Maeda Corporation

MTRCL Contract C3840-13C Tsim Sha Tsui Station Carnarvon Road Subway and Entrances Modification Works

Quarterly EM&A Report (June to August 2015)

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MAEDA

Maeda Corporation

MTRCL Contract C3840-13C Tsim Sha Tsui Station Carnarvon Road Subway and Entrances Modification Works

Quarterly EM&A Report (June to August 2015)

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Report No	EB001340R0265
Date	23 October 2015

This Quarterly EM&A Report is prepared for Maeda Corporation in accordance with the terms and conditions of appointment dated 30 October 2013. Hyder Consulting Limited (Company Number 126012) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

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18 November 2015

By Email and Post

MTR Corporation Limited
Fo Tan Railway House
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Your Ref.:

Our Ref.: 40032976/448297

Attention: Mr. Kenneth Chow / Environmental Engineer II

Dear Sir,

Consultancy Agreement A130-13
Independent Environmental Checker for CRS and LTS
CRS - Verification for 6th Quarterly Environmental Monitoring and Audit (EM&A) Report (June to August 2015) (Report No.: EB001340R00265)

We refer to the 6th Quarterly EM&A Report (June to August 2015) received under cover of the email from the Environmental Team, Hyder Consulting Limited (HCL), dated on 23 October 2015.

Further to our comments provided on 30 October 2015 and 13 November 2015, and subsequent revision of the Report by HCL on 16 November 2015, we have no further comment and have verified the captioned report (Report No.: EB001340R00265).

Should you have any queries, please feel free to contact the undersigned at 3922 9529.

Yours faithfully
AECOM Consulting Services Ltd.

Rodney Ip
Independent Environmental Checker

DCYO/wwsc

cc Hyder Consulting Limited (Attn.: Mr. F. N. Wong) via email
Maeda Corporation (Attn.: Ms. Cecilia Lee) via email

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EXECUTIVE SUMMARY

KEY ISSUES DURING REPORTING PERIOD

Breaches of Action and Limit Levels

ES01 No Notice of Exceedance (NOE) and the associated investigation and follow-up actions were required as the environmental monitoring results registered no exceedances of Action/ Limit Levels of air quality and construction noise during the Reporting Period.

ES02 No corrective actions were required as the environmental audit during the Reporting Period observed:

1. No deficiencies with major environmental significance of the required environmental mitigation measures;
2. No non-compliance with the required waste management; and
3. No adverse environmental impacts on the nearby sensitive receivers.

Environmental Complaints

ES03 No environmental complaints were recorded during the Reporting Period.

Notification of Summons and Successful Prosecutions

ES04 No notification of summons and successful prosecutions were recorded during the Reporting Period.

Reporting Changes

ES05 No major reporting changes were made during the Reporting Period.

FUTURE KEY ISSUES

General

ES06 Full implementation of the environmental mitigation measures, which are required in the EM&A Plan and summarized in Implementation Schedule, are recommended. Whenever necessary, proper maintenance and improvement of the implemented mitigation measures are reminded.

Construction Noise

ES07 Particular attention should be paid to construction noise mitigation measures, especially during piling works during the coming construction period to ensure full compliance with statutory and non-statutory requirements and guidelines. Proactive review of working methods, careful selection and arrangement of the noisy equipment as well as effective noise mitigation measures are strongly recommended.

Water Quality

ES08 In addition, compliance with water quality mitigation measures remains one of the key environmental issues within the construction period, especially when water usage is high.

Air Quality

ES09 Furthermore, implying of construction dust suppression measures are recommended during dusty activities under dry and windy conditions.

ES10 Construction dust suppression measures including decking over the excavation areas, watering of exposed site surface and covering of all excavated and stockpiles of dusty material by impervious sheeting or similar materials are reminded.

1. INTRODUCTION

1.1 *REPORTING PERIOD*

1.1.1 This is the 6th quarterly EM&A report (hereinafter referred as 'This Report') covering construction period from 1st June 2015 to 31st August 2015 (hereinafter referred as 'the Reporting Period').

1.1.2 This Report has been written in accordance with the ***Environmental Monitoring and Audit Plan*** (hereinafter referred as 'the EM&A Plan') enclosed in the ***Project Profile – MTR Tsim Sha Tsui Station Carnarvon Road Subway and Entrances Modification Works***, which is registered in the ***Environmental Permit No. EP-440/2012*** (hereinafter referred as 'the EP') (Register No.: PP-462/2012).

1.2 *PROJECT BACKGROUND*

1.2.1 In order to improve the appearance of Carnarvon Road Entrance D1 and D2 of Tsim Sha Tsui (hereafter referred as 'TST') Station and to provide a more comfortable walking environment nearby, MTR Corporation Limited (hereafter referred as 'MTRC' or 'the Corporation') has commissioned Maeda Corporation (hereinafter referred as 'MC') the contract ***MTR Tsim Sha Tsui Station Carnarvon Road Subway and Entrances Modification Works*** (hereafter referred as 'the Project'). The Project is proposed to rebuild the existing Entrance D1 and D2 and construct a new Entrance D3 at the basement B2 level of the K11 Art Mall to connect to the TST station by a subway, which extends from the Entrance D1 and D2 and runs approximately 80m along Carnarvon Road and across the Bristol Avenue to the Entrance D3. The tentative programme for the Project is approximately 25 months, and was commenced in March 2014.

1.2.2 The existing TST Station had been in operation before the ***Environmental Impact Assessment Ordinance*** (hereafter referred as 'EIAO') came into effect on 1 April 1998. It constitutes an exempted Designated Project (hereinafter referred as 'DP') according to Section 9(2) (g) of the EIAO (Cap. 499). As the Project involves a material change to an exempted DP which may have potential environmental impacts, an environmental permit is required prior to the commencement of the modification works. The Project Profile has been developed to provide information for direct application of an environmental permit. The EP has been granted since 18 July 2012, where the Project Profile and the associated ***EM&A Plan*** are registered.

1.2.3 Site map, works area and locations of the environmental monitoring under the Project are illustrated in Figure 1.1 Site Location Plan of ***Appendix A***.

1.2.4 Management structure of the Project, including organization chart, lines of communication and contact names and telephone numbers of key personnel, is demonstrated in ***Appendix B***.

1.2.5 Construction programme is shown in ***Appendix C***, whereas implementation schedule for the recommended environmental mitigation measures (hereinafter referred as 'the Implementation Schedule') is summarized in ***Appendix D***, which fine tunes construction activities and shows inter-relationship with environmental protection/mitigation measures for the construction period.

1.3 *ENVIRONMENTAL STATUS*

1.3.1 As required in the EP, AECOM Consulting Services Limited (formerly known as "URS Hong Kong Limited") has been appointed as the Independent Environmental Checker under the Project (hereinafter referred as 'the IEC'), whereas Hyder Consulting Limited has been appointed as the Environmental Team under the Project (hereinafter referred as 'the ET').

1.3.2 According to the EP Condition 3.2 (a) under Environmental Monitoring and Audit (EM&A) during the Construction Period, baseline monitoring has been completed and the required Baseline Monitoring Report has been submitted to EPD on 14 February 2014 prior to commencement of the works under the Project.

