMARK
	Paper No.	Initial Wt.	Final Wt.	Wt. of dust	Initial	Final	Sampling Hour	Initial	Final	Avg Flow Rate				
01/08/19	C590	2.7982	2.8677	0.0695	19089.30	19113.30	24.00	40	40	40.0	1631.05	42.6106	Rainy	-
07/08/19	C591	2.8019	2.8933	0.0914	19113.30	19137.30	24.00	40	40	40.0	1631.05	56.0375	Sunny	-
13/08/19	C592	2.8124	2.8811	0.0687	19137.30	19161.30	24.00	40	40	40.0	1631.05	42.1201	Rainy	-
19/08/19	C593	2.8007	2.8698	0.0691	19161.30	19185.30	24.00	40	40	40.0	1631.05	42.3653	Sunny	-
24/08/19	C594	2.8122	2.8863	0.0741	19185.30	19209.30	24.00	40	40	40.0	1631.05	45.4309	Sunny	-
30/08/19	C595	2.7884	2.8701	0.0817	19209.30	19233.30	24.00	40	40	40.0	1631.05	50.0904	Rainy	-

Construction Dust Monitoring Results for AM2 (Harbourfront Horizon)



Appendix K WASTE FLOW TABLE

	WASTE FLOW TABLE															
Month	Actual Quantities of Inert C&D Materials Generated Monthly									Actual Quantities of non-inert C&D Wastes Generated Monthly						
	Generated				Disposed					Recycled				Disposed		
	Imported from SCL1111	Imported from SCL1121	Total Quantity Generated	Hard Rock and Broken Concrete	Reused in the Contract	Reused in Other Projects	Disposed as Public Fills at HH Barging Point	Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Metals	Paper/ Cardboard Packaging	Asphalt	Plastics	Chemical Waste	General Refuse	
Unit	(in '000m ³)									(in '000Kg)				(in '000Kg)	(in '000L)	(in '000Kg)
Jun-13	0	-	0	0	0	0	0	0	0	137.3	0	0	0	0	-	6.55
Jul-13	0	-	0.36	0	0	0	0	0	0.36	365.34	0	0	0	0	-	16.87
Aug-13	0	-	1.68	0	0	0	0.05	0	1.63	69.98	0.25	0	0	0	-	12.67
Sep-13	0	-	3.39	0	0	0	0.20	0	3.19	131.18	0.22	0	0.46	0	-	16.25
Oct-13	0	-	4.04	0	0	0	0.78	0	3.26	179.97	0.63	8.28	2.04	0	-	39.87
Nov-13	0	-	6.09	0	0	0	2.09	0.18	3.82	125.70	0.45	160.35	0	0	-	28.69
Dec-13	0	-	5.69	0	0	0	1.74	0.01	3.94	72.15	0.39	4.13	0	0	-	18.04
Jan-14	0	-	4.58	0	0	0	0	0.27	4.31	117.57	0.26	147.67	0.26	0	-	30.09
Feb-14	0	-	3.80	0	0	0.14 ^[Note1]	0	0.19	3.46	28.32	0.29	414.67	0	0	-	15.73
Mar-14	0	-	10.10	0	0	6.18 ^[Note2]	0	0.29	3.63	96.26	0.25	0	0	0	-	47.76
Apr-14	0	-	6.67	0	0	4.82 ^[Note3]	0	0.0053	1.85	75.43	0.23	1,322.39	0	0.2	-	78.63
May-14	0.52	-	5.77	0	0.43	2.00 ^[Note4]	0	0.12	3.65	48.86	0.28	501.45	0	0	-	66.03
Jun-14	0.47	-	4.56	0	0	1.73 ^[Note5]	0	0.29	2.54	42.95	0.25	0	0	0.4	-	45.97
Jul-14	0.34	-	8.61	0	0	2.89 ^[Note6]	0	0.87	4.84	70.99	0	0	0	0	-	40.50
Aug-14	0.20	-	8.57	0	0	3.56 ^[Note7]	0	0.44	4.57	227.86	0	0	0	0	-	76.93
Sep-14	0.23	-	11.11	0	0	5.82 ^[Note8]	0	0.23	5.06	220.85	0.29	0	0	0	-	43.01
Oct-14	0.54	-	12.79	0	0	6.04 ^[Note9]	0	0.06	6.69	174.82	0.71	329.16	0	0	-	97.92
Nov-14	0.93	-	10.63	0	0	3.78 ^[Note10]	0	0.15	6.70	163.72	0.56	376.40	0	0	-	81.91
Dec-14	3.72	-	8.59	0	0	2.97 ^[Note11]	0	0	5.62	385.80	0.53	166.98	0	5.4	-	130.83
Jan-15	3.72	-	19.29	0	0	10.03 ^[Note12]	0	0	9.26	543.40	0.80	179.01	0	0	1.60	318.66
Feb-15	3.03	-	13.96	0	0	8.41 ^[Note13]	0	0	5.54	263.10	0.46	168.82	0	0	0	180.27
Mar-15	5.68	-	22.28	0	0	12.45 ^[Note14]	0	0	9.82	346.70	0.61	11.45	0	0	0	429.13
Apr-15	4.71	-	18.51	0	0	11.25 ^[Note15]	0	0.23	7.26	275.99	0.32	0	0	0	0	376.98

	WASTE FLOW TABLE															
May-15	4.62	-	20.64	0	0	11.53 ^[Note16]	0	0	9.10	353.88	0.67	0	0	0	0	266.43
Jun-15	5.04	-	13.49	0	0	6.29 ^[Note17]	0	0	7.20	317.14	0.43	0	0	0.20	1.00	258.01
Jul-15	6.21	0.09	21.64	0	0	16.15 ^[Note18]	0	0	5.50	706.38	0.69	0	0	0	0	270.73
Aug-15	0.40	0	26.43	0	0	19.29 ^[Note19]	0	0	7.14	45.53	0.57	0	0	0	0	261.04
Sep-15	-	-	20.91	0	0	13.16 ^[Note20]	0	0	7.75	317.36	0.58	0	0	0.45	0	240.74
Oct-15	-	-	26.22	0	0	14.19 ^[Note21]	0	0	12.03	251.95	0.48	0	0	0	0	422.80
Nov-15	-	-	18.66	0	0	7.03 ^[Note22]	0	0	11.64	446.80	0.53	0	0	0	0	283.46
Dec-15	-	-	17.02	0	0	9.81 ^[Note23]	0	0	7.21	198.11	0.50	0	0	0	0	355.24
Jan-16	-	-	24.58	0	0	13.22 ^[Note24]	0	0	11.37	273.64	0.62	0	0	0	0	347.67
Feb-16	-	-	9.34	0	0	4.31 ^[Note25]	0	0	5.04	269.58	0.46	0	0	0	0	251.30
Mar-16	-	-	9.75	0	0	3.48 ^[Note26]	0	0	6.27	750.85	0	0	0	0	0	288.35
Apr-16	-	-	12.83	0	0	5.68 ^[Note27]	0	0	7.15	549.43	0.65	0	0	0.09	1.30	282.05
May-16	-	-	7.22	0	0	2.08 ^[Note28]	0	0	5.14	356.66	0.55	0	0	0	0	318.75
Jun-16	-	-	2.83	0	0	2.38 ^[Note29]	0	0	0.45	228.10	0.40	0	0	0	4.21	410.03
Jul-16	-	-	8.67	0	0	8.50 ^[Note30]	0	0.01	0.16	172.90	0.16	0	0	0	0	418.44
Aug-16	-	-	2.08	0	0	1.95 ^[Note31]	0	0	0.12	334.40	0.30	0	0	0	0	542.00
Sep-16	-	-	1.44	0	0	1.44 ^[Note32]	0	0	0	47.10	0.37	0	0	0	0	542.44
Oct-16	-	-	3.00	0	0	3.00 ^[Note33]	0	0	0	99.79	0.44	0	0	0	0	633.27
Nov-16	-	-	1.29	0	0	1.29 ^[Note34]	0	0	0	29.71	0.45	0	0	0	0	866.16
Dec-16	-	-	1.10	0	0	1.10 ^[Note35]	0	0	0	45.80	0.48	0	0	0	0	978.39
Jan-17	-	-	2.19	0	0	2.19 ^[Note36]	0	0	0	26.10	0.25	0	0	0	0	730.48
Feb-17	-	-	1.04	0	0	1.04 ^[Note37]	0	0	0	0	0.45	0	0	0	0	564.62
Mar-17	-	-	0.89	0	0	0.89 ^[Note38]	0	0	0	0	0.49	0	0.31	0	0	688.72
Apr-17	-	-	0.83	0	0	0.83 ^[Note39]	0	0	0	0	0.36	0	0	0	0	567.73
May-17	-	-	1.23	0	0	1.23 ^[Note40]	0	0	0	0	0.16	0	0	0	0	597.93
Jun-17	-	-	0.70	0	0	0.70 ^[Note41]	0	0	0	0	0.17	0	0	0	0	440.50
Jul-17	-	-	0.98	0	0	0.98 ^[Note42]	0	0	0	0	0.31	0	0	0	0	371.00
Aug-17	-	-	0.63	0	0	0.63 ^[Note43]	0	0	0	0	0.17	0	0	0	0	393.48
Sep-17	-	-	0.21	0	0	0.21 ^[Note44]	0	0	0	0	0.23	0	0.11	0	0	362.47

	WASTE FLOW TABLE															
Oct-17	-	-	0.25	0	0	0.25 ^[Note45]	0	0	0	0	0.10	0	0	0	0	377.69
Nov-17	-	-	0.66	0	0	0.66 ^[Note46]	0	0	0	11.77	0.35	0	0	0	0	788.65
Dec-17	-	-	0.91	0	0	0.91 ^[Note47]	0	0	0	0	0	0	0	0	0	446.48
Jan-18	-	-	0.83	0	0	0.83 ^[Note48]	0	0	0	0	0	0	0	0	0	571.95
Feb-18	-	-	0.35	0	0	0.35 ^[Note49]	0	0	0	0	0	0	0	0	0	395.37
Mar-18	-	-	0.66	0	0	0	0	0	0.66	0	0	0	0	0	0	760.13
Apr-18	-	-	0.55	0	0	0	0	0	0.55	0	0.04	0	0	0	0	461.49
May-18	-	-	0.40	0	0	0	0	0	0.40	14.37	0	0	0	0	0	245.30
Jun-18	-	-	0.48	0	0	0.00	0	0.00	0.48	0	0	0	0	0	0	164.33
Jul-18	-	-	0.33	0	0	0.00	0	0.07	0.27	45.84	0	0	0	0	0	148.53
Aug-18	-	-	0.14	0	0	0.00	0	0.00	0.14	53.62	0	0	0	0	0	133.46
Sep-18	-	-	0.16	0	0	0.00	0	0.00	0.16	0	0	0	0	0	0	112.56
Oct-18	-	-	0.35	0	0	0.00	0	0.00	0.35	5.21	0	0	0	0	0	129.09
Nov-18	-	-	0.23	0	0	0.00	0	0.00	0.23	0	0	0	0	0	0	96.35
Dec-18	-	-	0.17	0	0	0	0	0	0.17	0	0	0	0	0	0	71.21
Jan-19	-	-	0.24	0	0	0.00	0	0.00	0.24	0	0	0	0	0	0	67.72
Feb-19	-	-	0.08	0	0	0.00	0	0.00	0.08	0	0	0	0	0	0	42.90
Mar-19	-	-	0.042	0	0	0.00	0	0.00	0.042	0	0	0	0	0	0	51.08
Apr-19	-	-	0.075	0	0	0.00	0	0.00	0.075	0	0	0	0	0	0	44.30
May-19	-	-	0.00	0	0	0.00	0	0.00	0.00	0	0	0	0	0	0	60.98
Jun-19	-	-	0.070	0	0	0.00	0	0.00	0.070	0	0	0	0	0	0	85.82
Jul-19	-	-	0.032	0	0	0.00	0	0.00	0.032	0	0	0	0	0	0	82.09
Aug-19	-	-	0.080	0	0	0.00	0	0.00	0.080	0	0	0	0	0	0	72.45
TOTAL	40.35	0.09	457.00	0.00	0.42	239.63	4.86	3.43	209.32	9790.05	21.34	3790.76	3.18	6.74	8.11	20574.09

Note:

1. 137 m³ of the Inert C&D materials were reused in South Island Line (SIL) Project Contract 904.
2. 267 m³ of the Inert C&D materials were reused in SIL Project Contract 904; 3,998 m³ of the Inert C&D materials were reused in Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West Project Contract HK/2012/08; and 1,912 m³ of the Inert C&D materials were reused in Tuen Mun – Chek Lap Kok Link (TM-CLKL) and Tuen Mun Western Bypass (TMWB) Project Contract HY/2012/08.

3. 1,728 m³ of the Inert C&D materials were reused in Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West Project Contract HK/2012/08; and 3,088 m³ of the Inert C&D materials were reused in TM-CLKL and TMWB Project Contract HY/2012/08.
4. 184 m³ of the Inert C&D materials were reused in South Island Line (SIL) Project Contract 904; and 1814 m³ of the Inert C&D materials were reused in TM-CLKL and TMWB Project Contract HY/2012/08.
5. 1,021 m³ of the Inert C&D materials were reused in Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West Project Contract HK/2012/08; and 707 m³ of the Inert C&D materials were reused in TM-CLKL and TMWB Project Contract HY/2012/08.
6. 2,894 m³ of the Inert C&D materials were reused in TM-CLKL and TMWB Project Contract HY/2012/08.
7. 575.5m³ of the Inert C&D materials were reused in Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West Project Contract HK/2012/08; and 2907.6 m³ of the Inert C&D materials were reused in TM-CLKL and TMWB Project Contract HY/2012/08; and 76.0 m³ of the Inert C&D materials were reused in Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West Project Contract HK/2009/08.
8. 4,905.4 m³ of the Inert C&D materials were reused in TM-CLKL and 912.3 m³ of the Inert C&D materials were reused in SIL Project Contract 904.
9. 5,522.9 m³ of the Inert C&D materials were reused in TM-CLKL and 515.9 m³ of the Inert C&D materials were reused in SIL Project Contract 904.
10. 3,774.6 m³ of the Inert C&D materials were reused in TM-CLKL.
11. 2,968.9 m³ of the Inert C&D materials were reused in TM-CLKL (HY/2012/08).
12. 9,988.1 m³ of the Inert C&D materials were reused in WENT (SITA) and 46.34 m³ of the Inert C&D materials were reused in SIL Project Contract 904.
13. 8,212.8 m³ of the Inert C&D materials were reused in WENT (SITA) and 200.9 m³ of the Inert C&D materials were reused in SIL Project Contract 904.
14. 11,757 m³ of the Inert C&D materials were reused in WENT (SITA), 23.41 m³ of the Inert C&D materials were reused in SIL Project Contract 904 and 672.78 m³ of the Inert C&D materials were reused in XRL822.
15. 10,633 m³ of the Inert C&D materials were reused in WENT (SITA) and 0.61176 m³ of the Inert C&D materials were reused in XRL822.
16. 11,533 m³ of the Inert C&D materials were reused in WENT (SITA).
17. 6,290 m³ of the Inert C&D materials were reused in WENT (SITA).
18. 16,145 m³ of the Inert C&D materials were reused in WENT (SITA).
19. 878 m³ of the Inert C&D materials were reused in WENT (SITA) and 18,415 m³ of the Inert C&D materials were reused in SCL1121.
20. 13,163 m³ of the Inert C&D materials were reused in SCL1121.
21. 14,189 m³ of the Inert C&D materials were reused in SCL1121.
22. 7,030 m³ of the Inert C&D materials were reused in SCL1121.
23. 9,811 m³ of the Inert C&D materials were reused in SCL1121.
24. 13,218 m³ of the Inert C&D materials were reused in SCL1121.
25. 4,306 m³ of the Inert C&D materials were reused in SCL1121.
26. 3,478 m³ of the Inert C&D materials were reused in SCL1121.
27. 5,680 m³ of the Inert C&D materials were reused in SCL1121.
28. 2,080 m³ of the Inert C&D materials were reused in SCL1121.
29. 2,380 m³ of the Inert C&D materials were reused in SCL1121.
30. 8,500 m³ of the Inert C&D materials were reused in SCL1121.
31. 1,950 m³ of the Inert C&D materials were reused in SCL1121.
32. 1,440 m³ of the Inert C&D materials were reused in SCL1121.
33. 3,004 m³ of the Inert C&D materials were reused in SCL1121.
34. 1,290 m³ of the Inert C&D materials were reused in SCL1121.
35. 1,100 m³ of the Inert C&D materials were reused in SCL1121.

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36. 2,190 m³ of the Inert C&D materials were reused in SCL1121.
 37. 1,040 m³ of the Inert C&D materials were reused in SCL1121.
 38. 890 m³ of the Inert C&D materials were reused in SCL1121.
 39. 830 m³ of the Inert C&D materials were reused in SCL1121.
 40. 1,230 m³ of the Inert C&D materials were reused in SCL1121.
 41. 700 m³ of the Inert C&D materials were reused in SCL1121.
 42. 980 m³ of the Inert C&D materials were reused in SCL1121.
 43. 630 m³ of the Inert C&D materials were reused in SCL1121.
 44. 210 m³ of the Inert C&D materials were reused in SCL1121.
 45. 250 m³ of the Inert C&D materials were reused in SCL1121.
 46. 660 m³ of the Inert C&D materials were reused in SCL1121.
 47. 910 m³ of the Inert C&D materials were reused in SCL1121.
 48. 830 m³ of the Inert C&D materials were reused in SCL1121.
 49. 350 m³ of the Inert C&D materials were reused in SCL1121.

	MARINE SEDIMENT FLOW TABLE					
Month	Actual Quantities of Marine Dumping Monthly					
	Type 1			Type 2		
	Generated from SCL1111 [Note1]	Generated from SCL1112 [Note3]	Disposed	Generated from SCL1111 [Note2]	Generated from SCL1112 [Note4]	Disposed
Unit	(in '000m ³)			(in '000m ³)		
Jan-15	0	0	0	2.22	0.06	2.28
Feb-15	1.29	0	0.82	0	0	0
Mar-15	2.43	0	2.48	0	0	0
Apr-15	3.97	0.14	5.27	0	0	0
May-15	8.26	0.09	8.35	0	0	0
Jun-15	9.71	0.12	9.83	0	0	0
Jul-15	5.29	0	5.18	0	0	0
Aug-15	0	0	0	0	0	0
Sep-15	-	0	0	-	1.94	1.94
Oct-15	-	0.53	0.53	-	0	0
Nov-15	-	5.67	5.67	0	2.32	2.32
Dec-15	-	14.44	-	-	1.02	-
Jan-16	-	16.59	-	-	0.02	-
Feb-16	-	1.25	-	-	4.04	-
Mar-16	-	3.85	-	-	2.30	-
Apr-16	-	0	-	-	0.36	-
May-16	-	0	-	-	4.06	-
Jun-16	-	0	-	-	6.45	-
Jul-16	-	0	-	-	0	-
Aug-16	-	0	-	-	0	-
Sep-16	-	0	-	-	0	-
Oct-16	-	0	-	-	0	-
Nov-16	-	0	-	-	0	-
Dec-16	-	0	-	-	0	-
Jan-17	-	0	-	-	0	-

	MARINE SEDIMENT FLOW TABLE					
Feb-17	-	0	-	-	0	-
Mar-17	-	0	-	-	0	-
Apr-17	-	0	-	-	0	-
May-17	-	0	-	-	0	-
Jun-17	-	0	-	-	0	-
Jul-17	-	0	-	-	0	-
Aug-17	-	0	-	-	0	-
Sep-17	-	0	-	-	0	-
Oct-17	-	0	-	-	0	-
Nov-17	-	0	-	-	0	-
Dec-17	-	0	-	-	0	-
Jan-18	-	0	-	-	0	-
Feb-18	-	0	-	-	0	-
Mar-18	-	0	-	-	0	-
Apr-18	-	0	-	-	0	-
May-18	-	0	-	-	0	-
Jun-18	-	0	-	-	0	-
Jul-18	-	0	-	-	0	-
Aug-18	-	0	-	-	0	-
Sep-18	-	0	-	-	0	-
Oct-18	-	0	-	-	0	-
Nov-18	-	0	-	-	0	-
Dec-18	-	0	-	-	0	-
Jan-19	-	0	-	-	0	-
Feb-19	-	0	-	-	0	-
Mar-19	-	0	-	-	0	-
Apr-19	-	0	-	-	0	-
May-19	-	0	-	-	0	-
Jun-19	-	0	-	-	0	-

	MARINE SEDIMENT FLOW TABLE					
Jul-19	-	0	-	-	0	-
Aug-19	-	0	-	-	0	-
TOTAL	31.69	42.67	38.11	2.22	22.57	6.54

Note:

1. Type 1 Marine Sediment generated from SCL1111 was delivered to the Barging Point at SCL1121 for disposal.
2. Type 2 Marine Sediment generated from SCL1111 was delivered to the Barging Point at SCL1121 for disposal.
3. Type 1 Marine Sediment generated from SCL1112 was delivered to the Barging Point at SCL1121 for disposal.
4. Type 2 Marine Sediment generated from SCL1112 was delivered to the Barging Point at SCL1121 for disposal.

Appendix L **CUMULATIVE STATISTICS ON COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS**

Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

	DATE RECEIVED	REFERENCE NO.	SUBJECT	LOCATION OF CONCERN	STATUS
Environmental Complaints	7 January 2019	Public comment received by EPD, EPD's Ref. No. K01/RE/00000599-19	General construction noise except renovation (within Restricted Hours)	Hung Hom MTR Station	<ul style="list-style-type: none"> Environmental performance at the site and implementation status of proposed noise mitigation measures were immediately reviewed by the Contractor on 8 January 2019. No external works outside Hung Hom Concourse were carried out during the time of the complaint. On 8 January 2019, signage erection involving one scissor lift, hand-drill and hand-held breaker was carried out inside the Concourse. All works were carried out with the concourse entrance closed and was covered by a valid CNP. The noise from such equipment and machinery does not appear to match the noise in the sound recording provided by the complainant. No source of the noise in the sound recording could be identified from construction works carried out at Hung Hom Station. Investigation report submitted to EPD on 17 January 2019.
Environmental Complaints	19 January 2018	Public comment received by EPD, EPD's Ref. No. K01/RE/00002030-18 & K01/RE/00002056-18	General construction noise except renovation (within Restricted Hours)	Hung Hom MTR Station	<ul style="list-style-type: none"> Environmental performance at the site and implementation status of proposed noise mitigation measures were immediately reviewed by the Contractor on 19 January 2018. Ceiling panel works involving elevated working platforms (scissor lifts or cherry pickers) inside the concourse was carried out on 19 and 20 January 2018. All works were carried out behind the door leaves with the concourse entrance closed. On 19 January 2018, there was also works carried out outside the concourse which required the use of a scissor lift for hoarding removal at North Concourse and paint removal at East Concourse. The scissor lift platform mobilization sound, i.e. "beeping" sound, has already been muted to minimise sound since the working area was already fenced off with a lookout

	DATE RECEIVED	REFERENCE NO.	SUBJECT	LOCATION OF CONCERN	STATUS
					<p>man provided. However, the level sensor of the scissor lift would be activated as a safety warning signal whenever the platform is at a high position with balance at risk.</p> <ul style="list-style-type: none"> • All works carried out by SCL Contract 1112 on 19 and 20 January 2018 were covered by valid CNPs. • Investigation report submitted to EPD on 26 January 2018.
Environmental Complaints	7 December 2017	Public comment received by EPD, EPD's Ref. No. K01/RE/00039690-17	Dust Nuisance	Hong Kong Coliseum, 9 Cheong Wan Road, Hung Hom	<ul style="list-style-type: none"> • The Contractor immediately reviewed environmental performance at the site and implementation status of dust mitigation measures upon receipt of Notice of Complaint from EPD. • The Contractor confirmed that remediation work of concrete wall on top of the vent shaft was on-going at SAT (near the podium of the Hong Kong Coliseum). • Tarpaulin sheet as a construction dust barrier was implemented as dust mitigation measures during the course of the remediation work, and additional mitigation measure in the form of water spraying for dust suppression in the works area was immediately provided by the Contractor after site review. • Given the fact that remediation works surrounding the podium are completed and mitigation measures in place are considered sufficient and effective, the construction works for Contract 1112 is unlikely to cause any dust nuisance. • Investigation report submitted to EPD on 15 December 2017.
Environmental Complaints	10 April 2017	Public comment received by EPD, EPD's Ref. No. K01/RE/00010598-17	General construction noise except renovation (within Restricted Hours)	The Metropolis, No. 7-10 Metropolis Drive, Tsim Sha Tsui	<ul style="list-style-type: none"> • ET conducted inspection to examine the environmental performance of the site on 13 April 2017. • The Contractor confirmed bulkhead wall demolition work using coring machine at SAT was carried out on 7 & 8 April 2017 during 1 am – 5 am behind the door leaves and no machinery that would generate beeping sound was involved. • On the two nights from 6 to 8 April 2017, installation of

	DATE RECEIVED	REFERENCE NO.	SUBJECT	LOCATION OF CONCERN	STATUS
					<p>smoke barrier was conducted under podium which required the use of a cherry picker. During cherry picker platform mobilization, safety warning signal, i.e. “beeping” sound, would be emitted. Since the cherry picker was located under the podium with no direct line of sight from the Metropolis Residence, safety warning signal should not be audible from above the podium or at the Metropolis Residence.</p> <ul style="list-style-type: none"> • There was works involving the use of scissor lifts inside the concourse during April 2017 from 1 am – 5 am. However, such works were carried out with the main door closed. • On 6 & 7 April 2017, there were loading and unloading works using a crane lorry at the north side outside the Concourse from 1 am – 5 am. Backwards movement of the crane lorry would also emit a “beeping” sound as the safety warning signal to alert nearby worker of the movement of the vehicle. • All works carried out by SCL Contract 1112 in early April 2017 are covered by valid CNPs. • Investigation report submitted to EPD on 2 May 2017.
Environmental Complaints	13 March 2017	Public comment received by EPD, EPD’s Ref. No. EP3/K01/RE/0000 7049-17	General construction noise except renovation (within Restricted Hours)	Hong Kong Coliseum at No. 9 Cheong Wan Road, Tsim Sha Tsui	<ul style="list-style-type: none"> • ET conducted inspection to examine the environmental performance of the site on 16 March 2017. • The Contractor confirmed no construction works was carried out at the uncovered site area to the south of the Hong Kong Coliseum podium on 12 March 2017. • It is confirmed that general housekeeping works were carried out under the Hong Kong Coliseum podium to prepare site hand over. No noisy operation with PME or hammering works was carried out that could lead to generation of noise nuisance. • A valid Construction Noise Permit (CNP No. GW-RE0124-17) valid from 28 February 2017 to 27 August 2017 was granted for construction works, including the housekeeping works, carried out under the podium during all restricted hours.

	DATE RECEIVED	REFERENCE NO.	SUBJECT	LOCATION OF CONCERN	STATUS
					<ul style="list-style-type: none"> Given the fact that only housekeeping works were carried out under the podium of the Hong Kong Coliseum on 12 March 2017, noise nuisance reported by the complainant shall not be generated from the site managed under SCL Contract 1112. Investigation report submitted to EPD on 21 March 2017.
Environmental Complaints	8 April 2016	Public comment received by EPD, EPD's Ref. No. K01/RE/00008018-16	Air nuisance, other than dark smoke, from construction machine	Hung Hom Station, Tsim Sha Tsui	<ul style="list-style-type: none"> ET conducted inspection to examine the environmental performance of the site on 14 April 2016. Both the site and machineries were in normal operation during the site inspection. No air nuisance or smell of diesel exhaust was noticed at the concourse by any of the attending personnel. No diesel powered equipment was found at the concourse, as all of the powered mechanical equipment was powered by electricity. It is confirmed that the fresh air intake location of the air conditioning system serving the concourse level is located above the podium at the southern façade of the concourse, away from the construction work under the podium. It is also confirmed that the sealed system is totally separated from the construction site under the podium. No air from the construction area under the podium will be drawn into the air conditioning system for distribution within the station. The source of strong diesel exhaust smell at the concourse, as mentioned by the complainant, could not be identified. Investigation report submitted to EPD on 26 April 2016.
Environmental Complaints	11 April 2016	Public comment received by EPD, EPD's Ref. No. K01/RE/00008149-16	Complaint of other air nuisance at Hung Hom Station, Tsim Sha Tsui	Hung Hom Station, Tsim Sha Tsui	<ul style="list-style-type: none"> Complaint confirmed to be irrelevant to the construction works of the Project, no follow up required.

	DATE RECEIVED	REFERENCE NO.	SUBJECT	LOCATION OF CONCERN	STATUS
Environmental Complaints	24 March 2016	Public comment received by EPD, EPD's Ref. No. K01/RE/00006851-16	"General construction noise except renovation (within Restricted Hours) from Hung Hom Station, Tsim Sha Tsui"	Hung Hom Station, Tsim Sha Tsui	<ul style="list-style-type: none"> The Contractor confirmed that only mobilization, i.e. transportation of the equipment itself, of the scissor lift platforms were carried out during night time. During scissor lift platforms mobilization, safety warning signal (the "beeping" noise) would be emitted. The audible warning signal device cannot be switched off so as to alert nearby workers of the movement of the equipment. Silencing the device could induce safety concern and not advisable. At night time of 22 and 23 March 2015, a forklift was deployed for the transportation of concrete blocks to be used as the footings for hoarding construction outside the concourse area (Photo 2). Backward movement of the forklift would also generate safety warning signal. There is another valid CNP (CNP No. GW-RE0176-16) for construction works to be carried out inside the concourse during night time. However, this is not applicable to the works of concern, located outside the concourse area. Whereas CNP No. GW-RE0207-16, effective from 10 March 2016 to 28 April 2016, allows mobilization of scissor lift platforms and use of forklift for transportation of construction material outside the MTR Hung Hom Station. Investigation report submitted to EPD on 20 April 2016.
Environmental Complaints	28 September 2015	Public comment received by EPD, K01/RE/00024658-15	Complaint of general construction noise except renovation (within Restricted Hours) from construction site at Hung Hom	Harbour Plaza Metropolis, Tsim Sha Tsui	<ul style="list-style-type: none"> A valid construction noise permit (CNP) (CNP no. GW-RN0969-15) was granted for such works from 25 September 2015 to 24 March 2016. Noise mitigation measures were implemented at the site. Due to the limited construction works being carried out during the evening period and most of the active construction works being carried out under the podium which had no direct line of sight from the nearest sensitive receiver, Harbour Plaza Metropolis, construction noise nuisance from Shatin to Central Link (SCL) Contract 1112 should not be anticipated. Investigation report submitted to EPD on 3 November 2015.

	DATE RECEIVED	REFERENCE NO.	SUBJECT	LOCATION OF CONCERN	STATUS
Environmental Complaints	10 March 2015	Public comment received by EPD, K01/RE/00005632-15	Complaint of malodour from Hung Hom Station (near Exit B1)	Hung Hom Station, Tsim Sha Tsui	<ul style="list-style-type: none"> ET conducted inspection to examine the environmental performance of the site on 12 Mar 2015 No odour was noticed by all attending parties. It was observed that excavation, predrilling, welding, box culvert construction and installation of TAM grout pipeworks were carried out at the NAT works area, located to the west and east of the footbridge The source of malodour could not be identified A barrier was erected on the eastern side of footbridge, with the barrier already in place on the western side of the footbridge since November 2014, so now both sides of the footbridge contain barriers to shield off any dust or odour from the site No noticeable malodour was observed and the air quality control was found to be satisfactory according to conversation between EPD and the Contractor Investigation Report submitted to EPD on 26 Mar 2015

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Appendix C

Final EM&A Review Report for Works Contract 1106 –
Diamond Hill Station

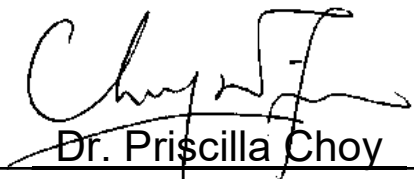
MTR Corporation Limited

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

Final EM&A Review Report

Works Contract 1106 – Diamond Hill Station

(August 2019)

Certified by: 
_____ Dr. Priscilla Choy

Position: Environmental Team Leader

Date: 09th September 2019

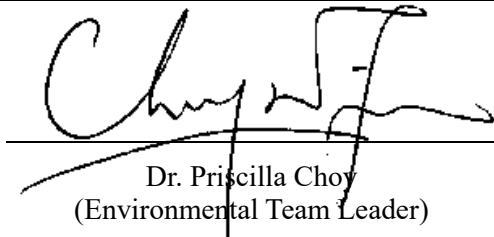
Leader Joint Venture

Shatin to Central Link – Contract 1106 Diamond Hill Station

Final Environmental Monitoring and Audit Review Report

August 2019

(Version 1.0)

<p>Certified By</p>  <p>Dr. Priscilla Choy (Environmental Team Leader)</p>
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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.

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EXECUTIVE SUMMARY

Introduction

1. This is the Final Environmental Monitoring and Audit (EM&A) Review Report prepared by Cinotech Consultants Limited for **MTR Shatin to Central Link (SCL) Works Contract 1106 – Diamond Hill Station**. This report documents the findings of EM&A Works of the Project from 12 March 2013 to 1 August 2019. (EM&A works originally scheduled on 31st July 2019 were rescheduled due to adverse weather condition)
2. The major construction works for Contract 1106 commenced on 12 March 2013 and were substantially completed by 25 June 2019. The cessation proposal of EM&A programme has been submitted on 25 July 2019 and was approved by EPD on 31 July 2019.

Summary of Construction Works undertaken during the Construction Period

3. The major site activities undertaken in the construction period include:
 - Tree protection and transplantation;
 - D-wall construction;
 - Asbestos Demolition Works;
 - Construction of SCL-Diamond Hill (SCL-DIH) Station, Interchange Adit, West Unpaid Link, Mean of Escape (MOE);
 - Archaeological survey-cum-excavation;
 - Dismantling of Former Royal Air Force (RAF) Hangar;
 - Construction of temporary storage compound for Former Royal Air Force Hangar and Old Pillbox;
 - Relocation of Old Pillbox;
 - Utility Unites diversion works;
 - Bore pilling works and other pilling works;
 - Excavation and ELS works;
 - Reinstatement works at existing bus bay at Lung Cheung Road;
 - Backfilling and concreting works;
 - Foundation works
 - Superstructure and ABWF works at SCL-DIH station;
 - Site preparation and interim relocation works for Old Pillbox and Former RAF Hangar;
 - General site clearance and landscaping works.

Environmental Monitoring and Audit Progress

4. A summary of the baseline and impact monitoring activities are listed below and the impact monitoring works were undertaken by Contractor ET of Works Contract SCL 1106:

- Construction noise monitoring

Noise Monitoring Station ID

- NMS-CA-3⁽¹⁾/NMS-CA-4⁽²⁾ (H.K. Sheng Kung Hui Nursing Home)
 - Baseline Monitoring 12th Sept 2012 – 26th Sept 2012
 - Impact Monitoring 06th Oct 2016 – 1st Aug 2019⁽⁵⁾
- NMS-CA-4⁽¹⁾/NMS-CA-3⁽²⁾ (Block 1, Rhythm Garden (north-eastern façade))
 - Baseline Monitoring 11st Sept 2012 – 25th Sept 2012
 - Impact Monitoring 14th Mar 2013 – 1st Aug 2019
- NMS-CA-5⁽¹⁾/NMS-CA-2⁽²⁾ (Block 1, Rhythm Garden (northern façade))
 - Baseline Monitoring 11st Sept 2012 – 25th Sept 2012
 - Impact Monitoring 14th Mar 2013 – 1st Aug 2019

- Construction Dust (24-hour TSP) Monitoring

Dust Monitoring Station ID

- DMS-3⁽¹⁾/DMS-4⁽²⁾ (H.K. Sheng Kung Hui Nursing Home)
 - Baseline Monitoring 11st Sept 2012 – 25th Sept 2012
 - Impact Monitoring 05th Oct 2016 – 31st Jul 2019⁽⁴⁾
- DMS-4⁽¹⁾/ DMS-3⁽²⁾ (Block 1, Rhythm Garden)
 - Baseline Monitoring 11st Sept 2012 – 26th Sept 2012⁽³⁾
 - Impact Monitoring 15th Mar 2013 – 31st Jul 2019

Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) As there was no electricity supply on 16 Sept, the monitoring period was extended.
- (4) Dust monitoring at DMS-3⁽¹⁾/DMS-4⁽²⁾ (Hong Kong Sheng Kung Nui Nursing Home) was carried out by Environmental Team of SCL Works Contract 1103 from 15th Feb 2013 to 29th Sept 2016.
- (5) Noise monitoring at NMS-CA-3⁽¹⁾/NMS-CA-4⁽²⁾ (Hong Kong Sheng Kung Nui Nursing Home) was carried out by Environmental Team of SCL Works Contract 1103 from 14th Feb 2013 to 28th Sept 2016.

Cultural Heritage

5. An Archaeological Action Plan (AAP) for the survey-cum-excavation at the former Tai Hom Village site was approved by EPD on 8 April 2013. A Licence to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance has been subsequently obtained from Antiquities and Monuments Office (AMO) on 19 April 2013. The archaeological survey-cum-excavation at Former Tai Hom Village commenced on 9 May 2013 and the fieldwork had been completed in September 2013 in accordance with the Licence granted and the approved AAP. The finalized Archaeological Survey-cum-Excavation Report was submitted to AMO on 27 February 2017. Artefacts handover to AMO was completed on 18 May 2017.
6. The Conservation Plans for the two historic buildings, namely Former Royal Air Force Hangar and the Old Pillbox at the former Tai Hom Village site, were approved by EPD on 24 April 2013. Dismantling works on Former Royal Air Force Hangar was carried out in accordance with the approved Conservation Plan and completed in June 2013. Relocation works for the Old Pillbox had been completed in November 2013 in accordance with the approved Conservation Plan. Proposal for relocation of two historic buildings was approved by EPD on 20 April 2018. The Old Pillbox relocation was completed on 18 Jul 2018 and the Former Royal Air Force Hanger relocation was completed on 25 Aug 2018. Regular maintenance and inspection works of the two

historic buildings were carried out in accordance with the approved Conservation Plan and relocation proposal. MTRCL will be responsible for the management and maintenance until Housing Department is formally entrusted as the working agent for the construction of Water Feature Park and will take up the responsibility of management and maintenance of the two historic buildings.

Waste Management

7. Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. Most of the necessary mitigation measures have been implemented accordance to the waste management plan and recommended follow-up actions have been discharged by the Contractor regarding to waste management in the reporting period. Details of waste management data is presented in Section 5 and **Appendix F**.

