



Development at West Kowloon Cultural District

Quarterly Environmental Monitoring and Audit
(EM&A) Report (February 2016 - April 2016)

May 2016

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**This Quarterly EM&A Report has been reviewed and certified by the
Environmental Team Leader (ETL) and verified by the Independent
Environmental Checker (IEC).**

Certified by:



Brian Tam
Environmental Team Leader (ETL)
West Kowloon Cultural District Authority

Date

1. 6. 2016

Verified by:



Fredrick Leong
Independent Environmental Checker (IEC)
Meinhardt Infrastructure & Environment Ltd

Date

1 Jun 2016

Contents

Chapter	Title	Page
	Executive Summary	i
1	Introduction	1
1.1	Background	1
1.2	Project Organisation	1
1.3	Environmental Status in the Reporting Period	2
2	Summary of EM&A Requirements	3
2.1	Monitoring Requirements	3
2.2	Environmental Mitigation Measures	3
3	Summary of EM&A Monitoring Results	4
3.1	Monitoring Data	4
3.2	Monitoring Exceedances	4
4	Waste Management	6
5	Environmental Non-conformance	7
6	Comments, recommendations and Conclusion	8
6.1	Comments	8
6.2	Recommendations	8
6.3	Conclusion	8

Appendices

Appendix A.	Project Organisation
Appendix B.	Construction Programme
Appendix C.	Environmental Mitigation Measures – Implementation Status
Appendix D.	Meteorological Data Extracted from Hong Kong Observatory
Appendix E.	Graphical Plots of the Monitoring Results
Appendix F.	Waste Flow table
Appendix G.	Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Figures

Figure 1	Site Layout Plan and Monitoring Stations
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Tables

Table 2.1:	Summary of Impact EM&A Requirements _____	3
Table 3.1:	Summary of Monitoring Data _____	4
Table 3.2:	Summary of 24-hour TSP monitoring results _____	4

Executive Summary

This Quarterly EM&A Report presents the monitoring works at both the main works of M+ Museum from 1 February to 30 April 2016 and foundation works of Lyric Theatre Complex conducted from 1 March to 30 April 2016.

The impact stage EM&A programme for the Project includes air quality, noise, water quality, waste, landscape and visual monitoring. The recommended environmental mitigation measures were implemented on site and regular inspections were carried out to ensure that the environmental conditions are acceptable.

The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the environmental monitoring and audit works that adequate environmental mitigation measures have been implemented by the foundation works contractor where appropriate in the reporting quarter.

Exceedance of Action and Limit Levels

There was no breach of Action or Limit levels for Air Quality (1-hour TSP and 24-hour TSP) and Noise in this reporting quarter.

Implementation of Mitigation Measures

Construction phase weekly site inspections were carried out to confirm the implementation measures undertaken by the Contractors in the reporting quarter. The status of implementation of mitigation measures during the reporting quarter is shown in **Appendix C**.

Landscape and visual impact inspections were conducted as part of the abovementioned weekly site inspections during the reporting quarter. No adverse comment on landscape and visual aspects was made during these inspections.

Record of Complaints

No environmental complaint regarding construction noise was recorded in the reporting quarter.

Record of Notification of Summons and Successful Prosecutions

No notification of summons and successful prosecution were recorded in the reporting quarter.

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1 Introduction

1.1 Background

Mott MacDonald Hong Kong Limited (MMHK) was commissioned to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for the construction of M+ Museum Main Works (Contract No.: CC/2015/3A/022) and Lyric Theatre Complex Foundation Works (Contract No.: CC/2015/3A/014) at West Kowloon Cultural District (WKCD) (The Project) as part of the WKCD development. The Project Proponent is the West Kowloon Cultural District Authority (WKCD). The construction works and EM&A programme for M+ Museum and Lyric Theatre Complex commenced on 31 October 2015 and 1 March 2016 respectively.

The overall works for the WKCD fall under two separate categories of Designated Project (DP) of the Environmental Impact Assessment Ordinance (EIAO), namely an “engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100 000” (Item 3 of Schedule 3) and “an underpass more than 100m in length under the built areas” (Item A.9, Part I, Schedule 2). An Environmental Permit No. EP-453/2013/A (EP) was issued with respect to the “Underpass Road and Austin Road Flyover Serving the West Kowloon Cultural District” which specifically includes the abovementioned category of DP under Item A.9, Part I, Schedule 2 of the EIAO. The captioned projects include part of the abovementioned underpass road located within the site boundary also falls under this same category.

The M+ museum development aims to provide an iconic presence for the M+ museum, semi-transparent vertical plane, housing education facilities, a public restaurant and museum offices. At ground and lower levels, generous access will be provided to the park and other West Kowloon Cultural District facilities, alongside a public resource centre, theatres, retail and dining, and back-of-house functions.

The 1,200-seat Lyric Theatre Complex will be Hong Kong’s first world-class facility for dance performances, including ballet, contemporary and Chinese dance forms. In the run up to the opening of further major performing arts venues in the WKCD, it will also be used for a wide variety of performing arts events including drama, opera and musical performances. The Lyric Theatre Complex will act as a platform for Hong Kong’s leading arts organisations, and be a new major venue to show programmes from Asia and worldwide.

The Quarterly EM&A Report is prepared in accordance with the Clause 3.4 of the Environmental Permit No. EP-453/2013/A. This Quarterly EM&A Report presents the monitoring works conducted from 1 February 2016 to 30 April 2016. The purpose of this report is to summarise the findings in the EM&A of the project over the reporting period.

1.2 Project Organisation

The organisation chart and lines of communication with respect to the on-site environmental management structure together with the contact information of the key personnel are shown in **Appendix A**.

1.3 Environmental Status in the Reporting Period

During the reporting period, construction works at M+ Museum undertaken include:

- Site formation
- Excavation
- Formworks installation
- Concrete pouring
- Rebar /earthing installation
- Construction of pile caps
- Installation of lateral support
- Construction of slab
- Construction of water tank
- Underground slab drainage and manholes

During the reporting period, construction works at Lyric Theatre Complex undertaken include:

- H-Pile Construction
- Bored Pile Construction
- Pipe Pile Construction

The Construction Works Programme of the Project is provided in **Appendix B**. A layout plan of the Project is provided in **Figure 1**.

2 Summary of EM&A Requirements

2.1 Monitoring Requirements

In accordance with the EM&A Manual, environmental parameters including air quality, noise, landscape and visual have been monitored. The specific parameters, monitoring frequency and the respective Action and Limit levels are given in **Table 2.1**. Locations of the monitoring stations are provided in **Figure 1**.

Table 2.1: Summary of Impact EM&A Requirements

Parameters	Descriptions	Locations	Frequencies	Action level	Limit level
Air Quality	24-Hour TSP	AM1 - International Commerce Centre	At least once every 6 days	143.6 µg/m ³	260 µg/m ³
	1-Hour TSP	AM1 - International Commerce Centre	At least 3 times every 6 days	273.7 µg/m ³	500 µg/m ³
	24-Hour TSP	AM2 - The Harbourside Tower 1	At least once every 6 days	151.1 µg/m ³	260 µg/m ³
	1-Hour TSP	AM2 - The Harbourside Tower 1	At least 3 times every 6 days	274.2 µg/m ³	500 µg/m ³
Noise	L _{eq} , 30 minutes	NM1- Podium level of The Harbourside Tower 1	Weekly	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)
Landscape & Visual	Monitor implementation of proposed mitigation measures during the construction stage	As described in Table 9.1 and 9.2 of the EM&A Manual	Bi-weekly	N/A	N/A

Given that the Project covers only a small part of the whole WKCD area (i.e. M+ Museum, Lyric Theatre Complex and respective portions of underpass road), it was proposed that the EM&A programme for the Project should only require 1 noise monitoring station and 2 air quality monitoring stations located closest to the Project area. Currently, the works under the captioned project are confined in the western part of the WKCD site. Therefore, only the monitoring stations AM1, AM2 were set up. Approval from the management office of the International Commerce Centre has been granted on 29 February 2016 for conducting noise monitoring at the alternative noise monitoring location identified at the podium floor (NM1A) which is free from screening to the construction activities. Therefore, 2 air quality monitoring stations and 1 noise impact monitoring station were confirmed for the impact monitoring.

2.2 Environmental Mitigation Measures

Environmental mitigation measures have been recommended in the EM&A Manual. The summary of implementation status of the environmental mitigation measures are provided in **Appendix C**.

3 Summary of EM&A Monitoring Results

3.1 Monitoring Data

In accordance with the EM&A Manual, impact monitoring has been conducted in the reporting quarter. Meteorological data for the reporting quarter have been extracted from Hong Kong Observatory and presented in **Appendix D**. Monitoring data with graphical presentation for the reporting quarter are shown in **Appendix E**. A summary on the monitoring results are presented in **Table 3.1**.

Table 3.1: Summary of Monitoring Data

Parameter	Monitoring Location	Minimum	Maximum	Average
Air Quality				
1 hour TSP	AM1	51	174	85
1 hour TSP	AM2	54	200	97
24 hour TSP	AM1	43	75	53
24 hour TSP	AM2	55	125	70
Construction Noise				
Leq(30min)	NM1A	67.3	70.9	68.8

3.2 Monitoring Exceedances

Summary of the exceedances in the reporting quarter is tabulated in **Table 3.2**.

Table 3.2: Summary of 24-hour TSP monitoring results

Monitoring Station	Parameter	No. of Exceedance		Action Taken
		Action Level	Limit Level	
Air Quality				
AM1	1 hour TSP	0	0	N/A
	24 hour TSP	0	0	N/A
AM2	1 hour TSP	0	0	N/A
	24 hour TSP	0	0	N/A
Construction Noise				
NM1A	Leq(30min)	0	0	N/A

3.2.1 1-hour TSP Monitoring

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

3.2.2 24-hour TSP Monitoring

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

3.2.3 Construction Noise Monitoring

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

3.2.4 Landscape and Visual Monitoring

All landscape and visual impact inspections were conducted as scheduled in the reporting quarter. No adverse comment on landscape and visual aspects was recorded.

4 Waste Management

4.1 M+ Museum

As advised by the Contractor, 432.4 ton, 1,312.6 ton and 16.9 ton of inert C&D material were disposed of as public fill to Tuen Mun Area 38, Tseung Kwan O Area 137 and Chai Wan Public Fill Barging Point respectively, while 101.3 ton of general refuse was disposed of at SENT landfill. 115.3 ton of metals, 0.1 ton of paper/cardboard packaging, 0 ton of plastic and 27.8 ton of timber were collected by recycling contractors in the reporting month. 11,376 ton of inert C&D materials was reused on site. 35,344.0 ton of inert C&D materials was reused in other projects. 0 ton of chemical wastes was collected by licensed contractors in the reporting quarter.

The actual amounts of different types of waste generated by the activities of construction works at M+ Museum in the reporting month are shown in **Appendix F**.

4.2 Lyric Theatre Complex

As advised by the Contractor, 1,100.61 ton and 10,233 ton of inert C&D material were disposed of as public fill to Tuen Mun Area 38 and Tseung Kwan O Area 137 respectively, while 49.8 ton of general refuse was disposed of at SENT landfill. 20.5 ton of metals, 0.1 ton of paper/cardboard packaging, 0 ton of plastic and 0 ton of timber were collected by recycling contractors in the reporting month. 0 ton of inert C&D materials was reused on site. 0 ton of inert C&D materials was reused in other projects. 0 ton of chemical wastes was collected by licensed contractors in the reporting quarter.

The actual amounts of different types of waste generated by the activities of construction works at Lyric Theatre Complex in the reporting month are shown in **Appendix F**.

5 Environmental Non-conformance

No environmental non-compliance, complaint and environmental related prosecution or notification of summons was received in the reporting quarter. The cumulative statistics on complaints, notifications of summons and successful prosecutions were provided in **Appendix G**.

6 Comments, recommendations and Conclusion

6.1 Comments

Based on the observations made during site audits and landscape inspections, and construction dust and noise monitoring results, no non-compliances and exceedances of air quality and noise limits were recorded.

6.2 Recommendations

Reviewing the implementation of the recommended mitigation measures in the EM&A Manual, it was observed that they were effective and efficient in controlling the potential impacts due to construction of the project during the reporting period. Review of the effectiveness and efficiency of the EM&A programme will be continued, and recommendations will be provided to remediate any potential impacts due to the project and to improve the EM&A programme if deficiencies of the existing EM&A programme are identified.

6.3 Conclusion

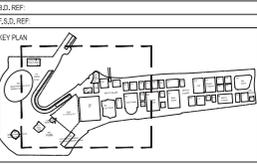
The EM&A programme as recommended in the EM&A Manual has been undertaken since the construction works of M+ Museum main works commenced on 31 October 2015, and the construction of Lyric Theatre Complex foundation works commenced on 1 March 2016.

Monitoring of air quality and noise with respect to the Project is underway. In particular, the 1-hour TSP, 24-hour TSP, noise level (as Leq, 30 minutes) under monitoring have been checked against established Action and Limit levels. There was no breach of Action and Limit Levels for 1-hour TSP, 24-hour TSP and noise in the reporting quarter.

No environmental complaint and no notifications of summons or successful prosecution were received during the reporting quarter.

Weekly construction phase site inspections and bi-weekly landscape and visual impact inspections were conducted during the reporting quarter as required. It was observed that the Contractor had implemented all possible and feasible mitigation measures to mitigate the potential environmental impacts during construction phase works.

Figure 1 Site Layout Plan and Monitoring Stations



- NOTES
- WKCD BOUNDARY
 - M+ MUSEUM BOUNDARY
 - LYRIC THEATRE BOUNDARY
 - BOUNDARY OF UNDERPASS ROAD SERVING THE PLANNED WKCD
 - CONSTRUCTION AIR/NOISE MONITORING STATION

REV.	DATE	DESCRIPTION	INITIAL

JOB TITLE
M+ MUSEUM FOR VISUAL CULTURE (MAIN CONTRACT WORKS) & LYRIC THEATRE COMPLEX

DRAWING TITLE
PROPOSED LOCATIONS OF CONSTRUCTION AIR/NOISE MONITORING STATIONS

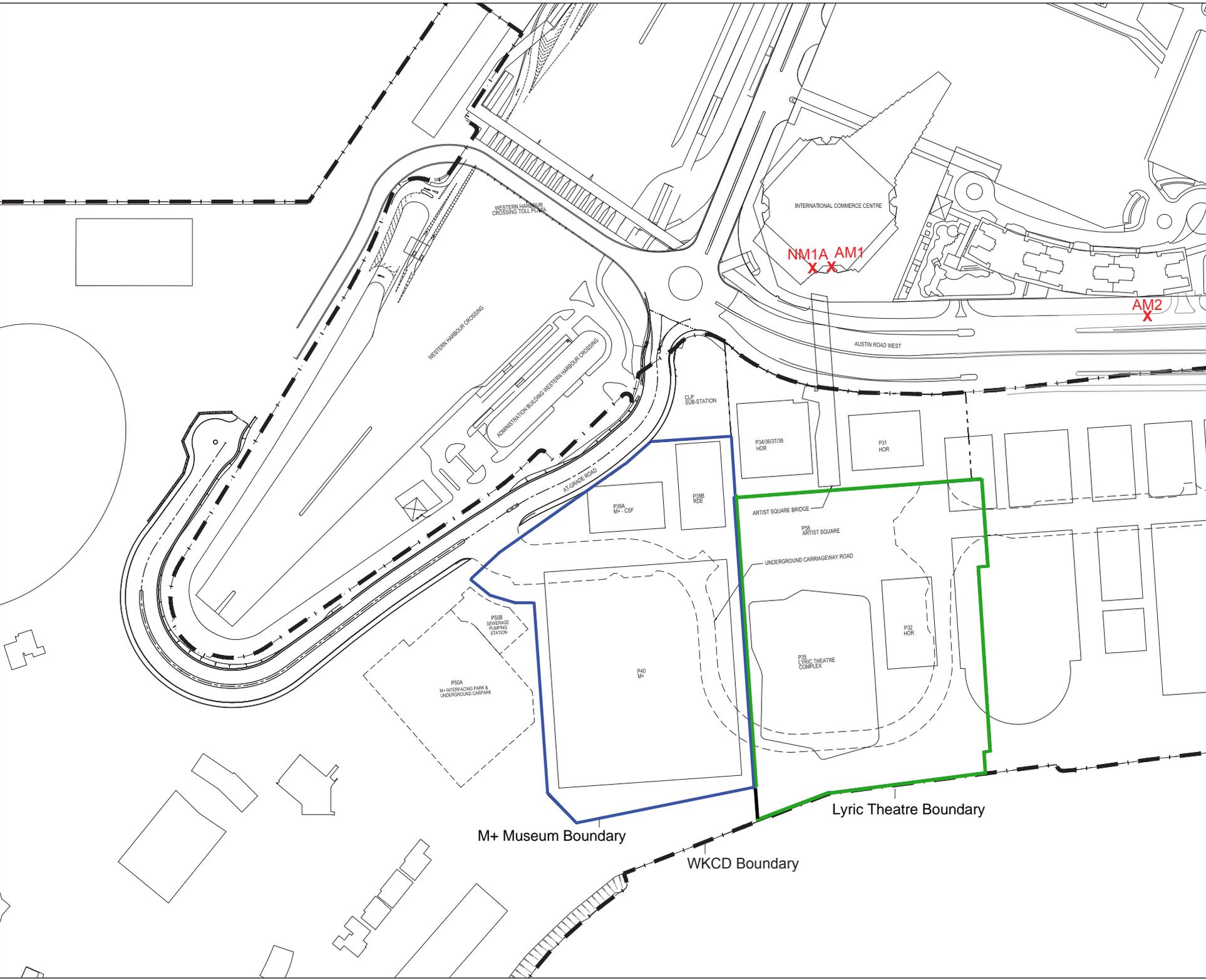
SCALE	1:100	PRINTED	A1
CHECKED	DATE		
APPROVED	DATE		
DRAWN	TY	DATE	16-10-2015

CONTRACT NO.

DRAWING NO. **FIGURE 1** REV. **XA**

CAD REF NAME: XXXXX\AUT-PMS-DWG-POU\001000-XXX.dwg

AUTHORITY



Appendices

Appendix A. Project Organisation	11
Appendix B. Construction Programme	12
Appendix C. Environmental Mitigation Measures – Implementation Status	13
Appendix D. Meteorological Data Extracted from Hong Kong Observatory	14
Appendix E. Graphical Plots of the Monitoring Results	15
Appendix F. Waste Flow table	16
Appendix G. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions	17

Appendix A. Project Organisation

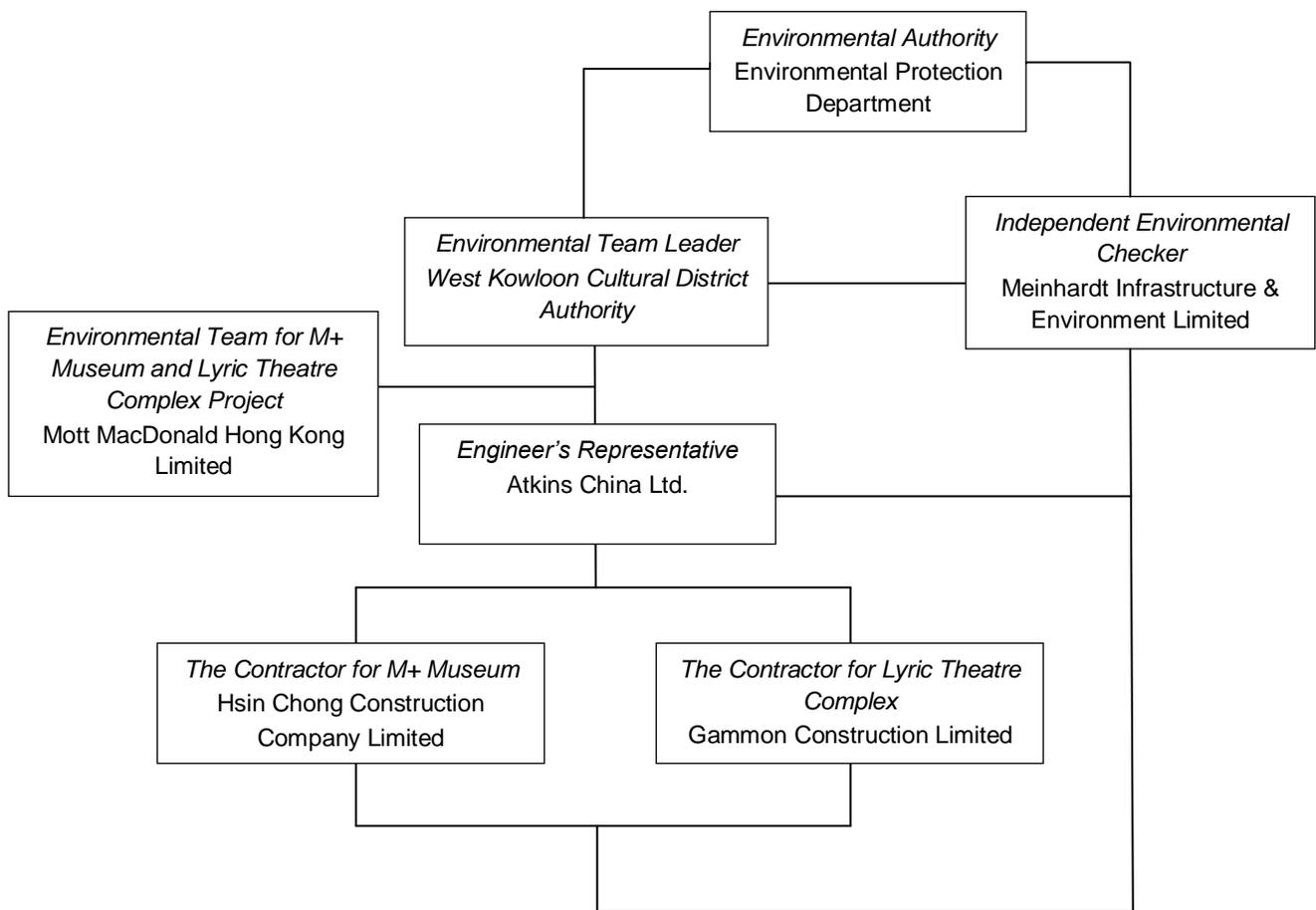


Table A-1: Contact information

Company Name	Role	Name	Telephone
Atkins China Ltd.	Senior Resident Engineer	Mr. Alfred Lee	5401 7289
Meinhardt Infrastructure & Environment Limited	IEC	Mr. Fredrick Leong	2859 1739
Hsin Chong Construction Company Limited	Environmental Manager	Mr. Leo Chow	9266 6855
Gammon Construction Limited	Environmental Manager	Ms. Michelle Tang	9267 8866
Mott MacDonald Hong Kong Ltd.	Contractor's Environmental Team Leader	Mr Brandon Wong	2828 5875
West kowloon Cultural District Authority	Senior Environmental Specialist	Mr. Brian Tam	2200 0059

Appendix B. Construction Programme

M+ Museum

Activity ID	Activity Name	Duration	Start	Finish	Quants	Production rates	December					January				February				March					
							29	06	13	20	27	03	10	17	24	31	07	14	21	28	06	13	20	27	
3MPS.1040	Consultant/CA Review & Approval	47	05-Nov-15 A	03-Jan-16			Consultant/CA Review & Approval																		
3MPS.1042	Consultant/CA Review & Approval	53	26-Oct-15 A	31-Dec-15			Consultant/CA Review & Approval																		
3MPS.1047	Method statement for B2 structure (M+ & DCS)	60	20-Oct-15 A	03-Jan-16			Method statement for B2 structure (M+ & DCS)																		
3MPS.1048	Consultant/CA Review & Approval	11	03-Jan-16	17-Jan-16			Consultant/CA Review & Approval																		
3MPS.1049	Method statement for B1 structure (M+ & DCS)	22	30-Dec-15	26-Jan-16			Method statement for B1 structure (M+ & DCS)																		
3MPS.1050	Consultant/CA Review & Approval	11	26-Jan-16	09-Feb-16			Consultant/CA Review & Approval																		
3MPS.1051	Falsework design for B1 structure (M+ & DCS)	31	30-Dec-15	06-Feb-16			Falsework design for B1 structure (M+ & DCS)																		
3MPS.1052	Consultant/CA Review & Approval	11	06-Feb-16	20-Feb-16			Consultant/CA Review & Approval																		
3MPS.1053	Method statement for setting up TC1 & TC3	45	15-Nov-15 A	09-Jan-16			Method statement for setting up TC1 & TC3																		
3MPS.1054	Consultant/CA Review & Approval	11	09-Jan-16	23-Jan-16			Consultant/CA Review & Approval																		
3MPS.1055	Method statements for Mega Trusses (sequence, falsework etc)	31	30-Dec-15	06-Feb-16			Method statements for Mega Trusses (sequence, falsework etc)																		
3MPS.1056	Consultant/CA Review & Approval	7	06-Feb-16	14-Feb-16			Consultant/CA Review & Approval																		
3MPS.1058	Consultant/CA Review & Approval	43	10-Nov-15 A	03-Jan-16			Consultant/CA Review & Approval																		
3MPS.1059	Back propping design for Cranage for Mega Trusses	31	30-Dec-15	06-Feb-16			Back propping design for Cranage for Mega Trusses																		
3MPS.1060	Consultant/CA Review & Approval	7	06-Feb-16	14-Feb-16			Consultant/CA Review & Approval																		
Facade Submission and Approval		36	28-Nov-15 A	12-Jan-16																					
3MPS.1062	Consultant/CA Review & Approval	33	29-Nov-15 A	08-Jan-16			Consultant/CA Review & Approval																		
3MPS.1063	Facade Design proposal sketches for all areas of the facade system(s)	26	28-Nov-15 A	30-Dec-15			Facade Design proposal sketches for all areas of the facade system(s)																		
3MPS.1064	Consultant/CA Review & Approval	35	29-Nov-15 A	12-Jan-16			Consultant/CA Review & Approval																		
3MPS.1066	Consultant/CA Review & Approval	35	29-Nov-15 A	11-Jan-16			Consultant/CA Review & Approval																		
3MPS.1068	Consultant/CA Review & Approval	35	29-Nov-15 A	11-Jan-16			Consultant/CA Review & Approval																		
Essential submissions on Programme, Health and Safety, Security, Quality etc		48	02-Nov-15 A	01-Jan-16																					
HSEQ & Management Plan		48	02-Nov-15 A	01-Jan-16																					
3MPS.1086	Consultant/CA Review & Approval	48	02-Nov-15 A	01-Jan-16			Consultant/CA Review & Approval																		
Temporary services and site facilities		101	02-Oct-15 A	05-Feb-16																					
Site Establishment & Temporary Facilities		101	02-Oct-15 A	05-Feb-16																					
3MPS.1003	Hoarding Handover and Modification Works	30	30-Dec-15	05-Feb-16			Hoarding Handover and Modification Works																		
3MPS.1004	WSD - Apply for temporary water supply (Bachy)	87	02-Oct-15 A	18-Jan-16			WSD - Apply for temporary water supply (Bachy)																		
M+.20 Construction Works (Excavation & ELS)		87	11-Dec-15 A	01-Apr-16																					
M+ AEL North - North of AEL		86	11-Dec-15 A	01-Apr-16																					
Stage 1 - BD		74	11-Dec-15 A	15-Mar-16																					
Stage 1 - Site Formation (Area A)		12	14-Dec-15 A	31-Dec-15																					
3MSS.1004	Excavate +1.8mPD to _2.30mPD for B2 Slab Formation Level (GL C-G/2-7) -	11	14-Dec-15 A	30-Dec-15	3096m3	2 machines @ 700m3/day	Excavate +1.8mPD to _2.30mPD for B2 Slab Formation Level (GL C-G/2-7) - Portion A2																		
3MSS.1005	Excavate +1.8mPD to _2.30mPD for B2 battered slope (GL B-C/2-4) - Portion	11	14-Dec-15 A	30-Dec-15	1290m3	2 machines @ 700m3/day	Excavate +1.8mPD to _2.30mPD for B2 battered slope (GL B-C/2-4) - Portion A2																		
3MSS.1006	Excavate +1.8mPD to _2.30mPD for B2 Slab Formation Level (GL C-F/2-4) - I	8	18-Dec-15 A	31-Dec-15	1038m3	2 machines @ 700m3/day	Excavate +1.8mPD to _2.30mPD for B2 Slab Formation Level (GL C-F/2-4) - Portion A3																		
3MSS.1007	Excavate +1.8mPD to _2.30mPD for B2 battered slope (GL I-E/6-4) - Portion	6	21-Dec-15 A	31-Dec-15	3038m3	2 machines @ 700m3/day	Excavate +1.8mPD to _2.30mPD for B2 battered slope (GL I-E/6-4) - Portion A3																		
Stage 1 - Pile Cap Construction (Area A)		39	16-Dec-15 A	03-Feb-16																					
Portion A1i		6	30-Dec-15	06-Jan-16																					
CPC40 (Type 07)		0	31-Dec-15	02-Jan-16																					
3MSS.1032	concrete pouring - CPC 40 (07) - Portion A1i	0	31-Dec-15	02-Jan-16	24.5m3		concrete pouring - CPC 40 (07) - Portion A1i																		
CPC41 (Type 07)		6	30-Dec-15	06-Jan-16																					
3MSS.10134	Concreting for Vertical blinding - Portion A1i	1	30-Dec-15	30-Dec-15			Concreting for Vertical blinding - Portion A1i																		
3MSS.10135	Strip formwork - Portion A1i	1	31-Dec-15	31-Dec-15			Strip formwork - Portion A1i																		
3MSS.10136	Install waterproofing - Portion A1i	1	02-Jan-16	02-Jan-16			Install waterproofing - Portion A1i																		
3MSS.10137	Backfill - Portion A1i	1	04-Jan-16	04-Jan-16			Backfill - Portion A1i																		
3MSS.1020	Rebar Installation - CPC 41 (07) - Portion A1i	1	05-Jan-16	05-Jan-16	22.05T	5 men @ 0.9T/man/day	Rebar Installation - CPC 41 (07) - Portion A1i																		
3MSS.1034	concrete pouring - CPC 41 (07) - Portion A1i	1	06-Jan-16	06-Jan-16	24.5m3		concrete pouring - CPC 41 (07) - Portion A1i																		
Portion A1ii		23	16-Dec-15 A	15-Jan-16																					
CPC42 (Type 07)		6	30-Dec-15	06-Jan-16																					
3MSS.10154	Concreting for Vertical blinding - Portion A1ii	1	30-Dec-15	30-Dec-15			Concreting for Vertical blinding - Portion A1ii																		
3MSS.10155	Strip formwork - Portion A1ii	1	31-Dec-15	31-Dec-15			Strip formwork - Portion A1ii																		
3MSS.10156	Install waterproofing - Portion A1ii	1	02-Jan-16	02-Jan-16			Install waterproofing - Portion A1ii																		
3MSS.10157	Backfill - Portion A1ii	1	04-Jan-16	04-Jan-16			Backfill - Portion A1ii																		
3MSS.1022	Rebar Installation - CPC 42 (07) - Portion A1ii	1	05-Jan-16	05-Jan-16	22.05T	5 men @ 0.9T/man/day	Rebar Installation - CPC 42 (07) - Portion A1ii																		
3MSS.1036	concrete pouring - CPC 42 (07) - Portion A1ii	1	06-Jan-16	06-Jan-16	24.5m3		concrete pouring - CPC 42 (07) - Portion A1ii																		
CPC43 (Type 03)		6	30-Dec-15	06-Jan-16																					
3MSS.10144	Concreting for Vertical blinding - Portion A1ii	1	30-Dec-15	30-Dec-15			Concreting for Vertical blinding - Portion A1ii																		
3MSS.10145	Strip formwork - Portion A1ii	1	31-Dec-15	31-Dec-15			Strip formwork - Portion A1ii																		
3MSS.10146	Install waterproofing - Portion A1ii	1	02-Jan-16	02-Jan-16			Install waterproofing - Portion A1ii																		
3MSS.10147	Backfill - Portion A1ii	1	04-Jan-16	04-Jan-16			Backfill - Portion A1ii																		
3MSS.1021	Rebar Installation - CPC 43 (07) - Portion A1ii	1	05-Jan-16	05-Jan-16	22.05T	5 men @ 0.9T/man/day	Rebar Installation - CPC 43 (07) - Portion A1ii																		
3MSS.1035	concrete pouring - CPC 43 (07) - Portion A1ii	1	06-Jan-16	06-Jan-16	24.5m3		concrete pouring - CPC 43 (07) - Portion A1ii																		
CPC44 (Type 07)		6	30-Dec-15	06-Jan-16																					
3MSS.10124	Concreting for Vertical blinding - Portion A1ii	1	30-Dec-15	30-Dec-15			Concreting for Vertical blinding - Portion A1ii																		
3MSS.10125	Strip formwork - Portion A1ii	1	31-Dec-15	31-Dec-15			Strip formwork - Portion A1ii																		
3MSS.10126	Install waterproofing - Portion A1ii	1	02-Jan-16	02-Jan-16			Install waterproofing - Portion A1ii																		
3MSS.10127	Backfill - Portion A1ii	1	04-Jan-16	04-Jan-16			Backfill - Portion A1ii																		
3MSS.1019	Rebar Installation - CPC 44 (07) - Portion A1ii	1	05-Jan-16	05-Jan-16	22.05T	5 men @ 0.9T/man/day	Rebar Installation - CPC 44 (07) - Portion A1ii																		