1.3.3 Status of relevant environmental permits, licences, and/or notifications on environmental protection for the Project is summarized in ***Table 1-3***. They are detailed in ***Appendix E.***

Table 1-3 Summary of Status of Environmental Licenses and Permits

Item	Description	License/Permit Status
1	Air Pollution Control (Construction Dust)	Notification Ref. 365953 acknowledged on 21 Oct 2013.
2	Water Pollution Control Ordinance (Discharge License)	The discharge license (Ref No. WT0019722-2014) granted on 01 Sep 2014 superseding the previous license (Ref No. WT00018229-2014)
3	Billing Account for Disposal of Construction Waste	A/C Ref. 7018523 granted on 25 Oct 2013
4	Chemical Waste Producer Registration	Registration Ref. 5213-2214-M2446-16 granted on 4 Mar 2014
5	Noise Control Ordinance	Noise Permit Ref No. CNP GW-RE1475-14 and No.GW-RE0558-15 (The latter was granted on 3 June 2015 to replace the former effective from 23 June 2015).

1.4 *CONSTRUCTION ACTIVITIES*

1.4.1 Construction activities undertaken during the Reporting Period are summarized in ***Table 1-4***:

Table 1-4 Construction Activities Undertaken during the Reporting Period

1	Demolition the underground structure of D1 Entrance
2	Excavation and rock breaking by electrical hand drill at vertical shaft
3	Excavation for the construction of temporary staircase
4	Installation and construction of steel decking at Bay 1 & 2
5	Removal of unforeseen obstruction object
6	Installation of waling and strut for construction of temporary cut and cover tunnel
7	Construction and concreting for temporary staircase
8	Horizontal pipe piling for mined tunnel
9	WSD water main diversion

2. EM&A REQUIREMENTS

2.1 *AIR QUALITY*

Monitoring Parameters and Frequency

2.1.1 24-Hour Total Suspended Particulates (hereinafter referred as '24-Hr TSP') is required to be monitored once a week during construction period of the Project.

2.1.2 1-Hour Total Suspended Particulates (hereinafter referred as '1-Hr TSP') is required to be monitored when exceedances of 24-Hr TSP were recorded, following the Event and Action Plan presented in ***Appendix F***.

Action and Limit Levels

2.1.3 The Action and Limit levels (hereinafter referred as 'the A/L Levels') at K11 have been established in the Baseline Monitoring Report in accordance with the derivation criteria specified in Section 3.7 of the EM&A Plan, which are summarized in ***Table 2-1-1*** as follows:

Table 2-1-1 Derivation of Action and Limit Levels for Air Quality at K11, μg/m^3

Parameter	Action Level	Limit Level
24-Hr TSP	For baseline level ≤200 μg/m^3, Action level = (130% of baseline level + Limit level)/2 For baseline level >200 μg/m^3, Action level = Limit level	260
1-Hr TSP	For baseline level ≤384 μg/m^3, Action level = (130% of baseline level + Limit level)/2 For baseline level >384 μg/m^3, Action level = Limit level	500

2.1.4 The established A/L Levels for 24-Hr and 1-Hr TSP are summarized in ***Table 2-1-2*** as follows:

Table 2-1-2 Action & Limit Levels for Air Quality at K11, μg/m^3

Parameter	Action Level	Limit Level
24-Hr TSP	222	260
1-Hr TSP	373	500

Event and Action Plan

2.1.5 In case exceedances of Action and/or Limit levels for air quality occur, ***Event and Action Plan*** for Air Quality enclosed in ***Appendix F*** will be implemented.

Environmental Mitigation Measures for Air Quality

2.1.6 Although most of the construction works would be carried out underground, appropriate dust mitigation measures as stipulated in the EP, Project Profile, related environmental regulation including Air Pollution Control (Construction Dust) Regulation as well as those recommended in the Implementation Schedule should be implemented to control fugitive dust emission. The following key dust suppression measures are recommended:

a) Decking over the excavation areas;

b) Regular watering to reduce dust emissions from all exposed site surface, particularly during dry weather;

c) Frequent watering for particularly dusty construction areas and areas close to air sensitive receivers;

d) Cover all excavated or stockpiles of dusty material by impervious sheeting or spraying with water to maintain the entire surface wet;

e) Provision of vehicle washing facilities at the exit points of the site; and

f) Provision of tarpaulin covering for any dusty materials on a vehicle leaving the site.

2.1.7 Details of the implementation schedule for the required environmental mitigation measures are presented in ***Appendix D.***

2.2 *CONSTRUCTION NOISE*

Monitoring Parameters and Frequency

2.2.1 ***Table 2-2-1*** summarizes the monitoring parameters and frequency for construction noise.

Table 2-2-1 Noise Monitoring Parameters and Frequency

Parameters	Frequency
L_{eq} in 30 minutes	Once a week

2.2.2 Monitoring schedules for construction noise for the Reporting Period and the next Reporting Period are prepared and submitted to MTRC, IEC and MC prior to implementation via e-mail and / or facsimile for ease of necessary inspection. Where amendment is necessary under ad hoc conditions, including actual and broadcast adverse weather, accidental instrument failures, etc., advanced notification is given at least 24 hours prior to implementation or as practical as possible.

Action and Limit Levels

2.2.3 The Action and Limit levels (hereinafter referred as 'the A/L Levels') at K11 have been established in the ***Baseline Monitoring Report***. They are summarized in ***Table 2-2-2*** as follows:

Table 2-2-2 Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
0700-1900 hours on normal weekdays	When one valid documented complaint is received.	75*

*Note: *70 dB(A) for schools and 65 dB(A) during school examination periods. If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.*

Event and Action Plan

2.2.4 In case exceedances of Action and/or Limit levels for construction noise occur, the Event and Action Plan enclosed in ***Appendix F*** will be implemented.

Mitigation Measures for Construction Noise

2.2.5 Although no residual noise impact would be generated after the proposed mitigation measures are in place, the general construction noise control measures stipulated in the EP, Project Profile as well as those recommended in the Implementation Schedule should be fully implemented in order to minimize noise impacts during the construction phase. They are summarized as follows:

a) The Code of Practice on Good Management Practice to Prevent Violation of the Noise Control Ordinance (Chapter 400) (for Construction Industry) published by EPD shall be adopted;

b) The statutory and non-statutory requirements and guidelines shall be complied with;

c) Approval for the method of working, equipment and noise mitigation measures intended to be used at the site shall be granted from the Project Engineer before commencing any work;

d) Working methods to minimize the noise impact on the surrounding NSRs shall be formulated and executed, and the implementation of these methods shall be monitored by experienced personnel with suitable training;

e) Noisy equipment and noisy activities shall be located as far away from the NSRs as is practical;

f) Unused equipment shall be turned off;

g) PME should be kept to a minimum and the parallel use of noisy equipment / machinery should be avoided;

h) All plant and equipment shall be maintained regularly;

i) Material stockpiles and other structures shall be effectively utilized as noise barriers, whenever practicable; and

j) Enclosure of Entrance D1 with acoustic mat during demolition.

2.2.6 Details of the implementation schedule for the mitigation measures are presented in ***Appendix D***.

3. MONITORING RESULTS

3.1 *AIR QUALITY*

Monitoring Results

3.1.1 24-Hr TSP monitoring during the Reporting Period was conducted following the agreed monitoring schedule.

3.1.2 24-Hr TSP results of the Reporting Period are summarized in the following ***Table 3-1***. Graphical plots of the parameter are illustrated in ***Appendix H***.