Landscape and Visual

8. Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted throughout the construction period. Most of the necessary mitigation measures have been implemented and recommended follow-up actions have been discharged by the Contractor.

Environmental Site Inspection

9. Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET throughout the construction period. The representative of the IEC joined the site inspection once per month.

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

10. No exceedance of the Action and Limit Levels of regular construction noise monitoring and 24-hour TSP monitoring was recorded during the whole construction period.
11. No non-compliance event was recorded during the reporting period.
12. 17 of Project related environmental complaints were received and no notification of summons/ successful prosecution was received in the whole construction period. The effectiveness of mitigation measures implemented by the Contractor for each complaint was observed to be satisfactory. All complaints had been resolved and closed. The details of all received complaints are present in **Appendix G**.

Conclusion

13. The EM&A programme were found to be effective and efficient in monitoring impacts arising from the Project. The findings of the environmental monitoring program suggest that no adverse impacts on sensitive receivers at the designated monitoring locations were brought about by the Project. The environmental mitigation measures provided by the Contractor were generally acceptable apart from some minor deficiencies which were rectified timely by the Contractor.
14. In conclusion, the Project was environmentally acceptable.

1 INTRODUCTION

- 1.1 Cinotech Consultants Limited (Cinotech) was appointed by Leader Joint Venture (LJV) 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 (SCL) Works Contract 1106 – Diamond Hill Station (hereafter referred to as the Project).

Purpose of the Report

- 1.2 This is the Final Environmental Monitoring and Audit (EM&A) Review Report which was prepared by Cinotech Consultant Limited for the MTR Shatin to Central Link (SCL) Works Contract 1106 – Diamond Hill Station. This report documents the EM&A works of the Project from 12 March 2013 to 1 August 2019. (EM&A works originally scheduled on 31st July 2019 were rescheduled due to adverse weather condition)

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 construction period.

Section 3: **Environmental Monitoring Requirement** - summarises the monitoring parameters, 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 construction period.

Section 5: **Summary of EM&A Works** - summarises the EM&A works and results obtained in the construction period.

Section 6: **Environmental Non-conformance** - summarises any monitoring exceedance, environmental complaints and environmental summons in construction period.

Section 7: **Comments, Conclusions and Recommendations**

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. This Works Contract 1106 covers the construction of Shatin-to-Central Link (SCL) station in Diamond Hill (DIH). The EM&A programme were commenced on 12 March 2013. The major construction works for Contract 1106 was substantially completed by 25 June 2019. The cessation proposal of EM&A programme has been submitted on 25 July 2019 and was approved by EPD on 31 July 2019.

Variation in Construction Method

- 2.3 Application for variation of Environmental Permit (VEP) was submitted to EPD on 29 July 2014 and was approved for including the installation and operation of a Mobile Batching Machinery Equipment at Diamond Hill during the construction of SCL (TAW-HUH). The updated EP (EP No.: EP-438/2012/G) was issued by EPD on 14 August 2014. The latest variation of EP (EP No.:EP-438/2012/K) was issued by EPD on 4 October 2016.

General Site Description

- 2.4 For Works Contract 1106, the works area for the DIH station is located to the northeast of Choi Hung Road next to the existing Kwun Tong Line DIH Station. The DIH station will be constructed by cut-and-cover method. Since July 2016, southern portion of the works area at Choi Hung Road was handover to relevant government department. Part of the site area was handed over to Housing Department on 17 April 2018. The latest alignment and works areas for the Works Contract 1106 are shown in **Figure 1**.

Construction Programme and Activities

- 2.5 A summary of the major construction activities undertaken in the construction period is shown as follows.
- Tree protection and transplantation;
 - D-wall construction;
 - Asbestos Demolition Works;
 - Construction of SCL-Diamond Hill (SCL-DIH) Station, Interchange Adit, West Unpaid Link, Mean of Escape (MOE);
 - Archaeological survey-cum-excavation;
 - Dismantling of Former Royal Air Force (RAF) Hangar;
 - Construction of temporary storage compound for Former Royal Air Force Hangar and Old Pillbox;
 - Relocation of Old Pillbox;

- Utility Unites diversion works;
- Bore pilling works and other pilling works;
- Excavation and ELS works;
- Reinstatement works at existing bus bay at Lung Cheung Road;
- Backfilling and concreting works;
- Foundation works
- Superstructure and ABWF works at SCL-DIH station;
- Site preparation and interim relocation works for Old Pillbox and Former RAF Hangar;
- General site clearance and landscaping works.

Project Organisation

- 2.6 The project organizational chart and contact details are shown in **Figure 4**.

Summary of EM&A Requirements

- 2.7 The EM&A programme under Works Contract 1106 requires regular dust and noise 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.
- 2.8 This report presents the monitoring results, observations, locations of the required monitoring parameters, namely construction noise & dust monitoring as well as audit works for the Project in the construction period.

3 ENVIRONMENTAL MONITORING REQUIREMENTS

- 3.1 As all construction activities with significant environmental impact were substantially completed by 25 June 2019, cessation proposal of EM&A programme has been submitted on 25 July 2019 and was approved by EPD on 31 July 2019. EM&A works originally scheduled on 31st July 2019 were rescheduled due to adverse weather condition.

Construction Noise Monitoring

- 3.2 In accordance with the EM&A Manual, monitoring of construction noise impact should be conducted at the designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was rejected; 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 Figure 2.

Table 3.1 Construction Noise Monitoring Location

Regular Construction Noise Monitoring Location	Description	Type of Measurement
NMS-CA-3 ^{(1)(3)/} NMS-CA-4 ⁽²⁾⁽³⁾	Hong Kong Sheng Kung Hui Nursing Home	Façade
NMS-CA-4 ^{(1)/} NMS-CA-3 ⁽²⁾	Block 1, Rhythm Garden (north-eastern façade)	Façade
NMS-CA-5 ^{(1)(4)/} NMS-CA-2 ⁽²⁾⁽⁴⁾	Block 1, Rhythm Garden (northern façade)	Façade

Note:

- (1) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Shek On House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Hong Kong S.K.H Nursing Home) was proposed and approved by the ER and agreed by the IEC and EPD.
- (4) Access to the monitoring location at Canossa Primary School (San Po Kong) (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Block 1, Rhythm Garden (northern façade)) was proposed and approved by the ER and agreed by the IEC and EPD.
- (5) Noise monitoring at NMS-CA-3 /NMS-CA-4 (Hong Kong Sheng Kung Nui Nursing Home) was carried out by Environmental Team of SCL Works Contract 1103 from 14th Feb 2013 to 28th Sept 2016.

Monitoring Parameter and Frequency

- 3.3 Baseline and impact 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 construction noise wasden is shown in **Appendix D**.
- 3.4 The construction noise levels were measured in terms of the A-weighted equivalent continuous sound pressure level (L_{Aeq}) in decibels dB(A). L_{Aeq} (30min) (as six consecutive $L_{eq, 5-min}$ readings) was used as the monitoring metric for the time period

between 0700 – 1900 hours on normal weekdays.

Table 3.2 Construction Noise Monitoring Parameters and Frequency

Monitoring Period	Time Period	Parameters	Frequency	Duration, minute
Baseline Monitoring	Daytime: 0700-1900 hours on normal weekdays	L_{eq} , L_{10} & L_{90}	Continuously for 14 consecutive days	30 (L_{eq} (30min))
	Evening: 1900-2300 hours on normal weekdays			15
	General Holidays and Sundays: 0700-2300 hours			(Average of three consecutive L_{eq} (5min))
	Night-time: 2300-0700 hours on all days			
Impact Monitoring	Daytime: 0700-1900 hours on normal weekdays		Weekly	30 (L_{eq} (30min))

Compliance Checking for Impact Monitoring

- 3.5 Baseline noise monitoring was conducted from 11th to 26th Sept 2012 during the period without construction works on normal weekdays. Result of the baseline monitoring is shown in **Table 3.3**. The result of the monitoring was used for correcting the measured noise level during the construction stage of the Project for normal weekdays by this formula:

$$\begin{aligned} &\text{Measured } L_{eq} \text{ at monitoring station} - \text{Baseline Noise Level} \\ &= \text{Construction Noise Level} \end{aligned}$$

Table 3.3 Baseline Noise Monitoring Result

Regular Construction Noise Monitoring Location	Description	Average, dB(A)	Range, dB(A)
		(L _{eq} (30min))	
NMS-CA-3 ⁽¹⁾⁽³⁾ / NMS-CA-4 ⁽²⁾⁽³⁾	Hong Kong Sheng Kung Hui Nursing Home	73	72-73
NMS-CA-4 ⁽¹⁾ / NMS-CA-3 ⁽²⁾	Block 1, Rhythm Garden (north-eastern façade)	71	71-72
NMS-CA-5 ⁽¹⁾⁽⁴⁾ / NMS-CA-2 ⁽²⁾⁽⁴⁾	Block 1, Rhythm Garden (northern façade)	74	73-75

Note:

- (1) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Shek On House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Hong Kong S.K.H Nursing Home) was proposed and approved by the ER and agreed by the IEC and EPD.
- (4) Access to the monitoring location at Canossa Primary School (San Po Kong) (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Block 1, Rhythm Garden (northern façade)) was proposed and approved by the ER and agreed by the IEC and EPD.

Continuous Noise Monitoring

- 3.6 With reference to the latest Continuous Noise Monitoring Plan (CNMP) and CNMMP prepared and submitted under EP Condition 2.9 and 2.10, it was predicted that no residual air-borne construction noise impacts would exceed the relevant noise criteria. Therefore, no continuous noise monitoring was required during the construction of the SCL (TAW-HUH) under Works Contract 1106.

Construction Dust Monitoring

- 3.7 The proposed dust monitoring stations for the construction phase of the Project, as recommended in the approved EM&A Manual, are listed in **Table 3.4** and shown in **Figure 3**.

Table 3.4 Dust Monitoring Location

Regular Dust Monitoring Location	Description
DMS-3 ^{(1)(3)/} DMS-4 ^{(2)(3)/}	Hong Kong Sheng Kung Hui Nursing Home
DMS-4 ^{(1)/} DMS-3 ⁽²⁾	Block 1, Rhythm Garden

Note:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Shek On House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Hong Kong S.K.H Nursing Home) was proposed and approved by the ER and agreed by the IEC and EPD.
- (4) Dust monitoring at DMS-3⁽¹⁾ /DMS-4⁽²⁾ (Hong Kong Sheng Kung Nui Nursing Home) was carried out by Environmental Team of SCL Works Contract 1103 from 15th Feb 2013 to 29th Sept 2016.

Monitoring Parameter and Frequency

- 3.8 The 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 3.5**.

Table 3.5 Dust Monitoring Parameters and Frequency

Monitoring Period	Duration	Parameter	Frequency
Baseline Monitoring	Consecutive days of at least 2 weeks before commencement of major construction works	24-hour TSP	Daily
Impact Monitoring ⁽¹⁾	Throughout the construction period	24-hour TSP	Once per 6 days

Note:

- (1) 1- hour TSP shall be conducted when one documented valid complaint is received.

Action and Limit Levels for Dust Monitoring

- 3.9 The Action and Limit levels have been established and are presented in **Appendix A**

Event and Action Plan

- 3.10 Should non-compliance of the criteria occur, action in accordance with the Event and Action Plan in **Appendix B** was carried out.

Cultural Heritage

- 3.11 An Archaeological Action Plan (AAP) for the survey-cum-excavation at the former Tai Hom Village site was approved by EPD on 8 April 2013. A Licence to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance has been subsequently obtained from Antiquities and Monuments Office (AMO) on 19 April 2013. The archaeological survey-cum-excavation at Former Tai Hom Village shall be conducted in accordance with the Licence granted and the approved AAP.
- 3.12 The Conservation Plans for the two historic buildings, namely Former Royal Air Force Hangar and the Old Pillbox at the former Tai Hom Village site, were approved by EPD on 24 April 2013. Dismantling works on Former Royal Air Force Hangar and relocation work of the Old Pillbox shall be carried out in accordance with the approved Conservation Plan. Regular maintenance, relocation works and inspection works of the two historic buildings shall be carried out in accordance with the approved Conservation Plan and relocation proposal.

Landscape and Visual

- 3.13 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 Event / Action Plan (EAP) for landscape and visual are presented in **Appendix B**.

4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

- 4.1 During the weekly site inspection, implementation of environmental mitigation measure and requirements as stated in the EIA Report, Environmental Permit and EM&A Manual were observed. The implementation status of the environmental mitigation measures of the reporting period is summarized in **Appendix E**.

5 SUMMARY OF EM&A WORKS

Construction Noise Monitoring

- 5.1 The baseline noise monitoring was conducted between 11th September 2012 and 26th September 2012. The Baseline Noise Level has been established accordingly. Action and Limit Levels for noise is summarised in Appendix A.
- 5.2 Impact construction noise measurement was carried out at the monitoring station during normal weekdays from 15 March 2013 to 1 August 2019. Impact construction noise measurement at NMS-CA-3/NMS-CA-4 was carried out from 14th February 2013 to 28th September 2016 by SCL Works Contract 1103 and SCL Works Contract 1106 continued the monitoring work on 05th October 2016.
- 5.3 During the reporting period, the weather was generally sunny and cloudy. Based on the observation during the on-site monitoring, construction activities of the Project were the major factor which might affect the monitoring result. Other than that, road traffic nearby, other construction site at Choi Hung Road and foundation works in other construction site in former Tai Hom Village were considered as a potential noise source that affected the monitoring result during the construction period.
- 5.4 The noise monitoring results together with their graphical presentations and statistical analysis of trends over the course of the Project are presented in Appendix D and a summary of the noise monitoring result in the construction period is given in Table 5.1

Table 5.1 Summary Table of Measured Impact Noise Monitoring Results

Location	Description	Range, dB(A), L _{eq} (30 mins)	Limit Level, dB(A), L _{eq} (30 mins)
NMS-CA-3 ⁽¹⁾⁽³⁾ / NMS-CA-4 ⁽²⁾⁽³⁾	Hong Kong Sheng Kung Hui Nursing Home	55.0-74.5	70/75dB(A)
NMS-CA-4 ⁽¹⁾ / NMS-CA-3 ⁽²⁾	Block 1, Rhythm Garden (north-eastern façade)	61.7-76.0	75dB(A)
NMS-CA-5 ⁽¹⁾ ⁽⁴⁾ / NMS-CA-2 ⁽²⁾⁽⁴⁾	Block 1, Rhythm Garden (northern façade)	63.1-75.0	65/70dB(A)

Note:

- (1) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Shek On House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Hong Kong S.K.H Nursing Home) was proposed and approved by the ER and agreed by the IEC and EPD.
- (4) Access to the monitoring location at Canossa Primary School (San Po Kong) (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Block 1, Rhythm Garden (northern façade)) was proposed and approved by the ER and agreed by the IEC and EPD.
- (5) Noise monitoring at NMS-CA-3⁽¹⁾/NMS-CA-4⁽²⁾ (Hong Kong Sheng Kung Hui Nursing Home) was carried out by Environmental Team of SCL Works Contract 1103 from 14th Feb 2013 to 28th Sept 2016.

- 5.5 With reference to the graphical plots shown in **Appendix D**, results of all measured or construction noise levels were below baseline noise level or Limit level.
- 5.6 Some measured impact noise level exceeded the daytime construction noise criterion, however, the results were not considered as exceedance since the measured results were below the baseline noise levels or below the limit level after deducting the baseline noise level.
- 5.7 No exceedance of the Action and Limit Levels of construction noise due to the Project was recorded during the construction period. Therefore, it was considered that no adverse noise impact was brought to the nearby noise monitoring station by this Project.

Construction Dust Monitoring

- 5.8 Baseline dust monitoring was conducted between 11th September 2012 and 25th September 2012. Action and Limit Levels for air quality monitoring have been established accordingly and summarized in **Appendix A**.
- 5.9 24-hour TSP monitoring at DMS-3⁽¹⁾/DMS-4⁽²⁾ was carried out from 15th February 2013 to 29th September 2016 by SCL Works Contract 1103 and SCL Works Contract 1106 continued the monitoring work on 05th October 2016. Monitoring station at DMS-4/DMS-3 was carried out by SCL Works Contract 1106 from 15th March 2013 to 31th July 2019. The monitoring results together with their graphical presentations and statistical analysis of the trends over the course of the Project are presented in **Appendix C** and a summary of the dust monitoring results in the construction period is given in **Table 5.2**.

Table 5.2 Summary Table of Dust Monitoring Results during the reporting month

Parameter	Minimum $\mu\text{g}/\text{m}^3$	Maximum $\mu\text{g}/\text{m}^3$	Average $\mu\text{g}/\text{m}^3$	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
24-hr TSP (DMS-3 ⁽¹⁾ / DMS-4 ⁽²⁾) ⁽³⁾	3.0	156.9	49.7	159.1	260
24-hr TSP (DMS-4 ⁽¹⁾ / DMS-3 ⁽²⁾)	10.7	152.8	47.6	160.4	260

Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Dust monitoring at DMS-3(1) /DMS-4(2) (Hong Kong Sheng Kung Nui Nursing Home) was carried out by Environmental Team of SCL Works Contract 1103 from 15th Feb 2013 to 29th Sept 2016, then Contract 1106 continued the monitoring work from 5th October 2016 to 31st July 2019.

- 5.10 No exceedance of the Action and Limit Levels of the 24-hour TSP was recorded during the construction period.
- 5.11 During the reporting period, the weather was generally sunny and cloudy. Based on the observation during on-site monitoring, construction works of the Project were the major factor which might affect the monitoring result. Other than that, road traffic emission nearby, other construction site at Choi Hung Road and foundation works in other construction site in former Tai Hom Village were considered as potential dust source

other than construction works of the Project.

Cultural Heritage

- 5.12 An Archaeological Action Plan (AAP) for the survey-cum-excavation at the former Tai Hom Village site was approved by EPD on 8 April 2013. A Licence to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance has been subsequently obtained from Antiquities and Monuments Office (AMO) on 19 April 2013. The archaeological survey-cum-excavation at Former Tai Hom Village commenced on 9 May 2013 and completed in September 2013 in accordance with the Licence granted and the approved AAP. The finalized Archaeological Survey-cum-Excavation Report was submitted to AMO on 27 February 2017. Artefacts handover to AMO was completed on 18 May 2017. MTRCL will be responsible for the management and maintenance until Housing Department is formally entrusted as the working agent for the construction of Water Feature Park and will take up the responsibility of management and maintenance of the two historic buildings.
- 5.13 The Conservation Plans for the two historic buildings, namely Former Royal Air Force Hangar and the Old Pillbox at the former Tai Hom Village site, were approved by EPD on 24 April 2013. Dismantling works on Former Royal Air Force Hangar was carried out in accordance with the approved Conservation Plan and completed in June 2013. Relocation works for the Old Pillbox had been completed in November 2013 in accordance with the approved Conservation Plan. Proposal for relocation of two historic buildings was approved by EPD on 20 April 2018. The Old Pillbox relocation was completed on 18 Jul 2018 and the Former Royal Air Force Hangar relocation was completed on 25 Aug 2018. Regular maintenance and inspection works of the two historic buildings were carried out in accordance with the approved Conservation Plan and relocation proposal. MTRCL will be responsible for the management and maintenance until Housing Department is formally entrusted as the working agent for the construction of Water Feature Park and will take up the responsibility of management and maintenance of the two historic buildings.

Waste Management

- 5.14 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, vegetative wastes and recyclable wastes like plastics 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 construction period are summarized in **Table 5.3**. Detail of waste management data is presented in **Appendix F**.

Table 5.3 Quantities of Waste Generated from the Project

Construction Period	Quantity					
	C&D Materials (inert) ^(a)	C&D Materials (non-inert) ^(b)				
		General Refuse	Chemical Waste	Recycled materials		
				Paper/ cardboard	Plastics	Metals

	<i>242833 m³</i>	<i>13339 m³</i>	<i>30243 kg</i>	<i>19423 kg</i>	<i>2000 kg</i>	<i>11022 kg</i>
Notes: (a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil, which 242833m ³ was delivered to Tseung Kwan O Area 137 Fill Bank during the reporting period. (b) Non-inert C&D materials include steel, paper/cardboard packaging waste, plastics and other wastes such as general refuse and vegetative wastes. 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. General refuse was delivered to designated landfill for disposal.						

- 5.15 Most of the necessary mitigation measures have been implemented accordance to the waste management plan and recommended follow-up actions have been discharged by the Contractor regarding to waste management in the reporting period.

Landscape and Visual

- 5.16 Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted throughout the construction period. Most of the necessary mitigation measures have been implemented and recommended follow-up actions have been discharged by the Contractor. The observations and recommendations made during the audit sessions are summarized in each of the Monthly EM&A Report.

Site Audits

- 5.17 Site audits was carried out by representatives of the Contractor, Engineer and Contractor's ET on weekly basis to observe the aspect of water quality, noise, air quality, landscape, waste and chemical management. Reminders and recommendation were given to the Contractor, and the Contractor rectified and implemented environmental management practices and mitigation measures timely and properly in the Project site. The representative of the IEC joined the site inspections once per month. For details of site inspection findings, please refer to respective monthly EM&A Reports.
- 5.18 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 and all were implemented timely and properly. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix E**.

6 ENVIRONMENTAL NON-CONFORMANCE

Summary of Exceedances

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

Summary of Environmental Non-Compliance

- 6.2 No environmental non-compliance was recorded in the construction period.

Summary of Environmental Complaint

- 6.3 17 of Project-related complaints were received in the construction period. All complaints received had been handled according to EM&A Manual and the effectiveness of mitigation measures implemented by the Contractor for each complaint was observed to be satisfactory. All complaints had been resolved and closed. The details of all received complaints are present in **Appendix G**.

Summary of Environmental Summon and Successful Prosecution

- 6.4 There was no successful environmental prosecution or notification of summons received since the Project commencement. The summary is presented in **Appendix G**.

7 COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

Validity of EIA Predictions

- 7.1 It is predicted in the EIA Report that with the implementation of the recommended mitigation measures, there would be no unacceptable or residual impacts arising from the Project-related construction works. During the reporting period, environmental site inspections and impact monitoring were carried to audit and monitor the performance, the Contractor had implemented environmental mitigation measures and good site practice timely and properly. Data for air quality and noise impact obtained had shown no Action/Limit Level exceedance was caused by the Project.
- 7.2 The mitigation measures recommended were found to be effective and EIA predictions reminded valid. No short comings in EIA recommendations were identified.

Comments on Overall EM&A Programme

- 7.3 The mitigation measures detailed in the Environmental Permit, the EM&A Manual and the EIA report were implemented throughout the whole project period. With the environmental monitoring and site inspection to directly ensure the timely implementation of mitigation measures during the Project, the environmental performance of the Project was acceptable and the mitigation measures implemented by the Contractor are effective and efficient. Analysis of all EM&A data collected throughout the construction periods also demonstrated the environmental acceptability of the Project.
- 7.4 The overall performance of the monitoring methodology adopted and environmental management system in this Project was effective.

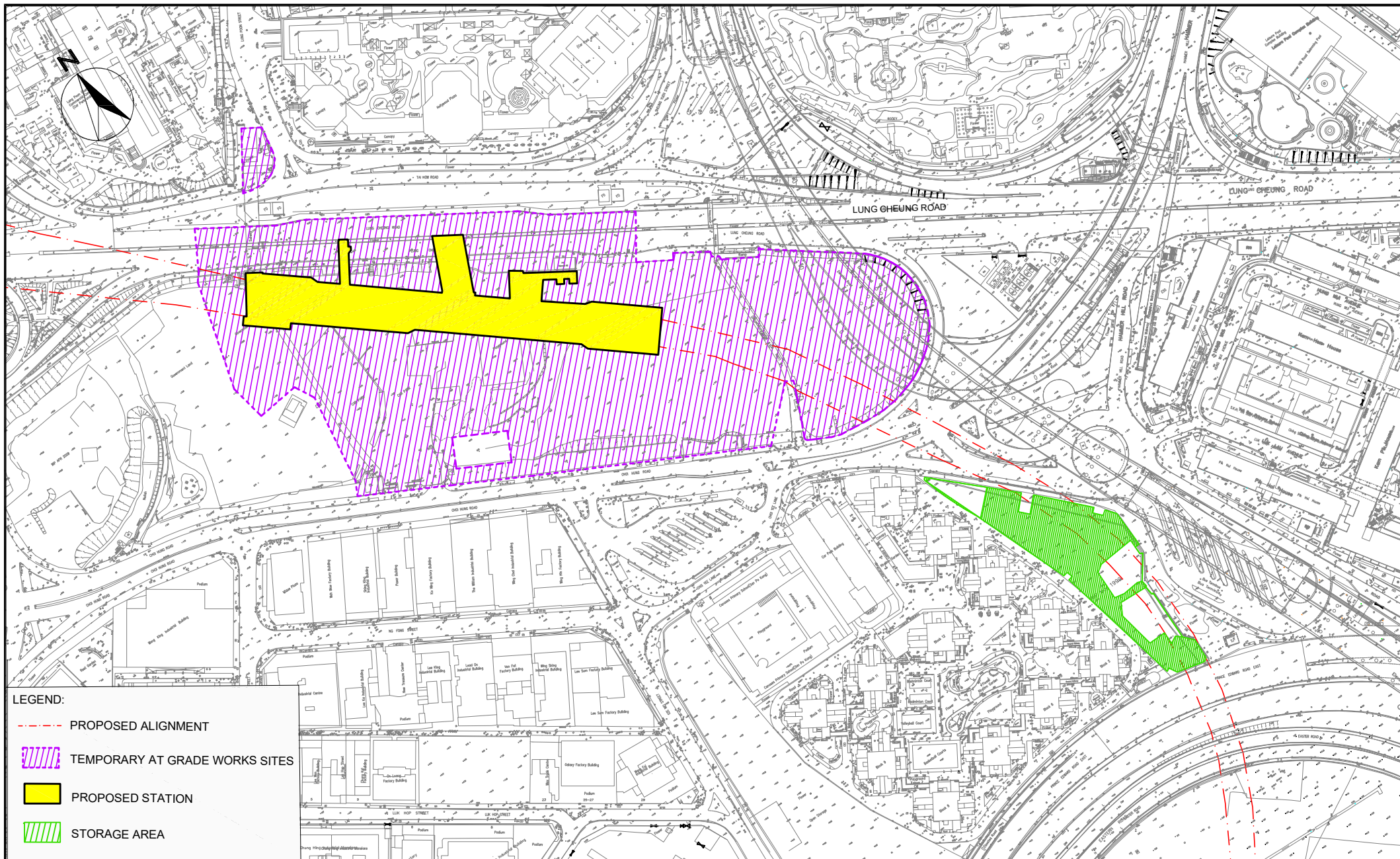
Overall EM&A Data

- 7.5 Baseline and impact air quality and noise monitoring were carried out according to the requirements in the EM&A Manual. No exceedance of the Action and Limit Levels of air quality and noise monitoring was recorded at the designated monitoring stations during the whole construction period.

Recommendations and Conclusions

- 7.6 The EM&A programme was found to be effective and efficient in monitoring impacts arising from the Project. The findings of the environmental monitoring program suggest that no adverse impacts on sensitive receivers were brought about by the Project. The environmental mitigation measures provided by the Contractor were generally acceptable apart from some minor deficiencies, which were rectified timely by the Contractor. In conclusion the Project was environmentally acceptable.
- 7.7 With the success of the overall EM&A programme, the deterioration of the environment caused by the Project was cost-effectively identified and necessary prompt effective mitigation measures were implemented to avoid any unacceptable impacts.

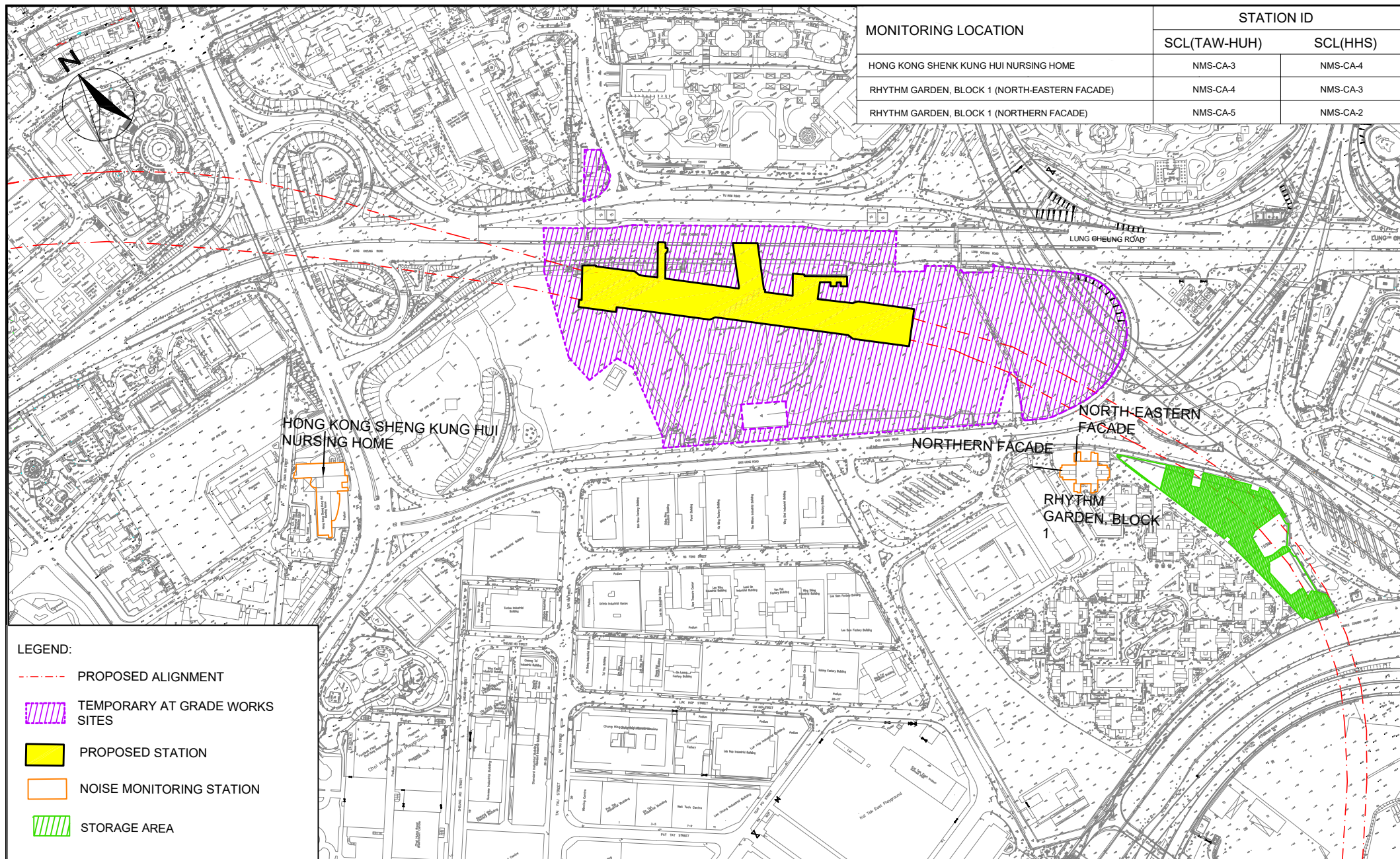
FIGURES

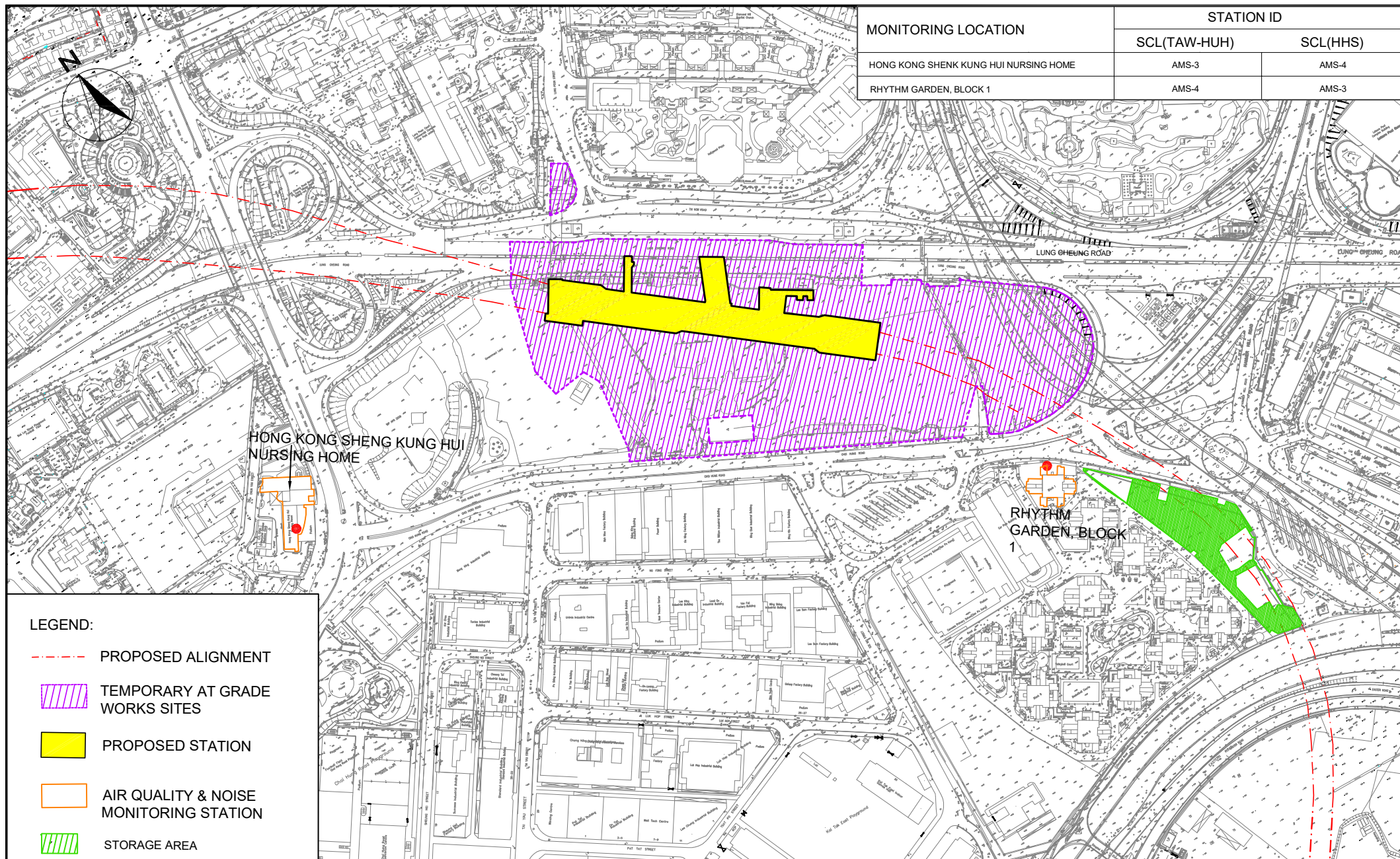


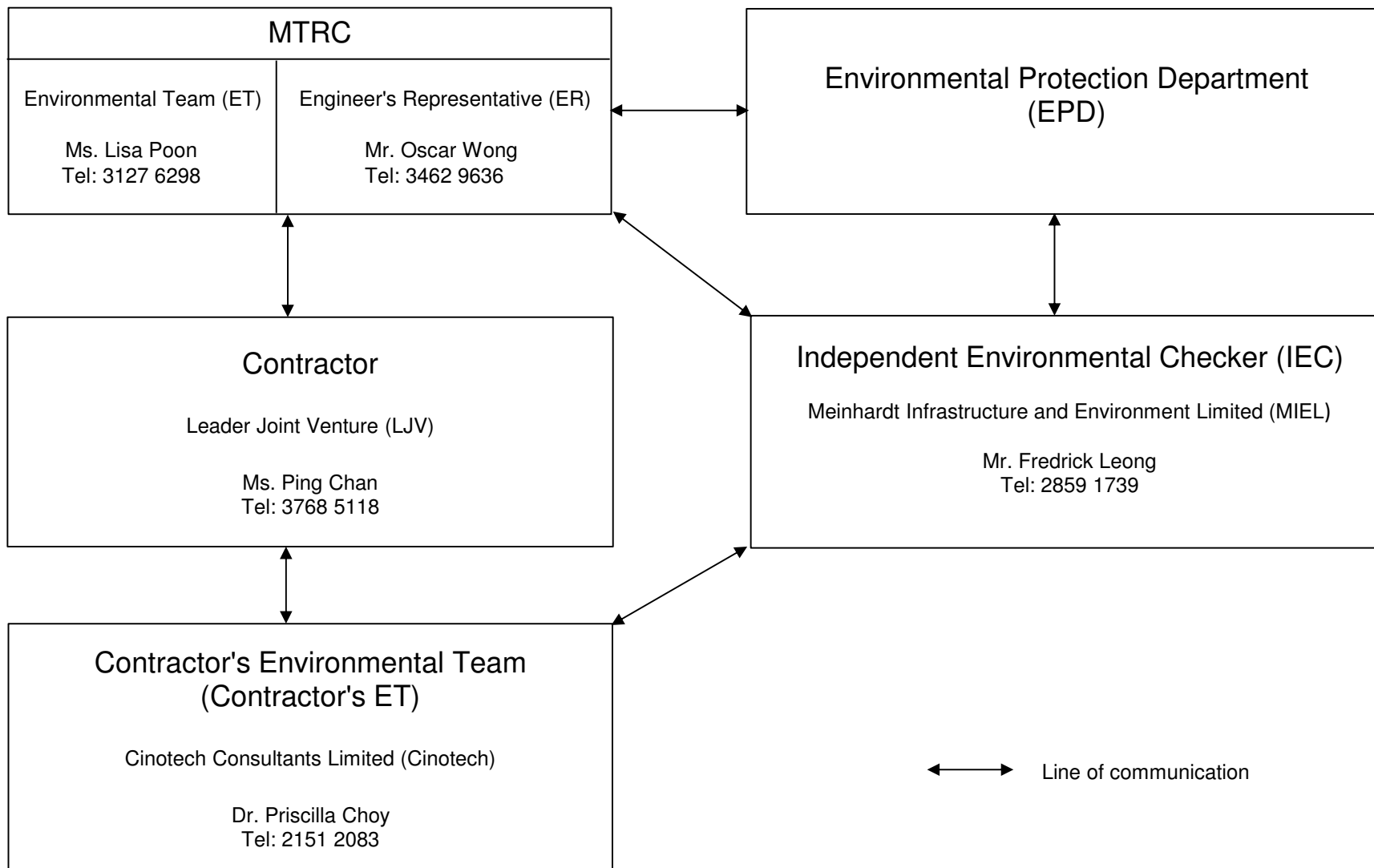
LEGEND:

- PROPOSED ALIGNMENT
- TEMPORARY AT GRADE WORKS SITES
- PROPOSED STATION
- STORAGE AREA

SCALE	1:80	DATE	SEP 2019	
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				-







Title

MTR SCL Works Contract 1106
Diamond Hill Station

Scale

N.T.S

Proposal

No. MA12051

Date

Mar-18

Figure

4

CINOTECH

Organisation Chart and Key Contact of the Project

APPENDIX A
ACTION AND LIMIT LEVELS

APPENDIX A – Action and Limit Levels

24-Hour TSP

Regular Dust Monitoring Location	Description	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
DMS-3 ⁽¹⁾⁽³⁾ / DMS-4 ⁽²⁾⁽³⁾	Hong Kong Sheng Kung Hui Nursing Home	159.1	260
DMS-4 ⁽¹⁾ / DMS-3 ⁽²⁾	Block 1, Rhythm Garden	160.4	

Note:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Shek On House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Hong Kong S.K.H Nursing Home) was proposed and approved by the ER and agreed by the IEC and EPD.