█ Forecast Bar
◆ Milestone

M+ 3 Months Rolling Programme
3MRP Rev B (2nd draft)
Main Works Contract for M+ Museum Project

Date	Revision	Checked	Approved
02-Dec-15	3MRP Rev B (1st Draft)	Edgar / Chris	Leo Harnett
31-Dec-15	3MRP Rev B (2nd Draft)	Den / Chris	Leo Harnett

Activity ID	Activity Name	Duration	Start	Finish	Quants	Production rates	December					January				February				March						
							3					4				5				6						
							29	06	13	20	27	03	10	17	24	31	07	14	21	28	06	13	20	27		
Stage 1 - Pile Cap Construction (Area B)							44	29-Dec-15 A	23-Feb-16																	
Portion B1							27	31-Dec-15	02-Feb-16																	
PC72 (Type S1)							27	31-Dec-15	02-Feb-16																	
3MSS.11332	Horizontal Blinding layer - Portion B1	1	31-Dec-15	02-Jan-16																						
3MSS.11333	Formwork for Vertical blinding - Portion B1	1	02-Jan-16	04-Jan-16																						
3MSS.11334	Concreting for Vertical blinding - Portion B1	1	04-Jan-16	05-Jan-16																						
3MSS.11335	Strip formwork - Portion B1	1	05-Jan-16	06-Jan-16																						
3MSS.11336	Install waterproofing - Portion B1	1	06-Jan-16	07-Jan-16																						
3MSS.11337	Backfill - Portion B1	1	07-Jan-16	08-Jan-16																						
3MSS.1138	Rebar Installation - PC 72 - 33% (s1) - Portion B1	20	08-Jan-16	01-Feb-16	341T	10 men @ 0.9T/man/day																				
3MSS.1148	concrete pouring - PC 72 - 33% (s1) - Portion B1	1	01-Feb-16	02-Feb-16	380m3																					
Portion B2							21	29-Dec-15 A	22-Jan-16																	
PC59 (Type 02)							13	29-Dec-15 A	13-Jan-16																	
3MSS.1135	Excavation works for Pile - PC 59 (02) - Portion B2	4	29-Dec-15 A	02-Jan-16	5.6m3	1 machine @ 190m3/day																				
3MSS.11351	Breakdown Pile(s) - Portion B2	4	30-Dec-15 A	04-Jan-16																						
3MSS.11352	Horizontal Blinding layer - Portion B2	1	04-Jan-16	05-Jan-16																						
3MSS.11353	Formwork for Vertical blinding - Portion B2	1	05-Jan-16	06-Jan-16																						
3MSS.11354	Concreting for Vertical blinding - Portion B2	1	06-Jan-16	07-Jan-16																						
3MSS.11355	Strip formwork - Portion B2	1	07-Jan-16	08-Jan-16																						
3MSS.11356	Install waterproofing - Portion B2	1	08-Jan-16	09-Jan-16																						
3MSS.11357	Backfill - Portion B2	1	09-Jan-16	11-Jan-16																						
3MSS.1140	Rebar /Earthing Installation -PC 59 (02) - Portion B2	1	11-Jan-16	12-Jan-16	5.04T																					
3MSS.1150	concrete pouring - PC 59 (02) - Portion B2	1	12-Jan-16	13-Jan-16	5.6m3																					
PC60 (Type 02)							13	29-Dec-15 A	14-Jan-16																	
3MSS.1153	Excavation works for Pile - PC 60 (02) - Portion B2	5	29-Dec-15 A	04-Jan-16	5.6m3	1 machine @ 190m3/day																				
3MSS.11531	Breakdown Pile(s) - Portion B2	5	29-Dec-15 A	05-Jan-16																						
3MSS.11532	Horizontal Blinding layer - Portion B2	1	05-Jan-16	06-Jan-16																						
3MSS.11533	Formwork for Vertical blinding - Portion B2	1	06-Jan-16	07-Jan-16																						
3MSS.11534	Concreting for Vertical blinding - Portion B2	1	07-Jan-16	08-Jan-16																						
3MSS.11535	Strip formwork - Portion B2	1	08-Jan-16	09-Jan-16																						
3MSS.11536	Install waterproofing - Portion B2	1	09-Jan-16	11-Jan-16																						
3MSS.11537	Backfill - Portion B2	1	11-Jan-16	12-Jan-16																						
3MSS.1157	Rebar Installation - PC 60 (02) - Portion B2	1	12-Jan-16	13-Jan-16	5.04T	5 men @ 0.9T/man/day																				
3MSS.1165	concrete pouring - PC 60 (02) - Portion B2	1	13-Jan-16	14-Jan-16	5.6m3																					
PC61 (Type 02)							14	29-Dec-15 A	14-Jan-16																	
3MSS.1170	Excavation works for Pile - PC 61 (02) - Portion B2	5	29-Dec-15 A	05-Jan-16	5.6m3	1 machine @ 190m3/day																				
3MSS.11701	Breakdown Pile(s) - Portion B2	1	05-Jan-16	06-Jan-16																						
3MSS.11702	Horizontal Blinding layer - Portion B2	1	06-Jan-16	07-Jan-16																						
3MSS.11703	Formwork for Vertical blinding - Portion B2	1	07-Jan-16	08-Jan-16																						
3MSS.11704	Concreting for Vertical blinding - Portion B2	1	08-Jan-16	09-Jan-16																						
3MSS.11705	Strip formwork - Portion B2	1	09-Jan-16	11-Jan-16																						
3MSS.11706	Install waterproofing - Portion B2	1	11-Jan-16	12-Jan-16																						
3MSS.11707	Backfill - Portion B2	1	12-Jan-16	13-Jan-16																						
3MSS.1185	Rebar Installation - PC 61 (02) - Portion B2	1	13-Jan-16	13-Jan-16	5.04T	5 men @ 0.9T/man/day																				
3MSS.1215	Concrete pouring - PC 61 (02) - Portion B2	1	14-Jan-16	14-Jan-16	5.6m3																					
PC62 (Type 02)							9	05-Jan-16	15-Jan-16																	
3MSS.1169	Excavation works for Pile - PC 62 (02) - Portion B2	1	05-Jan-16	05-Jan-16	5.6m3	1 machine @ 190m3/day																				
3MSS.11691	Breakdown Pile(s) - Portion B2	1	06-Jan-16	06-Jan-16																						
3MSS.11692	Horizontal Blinding layer - Portion B2	1	07-Jan-16	07-Jan-16																						
3MSS.11693	Formwork for Vertical blinding - Portion B2	1	08-Jan-16	08-Jan-16																						
3MSS.11694	Concreting for Vertical blinding - Portion B2	1	09-Jan-16	09-Jan-16																						
3MSS.11695	Strip formwork - Portion B2	1	11-Jan-16	11-Jan-16																						
3MSS.11696	Install waterproofing - Portion B2	1	12-Jan-16	12-Jan-16																						
3MSS.11697	Backfill - Portion B2	1	13-Jan-16	13-Jan-16																						
3MSS.1184	Rebar Installation - PC 62 (02) - Portion B2	1	14-Jan-16	14-Jan-16	5.04T	5 men @ 0.9T/man/day																				
3MSS.1214	Concrete pouring - PC 62 (02) - Portion B2	1	14-Jan-16	15-Jan-16	5.6m3																					
PC50 (Type 02)							12	06-Jan-16	19-Jan-16																	
3MSS.1136	Excavation works for Pile - PC 50 (02) - Portion B2	3	06-Jan-16	08-Jan-16	5.6m3	1 machine @ 190m3/day																				
3MSS.11361	Breakdown Pile(s) - Portion B2	1	09-Jan-16	09-Jan-16																						
3MSS.11362	Horizontal Blinding layer - Portion B2	1	11-Jan-16	11-Jan-16																						
3MSS.11363	Formwork for Vertical blinding - Portion B2	1	12-Jan-16	12-Jan-16																						
3MSS.11364	Concreting for Vertical blinding - Portion B2	1	13-Jan-16	13-Jan-16																						
3MSS.11365	Strip formwork - Portion B2	1	14-Jan-16	14-Jan-16																						
3MSS.11366	Install waterproofing - Portion B2	1	15-Jan-16	15-Jan-16																						
3MSS.11367	Backfill - Portion B2	1	16-Jan-16	16-Jan-16																						
3MSS.1141	Rebar /Earthing Installation - PC 50 (02) - Portion B2	1	18-Jan-16	18-Jan-16	5.04T																					
3MSS.1151	concrete pouring - PC 50 (02) - Portion B2	1	19-Jan-16	19-Jan-16	5.6m3																					
PC51 (Type 02)							10	09-Jan-16	20-Jan-16																	

Forecast Bar
Milestone

M+ 3 Months Rolling Programme
3MRP Rev B (2nd draft)
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Activity ID	Activity Name	Duration	Start	Finish	Quants	Production rates	December					January				February				March			
							3					4				5				6			
							29	06	13	20	27	03	10	17	24	31	07	14	21	28	06	13	20	27
3MSS.1155	Excavation works for Pile - PC 51 (02) - Portion B2	1	09-Jan-16	09-Jan-16	5.6m3	1 machine @ 190m3/day						█	█	█	█								
3MSS.11551	Breakdown Pile(s) - Portion B2	1	09-Jan-16	11-Jan-16								█											
3MSS.11552	Horizontal Blinding layer - Portion B2	1	11-Jan-16	12-Jan-16								█											
3MSS.11553	Formwork for Vertical blinding - Portion B2	1	12-Jan-16	13-Jan-16								█											
3MSS.11554	Concreting for Vertical blinding - Portion B2	1	13-Jan-16	14-Jan-16								█											
3MSS.11555	Strip formwork - Portion B2	1	14-Jan-16	15-Jan-16								█											
3MSS.11556	Install waterproofing - Portion B2	1	15-Jan-16	16-Jan-16								█											
3MSS.11557	Backfill - Portion B2	1	16-Jan-16	18-Jan-16								█											
3MSS.1159	Rebar Installation - PC 51 (02) - Portion B2	1	18-Jan-16	19-Jan-16	5.04T	5 men @ 0.9T/man/day						█											
3MSS.1167	concrete pouring - PC 51 (02) - Portion B2	1	19-Jan-16	20-Jan-16	5.6m3							█											
PC52 (Type 02)		9	09-Jan-16	21-Jan-16																			
3MSS.1172	Excavation works for Pile - PC 52 (02) - Portion B2	1	09-Jan-16	11-Jan-16	5.6m3	1 machine @ 190m3/day						█											
3MSS.11721	Breakdown Pile(s) - Portion B2	1	11-Jan-16	12-Jan-16								█											
3MSS.11722	Horizontal Blinding layer - Portion B2	1	12-Jan-16	13-Jan-16								█											
3MSS.11723	Formwork for Vertical blinding - Portion B2	1	13-Jan-16	14-Jan-16								█											
3MSS.11724	Concreting for Vertical blinding - Portion B2	1	14-Jan-16	15-Jan-16								█											
3MSS.11725	Strip formwork - Portion B2	1	15-Jan-16	16-Jan-16								█											
3MSS.11726	Install waterproofing - Portion B2	1	16-Jan-16	18-Jan-16								█											
3MSS.11727	Backfill - Portion B2	1	18-Jan-16	19-Jan-16								█											
3MSS.1187	Rebar Installation - PC 52 (02) - Portion B2	1	19-Jan-16	20-Jan-16	5.04T	5 men @ 0.9T/man/day						█											
3MSS.1217	Concrete pouring - PC 52 (02) - Portion B2	1	20-Jan-16	21-Jan-16	5.6m3							█											
PC53 (Type 02)		9	11-Jan-16	21-Jan-16																			
3MSS.1171	Excavation works for Pile - PC 53 (02) - Portion B2	1	11-Jan-16	12-Jan-16	5.6m3	1 machine @ 190m3/day						█											
3MSS.11711	Breakdown Pile(s) - Portion B2	1	12-Jan-16	13-Jan-16								█											
3MSS.11712	Horizontal Blinding layer - Portion B2	1	13-Jan-16	14-Jan-16								█											
3MSS.11713	Formwork for Vertical blinding - Portion B2	1	14-Jan-16	15-Jan-16								█											
3MSS.11714	Concreting for Vertical blinding - Portion B2	1	15-Jan-16	16-Jan-16								█											
3MSS.11715	Strip formwork - Portion B2	1	16-Jan-16	18-Jan-16								█											
3MSS.11716	Install waterproofing - Portion B2	1	18-Jan-16	19-Jan-16								█											
3MSS.11717	Backfill - Portion B2	1	19-Jan-16	20-Jan-16								█											
3MSS.1186	Rebar Installation - PC 53 (02) - Portion B2	1	20-Jan-16	21-Jan-16	5.04T	5 men @ 0.9T/man/day						█											
3MSS.1216	Concrete pouring - PC 53 (02) - Portion B2	1	21-Jan-16	21-Jan-16	5.6m3							█											
PC54 (Type 02)		9	12-Jan-16	22-Jan-16																			
3MSS.1173	Excavation works for Pile - PC 54 (02) - Portion B2	1	12-Jan-16	13-Jan-16	5.6m3	1 machine @ 190m3/day						█											
3MSS.11731	Breakdown Pile(s) - Portion B2	1	13-Jan-16	14-Jan-16								█											
3MSS.11732	Horizontal Blinding layer - Portion B2	1	14-Jan-16	15-Jan-16								█											
3MSS.11733	Formwork for Vertical blinding - Portion B2	1	15-Jan-16	16-Jan-16								█											
3MSS.11734	Concreting for Vertical blinding - Portion B2	1	16-Jan-16	18-Jan-16								█											
3MSS.11735	Strip formwork - Portion B2	1	18-Jan-16	19-Jan-16								█											
3MSS.11736	Install waterproofing - Portion B2	1	19-Jan-16	20-Jan-16								█											
3MSS.11737	Backfill - Portion B2	1	20-Jan-16	21-Jan-16								█											
3MSS.1188	Rebar Installation - PC 54 (02) - Portion B2	1	21-Jan-16	21-Jan-16	5.04T	5 men @ 0.9T/man/day						█											
3MSS.1218	Concrete pouring - PC 54 (02) - Portion B2	1	22-Jan-16	22-Jan-16	5.6m3							█											
Portion B3		33	12-Jan-16	23-Feb-16																			
PC39 (Type 02)		12	12-Jan-16	26-Jan-16																			
3MSS.1134	Excavation works for Pile - PC 39 (02) - Portion B3	3	12-Jan-16	15-Jan-16	5.6m3	1 machine @ 190m3/day						█											
3MSS.11341	Breakdown Pile(s) - Portion B3	1	15-Jan-16	16-Jan-16								█											
3MSS.11342	Horizontal Blinding layer - Portion B3	1	16-Jan-16	18-Jan-16								█											
3MSS.11343	Formwork for Vertical blinding - Portion B3	1	18-Jan-16	19-Jan-16								█											
3MSS.11344	Concreting for Vertical blinding - Portion B3	1	19-Jan-16	20-Jan-16								█											
3MSS.11345	Strip formwork - Portion B3	1	20-Jan-16	21-Jan-16								█											
3MSS.11346	Install waterproofing - Portion B3	1	21-Jan-16	22-Jan-16								█											
3MSS.11347	Backfill - Portion B3	1	22-Jan-16	23-Jan-16								█											
3MSS.1139	Rebar /Earthing Installation - PC 39 (02) - Portion B3	1	23-Jan-16	25-Jan-16	5.04T							█											
3MSS.1149	concrete pouring - PC 39 (02) - Portion B3	1	25-Jan-16	26-Jan-16	5.6m3							█											
PC40 (Type 07)		16	12-Jan-16	29-Jan-16																			
3MSS.1154	Excavation works for Pile - PC 40 (07) - Portion B3	2	12-Jan-16	13-Jan-16	24.5m3	1 machine @ 190m3/day						█											
3MSS.11541	Breakdown Pile(s) - Portion B3	1	14-Jan-16	14-Jan-16								█											
3MSS.11542	Horizontal Blinding layer - Portion B3	1	15-Jan-16	15-Jan-16								█											
3MSS.11543	Formwork for Vertical blinding - Portion B3	1	16-Jan-16	16-Jan-16								█											
3MSS.11544	Concreting for Vertical blinding - Portion B3	1	18-Jan-16	18-Jan-16								█											
3MSS.11545	Strip formwork - Portion B3	1	19-Jan-16	19-Jan-16								█											
3MSS.11546	Install waterproofing - Portion B3	1	20-Jan-16	20-Jan-16								█											
3MSS.11547	Backfill - Portion B3	1	21-Jan-16	21-Jan-16								█											
3MSS.1158	Rebar Installation - PC 40 (07) - Portion B3	6	22-Jan-16	28-Jan-16	22.05T	5 men @ 0.9T/man/day						█											
3MSS.1166	concrete pouring - PC 40 (07) - Portion B3	1	29-Jan-16	29-Jan-16	24.5m3							█											
PC41 (Type 02)		14	12-Jan-16	28-Jan-16																			
3MSS.1174	Excavation works for Pile - PC 41 (02) - Portion B3	3	12-Jan-16	15-Jan-16	5.6m3	1 machine @ 190m3/day						█											

█ Forecast Bar
◆ Milestone

M+ 3 Months Rolling Programme
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Date	Revision	Checked	Approved
02-Dec-15	3MRP Rev B (1st Draft)	Edgar / Chris	Leo Harnett
31-Dec-15	3MRP Rev B (2nd Draft)	Den / Chris	Leo Harnett

Activity ID	Activity Name	Duration	Start	Finish	Quants	Production rates	December				January				February				March				
							3		4		5		6		3		4		5		6		
							29	06	13	20	27	03	10	17	24	31	07	14	21	28	06	13	20	27
3MSS.S0027	Temporary Support (Shear Plate)	3	26-Feb-16	01-Mar-16																			
3MSS.S0028	Bottom Rebar	15	01-Mar-16	18-Mar-16																			
3MSS.S0029	Install 3 Nr Shear Plates	7	18-Mar-16	30-Mar-16																			
DCS Structure		55	31-Dec-15	09-Mar-16																			
3MSS.D001	Excavate from +5.50mPD (Existing Level) to +4.85mPD	4	31-Dec-15	06-Jan-16	427m3	1 machine @ 190m3/day																	
3MSS.D002	Excavate from +4.85mPD to +3.70mPD	4	06-Jan-16	11-Jan-16	756m3	1 machine @ 190m3/day																	
3MSS.D003	Install 1st Layer Struts at +4.2mPD	13	11-Jan-16	26-Jan-16																			
3MSS.D004	Excavate from +3.5 to -0.50mPD	15	25-Jan-16	15-Feb-16	2764m3	1 machine @ 190m3/day																	
3MSS.D005	Install 2nd Layer Struts at 0.0mPD (w/ preloading)	13	15-Feb-16	01-Mar-16																			
3MSS.D006	Excavate to -0.5mPD to -2.5mPD	7	01-Mar-16	09-Mar-16	1316m3	1 machine @ 190m3/day																	
Tower Crane No 3		47	30-Dec-15	26-Feb-16																			
3MSS.T002	Position Sign-off for TC3	1	30-Dec-15	30-Dec-15																			
3MSS.T003	Design submission and approval of TC base	10	05-Jan-16	15-Jan-16																			
3MSS.T004	Mobilization & procurement	15	16-Jan-16	02-Feb-16																			
3MSS.T006	Excavate to reduce level +2.45mPD	2	16-Jan-16	18-Jan-16	464m3	350m3/day																	
3MSS.T007	Excavate battered slope	3	19-Jan-16	21-Jan-16	510m3	350m3/day																	
3MSS.T008	Excavation for TC3 Base	3	22-Jan-16	25-Jan-16	6m3	1 machine @ 190m3/day																	
3MSS.T009	Rebar Installation for TC3 Base	3	26-Jan-16	28-Jan-16																			
3MSS.T010	Formworks Installation for TC3 Base	1	29-Jan-16	29-Jan-16																			
3MSS.T011	Concrete Pouring & Curing for TC3 Base	7	30-Jan-16	06-Feb-16																			
3MSS.T012	Erection of Tower Crane No 3	14	11-Feb-16	26-Feb-16																			
AEL & ECM		25	11-Jan-16	12-Feb-16																			
3MSS.AEL0010	HCC issue Method Statements for Protection of AEL & ECM	0	11-Jan-16																				
3MSS.AEL0012	Approval & Consents For Method Statements	20	11-Jan-16	03-Feb-16																			
3MSS.AEL020	Protection of AEL & ECM	5	03-Feb-16	12-Feb-16																			
M+.30 ICP		51	18-Jan-16	19-Mar-16																			
Excavation Works		51	18-Jan-16	19-Mar-16																			
3MCP.1000	Apply for Approval and consents for Excavation (Stage 2A Excavation)	28	18-Jan-16	22-Feb-16																			
3MCP.1001	Obtain MJV/RSS Pump test Results (Bachy)	0		25-Jan-16																			
3MCP.1002	Submit Dewatering Proposal	15	25-Jan-16	15-Feb-16																			
3MCP.1010	Site Possession	0	11-Feb-16*																				
3MCP.1012	Obtain Consents for Excavation to Commence	0	22-Feb-16																				
3MCP.1020	Survey Existing Sheet Pile	5	11-Feb-16	16-Feb-16																			
3MCP.1030	Install 6Nr Pump Wells / Monitoring points 12Nr	6	15-Feb-16	20-Feb-16	6nr Pumps / 12nr																		
3MCP.1040	Excavate Central portion Max 30 deg open cut +3.6mPD to -1.65mPD (5.275m)	24	22-Feb-16	19-Mar-16	16,877m3	2nr excavators @700m3/d																	

 Forecast Bar
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Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forecast / Actual Finish	% Compl.	Finish Variance	Current Float	March 2016					April 2016				May 2016				June 2016				July 2016								
										28	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12	19	26	03	10	17					
3MRP Three Months Rolling Programme Update (31 Mar 2016)																																			
Contract Key Dates & Milestones																																			
Contract Dates																																			
CP02	Contract Period (1218 days)	1218	26-Sep-15	25-Jan-19	26-Sep-15 A	25-Jan-19	0%	0	0																										
Schedule of Milestones																																			
Cost Centre A - Preliminaries and General Requirements																																			
MSA.03	Compliance Review to the CA's satisfaction on Project Time & Constr	0		31-Dec-15		31-Mar-16	0%	-3	3																										
MSA.04	Complete CA/Authority Office ready for occupation (t=M5)	0		29-Feb-16		31-Mar-16	0%	0	35																										
Cost Centre C - Public Works and Tunnel Protection Works																																			
MSC.01	Obtain Notice of No Objection from Contract Administrator	0		29-Feb-16		31-Mar-16	0%	-1	35																										
Interface Dates																																			
Access Date																																			
AD1040	M05 - SPS Frontage At-grade Road (11Feb16)	0	11-Feb-16			31-Mar-16	0%	-49	-47																										
AD1050	M06 - ICP External Entrance Portal beside At-grade Road (	0	11-Feb-16			31-Mar-16	0%	-39	-39																										
AD1060	M07 - ICP Frontage beside At-grade Road (on Completion of	0	11-Feb-16			31-Mar-16	0%	-39	-39																										
AD1160	M15 - M+ / Lyric Staircase (2nd access) (30Jun16)	0	17-May-16			23-May-16	0%	-6	642																										
AD1180	M16 - Lyric Interface South (2nd access) (30Jun16)	0	17-May-16			23-May-16	0%	-6	642																										
AD1240	M22 - ICP/SPS Frontage within At-grade Road (Completion	0	11-Feb-16			31-Mar-16	0%	-39	82																										
AD1320	M32 - ICP & SPS, West of Existing Temporary Access Road	0	11-Feb-16			31-Mar-16	0%	-39	-37																										
AD1590	L25 - MTR Area to North-West of MTR Workshop (on STT & H/O from	0	31-Mar-16			31-Mar-16	0%	0	1031																										
AD1600	L26 - MTR Area to South-West of MTR Workshop (on STT & H/O from	0	31-Mar-16			31-Mar-16	0%	0	1031																										
Vacation Date																																			
VD1230	M21 - M+ North Eastern Area within At-grade Road (H/O to	0		27-Nov-15		31-Mar-16	0%	-124	167																										
VD1240	M22 - ICP/SPS Frontage within At-grade Road (H/O to PIW)	0		30-Nov-15		31-Mar-16	0%	-121	1031																										
VD1630	M72 - Area within At-Grade Road by PIW, beside M+ Entra	0		30-Nov-15		31-Mar-16	0%	-121	1031																										
Interface Schedule (Refer to Interface Schedule - Appendix D1 20-Nov-2015)																																			
Lyric Theatre Complex and Extended Basement (Lyric)																																			
Along Interface South of AEL																																			
DCS Basement Area																																			
IF1030	Take possession of M15 and M16 after pipe piles and grout	0	17-May-16			23-May-16	0%	-6	642																										
Grid 6 & 12 Area																																			
IF1032	Complete Pile Caps PC 95, 96, 100, 103, 105, 109 & 116	0		17-Feb-16		31-Mar-16	0%	-42	1031																										
PIW Phase 1																																			

- ◆ Baseline Milestone
- Primary Baseline
- ◆ Milestone
- Non-Critical
- Critical Bar
- Actual Work
- ▽ Summary Bar

West Kowloon Cultural District Authority

(3MRP) 3-Months Rolling Programme Status at 31 March 2016



Date	Revision	Checked	Approved
02-Dec-15	3MRP Status Nov 2015 - Rev ...	Chris / Edgar	Leo Harnett
31-Dec-15	3MRP Status Dec 2015 - Rev ...	Denmark / C...	Leo Harnett
15-Mar-16	3MRP Status Feb 2016 - Rev ...	Jojo Alcazaren	Desmond Sze
31-Mar-16	3MRP Status Mar 2016 - Rev 0	Jojo Alcazaren	Chris Chau

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forecast / Actual Finish	% Compl.	Finish Variance	Current Float	March 2016					April 2016				May 2016				June 2016				July 2016				
										28	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12	19	26	03	10	17	
Structural Steel Truss																															
DS.1040	Steel Tuss - Procurement, Fabrication & Delivery	150	14-Feb-16	12-Jul-16	29-Jan-16 A	16-Sep-16	0%	-66	91																						
DS.1050	Steel Tuss - First Batch Arrival on Site (Contract Requirem	0	01-Jun-16			16-May-16	0%	16	91																						
Glass Curtain Wall																															
DS.2140	Glass Curtain Wall - CA Review & Approval	30	29-Mar-16	27-Apr-16	31-Mar-16	29-Apr-16	0%	-2	93																						
DS.2150	Glass Curtain Wall - BD Submission and Approval	60	28-Apr-16	26-Jun-16	30-Apr-16	28-Jun-16	0%	-2	93																						
Art Lift (LT-11 & LT-13)																															
DS.5010	Art Lift - Award Specialist Subcontractor	0	01-Dec-15		31-Mar-16		0%	-121	78																						
DS.5020	Art Lift - Shop Drawings, Materials & Method Statements &	90	01-Dec-15	28-Feb-16	31-Mar-16	28-Jun-16	0%	-121	127																						
Lifts and Escalator																															
DS.5100	Lift & Escalator - Award Lifts & Escalators Subcontractor	0	01-Dec-15		31-Mar-16		0%	-121	44																						
DS.5110	Lift & Escalator - Shop Drawings, Materials & Method State	90	01-Dec-15	28-Feb-16	31-Mar-16	28-Jun-16	0%	-121	78																						
Mechanical and Lifting Platform																															
DS.5220	Lifting Platform - CA Review & Comments	30	29-Feb-16	29-Mar-16	22-Feb-16 A	15-Apr-16	50%	-17	231																						
DS.5230	Lifting Platform - Incorporate Comments & Resubmit	30	30-Mar-16	28-Apr-16	16-Apr-16	15-May-16	0%	-17	231																						
DS.5240	Lifting Platform - CA Review & Approval	30	29-Apr-16	28-May-16	16-May-16	14-Jun-16	0%	-17	231																						
Fire Services																															
DS.4020	FS - CA Review & Comments	30	30-Mar-16	28-Apr-16	16-Apr-16	15-May-16	0%	-17	45																						
DS.4030	FS - Incorporate Comments & Resubmit	30	29-Apr-16	28-May-16	16-May-16	14-Jun-16	0%	-17	45																						
Electrical and ELV Systems																															
DS.4120	Elect & ELV Systems - Shop Drawings and Materials Subm	120	01-Dec-15	29-Mar-16	13-Jan-16 A	15-Apr-16	90%	-17	95																						
DS.4130	Elect & ELV Systems - CA Review & Comments	30	30-Mar-16	28-Apr-16	16-Apr-16	15-May-16	0%	-17	95																						
DS.4140	Elect & ELV Systems - Incorporate Comments & Resubmit	30	29-Apr-16	28-May-16	16-May-16	14-Jun-16	0%	-17	95																						
MVAC																															
DS.3070	MVAC - Shop Drawings, Materials & Method Statements St	120	01-Dec-15	29-Mar-16	12-Dec-15 A	15-Apr-16	90%	-17	65																						
DS.3080	MVAC - CA Review & Comments	30	30-Mar-16	28-Apr-16	16-Apr-16	15-May-16	0%	-17	65																						
DS.3090	MVAC - Incorporate Comments & Resubmit	30	29-Apr-16	28-May-16	16-May-16	14-Jun-16	0%	-17	65																						
Plumbing and Drainage																															
DS.3010	Plumbing & Drainage - Shop Drawings, Materials & Methoc	90	31-Dec-15	29-Mar-16	21-Dec-15 A	15-Apr-16	90%	-17	95																						
DS.3020	Plumbing & Drainage - CA Review & Comments	30	30-Mar-16	28-Apr-16	16-Apr-16	15-May-16	0%	-17	95																						
DS.3030	Plumbing & Drainage - Incorporate Comments & Resubmit	30	29-Apr-16	28-May-16	16-May-16	14-Jun-16	0%	-17	95																						
Ceramic Tile																															
DS.6010	Ceramic Tile - Shop Drawings, Materials Sample Submissio	90	30-Nov-15	27-Feb-16	01-Dec-15 A	15-Apr-16	90%	-48	775																						
DS.6020	Ceramic Tile - CA Review & Comments	30	28-Feb-16	28-Mar-16	16-Apr-16	15-May-16	0%	-48	775																						
DS.6030	Ceramic Tile - Incorporate Comments & Resubmit	30	29-Mar-16	27-Apr-16	16-May-16	14-Jun-16	0%	-48	775																						
Soft and Hard Landscaping																															
DS.7000	Landscaping - Award Specialist Subcontractor	0	18-Apr-16		18-Apr-16		0%	0	33																						
DS.7010	Landscaping - Shop Drawings, Materials & Method Statem	90	18-Apr-16	16-Jul-16	18-Apr-16	16-Jul-16	0%	0	33																						
Design Detailing / Buildability Co-ordination																															
Spatial Coordination for BIM / CSD / CBWD																															