Table 3-1 Summary of 24-Hr TSP Monitoring Results, µg/m³

Monitoring Date	*24-Hr TSP*	*A/L Levels*	
1-Jun-15	21.7		
8-Jun-15	12.3		
15-Jun-15	17.9		
22-Jun-15	17.4		
29-Jun-15	16.9		
6-Jul-15	34.3		
13-Jul-15	31.2	***Action Level:***	**Limit Level:**
20-Jul-15	20.0	**222**	***260***
27-Jul-15	24.5		
3-Aug-15	19.5		
10-Aug-15	32.8		
17-Aug-15	19.9		
24-Aug-15	50.8		
31-Aug-15	29.5		
Mean (Min – Max)	**24.9 (12.3 – 50.8)**		

Discussion

3.1.3 No environmental complaints against air quality were registered during the Reporting Period.

3.1.4 ***Table 3-1*** demonstrates that all 24-Hr TSP results of the Reporting Period were fluctuated below the A/L Level, there were no Action Level or Limit Level exceedances recorded during the Reporting Period.

3.1.5 No Notice of Exceedances (thereinafter referred as 'NOE') and the associated NOE Investigation and remedial actions were required during the Reporting Period.

3.2 *CONSTRUCTION NOISE*

Monitoring Results

3.2.1 Construction noise monitoring during the Reporting Period was conducted following the agreed monitoring schedule.

3.2.2 Construction noise monitoring results of the Reporting Period are summarized in the following ***Table 3-2***. Graphical plots of the parameter are illustrated in ***Appendix H***.

3.2.3 Weather condition, including wind speeds and directions, during the monitoring period are recorded and shown in ***Appendix G***.

Table 3-2 Summary of Construction Noise Monitoring Results at K11, dB(A)

Monitoring Date	*Leq* (30 min)	*A/L Levels*
2-Jun-15	66.3	**Limit Level: 75** **Action Level:** **Any Documented complaint against construction noise.**
9-Jun-15	67.7	
16-Jun-15	66.9	
23-Jun-15	68.1	
30-Jun-15	68.6	
7-Jul-15	70.3	
14-Jul-15	68.1	
21-Jul-15	68.8	
28-Jul-15	70.4	
4-Aug-15	69.2	
11-Aug-15	68.2	
18-Aug-15	68.6	
25-Aug-15	67.5	
Mean (Min – Max)	**68.5 (66.3 – 70.4)**	

Discussion

3.2.4 No environmental complaint against construction noise was registered during the Reporting Period, whereas Table 3-2 demonstrates that all construction noise results of the Reporting Period fell below the Limit Level of the parameter.

3.2.5 Neither NOE nor NOE investigation and the associated remedial actions were required during the Reporting Period.

3.2.6 The Contractor was reminded to pay attention to noisy construction activities within the Reporting Period and the coming quarter. The ET will liaise closely with the Contractor on any unusual level of noise recorded in the upcoming month.

3.2.7 It is re-instated that adequate mitigation measures should be implemented during the noisy construction activities in order to alleviate noise nuisance generated from the Project related construction activities.

Weather Conditions

3.2.8 No weather conditions and any other factors were identified to have significant effects on the monitoring results of air quality and construction noise during the Reporting Period.

3.2.9 Weather information during the Reporting Period which is extracted from Hong Kong Observatory King's Park Weather Station is enclosed for reference in ***Appendix G***.

3.3 *CONCLUSIONS AND RECOMMENDATIONS*

Conclusions

3.3.1 No exceedances of A/L Levels of air quality and no exceedances of Action Level of construction noise were registered during the Reporting Period.

3.3.2 No NOE and the associated NOE Investigation and corrected actions were required during the Reporting Period.

Recommendations

3.3.3 Full implementation of the environmental mitigation measures, which are required in the EM&A Plan and summarized in Implementation Schedule of ***Appendix D***, is recommended. Where necessary, proper maintenance and improvement of the implemented mitigation measures are reminded.

3.3.4 Construction dust shall be suppressed during dusty construction activities under dry and windy conditions.

4. ENVIRONMENTAL AUDIT

4.1 *SITE INSPECTION*

4.1.1 Weekly site inspections during the Reporting Period are conducted by MTRC, MC and ET, whereas monthly site inspections of the Reporting Period were jointly conducted by the IEC, MTRC, MC and ET. The site inspection follows strictly the agreed Site Inspection Checklist, which covers all the site audit requirements stipulated in the EM&A Plan, PS and all relevant environmental laws.

4.1.2 The completed Site Inspection Checklists are distributed to all relevant parties upon completion of the site inspection for agreement and signature and, where appropriate, for implementation of the recommended corrected actions to promptly rectify the situation.

4.1.3 There were 13 site inspections conducted within the Reporting Period. Deficiencies or findings of the site audits and the associated follow up actions are summarized in ***Table 4-1***:

Table 4-1 Summary of Findings and Follow-Up Actions of the Site Inspection

Date	Deficiencies or findings	*Follow-Up Action*
02-Jun-2015	No deficiency was observed on site.	Not required.
09-Jun-2015	No deficiency was observed on site.	Not required.
16-Jun-2015	No deficiency was observed on site.	Not required.
23-Jun-2015	No deficiency was observed on site.	Not required.
30-Jun-2015	No deficiency was observed on site.	Not required.
07-Jul-2015	No deficiency was observed on site.	Not required.
14-Jul-2015	No deficiency was observed on site.	Not required.
21-Jul-2015	No deficiency was observed on site.	Not required.
28-Jul-2015	No deficiency was observed on site.	Not required.
4-Aug-2015	No deficiency was observed on site.	Not required.
11-Aug-2015	No deficiency was observed on site.	Not required.
18-Aug-2015	No deficiency was observed on site.	Not required.
25-Aug-2015	No deficiency was observed on site.	Not required.

4.1.4 As shown in ***Table 4-1***, no deficiencies or non-compliance of environmental mitigation measures or adverse environmental impacts were observed during the Reporting Period.

4.2 *COMPLIANCE WITH LEGAL/ CONTRACTUAL REQUIREMENTS*

4.2.1 Construction activities under the Project must comply with all environmental protection and pollution control laws in Hong Kong, as well as the contractual requirements of the Project. ***Table 4-2*** summarizes breaches of legal and contractual requirements.

Table 4-2 Summary of Breaches of Legal and Contractual Requirements

Month	No. of Breaches	*Cumulative no. of Breaches*
June 2015	0	0
July 2015	0	0
August 2015	0	0

4.3 *ENVIRONMENTAL COMPLAINTS*

4.3.1 Environmental complaints are handled following closely the flow chart of complaint response procedure which is enclosed in ***Appendix I***.

4.3.2 Environmental complaints registered during the Reporting Period and cumulative statistics of environmental complaints are summarized in ***Table 4-3*** below:

Table 4-3 Summary of Complaint

Month	No. of Complaint	*Cumulative No. Complaint*
June 2015	0	0
July 2015	0	0
August 2015	0	0

4.4 *NOTIFICATION OF SUMMONS/SUCCESSFUL PROSECUTIONS*

4.4.1 Notification of summons and successful prosecutions registered during the Reporting Period are summarized in ***Table 4-4*** below:

Table 4-4 Summary of Summon and Successful Prosecutions

Month	Number of Issue	*Cumulative* no. of Issue
June 2015	0	0
July 2015	0	0
August 2015	0	0

5. WASTE MANAGEMENT

5.1 *WASTE MANAGEMENT*

5.1.1 Despite small scale of the Project and the amount of C&D material that needs to be hauled off site and disposed of is anticipated not to be significant, 3-R waste management i.e. Reduce, Reuse and Recycle, is adopted in order to minimize adverse environmental impacts to be generated from construction of the Project.