Construction Noise

Regular Construction Noise Monitoring Location ⁽¹⁾	Description	Time Period	Action Level	Limit Level (Leq (30-min))
NMS-CA-3 ⁽¹⁾⁽³⁾ / NMS-CA-4 ⁽²⁾⁽³⁾	Hong Kong Sheng Kung Hui Nursing Home	0700-1900 hrs on normal weekdays	When one documented complaint is received	70 dB(A)
NMS-CA-4 ⁽¹⁾ / NMS-CA-3 ⁽²⁾	Block 1, Rhythm Garden (north-eastern façade)			75 dB(A)
NMS-CA-5 ⁽¹⁾⁽⁴⁾ / NMS-CA-2 ⁽²⁾⁽⁴⁾	Block 1, Rhythm Garden (northern façade)			65 / 70 dB(A) ⁽⁵⁾

Note:

- (1) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Shek On House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Hong Kong S.K.H Nursing Home) was proposed and approved by the ER and agreed by the IEC and EPD.
- (4) Access to the monitoring location at Canossa Primary School (San Po Kong) (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Block 1, Rhythm Garden (northern façade)) was proposed and approved by the ER and agreed by the IEC and EPD.
- (5) Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period.

APPENDIX B
EVENT AND ACTION PLAN

Event and Action Plan for Air Quality Monitoring during Construction Phase

EVENT	ACTION			
	Works Contract 1106 ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. 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 monitoring frequency 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET; 2. Check 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; 	<ol style="list-style-type: none"> 1. Identify source(s), investigate the causes of exceedance and propose remedial measures; 2. Implement remedial measures; 3. Amend working methods agreed with the ER as appropriate.
2.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 monitoring frequency to daily; 5. If exceedance continues, arrange meeting with the IEC, ER and Contractor; 6. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET; 2. Check 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 Implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify source and investigate the causes of exceedance; 2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal as appropriate.

LIMIT LEVEL				
1.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 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 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 implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification; 4. Implement the agreed proposals; 5. Amend proposal if appropriate.
2.Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Notify IEC, Contractor and EPD; 2. Repeat measurement to confirm findings; 3. Increase 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 IEC, EPD and ER informed of the results; 7. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Discuss with 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 source(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.

Event and Action Plan for Noise Monitoring during Construction Phase

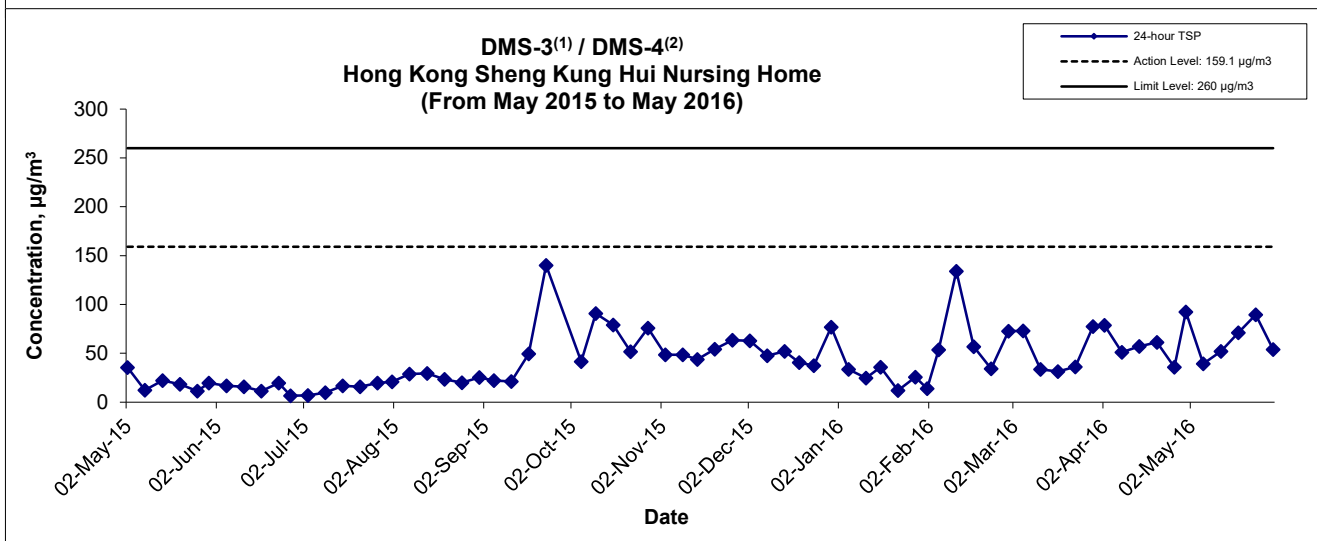
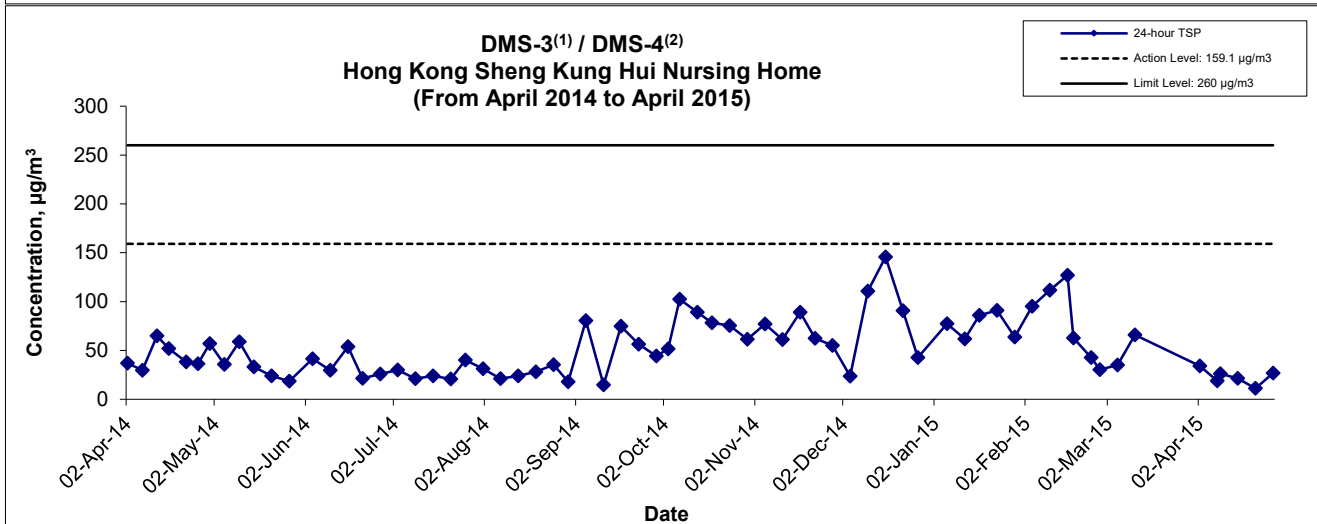
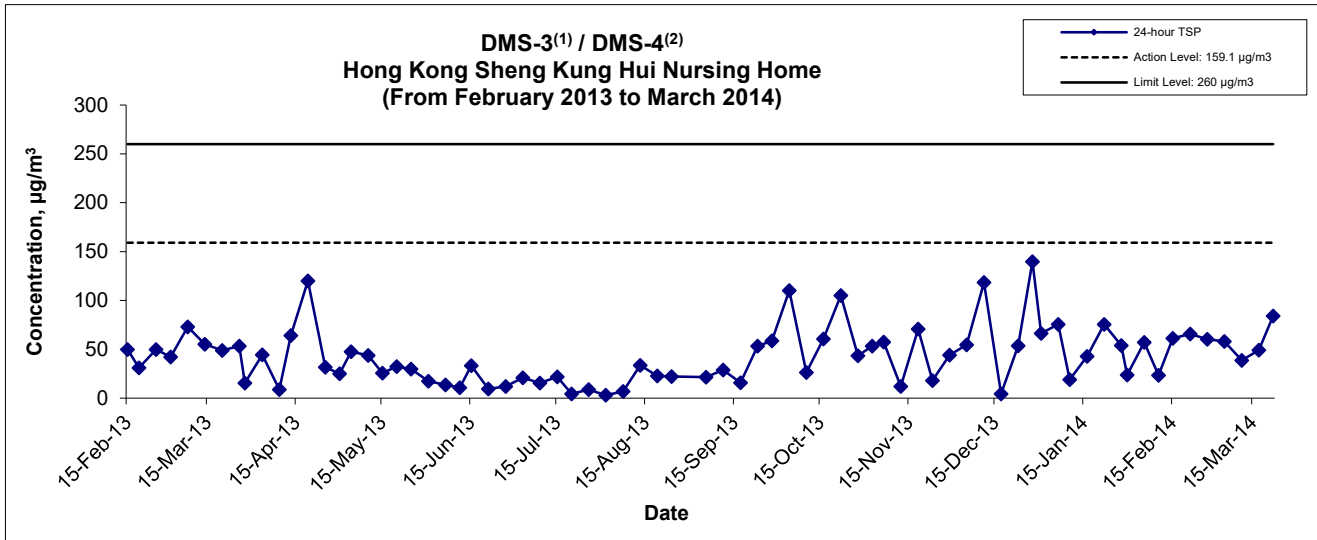
EVENT	ACTION			
	Works Contract 1106 ET	IEC	ER	CONTRACTOR
Action Level	<ol style="list-style-type: none"> 1. Notify the IEC, Contractor and ER 2. Discuss with the ER, IEC and Contractor on the remedial measures required 3. Increase monitoring frequency to check mitigation effectiveness 	<ol style="list-style-type: 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 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
Limit Level	<ol style="list-style-type: none"> 1. Notify the IEC, Contractor and EPD 2. Repeat measurement to confirm findings 3. Increase monitoring frequency 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; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances 7. Assess effectiveness of the Contractor's remedial measures and keep IEC, ER and EPD informed of the results 	<ol style="list-style-type: none"> 1. Check 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, 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 source 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 within 3 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

Event and Action Plan for Landscape and Visual during Construction Phase

Action Level	Works Contract 1106 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 2. Implement remedial measures 3. Amend working methods agreed with the ER as appropriate 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by the ER until the non-conformity is abated.

APPENDIX C
24-HOUR TSP MONITORING RESULTS
AND GRAPHICAL PRESENTATIONS

24-hour TSP Concentration Levels

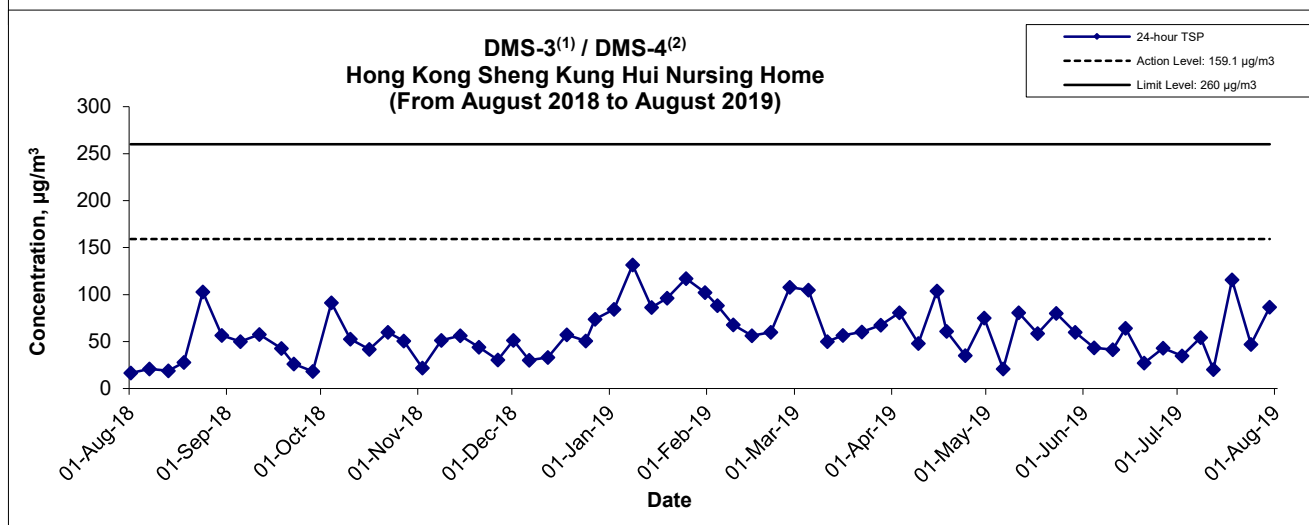
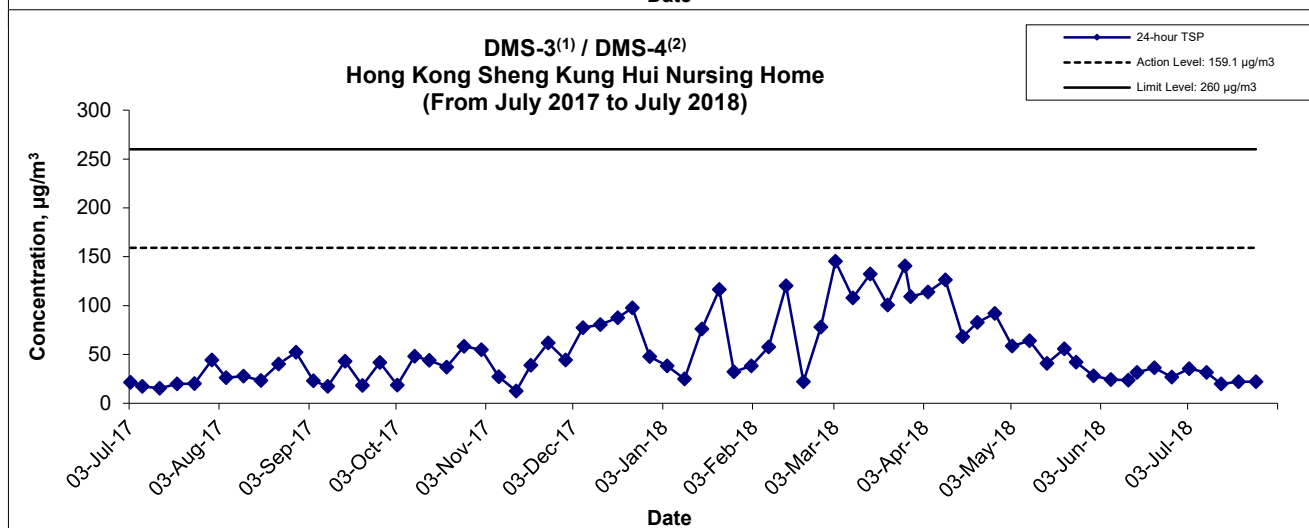
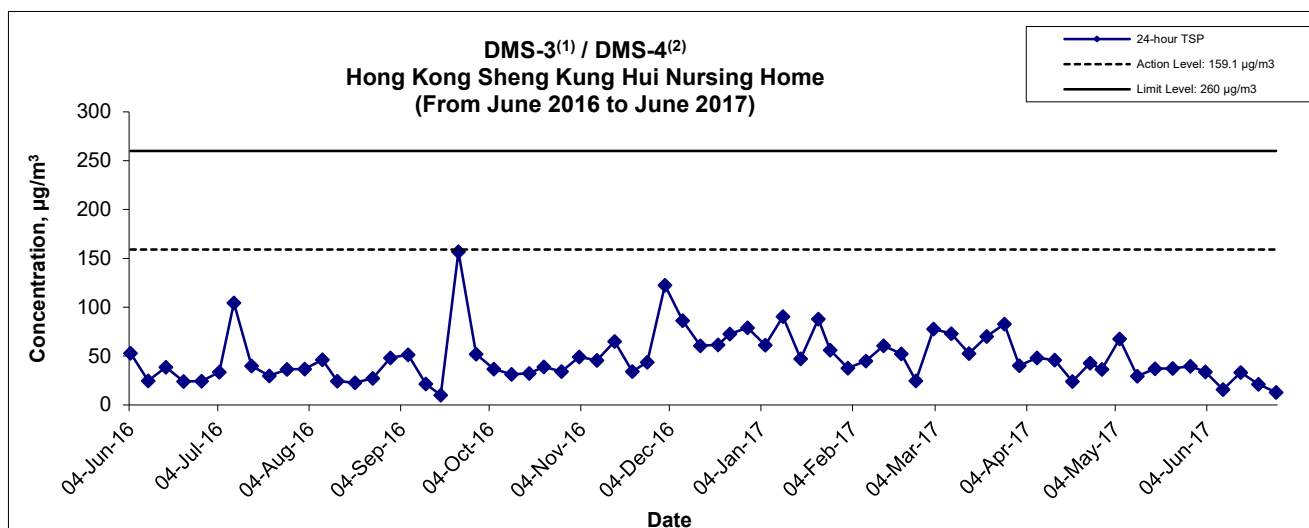


Remarks:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) The dust monitoring result from February 2013 to September 2016 are recorded under 1103.


Title Shatin to Central Link – Contract 1106 Diamond Hill Station Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. MA12051	CINOTECH
	Date Aug 19	Appendix C	

24-hour TSP Concentration Levels

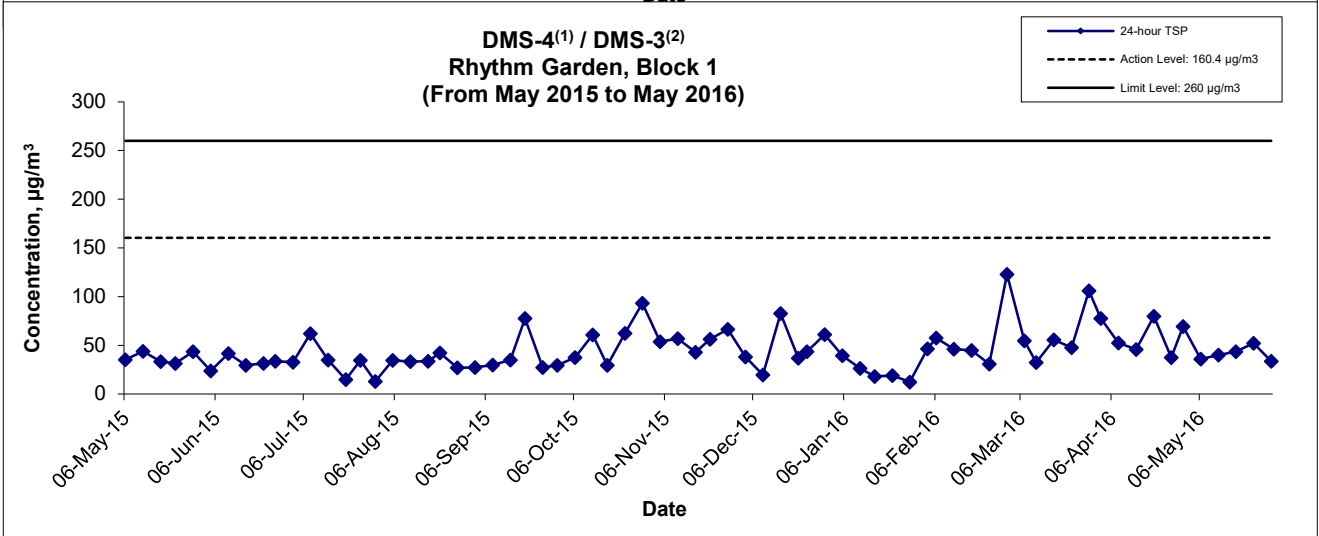
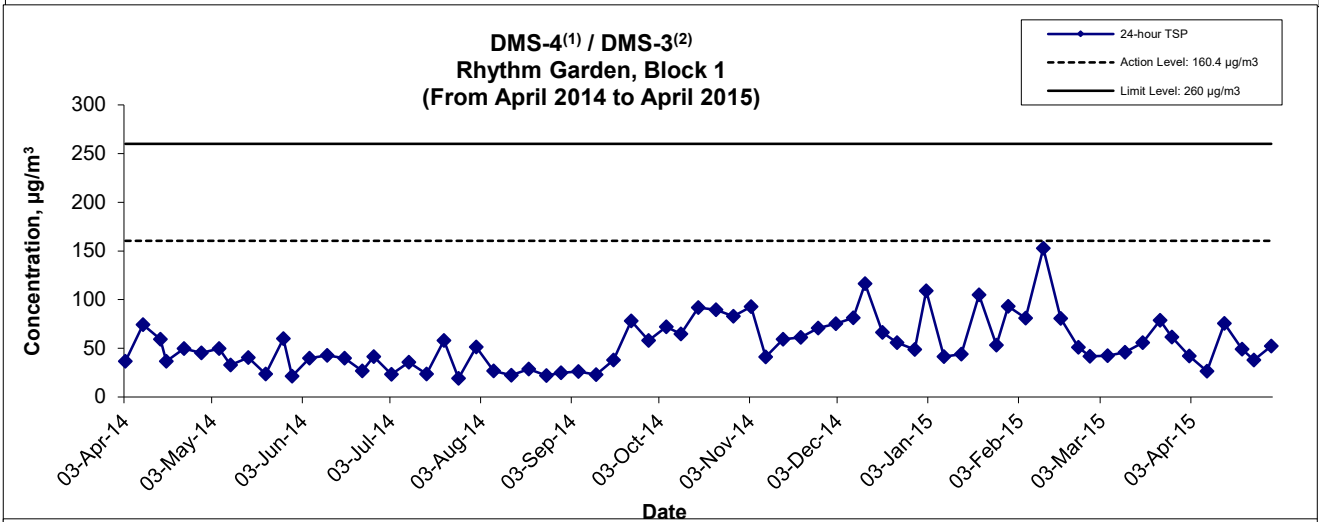
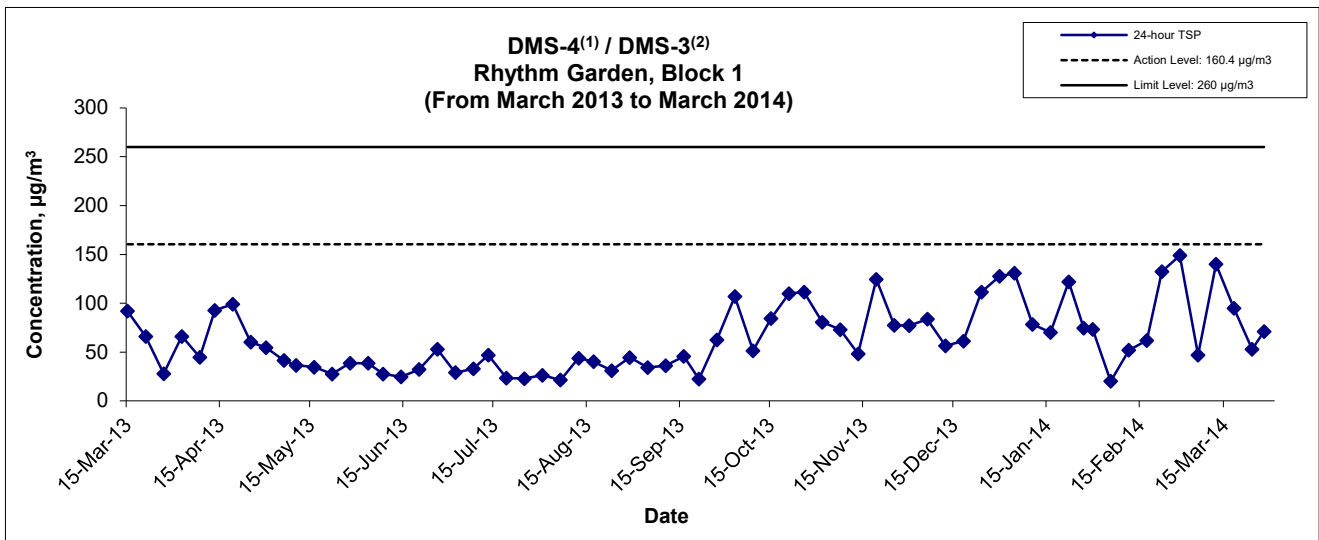


Remarks:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) The dust monitoring result from February 2013 to September 2016 are recorded under 1103.

Title Shatin to Central Link – Contract 1106 Diamond Hill Station Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. MA12051	
	Date Aug 19	Appendix C	

24-hour TSP Concentration Levels

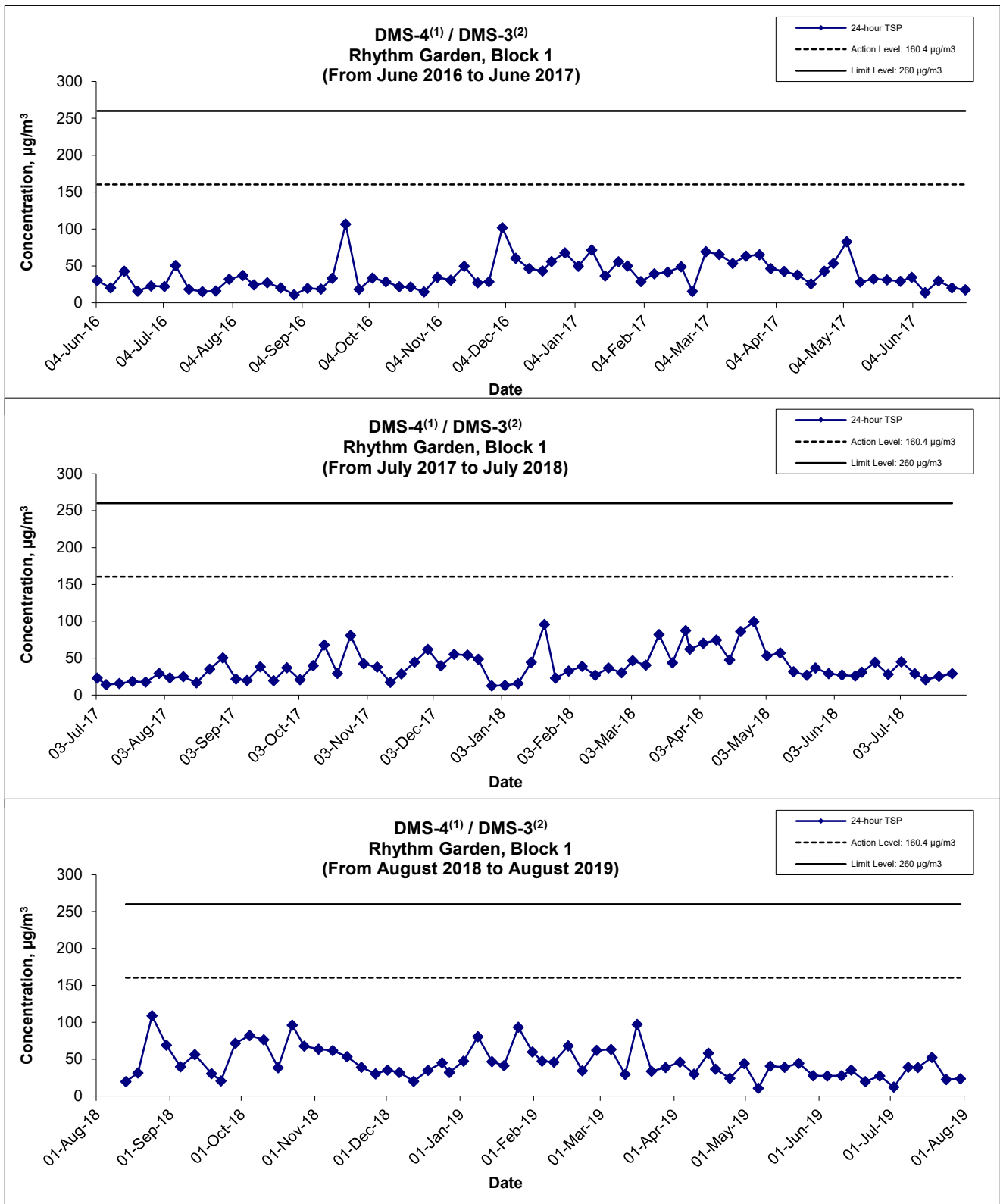


Remarks:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

Title Shatin to Central Link – Contract 1106 Diamond Hill Station Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. MA12051	CINOTECH
	Date Aug 19	Appendix C	

24-hour TSP Concentration Levels



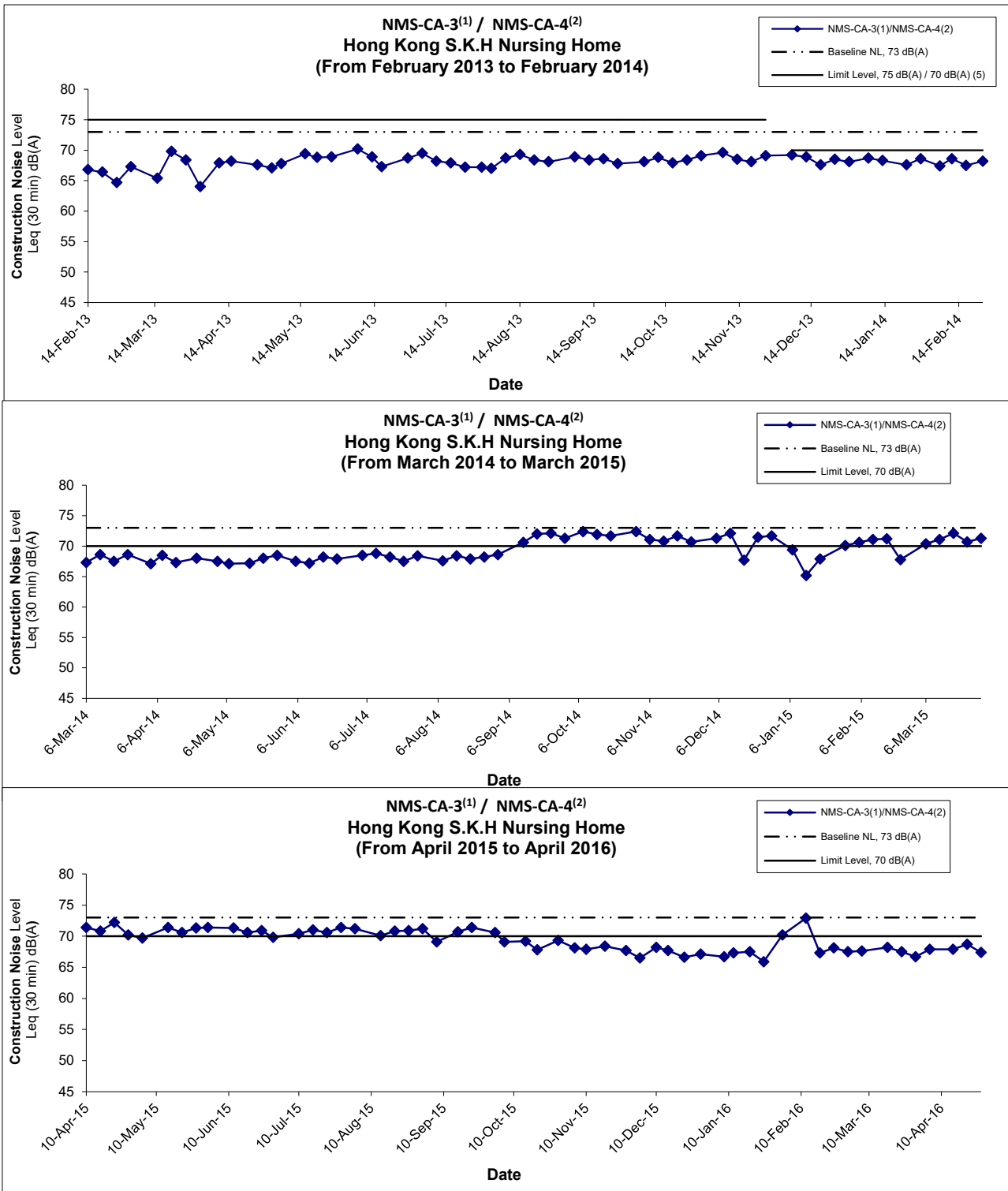
Remarks:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

Title Shatin to Central Link – Contract 1106 Diamond Hill Station Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. MA12051	CINOTECH
	Date Aug 19	Appendix C	

APPENDIX D
NOISE MONITORING RESULTS AND
GRAPHICAL PRESENTATIONS

Noise Levels

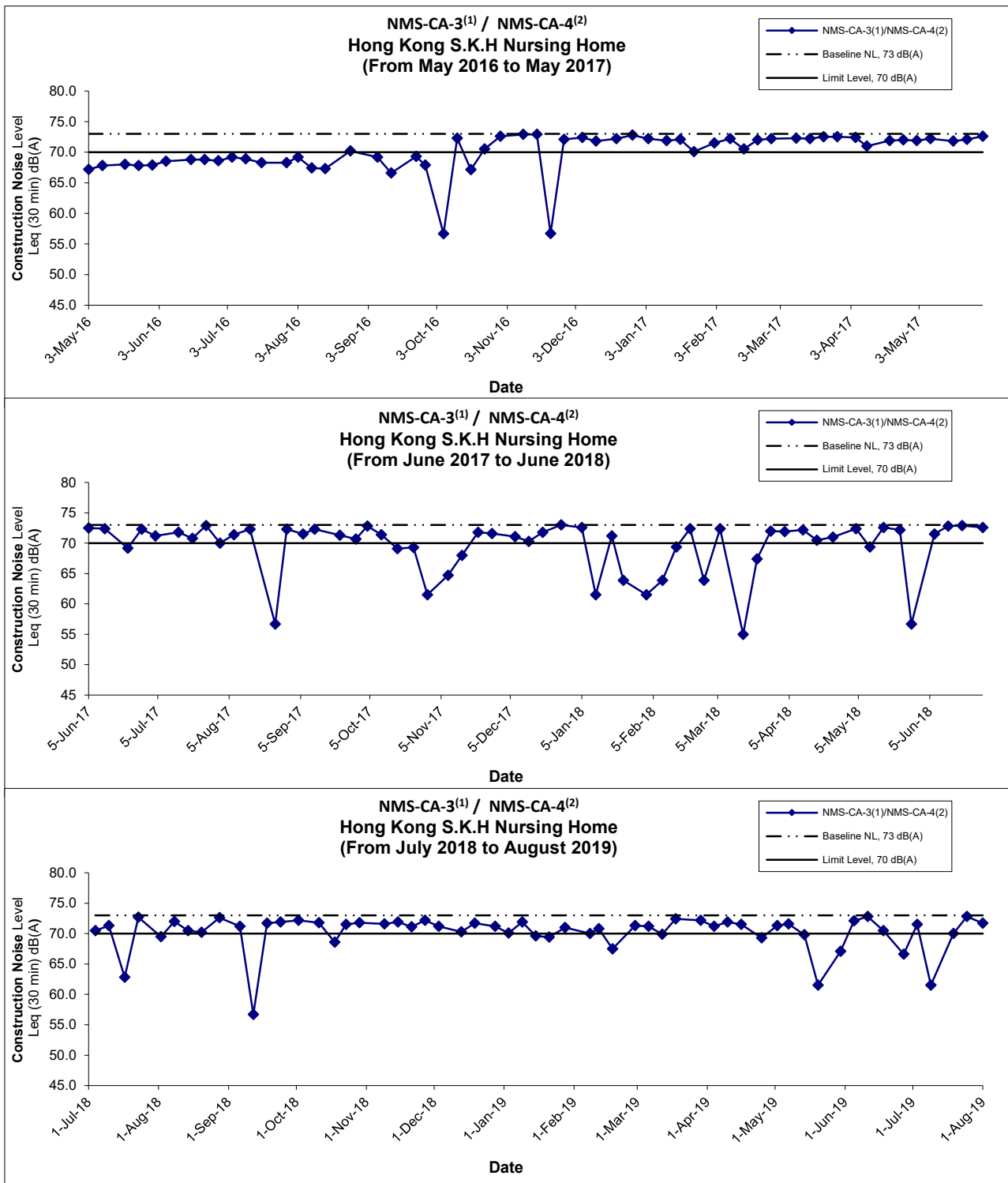


Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) In case of Measured Level \leq Baseline Level, only Measured Level is presented on the graphical presentation.
- (4) The noise monitoring results from February 2013 to September 2016 are recorded under 1103.
- (5) The Limit Level of Hong Kong S.K.H Nursing Home was shifted from 75 dB(A) to 70 dB(A) since December 2013 to adopt educational institution Limit Level of Shek On House (the original proposed monitoring location stated in the approved EM&A Manual).