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forecast / Actual Finish	% Compl.	Finish Variance	Current Float	March 2016					April 2016				May 2016				June 2016				July 2016				
										28	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12	19	26	03	10	17	
M+ Podium																															
B00.0040	Preparation and submission for BIM / CSD / CBWD at G/F (	60	30-Nov-15	28-Jan-16	30-Nov-15 A	30-Apr-16	50%	-93	26	B00.0040, Preparation and submission for BIM /																				
B00.0050	Preparation and submission for BIM / CSD / CBWD at 1/F (	60	30-Nov-15	28-Jan-16	30-Nov-15 A	30-Apr-16	50%	-93	118	B00.0050, Preparation and submission for BIM /																				
B00.0060	Review, resubmission and approval for BIM / CSD / CBWD	30	29-Jan-16	27-Feb-16	01-May-16	30-May-16	0%	-93	115	B00.0060, Review, resubmiss																					
B00.0070	Review, resubmission and approval for BIM / CSD / CBWD	30	29-Jan-16	27-Feb-16	01-May-16	30-May-16	0%	-93	162	B00.0070, Review, resubmiss																					
B00.0080	Preparation and submission for BIM / CSD / CBWD at 1M/F	60	29-Jan-16	28-Mar-16	01-May-16	29-Jun-16	0%	-93	26	B00.0080																					
B00.0090	Preparation and submission for BIM / CSD / CBWD at 2/F (	60	29-Jan-16	28-Mar-16	01-May-16	29-Jun-16	0%	-93	118	B00.0090																				
M+ Tower																															
B6B.0000	Preparation and submission for BIM / CSD / CBWD at 4/F (	45	29-Mar-16	12-May-16	01-May-16	14-Jun-16	0%	-33	118	B6B.0000, Preparat																				
CSF Block																															
B20.0280	Preparation and submission for BIM / CSD / CBWD at G/F (	45	13-Feb-16	28-Mar-16	15-May-16	28-Jun-16	0%	-92	28	B20.0280,																				
Interfacing Car Park and Sewage Pumping Station (SPS)																															
D01.0000	Preparation and submission for BIM / CSD / CBWD at SPS	45	30-Dec-15	12-Feb-16	15-May-16	28-Jun-16	0%	-137	28	D01.0000,																					
D02.0000	Preparation and submission for BIM / CSD / CBWD at ICP E	45	01-Oct-15	14-Nov-15	31-Mar-16	14-May-16	0%	-182	-1	D02.0000, Preparation and submission f																					
D02.0010	Review, resubmission and approval for BIM / CSD / CBWD	15	15-Nov-15	29-Nov-15	15-May-16	29-May-16	0%	-182	59	D02.0010, Review, resubmissi																					
D02.0020	Preparation and submission for BIM / CSD / CBWD at ICP C	45	15-Nov-15	29-Dec-15	15-May-16	28-Jun-16	0%	-182	-1	D02.0020,																					
4D Time Management (1st Draft)																															
B00.0160	Facade works	75	14-Jan-16	28-Mar-16	01-Feb-16 A	05-Apr-16	0%	-8	1025	B00.0160, Facade works, Facade works																					
B00.0170	M+ Podium	75	14-Jan-16	28-Mar-16	01-Feb-16 A	05-Apr-16	90%	-8	250	B00.0170, M+ Podium, M+ Podium																					
B20.0400	M+ Tower	75	29-Mar-16	11-Jun-16	06-Apr-16	19-Jun-16	0%	-8	250	B20.0400, M+ T																					
B20.0410	CSF CDS/CBWD	75	29-Mar-16	11-Jun-16	06-Apr-16	19-Jun-16	0%	-8	256	B20.0410, CSF C																					
B20.0420	ICP and SPS	75	14-Jan-16	28-Mar-16	31-Mar-16	13-Jun-16	0%	-77	956	B20.0420, ICP and S																					
Visual Mock-Up (VMU)																															
VMU Preliminary																															
A00.3610	VMU Works Period (Contract requirement of 200 calendar	206	01-Oct-15	17-Apr-16	01-Dec-15 A	02-Sep-16	0%	-138	15																						
VMU Document / Drawing Submission																															
A00.3020	Submit & Approve of Shop Drawing for Cast-in Items	45	01-Oct-15	14-Nov-15	10-Oct-15 A	04-Apr-16	90%	-142	62	A00.3020, Submit & Approve of Shop Drawing for Cast-in Items, S																					
A00.3050	Submit & Approve of CSD/CBWD	46	05-Oct-15	19-Nov-15	25-Nov-15 A	08-Apr-16	90%	-141	53	A00.3050, Submit & Approve of CSD/CBWD, Submit & Approve																					
A00.3060	Submit & Approve of Facade Shop Drawings & Samples	105	01-Oct-15	13-Jan-16	26-Nov-15 A	19-Apr-16	90%	-97	53	A00.3060, Submit & Approve of Facade Shop Drawings &																					
VMU Procurements / Materials Delivery to Site																															
A00.3620	Facade - Ordering & Production for Concrete Shell Mock-Up	84	24-Nov-15	15-Feb-16	02-Jan-16 A	05-May-16	80%	-80	73	A00.3620, Facade - Ordering & Production for																					
A00.3625	Facade - Ordering & Production for Hybrid Mock-Up	114	25-Oct-15	15-Feb-16	02-Mar-16 A	25-May-16	30%	-100	53	A00.3625, Facade:- Ordering & P																					
A00.3630	Building Services Works - Materials Ordering / Fabrication /	90	27-Oct-15	24-Jan-16	25-Dec-15 A	15-May-16	60%	-112	62	A00.3630, Building Services Works - Ma																					
A00.3640	ABWF Works - Materials Ordering / Fabrication / Delivery	60	23-Nov-15	21-Jan-16	18-Jan-16 A	15-May-16	70%	-115	96	A00.3640, ABWF Works - Materials Ord																					
VMU Construction																															
Step 2.0 - Existing Concrete Shell																															
VMU Building Service Works																															
A00.3206	Building Services (FS) - (1st & 2nd Fix) Main & Secondary	12	04-Dec-15	17-Dec-15	21-Mar-16 A	15-Apr-16	50%	-92	43	A00.3206, Building Services (FS) - (1st & 2nd Fix) Main & S																					
A00.3208	Building Services (FS) - Install Cable Containment / Wiring	6	15-Jan-16	21-Jan-16	16-Apr-16	22-Apr-16	0%	-72	58	A00.3208, Building Services (FS) - Install Cable Contain																					
A00.3210	Building Services (MVAC) - Final Fix) Ceiling dumper, Air Gi	4	19-Feb-16	23-Feb-16	18-May-16	21-May-16	0%	-70	52	A00.3210, Building Services (MVAC																					
A00.3220	Building Services (Elect & ELV) - (Final Fix) CCTV Camera,	6	24-Feb-16	01-Mar-16	23-May-16	28-May-16	0%	-70	52	A00.3220, Building Services (E																					

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forecast / Actual Finish	% Compl.	Finish Variance	Current Float	March 2016					April 2016				May 2016				June 2016				July 2016				
										28	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12	19	26	03	10	17	
A00.3230	Building Services (FS) - (Final Fix) Fire Alarm, PA Speaker,	6	29-Feb-16	05-Mar-16	27-May-16	02-Jun-16	0%	-70	52	A00.3230, Building Services																					
VMU ABWF & Finishes																															
VMU Gallery & B1 Plaza Space																															
VMU Ceiling																															
A00.3100	Install Ceiling grid / Gypsum board	8	18-Dec-15	30-Dec-15	16-Apr-16	25-Apr-16	0%	-92	52												A00.3100, Install Ceiling grid / Gypsum board										
A00.3110	Ceiling Painting	4	31-Dec-15	05-Jan-16	26-Apr-16	29-Apr-16	0%	-92	52												A00.3110, Ceiling Painting										
VMU Wall																															
A00.3145	Install Glass / Metal Balustrade	13	22-Jan-16	05-Feb-16	30-Apr-16	17-May-16	0%	-78	52												A00.3145, Install Glass / Metal Balustrade										
A00.3150	Wall Painting	6	12-Feb-16	18-Feb-16	10-May-16	17-May-16	0%	-70	52												A00.3150, Wall Painting										
VMU Lobby Space																															
VMU Wall																															
A00.3190	Install Ceramic Cladding & Rain Screen	7	28-Jan-16	04-Feb-16	25-May-16	01-Jun-16	0%	-92	43												A00.3190, Install Ceramic Cladding & Rain Screen										
VMU Floor																															
A00.3660	Polished Concrete Flooring Treatment	6	18-Dec-15	28-Dec-15	16-Apr-16	22-Apr-16	0%	-92	43												A00.3660, Polished Concrete Flooring Treatment										
A00.3670	Precast Concrete Paver Installation	12	29-Dec-15	12-Jan-16	23-Apr-16	07-May-16	0%	-92	43												A00.3670, Precast Concrete Paver Installation										
A00.3680	Install Metal Mesh Balustrade	13	13-Jan-16	27-Jan-16	09-May-16	24-May-16	0%	-92	43												A00.3680, Install Metal Mesh Balustrade										
VMU Facade Works																															
A00.3685	Access date for Concrete Shell Mock-Up	0	16-Feb-16		26-May-16		0%	-80	42												Access date for Concrete Shell Mock-Up										
A00.3690	Erection of Scaffolds for Shell Mock-Up	4	16-Feb-16	19-Feb-16	26-May-16	30-May-16	0%	-80	42												A00.3690, Erection of Scaffolds for Shell Mock-Up										
VMU Step 2.1 - Hybrid Shell Mock-Up																															
VMU Structural Works																															
A00.3275	Hybrid Mock Up - Curing, Dismantle Scaffolds and Cleaning	21	08-Dec-15	05-Jan-16	24-Mar-16 A	09-Apr-16	50%	-75	44												A00.3275, Hybrid Mock Up - Curing, Dismantle Scaffolds and Cleaning										
VMU ABWF & Finishes																															
A00.3280	Hybrid Mock Up - Install PC Paver at External Floor	12	19-Dec-15	06-Jan-16	09-Apr-16	22-Apr-16	0%	-85	44												A00.3280, Hybrid Mock Up - Install PC Paver at External Floor										
A00.3290	Hybrid Mock Up - Internal Wall Plasters and Wet Trades	6	06-Jan-16	12-Jan-16	22-Apr-16	28-Apr-16	0%	-85	44												A00.3290, Hybrid Mock Up - Internal Wall Plasters and Wet Trades										
A00.3300	Hybrid Mock Up - Door Frame Installation	3	09-Jan-16	12-Jan-16	26-Apr-16	28-Apr-16	0%	-85	44												A00.3300, Hybrid Mock Up - Door Frame Installation										
A00.3310	Hybrid Mock Up - Floor Screeding & Cure	4	13-Jan-16	16-Jan-16	29-Apr-16	04-May-16	0%	-85	44												A00.3310, Hybrid Mock Up - Floor Screeding & Cure										
A00.3320	Hybrid Mock Up - Install wooden slat & tower open mesh c	6	29-Jan-16	04-Feb-16	18-May-16	24-May-16	0%	-85	44												A00.3320, Hybrid Mock Up - Install wooden slat & tower open mesh c										
A00.3330	Hybrid Mock Up - Install MML Inclines Concrete Ceiling for	3	02-Feb-16	04-Feb-16	21-May-16	24-May-16	0%	-85	44												A00.3330, Hybrid Mock Up - Install MML Inclines Concrete Ceiling for										
VMU MEP Building Service Works																															
A00.3360	Hybrid Mock Up - Building Services (Elect) - (1st & 2nd Fix	10	18-Jan-16	28-Jan-16	05-May-16	17-May-16	0%	-85	64												A00.3360, Hybrid Mock Up - Building Services (Elect) - (1st & 2nd Fix										
A00.3370	Hybrid Mock Up - Building Services (FS) - (1st & 2nd Fix) M	10	18-Jan-16	28-Jan-16	05-May-16	17-May-16	0%	-85	64												A00.3370, Hybrid Mock Up - Building Services (FS) - (1st & 2nd Fix) M										
A00.3380	Hybrid Mock Up - Building Services (Elect) - (Final Fix) Sm	6	05-Feb-16	15-Feb-16	25-May-16	31-May-16	0%	-85	64												A00.3380, Hybrid Mock Up - Building Services (Elect) - (Final Fix) Sm										
A00.3390	Hybrid Mock Up - Building Services (FS) - Hose Reel Panel I	6	05-Feb-16	15-Feb-16	25-May-16	31-May-16	0%	-85	64												A00.3390, Hybrid Mock Up - Building Services (FS) - Hose Reel Panel I										
A00.3400	Hybrid Mock Up - Building Services (FS) - (Final Fix) Sprink	6	05-Feb-16	15-Feb-16	25-May-16	31-May-16	0%	-85	64												A00.3400, Hybrid Mock Up - Building Services (FS) - (Final Fix) Sprink										
VMU External Facade																															
A00.3765	Hybrid Mock Up - Access Date for Hybrid Mock-Up	0	20-Jan-16		07-May-16		0%	-85	51												Hybrid Mock Up - Access Date for Hybrid Mock-Up										
A00.3775	Hybrid Mock Up - Erection for Scaffolds	3	20-Jan-16	22-Jan-16	07-May-16	10-May-16	0%	-85	51												A00.3775, Hybrid Mock Up - Erection for Scaffolds										
A00.3785	Hybrid Mock Up - Install External Facade for Hybrid Mock-L	14	23-Jan-16	11-Feb-16	11-May-16	27-May-16	0%	-85	51												A00.3785, Hybrid Mock Up - Install External Facade for Hybrid Mock-L										
A00.3795	Hybrid Mock Up - Install Glazing & Sealant Application	2	12-Feb-16	13-Feb-16	28-May-16	30-May-16	0%	-85	51												A00.3795, Hybrid Mock Up - Install Glazing & Sealant Application										
VMU External Works																															
VMU MEP - FS Pipeworks																															

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forecast / Actual Finish	% Compl.	Finish Variance	Current Float	March 2016					April 2016				May 2016				June 2016				July 2016				
										28	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12	19	26	03	10	17	
AEL North - B1/F Slab for Truss T1, T2 & T5 Erection																															
B10.3090	AEL North - Wall, Column & B1 Slab (Portion A4 & A5)	18	03-Mar-16	23-Mar-16	31-Mar-16	21-Apr-16	0%	-21	229	B10.3090, AEL North - Wall, Column & B1 Slab (Portion A4 & A5)																					
AEL South - RC Structures Prior to Area M14 H/O																															
B10.1040	AEL South - Construct Core Wall on PC96 from B1F to 1M,	35	01-Apr-16	20-May-16	16-Apr-16	06-Jun-16	0%	-11	2	B10.1040, AEL South - Construct Core Wall on PC96 from B1F to 1M,																					
B10.1050	AEL South - Construct B1 Slab for Basement Road Wall	15	01-Apr-16	20-Apr-16	16-Apr-16	06-May-16	0%	-11	13	B10.1050, AEL South - Construct B1 Slab for Basement Road Wall																					
B10.3290	AEL South - Construct Basement Road Wall between PC 96 & PC 10	35	21-Apr-16	14-Jun-16	09-May-16	30-Jun-16	0%	-11	5	B10.3290, AEL South - Construct Basement Road Wall between PC 96 & PC 10																					
B10.3300	AEL South - Construct External Wall between PC 96 & PC 10	25	21-Apr-16	28-May-16	09-May-16	16-Jun-16	0%	-11	5	B10.3300, AEL South - Construct External Wall between PC 96 & PC 10																					
B10.3310	AEL South - Construct Basement Road Wall between PC 10 & PC 11	16	29-Apr-16	24-May-16	19-May-16	11-Jun-16	0%	-11	13	B10.3310, AEL South - Construct Basement Road Wall between PC 10 & PC 11																					
B10.3315	AEL South - Construct Walls, Column & Staircases to G/F I	27	29-Apr-16	13-Jun-16	20-May-16	28-Jun-16	0%	-11	5	B10.3315, AEL South - Construct Walls, Column & Staircases to G/F I																					
SPS Structures (include Excavation)																															
D01.3000	SPS - ELS Works (Provisional)	61	11-Feb-16	26-Apr-16	31-Mar-16	14-Jun-16	0%	-39	-37	D01.3000, SPS - ELS Works (Provisional)																					
ICP Structures (include Excavation)																															
A3980	ICP - ELS works (Provisional)	110	22-Feb-16	26-Jul-16	14-Apr-16	23-Sep-16	0%	-39	-39	ICP - ELS works (Provisional)																					
External Works																															
M+ External Works																															
Utilities																															
Drainage																															
EW1010	Construct the DN375 and DN600 storm drains within the	75	10-Dec-15	14-Mar-16	12-Apr-16	01-Aug-16	0%	-95	111	EW1010, Construct the DN375 and DN600 storm drains within the																					
EW1045	Construct M+ manholes S1.1, S3.2, S3.3, S3.4 (terminal)	91	10-Dec-15	09-Mar-16	12-Apr-16	11-Jul-16	0%	-124	851	EW1045, Construct M+ manholes S1.1, S3.2, S3.3, S3.4 (terminal)																					
Sewage																															
EW1000	Construct the DN375 sewer drain within Austin Road West	50	29-Dec-15	29-Feb-16	03-May-16	21-Jul-16	0%	-99	663	EW1000, Construct the DN375 sewer drain within Austin Road West																					
Test & Commissioning, Statutory Inspections & OP																															
M+																															
WSD (FS Pipeworks)																															
SH4200	FS - Submit Form WW046 (Part 1 & 2) to WSD (Subject to)	90	02-Feb-16	01-May-16	13-Apr-16	11-Jul-16	0%	-71	384	SH4200, FS - Submit Form WW046 (Part 1 & 2) to WSD (Subject to)																					
WSD (Plumbing)																															
SH4260	Plumbing - Submit Form WW046 (Part 1 & 2) to WSD (Su	90	02-Feb-16	01-May-16	13-Apr-16	11-Jul-16	0%	-71	384	SH4260, Plumbing - Submit Form WW046 (Part 1 & 2) to WSD (Su																					
Summary Programme																															
Preliminary / Pre-Construction																															
BIM / CSD / CBWD																															
SM0040	M+ Podium - Prepare & Submit BIM / CBWD / CBWD	171	30-Nov-15	25-Jun-16	30-Nov-15 A	27-Sep-16	0%	-77	88	SM0040, M+ Podium - Prepare & Submit BIM / CBWD / CBWD																					
SM0060	M+ Tower - Prepare & Submit BIM / CBWD / CBWD	330	29-Mar-16	27-Apr-17	03-May-16	13-Jun-17	0%	-38	22	SM0060, M+ Tower - Prepare & Submit BIM / CBWD / CBWD																					
SM0080	CSF Block - Prepare & Submit BIM / CBWD / CBWD	249	13-Feb-16	13-Dec-16	16-May-16	15-Mar-17	0%	-73	82	SM0080, CSF Block - Prepare & Submit BIM / CBWD / CBWD																					
SM0100	RDE Bldg - Prepare & Submit BIM / CBWD / CBWD	249	13-Feb-16	13-Dec-16	16-May-16	15-Mar-17	0%	-73	82	SM0100, RDE Bldg - Prepare & Submit BIM / CBWD / CBWD																					
SM0120	ICP - Prepare & Submit BIM / CBWD / CBWD	11	02-Oct-15	20-Feb-16	31-Mar-16	13-Apr-16	0%	-41	-39	SM0120, ICP - Prepare & Submit BIM / CBWD / CBWD																					
SM0140	SPS - Prepare & Submit BIM / CBWD / CBWD	0	02-Oct-15	06-Feb-16	31-Mar-16	31-Mar-16	0%	-39	835	SM0140, SPS - Prepare & Submit BIM / CBWD / CBWD																					
Facade - Design / Procurement / Delivery																															
SM0150	Award Specialist Subcontractor	0	22-Oct-15		31-Mar-16		0%	-128	835	SM0150, Award Specialist Subcontractor																					
SM0160	Facade - Schematic Design, Facade	118	15-Dec-15	06-May-16	15-Dec-15 A	24-May-16	0%	-14	10	SM0160, Facade - Schematic Design, Facade																					

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forecast / Actual Finish	% Compl.	Finish Variance	Current Float	March 2016					April 2016				May 2016				June 2016				July 2016			
										28	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12	19	26	03	10	17
SM0180	Facade - Shop Drawings	128	05-Mar-16	06-Aug-16	05-Mar-16 A	06-Aug-16	0%	0	30																					
SM0200	Facade - BD Embed Submission, consent & appvl for M+ P	422	17-Feb-16	06-Feb-17	22-Mar-16 A	06-Feb-17	0%	0	24																					
SM0240	Facade - Materials Submission	216	22-Oct-15	24-Dec-16	31-Mar-16	17-Dec-16	0%	5	32																					
SM0260	Facade - Visual Mock-Up (dwgs, ordering, sample, Insptn 8	168	27-Oct-15	18-May-16	18-Jan-16 A	04-Jun-16	0%	-15	9																					
Structural Steel - Design / Procurement / Delivery																														
SM0320	Award Specialist Subcontractor	0	02-Oct-15		31-Mar-16		0%	-144	74																					
SM0380	Steelworks - Fabrication & Delivery of Composite Column t	158	02-Mar-16	07-Jun-16	17-Feb-16 A	07-Jun-16	0%	0	2																					
SM0400	Steelworks - Fabrication & Delivery of Steel Trusses to Site	238	02-Mar-16	29-Sep-16	17-Feb-16 A	06-Oct-16	0%	-5	63																					
Building Services - Design / Procurement / Delivery																														
SM0410	Award Specialist Subcontractor	0	01-Dec-15		31-Mar-16		0%	-94	36																					
SM0420	Building Services - Shop Drawings & Materials Submission	231	01-Dec-15	07-Sep-16	01-Dec-15 A	24-Sep-16	0%	-14	77																					
Lift and Escalator - Design / Procurement / Delivery																														
SM0450	Award Specialist Subcontractor	0	01-Dec-15		31-Mar-16		0%	-94	63																					
SM0460	Lifts & Escalators - Shop Drawings & Materials Submission	207	01-Dec-15	10-Aug-16	01-Dec-15 A	07-Dec-16	0%	-99	101																					
ABWF - Design / Procurement / Delivery																														
SM0490	Award Specialist Subcontractor	0	30-Nov-15		31-Mar-16		0%	-95	626																					
SM0500	ABWF Works - Shop Drawings & Materials Submission	237	30-Nov-15	13-Sep-16	30-Nov-15 A	01-Nov-16	0%	-39	627																					
Construction																														
M+ Podium & Tower																														
M+ Foundation & Basement																														
SM1010	Excavation & ELS Works	428	02-Nov-15	07-Mar-17	02-Nov-15 A	07-Mar-17	0%	0	6																					
SM1020	Pilecaps & U/G Drainage Construction	124	09-Nov-15	30-Aug-16	04-Jan-16 A	15-Aug-16	0%	13	88																					
SM1030	B2 Slab & RC Structure to B1/F	477	17-Dec-15	24-Jun-17	25-Jan-16 A	24-Jun-17	0%	0	15																					
SM1040	B1 Slab & RC Structure to LG/F	202	19-Mar-16	18-Feb-17	15-Mar-16 A	03-Feb-17	0%	13	18																					
SPS																														
SM1465	SPS - ELS Works (Provisional)	61	11-Feb-16	26-Apr-16	31-Mar-16	14-Jun-16	0%	-39	-37																					
ICP																														
SM1415	ICP - ELS Works	134	22-Feb-16	26-Jul-16	14-Apr-16	23-Sep-16	0%	-50	-50																					
External Works																														
SM1400	M+ External Works	471	10-Dec-15	10-Nov-17	12-Apr-16	11-Nov-17	0%	0	222																					

Lyric Theatre Complex

Activity ID	Activity Name	Durr. (Days)	Baseline Start	Baseline Finish	Start Date	End Date	Physical % Complete	Finish Variance	Float (Days)	2016												2017											
										Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
F2 Foundation Works for Lyric Theatre Complex (5WRP)																																	
Summary for Major Works																																	
Pre-bored H-Pile																																	
Pre-bored H-Pile Construction																																	
LT.0087	Trial Pile and Obtain BD's Acknowledgement	18	22-Feb-16	12-Mar-16	08-Mar-16 A	09-Mar-16 A	100%	4																									
LT.0088	Pre-drilling; 57 nos.	71	20-Feb-16	20-May-16	01-Mar-16 A	03-Jun-16	80%	-12	58																								
LT.0089	Pre-bored H-Pile Construction; Rig 1, 131 nos	243	21-Mar-16	14-Jan-17	17-Mar-16 A	02-Feb-17	7.6%	-14	-11																								
LT.2225	Pre-bored H-Pile Construction; Rig 2, 134 nos	255	23-Mar-16	03-Feb-17	30-Mar-16 A	11-Feb-17	8.4%	-7	-5																								
Option Piling Works in Area 3 - Pre-bored H-Pile																																	
LT.0091	Option Area 3 Prebored H-Pile Pre-drilling; 1 no.	5	19-Apr-16	25-Apr-16	25-Jul-16	29-Jul-16	0%	-78	12																								
LT.0092	Option Area 3 Pre-bored H-Pile Construction; Rig 1, 3 nos.	14	17-Jan-17	06-Feb-17	04-Feb-17	21-Feb-17	0%	-13	-13																								
BA14 and Testing																																	
LT.0094	Submission of BA14	6	06-Mar-17	12-Mar-17	21-Mar-17	27-Mar-17	0%	-15	-15																								
LT.0095	CA's Selection of Proof Drilling Locations	14	06-Feb-17	20-Feb-17	21-Feb-17	07-Mar-17	0%	-15	-15																								
LT.0096	Proof Drilling	14	20-Feb-17	06-Mar-17	07-Mar-17	21-Mar-17	0%	-15	-15																								
LT.0097	BD's Selection of Test Piles	28	12-Mar-17	09-Apr-17	27-Mar-17	24-Apr-17	0%	-15	23																								
LT.0098	Load Testing and Submit Reports	42	09-Apr-17	21-May-17	24-Apr-17	05-Jun-17	0%	-15	24																								
LT.0099	BD's Acknowledgement	45	21-May-17	05-Jul-17	05-Jun-17	20-Jul-17	0%	-15	23																								
Bored Pile																																	
Bored Pile Construction																																	
LT.0102	Pre-drilling; 147 nos.	125	20-Feb-16	25-Jul-16	02-Mar-16 A	24-Jun-16	71%	25	63																								
LT.0103	Bored Pile Construction; RCD Rig 1, 24 nos.	244	23-Mar-16	18-Jan-17	12-Mar-16 A	30-Dec-16	15%	15	39																								
LT.1895	Bored Pile Construction; RCD Rig 2, 27 nos.	268	23-Mar-16	18-Feb-17	17-Mar-16 A	14-Feb-17	11%	4	4																								
LT.1905	Bored Pile Construction; RCD Rig 3, 25 nos.	243	30-Mar-16	19-Jan-17	21-Mar-16 A	19-Jan-17	10%	0	6																								
LT.1915	Bored Pile Construction; RCD Rig 4, 26 nos.	245	30-Mar-16	23-Jan-17	24-Mar-16 A	18-Jan-17	10%	4	24																								
LT.1925	Bored Pile Construction; RCD Rig 5, 16 nos.	200	11-Apr-16	08-Dec-16	26-Apr-16 A	24-Dec-16	2%	-14	42																								
LT.1935	Bored Pile Construction; RCD Rig 6, 14 nos.	142	02-Jul-16	17-Dec-16	02-Jul-16	17-Dec-16	0%	0	48																								
LT.1945	Bored Pile Construction; RCD Rig 7, 15 nos.	178	15-Jul-16	18-Feb-17	14-Jul-16	16-Feb-17	0%	1	2																								
LT.2215	Sonic Logging and Interface Coring Test	145	06-Sep-16	04-Mar-17	05-Sep-16	02-Mar-17	0%	2	2																								
Option Piling Works in Area 3 - Bored Pile																																	
LT.0105	Option Area 3 Bored Pile Pre-drilling; 1 nos.	4	25-Jul-16	29-Jul-16	25-Jul-16	29-Jul-16	0%	0	38																								
LT.0106	Option Area 3 Bored Pile Construction; RCD Rig 3, 1 no.	17	20-Jan-17	11-Feb-17	20-Jan-17	11-Feb-17	0%	0	6																								
BA14 and Testing																																	
LT.0108	Submission of BA14	6	04-Mar-17	11-Mar-17	03-Mar-17	09-Mar-17	0%	2	2																								
LT.0109	BD's Selection of Test Piles	28	11-Mar-17	08-Apr-17	10-Mar-17	07-Apr-17	0%	2	2																								
LT.0110	Concrete Coring Test and Submit Reports	24	08-Apr-17	12-May-17	07-Apr-17	11-May-17	0%	1	2																								
LT.0111	BD's Acknowledgement	45	12-May-17	26-Jun-17	11-May-17	25-Jun-17	0%	2	49																								
BA14 and Testing at Area 6 if Option is Exercised																																	
LT.0113	Submission of BA14	3	10-Feb-17	14-Feb-17	06-Feb-17	09-Feb-17	0%	3	26																								
LT.0114	BD's Selection of Test Piles	14	14-Feb-17	28-Feb-17	10-Feb-17	23-Feb-17	0%	4	41																								
LT.0115	Concrete Coring Test and Submit Reports	15	28-Feb-17	17-Mar-17	23-Feb-17	13-Mar-17	0%	3	34																								
Excavation and Lateral Support																																	
Pipe Pile																																	
LT.0120	Pre-grouting Works at Seawall Area; Portion L01, M15, M16 and M39	40	05-Mar-16	26-Apr-16	05-Mar-16 A	08-Apr-16 A	100%	16																									
LT.0121	Pre-grouting Works at Portion M14 & L05 (105nos), L07 (47nos) & L03 (17nos)	101	30-Jun-16	31-Oct-16	18-Apr-16 A	28-Jul-16	28%	78	117																								
LT.0122	Pipe Pile Construction and Grout Curtain; 641 nos.	215	18-Mar-16	07-Dec-16	13-Mar-16 A	08-Dec-16	14.5%	-1	38																								
Sheet Piles																																	
LT.0124	Sheet Piles Installation in Area 6; 3,112m2	67	20-May-16	26-Sep-16	09-Jul-16	26-Sep-16	0%	-1	0																								
BA14																																	
LT.0126	Submission of BA14 for Stage 1 ELS Sheet Piling Works at Area 6	2	27-Sep-16	28-Sep-16	27-Sep-16	28-Sep-16	0%	0	0																								
LT.0127	BD's Acknowledgement	14	28-Sep-16	12-Oct-16	28-Sep-16	12-Oct-16	0%	0	0																								
LT.0128	Submission of BA14 for Stage 1 ELS Sheet Piling Works at Area 1 to 5	2	10-Dec-16	12-Dec-16	09-Dec-16	10-Dec-16	0%	1	38																								
LT.0129	BD's Acknowledgement	14	12-Dec-16	26-Dec-16	10-Dec-16	24-Dec-16	0%	2	48																								
Pumping Test																																	
LT.0131	Install Area 1 to Area 5 Pumping Test Instrumentation & Wells (14 PW + 28 OW) and Submission of Initial Readir	22	21-Nov-16	15-Dec-16	11-Nov-16	06-Dec-16	0%	8	51																								
LT.0132	Carry Out Pumping Test in Area 1 to Area 5 and Submission to BD	16	26-Dec-16	11-Jan-17	24-Dec-16	09-Jan-17	0%	2	48																								
LT.0133	Obtain BD's Acknowledgement of Area 1 to 5 Pumping Test Results	14	11-Jan-17	25-Jan-17	09-Jan-17	23-Jan-17	0%	2	48																								
LT.0134	Install Area 6 Pumping Test Instrumentation & Wells (3 PW + 6 OW) and Submission of Initial Readings	21	02-Nov-16	26-Nov-16	02-Nov-16	26-Nov-16	0%	0	60																								
LT.0135	Carry Out Pumping Test in Area 6 and submission to BD	16	24-Jan-17	08-Feb-17	18-Jan-17	03-Feb-17	0%	5	23																								
LT.0136	Obtain BD's Acknowledgement of Area 6 Pumping Test Results	14	09-Feb-17	22-Feb-17	03-Feb-17	17-Feb-17	0%	5	23																								
Option Stage 2 ELS and Excavation Works at Area 6																																	
LT.0138	Bulk Excavation and Installation of Struts	101	26-Apr-17	26-Aug-17	22-Apr-17	23-Aug-17	0%	2	3																								
LT.0139	Trim Pile Head and Clearance	28	26-Aug-17	27-Sep-17	23-Aug-17	25-Sep-17	0%	2	14																								
BA14 for Option Stage 2 ELS and Excavation Works at Area 6																																	
LT.0141	Submission of BA14 for Stage 2 ELS and Excavation Works at Area 6	2	26-Aug-17	29-Aug-17	25-Aug-17	26-Aug-17	0%	1	2																								
LT.0142	BD's Acknowledgement	45	29-Aug-17	13-Oct-17	27-Aug-17	10-Oct-17	0%	2	3																								

- Project Baseline Bar
- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone

WEST KOWLOON CULTURAL DISTRICT AUTHORITY
FOUNDATION WORKS FOR LYRIC THEATRE COMPLEX
AND THE EXTENDED BASEMENT IN ZONE 3B
SUMMARY PROGRAMME BASED ON
CONSTRUCTION WORKS PROGRAMME - REV. "0"



Date	Revision	Checked	Approved
29-Apr-16	For Information	R.L.	A.W.