5.1.2 Waste management under the Project is performed in accordance with the Waste Management Plan, which has been prepared for implementation of the construction waste mitigation measures in compliance with the requirements stipulated in the EM&A Plan, PS, Waste Disposal Ordinance and the associated subsidiary regulations.

5.2 *WASTE MANAGEMENT RECORD*

5.2.1 Updated waste management status is detailed in ***Appendix J***, where the 3-R status of the construction waste generated from construction of the Project during the Reporting Period is presented.

6. FUTURE ENVIRONMENTAL ISSUES

6.1 *KEY ENVIRONMENTAL ISSUES*

6.1.1 Future key environmental issues include:

1) Air quality in particular construction dust during dusty construction activities on site, e.g. piling works and excavation works, under dry and windy conditions;

2) Construction noise during noisy activities; and

3) Site surface water run-off and construction wastewater discharge.

6.2 *Mitigation Measures*

6.2.1 To avoid potential adverse environmental impacts of the future key environmental issues stated above, full implementation of the mitigation measures as stipulated in the Implementation Schedule shown in ***Appendix D*** is required.

6.2.2 Mitigation measures for air quality, construction noise and water quality implemented to date shall be properly maintained.

6.2.3 Where appropriate, improvement of the implemented mitigation measures is reminded to ensure effectiveness of the mitigation measures.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 *CONCLUSIONS*

7.1.1 In compliance with the EP Condition 5.6 of the EM&A Plan, the environmental monitoring results of the monitored parameters during the Reporting Period, covering 24-hr TSP and Leq(30min), were supported by statistical information including result tables and graphical plots as presented in ***Appendix H***. No exceedances of A/L Levels of air quality and construction noise were recorded. No NOE and the associated investigation as well as follow-up actions were hence required.

7.1.2 The weekly site inspection and audit during the Reporting Period also recorded no non-compliances or deficiencies which carried environmental significance. No follow-up actions or corrective actions were required.

7.1.3 In addition, no notification of summons and successful prosecutions were registered during the Reporting Period. No remediation actions were hence required.

7.2 *RECOMMENDATIONS*

7.2.1 In general, full implementation of the environmental mitigation measures stipulated in the EM&A Plan and summarized in Implementation Schedule in ***Appendix D*** of This Report, are recommended. Where necessary, proper maintenance and improvement of the implemented mitigation measures are reminded.

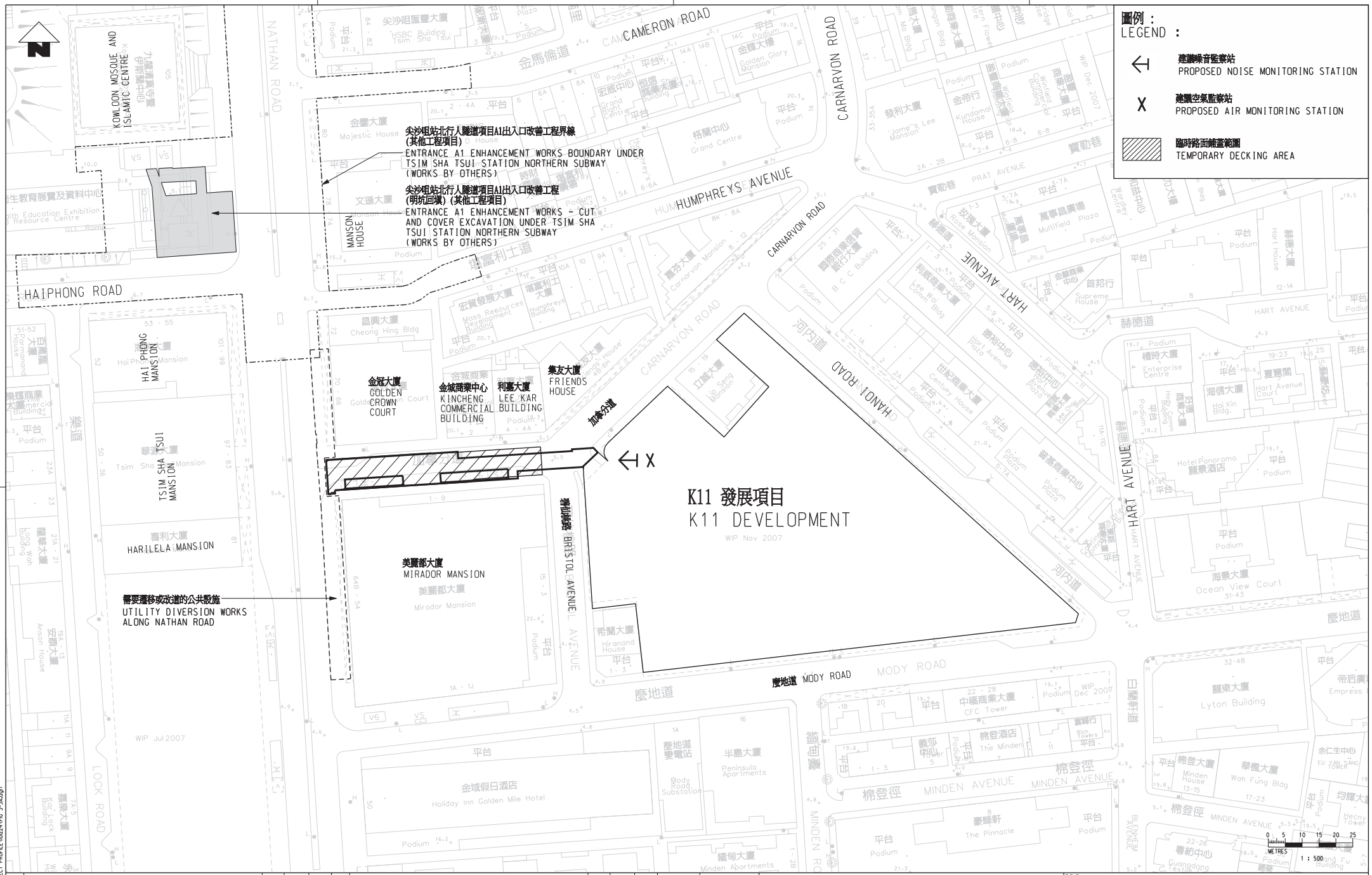
7.2.2 Adequate mitigation measures are reminded to be implemented in order to alleviate noise nuisance to acceptable levels.

7.2.3 In addition, suppression of construction dust is required during dusty construction activities under dry and windy conditions.

7.2.4 Furthermore, monitoring of site water runoff is reminded to prevent any direct water discharge off site, especially when water usage is high during the construction period. When necessary, the Contractor is reminded to apply additional precautionary measures to prevent any possible environmental deficiency.