Title	Shatin to Central Link - Contract 1106 - Diamond Hill Station	Scale	N.T.S	Project No.	MA12051	CINOTECH
	Graphical Presentation of Construction Noise Monitoring Results	Date	Aug 19	Appendix	D	

Noise Levels

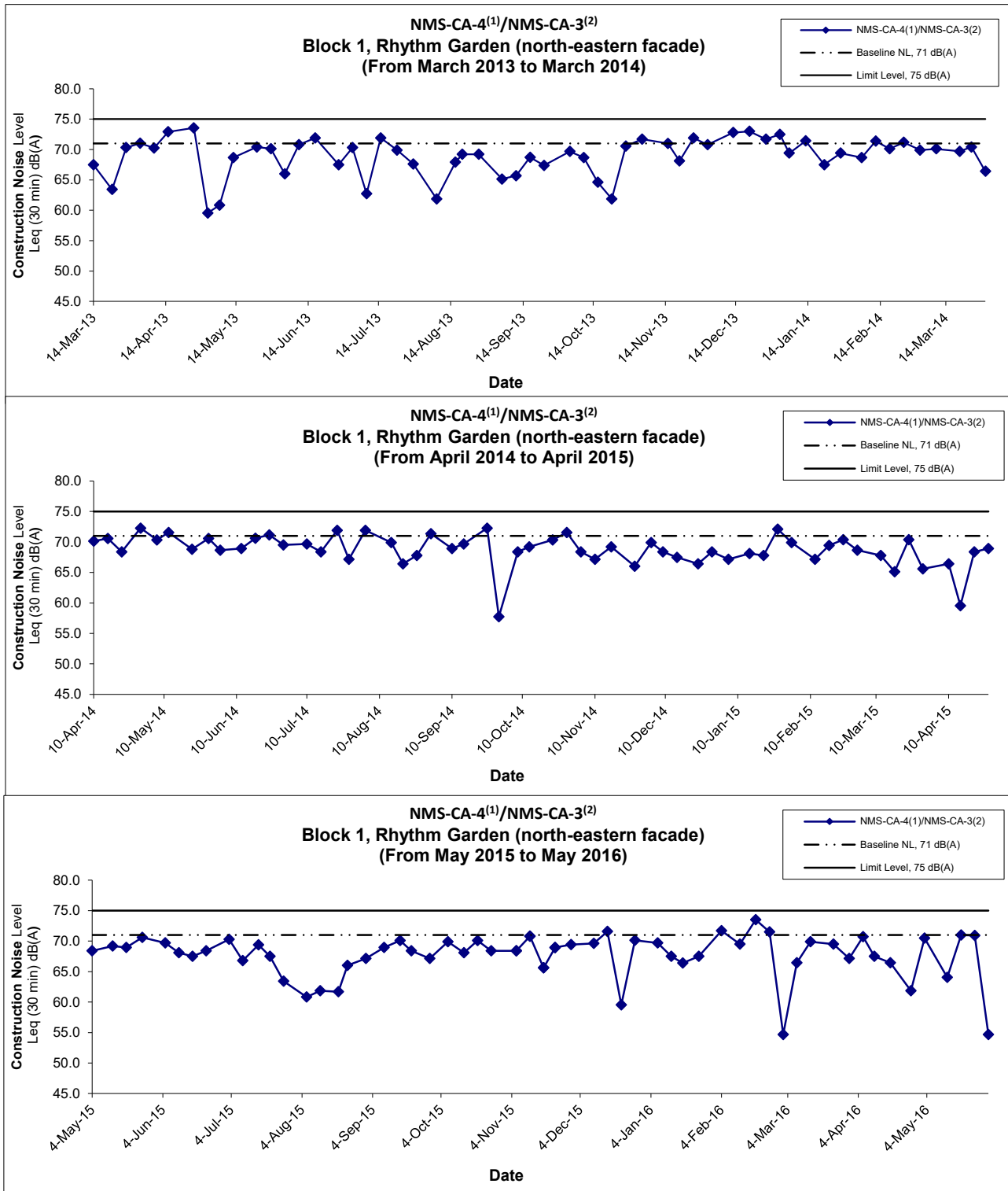


Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) In case of Measured Level \leq Baseline Level, only Measured Level is presented on the graphical presentation.
- (4) The noise monitoring results from February 2013 to September 2016 are recorded under 1103.

Title Shatin to Central Link - Contract 1106 - Diamond Hill Station Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA12051	
	Date Aug 19	Appendix D	

Noise Levels

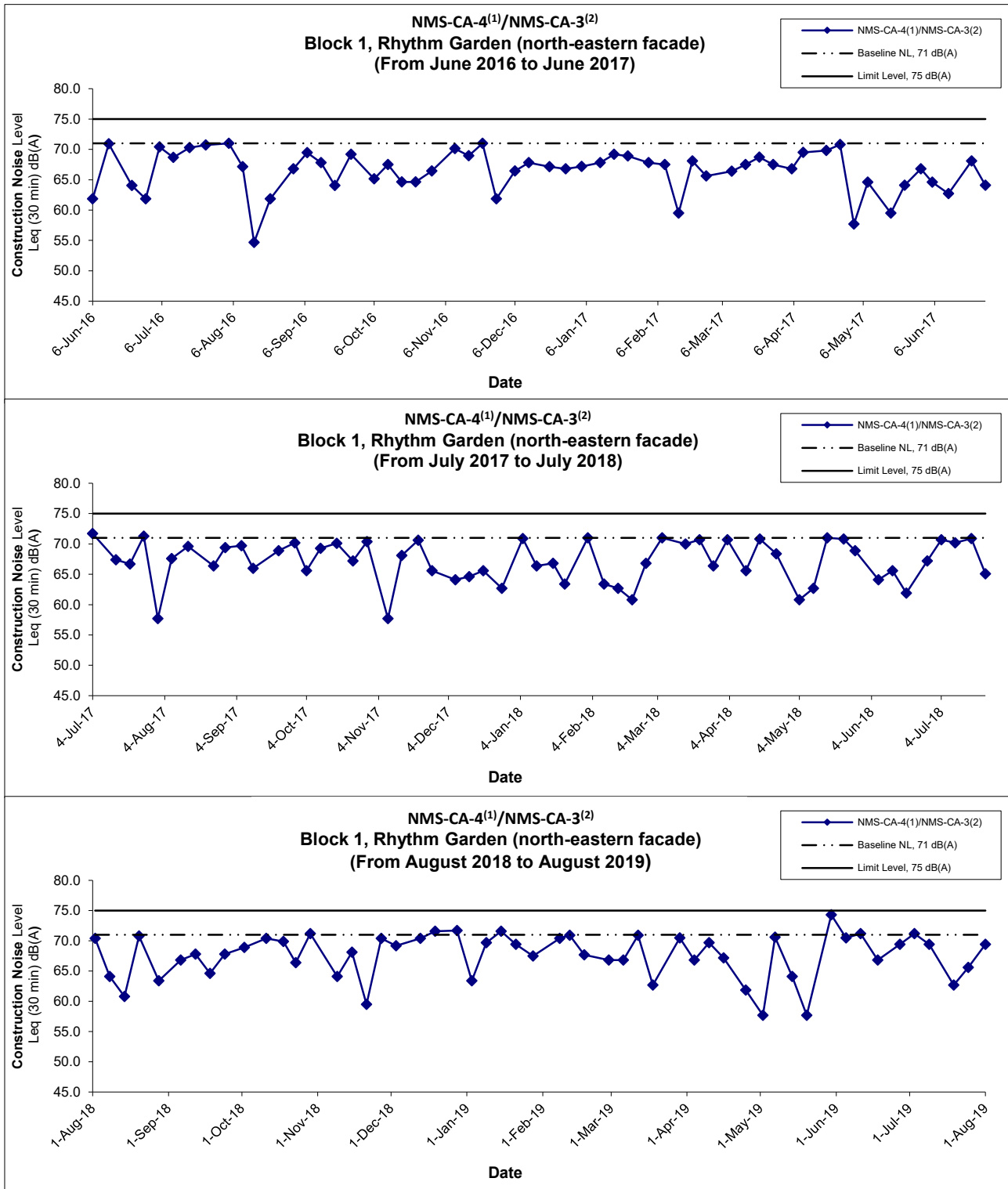


Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
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- (3) In case of Measured Level \leq Baseline Level, only Measured Level is presented on the graphical presentation.

Title	Shatin to Central Link - Contract 1106 - Diamond Hill Station	Scale	N.T.S	Project No.	MA12051	CINOTECH
	Graphical Presentation of Construction Noise Monitoring Results	Date	Aug 19	Appendix	D	

Noise Levels

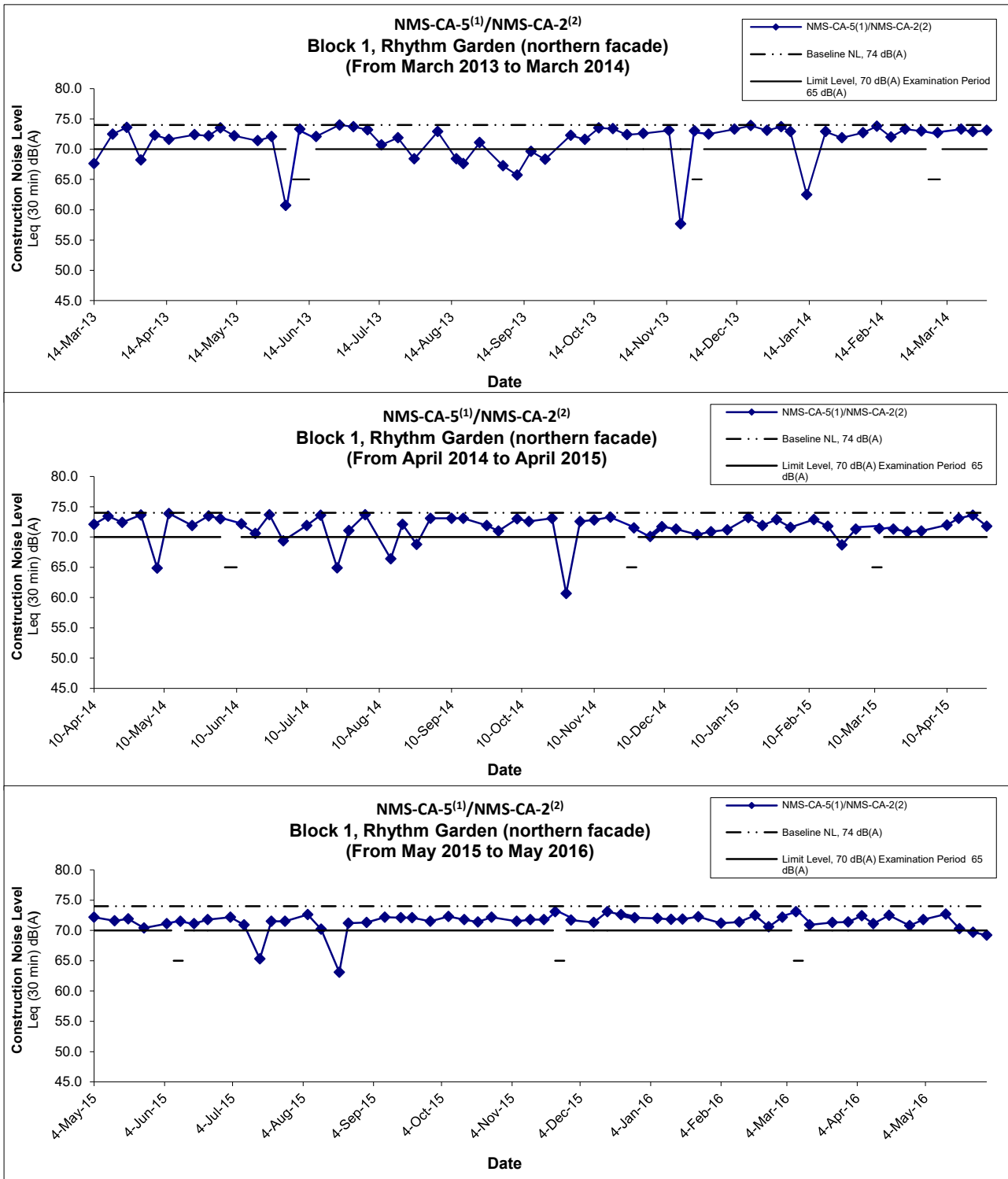


Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
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- (3) In case of Measured Level \leq Baseline Level, only Measured Level is presented on the graphical presentation.

Title	Shatin to Central Link - Contract 1106 - Diamond Hill Station	Scale	N.T.S	Project No.	MA12051	CINOTECH
	Graphical Presentation of Construction Noise Monitoring Results	Date	Aug 19	Appendix	D	

Noise Levels

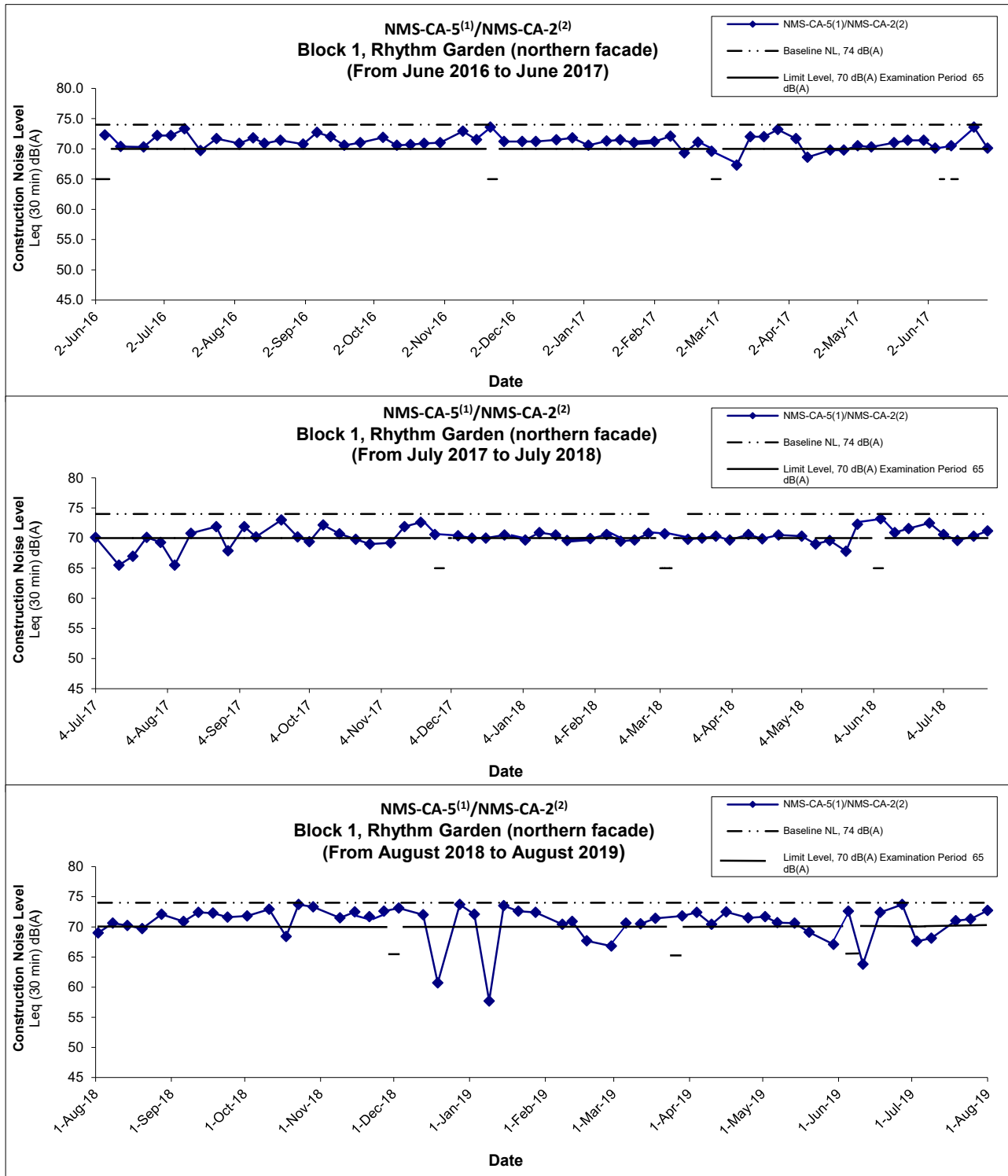


Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
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Title	Shatin to Central Link - Contract 1106 - Diamond Hill Station	Scale	N.T.S	Project No.	MA12051	CINOTECH
	Graphical Presentation of Construction Noise Monitoring Results	Date	Aug 19	Appendix	D	

Noise Levels



Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) In case of Measured Level \leq Baseline Level, only Measured Level is presented on the graphical presentation.

Title	Shatin to Central Link - Contract 1106 - Diamond Hill Station	Scale	N.T.S	Project No.	MA12051	CINOTECH
	Graphical Presentation of Construction Noise Monitoring Results	Date	Aug 19	Appendix	D	

**APPENDIX E
UPDATED ENVIRONMENTAL
MITIGATION IMPLEMENTATIONS
SCHEDULE**

SCL Works Contract 1106 - 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
<i>Cultural Heritage Impact (Construction Phase)</i>								
S4.8.1	CH1	Submit an Archaeological Action Plan. Survey-cum-excavation shall be conducted prior to the construction works at the former Tai Hom Village site.	Salvage cultural remains at the Former Tai Hom Village Site	Contractor	Former Tai Hom Village Site	Prior to the Construction Phase of DIH site	<ul style="list-style-type: none"> • AMO's requirements 	^ ^
S4.8.2	CH2	Submit a Conservation Plan for the Former Royal Air Force Hangar and the Old Pillbox to AMO for agreement.	Proposal for conservation of 2 historical buildings	Contractor	Former Tai Hom Village Site	Prior to the Construction Phase of DIH site	<ul style="list-style-type: none"> • AMO's requirements • Principles for the Conservation of Heritage Sites in China • Burra Charter, the Australia's ICOMOS Charter for Places of Cultural Significance 	^
<i>Ecology (Construction Phase)</i>								
S5.7	E1	<u>Good Site Practices</u> 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, appropriate storage of chemicals and chemical waste away from sites of ecological value and the provision of sanitary facilities for	Minimise ecological impacts	Contractor	All construction sites	During Construction	<ul style="list-style-type: none"> • ProPECC PN 1/94 	^

SCL Works Contract 1106 - 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
		<p>on-site workers. Adoption of such measures should permit waste to be suitably contained within the site for subsequent removal and appropriate disposal. The following good site practices should also be implemented:</p> <ul style="list-style-type: none"> • No on-site burning of waste; • Waste and refuse in appropriate receptacles. 						<p>Λ</p> <p>Λ</p>
<i>Landscape & Visual (Construction Phase)</i>								
S6.12	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 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 	Minimize visual & landscape impact	Contractor	Within Project Site	Construction stage	•TM-EIAO	<p>Λ</p> <p>Λ</p>

SCL Works Contract 1106 - 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
		<p>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> <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. 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. 						<p>^</p> <p>^</p>
Table 6.9	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 	Minimize the visual and landscape impact of the Project during construction phase	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>^</p> <p>^</p>

SCL Works Contract 1106 - 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
		<p>control on the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs.</p> <p><u>Tree Transplanting</u></p> <ul style="list-style-type: none"> Trees of medium to high survival rate that would be affected by the works shall be transplanted where possible and practicable. <p>Tree transplanting proposal including final location for transplanted trees shall be submitted separately to seek relevant government department's approval, in accordance with ETWB TCW No 3/2006.</p>						^
Air Quality (Construction Phase)								
/	A1	<p>Emission from Vehicles and Plants</p> <ul style="list-style-type: none"> All vehicles shall be shut down in intermittent use. Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke. All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD) 	<p>Reduce air pollution emission from construction vehicles and plants</p>	Contractor	All construction sites	Construction stage	• APCO	^ ^ ^
/	A2	Open burning shall be prohibited	<p>Reduce air pollution emission from work site</p>	Contractor	All construction sites	Construction stage	APCO	^
Construction Dust Impact								
S7.6.6	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	<p>• APCO</p> <p>• To control the dust</p>	^

SCL Works Contract 1106 - 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
							impact to meet HKAQO and TM-EIA criteria	
S7.6.6	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 stage	<ul style="list-style-type: none"> • APCO • To control the dust impact to meet HKAQO and TM-EIA criteria 	^
S7.6.6	D3	<ul style="list-style-type: none"> • 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 pedestrian barriers, fencing or traffic cones. • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that 	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 TM-EIA criteria 	^ ^ ^

SCL Works Contract 1106 - 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
		<p>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 leading only to construction site that 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 operation takes place should be sprayed with water or a dust suppression chemical continuously; 						<p>^</p> <p>^</p> <p>^</p> <p>^</p>

SCL Works Contract 1106 - 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
		<ul style="list-style-type: none"> 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 pulverised 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 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; and 						<p>^</p> <p>N/A</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

SCL Works Contract 1106 - 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
		<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. 						^
S7.6.6	D4	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	^
Construction Airborne Noise								
S8.5.6	AN1	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; 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 	Control construction airborne noise	Contractor	All Construction Sites where practicable	Construction stage	• Annex 5, TM-EIA	^ ^ ^ ^ ^

SCL Works Contract 1106 - 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
		and practicable; <ul style="list-style-type: none"> material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 						^
S8.5.6	AN2	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	^
S8.5.6	AN3	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	^
S8.5.6	AN4	Use "Quiet" plant	Reduce the noise levels of plant items	Contractor	All Construction Sites where practicable	Construction stage	• Annex 5, TM-EIA	^
S8.5.6	AN5	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne	Contractor	All Construction Sites where practicable	Construction stage	• Annex 5, TM-EIA	^

SCL Works Contract 1106 - 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
			noise					
S8.5.6	AN6	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	^
Water Quality (Construction Phase)								
S10.7.1	W1	<p>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:</p> <p><u>Construction Runoff and Site Drainage</u></p> <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 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 site runoff and 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 	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 TM-Water 	^

SCL Works Contract 1106 - 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
		<p>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.</p> <p>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 ph basin of 30m³ would be required and for a flow rate of 0.5 m³/s the basin would be 150 m³.</p> <p>The detailed design of the sand/silt 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 						<p>^</p> <p>^</p>

SCL Works Contract 1106 - 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
		<p>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.</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 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 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. 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, 						<p>^</p> <p>^</p> <p>^</p> <p>^</p>

SCL Works Contract 1106 - 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
		<p>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 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 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. • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors 						<p>^</p> <p>^</p> <p>N/A</p>

SCL Works Contract 1106 - 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
		<p>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.</p> <ul style="list-style-type: none"> 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 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 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. 						<p>^</p> <p>^</p> <p>^</p> <p>^</p>
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 	^

SCL Works Contract 1106 - 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
S10.7.1	W5	<u>Accidental Spillage</u> In order to prevent accidental spillage of chemicals, the following is recommended: <ul style="list-style-type: none"> • Proper storage and handling facilities should be provided; • 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; and • 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 	^ ^ ^ ^
Waste Management (Construction Waste)								
S11.4.1.1	WM1	<u>On-site sorting of C&D 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 	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	<ul style="list-style-type: none"> • DEVB TC(W) No. 6/2010 	N/A

SCL Works Contract 1106 - 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
		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 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	<u>Construction and Demolition Material</u> <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 	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. 	^ ^ ^ N/A

SCL Works Contract 1106 - 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
		<p>structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;</p> <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; 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. 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 EPD and get their approval before implementation 					19/2005	<p>^</p> <p>^</p> <p>^</p>
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 	<p>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</p>	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> Land (Miscellaneous Provisions) Ordinance Waste Disposal Ordinance ETWB TCW No.19/2005 	^

SCL Works Contract 1106 - 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
		<p>wastage.</p> <ul style="list-style-type: none"> 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 segregation and storage. 						^
S11.5.1	WM4	<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. 	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance	<p>^</p> <p>^</p> <p>^</p>

SCL Works Contract 1106 - 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
		<ul style="list-style-type: none"> 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. 						^
S11.5.1	WM6	<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 450L 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; be 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, whichever is the greatest; have adequate ventilation; be covered to prevent rainfall entering; and be arranged so that incompatible 	Control the chemical waste and ensure proper storage, handling and disposal.	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 	<div>^</div> <div>^</div> <div>^</div>

SCL Works Contract 1106 - 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
		<p>materials are adequately separated.</p> <ul style="list-style-type: none"> Disposal of chemical waste should be via a licensed waste collector; and be 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 be to a reuser of the waste, under approval from the EPD. 						^

Remarks: ^ Compliance of mitigation measure X Non-compliance of mitigation measure

• Non-compliance but rectified by the contractor

* Recommendation was made during site audit but improved/rectified by the contractor.

N/A Not Applicable

APPENDIX F
WASTE GENERATION IN THE
CONSTRUCTION PERIOD

Contract No: **MTR SCL 1106 - Diamond Hill Station**

Yearly Summary Waste Flow Table for 2013 - 2019

Year	Actual Quantities of C&D Materials Generated Yearly						Actual Quantities of Non-inert C&D Wastes Generated Yearly				
	Total Quantity Generated = (a)+(b)+(c)+(d)	Hard Rocks and Large Broken Concrete (a)	Reused in the Contract (b)	Reused in other Projects (c) (See Note 2)	Disposed as Public Fill (d)	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastic	Chemical Waste (See Note 3)	Others, e.g. General Refuse
	(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)
2013	25.939 ^{*(5)}	0.000	0.000	12.476	13.463	0.000	11.022	0.540	0.000	9.820	4.908
2014	135.791	0.000	0.000	78.068 ^{*(5)}	57.723 ^{*(5)}	1.000	0.000	1.562 ^{*(5)}	2.000 ^{*(5)}	13.273	1.194 ^{*(5)}
2015	70.273	0.000	0.000	60.606	9.667	0.000	0.000	3.614	0.000	0.000	1.461
2016	5.175	0.000	1.186	0.000	3.989	5.049	0.000	3.086	0.000	0.000	2.450
2017	2.425	0.000	0.045	0.000	2.380	0.575	0.000	2.795	0.000	0.000	1.807
2018	2.957	0.000	0.000	0.000	2.957	1.052	0.000	3.684	0.000	7.150	1.325
2019 Jan - July	0.273	0.000	0.000	0.000	0.273	0.000	0.000	4.142 ^{*(5)}	0.000	0.000	0.194 ^{*(5)}
Total	242.833	0.000	1.231	151.150	90.452	7.676	11.022	19.423	2.000	30.243	13.339

Notes:

- 1) Assume the densities of Rock, Soil, Mix Rock and Soil, are Regular Spoil to be 2.0 tonnes/m³. Assumption the densities of general refuse is 1.0 tonnes/m³
- 2) Inert C&D material was delivered to Kai Tak Barging Point Facility (Contract 1108A) & Contract 1103.
- 3) Chemical waste includes waste diesel oil. It is assumed density of diesel oil to be 0.8kg/L.
- 4) Figures are rounded up to 3 decimal places
- 5) Data was updated

**APPENDIX G
CUMULATIVE LOG FOR COMPLAINT
LOGS, NOTIFICATION OF SUMMONS
AND SUCCESSFUL PROSECUTIONS**

Appendix G - Cumulative Log for Complaints, Notifications of Summons and Successful Prosecution

Reporting Month	Number of Complaints in Reporting Month	Number of Summons in Reporting Month	Number of Prosecutions in Reporting Month
March 2013	0	0	0
April 2013	0	0	0
May 2013	0	0	0
June 2013	0	0	0
July 2013	0	0	0
August 2013	0	0	0
September 2013	0	0	0
October 2013	0	0	0
November 2013	0	0	0
December 2013	0	0	0
January 2014	0	0	0
February 2014	0	0	0
March 2014	0	0	0
April 2014	0	0	0
May 2014	0	0	0
June 2014	0	0	0
July 2014	0	0	0
August 2014	0	0	0
September 2014	0	0	0
October 2014	0	0	0
November 2014	0	0	0
December 2014	0	0	0
January 2015	0	0	0
February 2015	3	0	0
March 2015	0	0	0
April 2015	0	0	0
May 2015	0	0	0
June 2015	0	0	0
July 2015	1	0	0
August 2015	0	0	0
September 2015	0	0	0
October 2015	0	0	0
November 2015	0	0	0
December 2015	0	0	0
January 2016	0	0	0
February 2016	0	0	0
March 2016	1	0	0

April 2016	1	0	0
May 2016	0	0	0
June 2016	1	0	0
July 2016	0	0	0
August 2016	3	0	0
September 2016	0	0	0
October 2016	0	0	0
November 2016	0	0	0
December 2016	1	0	0
January 2017	0	0	0
February 2017	0	0	0
March 2017	0	0	0
April 2017	0	0	0
May 2017	0	0	0
June 2017	1	0	0
July 2017	1	0	0
August 2017	0	0	0
September 2017	0	0	0
October 2017	1	0	0
November 2017	0	0	0
December 2017	0	0	0
January 2018	0	0	0
February 2018	0	0	0
March 2018	1	0	0
April 2018	1	0	0
May 2018	0	0	0
June 2018	1	0	0
July 2018	0	0	0
August 2018	0	0	0
September 2018	0	0	0
October 2018	0	0	0
November 2018	0	0	0
December 2018	0	0	0
January 2019	0	0	0
February 2019	0	0	0
March 2019	0	0	0
April 2019	0	0	0
May 2019	0	0	0
June 2019	0	0	0
July 2019	0	0	0
Total	17	0	0