Appendix C. Environmental Mitigation Measures – Implementation Status

Table C-1: Environmental Mitigation Measures Implementation Status

EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
Air Quality Impact (Construction)							
2.1 & 10.3.1	General Dust Control Measures Frequent water spraying for active construction areas (12 times a day or once every one hour), including Heavy construction activities such as construction of buildings or roads, drilling, ground excavation, cut and fill operations (i.e., earth moving)	✓	Rem	✓	N/A	✓	✓
2.1 & 10.3.1	Best Practice For Dust Control The relevant best practices for dust control as stipulated in the Air Pollution Control (construction Dust) Regulation should be adopted to further reduce the construction dust impacts from the Project. These best practices include: <i>Good Site Management</i> <ul style="list-style-type: none"> Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning. <i>Disturbed Parts of the Roads</i> <ul style="list-style-type: none"> Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet. <i>Exposed Earth</i> <ul style="list-style-type: none"> Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seeding 	Obs/Rem	✓	Obs	N/A	Obs	✓
		✓	✓	✓	N/A	✓	✓
		✓	✓	✓	N/A	Rem	✓

EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
	with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies.	N/A	N/A	N/A	N/A	N/A	N/A
	<i>Loading, Unloading or Transfer of Dusty Materials</i>						
	<ul style="list-style-type: none"> All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. 	✓	✓	✓	N/A	✓	✓
	<i>Debris Handling</i>						
	<ul style="list-style-type: none"> Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides. Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. 	✓	✓	✓	N/A	✓	✓
	<i>Transport of Dusty Materials</i>						
	<ul style="list-style-type: none"> Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. 	✓	✓	✓	N/A	✓	✓
	<i>Wheel washing</i>						
	<ul style="list-style-type: none"> Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. 	✓	✓	✓	N/A	✓	✓
	<i>Use of vehicles</i>						
	<ul style="list-style-type: none"> The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle. 	✓	✓	✓	N/A	✓	✓
	<i>Site hoarding</i>						
	<ul style="list-style-type: none"> Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of 	✓	✓	✓	N/A	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
	the site boundary except for a site entrance or exit.						
2.1 & 10.3.1	<p>Best Practicable Means for Cement Works (Concrete Batching Plant)</p> <p>The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93) should be followed and implemented to further reduce the construction dust impacts of the Project. These best practices include:</p> <p>Exhaust from Dust Arrestment Plant</p> <ul style="list-style-type: none"> Wherever possible the final discharge point from particulate matter arrestment plant, where is not necessary to achieve dispersion from residual pollutants, should be at low level to minimise the effect on the local community in the case of abnormal emissions and to facilitate maintenance and inspection <p>Emission Limits</p> <ul style="list-style-type: none"> All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist or smoke <p>Engineering Design/Technical Requirements</p> <ul style="list-style-type: none"> As a general guidance, the loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should be carried out in a manner so as to prevent the release of visible dust and/or other noxious or offensive emissions 	✓	✓	✓	N/A	✓	✓
-	<p>Non-Road Mobile Machinery (NRMM):</p> <p>All NRMMs operating on-site which are subject to emission control of Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation are approved/exempted (as the case may be) and affixed with the requisite approval/exemption labels.</p>	✓	✓	✓	N/A	Rem	✓
Noise Impact (Construction)							
3.1 & 10.4.1	<p>Good Site Practice</p> <p>Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction:</p> <ul style="list-style-type: none"> only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; machines and plant that may be in intermittent use to be shut down between work periods or should be 	✓	✓	✓	N/A	✓	Rem
		✓	✓	✓	N/A	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
	throttled down to a minimum; <ul style="list-style-type: none"> ▪ plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; ▪ mobile plant should be sited as far away from NSRs as possible; and ▪ material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities. 	✓	✓	✓	N/A	✓	✓
3.1 & 10.4.1	Adoption of Quieter PME The recommended quieter PME adopted in the assessment were taken from the EPD's QPME Inventory and "Sound Power Levels of Other Commonly Used PME" are presented in Table 4.26 in the EIA report. It should be noted that the silenced PME selected for assessment can be found in Hong Kong.	N/A	N/A	N/A	N/A	N/A	N/A
3.1 & 10.4.1	Use of Movable Noise Barriers Movable noise barriers can be very effective in screening noise from particular items of plant when constructing the Project. Noise barriers located along the active works area close to the noise generating component of a PME could produce at least 10 dB(A) screening for stationary plant and 5 dB(A) for mobile plant provided the direct line of sight between the PME and the NSRs is blocked.	✓	✓	✓	N/A	✓	✓
3.1 & 10.4.1	Use of Noise Enclosure/ Acoustic Shed The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the EIAO Guidance Note No.9/2010.	N/A	N/A	N/A	N/A	N/A	N/A
3.1 & 10.4.1	Use of Noise Insulating Fabric Noise insulating fabric can also be adopted for certain PME (e.g. drill rig, piling machine etc). The fabric should be lapped such that there are no openings or gaps on the joints. According to the approved Tsim Sha Tsui Station Northern Subway EIA report (AEIAR-127/2008), a noise reduction of 10 dB(A) can be achieved for the PME lapped with the noise insulating fabric.	✓	✓	✓	N/A	✓	✓
3.1 & 10.4.1	Scheduling of Construction Works outside School Examination Periods During construction phase, the contractor should liaise with the educational institutions (including NSRs LCS and CRGPS) to obtain the examination schedule and avoid the noisy construction activities during school examination periods.	N/A	N/A	N/A	N/A	N/A	N/A
Water Quality Impact (Construction)							
4.1 &	Construction site runoff and drainage						

EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
10.5.1	<p>The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and sensitive uses of the coastal area, and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts:</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 should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the WKCDA's Contractor prior to the commencement of construction; Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the WKCDA's Contractor prior to the commencement of construction. 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 during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities. 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 facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly 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. Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction 	Obs/Rem	Obs	✓	N/A	✓	✓
		✓	✓	✓	N/A	✓	Rem
		✓	✓	Rem	N/A	✓	Rem
		✓	✓	✓	N/A	✓	✓
		✓	Obs	✓	N/A	Rem	✓
		Obs/Rem	✓	✓	N/A	Obs	✓

EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
	materials, soil, silt or debris into any drainage system.						
	<ul style="list-style-type: none"> Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers. 	✓	✓	✓	N/A	✓	✓
	<ul style="list-style-type: none"> Precautions should be taken at any time of the year when rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC Note 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. 	✓	✓	✓	N/A	✓	✓
	<ul style="list-style-type: none"> Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should 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 Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries. 	N/A	N/A	N/A	N/A	N/A	N/A
	Barging facilities and activities						
	Recommendations for good site practices during operation of the proposed barging point include:						
	<ul style="list-style-type: none"> All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; 	N/A	N/A	N/A	N/A	N/A	N/A
	<ul style="list-style-type: none"> Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation; 	N/A	N/A	N/A	N/A	N/A	N/A
	<ul style="list-style-type: none"> All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and 	N/A	N/A	N/A	N/A	N/A	N/A
	<ul style="list-style-type: none"> Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site. 	N/A	N/A	N/A	N/A	N/A	N/A
4.1 & 10.5.1	Sewage effluent from construction workforce						
	Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	✓	✓	✓	N/A	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
4.1 & 10.5.1	General construction activities						
	<ul style="list-style-type: none"> ▪ Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used. ▪ Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event. 	Obs/Rem	✓	✓	N/A	Obs	✓
		Obs	Obs	Obs	N/A	Obs	Obs/Rem
Waste Management Implications (Construction)							
6.1 & 10.7.1	Good Site Practices						
	Recommendations for good site practices during the construction activities include:						
	<ul style="list-style-type: none"> ▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site 	✓	✓	✓	N/A	✓	✓
	<ul style="list-style-type: none"> ▪ Training of site personnel in proper waste management and chemical handling procedures 	✓	✓	✓	N/A	✓	✓
	<ul style="list-style-type: none"> ▪ Provision of sufficient waste disposal points and regular collection of waste 	✓	✓	✓	N/A	✓	✓
	<ul style="list-style-type: none"> ▪ Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers 	✓	✓	✓	N/A	✓	✓
	<ul style="list-style-type: none"> ▪ Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads 	✓	✓	✓	N/A	✓	✓
	<ul style="list-style-type: none"> ▪ Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&D materials is not anticipated 	✓	✓	✓	N/A	✓	✓
6.1 & 10.7.1	Waste Reduction Measures						
	Recommendations to achieve waste reduction include:						
	<ul style="list-style-type: none"> ▪ Sort inert C&D material to recover any recyclable portions such as metals ▪ Segregation and storage of different types of waste in different containers or skips to enhance reuse or recycling of materials and their proper disposal 	✓	✓	✓	N/A	✓	✓
		✓	✓	✓	N/A	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
	<ul style="list-style-type: none"> ▪ Encourage collection of recyclable waste such as waste paper and aluminium cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force ▪ Proper site practices to minimise the potential for damage or contamination of inert C&D materials ▪ Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste 	✓	✓	✓	N/A	✓	✓
6.1 & 10.7.1	<p>Inert and Non-inert C&D Materials</p> <p>In order to minimise impacts resulting from collection and transportation of inert C&D material for off-site disposal, the excavated materials should be reused on-site as fill material as far as practicable. In addition, inert C&D material generated from excavation works could be reused as fill materials in local projects that require public fill for reclamation.</p> <ul style="list-style-type: none"> ▪ The surplus inert C&D material will be disposed of at the Government's PFRFs for beneficial use by other projects in Hong Kong. ▪ Liaison with the CEDD Public Fill Committee (PFC) on the allocation of space for disposal of the inert C&D materials at PFRF is underway. No construction work is allowed to proceed until all issues on management of inert C&D materials have been resolved and all relevant arrangements have been endorsed by the relevant authorities including PFC and EPD. ▪ The C&D materials generated from general site clearance should be sorted on site to segregate any inert materials for reuse or disposal of at PFRFs whereas the non-inert materials will be disposed of at the designated landfill site. ▪ In order to monitor the disposal of inert and non-inert C&D materials at respectively PFRFs and the designated landfill site, and to control fly-tipping, it is recommended that the Contractor should follow the Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials issued by Development Bureau. In addition, it is also recommended that the Contractor should prepare and implement a Waste Management Plan detailing their various waste arising and waste management practices in accordance with the relevant requirements of the Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site. 	✓	✓	✓	N/A	✓	✓
6.1 & 10.7.1	<p>Chemical Waste</p> <ul style="list-style-type: none"> ▪ If chemical wastes are produced at the construction site, the Contractor will be required to register with the 						

EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
	EPD as a chemical waste producer and to follow the guidelines stated in the “Code of Practice on the Packaging Labelling and Storage of Chemical Wastes”. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor should use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Obs	✓	Obs	N/A	✓	Obs
	<ul style="list-style-type: none"> Potential environmental impacts arising from the handling activities (including storage, collection, transportation and disposal of chemical waste) are expected to be minimal with the implementation of appropriate mitigation measures as recommended. 	Obs	Obs	✓	N/A	Obs	✓
6.1 & 10.7.1	General Refuse General refuse should be stored in enclosed bins or compaction units separated from inert C&D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	✓	✓	✓	N/A	✓	✓
Land Contamination (Construction)							
7.1 & 10.8.1	The potential for land contamination issues at the TST Fire Station due to its future relocation will be confirmed by site investigation after land acquisition. Where necessary, mitigation measures for minimising potential exposure to contaminated materials (if any) or remediation measures will be identified. If contaminated land is identified (e.g., during decommissioning of fuel oil storage tanks) after the commencement of works, mitigation measures are proposed in order to minimise the potentially adverse effects on the health and safety of construction workers and impacts arising from the disposal of potentially contaminated materials. The following measures are proposed for excavation and transportation of contaminated material:						
	<ul style="list-style-type: none"> To minimize the chance for construction workers to come into contact with any contaminated materials, bulk earth-moving excavation equipment should be employed; 	N/A	N/A	N/A	N/A	N/A	N/A
	<ul style="list-style-type: none"> Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when interacting directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site; 	N/A	N/A	N/A	N/A	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
Table 9.1 & 10.8 (CM4)	Softscape treatments such as vertical green wall panel /planting of climbing and/or weeping plants, etc, to maximize the green coverage and soften the hard architectural and engineering structures and facilities.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 & 10.8 (CM5)	Roof greening by means of intensive and extensive green roof to maximize the green coverage and improve aesthetic appeal and visual quality of the building/structure.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 & 10.8 (CM6)	Sensitive streetscape design should be incorporated along all new roads and streets.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 & 10.8 (CM7)	Structure, ornamental planting shall be provided along amenity strips to enhance the landscape quality.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 & 10.8 (CM8)	Landscape design shall be incorporated to architectural and engineering structures in order to provide aesthetically pleasing designs.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 (CM9)	Minimize the structure of marine facilities to built on the seabed and foreshore in order to minimize the affected extent to the waterbody	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.2 & 10.9 (MCP1)	Use of decorative screen hoarding/boards	✓	✓	✓	N/A	✓	✓
Table 9.2 & 10.9 (MCP2)	Early introduction of landscape treatments	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.2 & 10.9 (MCP3)	Adoption of light colour for the temporary ventilation shafts for the basement during the transition period.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.2 & 10.9 (MCP4)	Control of night time lighting	✓	✓	✓	N/A	✓	✓

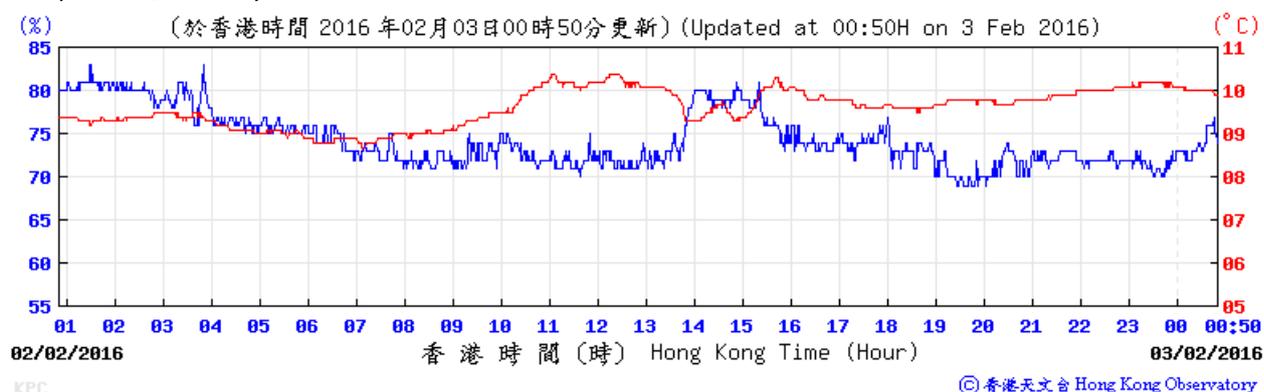
EM&A Ref.	Recommendation Measures	Implementation Stage					
		M+ Museum			Lyric Theatre Complex		
		Feb 2016	Mar 2016	Apr 2016	Feb 2016	Mar 2016	Apr 2016
Table 9.2 & 10.9 (MCP5)	Use of greenery such as grass cover for the temporary open areas will help achieve the visual balance and soften the hard edges of the structures.	N/A	N/A	N/A	N/A	N/A	N/A

- N/A - Not Applicable
- ✓ - Implemented
- Obs - Observed
- Rem - Reminder

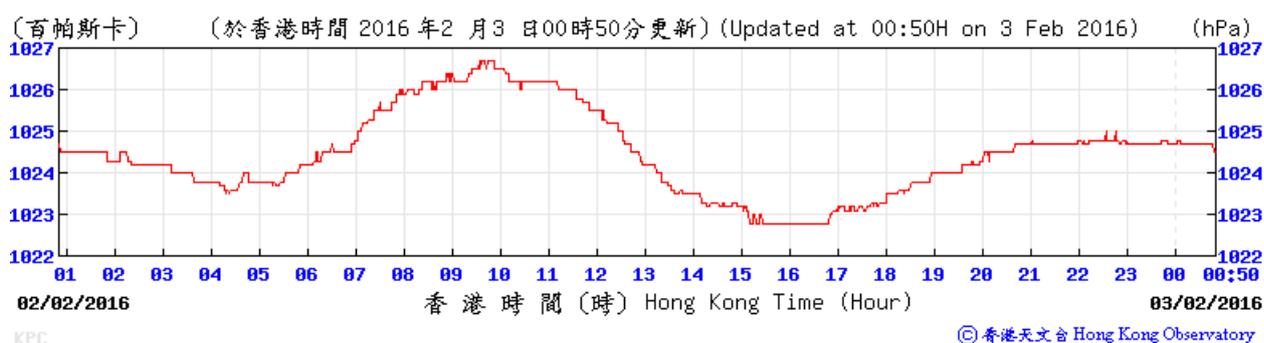
Appendix D. Meteorological Data Extracted from Hong Kong Observatory

Table D-1: Extract of Meteorological Observations for King's Park Automatic Weather Station in the reporting quarter