Appendix A

Site Location Plan



REV	DESCRIPTION	BY	DATE	APPROVED
A	PROJECT PROFILE	HO	--	--

DRAWN	HO
DESIGNED	--
CHECKED	--
APPROVED	--
DATE	--

DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.

MTR

TST STATION CARNARVON ROAD SUBWAY

ORIGINATOR

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Ivanhoe Architect Ltd
ERM Hong Kong Ltd

CADD REF.

TITLE

CONSULTANCY AGREEMENT NO. NEX/1049
DETAILED DESIGN FOR CARNARVON ROAD SUBWAY
AIR AND NOISE MONITORING LOCATIONS
空氣及噪音監察站位置圖

SCALE 1:500 (A1)

DRAWING NO. APPENDIX B

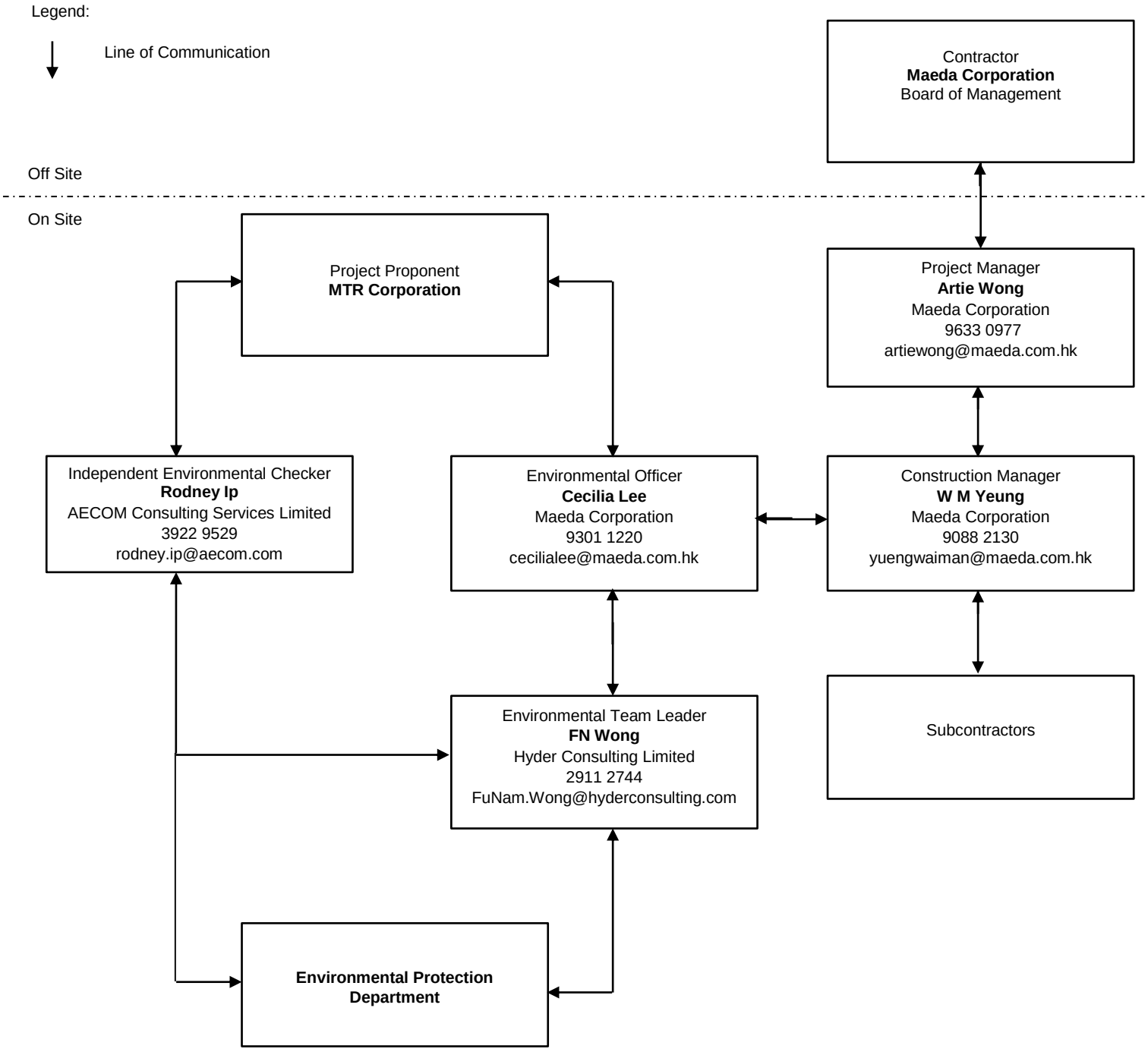
REV. A

PLOT DRV: C:\WTRC_A3.BW.COLpl
MODELNAME: DeFault
FILENAME: JN\27299-KN\PROJECT PROFILE\0224\FIG 3-3A.dgn
PRINTED BY: ho57494 08/02/2 14:48:02

Appendix B

Management Structure

Project Organization Chart in Environmental Management (Rev.02)



Note: In Compliance with
i) Clause.1.3 of Environmental Monitoring and Audit Manual (Appendix VII of Project Profile PP462/2012)