Environmental Complaint Log

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
CP 16	SCL sites at Diamond Hill / Construction Noise	EP3/K11/RE /00001881-2015	A resident living in Diamond Hill/ Late January 2015	3 rd February 2015	As per information from EPD and MTR, the complainant complained about the construction noise generated from SCL sites after midnight between 03:00am and 04:00am during late January 2015.	<p>According to the information provided by the Contractor, no construction activity was being carried out during the time of complaint in late January 2015. All construction works carried out in late January 2015 were in compliance with the conditions stated in the valid CNP (Permit No.: GW-RE1325-14).</p> <p>The ad-hoc inspections conducted by the Contractor also revealed that no construction activity was carried out during restricted hours on 27th January 2015 and 2nd February 2015.</p>	Closed
CP 17	SCL sites at Diamond Hill / Construction Noise	EP3/K11/RE /00002136-2015	A resident living in Rhythm Garden/ Late January 2015	3 rd February 2015	As per information from EPD and MTR, the complainant complained about the construction noise generated from SCL sites during midnight to around 01:00am for a few consecutive days during late January 2015.	<p>It is observed that the Contractor has implemented appropriate noise mitigation measures (like use of acoustic mat & quiet PME) to reduce noise nuisance to adjacent NSRs. The site workers were also briefed/trained to ensure that the conditions stated in permits are strictly followed. Ad-hoc inspections were also carried out regularly.</p> <p>The Contractor also took immediate actions after the complaint was received (with additional toolbox talks and training) to ensure compliance with CNP conditions.</p> <p>The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously</p>	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						reviewed.	
CP 18	SCL sites at Diamond Hill / Muddy Water Discharge	EP3/K11/RE /00001087-2015	---/ January 2015	3 rd February 2015	The complainant complained about the soil/muddy water discharge from the construction activities of SCL sites into Kai Tak Nullah. EPD conducted site inspections on 10, 19 and 23 January 2015 and observed a thin layer of muddy sediment at Kai Tak Nullah adjacent to the sites.	The Contractor has provided proper site drainage system and wastewater treatment system to collect and treat wastewater generated by the construction works. No adverse finding on water quality, especially effluent quality, was recorded in the regular weekly site inspections in January 2015. Results of daily checks and tests conducted in January 2015 showed that all qualities of wastewater tested complied with the corresponding conditions stated in the valid Effluent Discharge License (Reference no.: WT00014959-2012). In addition, as observed from the records of Kai Tak Nullah condition inspection in January 2015, the culvert linking to the designated discharge point was free of sediment and no sign of wastewater overflow was observed. However a thin layer of muddy sediment was observed elsewhere at Kai Tak Nullah. It is believed that the wastewater was properly collected and treated before discharging at designated discharge point and no substandard effluent was discharged from SCL 1106 construction site in January 2015. The environmental conditions of the site and	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						effectiveness of mitigation measures implementation will be continuously reviewed	
CP 23	SCL sites at Diamond Hill / Construction noise	EP3/K11/RE /00017119-2015	Unknown	21 st July 2015	The complainant complained about the construction noise from SCL sites during restricted hours including Sundays.	<p>According to the information provided by the Contractor, no construction activity was being carried out during restricted hours (1900 – 2300 hrs) on normal working day in July 2015. General site works and general cleaning of L4 slab with no operation of PMEs were conducted during 0700 – 1900 hrs and no construction work was carried out during 1900 – 2300 hrs on general holiday including Sunday in July 2015. All construction works carried out in July 2015 were in compliance with the conditions stated in the valid CNP (Permit No.: GW-RE0449-15). The ad-hoc inspections conducted by the Contractor also revealed that no construction activity was carried out during restricted hours on 13th, 21st and 22nd July 2015.</p> <p>It is observed that the Contractor has implemented appropriate noise mitigation measures, like installation of noise barrier and acoustic mat and usage of QPMEs, to reduce noise nuisance to adjacent NSRs. The site workers are briefed/trained and ad-hoc inspection are regularly conducted to ensure that the conditions stated in permits are strictly followed.</p> <p>The Contractor also provided additional</p>	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<p>trainings and toolbox talks for frontline staff and conducted ad-hoc inspections after the complaint was received to ensure compliance with CNP conditions.</p> <p>The environmental conditioned of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed and monitored.</p>	
CP 24	SCL sites at Diamond Hill / Muddy/soil water discharge	EP3/K08/RE /00003052-2016	---/ February 2016	4 th March 2016	As per information from EPD and MTR, the complainant complained about the soil/muddy discharge from the construction activities of SCL sites during February 2016	<p>According to the information provided by the Contractor, major construction works that will generate wastewater were carried out in February 2016. They include: excavation, concreting and rebar fixing work. Nevertheless wastewater generated by the construction works was collected and treated to ensure its quality conform to the conditions stated in the Effluent Discharge License (License No.WT00014959-2012) before discharging at the designated discharge point.</p> <p>During the site inspection conducted with EPD on the 12th February 2016, the status of the discharge point was inspected and no muddy water was found at the discharging point of the site.</p> <p>Results of daily visual checks and self-monitoring pH tests conducted in February 2016 showed that all qualities of wastewater tested</p>	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<p>complied with the corresponding conditions stated in the valid Effluent Discharge License (Reference no.: WT00014959-2012).</p> <p>No adverse finding at designated discharge point was noted during regular weekly site inspections in February 2016</p> <p>Based on the information gathered in the investigation, it is believed the wastewater was properly collected and treated before discharging at designated discharge point and no substandard effluent was discharged from the site in February 2016.</p> <p>The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed.</p>	
CP 26	SCL sites at Diamond Hill / Muddy/soil water discharge	EP3/K11/RE /00009127-16	Public and government department/ April 2016	26 th April 2016	As per information from EPD and MTR, the complainant complained about the soil/muddy discharge from the construction activities of SCL sites during April 2016	According to the information provided by the Contractor, major construction works that will generate wastewater were carried out in April 2016 including excavation, concreting and rebar fixing work. Nevertheless wastewater generated by the construction works was collected and treated to ensure its quality conform to the conditions stated in the Effluent Discharge License (License No.WT00014959-2012) before discharging at the designated discharge point.	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<p>During the site inspection conducted with EPD on the 21st April 2016, the status of the discharge point was inspected and no muddy water was found at the discharging point of the site. The effluent treatment facilities were observed operating, yet treated effluent was found overflowed from the last tank of one of the effluent treatment facility. Nevertheless, the effluent was visually clear and all retained within site area.</p> <p>Results of daily visual checks and self-monitoring pH tests conducted in April 2016 showed that all qualities of wastewater tested complied with the corresponding conditions stated in the valid Effluent Discharge License (Reference no.: WT00014959-2012).</p> <p>One observation was made on 21st April 2016 that slightly unclear effluent was found in the discharging point. The Contractor took an immediate action to assess and maintain the AquaSed to make sure the quality of the site discharge is complied with the corresponding conditions stated in the Effluent Discharge License and the frequency of effluent quality and treatment facilities performance review will be further increased up to 4 times a day too. The observation was found rectified during site audit on 28th April 2016.</p> <p>Based on the information gathered in the</p>	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						investigation, it is believed the wastewater was properly collected and treated before discharging at designated discharge point and no substandard effluent was discharged from the site in April 2016. The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed.	
CP 27	SCL sites at Diamond Hill / Muddy/soil water discharge	K11/RE/000 13455-16	Government department/ June 2016	2 nd June 2016	As per information from EPD and MTR, the complainant complained about the soil/muddy discharge from the construction activities of SCL sites during June 2016	According to the information provided by the Contractor, major construction works that will generate wastewater were carried out in May and early June 2016 including excavation, concreting, rebar fixing work and drainage improvement work. Nevertheless wastewater generated by the construction works was collected and treated to ensure its quality conform to the conditions stated in the Effluent Discharge License (License No.WT00014959-2012) before discharging at the designated discharge point. During the site inspection conducted with EPD on 1st June 2016, the effluent treatment facilities were in operation. There were no adverse comment or observation concerning effluent quality received from the EPD during the inspection. The LJV was advised to keep reviewing and enhancing the wastewater control system to ensure the condition of	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<p>WPCO discharge license was fully complied with.</p> <p>Results of daily visual checks and self-monitoring pH tests conducted in May and early June 2016 showed that all qualities of wastewater tested complied with the corresponding conditions stated in the valid Effluent Discharge License Reference no.: WT00014959-2012).</p> <p>One observation was made on 12th May 2016 that although no effluent discharge was observed during the inspection, the site water was appeared to be slightly unclear within the AquaSed. The Contractor took an immediate action to maintain the AquaSed and effluent quality and treatment facilities performance review was increased up to 4 times a day to make sure the quality of the site discharge is complied with the corresponding conditions stated in the Effluent Discharge License. The observation was found rectified during site audit on 19th May 2016 and there was no item regarding water quality import that was recorded during the site inspection carried out on 26th May 2016 and early June 2016.</p> <p>Based on the information gathered in the investigation, it is believed the wastewater was</p>	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						properly collected and treated before discharging at designated discharge point and no substandard effluent was discharged from the site in May and early June 2016. The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed.	
CP 28	Malodour	K11/RE/000 18166-16	Public/ July 2016	18 th August 2016	The complaint concerned malodour emitted from the construction activities of SCL sites.	There was no construction activities that will generate malodour was carried out in July 2016. No observation regarding to the malodour was identified during the site inspection carried out in July 2016 and according to the inspection carried out by the EPD in 27th July 2016, no malodour activity as spotted at site 1106. The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed and monitored.	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
CP 29	Noise	EP3/K11/RE /00019738-16	Public/ 8 th August 2016	23 rd August 2016	The complainant complained about the construction noise from SCL sites during non-restricted hours and the construction noise is likely due to the dismantling of concrete structure near Diamond Hill MTR Station and also possibly due to piling work near Lung Poon Court.	According to the information provided by the Contractor, the major works activities in the main station works area in August 2016 were ceiling vent, E&M pipe ducts, drainage pipes and platform screen door beam installation. For A1 site, which is the site next to the existing Kwun Tong Line Diamond Hill Station Exit A1, closest to Lung Poon Court, one mini hand held breaker was used during non-restricted hours on 8 August 2016 and 9 August 2016 to break the gully with provision of mitigation measure. The A1 site was idle from 15 th August 2016 to 20 th August 2016 and no hand held breaker was used at A1 site after 20 August 2016. It is believed that no significant noise impact was generated during the period of complaint.	Closed
CP 30	Noise	EP3/K11/RE /00020881-16	Public/ 19 th August 2016			During the weekly site audit in August 2016, there was no environmental deficiency regarding to the the construction noise impact at A1 site and main works area was recorded. The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed and monitored.	Closed
CP 31	Noise	K11/RE/000 31952-16	A resident of Galaxia	Early December 2016	The complainant concerned construction noise emanated from the	According to the information provided by the Contractor, the major works activities in the main station works area at the time of complaint were construction of main station, interchange	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
					construction activities of SCL site near Lung Cheung Road (1106) from 1900 hours to 2100 hours.	<p>adit and west unpaid link. The powered mechanical equipment (PME) used for the construction activities included mobile crane, wire saw and lorry, which were not used simultaneously.</p> <p>Construction noise permit (GW-RE1043-16), which is valid from 25 October 2016 to 23 April 2017, was granted to the Contractor for the construction works conducted from 1900-2300 for any day not being a general holiday and 0700-2300 for general holiday (including Sunday). It is observed that the conditions of CNP (GW-RE1043-16) was well complied.</p> <p>The EPD staff have carried out inspection on 9 December 2016 at around 1930 hours and no construction activity was spotted on that day.</p> <p>After receiving the complaint, a specific tool box talk was conducted by the Contractor to relevant frontline workers and staff in regards to the requirements of CNP (GW-RE1043-16) on 15 December 2016.</p> <p>The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed and monitored.</p>	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
CP 29	Noise	EP3/K11/RE /00019738-16	Public/ 8 th August 2016	23 rd August 2016	The complainant complained about the construction noise from SCL sites during non-restricted hours and the construction noise is likely due to the dismantling of concrete structure near Diamond Hill MTR Station and also possibly due to piling work near Lung Poon Court.	According to the information provided by the Contractor, the major works activities in the main station works area in August 2016 were ceiling vent, E&M pipe ducts, drainage pipes and platform screen door beam installation. For A1 site, which is the site next to the existing Kwun Tong Line Diamond Hill Station Exit A1, closest to Lung Poon Court, one mini hand held breaker was used during non-restricted hours on 8 August 2016 and 9 August 2016 to break the gully with provision of mitigation measure. The A1 site was idle from 15 th August 2016 to 20 th August 2016 and no hand held breaker was used at A1 site after 20 August 2016. It is believed that no significant noise impact was generated during the period of complaint.	Closed
CP 30	Noise	EP3/K11/RE /00020881-16	Public/ 19 th August 2016			During the weekly site audit in August 2016, there was no environmental deficiency regarding to the the construction noise impact at A1 site and main works area was recorded. The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed and monitored.	
CP 31	Noise	K11/RE/000 31952-16	A resident of Galaxia	Early December 2016	The complainant concerned construction noise	According to the information provided by the Contractor, the major works activities in the main station works area at the time of complaint	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
					emanated from the construction activities of SCL site near Lung Cheung Road (1106) from 1900 hours to 2100 hours.	<p>were construction of main station, interchange adit and west unpaid link. The powered mechanical equipment (PME) used for the construction activities included mobile crane, wire saw and lorry, which were not used simultaneously.</p> <p>Construction noise permit (GW-RE1043-16), which is valid from 25 October 2016 to 23 April 2017, was granted to the Contractor for the construction works conducted from 1900-2300 for any day not being a general holiday and 0700-2300 for general holiday (including Sunday). It is observed that the conditions of CNP (GW-RE1043-16) was well complied.</p> <p>The EPD staff have carried out inspection on 9 December 2016 at around 1930 hours and no construction activity was spotted on that day.</p> <p>After receiving the complaint, a specific tool box talk was conducted by the Contractor to relevant frontline workers and staff in regards to the requirements of CNP (GW-RE1043-16) on 15 December 2016.</p> <p>The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed and monitored.</p>	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
CP-32	SCL sites at Diamond Hill / Muddy water discharge	N/A	Drainage Service Department / July 2017	June 2017	<p>The complainant concerned about muddy water discharge from the construction activities of SCL sites and the Housing Department's site for public rental housing development at Diamond Hill, affecting the water quality at the Tai Hom Nullah located downstream.</p>	<p>According to information provided by the Contractor, only back-filling work was carried out during the time of complaint that will generate wastewater.</p> <p>Nevertheless wastewater generated by the construction works was collected and treated to ensure its quality conform to the conditions stated in the Effluent Discharge License (License No. WT00025615-2016) prior to discharge at the designated discharge point. During the site inspection conducted by EPD on 28th June 2017, the wastewater treatment facilities were in operation. The effluent quality was visually acceptable at the designated discharge point during the inspection. EPD has reminded the Contractor to keep close monitoring of the wastewater control system and ensure fully comply with the conditions of WPCO discharge license.</p> <p>Daily visual checking and maintenance of the wastewater treatment facilities was conducted to check the physical appearance of treated effluent and ensure proper functioning of treatment system. Apart from the visual checking of the wastewater treatment facilities, additional inspection of effluent was provided by the Contractor to ensure the quality of the</p>	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<p>wastewater discharge comply with the discharge license requirements. Besides, the Contractor has step up their additional inspection from once per week to once per 3 days</p> <p>The results of the visual checking and self-monitoring test conducted by LJV in June 2017 all indicated that the treated effluent complied with the corresponding conditions stated in the Effluent Discharge License. The effluent quality will be closely checked to ensure compliance with the Effluent Discharge License conditions.</p> <p>According to the information provided by the Contractor, additional training course was provided to Aquased operator on 6 July 2017 to ensure no discharge of muddy water from the SCL construction site.</p> <p>According to the weekly site inspection record on 22nd June 2017, the site water was appeared to be slightly unclear within the Aquased due to the insufficient treatment chemical dosage. The Contractor has suspended the treatments system immediately and conduct maintenance to the Aquased. All unclear water was drained back to the primary sedimentation pool of the treatment system during maintenance. The system was resumed within one hour and the site discharge</p>	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<p>is visually acceptable after maintenance. Although the Contractor has immediately rectified and resume the system, the Contractor was reminded to provide proper maintenance to the treatment system to avoid substandard discharge. It is the only item regarding water quality recorded during the site inspections carried out on June 2017. The effluent quality at designated point was visually acceptable during site inspection on 29th June 2017 and early July 2017.</p> <p>The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed.</p>	
CP-33	SCL sites at Diamond Hill / Muddy water discharge	N/A	Public / July 2017	July 2017	<p>The complainant concerned about muddy water discharge from the construction activities of SCL sites and the Housing Department's site for public rental housing development at Diamond Hill affecting the water</p>	<p>According to information provided by the Contractor, only back-filling works was carried out during the time of complaint that will generate wastewater.</p> <p>Nevertheless wastewater generated by the construction works was collected and treated to ensure its quality conform to the conditions stated in the Effluent Discharge License (License No. WT00025615-2016) prior to discharge at the designated discharge point. During the site inspection conducted by EPD on 18th July 2017, the wastewater treatment</p>	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
					quality at the Tai Hom Nullah located downstream.	<p>facilities was suspended due to the maintenance service. No discharge of treated effluent from the AquaSed was observed during the inspection. However, a temporary blue hose was found at the entrance of the construction site. One end of the blue hose was connecting to a sump pit which was full of the muddy water while the other end of the blue hose was connecting the communal stormwater manhole. Although no discharge of muddy water was observed at that time, it is suspected that this was one of the muddy water sources. The Contractor was reminded to fully comply with the conditions of discharge licence issued under the Water Pollution Control Ordinance.</p> <p>According to the information provided by the Contractor, no effluent discharge to the site discharge point until the treatment system was fixed. All site water was drained back to the primary sedimentation pool of the treatment system during maintenance. The system was resumed within one hour and the site discharge is visually acceptable after maintenance.</p> <p>Daily visual checking of the wastewater treatment facilities and maintenance was conducted to check the physical appearance of treated effluent and ensure proper functioning of</p>	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<p>wastewater treatment system. Apart from the visual checking of the wastewater treatment facilities, additional inspection of effluent was provided by the Contractor to ensure the quality of the wastewater discharge comply with the discharge license requirements. The Contractor has increased the additional inspection frequency from once per 3 days to once per 1-2 days.</p> <p>The results of the visual checking and self-monitoring test conducted by LJV in July 2017 all indicated that the treated effluent complied with the corresponding conditions stated in the Effluent Discharge License.</p> <p>The Contractor had taken the follow-up action immediately after received the complaint on that day from the EPD including:</p> <ul style="list-style-type: none"> ➤ The flexible hose was immediately disconnected and removed; and ➤ Additional pump has been installed to the sump pit to pump water back into the site for further treatment; <p>Regular weekly site inspections were conducted</p>	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<p>and no adverse finding at designated discharging point was noted in early July 2017. The site effluent was visually acceptable during the weekly site inspections. The wastewater treatment facilities was functioning properly. And there was no item regarding water quality import that was recorded during the inspection carried out in early July 2017.</p> <p>Existing drainage system had been reviewed and revised by the Contractor to suit the site condition to ensure effective system was implemented to control site run-off and effluent quality.</p> <p>The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed.</p>	
CP-34	SCL sites at Diamond Hill / Noise	N/A	Public / 19 th September 2017	11 th October 2017	The complainant concerning noise nuisance arising from suspected construction activity at Tai Hom adjacent to Lung Poon Court at Diamond Hill. The complainant claimed that suspected construction noise	<p>According to the information provided by the Contractor, no general construction work was conducted by the Contractor at SCL-1106 site area during the time of complaint. An emergency road re-surfacing works was carried out at Lung Cheung Road by specialist contractor on 19 September 2017 night (Emergency Serial Number: M767718).</p> <p>After receiving the complaint, an addition training was conducted by the Contractor to</p>	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
					was heard at around 2:30 am, 19 September 2017 from above location.	<p>relevant frontline workers and engineers. The addition training introduced the granted condition of CNP and reminded relevant frontline workers and engineers to strictly comply with the CNP.</p> <p>Regular weekly site inspections were conducted. No environmental deficiency regarding construction noise was recorded at SCL site during site inspection in September 2017.</p> <p>Noise barriers were installed at the north of main site area by the Contractor to reduce noise generated from work areas.</p> <p>The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed and monitored.</p>	
CP-35	The existing KTL-Diamond station / Air Quality	K11/RE/000 05530-18	Public / March 2018	14 th March 2018	The complaint concerned the air quality nuisance in existing KTL-Diamond Hill Station due to the station renovation works. Upon receipt of the complaint, EPD conducted site	<p>According to information provided by the Contractor, only ABWF-work at interface areas was carried out during the time of complaint.</p> <p>Regular weekly site inspections were conducted. No fugitive dust was observed inside the existing KTL-Diamond station. Also, no gaps was found at hoarding and doors for enclosing the works areas. The air quality inside the existing KTL-Diamond station and the</p>	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
					inspection in past two weeks and revealed that fugitive dust was escaping through gap at hoarding and doors for enclosing the works area.	<p>interface area was observed satisfactory. No environmental deficiency regarding air quality was recorded at interface area of SCL-Diamond Hill station during site inspection in late February and early March 2018.</p> <p>The Contractor had implemented environmental mitigation measures as follows:</p> <ul style="list-style-type: none"> • Regular site cleaning was conducted by the worker at SCL-Diamond Hill Station; • Two layers of screening have been installed by the Contractor at the interface area; and • Blowers have been set up by the Contractor to lead air flows from existing KTL-Diamond Hill Station to the working area at the interface area. <p>The following actions have been implemented immediately by the Contractor to enhance the dust control after receiving the complaint:</p> <ul style="list-style-type: none"> • The Contractor has immediately reviewed and enhanced the sealing condition of all dust screen, door and hoarding; 	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<ul style="list-style-type: none"> • Additional dust screen has been installed behind the door of the hoarding and the interface area of SCL-Diamond Hill Station; • Two additional blowers have been set up at the interface area of SCL-Diamond Hill Station for good airflow and ventilation; • Wet carpets were placed in front of door at existing KTL-Diamond Hill Station; • Hotline number has been displayed to the existing KTL-Diamond Hill Station for public enquiry; and • Regular site cleaning with higher frequency was conducted by the worker at SCL-Diamond Hill Station. <p>According to the regular air monitoring results, no Action / Limit Level Exceedance was recorded at Station DMS-3 and DMS-4 from February to early March 2018. With the implementation of environmental mitigation measures by Contractors on site, it is considered that dust nuisance by the works has been brought to a minimum level and no adverse air</p>	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<p>quality impact was brought to the KTL-Diamond Hill interface area during the time of complaint.</p> <p>The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed and monitored.</p>	
CP-36	The existing KTL-Diamond station / Air Quality	N/A	Public / 4 th April 2018	4 th April 2018	<p>The complaint concerned the air quality nuisance and odour nuisance due to the station renovation work in existing KTLDiamond Hill Station on 4th April 2018. Upon receipt of the complaint, EPD conducted site inspection immediately, fugitive dust has been found outside the hoarding for the works. The canvas curtain of site entrance has</p>	<p>According to information provided by the Contractor, only ABWF-work at interface areas was carried out during the time of complaint.</p> <p>Regular weekly site inspections were conducted. No fugitive dust was observed inside the existing KTL-Diamond station. Also, no gaps was found at dust screens, hoarding and doors for enclosing the works areas. The air quality inside the existing KTL-Diamond station and the interface area was observed satisfactory. No environmental deficiency regarding air quality was recorded at interface area of SCL-Diamond Hill station during site inspection in late March and early April 2018.</p> <p>The Contractor had implemented environmental mitigation measures as follows:</p> <ul style="list-style-type: none"> Two layers of screening have been installed by the Contractor at the interface 	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
					not been completely sealed which might be the cause of the dispersion of dust and odour to the nearby environmental inside the existing KTLDiamond Hill Station.	<p>area;</p> <ul style="list-style-type: none"> • Blowers have been set up by the Contractor to lead air flows from existing KTL Diamond Hill Station to the working area at the interface area; • Additional dust screen has been installed behind the door of the hoarding and the interface area of SCL-Diamond Hill Station; • Two additional blowers have been set up at the interface area of SCL-Diamond Hill Station for good airflow and ventilation; • Hotline number has been displayed to the existing KTL-Diamond Hill Station for public enquiry; • Regular site cleaning with higher frequency was conducted by the worker at SCL Diamond Hill Station; and • Wet carpets were placed in front of door at existing KTL-Diamond Hill Station. <p>The following actions have been implemented immediately by the Contractor to enhance the dust control after receiving the complaint:</p> <ul style="list-style-type: none"> • The Contractor has reviewed and enhanced the sealing condition of all dust screen, door and hoarding immediately; 	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<ul style="list-style-type: none"> Additional dust screen and blower have been installed behind the interface area of SCL-Diamond Hill Station East MOE for dust and odour controll Designated access with screening was provided for MOE by the Contractor; and The Contractor has increased the frequency on checking the condition of all dust screen, door, hoarding and the interface area. <p>According to the regular air monitoring results, no Action / Limit Level Exceedance was recorded at Station DMS-3 and DMS-4 from March to early April 2018. With the implementation of environmental mitigation measures by Contractors on site, it is considered that dust nuisance and odour nuisance by the works has been brought to a minimum level and no adverse air quality impact was brought to the KTL-Diamond Hill interface area during the time of complaint.</p> <p>The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed and monitored.</p>	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
CP-37	SCL site for Diamond Hill / Water Quality	N/A	DSD / June 2018	6 th June 2018	The complainant concerned about muddy water discharge from the construction activities of SCL site for Diamond Hill, affecting the water quality at the Tai Hom Nullah located downstream.	<p>According to information provided by the Contractor, ABWF works, drainage works and general site clearance were major works carried out during the time of complaint that will generate wastewater.</p> <p>The Contractor has taken the initiative to ensure the quality of the treated effluent discharge from the construction site.</p> <p>Regular self-monitoring of the wastewater treatment facilities and maintenance was conducted to check the physical appearance of treated effluent and ensure proper functioning of wastewater treatment system. According to the inspection checklist for wastewater treatment facilities provided by the Contractor, the physical appearance of treated effluent is acceptable. No exceedance of pH value and no muddy water was observed during the self-monitoring.</p> <p>The record of the regular self-monitoring conducted by LJV in June 2018 all indicated that the treated effluent complied with the corresponding conditions stated in the Effluent Discharge License.</p>	Closed

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						<p>The Contractor had taken the follow-up action immediately after received the complaint on that day from the EPD including:</p> <ul style="list-style-type: none"> ➤ A bund has been built around discharge point to prevent surface runoff flowing into the manhole; ➤ Mud at the sedimentation tank has been removed immediately; and ➤ The frequency to removal of accumulated mud has been increased. <p>Existing drainage system had been reviewed and revised by the Contractor to suit the site condition to ensure effective system was implemented to control site run-off and effluent quality.</p> <p>Regular weekly site inspections was conducted on 6th June 2018. The site effluent was visually acceptable during the site inspection. The wastewater treatment facilities was functioning properly. According to the ad-hoc checking on 8th June 2018, no adverse finding at designated discharging point was recorded.</p>	

Contractor Log Ref.	Complaint Location/ Nature	Incoming Complaint Reference no.	Complainant/ Date or Period of Complaint Received	Date of Complaint received from EPD	Details of Complaint	Investigation/ Mitigation Action	Status
						The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed.	

Log for Notifications of Summons

Log Ref.	Location/Nature	Subject	Status	Total no. Received in this reporting month	Total no. Received since project commencement
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Log for Successful Prosecutions

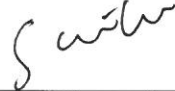

Log Ref.	Location/Nature	Subject	Status	Total no. Received in this reporting month	Total no. Received since the commencement of the project
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Appendix D

Final EM&A Review Report for Works Contract 1111 –
Hung Hom North Approach

Gammon-Kaden SCL 1111 Joint Venture**Shatin to Central Link -
Tai Wai to Hung Hom Section and
Mong Kok East to Hung Hom Section****Works Contract 1111 -
Hung Hom North Approach Tunnels****Final EM&A Review Report**

[September 2019]

	Name	Signature
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Version: 0

Date: 11 September 2019

Disclaimer

This Final EM&A Review Report is prepared for Gammon-Kaden SCL1111 JV and is given for its sole benefit in relation to and pursuant to SCL1111 and may not be disclosed to, quoted to or relied upon by any person other than Gammon-Kaden SCL1111 JV without our prior written consent. No person (other than Gammon-Kaden SCL1111 JV) into whose possession a copy of this report comes may rely on this report without our express written consent and Gammon-Kaden SCL1111 JV may not rely on it for any purpose other than as described above.

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Appendix H	Cumulative Statistics on Complaints, Notification of Summons and Successful Prosecutions from January 2013 to July 2019

EXECUTIVE SUMMARY

Shatin to Central Link Contract 1111 – Hung Hom North Approach Tunnels (hereafter called “the Project”) covers part of the construction of the Shatin to Central Link (SCL) which aimed to convey a total of 17km extension of the existing Ma On Shan Line (MOL) through east Kowloon to West Rail Line and also East Rail Line (EAL) through Hung Hom across the harbour to Admiralty Station (ADM). The Project covers construction activities at Mong Kok Freight Terminal and part of the construction activities located at Hung Hom Area for SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS).

The EM&A programme commenced in January 2013. The impact EM&A for the Project includes air quality and noise monitoring, landscape and visual auditing, waste management and environmental auditing.

All major construction works in the whole works area of this Contract have been substantially completed since 18 November 2018, with only minor works remaining (such as defects rectification, testing, drain fixing and general site cleaning). Hence, the cessation of construction phase EM&A programme under this Contract was proposed on 25 July 2019 and EPD expressed no objection on 31 July 2019 to the proposed cessation.

This report documents the findings of EM&A works conducted in the period 2 January 2013 to 31 July 2019. As informed by the Contractor, major activities undertaken in the past twelve months were:

Location	Site Activities
Ho Man Tin	Steel mesh, planter works, hoarding removal, defect rectification, removal of grown vegetation
NSL (South)	Road & drainage construction, bar fence, planting, soil disposal, defect rectification, pipe connection, backfilling, planter construction, removal of pipe pile, chequer plate installation, erection work for kerb backing, planting
OB2 / TB1	Maintenance access, abandoned watermain removal, bar fence, installation of working platform, defect rectification
OB2A / TB2	Maintenance access, bar fence, defect rectification
NSL 9 & Oi Sen Path	Defect rectification, minor steel work, railing installation, scaffolding erection, water pump replacement, soil disposal, reinstatement works

Noise mitigation measure of vertical noise barrier P3 substantially completed in March 2018.

Breaches of Action and Limit Levels for Air Quality

No exceedance of Action and Limit Level of 24-hour TSP monitoring was recorded at the monitoring location in the reporting period.

Breaches of Action and Limit Levels for Noise

Regular Noise Monitoring

No Action Level exceedance was recorded since no noise related complaint during 0700 to 1900 hours on normal weekdays was received in the reporting period.

One (1) exceedance of Limit Level of noise was recorded in the reporting period, which was recorded at NM1 on 3 April 2013. Investigation for the exceedance was conducted and the result revealed that the noise exceedance was not in relation to the construction works of Works Contract 1111.

Continuous Noise Monitoring

Four (4) exceedances of Action and Limit Level of continuous noise monitoring were recorded in the reporting period, which were recorded at NM1 on 10 and 11 February 2015. Investigations of exceedances have been conducted and considered that the continuous noise exceedances were invalid.

Complaint, Notification of Summons and Successful Prosecution

One (1) air complaint was received in the reporting period regarding dust generated along Chatham Road North due to a few bagged cement being dropped from a passing vehicle. While it was revealed that the passing vehicle was neither under this Contract nor relevant Contractors, the complaint was settled and reported in the Monthly EM&A report for May 2017.

One (1) noise nuisance complaint was recorded in the reporting period regarding hammering noise generated near Wylie Court during restricted hours. While no hammering works and PME were operated in the vicinity of Wylie Court in the concerned period with reference to the site diary, the complaint was settled and reported in the Monthly EM&A report for November 2014.

No environmental summons / prosecutions were received in the reporting period.

Future Key Issues

All major construction works in the whole works area of this Contract have been substantially completed since 18 November 2018, with only minor works remaining (such as defects rectification, testing, drain fixing and general site cleaning). Hence, the cessation of construction phase EM&A programme under this Contract was proposed on 25 July 2019 and EPD expressed no objection on 31 July 2019 to the proposed cessation.

Summary of the Overall EM&A Programme

The overall EM&A programme was conducted satisfactorily. All aspects of the EM&A programme were reviewed and audited independently and objectively. The requirements in the EM&A Manuals are fully complied with.

With the success of the overall EM&A programme, the deterioration of the environment caused by the Project was cost-effectively identified and necessary prompt effective mitigation measures were implemented to avoid any unacceptable impacts.

1 INTRODUCTION

Gammon-Kaden SCL1111 Joint Venture (GKSCLJV) was commissioned by MTR as the Civil Contractor for Works Contract 1111. AECOM Asia Company Limited (AECOM) was appointed by GKSCLJV as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the Project.

1.1 Purpose of the Report

- 1.1.1 This is the Final EM&A Review Report which summaries the impact monitoring results and audit findings for the Project during the reporting period from 2 January 2013 to 31 July 2019.

1.2 Report Structure

- 1.1.2 This monthly EM&A Report is organised as follows:

- Section 1: Introduction
- Section 2: Project Information
- Section 3: Environmental Monitoring Requirement
- Section 4: Implementation Status of Environmental Mitigation Measures
- Section 5: Monitoring Results
- Section 6: Environmental Site Inspection
- Section 7: Environmental Non-conformance
- Section 8: Future Key Issues
- Section 9: Review of the Validity of EIA Prediction
- Section 10: Comments
- Section 11: Conclusions and Recommendation

2 PROJECT INFORMATION

2.1 Background

- 2.1.1 The Shatin to Central Link (SCL) is a 17km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH); and (ii) The North-South Corridor which is an extension of the East Rail Line (EAL) at Hung Hom across the harbour to Admiralty Station (ADM).
- 2.1.2 The Environmental Impact Assessment (EIA) Reports for SCL – Tai Wai to Hung Hom Section [SCL (TAW-HUH)] (Register No.: AEIAR-167/2012), SCL – Mong Kok East to Hung Hom Section [SCL (MKK-HUH)] (Register No.: AEIAR-165/2012) and SCL - Stabling Sidings at Hung Hom Freight Yard [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, two Environmental Permits (EPs) were granted on 22 March 2012, one covers SCL (TAW-HUH) and SCL (HHS) (EP No: EP-438/2012) and the other covers SCL (MKK-HUH) and SCL (HHS) (EP No.: EP-437/2012), for their construction and operation. Variations of environmental permit (VEP) was subsequently applied for EP-438/2012 and EP-437/2012. The latest Environmental Permit (EP No: EP-438/2012/K and EP-437/2012/A) were issued by Director of Environmental Protection (DEP) on 4 October 2016 and 28 November 2017 respectively.
- 2.1.3 The construction of the SCL is divided into different civil construction works contracts and Works Contract 1111 – Hung Hom North Approach Tunnels (hereafter referred to as “the Project”) covers construction activities at Mong Kok Freight Terminal and part of the construction activities located at Hung Hom under the two EPs.
- 2.1.4 All major construction works in the whole works area of this Contract have been substantially completed since 18 November 2018, with only minor works remaining (such as defects rectification, testing, drain fixing and general site cleaning). Hence, the cessation of construction phase EM&A programme under this Contract was proposed on 25 July 2019 and EPD expressed no objection on 31 July 2019 to the proposed cessation.

2.2 Site Description

- 2.2.1 The major construction activities under Works Contract 1111 include:
- SCL (MKK-HUH) – (i) Construction of an realigned and modified railway from Portal 1A near Oi Man Estate to Hung Hom Station; (ii) Construction of Noise Enclosure at Portal 1A; (iii) modification works on the existing Homantin Siding; and (iv) new EVA near Hung Hom Station.
 - SCL (TAW-HUH) – Part of the railway tunnel from Ho Man Tin Station to Hung Hom.
 - SCL (HHS) – Construction of tracks and noise barrier of Hung Hom Stabling Sidings.
- 2.2.2 **Figure 1.1** shows the works areas for the Works Contract 1111.

2.3 Construction Programme and Activities

2.3.1 All major construction works in the whole works area of this Contract have been substantially completed since 18 November 2018, with only minor works remaining (such as defects rectification, testing, drain fixing and general site cleaning). Hence, the cessation of construction phase EM&A programme under this Contract was proposed on 25 July 2019 and EPD expressed no objection on 31 July 2019 to the proposed cessation.

2.3.2 The major construction activities undertaken in the past twelve months are summarised below:-

Location	Site Activities
Ho Man Tin	Steel mesh, planter works, hoarding removal, defect rectification, removal of grown vegetation
NSL (South)	Road & drainage construction, bar fence, planting, soil disposal, defect rectification, pipe connection, backfilling, planter construction, removal of pipe pile, chequer plate installation, erection work for kerb backing, planting
OB2 / TB1	Maintenance access, abandoned watermain removal, bar fence, installation of working platform, defect rectification
OB2A / TB2	Maintenance access, bar fence, defect rectification
NSL 9 & Oi Sen Path	Defect rectification, minor steel work, railing installation, scaffolding erection, water pump replacement, soil disposal, reinstatement works

2.3.3 Noise mitigation measure of vertical noise barrier P3 substantially completed in March 2018.

2.3.4 The construction programme can be referred to the respective monthly EM&A reports.

2.4 Project Organisation

2.4.1 The project organization structure is shown in **Appendix A**. The key personnel contact names and numbers for the Project are summarised in **Table 2.1**.

Table 2.1 Contact Information of Key Personnel

Party	Role	Position	Name	Telephone	Fax
MTR	Residential Engineer (ER)	Construction Manager	Mr. Michael Fu	3127 6201	3124 6422
		SCL Project Environmental Team Leader	Ms. Lisa Poon	3127 6295	3127 6422
Meinhardt	Independent Environmental Checker	Independent Environmental Checker	Mr. Fredrick Leong	2859 1739	2540 1580
GKSCKJV	Contractor	Project Manager	Mr. Alan Yan	9855 0361	3904 9630
		Environmental Manager	Ms. Michelle Tang	3904 9663	
		Environmental Officer	Ms. Phoebe Ng	3904 9665	
AECOM	Contractor's Environmental Team (ET)	ET Leader	Mr. Y T Tang	3922 9393	2317 7609

3 ENVIRONMENTAL MONITORING REQUIREMENTS

3.1 Construction Dust Monitoring

Monitoring Requirements

- 3.1.1 In accordance with the approved EM&A Manuals, 24-hour Total Suspended Particulates (TSP) level at the designated air quality monitoring station is required. Impact 24-hour TSP monitoring should be carried out for at least once every 6 days. The Action and Limit level of the air quality monitoring is provided in **Appendix B**.

Monitoring Equipment

- 3.1.2 24-hour TSP air quality monitoring was performed using High Volume Sampler (HVS) located at each designated monitoring station. The HVS meets all the requirements of the EM&A Manuals. Brand and model of the equipment is given in **Table 3.1**.

Table 3.3.1 Air Quality Monitoring Equipment

Equipment	Brand and Model	Serial No.
High Volume Sampler (24-hour TSP)	Andersen Total Suspended Particulate Mass Flow Controlled High Volume Air Sampler Model No. GS 2310	8259 894-0835
Calibration Kit	TISCH Environmental Orifice Model TE-5025A	0988 0843

Monitoring Locations

- 3.1.3 One monitoring station was set up at the proposed location in accordance with the approved EM&A Manuals for SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS) as well as the works areas of the Project. The location of the construction dust monitoring station is summarised in **Table 3.2** and shown in **Figure 2.1**.

Table 3.3.2 Locations of Construction Dust Monitoring Stations

ID	Location	Monitoring Station
AM1	No. 234 – 238 Chatham Road North	Roof top of the premises facing Chatham Road North

Note:

- (1) Permission of access could not be obtained from Wing Fung Building (originally proposed in the approved EM&A Manuals) and hence the monitoring location was relocated to No. 234-238 Chatham Road North. The alternative monitoring location has been approved by IEC and EPD.

Monitoring Methodology

3.1.4 24-hour TSP Monitoring

- (a) The HVS was installed in the vicinity of the air sensitive receivers. The following criteria were considered in the installation of the HVS as far as practicable:-
- (i) A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
 - (ii) The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
 - (iii) A minimum of 2 meters separation from walls, parapets and penthouse for rooftop sampler.
 - (iv) A minimum of 2 meters separation from any supporting structure, measured horizontally is required.
 - (v) No furnace or incinerator flues nearby.
 - (vi) Airflow around the sampler was unrestricted.
 - (vii) Permission was obtained to set up the samplers and access to the monitoring stations.
 - (viii) A secured supply of electricity was obtained to operate the samplers.

- (ix) The sampler was located more than 20 meters from any dripline.
 - (x) Any wire fence and gate, required to protect the sampler, did not obstruct the monitoring process.
 - (xi) Flow control accuracy was kept within $\pm 2.5\%$ deviation over 24-hour sampling period.
- (b) Preparation of Filter Papers
- (i) Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.
 - (ii) All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ± 3 °C; the relative humidity (RH) was < 50% and not variable by more than $\pm 5\%$. A convenient working RH was 40%.
 - (iii) All filter papers were prepared and analysed by ALS Technichem (HK) Pty Ltd., which is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes.
- (c) Field Monitoring
- (i) The power supply was checked to ensure the HVS works properly.
 - (ii) The filter holder and the area surrounding the filter were cleaned.
 - (iii) 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.
 - (iv) The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
 - (v) The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied was sufficient to avoid air leakage at the edges.
 - (vi) Then the shelter lid was closed and was secured with the aluminium strip.
 - (vii) The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
 - (viii) A new flow rate record sheet was set into the flow recorder.
 - (ix) On site temperature and atmospheric pressure readings were taken and the flow rate of the HVS was checked and adjusted at around 1.3 m³/min, and complied with the range specified in the EM&A Manuals (i.e. 0.6-1.7 m³/min).
 - (x) The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
 - (xi) The initial elapsed time was recorded.
 - (xii) At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
 - (xiii) The final elapsed time was recorded.
 - (xiv) The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
 - (xv) It was then placed in a clean envelope and sealed.
 - (xvi) All monitoring information was recorded on a standard data sheet.
 - (xvii) Filters were then sent to ALS Technichem (HK) Pty Ltd. For analysis.
- (d) Maintenance and Calibration
- (i) The HVS and its accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
 - (ii) HVSs were calibrated using TE-5025A Calibration Kit upon installation and thereafter at bi-monthly intervals.
 - (iii) Calibration certificate of the TE-5025A Calibration Kit and the HVSs can be referred to the respective monthly EM&A reports.

Monitoring Schedule for the Reporting Period

- 3.1.5 EM&A works were carried out in accordance with the requirements stipulated in the approved EM&A Manuals. 24-hour TSP air quality monitoring for the reporting period with respect to the construction programme can be referred to the respective monthly EM&A reports.

3.2 Regular Construction Noise Monitoring***Monitoring Requirements***

- 3.2.1 In accordance with the EM&A Manuals, impact noise monitoring should be conducted for at least once a week during the construction phase of the Project. **Table 3.4** summarises the monitoring parameters, frequency and duration of impact noise monitoring. The Action and Limit level of the noise monitoring is provided in **Appendix B**.

Table 3.4 Noise Monitoring Parameters, Frequency and Duration

Parameter and Duration	Frequency
30-mins measurement at each monitoring station between 0700 and 1900 on normal weekdays. Leq, L10 and L90 would be recorded.	At least once per week

Monitoring Equipment

- 3.2.2 Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in **Table 3.5**.

Table 3.5 Noise Monitoring Equipment for Regular Noise Monitoring

Equipment	Brand and Model	S/N
Integrated Sound Level Meter	Model No. B&K 2238	2255677
		2255680
		2255688
		2285692
		2800927
		2800930
Integrated Sound Level Meter	Model No. B&K 2250	2681366
		3001291
	Model No. B&K 2250-L	2681366
		3003330
	Model No. B&K 2270	2644597
Acoustic Calibrator		3007965
	Model No. Rion Co., Ltd. NL-31	00320528
	Model No. B&K 4231	3006428
		3014024
	Model No. Rion Co., Ltd. NC-73	10186482
Acoustic Calibrator		10307216
		10307223
	Model No. Rion Co., Ltd. NC-74	34246490

Monitoring Locations

- 3.2.3 Two monitoring stations were set up at the proposed locations in accordance with the approved EM&A Manuals for SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS) as well as the works areas of the Project. Locations of the noise monitoring stations are summarised in **Table 3.6** and shown in **Figure 3.1**.

Table 3.6 Locations of Regular Construction Noise Monitoring Stations

ID	Location	Monitoring Station	Type of Measurement
NM1	Carmel Secondary School (South Block)	1m from the exterior of the roof top façade of the premises facing Oi Sen Path	Façade
NM2	No. 234 – 238 Chatham Road North ⁽¹⁾	Free-field on the rooftop of the premise	Free Field

Note:

(1) Permission of access could not be obtained from Wing Fung Building (originally proposed in the approved EM&A Manuals) and hence the monitoring location was relocated to No. 234-238 Chatham Road North. The alternative monitoring location has been approved by IEC and EPD.

Monitoring Methodology

3.2.4 Monitoring Procedure

- (a) The sound level meter was set on a tripod at a height of 1.2 m above the ground for free-field measurements at NM2. A correction of +3 dB(A) shall be made to the free field measurements.
- (b) Façade measurements were made at NM1.
- (c) The battery condition was checked to ensure the correct functioning of the meter.
- (d) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - (i) frequency weighting: A
 - (ii) time weighting: Fast
 - (iii) time measurement: $L_{eq(30\text{-minutes})}$ during non-restricted hours i.e. 0700 – 1900 on normal weekdays.
- (e) Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator for 94 dB(A) at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- (f) During the monitoring period, the L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- (g) Noise measurement was paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations were recorded when intrusive noise was unavoidable.
- (h) Noise monitoring was cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind with gusts exceeding 10m/s.

3.2.5 Maintenance and Calibration

- (a) The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.
- (b) The meter and calibrator were sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.
- (c) Calibration certificates of the sound level meters and acoustic calibrators can be referred to the respective monthly EM&A reports.

Monitoring Schedule for the Reporting Period

- 3.2.6 EM&A works were carried out in accordance with the requirements stipulated in the approved EM&A Manuals. Impact noise monitoring for the reporting period with respect to the construction programme can be referred to the respective monthly EM&A reports.

3.3 Continuous noise monitoring***Monitoring Requirements***

- 3.3.1 According to EP conditions under EP-437/2012/A (Condition 2.8) and EP-438/2012/K (Condition 2.10), continuous noise monitoring should be conducted at the NSRs as identified by the Construction Noise Mitigation Measures Plan (CNMMP) to have residual air-borne noise impacts. A CNMMP and Continuous Noise Monitoring Plan (CNMP) were submitted to EPD on 20 January 2014.

Monitoring Locations

- 3.3.2 With reference to the CNMP, continuous noise monitoring should be conducted during period at which the predicted airborne construction noise levels exceed the relevant noise criteria at the respective NSRs. The proposed continuous noise monitoring locations are presented in **Table 3.7** and shown in **Figure 3.1**.

Table 3.7 Summary of Proposed Continuous Noise Monitoring Location

NSR ID	NSR Description	Uses	Proposed Continuous Noise Monitoring Location	Alternative Noise Monitoring Location
OM4a	Carmel Secondary School (South Block)	Educational	NM1	-
HH2	Wing Fung Building	Residential	NM2	No. 234-238 Chatham Road North ⁽¹⁾

Note:

(1) Permission of access could not be obtained from Wing Fung Building (originally proposed in the approved EM&A Manuals) and hence the monitoring location was relocated to No. 234-238 Chatham Road North. The alternative monitoring location is considered as an appropriate alternative noise monitoring station in the CNMP.

Monitoring Equipment

- 3.3.3 Continuous noise monitoring is performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator is deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in **Table 3.8**.

Table 3.8 Noise Monitoring Equipment for Continuous Noise Monitoring

Equipment	Brand and Model	Serial No.
Integrated Sound Level Meter	Model No. B&K 2238	2800927 2255677 2800930
Acoustic Calibrator	Model No. Rion Co., Ltd. NC-73	10307223

Monitoring Parameters, Frequency and Duration

- 3.3.4 Continuous noise level is measured in terms of the A-weighted equivalent continuous sound pressure level for 30 minutes ($L_{eq, 30 \text{ min}}$) for time period between 0700 and 1900 hours on normal working hours (i.e. Mondays to Saturdays) during the construction period that the predicted noise levels exceed the relevant noise criteria at the identified NSRs. The recommended measurement period for the continuous noise monitoring programme in the CNMP is summarised in **Table 3.9**.

Monitoring Methodology

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

Event and Action Plan

- 3.3.6 Summary of the proposed continuous noise monitoring programme are presented in **Table 3.9**. The Event and Action Plan for the continuous noise monitoring programme recommended in the CNMP is presented in **Appendix C**.