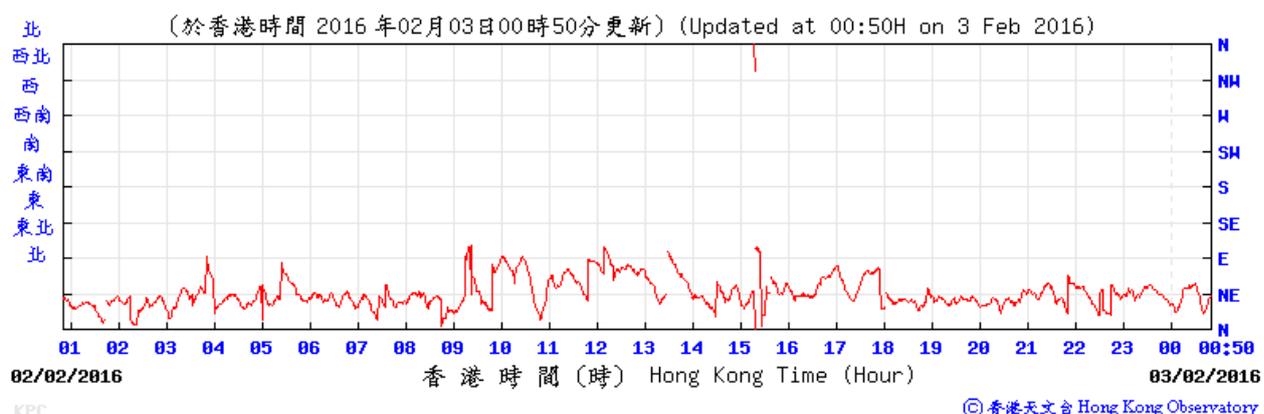
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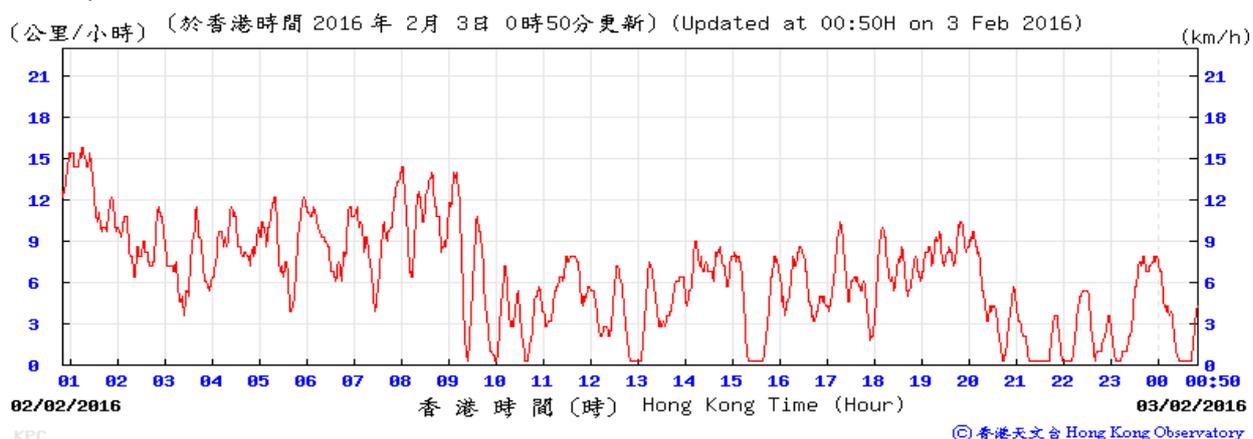
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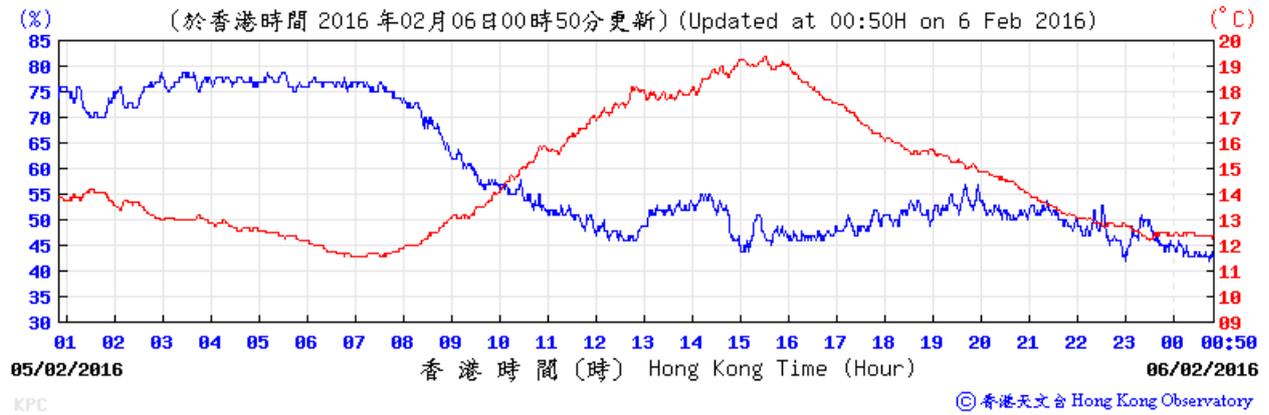
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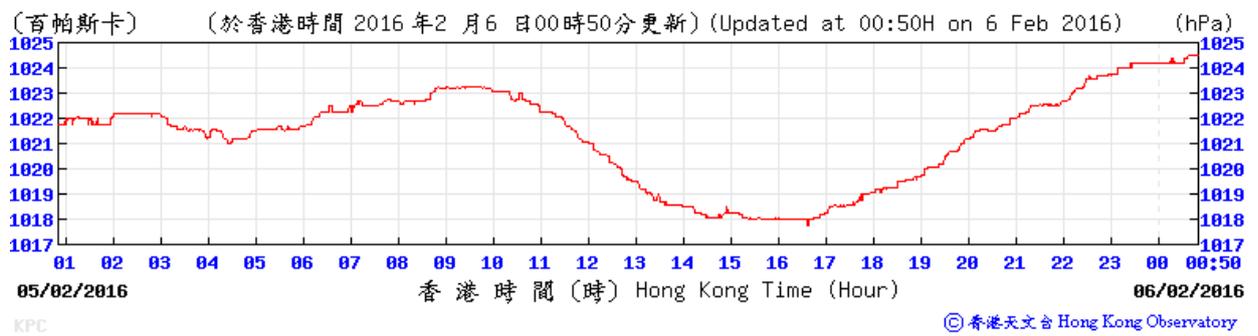
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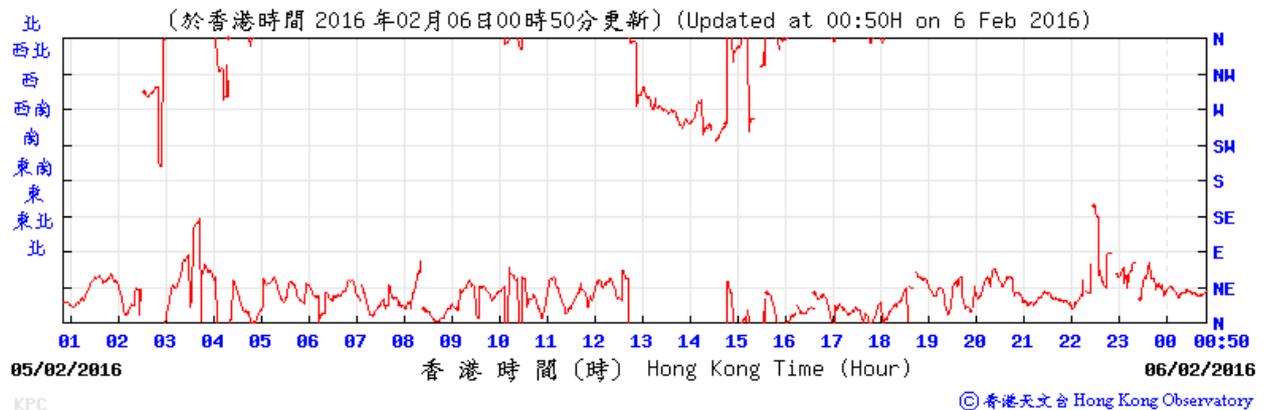
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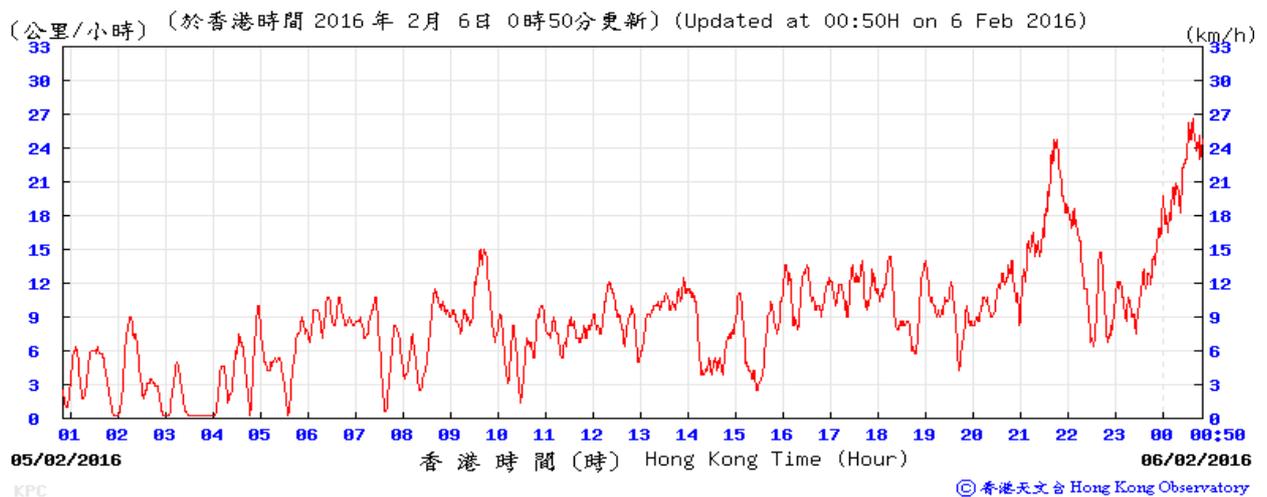
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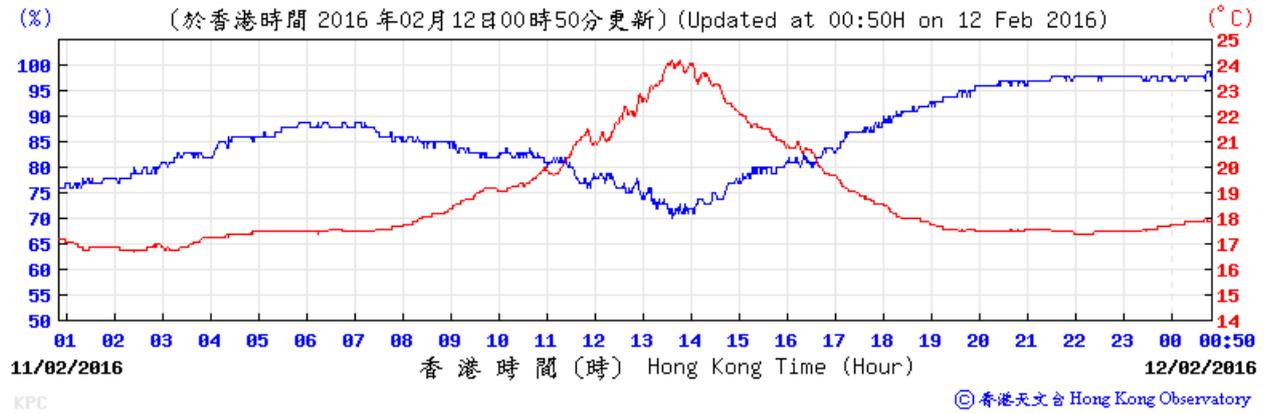
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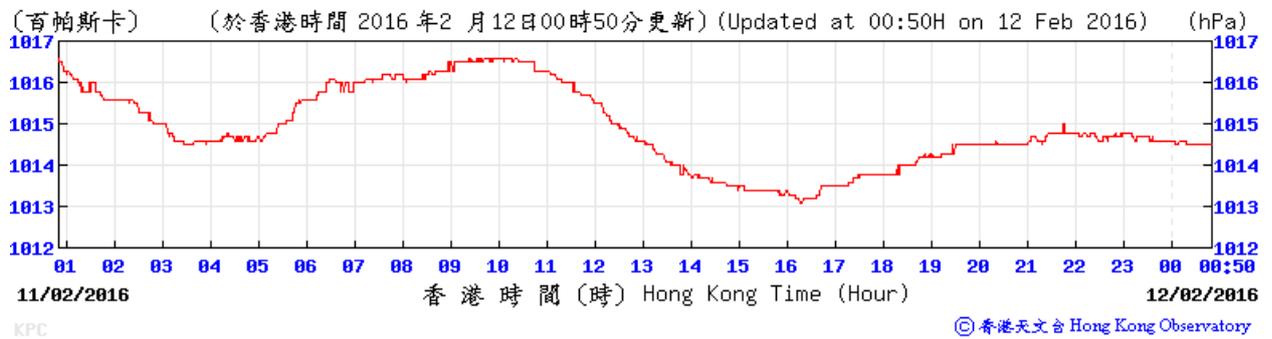
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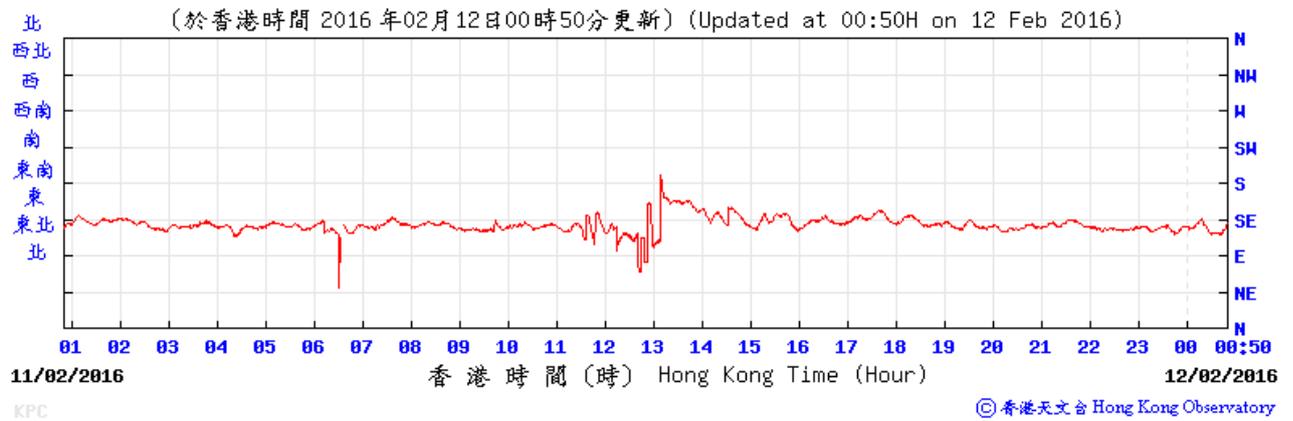
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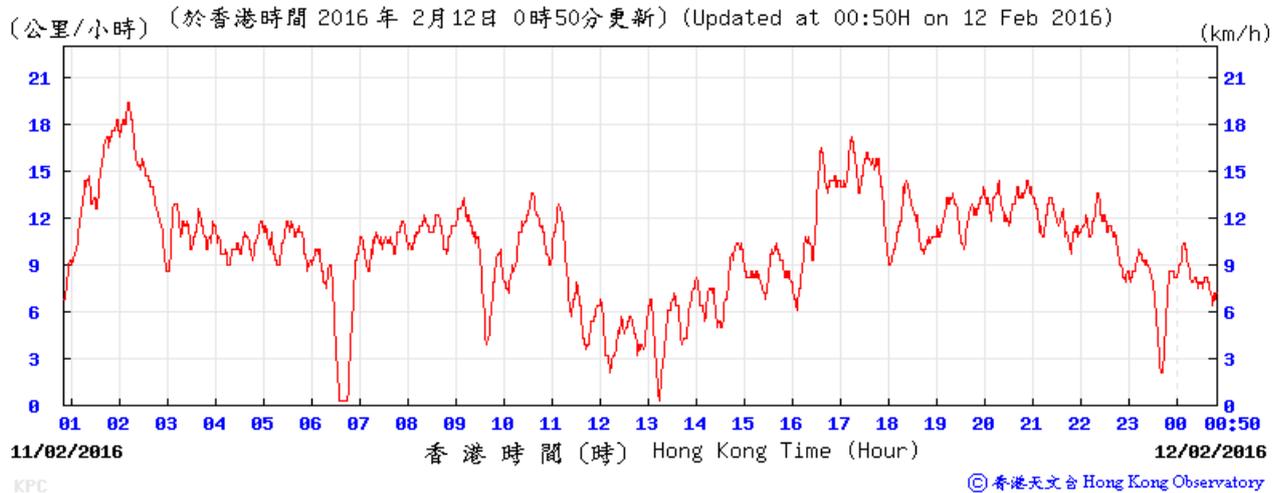
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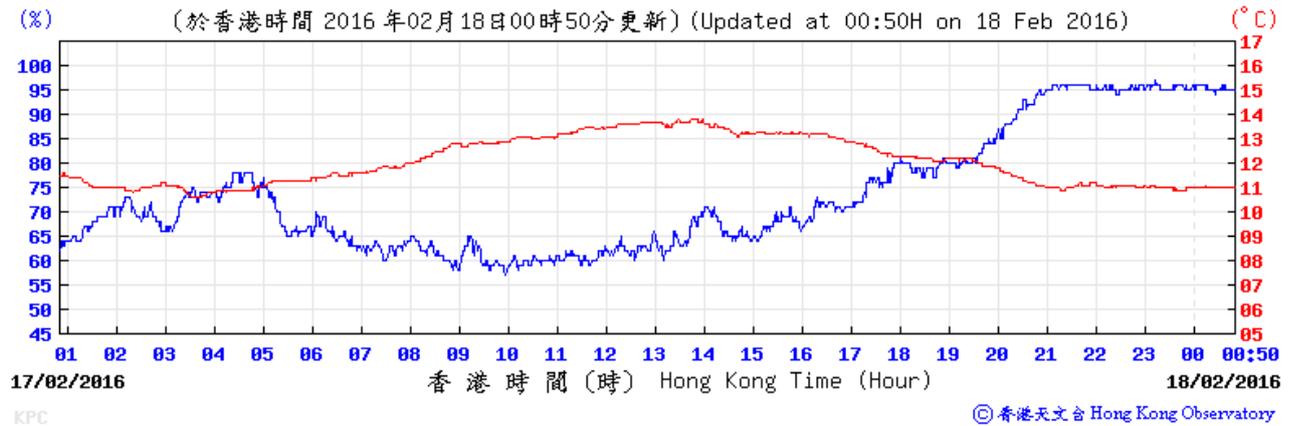
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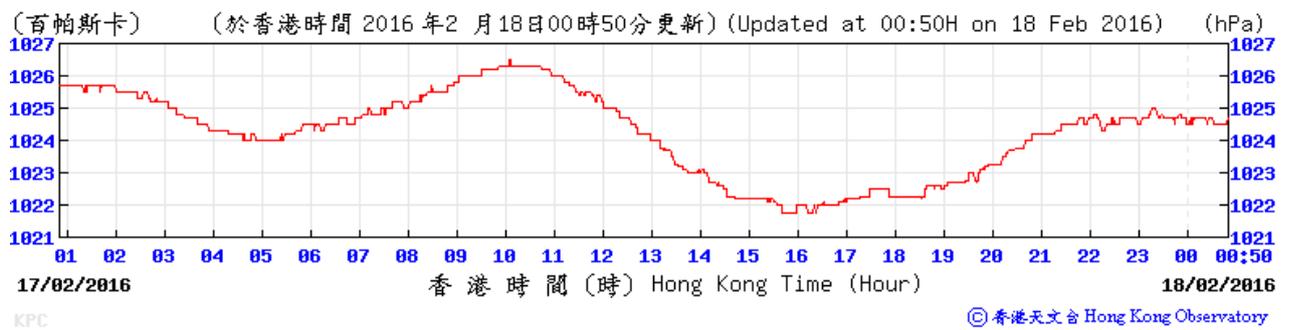
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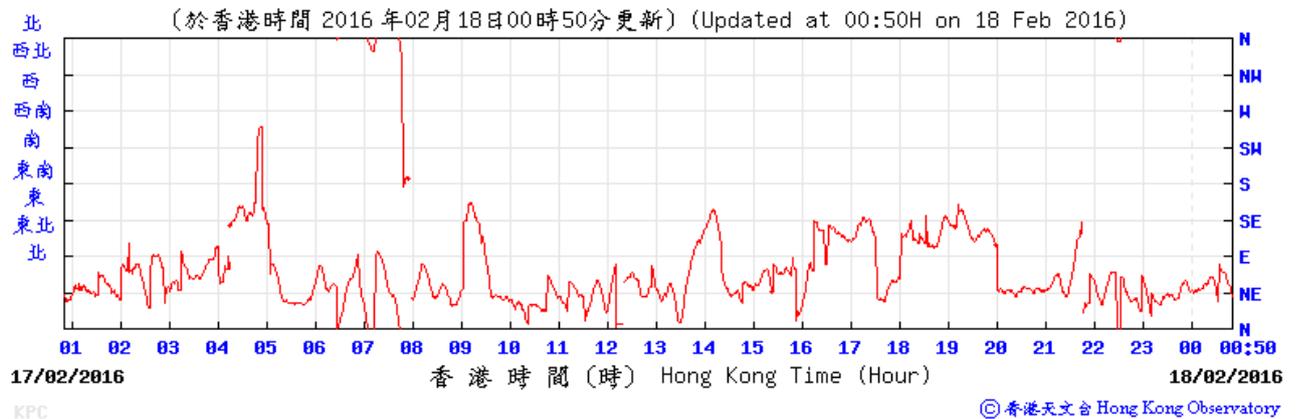
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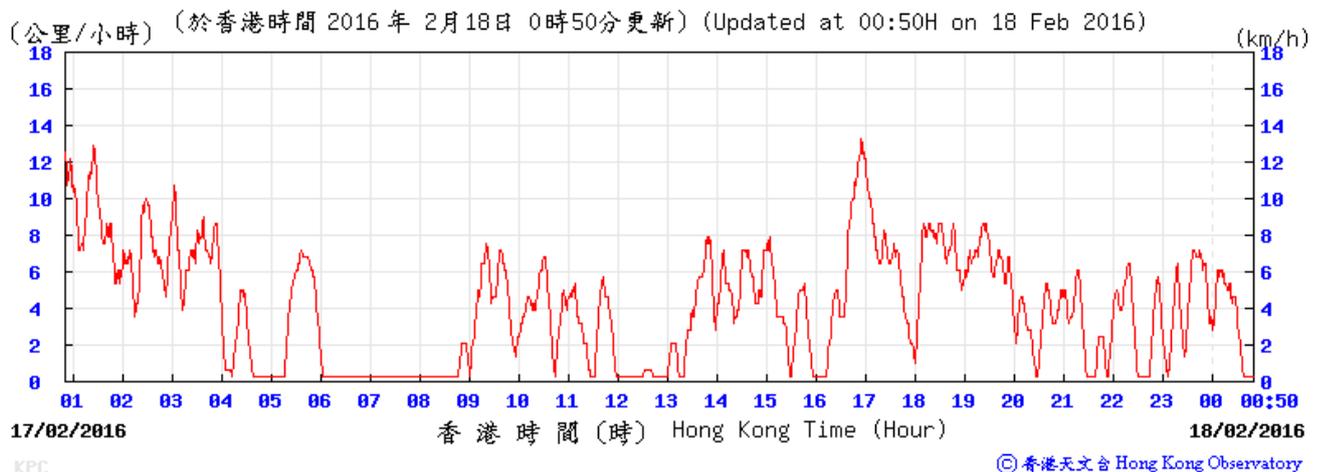
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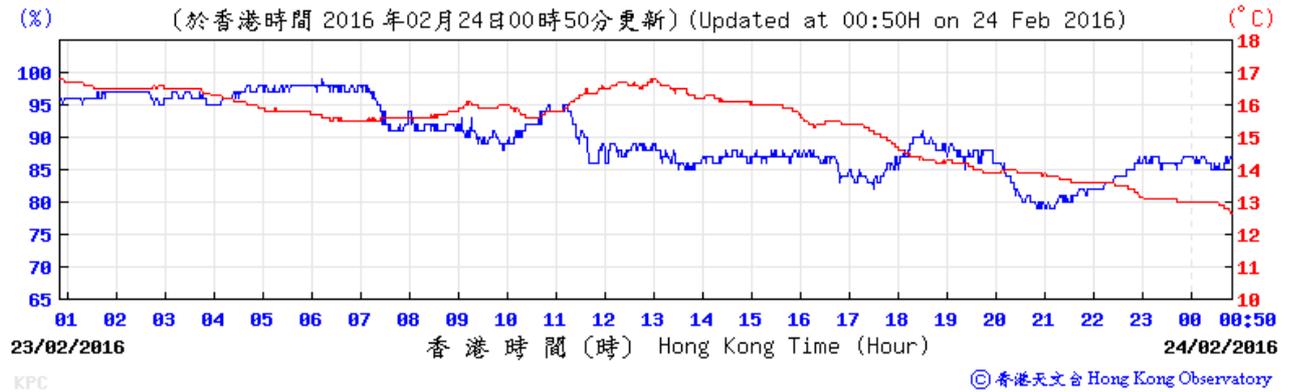
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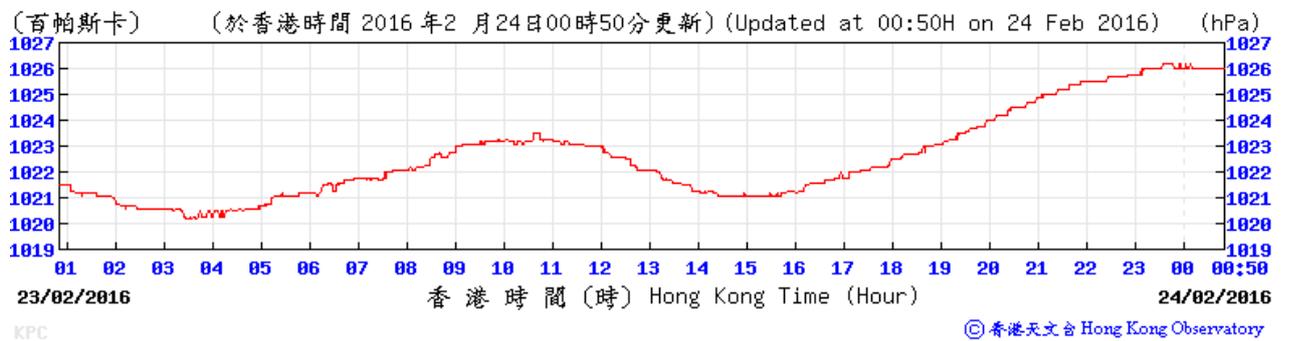
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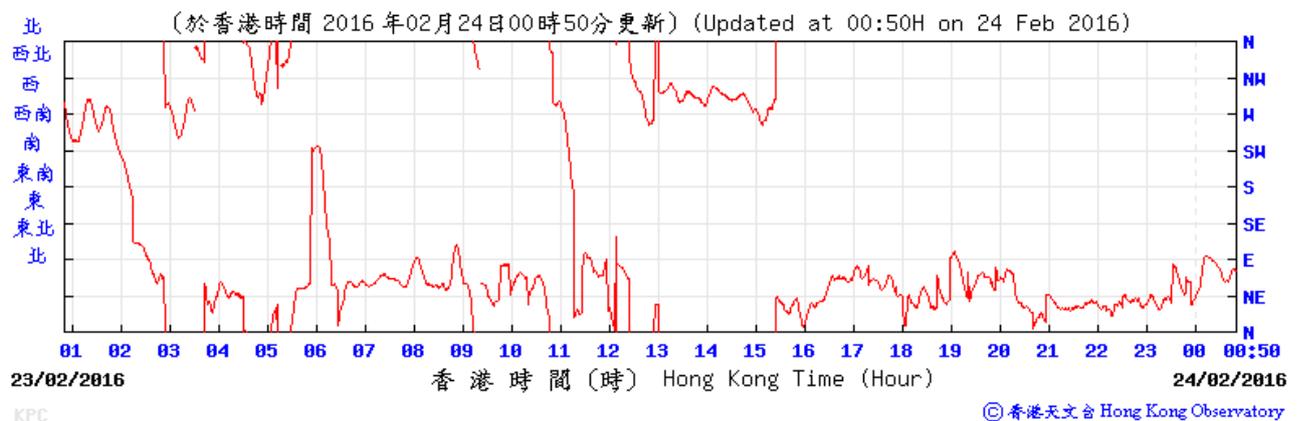
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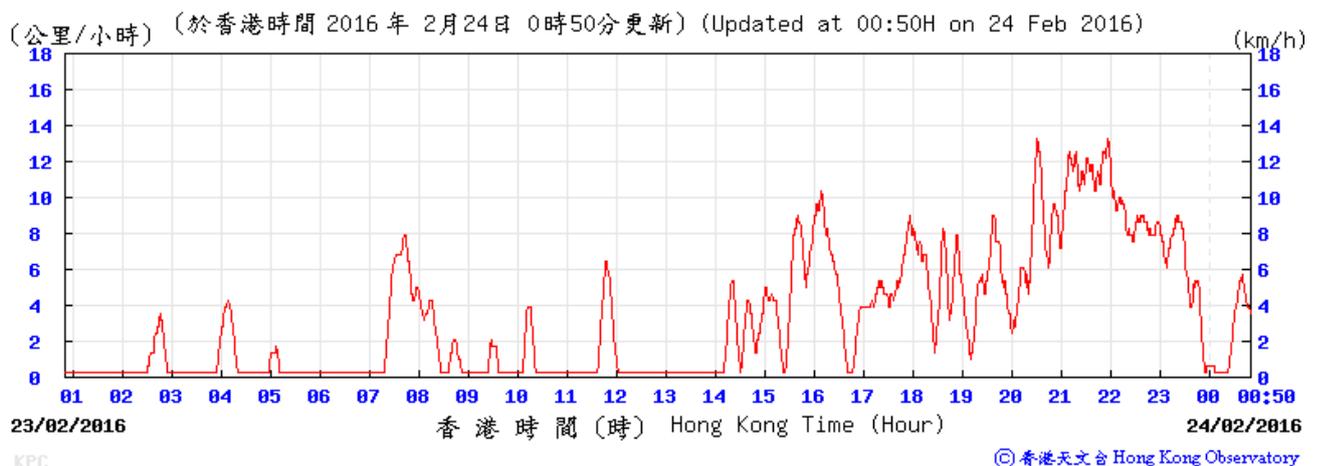
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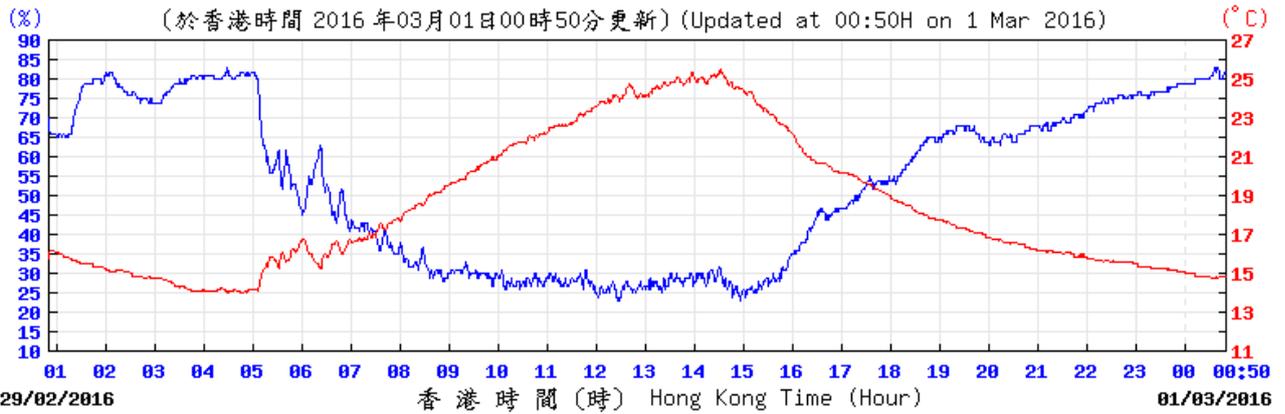
Wind Direction:



Wind Speed:



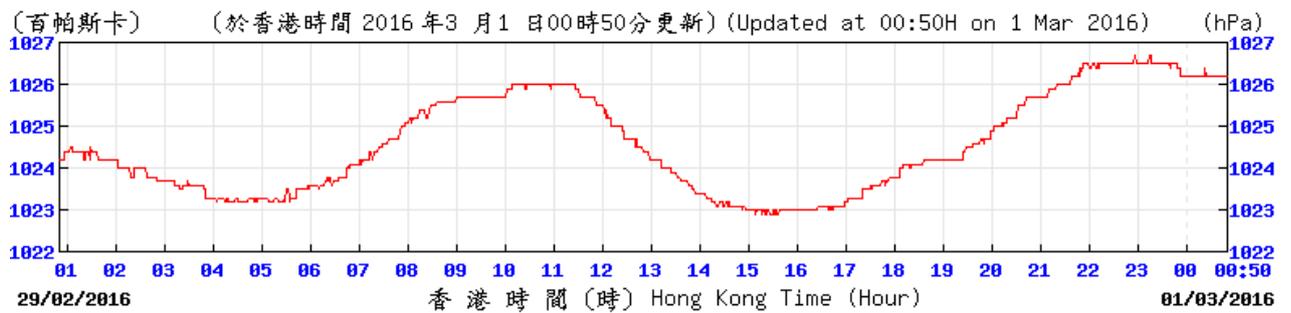
Temperature/Humidity:



KPC

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Pressure:



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Wind Direction:



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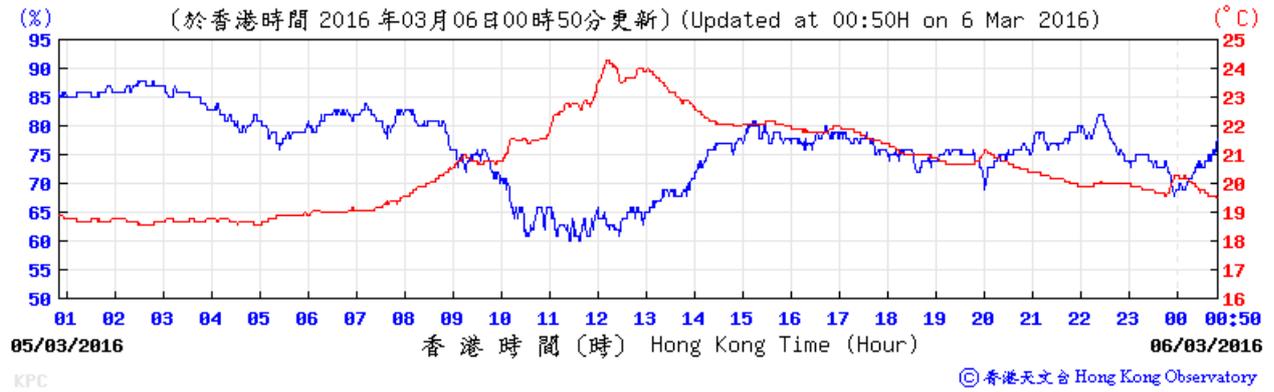
Wind Speed:



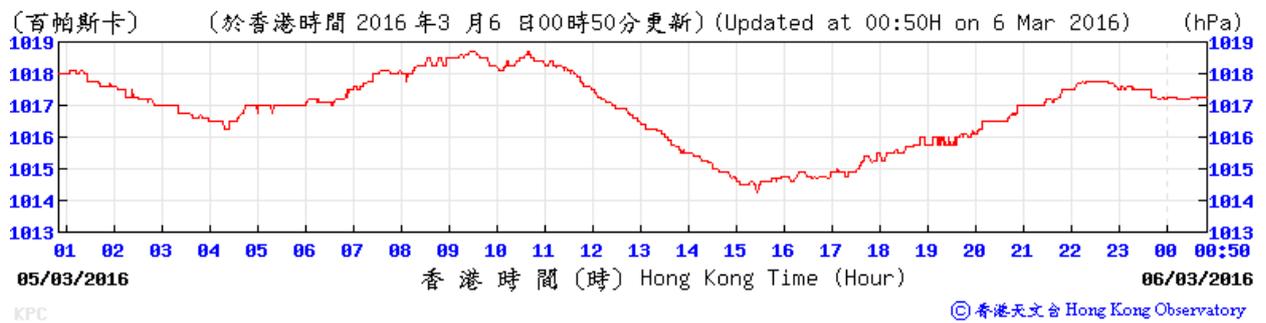
KPC

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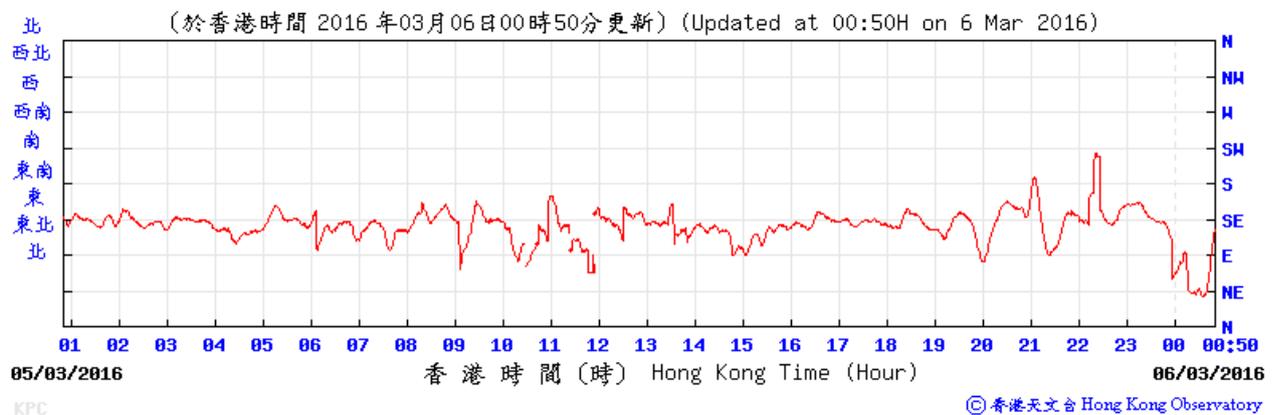
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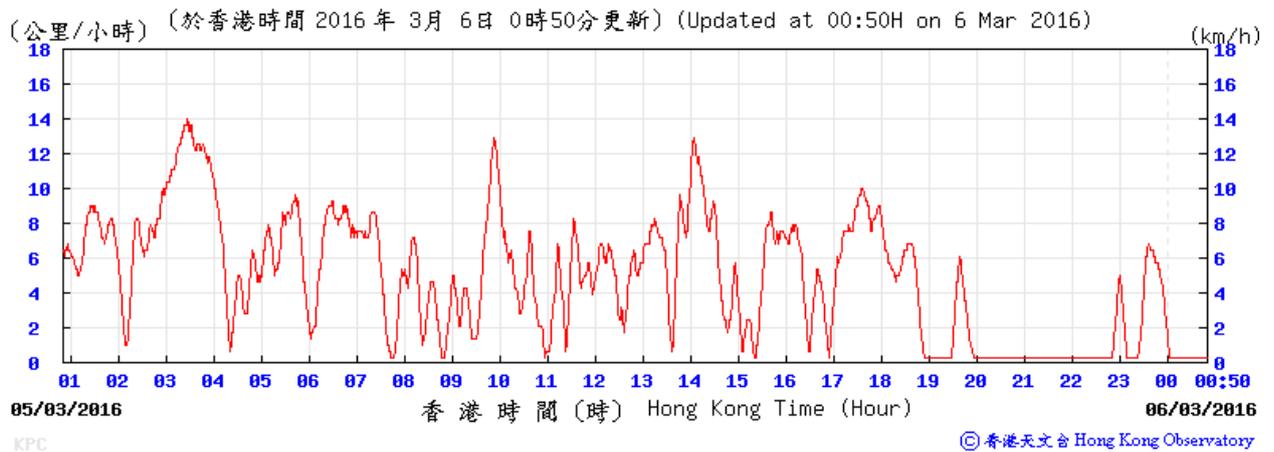
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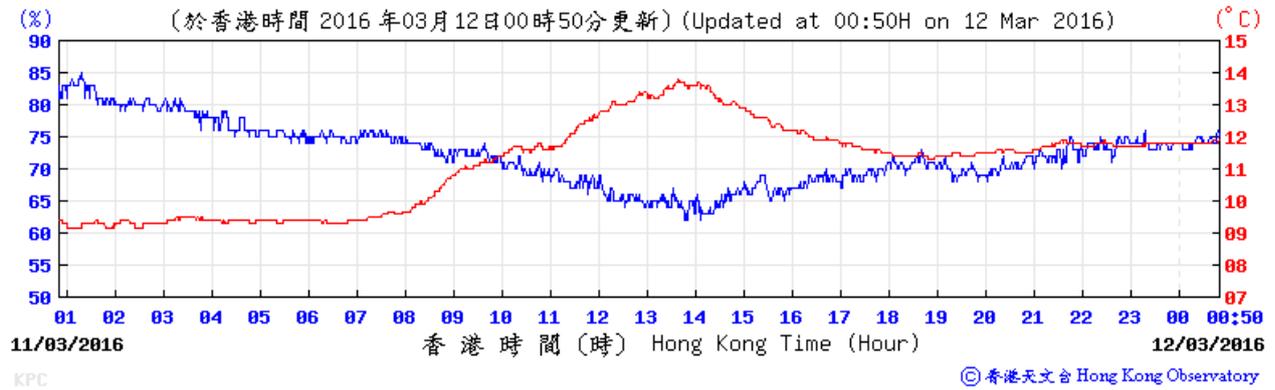
Wind Direction:



Wind Speed:



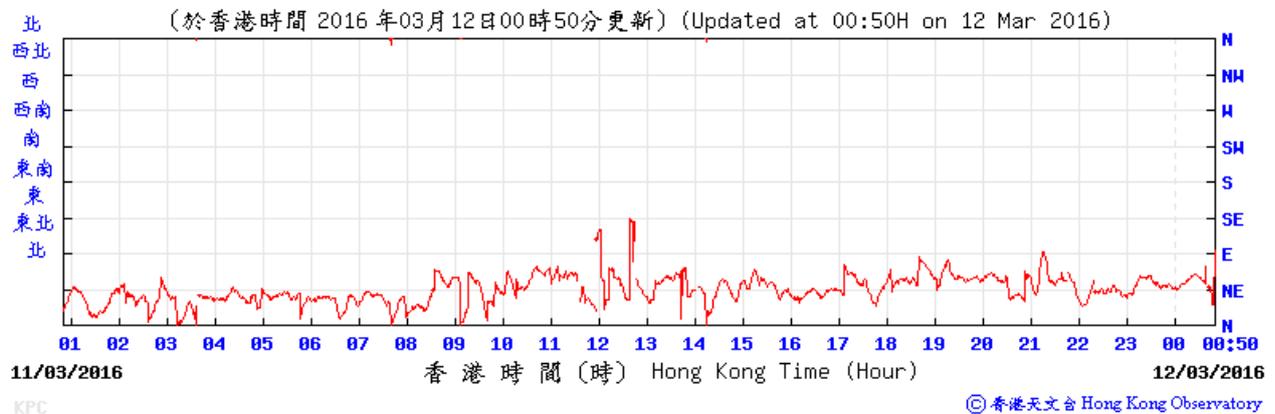
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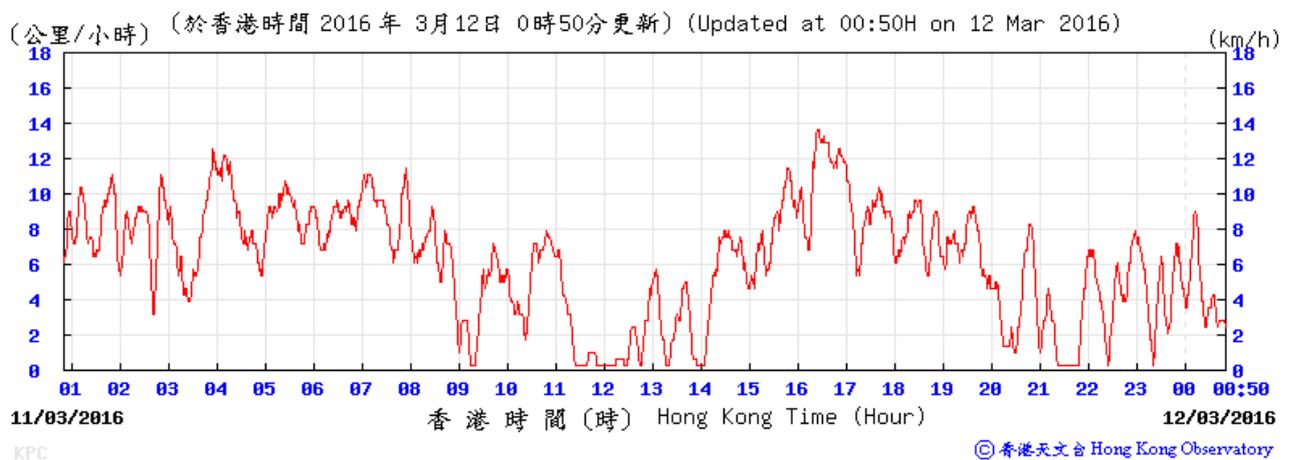
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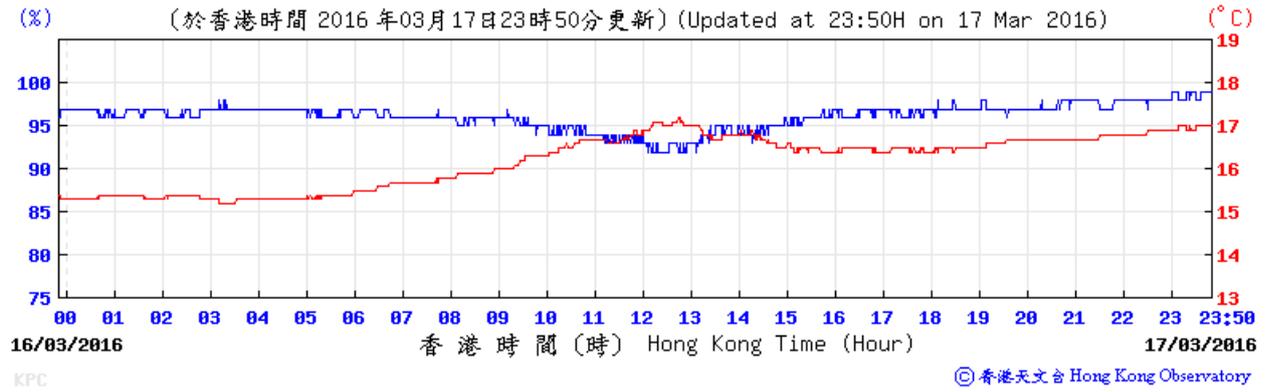
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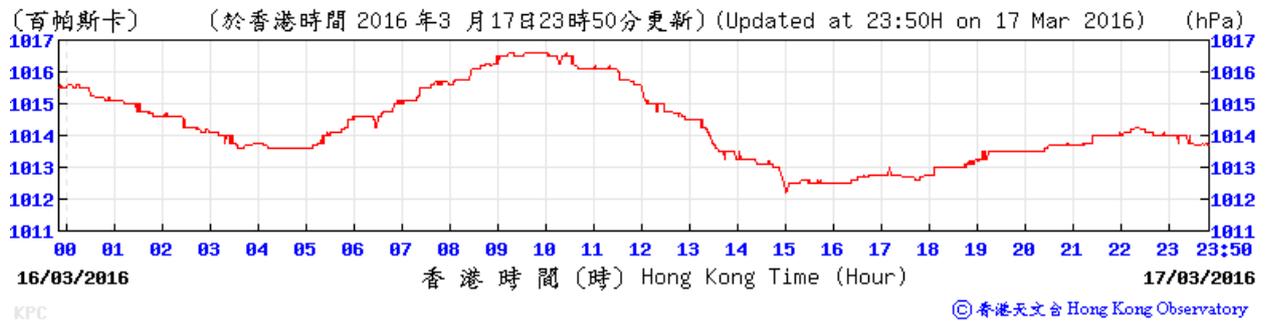
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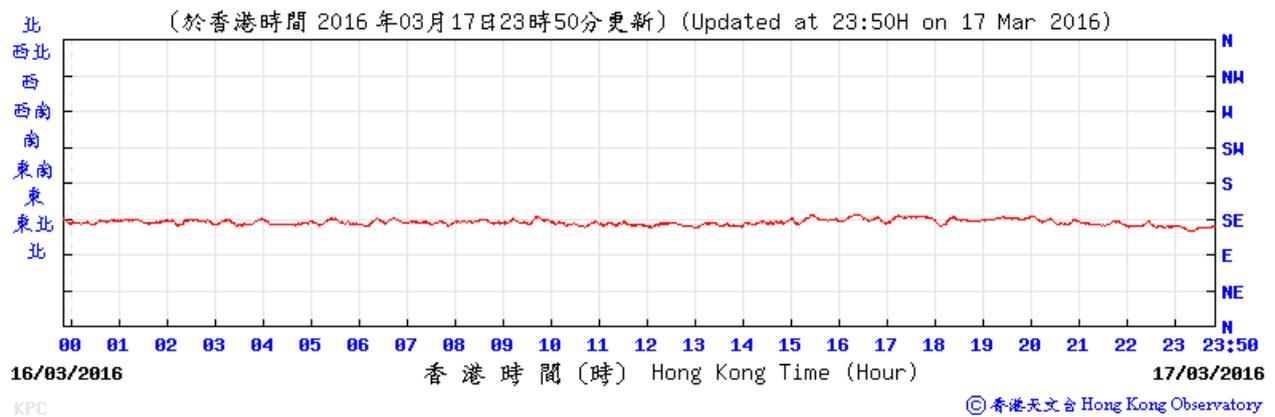
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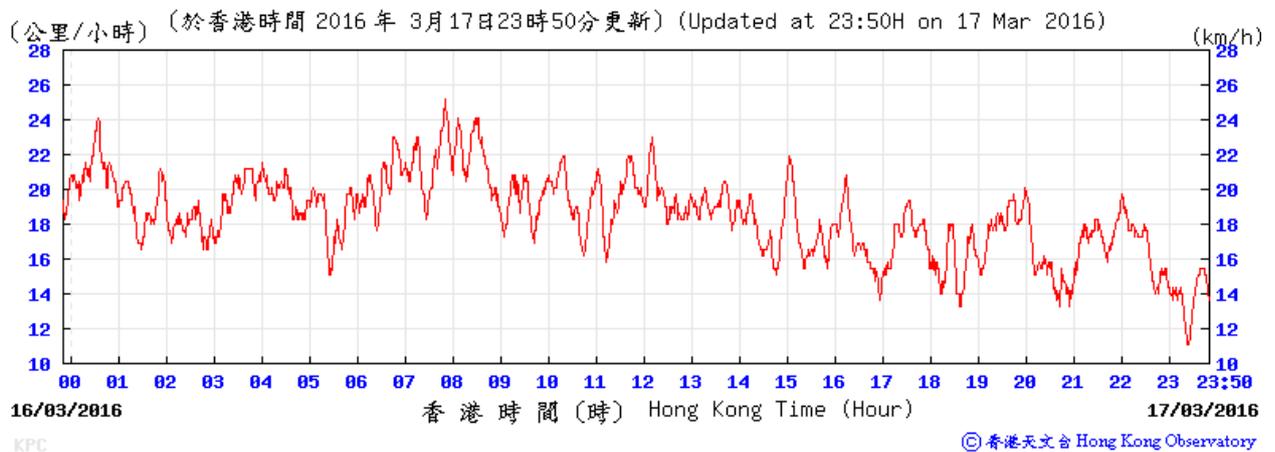
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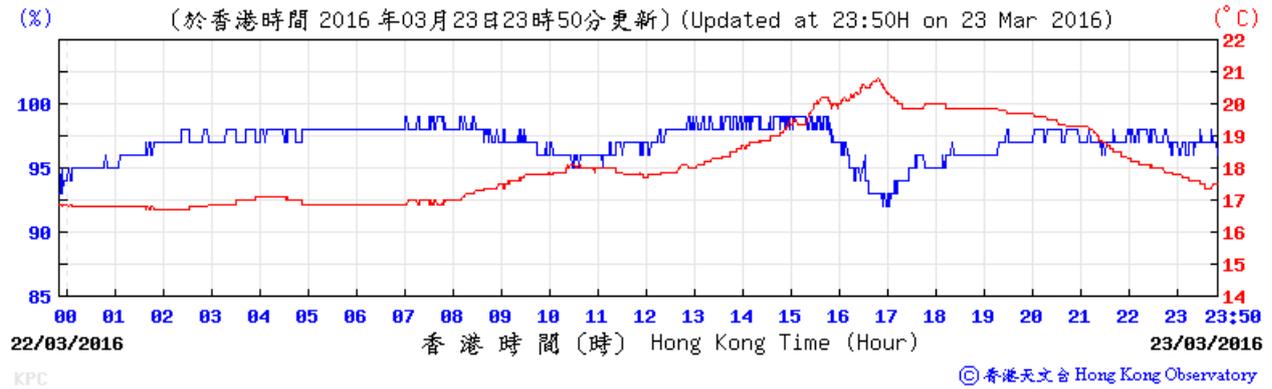
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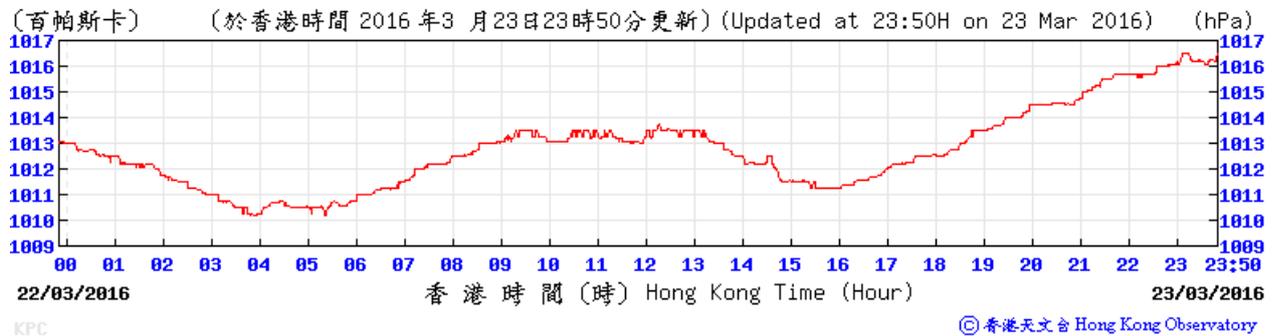
Wind Speed:



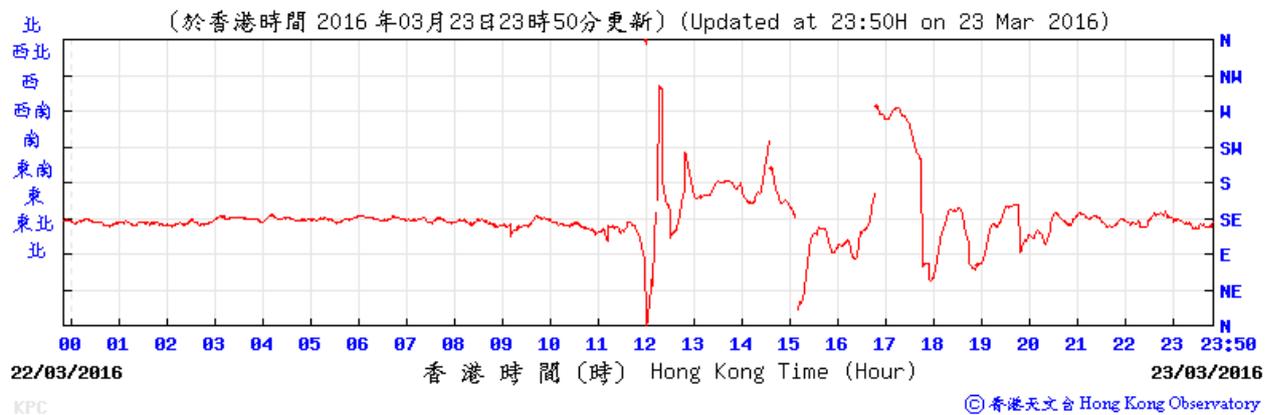
Temperature/Humidity:



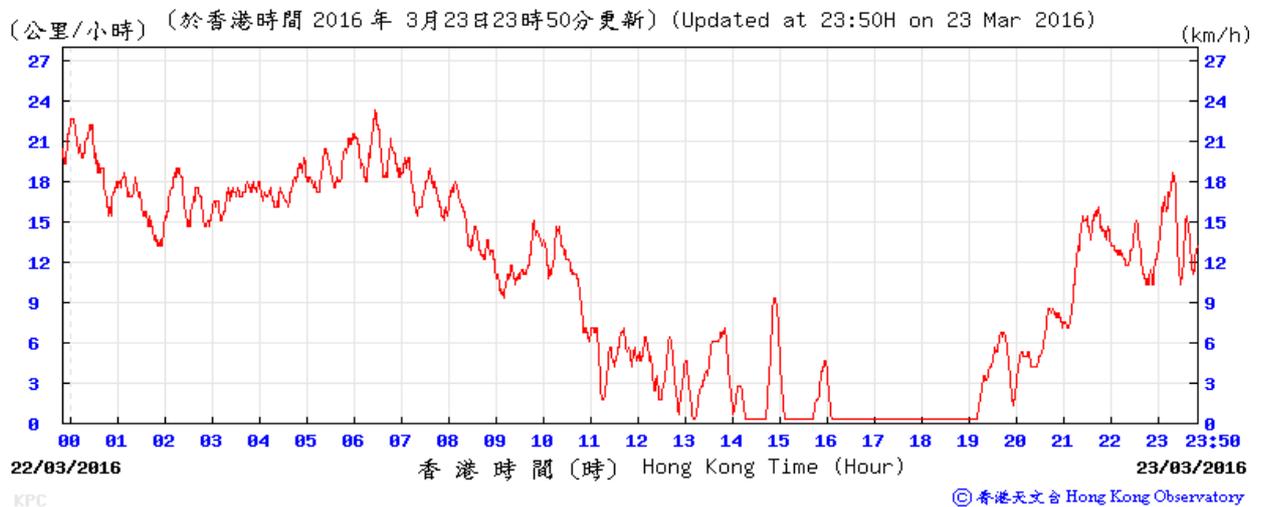
Pressure:



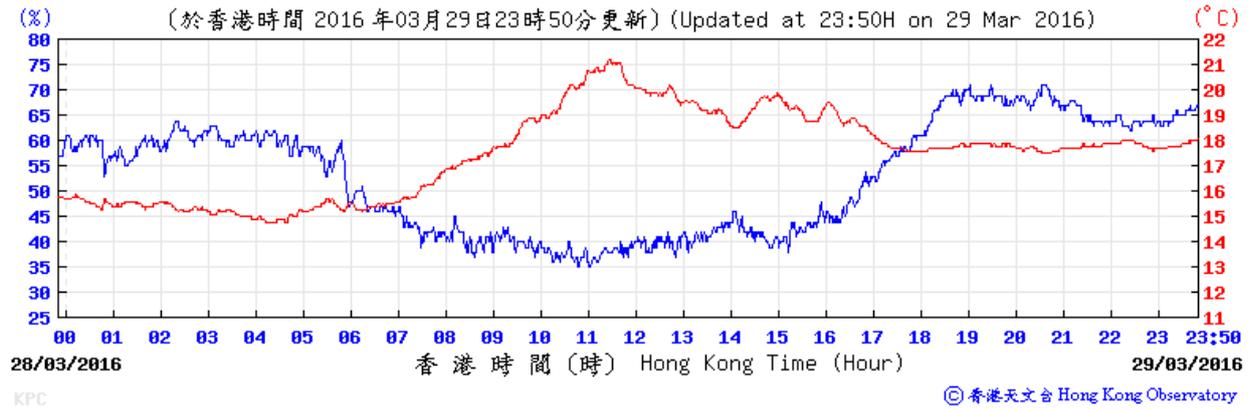
Wind Direction:



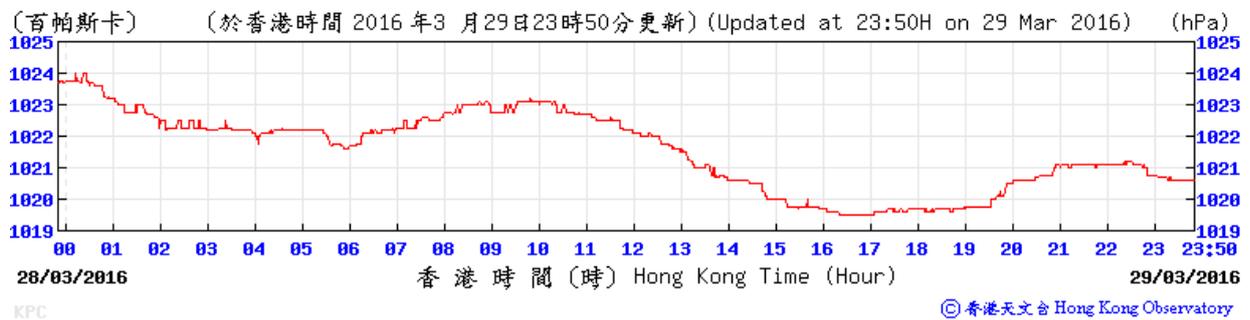
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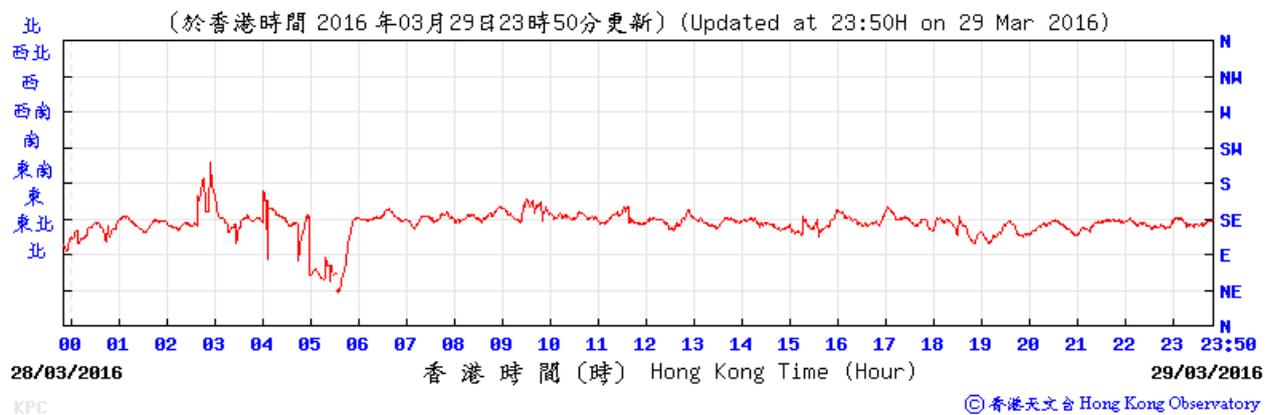
Temperature/Humidity:



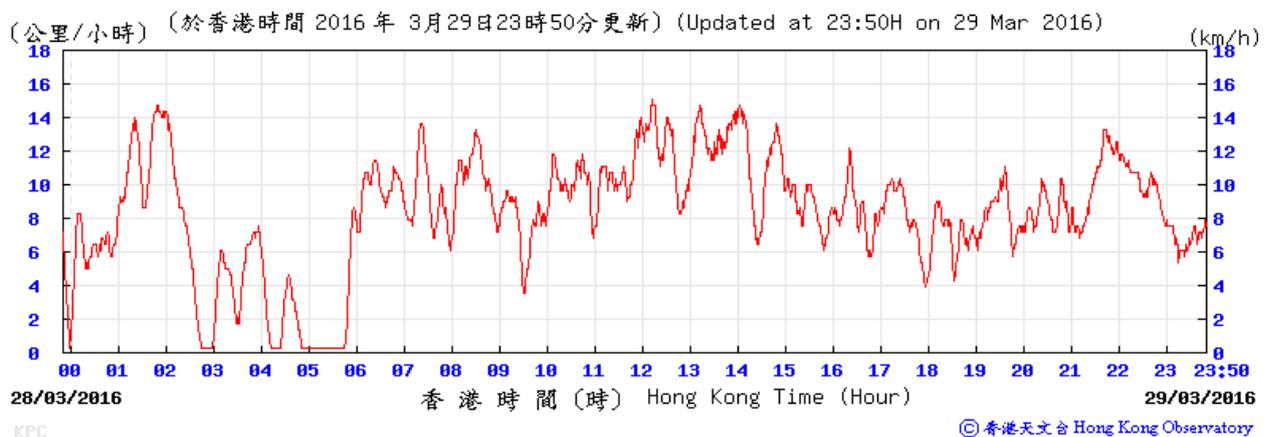
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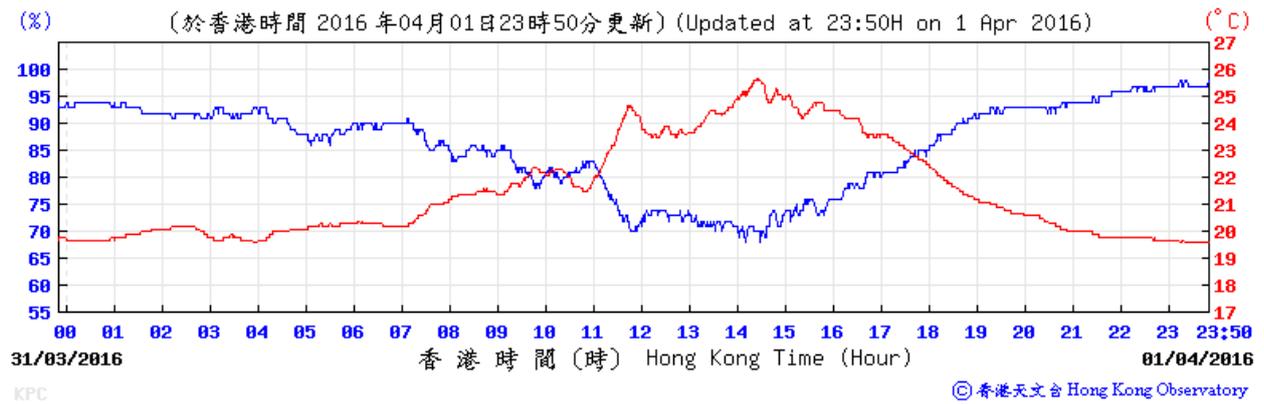
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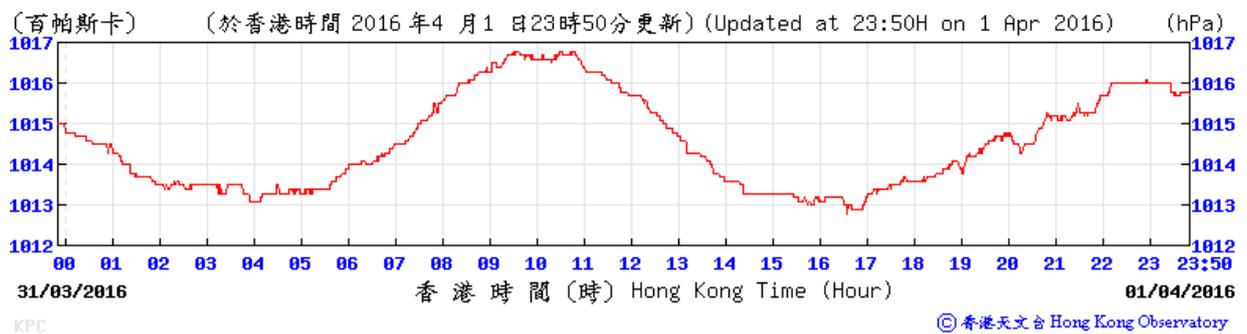
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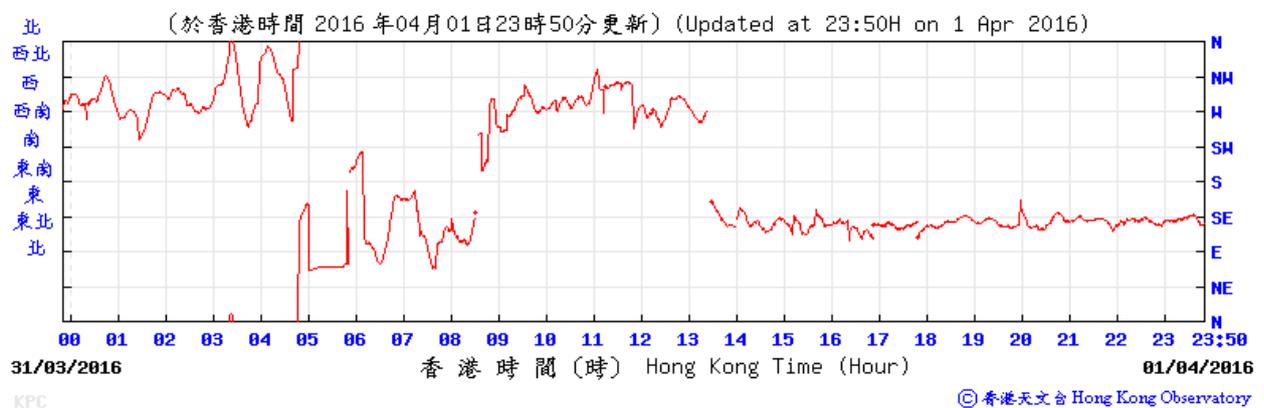
Temperature/Humidity:



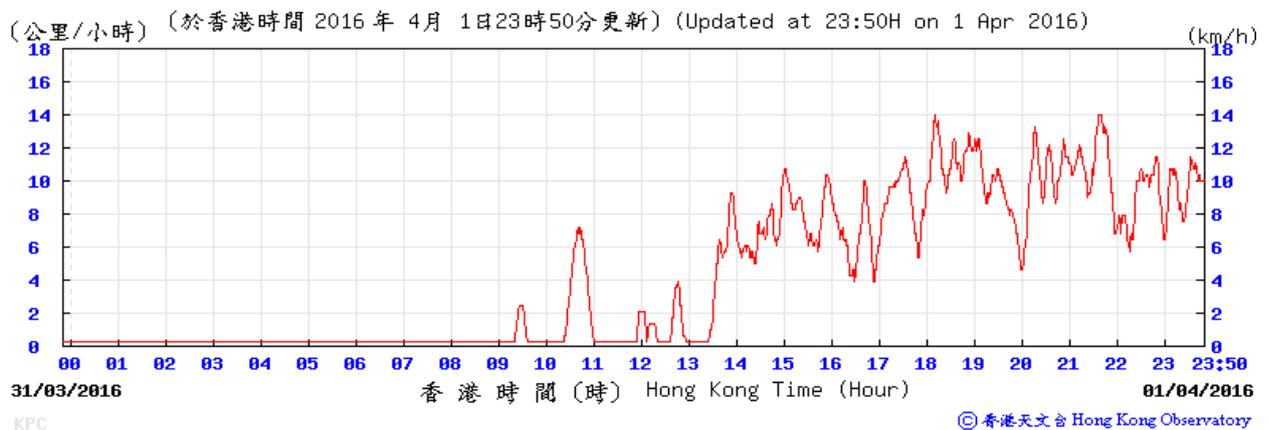
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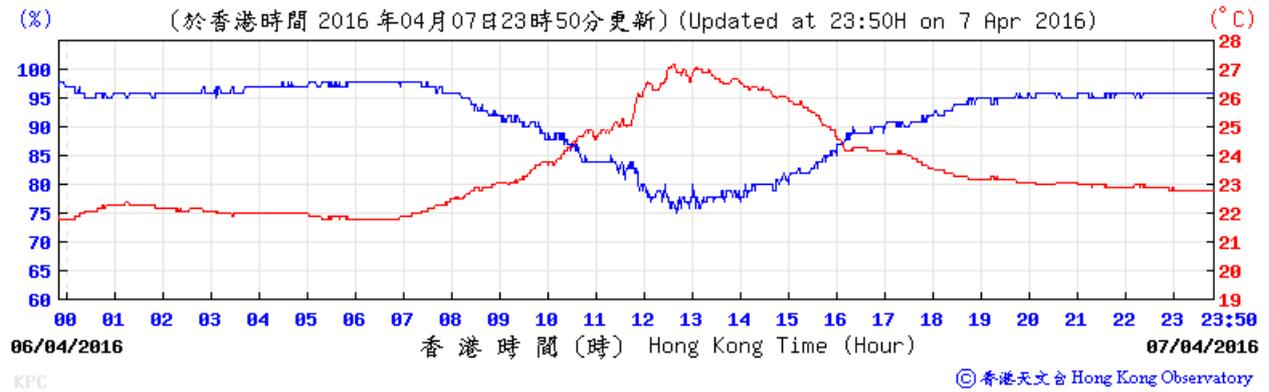
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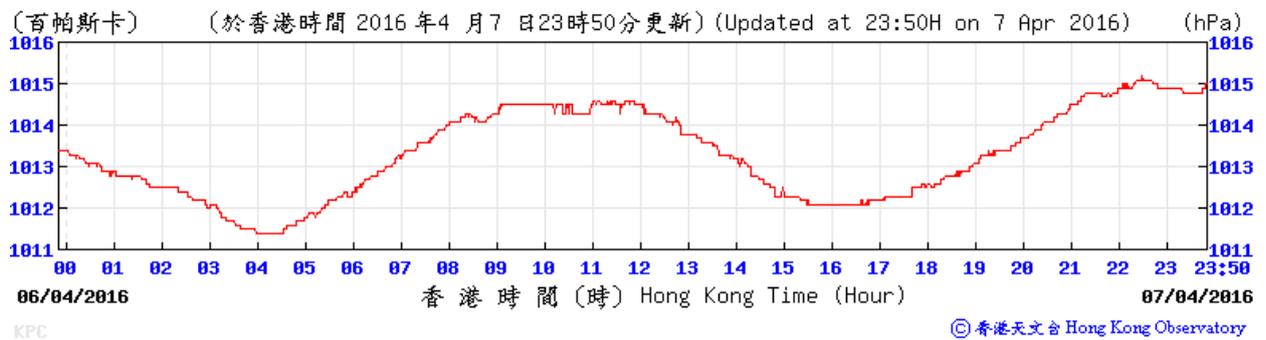
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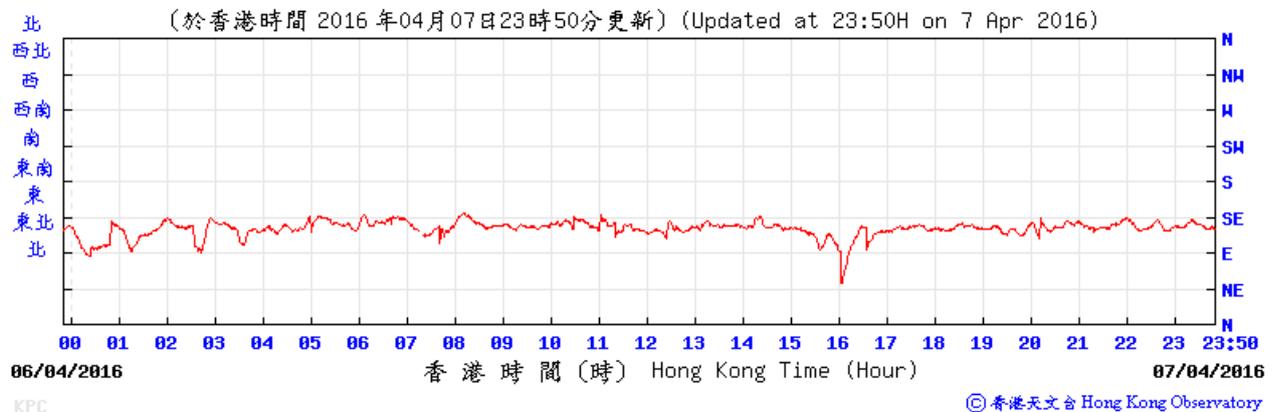
Temperature/Humidity:



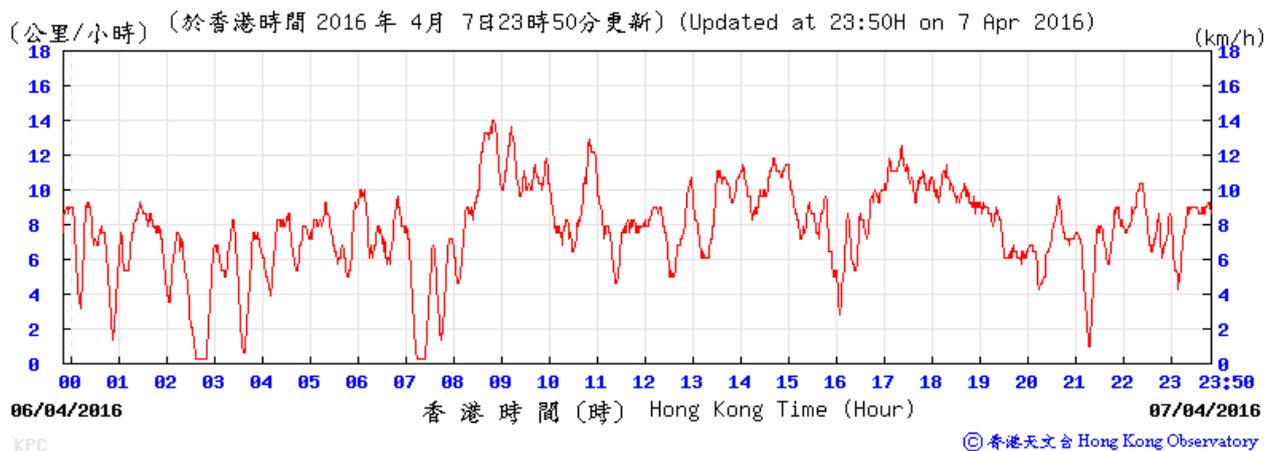
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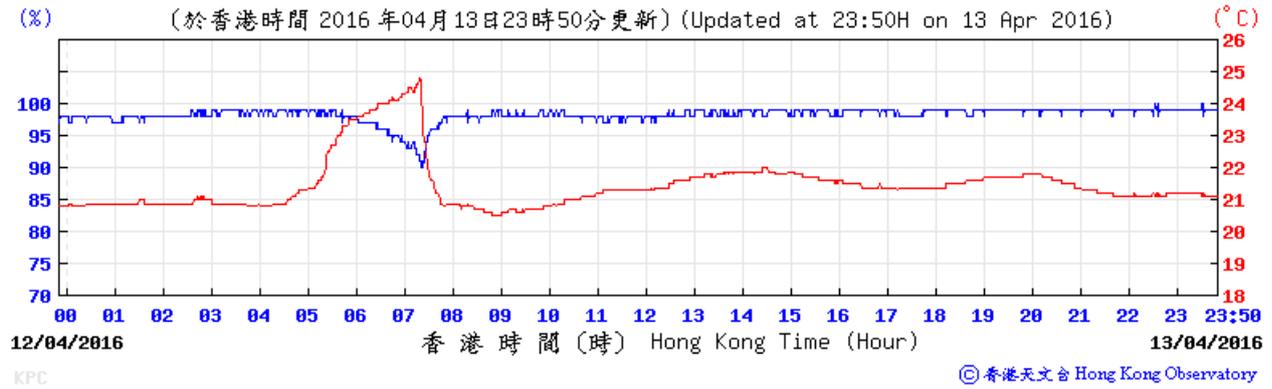
Wind Direction:



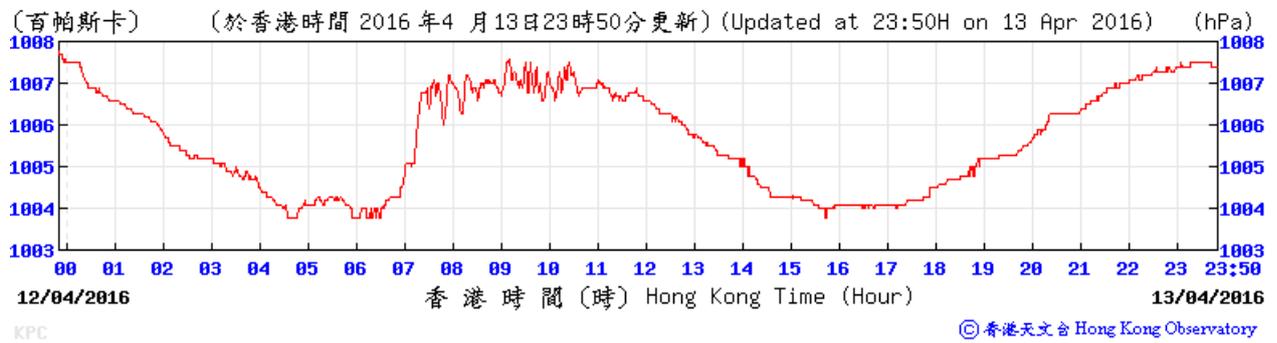
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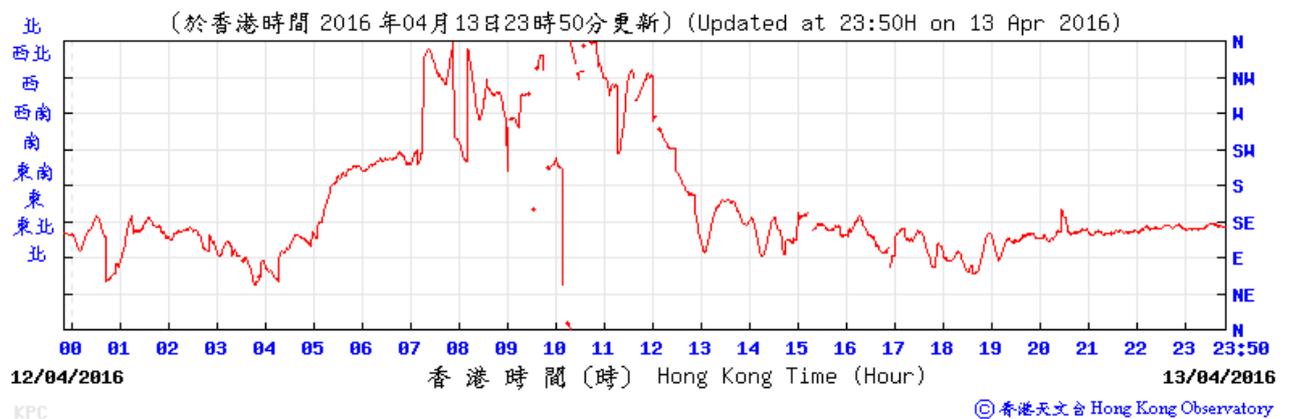
Temperature/Humidity:



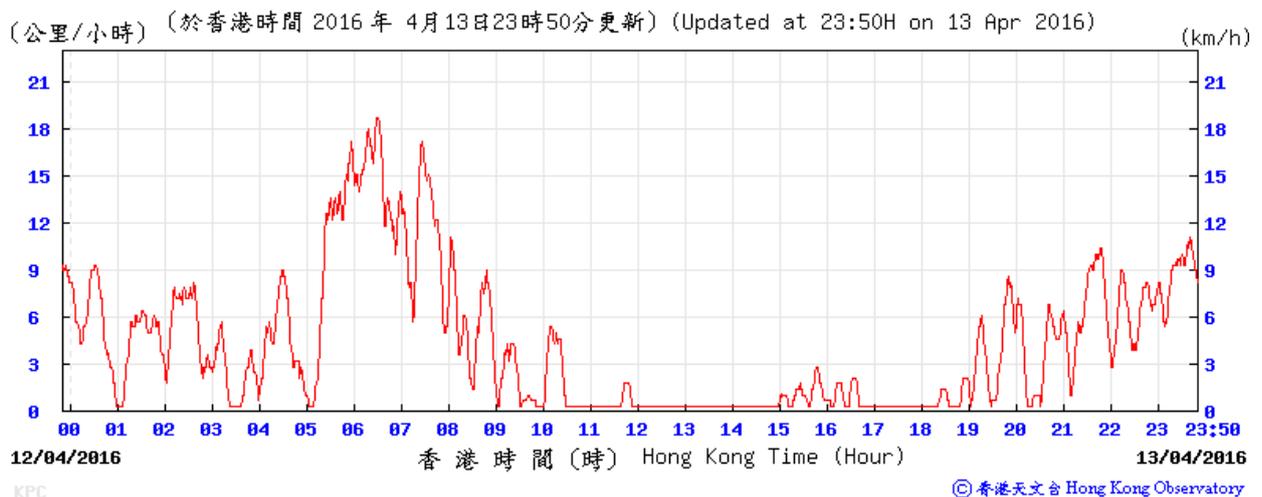
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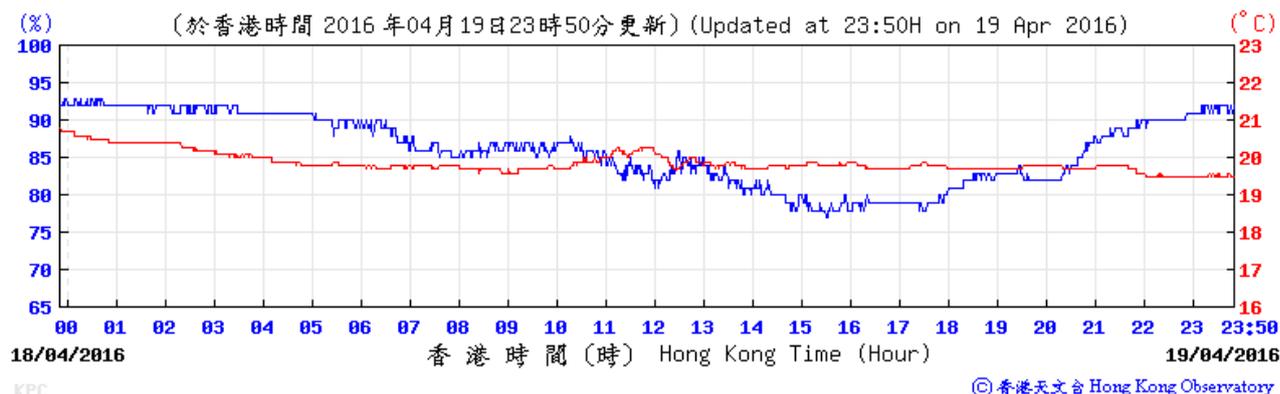
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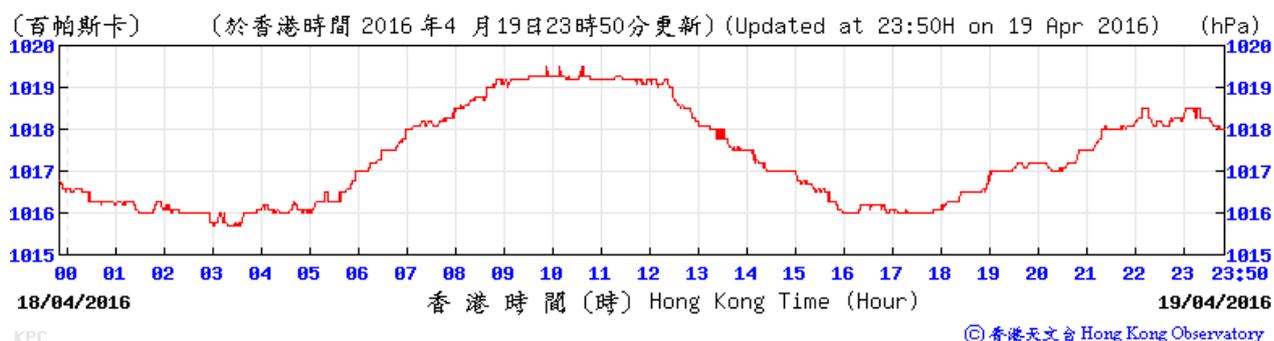
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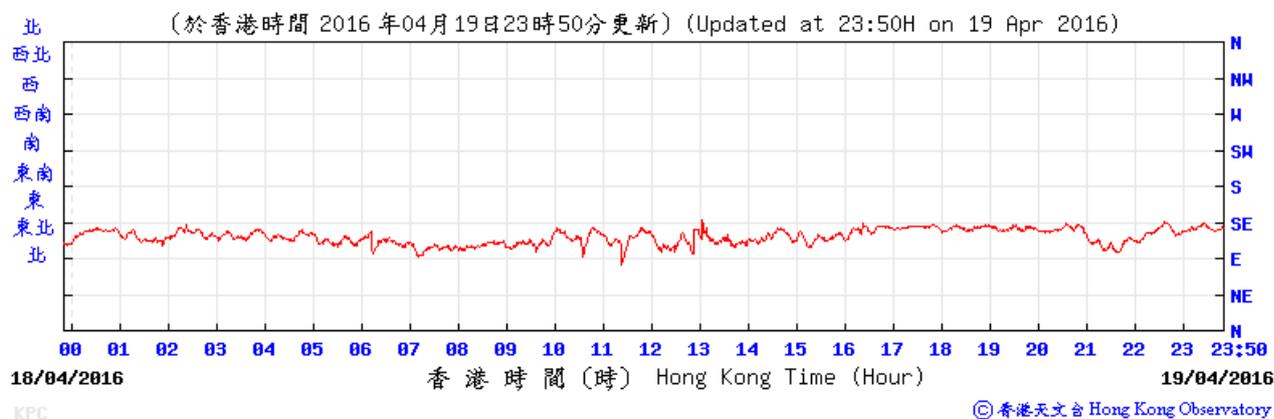
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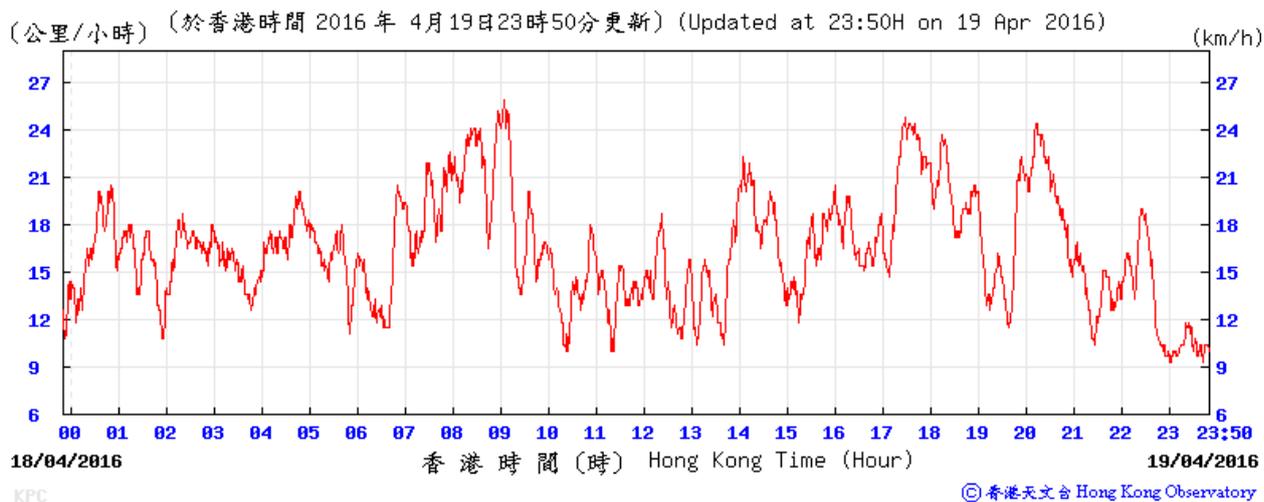
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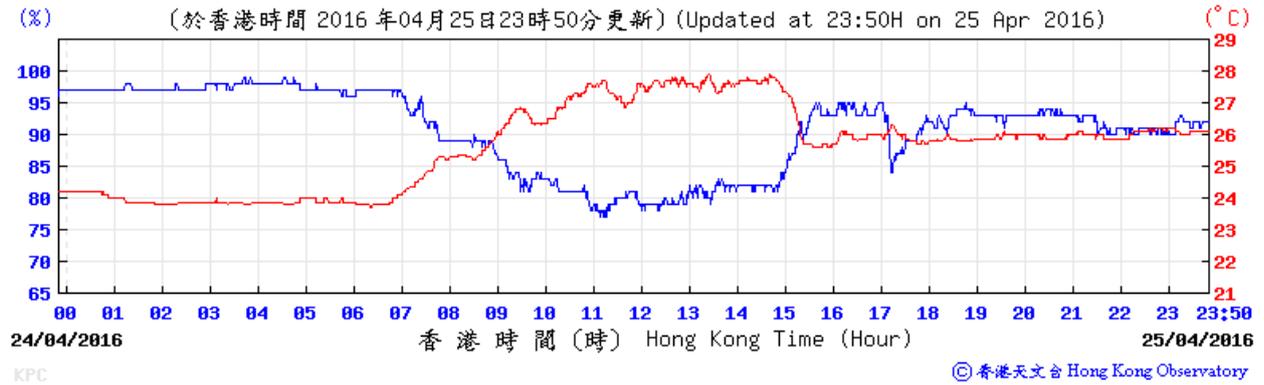
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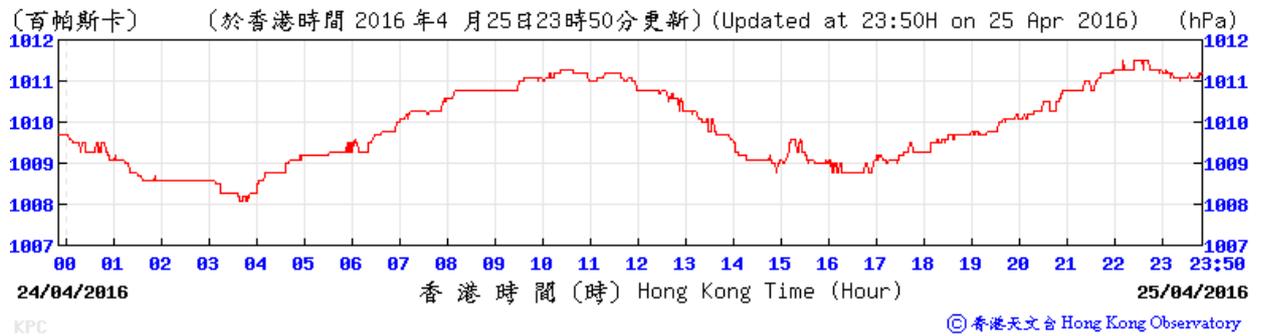
Wind Speed:



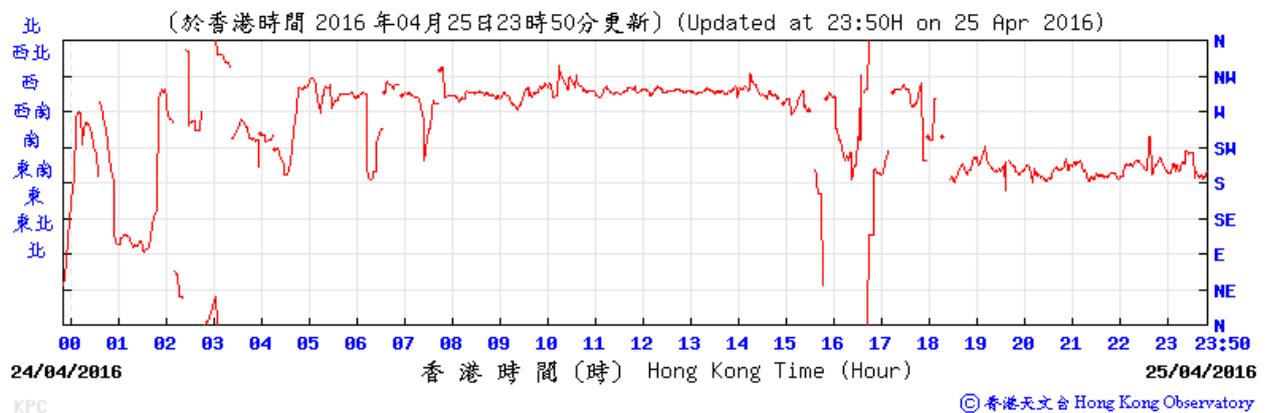
Temperature/Humidity:



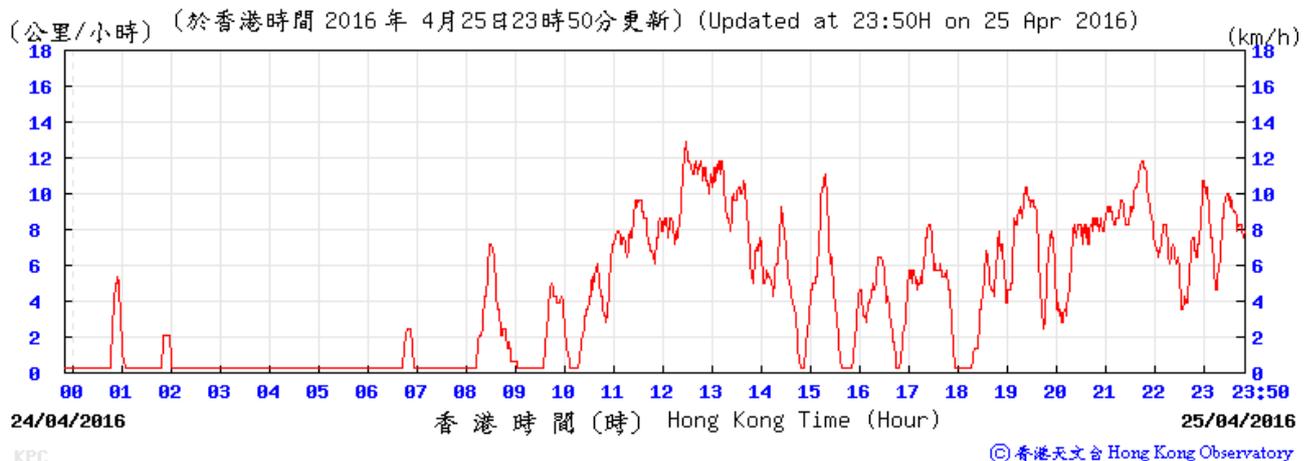
Pressure:



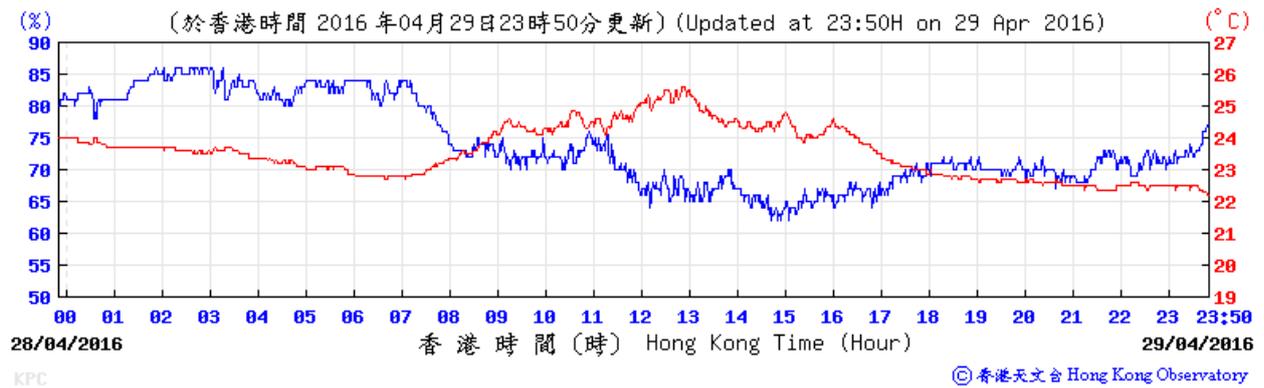
Wind Direction:



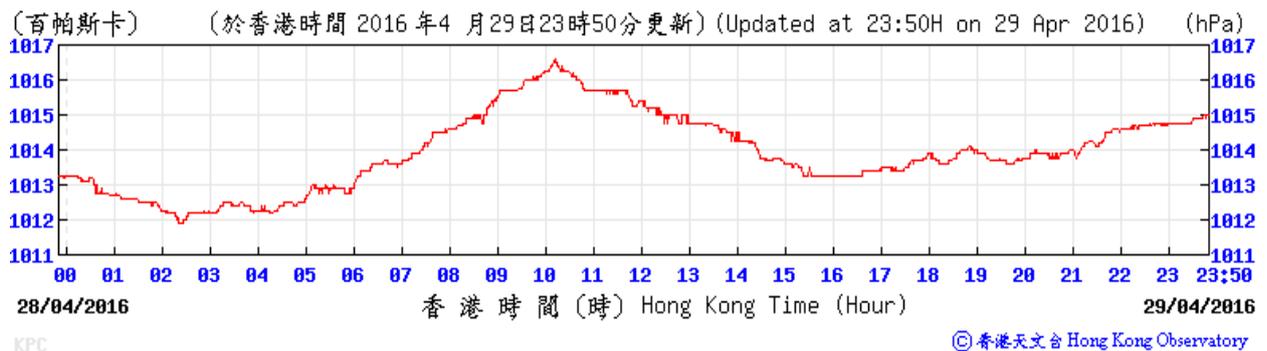
Wind Speed:



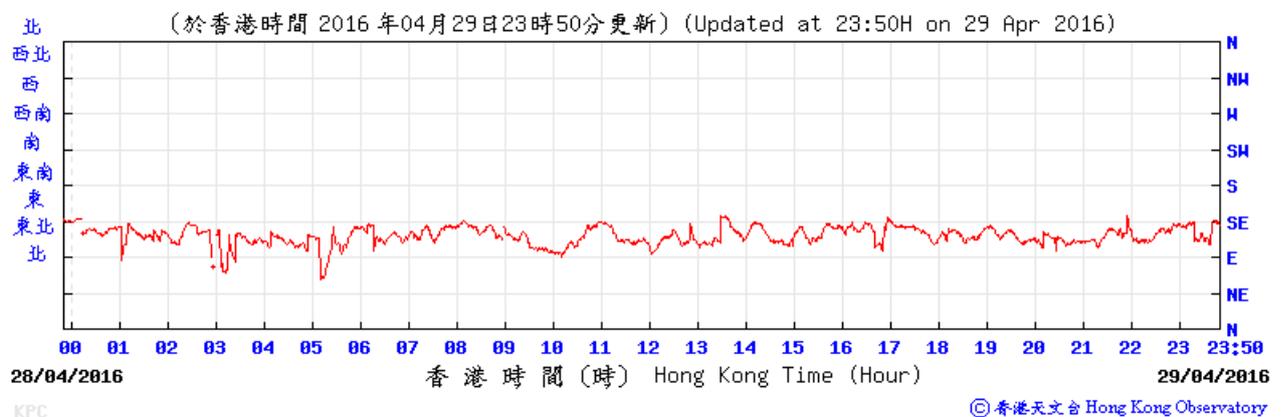
Temperature/Humidity:



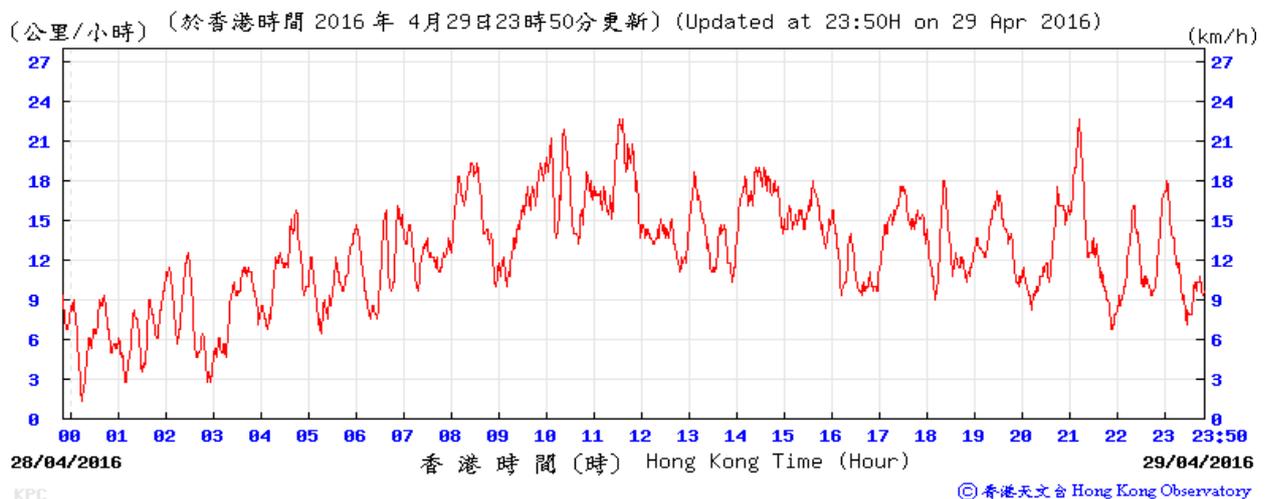
Pressure:



Wind Direction:



Wind Speed:

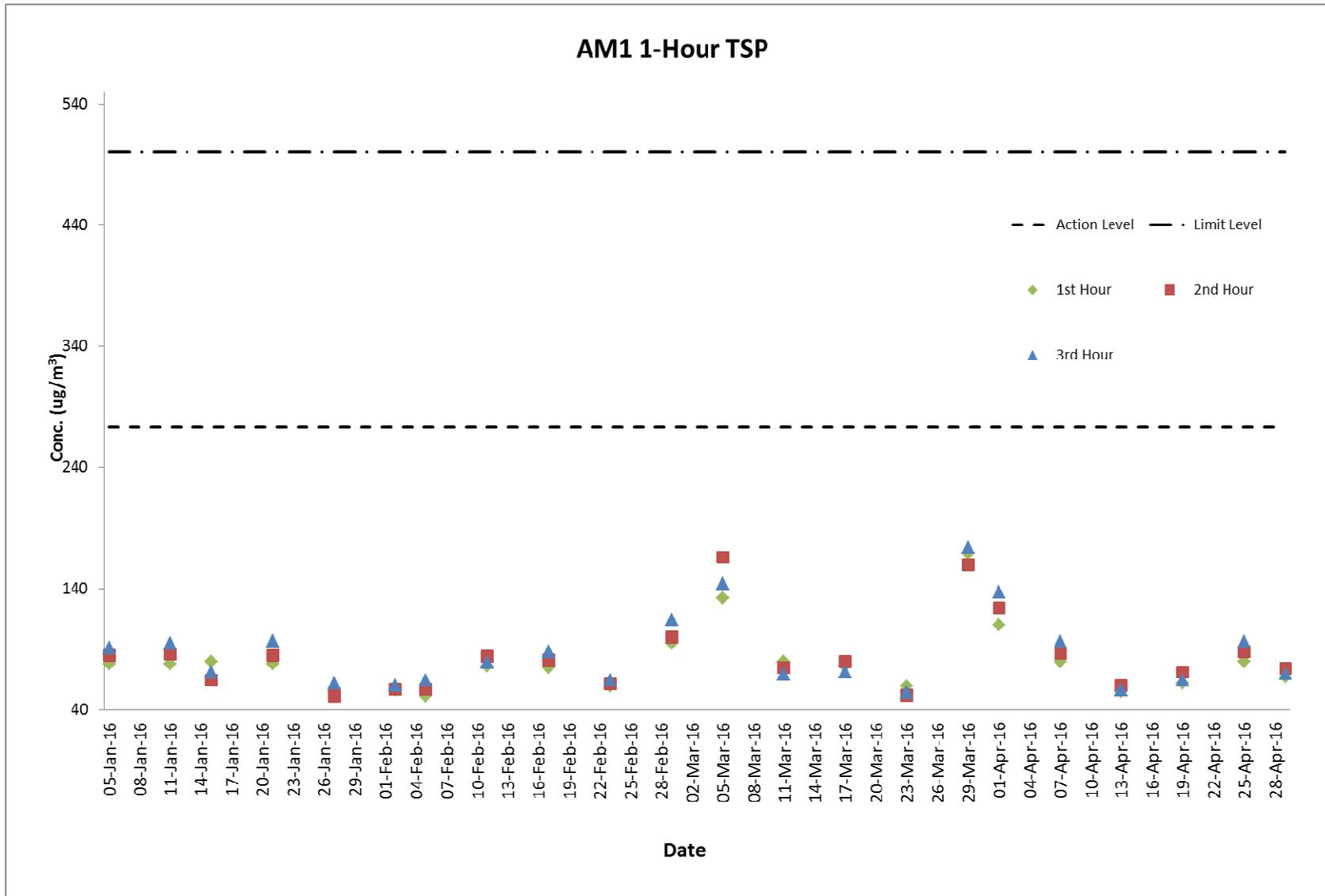


Appendix E. Graphical Plots of the Monitoring Results

Air Quality Monitoring Result at Station AM1 (1-hour TSP)

Date	Weather Condition	Time	Conc. ($\mu\text{g}/\text{m}^3$)			Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
			1 st Hour	2 nd Hour	3 rd Hour		
05-Jan-16	Cloudy	10:30 - 15:00	78	85	91	273.7	500
11-Jan-16	Fine	10:20 - 15:00	78	86	95	273.7	500
15-Jan-16	Rainy	8:00 - 12:00	80	64	71	273.7	500
21-Jan-16	Rainy	10:30 - 16:00	78	85	97	273.7	500
27-Jan-16	Rainy	10:43 - 16:00	55	51	62	273.7	500
02-Feb-16	Cloudy	10:50 - 16:00	56	57	60	273.7	500
05-Feb-16	Sunny	8:00 - 11:00	51	57	64	273.7	500
11-Feb-16	Fine	10:40 - 16:00	76	84	79	273.7	500
17-Feb-16	Cloudy	10:52 - 16:00	75	81	88	273.7	500
23-Feb-16	Cloudy	10:52 - 16:00	59	61	64	273.7	500
29-Feb-16	Sunny	10:36 - 16:00	95	100	114	273.7	500
05-Mar-16	Cloudy	8:00 - 11:00	132	166	144	273.7	500
11-Mar-16	Cloudy	10:50 - 15:00	80	75	69	273.7	500
17-Mar-16	Cloudy	10:45 - 16:00	76	80	71	273.7	500
23-Mar-16	Cloudy	10:48 - 15:00	59	52	54	273.7	500
29-Mar-16	Fine	10:40 - 15:00	169	160	174	273.7	500
01-Apr-16	Cloudy	8:02 - 11:02	110	124	137	273.7	500
07-Apr-16	Cloudy	10:50 - 16:00	80	87	96	273.7	500
13-Apr-16	Cloudy	14:00 - 17:00	55	60	56	273.7	500
19-Apr-16	Cloudy	10:50 - 16:00	62	71	64	273.7	500
25-Apr-16	Fine	10:42 - 16:00	80	88	96	273.7	500
29-Apr-16	Cloudy	8:02 - 11:02	67	74	70	273.7	500