Appendix C

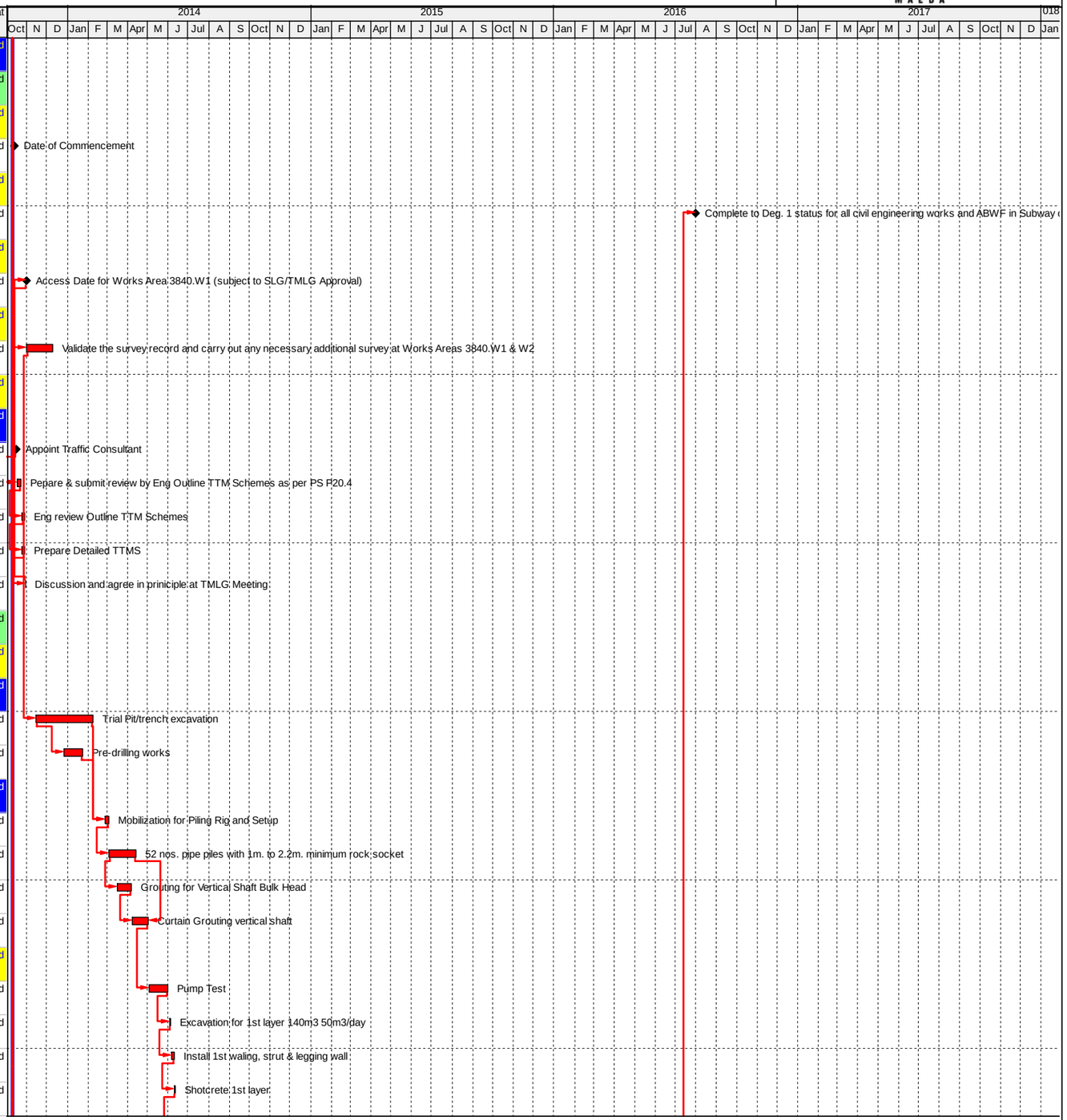
Construction Programme

CONTRACT C3840-13C Tsim Sha Tsui Station, Carnarvon Road Subway

MTR

MAEDA

Activity ID	Activity Name	Orig Dur	Planned Start	Planned Finish	Total Float
Preliminary Master Programme Revision 2		827d	14-Oct-13	31-Jul-16	0d
Preliminaries		827d	14-Oct-13	31-Jul-16	0d
Contract Key Dates		0d	14-Oct-13	14-Oct-13	0d
C3840-CD-20	Date of Commencement	0d	14-Oct-13		0d
Specified Degrees of Completion		0d	31-Jul-16	31-Jul-16	0d
C3840-CD-2A	Complete to Deg. 1 status for all civil engineering works and ABWF in Subway outside K11 Lot Boundary (31 Jul 16)	0d		31-Jul-16	0d
Possession of Works Area As PS Clause P8 & PS Appendix G		0d	31-Oct-13	31-Oct-13	0d
C3840-AD-20	Access Date for Works Area 3840.W1 (subject to SLG/TMLG Approval)	0d	31-Oct-13		0d
Initial Site Survey		35d	31-Oct-13	10-Dec-13	0d
C3840-SS-20	Validate the survey record and carry out any necessary additional survey at Works Areas 3840.W1 & W2	35d	31-Oct-13	10-Dec-13	0d
Temporary Works Design & Approval Process (Incl. Demolition)		12d	16-Oct-13	30-Oct-13	0d
Temporary Traffic Mangement Scheme (TTM)		12d	16-Oct-13	30-Oct-13	0d
C3840-TTM-100	Appoint Traffic Consultant	0d		16-Oct-13	0d
C3840-TTM-110	Pepare & submit review by Eng Outline TTM Schemes as per PS P20.4	6d	17-Oct-13	23-Oct-13	0d
C3840-TTM-120	Eng review Outline TTM Schemes	4d	24-Oct-13	28-Oct-13	0d
C3840-TTM-130	Prepare Detailed TTMS	5d	24-Oct-13	29-Oct-13	0d
C3840-TTM-140	Discussion and agree in priniciple at TMLG Meeting	1d	30-Oct-13	30-Oct-13	0d
Carnarvon Road Subway and Entrances		769d	14-Nov-13	22-Jun-16	8d
Open Cut Sequence 1 (Advance Ground Works & Piling Works)		135d	14-Nov-13	02-May-14	8d
Advance Ground Works		69d	14-Nov-13	08-Feb-14	0d
C3840-AGW-020	Trial Pit/trench excavation	69d	14-Nov-13	08-Feb-14	0d
C3840-AGW-040	Pre-drilling works	24d	27-Dec-13	24-Jan-14	0d
Piles & Grouting for Vertical Shaft		51d	27-Feb-14	02-May-14	8d
C3840-EVS-010	Mobilization for Piling Rig and Setup	4d	27-Feb-14	03-Mar-14	0d
C3840-EVS-020	52 nos. pipe piles with 1m. to 2.2m. minimum rock socket	35d	04-Mar-14	14-Apr-14	0d
C3840-EVS-030	Grouting for Vertical Shaft Bulk Head	18d	17-Mar-14	07-Apr-14	8d
C3840-EVS-040	Curtain Grouting vertical shaft	18d	08-Apr-14	02-May-14	8d
Tunnel (Vertical Shaft Excavation)		226d	03-May-14	31-Jan-15	8d
C3840-SH-100	Pump Test	24d	03-May-14	31-May-14	8d
C3840-SH-110	Excavation for 1st layer 140m3 50m3/day	3d	03-Jun-14	05-Jun-14	8d
C3840-SH-120	Install 1st waling, strut & legging wall	4d	06-Jun-14	10-Jun-14	8d
C3840-SH-130	Shotcrete 1st layer	2d	11-Jun-14	12-Jun-14	8d