Table 3.9 Summary of Proposed Continuous Noise Monitoring Programme

Monitoring Location	NSR Description	Action/Limit Level, dB(A)	Measurement Period
NM1	Carmel Secondary School (South Block)	68 ⁽¹⁾	Feb and Jun 2014, Jan and Feb 2015 ⁽³⁾ Mar 2015 ⁽⁴⁾
NM2	No. 234-238 Chatham Road North ⁽²⁾	77	Sep to Dec of 2014 Jan / Mar to May 2015

Note:

(1) Action/Limit level will only be applicable during the examination period.

(2) Permission of access could not be obtained from Wing Fung Building (originally proposed in the approved EM&A Manuals) and hence the monitoring location was relocated to No. 234-238 Chatham Road North. The alternative monitoring location is considered as an appropriate alternative noise monitoring station in the CNMP.

(3) Based on 2014-2015 Calendar of Carmel Secondary School, the examination periods are scheduled in January and February 2015. The continuous noise monitoring was conducted in January and February 2015.

(4) Additional continuous noise monitoring was conducted in March 2015 according to the latest 2014-2015 Calendar of Carmel Secondary School.

3.4 Landscape and Visual

- 3.4.1 As per the EM&A Manuals, the landscape and visual mitigation measures should be implemented and site inspections should be undertaken once every two weeks during the construction period. The event and action plan for landscape and visual during construction phase is presented in **Appendix C**.

4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

- 4.1 Throughout this project, the Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EPs and EM&A Manuals. The implementation status of the environmental mitigation measures during the reporting period is summarized in **Appendix D**. Status of required submissions under the EPs during the reporting period is summarized in **Table 4.1**.

Table 4.1 Status of Required Submission under Environmental Permit

EP Condition	Submission	Submission Date
Condition 2.7 (EP-437/2012) & Condition 2.9 (EP-438/2012/C)	Construction Noise Mitigation Measures Plan (CNMMP)	11 Jun 2013
Condition 2.7 (EP-437/2012) & Condition 2.9 (EP-438/2012/D)	Construction Noise Mitigation Measures Plan	20 January 2014
Condition 2.8 (EP-437/2012) & Condition 2.10 (EP-438/2012/D)	Continuous Noise Monitoring Plan	20 January 2014
Condition 3.4 (EP-437/2012) & Condition 3.4 (EP-438/2012/B)	Monthly EM&A Report for January 2013	14 February 2013
	Monthly EM&A Report for February 2013	14 March 2013
	Monthly EM&A Report for March 2013	12 April 2013
Condition 3.4 (EP-437/2012) & Condition 3.4 (EP-438/2012/C)	Monthly EM&A Report for April 2013	14 May 2013
	Monthly EM&A Report for May 2013	14 Jun 2013
	Monthly EM&A Report for June 2013	12 July 2013
	Monthly EM&A Report for July 2013	15 August 2013
Condition 3.4 (EP-437/2012) & Condition 3.4 (EP-438/2012/D)	Monthly EM&A Report for August 2013	13 September 2013
	Monthly EM&A Report for September 2013	15 October 2013
	Monthly EM&A Report for October 2013	14 November 2013
	Monthly EM&A Report for November 2013	13 December 2013
	Monthly EM&A Report for December 2013	14 January 2014
	Monthly EM&A Report for January 2014	14 February 2014
Condition 3.4 (EP-437/2012) & Condition 3.4 (EP-438/2012/E)	Monthly EM&A Report for February 2014	14 March 2014
	Monthly EM&A Report for March 2014	14 April 2014
	Monthly EM&A Report for April 2014	14 May 2014
	Monthly EM&A Report for May 2014	13 June 2014
	Monthly EM&A Report for June 2014	14 July 2014

EP Condition	Submission	Submission Date
Condition 3.4 (EP-437/2012) & Condition 3.4 (EP-438/2012/F)	Monthly EM&A Report for July 2014	14 August 2014
Condition 3.4 (EP-437/2012) & Condition 3.4 (EP-438/2012/G)	Monthly EM&A Report for August 2014	12 September 2014
	Monthly EM&A Report for September 2014	14 October 2014
	Monthly EM&A Report for October 2014	14 November 2014
Condition 3.4 (EP-437/2012) & Condition 3.4 (EP-438/2012/H)	Monthly EM&A Report for November 2014	12 December 2014
	Monthly EM&A Report for December 2014	14 January 2015
	Monthly EM&A Report for January 2015	14 February 2015
	Monthly EM&A Report for February 2015	13 March 2015
	Monthly EM&A Report for March 2015	14 April 2015
	Monthly EM&A Report for April 2015	14 May 2015
	Monthly EM&A Report for May 2015	11 June 2015
	Monthly EM&A Report for June 2015	14 July 2015
	Monthly EM&A Report for July 2015	14 August 2015
	Monthly EM&A Report for August 2015	14 September 2015
Condition 3.4 (EP 437/2012) & Condition 3.4 (EP 438/2012/I)	Monthly EM&A Report for September 2015	14 October 2015
	Monthly EM&A Report for October 2015	13 November 2015
	Monthly EM&A Report for November 2015	14 December 2015
	Monthly EM&A Report for December 2015	14 January 2016
Condition 3.4 (EP-437/2012) & Condition 3.4 (EP-438/2012/J)	Monthly EM&A Report for January 2016	12 February 2016
	Monthly EM&A Report for February 2016	14 March 2016
	Monthly EM&A Report for March 2016	14 April 2016
	Monthly EM&A Report for April 2016	13 May 2016
	Monthly EM&A Report for May 2016	14 June 2016
	Monthly EM&A Report for June 2016	14 July 2016
	Monthly EM&A Report for July 2016	12 August 2016
	Monthly EM&A Report for August 2016	14 September 2016
	Monthly EM&A Report for September 2016	14 October 2016
	Monthly EM&A Report for October 2016	14 November 2016

EP Condition	Submission	Submission Date
Condition 3.4 (EP-437/2012) & Condition 3.4 (EP-438/2012/K)	Monthly EM&A Report for November 2016	14 December 2016
	Monthly EM&A Report for December 2016	13 January 2017
	Monthly EM&A Report for January 2017	14 February 2017
	Monthly EM&A Report for February 2017	14 March 2017
	Monthly EM&A Report for March 2017	12 April 2017
	Monthly EM&A Report for April 2017	12 May 2017
	Monthly EM&A Report for May 2017	14 June 2017
	Monthly EM&A Report for June 2017	14 July 2017
	Monthly EM&A Report for July 2017	14 August 2017
	Monthly EM&A Report for August 2017	14 September 2017
	Monthly EM&A Report for September 2017	13 October 2017
	Monthly EM&A Report for October 2017	14 November 2017
Condition 3.4 (EP-437/2012/A) & Condition 3.4 (EP-438/2012/K)	Monthly EM&A Report for November 2017	14 December 2017
	Monthly EM&A Report for December 2017	12 January 2018
	Monthly EM&A Report for January 2018	14 February 2018
	Monthly EM&A Report for February 2018	14 March 2018
	Monthly EM&A Report for March 2018	13 April 2018
	Monthly EM&A Report for April 2018	14 May 2018
	Monthly EM&A Report for May 2018	14 June 2018
	Monthly EM&A Report for June 2018	13 July 2018
	Monthly EM&A Report for July 2018	14 August 2018
	Monthly EM&A Report for August 2018	14 September 2018
	Monthly EM&A Report for September 2018	12 October 2018
	Monthly EM&A Report for October 2018	14 November 2018
	Monthly EM&A Report for November 2018	14 December 2018
	Monthly EM&A Report for December 2018	14 January 2019
	Monthly EM&A Report for January 2019	14 February 2019
	Monthly EM&A Report for February 2019	14 March 2019
	Monthly EM&A Report for March 2019	12 April 2019

EP Condition	Submission	Submission Date
	Monthly EM&A Report for April 2019	14 May 2019
	Monthly EM&A Report for May 2019	14 June 2019
	Monthly EM&A Report for June 2019	12 July 2019
	Monthly EM&A Report for July 2019	14 August 2019

5 MONITORING RESULTS

5.1 Construction Dust Monitoring

- 5.1.1 The monitoring results for 24-hour TSP are summarised in **Table 5.1**. The graphical plots are presented in **Appendix E**. The meteorological data extracted from the nearest Automatic Weather Station can be referred to the respective monthly EM&A reports.

Table 5.1 Summary of 24-hour TSP Monitoring Results in the Reporting Period

ID	Average ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
AM1	50.5	10.2 – 161.2	183.9	260

- 5.1.2 No Action and Limit Level exceedance was recorded for 24-hour TSP monitoring at the monitoring location in the reporting period.
- 5.1.3 The event and action plan is annexed in **Appendix C**.
- 5.1.4 Major dust sources during the monitoring included construction dust from the Project site and other nearby construction sites and also nearby traffic emission.
- 5.1.5 The cessation of monitoring works at AM1 was approved by EPD on 31 July 2019. The last monitoring date was 26 July 2019. The HVS was uninstalled on 28 August 2019.

5.2 Regular Construction Noise Monitoring

- 5.2.1 The monitoring results for noise are summarized in **Table 5.2** and the graphical plots are provided in **Appendix F**.

Table 5.2 Summary of Impact Noise Monitoring Results in the Reporting Period

ID	Range, dB(A), L_{eq} (30 mins)	Limit Level, dB(A), L_{eq} (30 mins)
NM 1 ⁽²⁾	51.7 – 71.2	70 (65) ⁽¹⁾
NM 2 ⁽²⁾	61.8 – 79.0	75

Note:

- (1) Daytime noise Limit Level of 70dB(A) applies to education institutions while 65dB(A) applies during school examination period.
- (2) Baseline correction will be made to the measured L_{eq} when the measured noise level exceeded the corresponding baseline noise level and presented in the table. No correction was made to NM2 as all measured noise levels were below the baseline noise level.

- 5.2.2 No noise complaint was received in the reporting period during 0700 to 1900 hours on normal weekdays; hence, no Action Level exceedance was recorded.
- 5.2.3 One (1) exceedance of Limit Level of noise was recorded in the reporting period, which was recorded at NM1 on 3 April 2013. Investigation for the exceedance was conducted and the result revealed that the noise exceedance was not in relation to the construction works of Works Contract 1111. Details can be referred to the respective monthly EM&A report.
- 5.2.4 The event and action plan is annexed in **Appendix C**.
- 5.2.5 Major noise sources during the monitoring included construction noise from the Project site and other nearby construction sites, nearby traffic noise and noise from school activities and the community.
- 5.2.6 The cessation of monitoring works at NM 1 and NM 2 was approved by EPD on 31 July 2019. The last monitoring date was 23 July 2019.

5.3 Continuous Noise Monitoring

- 5.3.1 The graphical plots for continuous noise monitoring are provided in **Appendix F**.

- 5.3.2 Four (4) exceedances of Action and Limit Level of continuous noise monitoring were recorded in the reporting period, which were recorded at NM1 on 10 and 11 February 2015. Investigations of exceedances have been conducted and considered that the continuous noise exceedances were invalid. Details can be referred to the respective monthly EM&A report.

5.4 Waste Management

- 5.4.1 C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.
- 5.4.2 As advised by the Contractor, the actual amount of different types of waste disposed or reused in the reporting period are summarized in **Table 5.3**. The waste flow table is annexed in **Appendix G**.

Table 5.3 Summary of Waste Flow the Reporting Period

Waste Type Disposed / Reused			Actual Amount
Inert C&D Materials	Disposed	Public fill disposed at TM38	32,176 m ³
		Public fill disposed at TKO137	56,531 m ³
		Public fill disposed at CWPFBP	10 m ³
	Reused	Public fill delivered to Hung Hom Barging Point	105,986 m ³
		Public fill handled by other project	2,038 m ³
		Public fill reused in the Contract	2,926 m ³
Non-inert C&D Materials	Recycled	Metal collected by recycling contractor	54,428 kg
		Paper collected by recycling contractor	30,670 kg
		Plastic collected by recycling contractor	5,546 kg
	Disposed	Chemical waste collected by licensed contractor	4,191 kg
		General refuse disposed at NENT landfill	6,843,450 kg
Marine Dumping	Disposed	Type 1 marine dumping delivered to Hung Hom Barging Point	54,950 m ³
		Type 2 marine dumping delivered to Hung Hom Barging Point	2,216 m ³

5.5 Landscape and Visual

- 5.5.1 Bi-weekly inspection of the implementation of landscape and visual mitigation measures were conducted. Summary of the site inspections in the reporting period can be referred to the respective monthly EM&A reports.
- 5.5.2 The event and action plan is annexed in **Appendix C**.

6 ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 6.1.1 Site inspections were carried out on a weekly basis while joint site inspections were carried out on a monthly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project and ensure that all mitigation measures were implemented timely and properly. Summary of the site inspections in the reporting period can be referred to the respective monthly EM&A reports.

7 ENVIRONMENTAL NON-CONFORMANCE

7.1 Summary of Monitoring Exceedances

- 7.1.1 All 24-hour TSP results were below the Action and Limit level at all monitoring locations in the reporting period.
- 7.1.2 No noise complaint during 0700 to 1900 hours on normal weekdays was received in the reporting period; hence, no Action Level exceedance was recorded.
- 7.1.3 One (1) exceedance of Limit Level of noise was recorded in the reporting period, which was recorded at NM1 on 3 April 2013. Investigation for the exceedance was conducted and the result revealed that the noise exceedance was not in relation to the construction works of Works Contract 1111.
- 7.1.4 Four (4) exceedances of Action and Limit Level of continuous noise monitoring were recorded in the reporting period, which were recorded at NM1 on 10 and 11 February 2015. Investigations of exceedances have been conducted and considered that the continuous noise exceedances were invalid.

7.2 Summary of Environmental Non-Compliance

- 7.2.1 No environmental non-compliance was recorded in the reporting period.

7.3 Summary of Environmental Complaints

- 7.3.1 One (1) air complaint was received in the reporting period regarding dust generated along Chatham Road North due to a few bagged cement being dropped from a passing vehicle. While it was revealed that the passing vehicle was neither under this Contract nor relevant Contractors, the complaint was settled and reported in the Monthly EM&A report for May 2017.
- 7.3.2 One (1) noise nuisance complaint was recorded in the reporting period regarding hammering noise generated near Wylie Court during restricted hours. While no hammering works and PME were operated in the vicinity of Wylie Court in the concerned period with reference to the site diary, the complaint was settled and reported in the Monthly EM&A report for November 2014.
- 7.3.3 Cumulative statistics on environmental complaints is provided in **Appendix H**.

7.4 Summary of Environmental Summon and Successful Prosecutions

- 7.4.1 No environmental related prosecution or notification of summons was received in the reporting period. Cumulative statistics on notification of summons and successful prosecutions is provided in **Appendix H**.

8 FUTURE KEY ISSUES

8.1 Construction Programme for the Project

- 8.1.1 All major construction works in the whole works area of this Contract have been substantially completed since 18 November 2018, with only minor works remaining (such as defects rectification, testing, drain fixing and general site cleaning). Hence, the cessation of construction phase EM&A programme under this Contract was proposed on 25 July 2019 and EPD expressed no objection on 31 July 2019 to the proposed cessation.

9 REVIEW OF THE VALIDITY OF EIA PREDICTION AND IDENTIFICATION OF SHORTCOMINGS IN EIA RECOMMENDATIONS

- 9.1.1 Most of the air quality and noise monitoring results in the reporting period were below the Action and Limit Levels. The result was in line with EIA prediction that with the implementation of mitigation measures and no shortcomings in EIA recommendations were identified.
- 9.1.2 During the reporting period, environmental mitigation measures and good site practices were implemented timely and properly. Environmental site inspections were carried out to monitor and audit the environmental performance and rectified where necessary.
- 9.1.1 The mitigation measures in EIA prediction and the approved EM&A manuals have been effectively implemented during the construction period.
- 9.1.2 The environmental monitoring methodology was considered well established as the monitoring results were found in line with EIA predictions.

10 COMMENTS

- 10.1.1 The air quality and noise monitoring were properly conducted in accordance with the approved EM&A Manuals. The monitoring events were sufficient to justify the respective environmental impacts on the nearby sensitive receivers.
- 10.1.2 Even though a few exceedances of noise monitoring were recorded, all exceedances were considered not related to the Project. The environmental monitoring results indicated that the construction activities with the implementation of mitigation measures in general complied with the relevant environmental requirements.
- 10.1.3 The mitigation measures in EIA prediction and the approved EM&A Manuals have been effectively implemented during the construction period.
- 10.1.4 The environmental monitoring methodology was considered well established as the monitoring results were found in line with EIA predictions
- 10.1.5 It is concluded that the overall environmental performance of the project is satisfactory. The overall EM&A programme was conducted satisfactorily. All aspects of the EM&A programme were reviewed and audited independently and objectively. The requirements in the EM&A Manuals are fully complied with.

11 CONCLUSIONS AND RECOMMENDATIONS

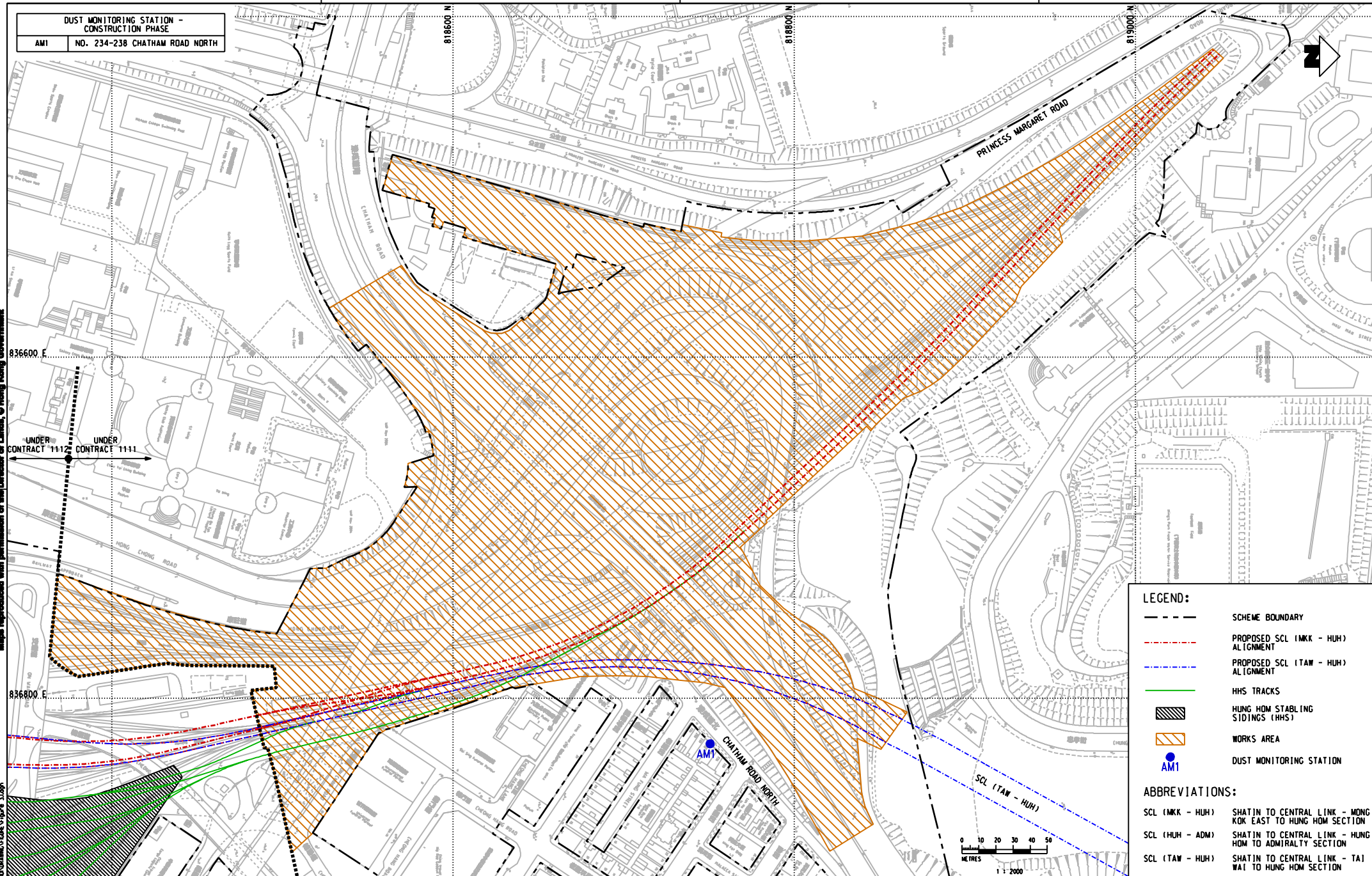
- 11.1.1 24-hour TSP and noise monitoring were carried out in the reporting period.
- 11.1.2 All 24-hour TSP monitoring results complied with the Action / Limit Level at in the reporting period.
- 11.1.3 No noise complaint during 0700 to 1900 hours on normal weekdays was received in the reporting period; hence, no Action Level exceedance was recorded.

- 11.1.4 One (1) exceedance of Limit Level of noise was recorded in the reporting period, which was recorded at NM1 on 3 April 2013. Investigation for the exceedance was conducted and the result revealed that the noise exceedance was not in relation to the construction works of Works Contract 1111.
- 11.1.5 Four (4) exceedances of Action and Limit Level of continuous noise monitoring were recorded in the reporting period, which were recorded at NM1 on 10 and 11 February 2015. Investigations of exceedances have been conducted and considered that the continuous noise exceedances were invalid.
- 11.1.6 One (1) air complaint was received in the reporting period regarding dust generated along Chatham Road North due to a few bagged cement being dropped from a passing vehicle. While it was revealed that the passing vehicle was neither under this Contract nor relevant Contractors, the complaint was settled and reported in the Monthly EM&A report for May 2017.
- 11.1.7 One (1) noise nuisance complaint was recorded in the reporting period regarding hammering noise generated near Wylie Court during restricted hours. While no hammering works and PME were operated in the vicinity of Wylie Court in the concerned period with reference to the site diary, the complaint was settled and reported in the Monthly EM&A report for November 2014.
- 11.1.8 No environmental related prosecution or notification of summons was received in the reporting period.
- 11.1.9 The cessation of construction phase EM&A programme under this Contract was proposed on 25 July 2019 and EPD expressed no objection on 31 July 2019 to the proposed cessation.
- 11.1.10 The overall EM&A programme was conducted satisfactorily. All aspects of the EM&A programme were reviewed and audited independently and objectively. The requirements in the EM&A Manuals are fully complied with.
- 11.1.11 With the success of the overall EM&A programme, the deterioration of the environment caused by the Project was cost-effectively identified and necessary prompt effective mitigation measures were implemented to avoid any unacceptable impacts.








FIGURES

© Hong Kong Government

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LEGEND:

- | | |
|---|---------------------------------------|
|  | SCHEME BOUNDARY |
|  | PROPOSED SCL (MKK - HUM)
ALIGNMENT |
|  | PROPOSED SCL (TAW - HUM)
ALIGNMENT |
|  | HHS TRACKS |
|  | HUNG HOM STABILISING
SIDINGS (HHS) |
|  | WORKS AREA |
|  | DUST MONITORING STATION |

ABBREVIATIONS:

- SCL (MKK - HUH) SHATJN TO CENTRAL LINK - MONG
KOK EAST TO HUNG HOM SECTION
- SCL (HUH - ADM) SHATJN TO CENTRAL LINK - HUNG
HOM TO ADMIRALTY SECTION
- SCL (TAW - HUH) SHATJN TO CENTRAL LINK - TAI

DRAWN	HD
DESIGNED	LCLL
CHECKED	LCLL
APPROVED	IMW
DATE	08/JAN/2013



SHATIN TO CENTRAL LINK

CONTRACTOR  **Gammon**  **Kaden**  **SCL**
Gammon – Kaden SCL 1111 Joint Venture

ORIGINATOR	
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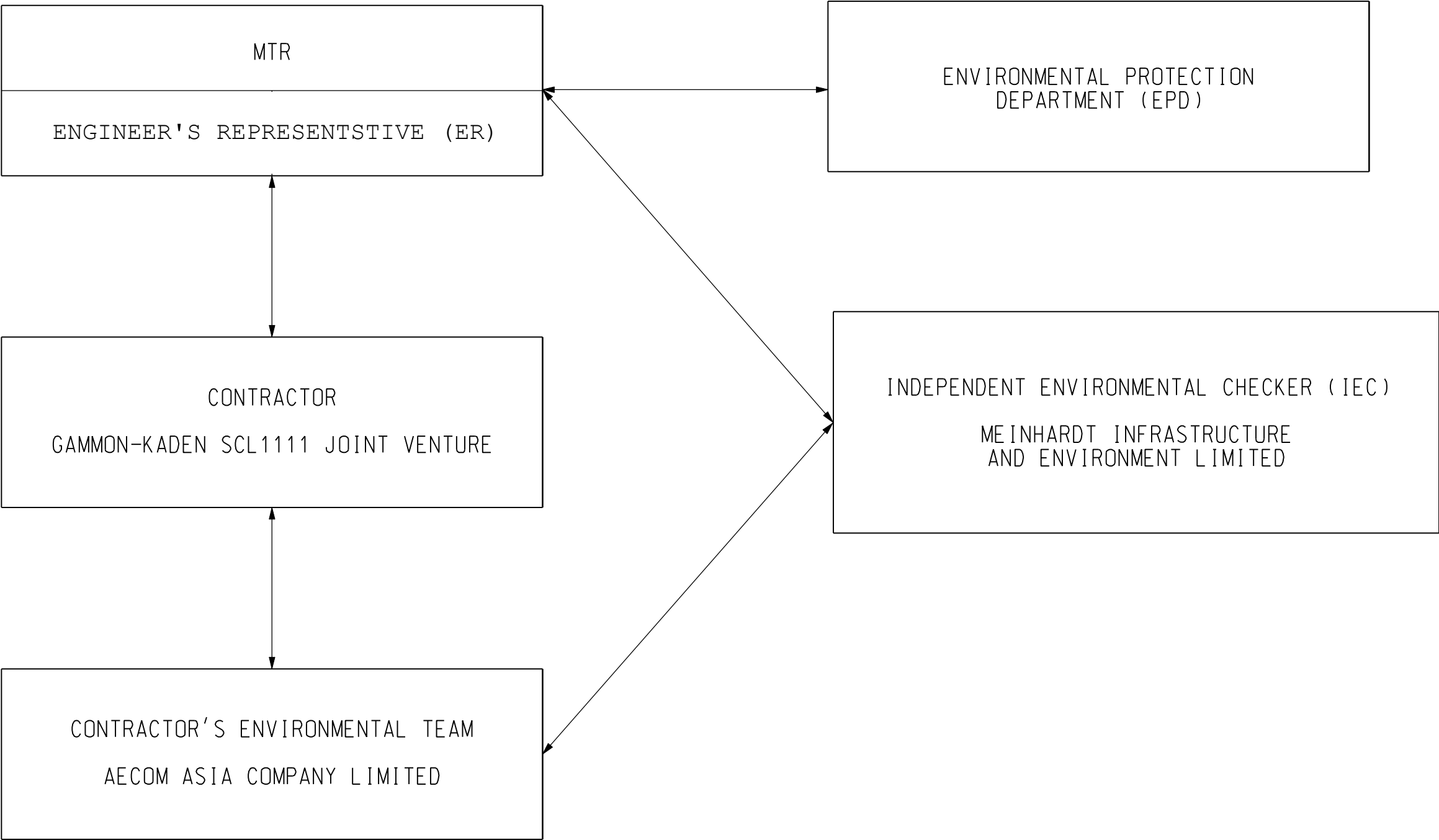
TITLE	CONTRACT 1111 HUNG HOM NORTH APPROACH TUNNELS LOCATION OF AIR QUALITY MONITORING STATION
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SCALE	FIGURE NO.
1 : 2000 (A3)	FIGURE 2.1

REV.	
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APPENDIX A

Project Organization Structure



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APPENDIX B

Summary of Action and Limit Levels

Appendix B – Summary of Action and Limit Levels**Table 1 Action and Limit Levels for 24-hour TSP**

ID	Location	Action Level	Limit Level
AM1	No. 234 – 238 Chatham Road North	183.9 $\mu\text{g}/\text{m}^3$	260.0 $\mu\text{g}/\text{m}^3$

Table 2 Action and Limit Levels for Regular Construction Noise (0700 – 1900 hrs of normal weekdays)

ID	Location	Action Level	Limit Level
NM1	Carmel Secondary School (South Block)	When one documented complaint, related to 0700 – 1900 hours on normal weekdays, is received from any one of the sensitive receivers.	65 / 70 dB(A) ⁽¹⁾
NM2	No. 234 – 238 Chatham Road North		75 dB(A)

Note:

(1) Daytime noise Limit Level of 70dB(A) applies to education institutions while 65dB(A) applies during school examination period.

Table 3 Action and Limit Levels for Continuous Noise

ID	Location	Action/Limit Level
NM1	Carmel Secondary School (South Block)	68 dB(A) ⁽¹⁾
NM2	No. 234-238 Chatham Road North	77 dB(A)

Note:

(1) Action/Limit level will only be applicable during the examination period.

APPENDIX C

Event Action Plan

Appendix C – Event and Action PlanEvent / Action Plan for Construction Dust

EVENT	ACTION			
	ET	IEC	ER	Contractor
ACTION LEVEL				
1. Exceedance for one sample	1. Inform the Contractor, IEC and ER; 2. Discuss with the Contractor and IEC on the remedial measures required; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency	1. Check monitoring data submitted by the ET; 2. Check Contractor's working method; 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of exceedance in writing.	1. Identify source(s), investigate the causes of exceedance and propose remedial measures; 2. Implement remedial measures; 3. Amend working methods agreed with the ER as appropriate.

EVENT	ACTION			
	ET	IEC	ER	Contractor
2. Exceedance for two or more consecutive samples	1. Inform the Contractor, IEC and ER; 2. Discuss with the ER, IEC and Contractor on the remedial measures required; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency to daily; 5. If exceedance continues, arrange meeting with the IEC, ER and Contractor; 6. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET; 2. Check Contractor's working method; 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Review and agree on the remedial measures proposed by the Contractor; 3. Supervise Implementation of remedial measures.	1. Identify source and investigate the causes of exceedance; 2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal as appropriate.

EVENT	ACTION			
	ET	IEC	ER	Contractor
LIMIT LEVEL				
1. Exceedance for one sample	1. Inform the Contractor, IEC, EPD and ER; 2. Repeat measurement to confirm findings; 3. Increase monitoring frequency to daily; 4. Discuss with the ER, IEC and contractor on the remedial measures and assess the effectiveness.	1. Check 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.	1. Confirm receipt of notification of exceedance in writing; 2. Review and agree on the remedial measures proposed by the Contractor; 3. Supervise implementation of remedial measures.	1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification; 4. Implement the agreed proposals; 5. Amend proposal if appropriate.

EVENT	ACTION			
	ET	IEC	ER	Contractor
2. Exceedance for two or more consecutive samples	1. Notify Contractor, IEC, EPD and ER ; 2. Repeat measurement to confirm findings; 3. Increase 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 and ER to discuss the remedial measures to be taken; 6. Review the effectiveness of the Contractor's remedial measures and keep IEC, EPD and ER informed of the results; 7. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET; 2. Check the Contractor's working method; 3. Discuss with 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.	1. Confirm receipt of notification of exceedance in writing; 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; 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Identify source(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.

Event / Action Plan for Regular Construction Noise

EVENT	ACTION			
	ET	IEC	ER	Contractor
Exceedance of Action Level	1. Notify the Contractor, IEC and ER; 2. Discuss with the ER, IEC and Contractor on the remedial measures required; and 3. Increase monitoring frequency to check mitigation effectiveness.	1. Review the investigation results submitted by the contractor; and 2. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.	1. Confirm receipt of notification of complaint in writing; 2. Review and agree on the remedial measures proposed by the Contractor; and 3. Supervise implementation of remedial measures.	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; and 4. Implement noise mitigation proposals.

EVENT	ACTION			
	ET	IEC	ER	Contractor
Exceedance of Limit Level	1. Notify the Contractor, IEC, EPD and ER ; 2. Repeat measurement to confirm findings; 3. Increase monitoring frequency; 4. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 5. Arrange meeting with the IEC and ER to discuss the remedial measures to be taken; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances 7. Review the effectiveness of Contractor's remedial measures and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	1. Check 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; and 4. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.	1. Confirm receipt of notification of failure in writing; 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; and 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Identify source 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 within 3 working days of notification; 4. Implement the agreed proposals; 5. Revise and resubmit proposals if problem still not under control; and 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Continuous Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action/Limit Level	1. Identify source ; 2. Repeat measurement. If two consecutive measurements exceed Action/Limit Level, the exceedance is then confirmed; 3. If exceedance is confirmed, notify IEC, ER and Contractor; 4. Investigate the cause of exceedance and check Contractor's working procedures to determine possible mitigation to be implemented; 5. Discuss jointly with the IEC, ER and Contractor and formulate remedial measures; and 6. Assess effectiveness of Contractor's remedial actions and keep IEC and ER informed of the results.	1. Check monitoring data submitted by the Works Contract 1111 ET; 2. Check the Contractor's working method; 3. Discuss with the ER, Works Contract 1111 ET and Contractor on the potential remedial measures; and 4. Review and advise the Works Contract 1111 ET and ER on the effectiveness of the remedial measures proposed by the Contractor.	1. Confirm receipt of notification of exceedance in writing; 2. In consultation with the Works Contract 1111 ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Ensure the proper implementation of remedial measures; and 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Identify source with the Works Contract 1111 ET; 2. If exceedance is confirmed, investigation the cause of exceedance and 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; and 7. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Landscape and Visual during Construction Stage

EVENT	ET	IEC	ER	Contractor
ACTION LEVEL				
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 2. Implement remedial measures 3. Amend working methods agreed with the ER as appropriate 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by the ER until the non-conformity is abated.