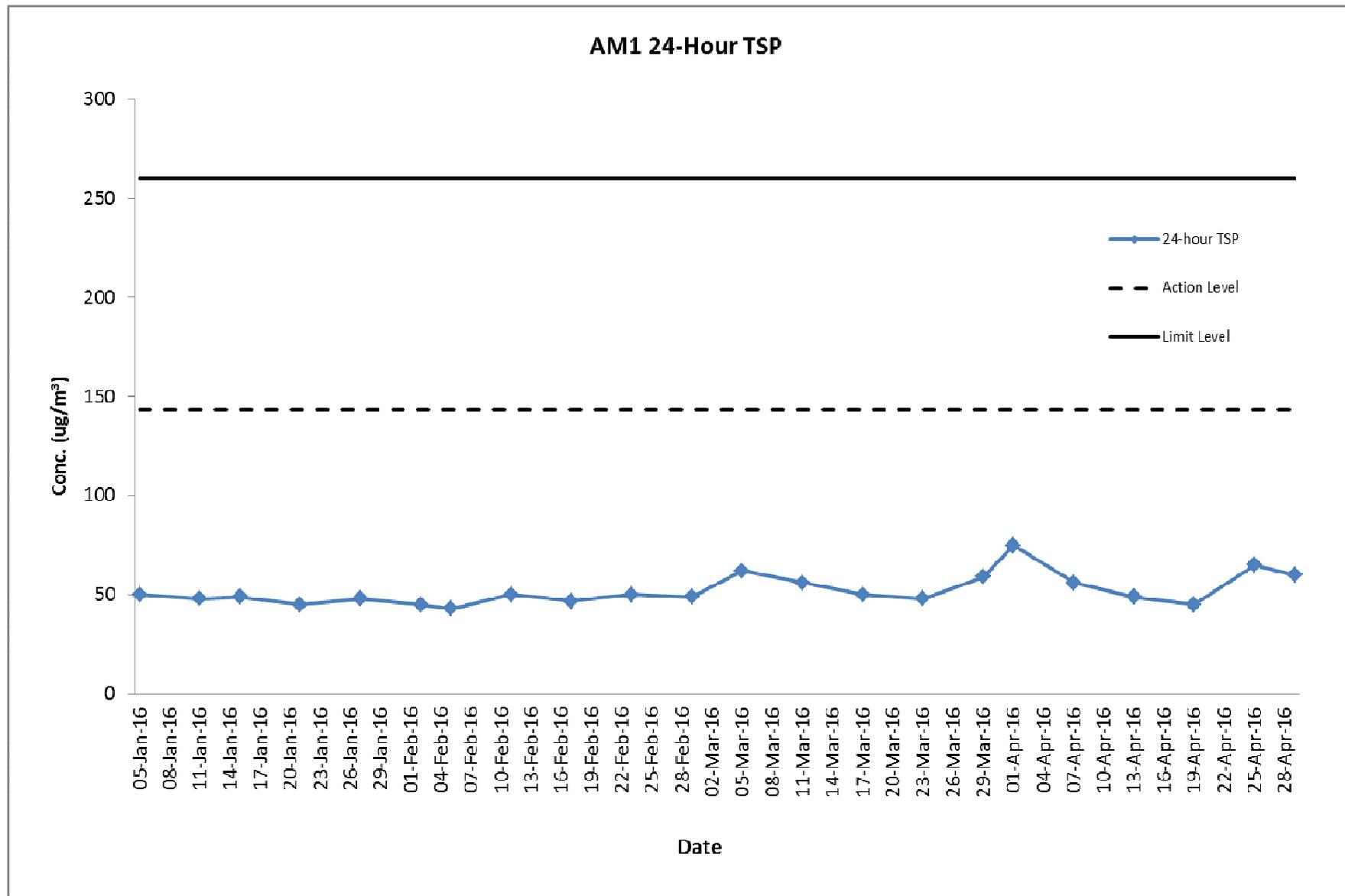
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (1-hour TSP)



Air Quality Monitoring Result at Station AM1 (24-hour TSP)

Start		Finish		Filter Weight (g)		Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			Conc. (µg/m ³)	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Jan-16	10:33	06-Jan-16	10:33	2.8086	2.8966	18912.38	18936.38	24	1.23	1.23	1.23	50	Cloudy	143.6	260
11-Jan-16	10:22	12-Jan-16	10:22	2.8055	2.89	18936.38	18960.38	24	1.23	1.23	1.23	48	Fine	143.6	260
15-Jan-16	08:02	16-Jan-16	08:02	2.8145	2.9007	18960.38	18984.38	24	1.23	1.23	1.23	49	Rainy	143.6	260
21-Jan-16	10:28	22-Jan-16	10:28	2.7819	2.861	18984.38	19008.38	24	1.23	1.23	1.23	45	Cloudy	143.6	260
27-Jan-16	10:45	28-Jan-16	10:45	2.7785	2.864	19008.38	19032.38	24	1.23	1.23	1.23	48	Rainy	143.6	260
02-Feb-16	10:48	03-Feb-16	10:48	2.7543	2.8337	19032.38	19056.38	24	1.23	1.23	1.23	45	Cloudy	143.6	260
05-Feb-16	08:02	06-Feb-16	08:02	2.7683	2.844	19056.38	19080.38	24	1.23	1.23	1.23	43	Sunny	143.6	260
11-Feb-16	10:42	12-Feb-16	10:42	2.7511	2.8399	19080.38	19104.38	24	1.23	1.23	1.23	50	Fine	143.6	260
17-Feb-16	10:50	18-Feb-16	10:50	2.8561	2.9401	19104.38	19128.38	24	1.25	1.25	1.25	47	Cloudy	143.6	260
23-Feb-16	10:50	24-Feb-16	10:50	2.8215	2.9119	19128.38	19152.38	24	1.25	1.25	1.25	50	Cloudy	143.6	260
29-Feb-16	10:38	01-Mar-16	10:38	2.789	2.877	19152.38	19176.38	24	1.25	1.25	1.25	49	Sunny	143.6	260
05-Mar-16	08:02	06-Mar-16	08:02	2.7767	2.888	19176.38	19200.38	24	1.25	1.25	1.25	62	Cloudy	143.6	260
11-Mar-16	10:48	12-Mar-16	10:48	2.7895	2.8911	19200.38	19224.38	24	1.25	1.25	1.25	56	Cloudy	143.6	260
17-Mar-16	10:43	18-Mar-16	10:43	2.8007	2.8911	19224.38	19248.38	24	1.25	1.25	1.25	50	Cloudy	143.6	260
23-Mar-16	10:50	24-Mar-16	10:50	2.7907	2.8779	19248.38	19272.38	24	1.25	1.25	1.25	48	Cloudy	143.6	260
29-Mar-16	10:42	30-Mar-16	10:42	2.7842	2.8911	19272.38	19296.38	24	1.25	1.25	1.25	59	Fine	143.6	260
01-Apr-16	08:00	02-Apr-16	08:00	2.7801	2.9142	19296.38	19320.38	24	1.25	1.25	1.25	75	Cloudy	143.6	260
07-Apr-16	10:48	08-Apr-16	10:48	2.7732	2.8738	19320.38	19344.38	24	1.25	1.25	1.25	56	Cloudy	143.6	260
13-Apr-16	14:02	14-Apr-16	14:02	2.812	2.9009	19344.38	19368.38	24	1.25	1.25	1.25	49	Rainy	143.6	260
19-Apr-16	10:47	20-Apr-16	10:47	2.8023	2.88	19368.38	19392.38	24	1.2	1.2	1.2	45	Cloudy	143.6	260
25-Apr-16	10:40	26-Apr-16	10:40	2.7879	2.9	19392.38	19416.38	24	1.2	1.2	1.2	65	Fine	143.6	260
29-Apr-16	08:00	30-Apr-16	08:00	2.8072	2.911	19416.38	19440.38	24	1.2	1.2	1.2	60	Cloudy	143.6	260

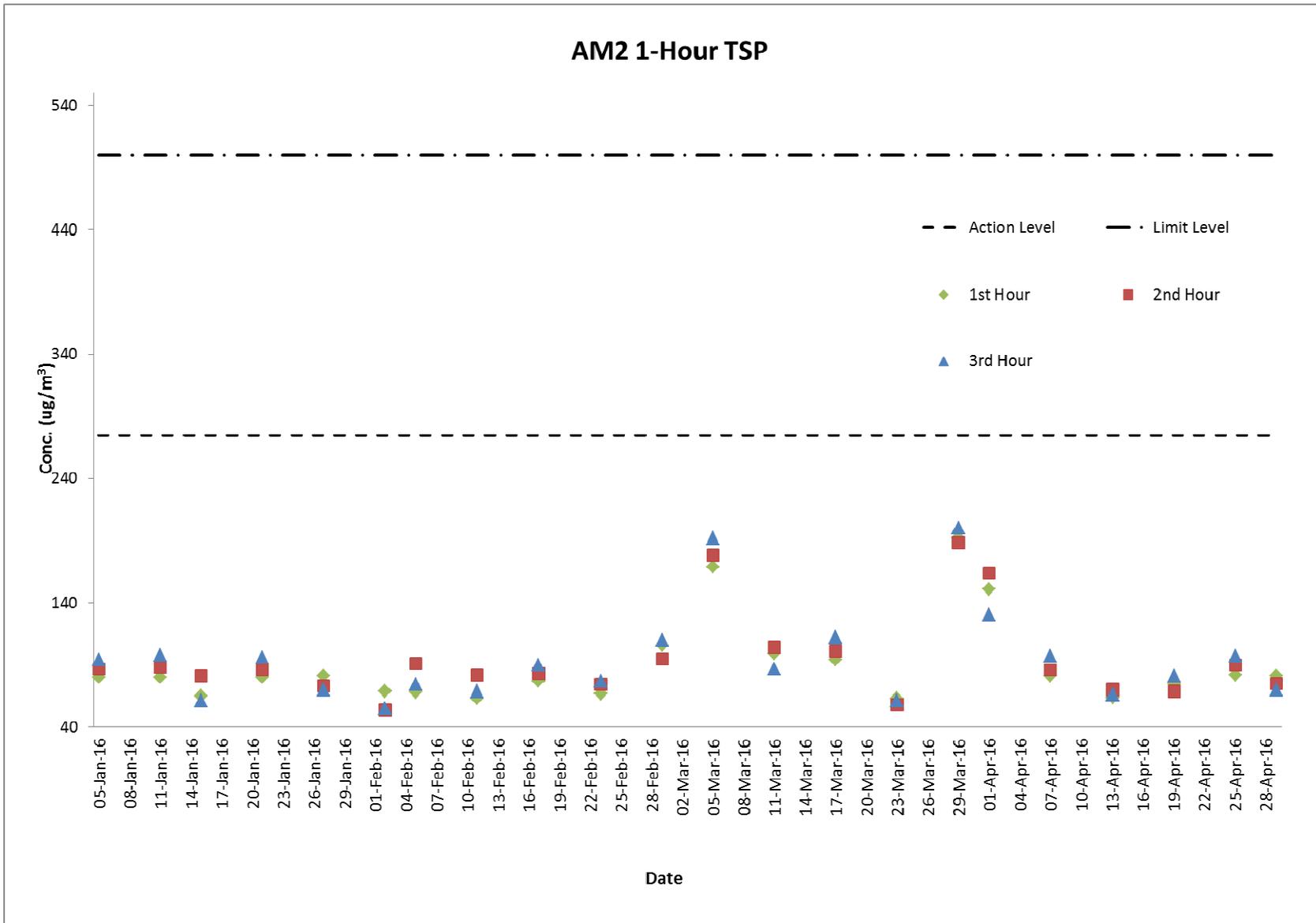
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (24-hour TSP)



Air Quality Monitoring Result at Station AM2 (1-hour TSP)

Date	Weather Condition	Time	Conc. ($\mu\text{g}/\text{m}^3$)			Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
			1 st Hour	2 nd Hour	3 rd Hour		
05-Jan-16	Cloudy	10:45 - 15:10	80	87	94	274.2	500
11-Jan-16	Fine	10:32 - 15:10	80	88	98	274.2	500
15-Jan-16	Rainy	8:12 - 15:10	65	81	61	274.2	500
21-Jan-16	Cloudy	10:40 - 16:10	80	86	96	274.2	500
27-Jan-16	Rainy	10:55 - 16:10	81	73	70	274.2	500
02-Feb-16	Cloudy	10:58 - 16:10	69	54	55	274.2	500
05-Feb-16	Sunny	8:10 - 11:10	68	91	74	274.2	500
11-Feb-16	Fine	10:47 - 16:10	63	82	69	274.2	500
17-Feb-16	Cloudy	11:02 - 16:10	77	83	90	274.2	500
23-Feb-16	Cloudy	11:00 - 16:10	67	74	77	274.2	500
29-Feb-16	Sunny	10:46 - 16:10	106	95	110	274.2	500
05-Mar-16	Cloudy	8:10 - 11:10	169	178	192	274.2	500
11-Mar-16	Cloudy	11:00 - 15:10	99	104	87	274.2	500
17-Mar-16	Cloudy	10:53 - 16:10	94	101	112	274.2	500
23-Mar-16	Cloudy	11:00 - 15:10	63	58	61	274.2	500
29-Mar-16	Fine	10:52 - 16:10	192	188	200	274.2	500
01-Apr-16	Cloudy	8:15 - 11:15	151	164	130	274.2	500
07-Apr-16	Cloudy	11:00 - 16:10	81	86	97	274.2	500
13-Apr-16	Cloudy	14:10 - 17:10	64	70	66	274.2	500
19-Apr-16	Cloudy	11:00 - 16:10	74	69	81	274.2	500
25-Apr-16	Fine	10:52 - 16:10	82	90	97	274.2	500
29-Apr-16	Cloudy	8:10 - 11:10	81	75	70	274.2	500

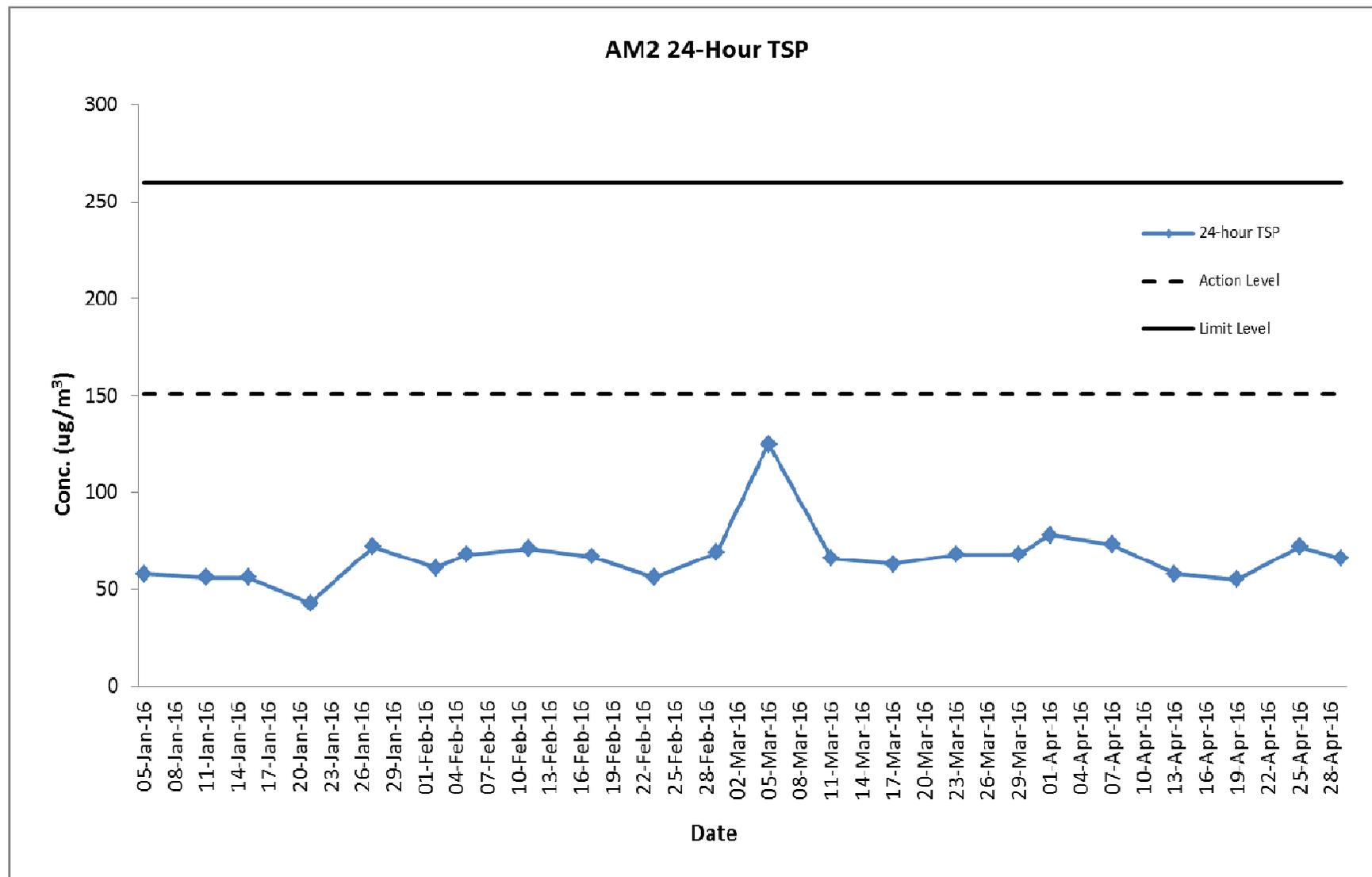
Graphical Presentation of Air Quality Monitoring Result at Station AM2 (1-hour TSP)



Air Quality Monitoring Result at Station AM2 (24-hour TSP)

Start		Finish		Filter Weight (g)		Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			Conc. (µg/m ³)	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Jan-16	10:43	06-Jan-16	10:43	2.8033	2.906	14615.59	14639.59	24	1.24	1.24	1.24	58	Cloudy	151.1	260
11-Jan-16	10:36	12-Jan-16	10:36	2.7999	2.9001	14639.59	14663.59	24	1.24	1.24	1.24	56	Fine	151.1	260
15-Jan-16	08:15	16-Jan-16	08:15	2.8097	2.91	14663.59	14687.59	24	1.24	1.24	1.24	56	Rainy	151.1	260
21-Jan-16	10:38	22-Jan-16	10:38	2.7888	2.8664	14687.59	14711.59	24	1.24	1.24	1.24	43	Cloudy	151.1	260
27-Jan-16	10:58	28-Jan-16	10:58	2.7599	2.8893	14711.59	14735.59	24	1.24	1.24	1.24	72	Rainy	151.1	260
02-Feb-16	11:00	03-Feb-16	11:00	2.7676	2.8771	14735.59	14759.59	24	1.24	1.24	1.24	61	Cloudy	151.1	260
05-Feb-16	08:14	06-Feb-16	08:14	2.757	2.8779	14759.59	14783.59	24	1.24	1.24	1.24	68	Sunny	151.1	260
11-Feb-16	10:50	12-Feb-16	10:50	2.7554	2.8827	14783.59	14807.59	24	1.24	1.24	1.24	71	Fine	151.1	260
17-Feb-16	11:05	18-Feb-16	11:05	2.8375	2.9532	14807.59	14831.59	24	1.2	1.2	1.2	67	Cloudy	151.1	260
23-Feb-16	11:03	24-Feb-16	11:03	2.8233	2.92	14831.59	14855.59	24	1.2	1.2	1.2	56	Cloudy	151.1	260
29-Feb-16	10:50	01-Mar-16	10:50	2.7852	2.9038	14855.59	14879.59	24	1.2	1.2	1.2	69	Sunny	151.1	260
05-Mar-16	08:13	06-Mar-16	08:13	2.789	3.0048	14879.59	14903.59	24	1.2	1.2	1.2	125	Cloudy	151.1	260
11-Mar-16	11:03	12-Mar-16	11:03	2.7865	2.9009	14903.59	14927.59	24	1.2	1.2	1.2	66	Cloudy	151.1	260
17-Mar-16	10:56	18-Mar-16	10:56	2.822	2.93	14927.59	14951.59	24	1.2	1.2	1.2	63	Cloudy	151.1	260
23-Mar-16	11:05	24-Mar-16	11:05	2.7742	2.8911	14951.59	14975.59	24	1.2	1.2	1.2	68	Cloudy	151.1	260
29-Mar-16	10:55	30-Mar-16	10:55	2.7829	2.9009	14975.59	14999.59	24	1.2	1.2	1.2	68	Fine	151.1	260
01-Apr-16	08:12	02-Apr-16	08:12	2.7811	2.9159	14999.59	15023.59	24	1.2	1.2	1.2	78	Cloudy	151.1	260
07-Apr-16	11:02	08-Apr-16	11:02	2.8063	2.9329	15023.59	15047.59	24	1.2	1.2	1.2	73	Cloudy	151.1	260
13-Apr-16	14:12	14-Apr-16	14:12	2.7986	2.8991	15047.59	15071.59	24	1.2	1.2	1.2	58	Rainy	151.1	260
19-Apr-16	11:05	20-Apr-16	11:05	2.8127	2.911	15071.59	15095.59	24	1.25	1.25	1.25	55	Cloudy	151.1	260
25-Apr-16	10:54	26-Apr-16	10:54	2.7999	2.9287	15095.59	15119.59	24	1.25	1.25	1.25	72	Fine	151.1	260
29-Apr-16	08:07	30-Apr-16	08:07	2.8101	2.9292	15119.59	15143.59	24	1.25	1.25	1.25	66	Cloudy	151.1	260

Graphical Presentation of Air Quality Monitoring Result at Station AM2 (24-hour TSP)



Noise Monitoring Result at Station NM1A

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)
05-Mar-16	09:17	68.2	62.3	69.0
05-Mar-16	09:22	68.5	62.3	
05-Mar-16	09:27	67.6	62.2	
05-Mar-16	09:32	68.6	63.6	
05-Mar-16	09:37	68.8	62.7	
05-Mar-16	09:42	68.7	63.5	
11-Mar-16	15:50	68	63.4	68.2
11-Mar-16	15:55	67.9	62.4	
11-Mar-16	16:00	67.5	62	
11-Mar-16	16:05	67.9	62.7	
11-Mar-16	16:10	67.7	63.5	
11-Mar-16	16:15	67.4	62.9	
17-Mar-16	13:00	64.9	60.9	67.3
17-Mar-16	13:05	66.2	61.1	
17-Mar-16	13:10	66.8	62.4	
17-Mar-16	13:15	66.7	61.9	
17-Mar-16	13:20	66.9	62.4	
17-Mar-16	13:25	67.2	63.9	
23-Mar-16	15:50	66.9	62.5	68.2
23-Mar-16	15:55	67.7	63.3	
23-Mar-16	16:00	65.8	61.9	
23-Mar-16	16:05	66.9	62.9	
23-Mar-16	16:10	67.9	63.4	
23-Mar-16	16:15	67.9	63.8	
29-Mar-16	14:45	66	62.7	68.9
29-Mar-16	14:50	67.9	63.4	
29-Mar-16	14:55	67.9	63.4	
29-Mar-16	15:00	68	63.9	
29-Mar-16	15:05	69.2	64	
29-Mar-16	15:10	68	63.8	
07-Apr-16	14:00	66	62.1	68.0
07-Apr-16	14:05	67	63	
07-Apr-16	14:10	66.2	61.9	
07-Apr-16	14:15	66.5	62.7	
07-Apr-16	14:20	67.8	63.1	
07-Apr-16	14:25	67.5	63.3	
13-Apr-16	14:45	69.8	65.8	70.9
13-Apr-16	14:50	71.7	66	
13-Apr-16	14:55	69.1	65.5	
13-Apr-16	15:00	69.6	65.6	
13-Apr-16	15:05	68.8	65.8	
13-Apr-16	15:10	68.7	65.8	
19-Apr-16	14:00	66.9	62.7	69.5
19-Apr-16	14:05	68	64.1	
19-Apr-16	14:10	67.7	63.7	
19-Apr-16	14:15	69	65	
19-Apr-16	14:20	68.8	64.2	
19-Apr-16	14:25	69.7	65.7	
25-Apr-16	14:00	68.9	64.7	68.9
25-Apr-16	14:05	67.7	63.4	
25-Apr-16	14:10	66.4	62.8	
25-Apr-16	14:15	68	64.1	
25-Apr-16	14:20	67.9	63.4	
25-Apr-16	14:25	67.9	63.7	

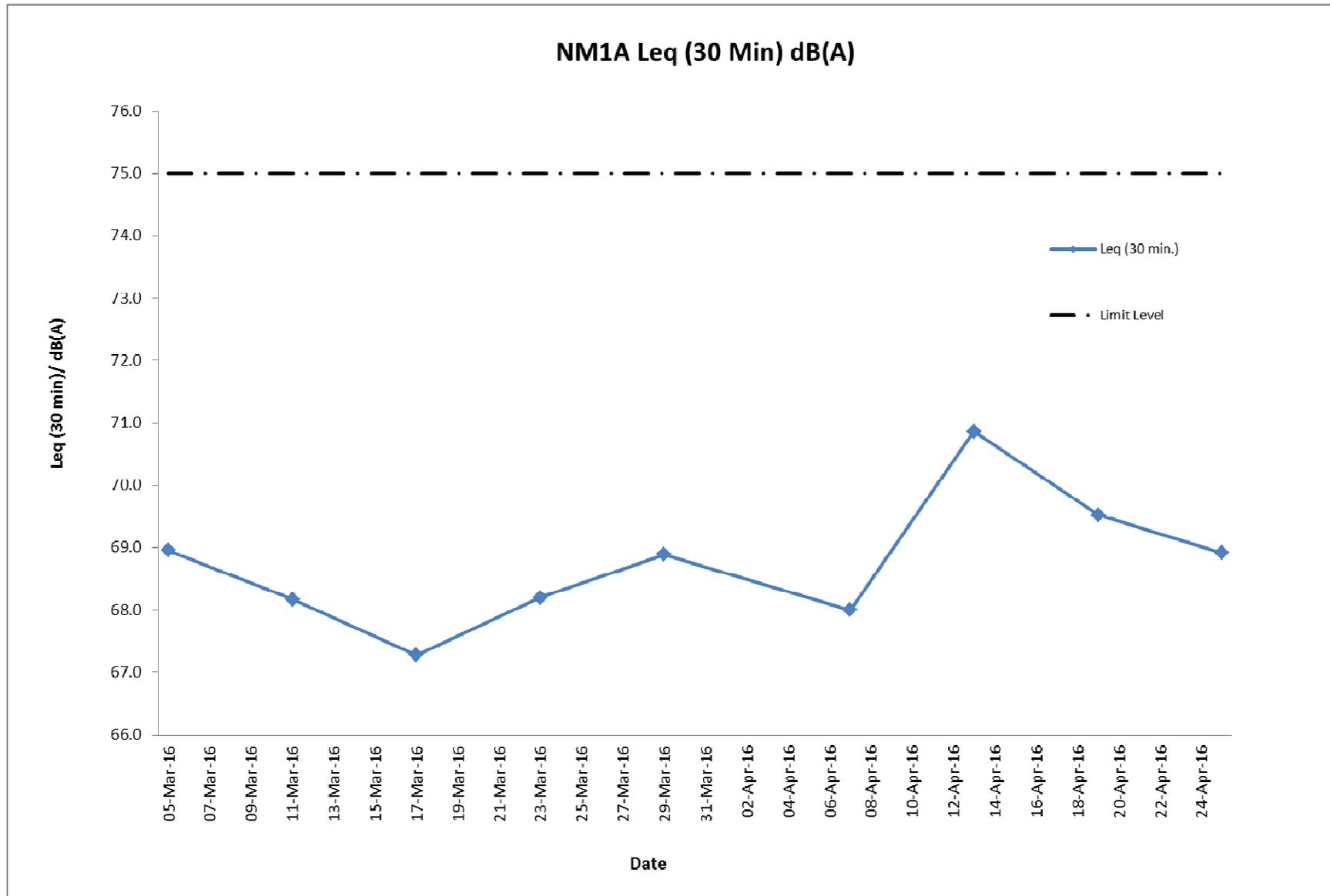
Remarks:

+3dB (A) correction was applied to free-field measurement.



The station set-up of a free-field measurement at Station NM1A.

Graphical Presentation Noise Monitoring Result at Station NM1A



Appendix F. Waste Flow table

M+ Museum

Table F-1: Waste Flow Table for M+ Museum

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
2015													
Nov	46607.4	0.0	0.0	8240.0	38367.4	0.0	0.0	76.2	0.0	0.0	0.0	0.0	67.6
Dec	29652.9	0.0	0.0	29621.4	31.5	0.0	0.0	26.3	0.0	0.0	0.0	1.0	66.0
Sub-total (2015)	76260.3	0.0	0.0	37861.4	38398.9	0.0	0.0	102.5	0.0	0.0	0.0	1.0	133.6
2016													
Jan	21077.4	0.0	6352.0	14576.0	149.4	0.0	0.0	18.8	0.0	0.0	0.0	0.0	23.2
Feb	7626.2	0.0	3424.0	4048.0	154.2	0.0	0.0	59.8	0.0	0.0	0.0	0.0	20.5
Mar	10442.5	0.0	1600.0	7888.0	954.5	0.0	0.0	29.7	0.0	0.0	0.0	0.0	46.3
Apr	30413.2	0.0	6352.0	23408.0	653.2	0.0	0.0	25.8	0.1	0.0	27.8	0.0	34.5
May													
Jun													
Jul													
Aug													
Sep													
Oct													
Nov													
Dec													
Sub-total (2016)	69559.3	0.0	17728.0	49920.0	1911.3	0.0	0.0	134.1	0.1	0.0	27.8	0.0	124.5
Total	145819.6	0.0	17728.0	87781.4	40310.2	0.0	0.0	236.6	0.1	0.0	27.8	1.0	258.1

Note:
-432.4 ton, 1,312.6 ton and 16.9 ton of inert C&D material were disposed of as public fill to Tuen Mun Area 38, Tseung Kwan O Area 137 and Chai Wan Public Fill Barging Point respectively in the reporting quarter.
-For inert C&D materials reused in other projects, the projects refer to (1) Green Valley; (2) Advance Works for Shek Wu Hui Sewage Treatment Works (3) Design and Construction of Kai Tak Cable Tunnel, CLP; (4) MTR Contract 1002 Whampoa Station and Overrun Tunnel; (5) CEDD Tuen Mun Area 54 Contract No. CV/2015/03; (6) Union Construction Ltd.'s site.

Lyric Theatre Complex

Table F-2: Monthly Waste Flow Table for Lyric Theatre Complex

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
2016													
Mar	2702.1	0.0	0.0	0.0	2702.1	0.0	0.0	4.5	0.1	0.0	0.0	0.0	30.6
Apr	8631.5	0.0	0.0	0.0	8631.5	0.0	0.0	16.0	0.0	0.0	0.0	0.0	19.2
May	0.0												
Jun	0.0												
Jul	0.0												
Aug	0.0												
Sep	0.0												
Oct	0.0												
Nov	0.0												
Dec	0.0												
Sub-total (2016)	11333.6	0.0	0.0	0.0	11333.6	0.0	0.0	20.4	0.1	0.0	0.0	0.0	49.8
2017													
Jan	0.0												
Feb	0.0												
Mar	0.0												
Apr	0.0												
May	0.0												
Jun	0.0												
Sub-total (2017)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	11333.6	0.0	0.0	0.0	11333.6	0.0	0.0	20.4	0.1	0.0	0.0	0.0	49.8

Note:
-1,100.61 ton and 10,233 ton of inert C&D material were disposed of as public fill to Tuen Mun Area 38 and Tseung Kwan O Area 137 respectively in the reporting quarter.

Appendix G. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Cumulative statistics for complaints, notifications of summons and successful prosecutions for the Project account for period starting from the date of commencement of construction works (i.e. 31 October 2015 for M+ Museum main works and 1 March 2016 for Lyric Theatre Complex foundation works) to the end of the reporting quarter and are summarized in the in the **Table G-1** and **Table G-2** below respectively.

Table G-1: Statistics for complaints, notifications of summons and successful prosecutions for M+ Museum Main Works

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting quarter	0	0	0
From 31 October 2015 to end of the reporting quarter	1	0	0

Table G-2: Statistics for complaints, notifications of summons and successful prosecutions for Lyric Theatre Complex Foundation Works

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting quarter	0	0	0
From 1 March 2016 to end of the reporting month	0	0	0