Actual Work ◆ Milestone

Remaining Work

Critical Remaining Work

Data Date: 11-Oct-13

Preliminary Master Programme

Extract Critical Path 1

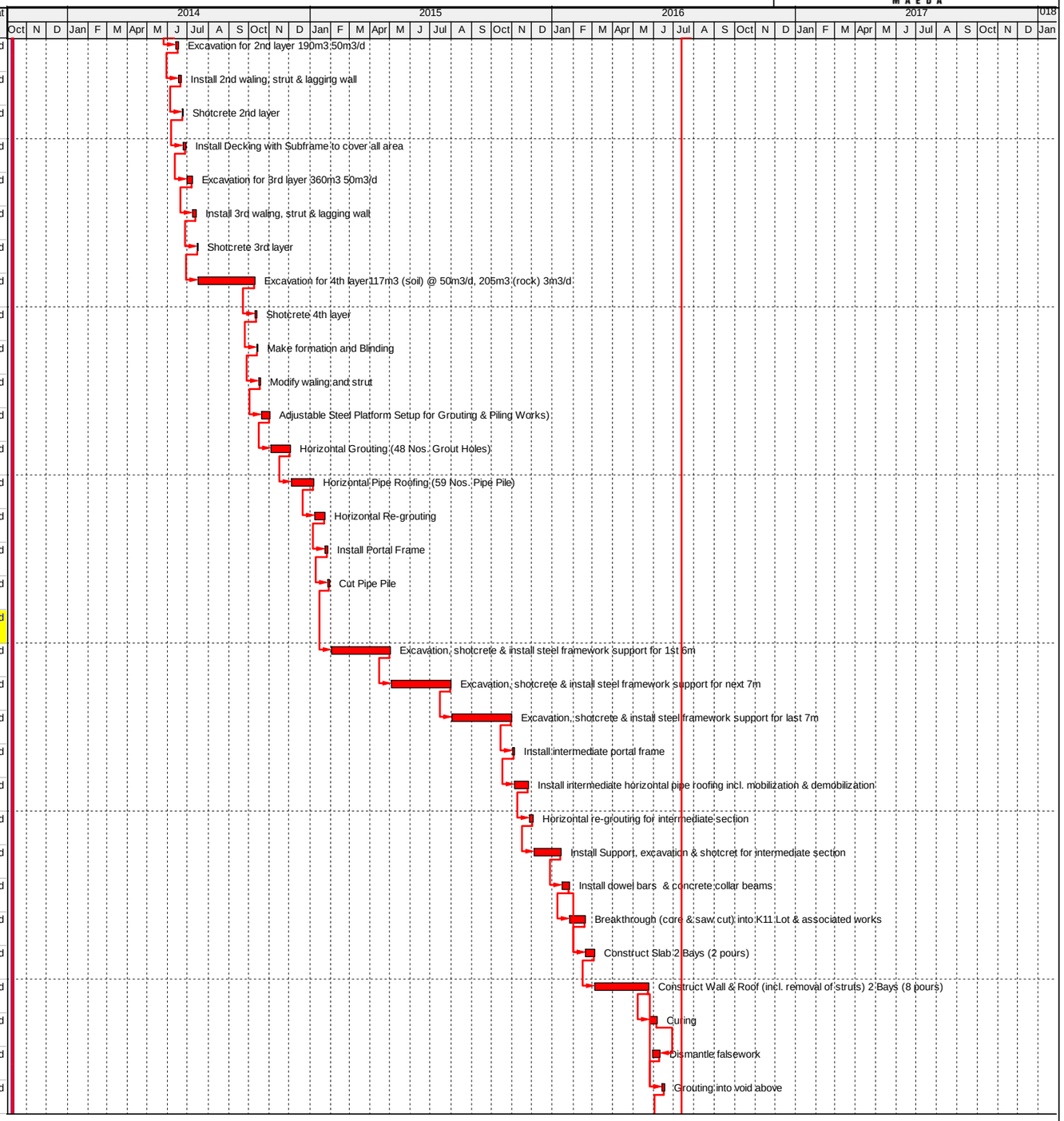
Maeda/P/PMP/2			
Date	Revision	Checked	Approved
27-Feb-14	REV 2	BG	AW

CONTRACT C3840-13C Tsim Sha Tsui Station, Carnarvon Road Subway

MTR

MAEDA

Activity ID	Activity Name	Orig Dur	Planned Start	Planned Finish	Total Float
C3840-SH-140	Excavation for 2nd layer 190m3 50m3/d	4d	13-Jun-14	17-Jun-14	8d
C3840-SH-150	Install 2nd waling, strut & lagging wall	4d	18-Jun-14	21-Jun-14	8d
C3840-SH-160	Shotcrete 2nd layer	2d	23-Jun-14	24-Jun-14	8d
C3840-SH-170	Install Decking with Subframe to cover all area	4d	25-Jun-14	28-Jun-14	8d
C3840-SH-180	Excavation for 3rd layer 360m3 50m3/d	7d	30-Jun-14	08-Jul-14	8d
C3840-SH-190	Install 3rd waling, strut & lagging wall	5d	09-Jul-14	14-Jul-14	8d
C3840-SH-200	Shotcrete 3rd layer	2d	15-Jul-14	16-Jul-14	8d
C3840-SH-210	Excavation for 4th layer117m3 (soil) @ 50m3/d, 205m3 (rock) 3m3/d	71d	17-Jul-14	10-Oct-14	8d
C3840-SH-230	Shotcrete 4th layer	2d	11-Oct-14	13-Oct-14	8d
C3840-SH-240	Make formation and Blinding	2d	14-Oct-14	15-Oct-14	8d
C3840-SH-250	Modify waling and strut	3d	16-Oct-14	18-Oct-14	8d
C3840-SH-260	Adjustable Steel Platform Setup for Grouting & Piling Works)	12d	20-Oct-14	01-Nov-14	8d
C3840-SH-270	Horizontal Grouting (48 Nos. Grout Holes)	27d	03-Nov-14	03-Dec-14	8d
C3840-SH-280	Horizontal Pipe Roofing (59 Nos. Pipe Pile)	27d	04-Dec-14	07-Jan-15	8d
C3840-SH-290	Horizontal Re-grouting	14d	08-Jan-15	23-Jan-15	8d
C3840-SH-300	Install Portal Frame	3d	24-Jan-15	27-Jan-15	8d
C3840-SH-310	Cut Pipe Pile	4d	28-Jan-15	31-Jan-15	8d
Tunnel (ELS, Excavation & Construction of Tunnel)		408d	02-Feb-15	22-Jun-16	8d
C3840-TU-100	Excavation, shotcrete & install steel framework support for 1st 6m	70d	02-Feb-15	02-May-15	8d
C3840-TU-110	Excavation, shotcrete & install steel framework support for next 7m	75d	04-May-15	01-Aug-15	8d
C3840-TU-120	Excavation, shotcrete & install steel framework support for last 7m	75d	03-Aug-15	31-Oct-15	8d
C3840-TU-130	Install intermediate portal frame	3d	02-Nov-15	04-Nov-15	8d
C3840-TU-140	Install intermediate horizontal pipe roofing incl. mobilization & demobilization	19d	05-Nov-15	26-Nov-15	8d
C3840-TU-150	Horizontal re-grouting for intermediate section	6d	27-Nov-15	03-Dec-15	8d
C3840-TU-160	Install Support, excavation & shotcret for intermediate section	33d	04-Dec-15	14-Jan-16	8d
C3840-TU-180	Install dowel bars & concrete collar beams	10d	15-Jan-16	26-Jan-16	8d
C3840-TU-210	Breakthrough (core & saw cut) into K11 Lot & associated works	18d	27-Jan-16	19-Feb-16	8d
C3840-TU-220	Construct Slab 2 Bays (2 pours)	12d	20-Feb-16	04-Mar-16	8d
C3840-TU-230	Construct Wall & Roof (incl. removal of struts) 2 Bays (8 pours)	64d	05-Mar-16	25-May-16	8d
C3840-TU-240	Curing	10d	26-May-16	06-Jun-16	8d
C3840-TU-250	Dismantle falsework	10d	31-May-16	11-Jun-16	8d
C3840-TU-260	Grouting into void above	6d	13-Jun-16	18-Jun-16	8d