APPENDIX D

Implementation Schedule of Environmental Mitigation Measures

Appendix D - Implementation Schedule of Environmental Mitigation Measures

EIA Ref.	Environmental Mitigation Measures		Location	Implementation Status
Landscape and Visual Impact				
S6.9.3 (TAW-HUH) , S6.12 (HHS), S6.12 (TAW-HUH), Table 6.9 (HHS) & Table 4.9 (MKK-HUH)	Minimize visual & landscape impact	<ul style="list-style-type: none">Existing topsoil shall be re-used where possible for new planting areas within the Project.	All construction sites	N/A
		<ul style="list-style-type: none">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.	All construction sites	N/A
		<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.	All construction sites	V
		<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.	All construction sites	V
		<ul style="list-style-type: none">Giving control on the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs.	All construction sites	V
		<ul style="list-style-type: none">Trees of medium to high survival rate that would be affected by the works shall be transplanted where possible and practicable.	All construction sites	N/A
		<ul style="list-style-type: none">Compensatory tree & shrub planting shall be provided to compensate for the loss of shrub planting in amenity areas.	All construction sites	N/A
		<ul style="list-style-type: none">Control of night-time lighting glare.	All construction sites	N/A
		<ul style="list-style-type: none">All hard and soft landscape areas disturbed temporarily during construction shall be reinstated to equal or better quality, to the satisfaction of the relevant Government Departments.	All construction sites	N/A

Construction Noise Impact				
8.3.6 (TAW-HUH) , S8.5.6 (HHS) & S6 (MKK-HUH)	To control construction airborne noise	<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. 	All construction sites	V
		<ul style="list-style-type: none"> 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. 	All construction sites	V
		<ul style="list-style-type: none"> Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs. 	All construction sites	V
		<ul style="list-style-type: none"> Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works. 	All construction sites	V
		<ul style="list-style-type: none"> Mobile plant should be sited as far away from NSRs as possible and practicable. 	All construction sites	V
		<ul style="list-style-type: none"> Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 	All construction sites	V
		<p>The following quiet PME should be used:</p> <ul style="list-style-type: none"> Asphalt Paver (SWL=101dB(A)) Backhoe (SWL=106dB(A)) Backhoe with Hydraulic Breaker (SWL=110dB(A)) Concrete lorry mixer (SWL=96dB(A)) Concrete mixer truck (SWL=96dB(A)) Concrete Pump (SWL=106dB(A)) Concrete Pump Truck (SWL=106dB(A)) Crane, mobile (SWL=94dB(A)) Crawler Crane (SWL=102dB(A)) Drill, hand-held (SWL=98dB(A)) Dump truck (SWL=104dB(A)) Excavator (SWL=106dB(A)) Flat Bed Lorry (SWL=102dB(A)) Generator (SWL=95dB(A)) Giken Piler and Power-pack (SWL=94dB(A)) Hydraulic breaker (SWL=110dB(A)) 	Works areas where required	N/A

Construction Noise Impact				
		<ul style="list-style-type: none"> Hydraulic excavator (SWL=106dB(A)) Lorry (SWL=102dB(A)) Lorry with crane/ grab (SWL=94dB(A)) Mini Piling Rig (SWL=112dB(A)) Piling Rig (SWL=112dB(A)) Poker, vibrator, hand-held (SWL=98dB(A)) Road Roller (SWL=101dB(A)) Rock Drill (SWL = 108dB(A)) Roller (SWL = 101dB(A)) Truck (SWL=103dB(A)) Vibratory Hammer (SWL=118dB(A)) 		
		<ul style="list-style-type: none"> Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. 	All construction sites	v
		<ul style="list-style-type: none"> Install movable noise barriers, acoustic mat or full enclosure, screen the noisy plants 	All construction sites	v
		<ul style="list-style-type: none"> Sequencing operation of construction plants where practicable. 	All construction sites	v
		<ul style="list-style-type: none"> Particularly noisy construction activities will be scheduled to avoid school examination period as far as practicable. 	Works areas near the Carmel Secondary School	v
/	To control construction airborne noise	<ul style="list-style-type: none"> Hand held breakers having a mass of above 10 kg and air compressor capable of supplying compressed air at 500 kPa or above for carrying out construction work shall be fitted with valid noise emission labels during operation 	All construction sites	v

Construction Air Quality Impact				
S7.6.5 (TAW-HUH) , S7.6.6 (HHS), S5.50, 5.51 &5.57 (MKK-HUH)	Minimize dust impact at nearby sensitive receivers	<ul style="list-style-type: none"> Watering once per hour on exposed worksites and haul road should be conducted to achieve dust removal efficiencies of 91.7%. 	All construction sites	V
		<ul style="list-style-type: none"> Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet. 	All construction sites	V
		<ul style="list-style-type: none"> Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads 	All construction sites	V
		<ul style="list-style-type: none"> A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones. 	All construction sites	V
		<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 	All construction sites	V
		<ul style="list-style-type: none"> Vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. 	All construction sites	V
		<ul style="list-style-type: none"> 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. 	All construction sites	V
		<ul style="list-style-type: none"> When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided. 	All construction sites	V
		<ul style="list-style-type: none"> 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. 	All construction sites	V
		<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. 	All construction sites	V
		<ul style="list-style-type: none"> 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. 	All construction sites	N/A
		<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. 	All construction sites	V

Construction Air Quality Impact				
		• Any skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	V
		• Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	All construction sites	N/A
/	Minimize dust impact at nearby sensitive receivers	• 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.	All construction sites	V
		• 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.	All construction sites	N/A
		• 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.	All construction sites	V
		• 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.	All construction sites	V
		• Imposition of speed controls for vehicles on site haul roads.	All construction sites	V
		• Open burning shall be prohibited.	All construction sites	V
/	Emission from Vehicles and Plants	• All vehicles shall be shut down in intermittent use.	All construction sites	V
		• Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.	All construction sites	V
		• All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD).	All construction sites	V

Construction Water Quality Impact				
S10.7.1 (TAW-HUH) , S10.7.1 (HHS) & S8 (MKK-HUH)	To minimize construction water quality impact	<ul style="list-style-type: none"> Construction Site Drainage should be implemented to control site run-off and drainage as well as any site effluents generated from the works areas, and to prevent run-off and construction wastes from entering nearby water environment. 	Site drainage system	V
		<ul style="list-style-type: none"> Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. 	Site drainage system	V
		<ul style="list-style-type: none"> Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. 	All works area	V
		<ul style="list-style-type: none"> Perimeter channels at site boundaries should be provided on site boundaries where necessary to intercept storm run-off from outside the site so that it will not wash across the site. 	All works area	V
		<ul style="list-style-type: none"> Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly. 	All construction sites	V
		<ul style="list-style-type: none"> Construction works should be programmed to minimize soil excavation works in rainy seasons. 	All construction sites	N/A
		<ul style="list-style-type: none"> Temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. 	All construction sites	V
		<ul style="list-style-type: none"> Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. 	All construction sites	V
		<ul style="list-style-type: none"> Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms. 	All construction sites	V
		<ul style="list-style-type: none"> Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. 	All construction sites	V

Construction Water Quality Impact				
		<ul style="list-style-type: none"> Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. 	All construction sites	V
		<ul style="list-style-type: none"> Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. 	All construction sites	V
		<ul style="list-style-type: none"> All vehicles and plant should be cleaned before they leave a construction site to minimize the deposition of earth, mud, debris on roads. 	All construction sites	V
		<ul style="list-style-type: none"> Bentonite slurries used in diaphragm wall construction should be reconditioned and used again wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the used slurry should either be dewatered or mixed with inert fill material for disposal to a public filling area. 	All construction sites	V
		<ul style="list-style-type: none"> A cofferdam wall should be built as necessary to limit groundwater inflow to the excavation works areas. 	Excavation works areas	N/A
		<ul style="list-style-type: none"> Wastewater generated should not be discharged into the stormwater drainage system. 	All construction sites	V
		<ul style="list-style-type: none"> Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers. 	All construction sites	N/A
		<ul style="list-style-type: none"> Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site. 	All construction sites	V
		<ul style="list-style-type: none"> The Contractor should apply for a discharge license under the WPCO through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater. 	All construction sites where practicable	N/A
		<ul style="list-style-type: none"> Appropriate measures will be deployed to minimize the intrusion of groundwater into excavation works areas. 	All construction sites	N/A
		<ul style="list-style-type: none"> Measures should be put in place in order to mitigate any drawdown effects to the groundwater table during the operation of the temporary dewatering works. 	All construction sites	N/A

Waste Management				
S11.5.1 (TAW-HUH), S11.5.1(HHS) & S9 (MKK-HUH)	Good site practice to minimize the generation and impact of the waste.	<ul style="list-style-type: none"> Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement. 	All construction sites	N/A
		<ul style="list-style-type: none"> Sorting of demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions. 	All construction sites	V
		<ul style="list-style-type: none"> Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. 	All construction sites	V
		<ul style="list-style-type: none"> Proper storage and site practices to minimize the potential for damage or contamination of construction materials. 	All construction sites	V
		<ul style="list-style-type: none"> Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste. 	All construction sites	V
		<ul style="list-style-type: none"> Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution. 	All construction sites	V
		<ul style="list-style-type: none"> Maintain and clean storage areas routinely. 	All construction sites	V
		<ul style="list-style-type: none"> Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away. 	All construction sites	V
		<ul style="list-style-type: none"> Waste should be removed in timely manner. 	All construction sites	V
		<ul style="list-style-type: none"> Waste collectors should only collect wastes prescribed by their permits. 	All construction sites	V
		<ul style="list-style-type: none"> Waste should be disposed of at licensed waste disposal facilities. 	All construction sites	V
		<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. 	All construction sites	V
		<ul style="list-style-type: none"> 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. 	All construction sites	V
		<ul style="list-style-type: none"> 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. 	All construction sites	V
		<ul style="list-style-type: none"> The Contractor should register as a chemical waste producer if chemical wastes would be generated. 	All construction sites	V
		<ul style="list-style-type: none"> Disposal of chemical waste should be via a licensed waste collector. 	All construction sites	V

Waste Management				
		<ul style="list-style-type: none"> Stockpiling of contaminated sediments should be avoided as far as possible. 	All construction sites	N/A
		<ul style="list-style-type: none"> All storage of asbestos waste should be carried out properly in a secure place isolated from other substances so as to prevent any possible release of asbestos fibres into the atmosphere and contamination of other substances. The storage area should bear warning panels to alert people of the presence of asbestos waste. Collection, transportation and disposal of asbestos waste should follow the trip-ticket system. Licensed asbestos waste collectors should be appointed to collect the asbestos waste and deliver to the designated landfill for disposal. 	All construction sites	V

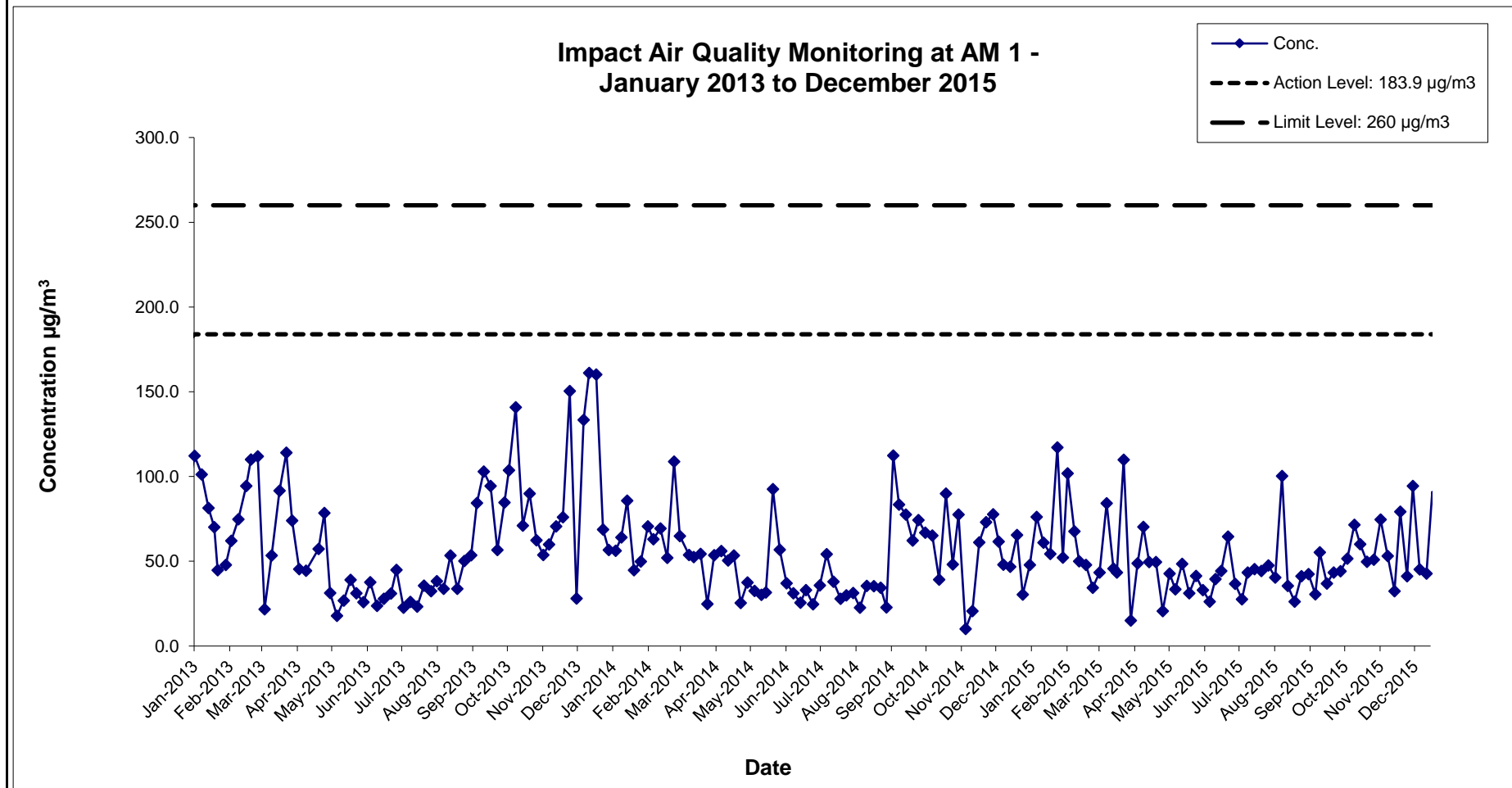
Contaminated Land				
S10.24– 10.34 (MKK-HUH)	To act as a general precautionary measure to screen soils for the presence contamination during construction.	<ul style="list-style-type: none"> Precautionary measures such as visual inspection are recommended to be undertaken during construction activities that disturb soil. 	Within Project Boundary where signs of contamination is identified	N/A
		<ul style="list-style-type: none"> If soil discolouration or the presence of oil/unnatural odour is noted during visual inspection, sampling and testing should also be undertaken to verify the presence of contamination. 		N/A
	To remediate contaminated soil	<ul style="list-style-type: none"> If land contamination is identified, CAR and RAP detailing the proposed remediation works should be prepared. RR should then be prepared and submitted to EPD to demonstrate that the decontamination work is adequate and has been carried out in accordance with the endorsed CAR and RAP. 		N/A

Legend: V = implemented;
x = not implemented;
@ = partially implemented;
N/A = not applicable

APPENDIX E

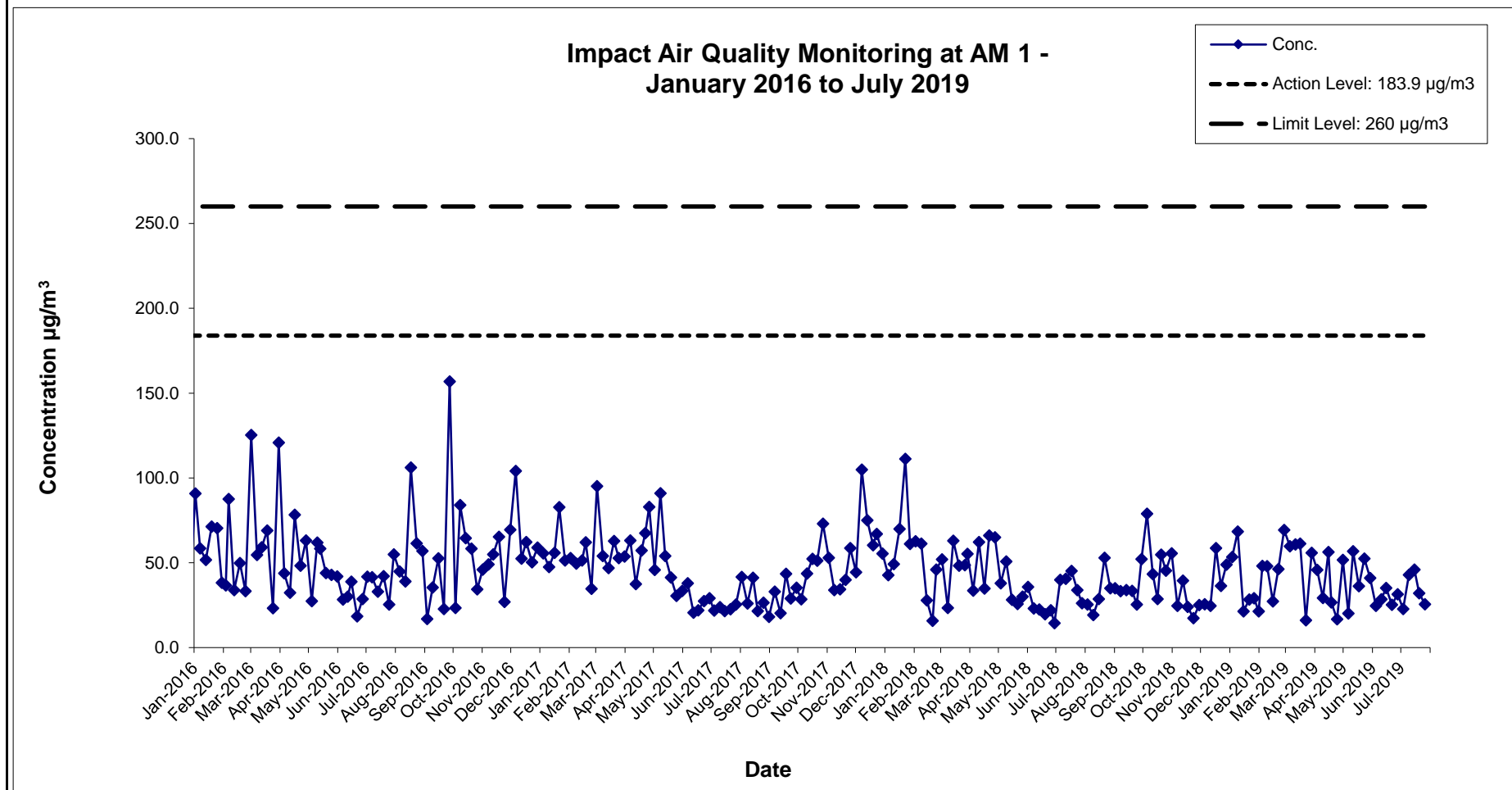
Air Quality Monitoring Graphical Presentations and Meteorological Data

Appendix E Air Quality Monitoring Graphical Presentations



AECOM	<u>Shatin to Central Link Works Contract 1111- Hung Hom North Approach Tunnels</u>	SCALE	N.T.S.	DATE	Aug-19
		CHECK	TYUT	DRAWN	SLSY
	Graphical Presentations of Impact 24-hour TSP Monitoring Results	JOB NO.	60284101	APPENDIX	Rev E

Appendix E Air Quality Monitoring Graphical Presentations

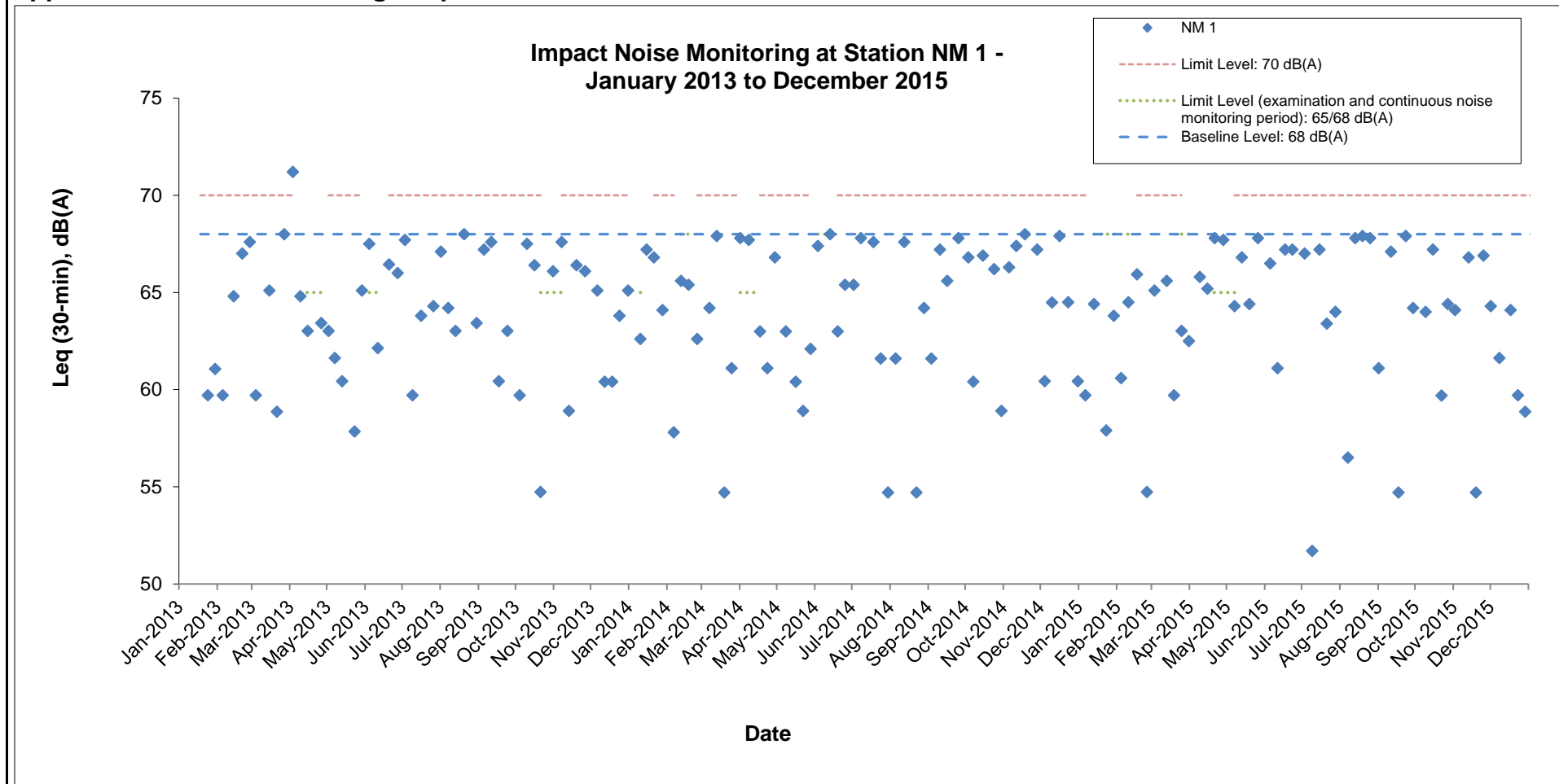


AECOM	<u>Shatin to Central Link Works Contract 1111- Hung Hom North Approach Tunnels</u>	SCALE	N.T.S.	DATE	Aug-19
		CHECK	TYUT	DRAWN	SLSY
	Graphical Presentations of Impact 24-hour TSP Monitoring Results	JOB NO.	60284101	APPENDIX	Rev E -

APPENDIX F

Noise Monitoring Graphical Presentations

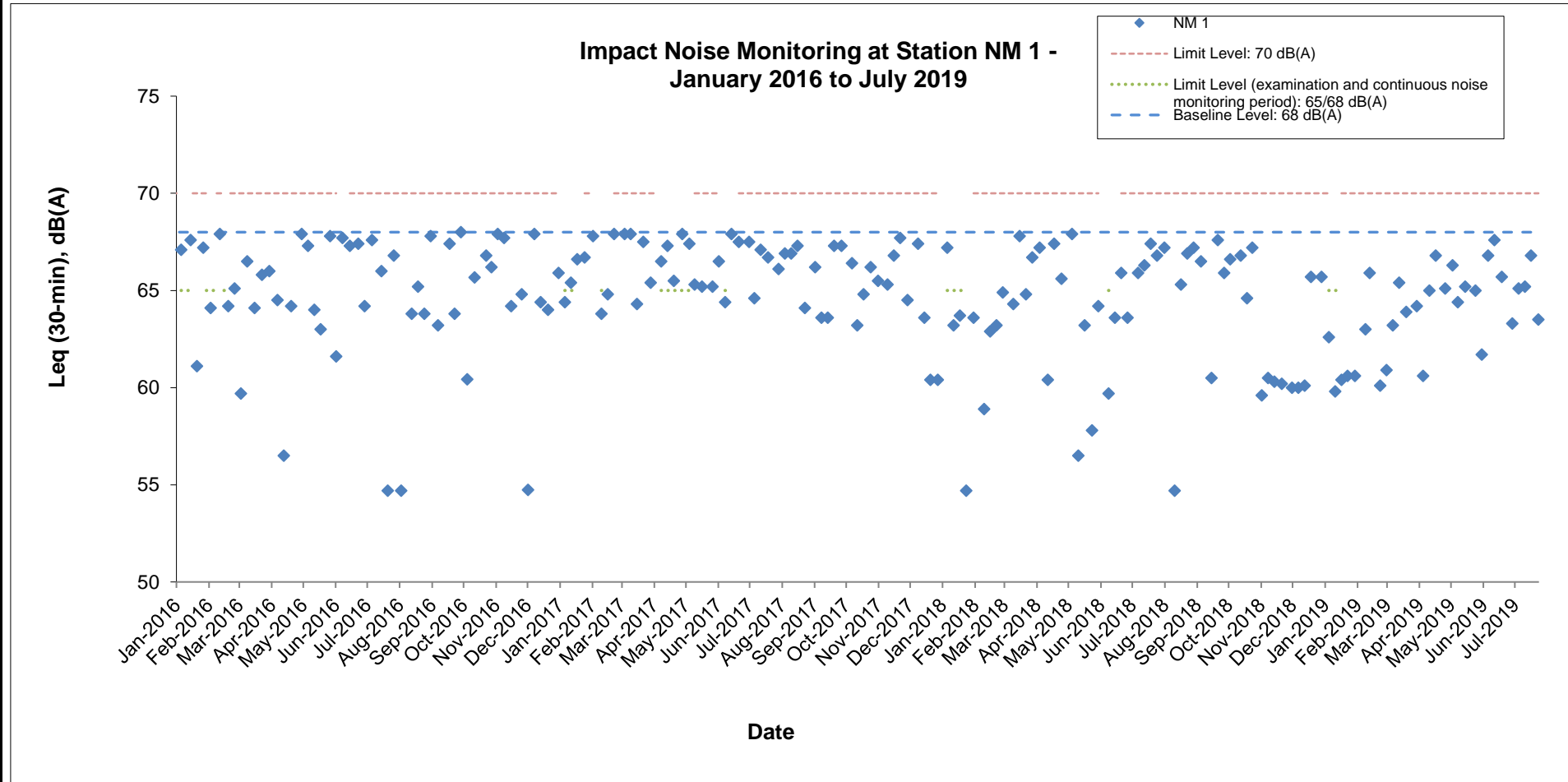
Appendix F Noise Monitoring Graphical Presentations



Remarks: Daytime noise Limit Level of 65dB(A) applies to NM1 (education institution) during school examination period and 68dB(A) applies to NM1 (education institution) during school examination and continuous noise monitoring period.

AECOM	<u>Shatin to Central Link Works Contract 1111- Hung Hom North Approach Tunnels</u>	SCALE	N.T.S.	DATE	Aug-19
	Graphical Presentations of Impact Noise Monitoring Results	CHECK	TYUT	DRAWN	SLSY
		JOB NO.	60284101	APPENDIX	F
					Rev -

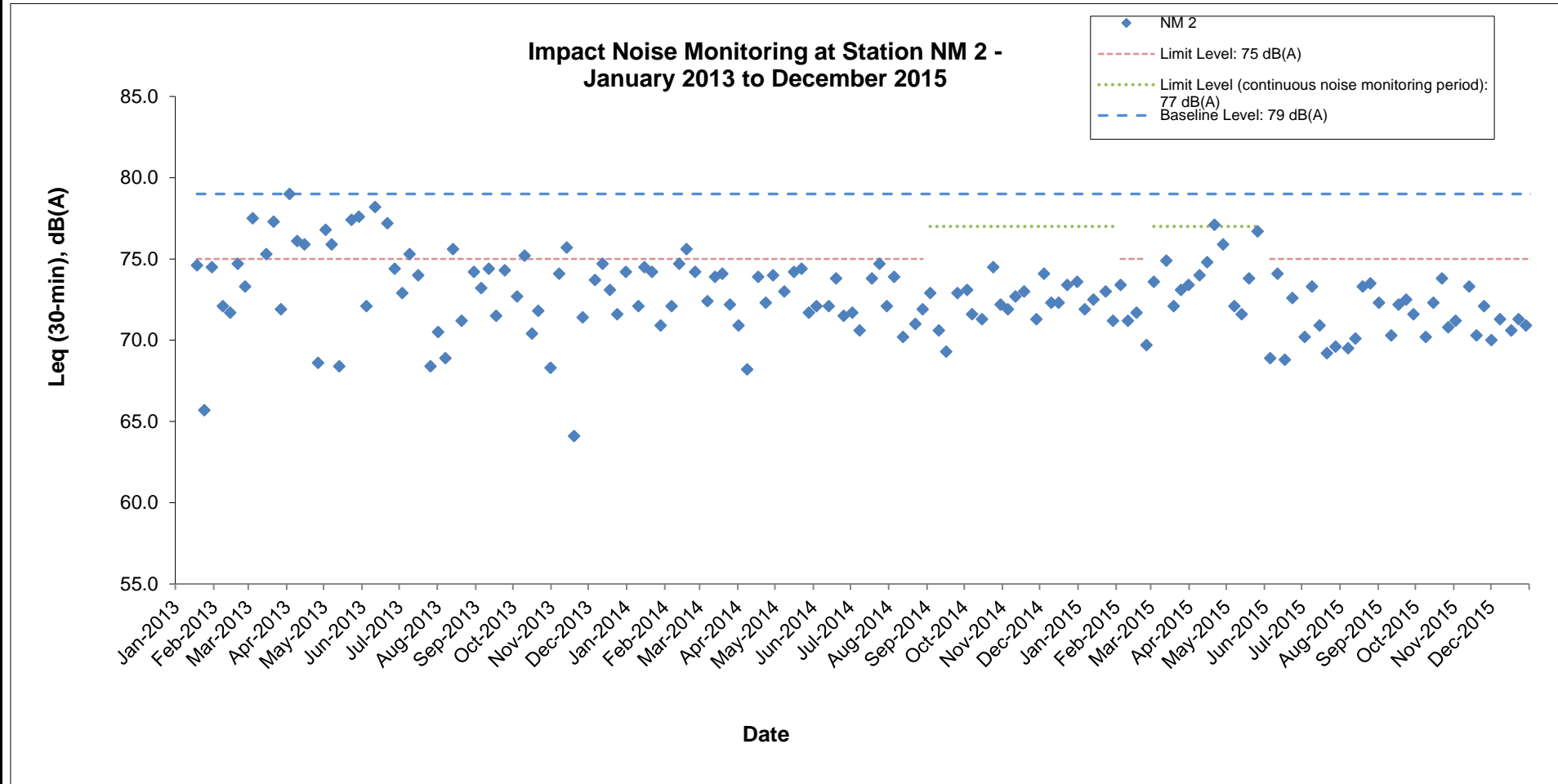
Appendix F Noise Monitoring Graphical Presentations




Remarks: Daytime noise Limit Level of 65dB(A) applies to NM1 (education institution) during school examination period and 68dB(A) applies to NM1 (education institution) during school examination and continuous noise monitoring period.

	Shatin to Central Link Works Contract 1111- Hung Hom North Approach Tunnels	SCALE	N.T.S.	DATE	Aug-19
		CHECK	TYUT	DRAWN	SLSY
	Graphical Presentations of Impact Noise Monitoring Results	JOB NO.	60284101	APPENDIX	F
					Rev -

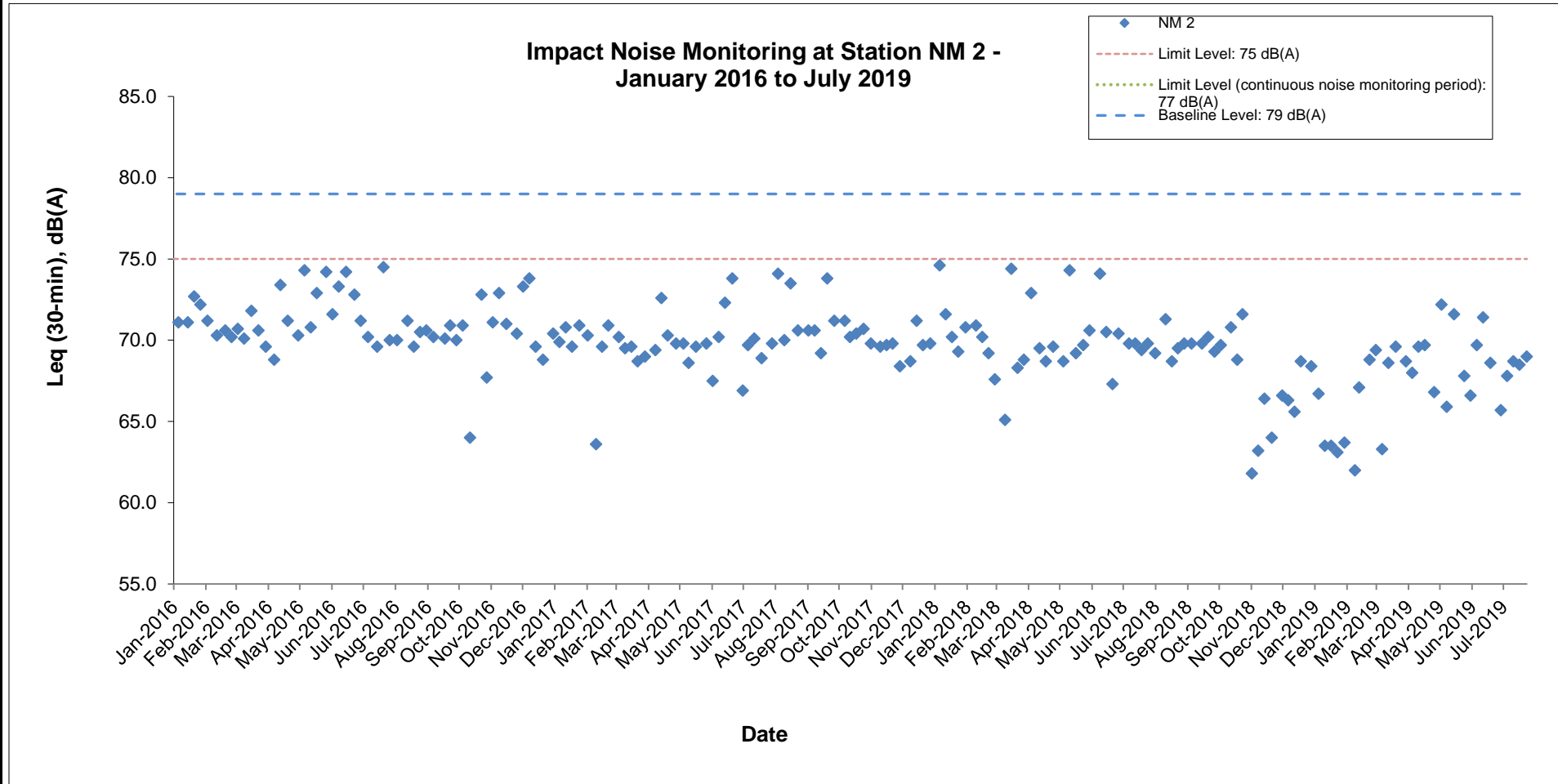
Appendix F Noise Monitoring Graphical Presentations



Remarks: Daytime noise Limit Level of 77dB(A) applies to NM2 during the continuous noise monitoring period.

	Shatin to Central Link Works Contract 1111- Hung Hom North Approach Tunnels	SCALE	N.T.S.	DATE	Aug-19
		CHECK	TYUT	DRAWN	SLSY
	Graphical Presentations of Impact Noise Monitoring Results	JOB NO.	60284101	APPENDIX F	Rev -

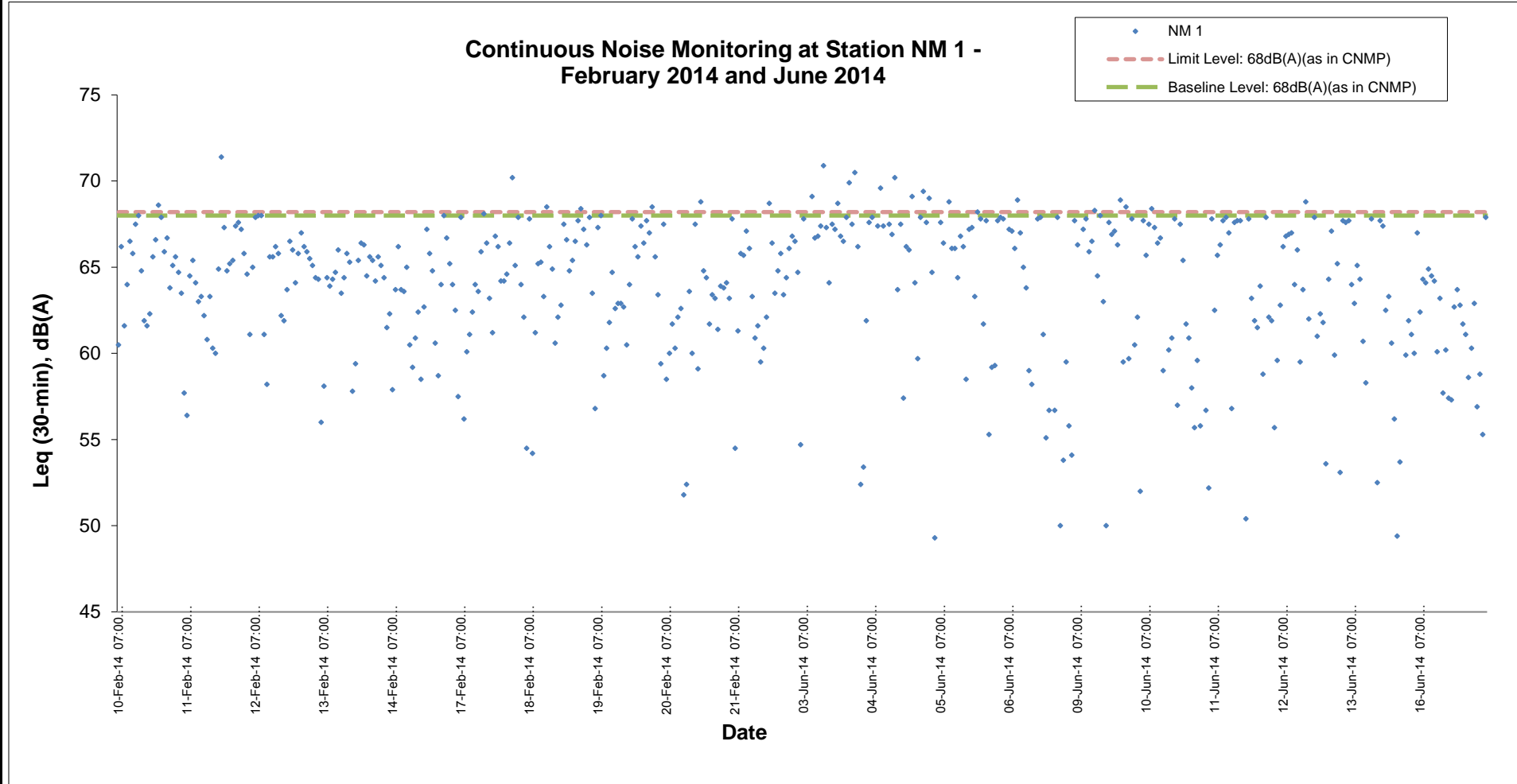
Appendix F Noise Monitoring Graphical Presentations



Remarks: Daytime noise Limit Level of 77dB(A) applies to NM2 during the continuous noise monitoring period.

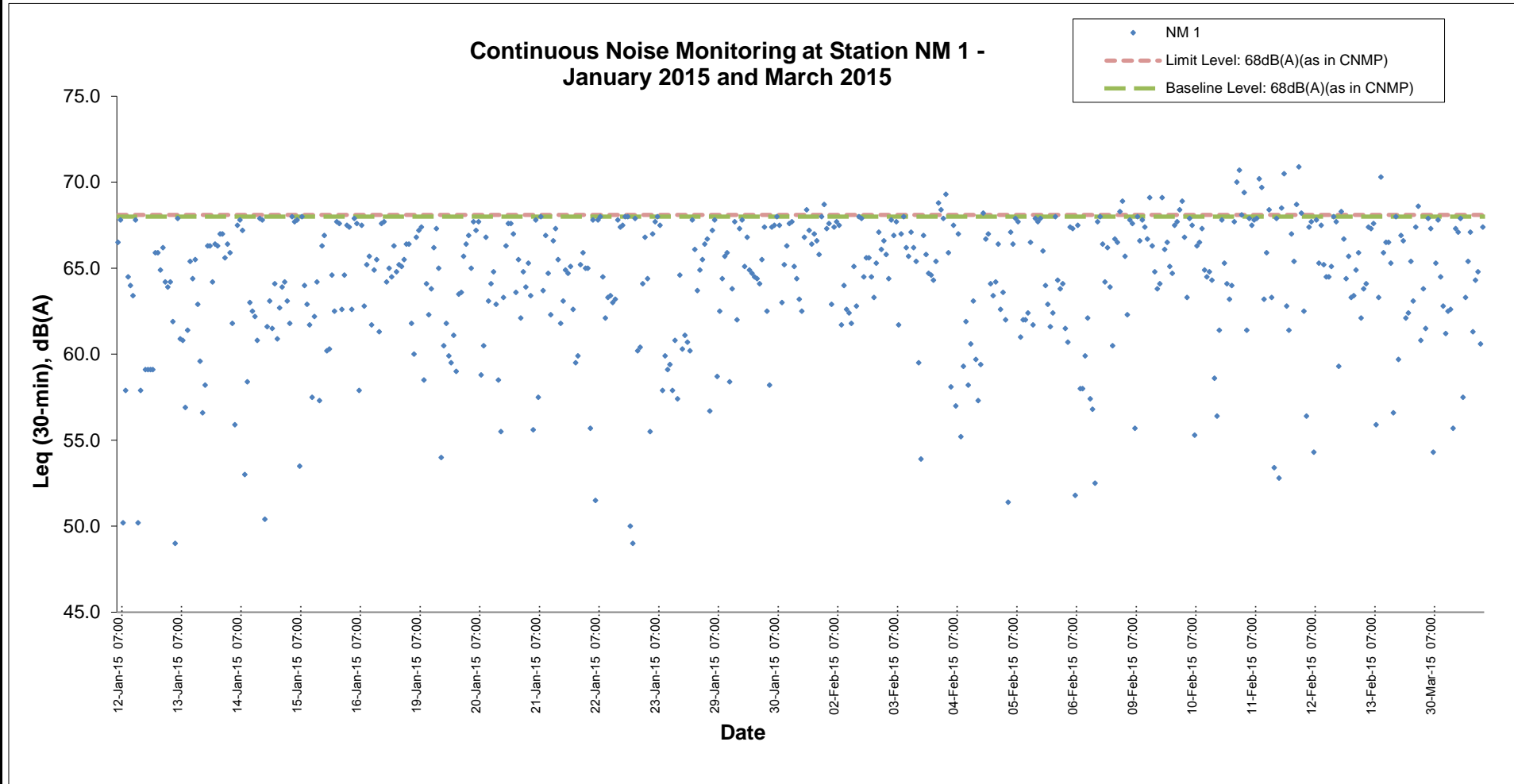
	Shatin to Central Link Works Contract 1111- Hung Hom North Approach Tunnels	SCALE	N.T.S.	DATE	Aug-19
		CHECK	TYUT	DRAWN	SLSY
	Graphical Presentations of Impact Noise Monitoring Results	JOB NO.	60284101	APPENDIX F	Rev -

Appendix F Noise Monitoring Graphical Presentations



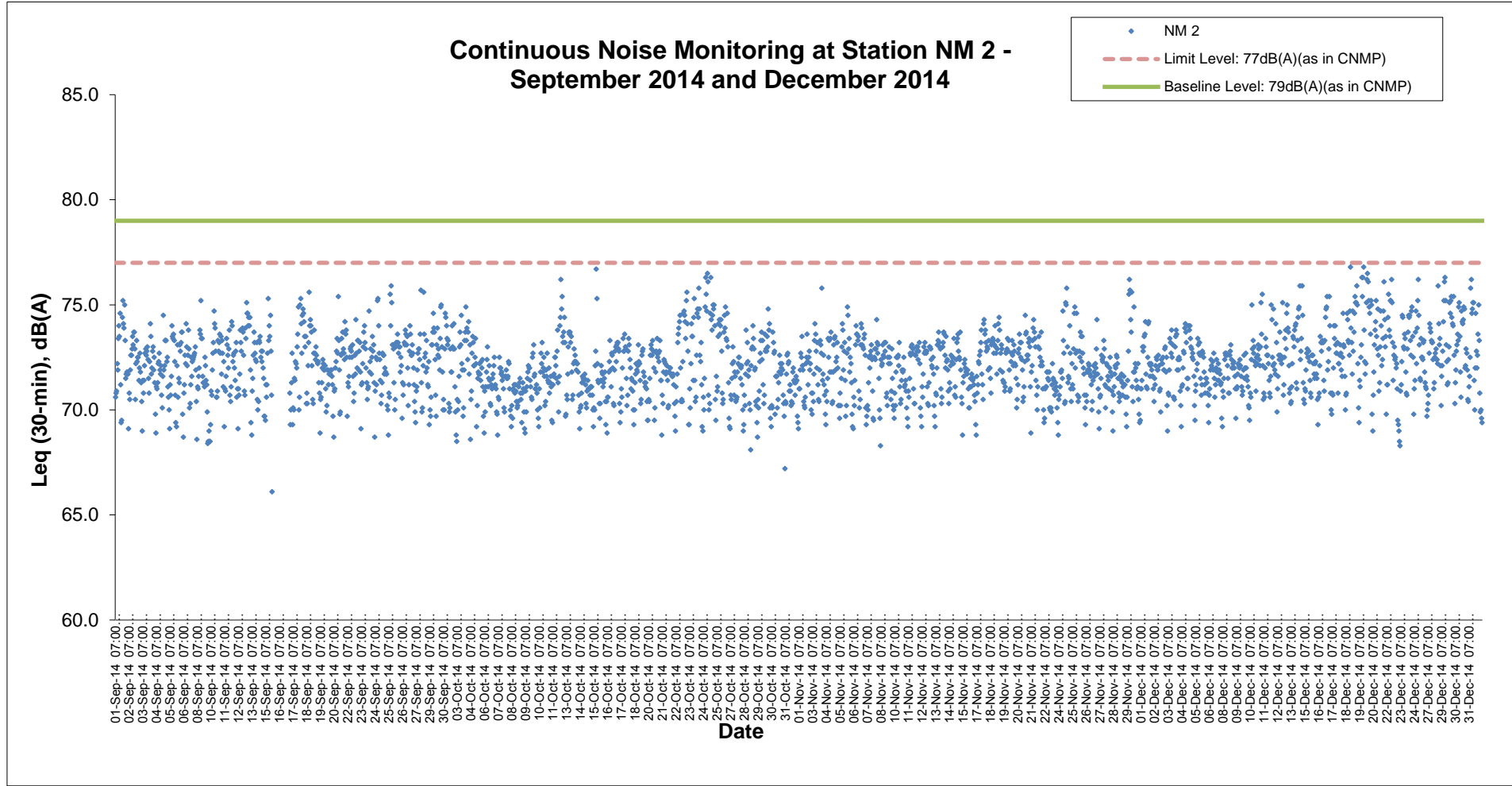
AECOM	Shatin to Central Link Works Contract 1111- Hung Hom North Approach Tunnels	SCALE	N.T.S.	DATE	Aug-19
	Graphical Presentations of Continuous Noise Monitoring Results	CHECK	TYUT	DRAWN	SLSY
		JOB NO.	60284101	APPENDIX F	Rev -

Appendix F Noise Monitoring Graphical Presentations



	Shatin to Central Link Works Contract 1111- Hung Hom North Approach Tunnels	SCALE	N.T.S.	DATE	Aug-19
		CHECK	TYUT	DRAWN	SLSY
	Graphical Presentations of Continuous Noise Monitoring Results	JOB NO.	60284101	APPENDIX F	Rev -

Appendix F Noise Monitoring Graphical Presentations



**Shatin to Central Link Works Contract 1111- Hung
Hom North Approach Tunnels**

**Graphical Presentations of Continuous Noise Monitoring
Results**

SCALE

N.T.S.

DATE

Aug-19

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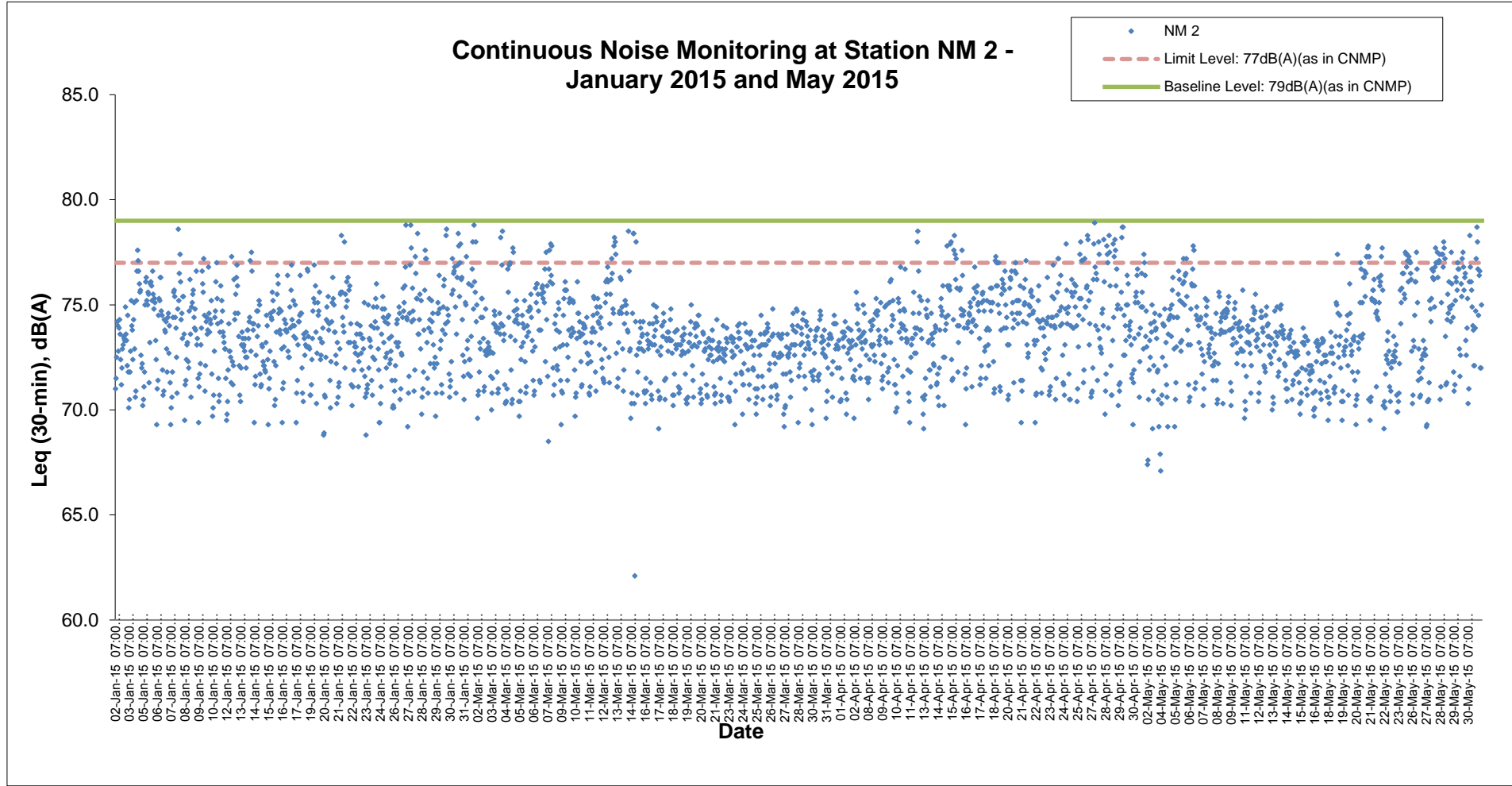
APPENDIX

F

Rev

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Appendix F Noise Monitoring Graphical Presentations



Shatin to Central Link Works Contract 1111- Hung Hom North Approach Tunnels	SCALE	N.T.S.	DATE	Aug-19
	CHECK	TYUT	DRAWN	SLSY
	JOB NO.	60284101	APPENDIX	Rev
Graphical Presentations of Continuous Noise Monitoring Results			F	-

APPENDIX G

Waste Flow Table

Appendix G Summary of Waste Flow Table

January 2013 - December 2013

Month	Actual Quantities of Inert C&D Materials Generated Monthly (Note 1)													Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly					Actual Quantities of Marine Dumping Monthly		
	Generated				Total Quantity Generated	Disposed (Note 4)				Reused				Recycled			Disposed		Disposed		
	Fill Material	Artificial Material				Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Disposed as Public Fills at CWPFBP	Total Quantity Disposal	Reused in the Contract	Reused in other Projects		Delivered to HH Barging Point (Note 5)	Total Quantity Reused	Metals	Paper/ cardboard packaging (Note 3)	Plastics	Chemical Waste	General Refuse (Note 2)	Disposed as MD at HH Barging Point	
		Soil and Rock	Broken Concrete	Asphalt							Building Debris	Tolo								WIL 705	Type 1
Unit	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000m ³)	('000m ³)	
Jan	0.043	0.000	0.021	0.000	0.065	0.065	0.000	0.000	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.110	0.000	0.000
Feb	0.172	0.004	0.019	0.000	0.195	0.165	0.004	0.000	0.169	0.026	0.000	0.000	0.000	0.026	0.000	0.000	0.000	0.000	29.440	0.000	0.000
Mar	0.280	0.010	0.094	0.000	0.384	0.347	0.036	0.000	0.383	0.000	0.000	0.000	0.001	0.001	7.490	0.000	0.000	0.000	112.240	0.000	0.000
Apr	0.726	0.041	0.073	0.000	0.840	0.777	0.062	0.000	0.840	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	213.390	0.000	0.000
May	2.032	0.087	0.064	0.000	2.183	1.695	0.488	0.000	2.183	0.000	0.000	0.000	0.000	0.000	0.000	0.282	0.000	0.000	112.700	0.000	0.000
Jun	3.920	0.035	0.065	0.000	4.020	1.088	2.932	0.000	4.020	0.000	0.000	0.000	0.000	0.000	0.000	0.431	0.000	0.000	213.570	0.000	0.000
SUB-TOTAL	7.173	0.177	0.337	0.000	7.687	4.137	3.522	0.000	7.659	0.026	0.000	0.000	0.001	0.027	7.490	0.713	0.000	0.000	698.450	0.000	0.000
Jul	4.204	0.032	0.055	0.000	4.291	0.045	4.246	0.000	4.291	0.000	0.000	0.000	0.000	0.000	0.000	1.538	0.000	0.000	127.540	0.000	0.000
Aug	2.124	0.023	0.034	0.000	2.180	0.006	2.174	0.000	2.180	0.000	0.000	0.000	0.000	0.000	0.000	1.244	0.000	0.000	121.170	0.000	0.000
Sep	1.344	0.012	0.004	0.000	1.359	0.000	1.359	0.000	1.359	0.000	0.000	0.000	0.000	0.000	0.012	0.952	0.002	0.000	113.560	0.000	0.000
Oct	0.936	0.069	0.039	0.000	1.044	0.000	1.044	0.000	1.044	0.000	0.000	0.000	0.000	0.000	0.067	1.012	0.001	0.000	216.370	0.000	0.000
Nov	2.156	0.071	0.000	0.000	2.227	0.000	2.221	0.006	2.227	0.000	0.000	0.000	0.000	0.000	0.012	0.541	0.001	0.000	160.630	0.000	0.000
Dec	2.984	0.012	0.000	0.000	2.997	0.000	2.991	0.000	2.991	0.000	0.000	0.000	0.005	0.005	0.000	0.000	0.000	0.017	126.180	0.000	0.000
2013 TOTAL	20.919	0.395	0.469	0.000	21.784	4.188	17.557	0.006	21.751	0.026	0.000	0.000	0.007	0.033	7.581	6.000	0.004	0.017	1563.900	0.000	0.000

Note:

1. Assume the density of fill is 2 ton/m³.
2. Refuses disposed of at North East New Territories (NENT) Landfill.
3. Assume the weight of recycled papers is 7 kg/bag.

4. Public fills disposed of at Tseung Kwan O Area 137 Fill Bank (TKO137), Tuen Mun Area 38 Fill Bank (TM38) and Chai Wan Public Fill Barging Point (CWPFBP).

5. Public fills was delivered to Hung Hom Barging Point and handled by the Contractor of SCL1112.

Appendix G Summary of Waste Flow Table

January 2014 - December 2014

Month	Actual Quantities of Inert C&D Materials Generated Monthly (Note 1)														Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly						Actual Quantities of Marine Dumping Monthly	
	Generated					Disposed (Note 4)				Reused					Recycled			Disposed		Disposed		
	Fill Material	Artificial Material			Total Quantity Generated	Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Disposed as Public Fills at CWPFBP	Total Quantity Disposal	Reused in the Contract	Reused in other Projects		Delivered to HH Barging Point (Note 5)	Total Quantity Reused	Metals	Paper/ cardboard packaging (Note 3)	Plastics	Chemical Waste	General Refuse (Note 2)	Disposed as MD at HH Barging Point		
		Soil and Rock	Broken Concrete	Asphalt							Building Debris	Tolo								WIL 705	Type 1	Type 2
Unit	('000m³)	('000m³)	('000m³)	('000m³)	('000m³)	('000m³)	('000m³)	('000m³)	('000m³)	('000m³)	('000m³)	('000m³)	('000m³)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000m³)	('000m³)		
Jan	1.210	0.016	0.004	0.000	1.230	0.000	1.037	0.004	1.041	0.021	0.000	0.168	0.000	0.189	10.210	1.305	0.000	0.000	139.090	0.000	0.000	
Feb	1.645	0.011	0.000	0.000	1.656	0.000	1.496	0.000	1.496	0.035	0.017	0.108	0.000	0.159	15.640	0.245	0.002	0.000	96.430	0.000	0.000	
Mar	1.485	0.050	0.000	0.000	1.535	0.001	1.384	0.000	1.386	0.075	0.046	0.029	0.000	0.149	7.240	0.287	0.002	0.000	191.550	0.000	0.000	
Apr	1.156	0.023	0.000	0.000	1.179	0.197	0.982	0.000	1.179	0.000	0.000	0.000	0.000	0.000	0.000	0.187	0.000	0.000	107.290	0.000	0.000	
May	2.370	0.020	0.000	0.000	2.390	0.257	1.587	0.000	1.844	0.030	0.000	0.000	0.516	0.546	0.000	0.123	0.002	0.000	110.180	0.000	0.000	
Jun	1.721	0.386	0.040	0.571	2.718	0.174	2.075	0.000	2.249	0.000	0.000	0.000	0.469	0.469	0.000	0.184	0.000	0.000	93.970	0.000	0.000	
SUB-TOTAL	9.586	0.506	0.044	0.571	10.707	0.629	8.562	0.004	9.195	0.161	0.062	0.304	0.985	1.512	33.090	2.331	0.006	0.000	738.510	0.000	0.000	
Jul	1.778	0.010	0.038	0.004	1.830	0.575	0.415	0.000	0.990	0.005	0.497	0.000	0.339	0.840	0.000	0.368	0.014	0.040	92.460	0.000	0.000	
Aug	2.257	0.000	0.014	0.000	2.271	1.678	0.003	0.000	1.681	0.000	0.366	0.000	0.195	0.561	0.000	0.120	0.000	0.000	58.660	0.000	0.000	
Sep	2.038	0.007	0.000	0.000	2.045	1.548	0.011	0.000	1.559	0.000	0.254	0.000	0.232	0.486	0.000	0.154	0.000	0.000	58.700	0.000	0.000	
Oct	2.371	0.003	0.031	0.004	2.409	1.641	0.026	0.000	1.667	0.040	0.141	0.000	0.538	0.719	0.000	0.130	0.000	0.000	78.700	0.000	0.000	
Nov	3.154	0.009	0.000	0.008	3.171	2.001	0.022	0.000	2.023	0.000	0.223	0.000	0.926	1.148	0.000	0.091	0.000	0.000	51.100	0.000	0.000	
Dec	6.058	0.000	0.000	0.000	6.058	2.173	0.002	0.000	2.175	0.000	0.168	0.000	3.715	3.883	0.000	0.098	0.000	0.166	76.720	0.000	0.000	
2014 TOTAL	27.242	0.535	0.127	0.586	28.491	10.245	9.041	0.004	19.290	0.206	1.709	0.304	6.928	9.148	33.090	3.292	0.020	0.206	1154.850	0.000	0.000	

Note:

1. Assume the density of fill is 2 ton/m³.
2. Refuses disposed of at North East New Territories (NENT) Landfill.
3. Assume the weight of recycled papers is 7 kg/bag.

4. Public fills disposed of at Tseung Kwan O Area 137 Fill Bank (TKO137), Tuen Mun Area 38 Fill Bank (TM38) and Chai Wan Public Fill Barging Point (CWPFBP).

5. Public fills was delivered to Hung Hom Barging Point and handled by the Contractor of SCL1112.

Appendix G Summary of Waste Flow Table

January 2015 - December 2015

Month	Actual Quantities of Inert C&D Materials Generated Monthly (Note 1)														Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly					Actual Quantities of Marine Dumping Monthly	
	Generated					Disposed (Note 4)				Reused					Recycled			Disposed		Disposed	
	Fill Material	Artificial Material			Total Quantity Generated	Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Disposed as Public Fills at CWPFBP	Total Quantity Disposal	Reused in the Contract	Reused in other Projects		Delivered to HH Barging Point (Note 5)	Total Quantity Reused	Metals	Paper/ cardboard packaging (Note 3)	Plastics	Chemical Waste	General Refuse (Note 2)	Disposed as MD at HH Barging Point	
		Soil and Rock	Broken Concrete	Asphalt							Tolo	WIL 705								Type 1	Type 2
Unit	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000m ³)	('000m ³)
Jan	6.832	0.008	0.004	0.000	6.843	3.102	0.002	0.000	3.104	0.010	0.010	0.000	3.719	3.739	0.000	0.084	0.000	0.000	50.820	0.000	2.216
Feb	4.779	0.096	0.000	0.005	4.880	1.848	0.000	0.000	1.848	0.000	0.000	0.000	3.032	3.032	0.000	0.112	0.000	0.000	37.630	1.292	0.000
Mar	8.652	0.035	0.000	0.004	8.691	3.009	0.004	0.000	3.013	0.000	0.000	0.000	5.678	5.678	0.000	0.112	0.000	0.400	49.940	3.168	0.000
Apr	6.370	0.031	0.009	0.015	6.426	1.715	0.000	0.000	1.715	0.000	0.000	0.000	4.711	4.711	2.750	0.063	0.000	0.000	33.930	3.970	0.000
May	6.218	0.080	0.020	0.000	6.319	1.658	0.039	0.000	1.697	0.000	0.000	0.000	4.622	4.622	0.000	0.063	0.000	0.000	46.740	8.255	0.000
Jun	6.534	0.076	0.022	0.008	6.640	1.502	0.095	0.000	1.598	0.000	0.000	0.000	5.043	5.043	0.000	0.056	0.000	1.387	63.680	9.711	0.000
SUB-TOTAL	39.386	0.326	0.055	0.032	39.800	12.834	0.140	0.000	12.975	0.010	0.010	0.000	26.805	26.825	2.750	0.490	0.000	1.787	282.740	26.397	2.216
Jul	9.616	0.097	0.055	0.004	9.771	3.193	0.260	0.000	3.453	0.113	0.000	0.000	6.206	6.318	0.000	0.353	0.000	0.595	41.170	5.292	0.000
Aug	7.640	0.025	0.010	0.000	7.675	1.906	0.075	0.000	1.981	0.000	0.000	0.000	5.695	5.695	0.000	0.923	0.000	0.000	43.330	6.941	0.000
Sep	7.861	0.093	0.000	0.000	7.954	1.979	0.226	0.000	2.206	0.000	0.000	0.000	5.748	5.748	0.000	2.318	0.000	0.000	44.170	5.542	0.000
Oct	11.070	0.255	0.021	0.000	11.345	3.712	0.167	0.000	3.879	0.360	0.000	0.000	7.106	7.466	0.000	0.886	0.000	0.991	99.290	5.675	0.000
Nov	10.944	0.021	0.000	0.000	10.965	4.591	0.165	0.000	4.755	0.000	0.000	0.000	6.210	6.210	0.000	1.020	0.000	0.595	65.150	3.984	0.000
Dec	9.920	0.026	0.012	0.000	9.959	3.914	0.125	0.000	4.039	0.000	0.000	0.000	5.920	5.920	0.000	0.000	0.000	0.000	158.770	1.105	0.000
2015 TOTAL	96.437	0.842	0.154	0.036	97.470	32.130	1.158	0.000	33.288	0.483	0.010	0.000	63.689	64.182	2.750	5.990	0.000	3.968	734.620	54.934	2.216

Note:

1. Assume the density of fill is 2 ton/m³.
2. Refuses disposed of at North East New Territories (NENT) Landfill.
3. Assume the weight of recycled papers is 7 kg/bag.

4. Public fills disposed of at Tseung Kwan O Area 137 Fill Bank (TKO137), Tuen Mun Area 38 Fill Bank (TM38) and Chai Wan Public Fill Barging Point (CWPFBP).

5. Public fills was delivered to Hung Hom Barging Point and handled by the Contractor of SCL1112 in the period of 1 January 2015 to 1 August 2015 and handled by the Contractor of SCL1121 started from 3 August 2015.

Appendix G Summary of Waste Flow Table

January 2016 - December 2016

Month	Actual Quantities of Inert C&D Materials Generated Monthly (Note 1)														Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly					Actual Quantities of Marine Dumping Monthly	
	Generated					Disposed (Note 4)				Reused					Recycled			Disposed		Disposed	
	Fill Material	Artificial Material			Total Quantity Generated	Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Disposed as Public Fills at CWPFBP	Total Quantity Disposal	Reused in the Contract	Reused in other Projects		Delivered to HH Barging Point (Note 5)	Total Quantity Reused	Metals	Paper/ cardboard packaging (Note 3)	Plastics	Chemical Waste	General Refuse (Note 2)	Disposed as MD at HH Barging Point	
		Soil and Rock	Broken Concrete	Asphalt							Tolo	WIL 705								Type 1	Type 2
Unit	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000m ³)	('000m ³)
Jan	8.577	0.000	0.000	0.000	8.577	1.259	0.062	0.000	1.320	0.000	0.015	0.000	7.242	7.257	0.000	0.850	0.000	0.000	141.060	0.013	0.000
Feb	4.570	0.007	0.000	0.000	4.577	0.706	0.059	0.000	0.765	0.000	0.000	0.000	3.812	3.812	0.000	0.937	0.000	0.000	127.070	0.003	0.000
Mar	5.813	0.000	0.000	0.000	5.813	1.509	0.173	0.000	1.681	0.000	0.000	0.000	4.132	4.132	0.000	2.040	0.000	0.000	140.410	0.000	0.000
Apr	2.561	0.000	0.000	0.008	2.569	0.664	0.060	0.000	0.724	0.000	0.000	0.000	1.845	1.845	0.000	0.000	0.000	0.000	163.530	0.000	0.000
May	3.008	0.000	0.000	0.008	3.016	1.153	0.108	0.000	1.262	0.026	0.000	0.000	1.728	1.754	0.000	0.000	0.000	0.000	224.210	0.000	0.000
Jun	3.711	0.039	0.007	0.011	3.768	1.003	0.096	0.000	1.099	0.042	0.000	0.000	2.627	2.669	0.000	0.000	0.000	0.000	155.170	0.000	0.000
SUB-TOTAL	28.240	0.046	0.007	0.026	28.320	6.292	0.558	0.000	6.851	0.068	0.015	0.000	21.387	21.470	0.000	3.827	0.000	0.000	951.450	0.016	0.000
Jul	3.764	0.000	0.000	0.000	3.764	0.387	0.036	0.000	0.424	2.132	0.000	0.000	1.209	3.341	0.000	1.068	0.000	0.000	132.220	0.000	0.000
Aug	0.773	0.000	0.000	0.000	0.773	0.023	0.012	0.000	0.035	0.005	0.000	0.000	0.733	0.738	11.000	1.343	0.000	0.000	92.640	0.000	0.000
Sep	0.324	0.000	0.000	0.000	0.324	0.031	0.012	0.000	0.042	0.006	0.000	0.000	0.275	0.281	0.000	0.957	0.000	0.000	48.520	0.000	0.000
Oct	0.199	0.000	0.000	0.000	0.199	0.071	0.016	0.000	0.087	0.000	0.000	0.000	0.112	0.112	0.003	0.797	0.003	0.000	103.050	0.000	0.000
Nov	0.761	0.000	0.000	0.000	0.761	0.281	0.065	0.000	0.346	0.000	0.000	0.000	0.415	0.415	0.000	0.869	0.000	0.000	124.030	0.000	0.000
Dec	1.396	0.000	0.054	0.000	1.450	0.126	0.039	0.000	0.164	0.000	0.000	0.000	1.286	1.286	0.002	0.000	0.002	0.000	140.530	0.000	0.000
2016 TOTAL	35.457	0.046	0.061	0.026	35.590	7.211	0.738	0.000	7.949	2.211	0.015	0.000	25.416	27.642	11.004	8.861	0.006	0.000	1592.440	0.016	0.000

Note:

1. Assume the density of fill is 2 ton/m³.
2. Refuses disposed of at North East New Territories (NENT) Landfill.
3. Assume the weight of recycled papers is 7 kg/bag.

4. Public fills disposed of at Tseung Kwan O Area 137 Fill Bank (TKO137), Tuen Mun Area 38 Fill Bank (TM38) and Chai Wan Public Fill Barging Point (CWPFBP).

5. Public fills was delivered to Hung Hom Barging Point and handled by the Contractor of SCL1112 in the period of 1 January 2015 to 1 August 2015 and handled by the Contractor of SCL1121 started from 3 August 2015.

Appendix G Summary of Waste Flow Table

January 2017 - December 2017

Month	Actual Quantities of Inert C&D Materials Generated Monthly (Note 1)														Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly					Actual Quantities of Marine Dumping Monthly	
	Generated					Disposed (Note 4)				Reused					Recycled			Disposed		Disposed	
	Fill Material	Artificial Material			Total Quantity Generated	Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Disposed as Public Fills at CWPFBP	Total Quantity Disposal	Reused in the Contract	Reused in other Projects		Delivered to HH Barging Point (Note 5)	Total Quantity Reused	Metals	Paper/ cardboard packaging (Note 3)	Plastics	Chemical Waste	General Refuse (Note 2)	Disposed as MD at HH Barging Point	
		Soil and Rock	Broken Concrete	Asphalt							Tolo	WIL 705								Type 1	Type 2
Unit	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000m ³)	('000m ³)
Jan	1.094	0.000	0.000	0.000	1.094	0.092	0.039	0.000	0.131	0.000	0.000	0.000	0.963	0.963	0.000	0.776	0.000	0.000	120.720	0.000	0.000
Feb	1.137	0.000	0.000	0.000	1.137	0.343	0.028	0.000	0.372	0.000	0.000	0.000	0.766	0.766	0.000	1.024	0.000	0.000	100.550	0.000	0.000
Mar	0.875	0.000	0.000	0.000	0.875	0.203	0.008	0.000	0.211	0.000	0.000	0.000	0.664	0.664	0.000	0.654	0.000	0.000	118.440	0.000	0.000
Apr	0.755	0.000	0.000	0.000	0.755	0.039	0.000	0.000	0.039	0.000	0.000	0.000	0.716	0.716	0.000	0.770	0.000	0.000	48.990	0.000	0.000
May	0.507	0.000	0.000	0.000	0.507	0.094	0.011	0.000	0.106	0.000	0.000	0.000	0.402	0.402	0.000	0.981	0.001	0.000	113.400	0.000	0.000
Jun	0.463	0.000	0.000	0.000	0.463	0.162	0.023	0.000	0.185	0.000	0.000	0.000	0.278	0.278	0.001	0.759	0.002	0.000	82.720	0.000	0.000
SUB-TOTAL	4.833	0.000	0.000	0.000	4.833	0.934	0.109	0.000	1.043	0.000	0.000	0.000	3.789	3.789	0.001	4.964	0.003	0.000	584.820	0.000	0.000
Jul	0.469	0.000	0.000	0.000	0.469	0.166	0.008	0.000	0.173	0.000	0.000	0.000	0.296	0.296	0.000	0.000	0.006	0.000	160.660	0.000	0.000
Aug	0.396	0.000	0.000	0.000	0.396	0.181	0.011	0.000	0.192	0.000	0.000	0.000	0.204	0.204	0.000	1.563	0.000	0.000	105.500	0.000	0.000
Sep	1.293	0.000	0.000	0.000	1.293	0.273	0.046	0.000	0.318	0.000	0.000	0.000	0.975	0.975	0.000	0.000	0.003	0.000	60.260	0.000	0.000
Oct	1.756	0.000	0.000	0.000	1.756	0.187	0.032	0.000	0.219	0.000	0.000	0.000	1.537	1.537	0.001	0.000	0.001	0.000	95.430	0.000	0.000
Nov	1.453	0.000	0.000	0.000	1.453	0.133	0.086	0.000	0.219	0.000	0.000	0.000	1.234	1.234	0.001	0.000	0.001	0.000	90.620	0.000	0.000
Dec	1.179	0.000	0.000	0.000	1.179	0.348	0.074	0.000	0.422	0.000	0.000	0.000	0.757	0.757	0.000	0.000	0.001	0.000	51.200	0.000	0.000
2017 TOTAL	11.380	0.000	0.000	0.000	11.380	2.221	0.366	0.000	2.587	0.000	0.000	0.000	8.793	8.793	0.003	6.527	0.014	0.000	1148.490	0.000	0.000

Note:

1. Assume the density of fill is 2 ton/m³.
2. Refuses disposed of at North East New Territories (NENT) Landfill.
3. Assume the weight of recycled papers is 7 kg/bag.

4. Public fills disposed of at Tseung Kwan O Area 137 Fill Bank (TKO137), Tuen Mun Area 38 Fill Bank (TM38) and Chai Wan Public Fill Barging Point (CWPFBP).

5. Public fills was delivered to Hung Hom Barging Point and handled by the Contractor of SCL1112 in the period of 1 January 2015 to 1 August 2015 and handled by the Contractor of SCL1121 started from 3 August 2015.

Appendix G Summary of Waste Flow Table

January 2018 - December 2018

Month	Actual Quantities of Inert C&D Materials Generated Monthly (Note 1)														Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly					Actual Quantities of Marine Dumping Monthly	
	Generated					Disposed (Note 4)				Reused					Recycled			Disposed		Disposed	
	Fill Material	Artificial Material			Total Quantity Generated	Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Disposed as Public Fills at CWPFBP	Total Quantity Disposal	Reused in the Contract	Reused in other Projects		Delivered to HH Barging Point (Note 5)	Total Quantity Reused	Metals	Paper/ cardboard packaging (Note 3)	Plastics	Chemical Waste	General Refuse (Note 2)	Disposed as MD at HH Barging Point	
		Soil and Rock	Broken Concrete	Asphalt							Tolo	WIL 705								Type 1	Type 2
Unit	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000m ³)	('000m ³)
Jan	1.208	0.000	0.000	0.000	1.208	0.206	0.022	0.000	0.228	0.000	0.000	0.000	0.979	0.979	0.000	0.000	5.500	0.000	40.090	0.000	0.000
Feb	0.584	0.000	0.000	0.000	0.584	0.189	0.221	0.000	0.410	0.000	0.000	0.000	0.173	0.173	0.000	0.000	0.000	0.000	57.400	0.000	0.000
Mar	0.863	0.000	0.000	0.000	0.863	0.010	0.854	0.000	0.863	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	84.000	0.000	0.000
Apr	0.155	0.000	0.000	0.000	0.155	0.022	0.133	0.000	0.155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	93.690	0.000	0.000
May	0.239	0.000	0.000	0.000	0.239	0.009	0.229	0.000	0.239	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	83.680	0.000	0.000
Jun	0.420	0.000	0.000	0.000	0.420	0.014	0.406	0.000	0.420	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	29.970	0.000	0.000
SUB-TOTAL	3.468	0.000	0.000	0.000	3.468	0.450	1.866	0.000	2.315	0.000	0.000	0.000	1.153	1.153	0.000	0.000	5.502	0.000	388.830	0.000	0.000
Jul	0.004	0.000	0.000	0.000	0.004	0.004	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	33.130	0.000	0.000
Aug	0.007	0.000	0.000	0.000	0.007	0.000	0.007	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.560	0.000	0.000
Sep	0.003	0.000	0.000	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.160	0.000	0.000
Oct	0.003	0.000	0.000	0.000	0.003	0.000	0.003	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.890	0.000	0.000
Nov	0.743	0.000	0.000	0.000	0.743	0.000	0.743	0.000	0.743	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	20.990	0.000	0.000
Dec	0.046	0.000	0.000	0.000	0.046	0.000	0.046	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.300	0.000	0.000
2018 TOTAL	4.272	0.000	0.000	0.000	4.272	0.453	2.666	0.000	3.119	0.000	0.000	0.000	1.153	1.153	0.000	0.000	5.502	0.000	514.860	0.000	0.000

Note:

1. Assume the density of fill is 2 ton/m³.
2. Refuses disposed of at North East New Territories (NENT) Landfill.
3. Assume the weight of recycled papers is 7 kg/bag.

4. Public fills disposed of at Tseung Kwan O Area 137 Fill Bank (TKO137), Tuen Mun Area 38 Fill Bank (TM38) and Chai Wan Public Fill Barging Point (CWPFBP).

5. Public fills was delivered to Hung Hom Barging Point and handled by the Contractor of SCL1112 in the period of 1 January 2015 to 1 August 2015 and handled by the Contractor of SCL1121 started from 3 August 2015.

Appendix G Summary of Waste Flow Table

January 2019 - July 2019

Month	Actual Quantities of Inert C&D Materials Generated Monthly (Note 1)														Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly					Actual Quantities of Marine Dumping Monthly	
	Generated					Disposed (Note 4)				Reused					Recycled			Disposed		Disposed	
	Fill Material	Artificial Material			Total Quantity Generated	Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Disposed as Public Fills at CWPFBP	Total Quantity Disposal	Reused in the Contract	Reused in other Projects		Delivered to HH Barging Point (Note 5)	Total Quantity Reused	Metals	Paper/ cardboard packaging (Note 3)	Plastics	Chemical Waste	General Refuse (Note 2)	Disposed as MD at HH Barging Point	
		Soil and Rock	Broken Concrete	Asphalt							Tolo	WIL 705								Type 1	Type 2
Unit	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000m ³)	('000m ³)
Jan	0.527	0.000	0.000	0.000	0.527	0.000	0.527	0.000	0.527	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.970	0.000	0.000
Feb	0.030	0.000	0.000	0.000	0.030	0.000	0.030	0.000	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.330	0.000	0.000
Mar	0.066	0.000	0.000	0.000	0.066	0.000	0.066	0.000	0.066	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.050	0.000	0.000
Apr	0.099	0.000	0.000	0.000	0.099	0.072	0.026	0.000	0.099	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	33.950	0.000	0.000
May	0.011	0.000	0.000	0.000	0.011	0.011	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.080	0.000	0.000
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.640	0.000	0.000
SUB-TOTAL	0.733	0.000	0.000	0.000	0.733	0.083	0.650	0.000	0.733	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	128.020	0.000	0.000
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.270	0.000	0.000
Aug																					
Sep																					
Oct																					
Nov																					
Dec																					
2019 TOTAL	0.733	0.000	0.000	0.000	0.733	0.083	0.650	0.000	0.733	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	134.290	0.000	0.000

Note:

1. Assume the density of fill is 2 ton/m³.
2. Refuses disposed of at North East New Territories (NENT) Landfill.
3. Assume the weight of recycled papers is 7 kg/bag.

4. Public fills disposed of at Tseung Kwan O Area 137 Fill Bank (TKO137), Tuen Mun Area 38 Fill Bank (TM38) and Chai Wan Public Fill Barging Point (CWPFBP).

5. Public fills was delivered to Hung Hom Barging Point and handled by the Contractor of SCL1112 in the period of 1 January 2015 to 1 August 2015 and handled by the Contractor of SCL1121 started from 3 August 2015.

APPENDIX H

Cumulative Statistics of Complaints, Notification of Summons and Successful Prosecutions

Appendix H

Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions from January 2013 to July 2019

	Date Received	Subject	Status	Total no. received in this month	Total no. received since project commencement
Environmental complaints	-	-	-	0	2
Notification of summons	-	-	-	0	0
Successful Prosecutions	-	-	-	0	0