Actual Work
Remaining Work
Critical Remaining Work
◆ Milestone

Data Date: 11-Oct-13

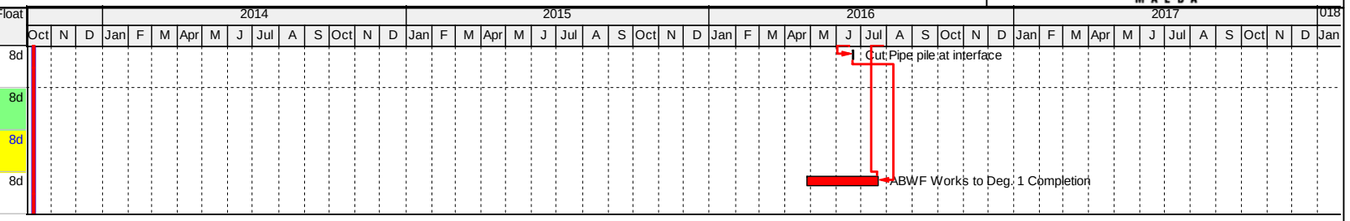
Preliminary Master Programme

Extract Critical Path 1

Maeda/P/PMP/2			
Date	Revision	Checked	Approved
27-Feb-14	REV 2	BG	AW

CONTRACT C3840-13C Tsim Sha Tsui Station, Carnarvon Road Subway

Activity ID	Activity Name	Orig Dur	Planned Start	Planned Finish	Total Float
C3840-TU-270	Cut Pipe pile at interface	3d	20-Jun-16	22-Jun-16	8d
Building Services & ABWF Works		70d	27-Apr-16	21-Jul-16	8d
BS & ABWF Works at Subway Conc. Level and Plant Room & D3		70d	27-Apr-16	21-Jul-16	8d
C3840-BSS-120	ABWF Works to Deg. 1 Completion	70d	27-Apr-16	21-Jul-16	8d



Actual Work
Remaining Work
Critical Remaining Work
◆ Milestone

Data Date: 11-Oct-13

Page 3 of 3

Preliminary Master Programme

Extract Critical Path 1

Maeda/P/PMP/2

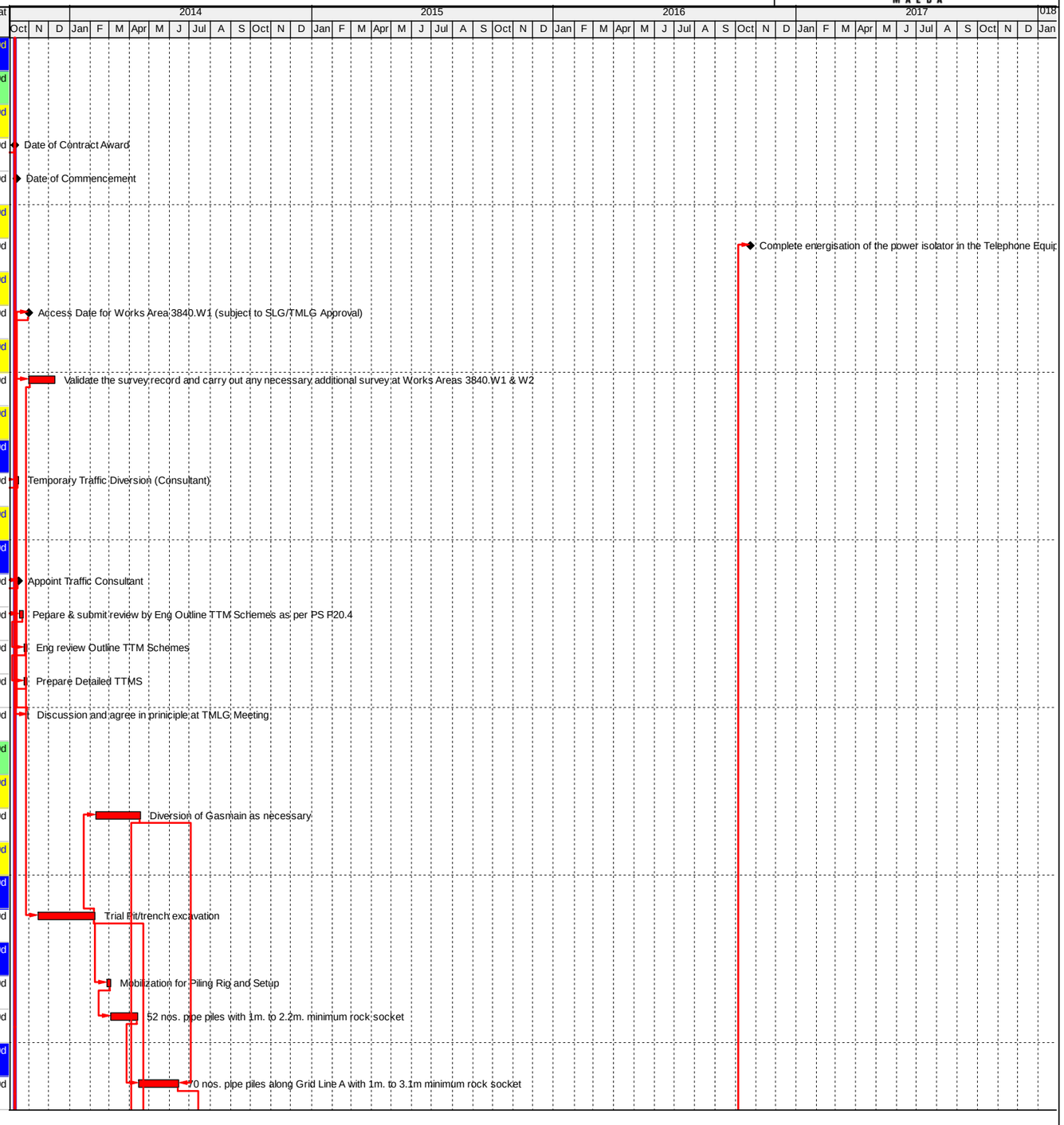
Date	Revision	Checked	Approved
27-Feb-14	REV 2	BG	AW

CONTRACT C3840-13C Tsim Sha Tsui Station, Carnarvon Road Subway

MTR

MAEDA

Activity ID	Activity Name	Orig Dur	Planned Start	Planned Finish	Total Float
Preliminary Master Programme Revision 2		898d	11-Oct-13	23-Oct-16	0d
Preliminaries		898d	11-Oct-13	23-Oct-16	0d
Contract Key Dates		3d	11-Oct-13	14-Oct-13	0d
C3840-CD-10	Date of Contract Award	0d	11-Oct-13		0d
C3840-CD-20	Date of Commencement	0d	14-Oct-13		0d
Specified Degrees of Completion		0d	23-Oct-16	23-Oct-16	0d
C3840-CD-2C	Complete energisation of the power isolator in the Telephone Equipment Rm (23 Oct 16)	0d		23-Oct-16	0d
Possession of Works Area As PS Clause P8 & PS Appendix G		0d	31-Oct-13	31-Oct-13	0d
C3840-AD-20	Access Date for Works Area 3840.W1 (subject to SLG/TMLG Approval)	0d	31-Oct-13		0d
Initial Site Survey		35d	31-Oct-13	10-Dec-13	0d
C3840-SS-20	Validate the survey record and carry out any necessary additional survey at Works Areas 3840.W1 & W2	35d	31-Oct-13	10-Dec-13	0d
Procurement of Subcontract Packages		4d	11-Oct-13	16-Oct-13	0d
Preliminaries and Utilities Diversion		4d	11-Oct-13	16-Oct-13	0d
C3840-PRC-140	Temporary Traffic Diversion (Consultant)	4d	11-Oct-13	16-Oct-13	0d
Temporary Works Design & Approval Process (Incl. Demolition)		12d	16-Oct-13	30-Oct-13	0d
Temporary Traffic Mangement Scheme (TTM)		12d	16-Oct-13	30-Oct-13	0d
C3840-TTM-100	Appoint Traffic Consultant	0d		16-Oct-13	0d
C3840-TTM-110	Pepare & submit review by Eng Outline TTM Schemes as per PS P20.4	6d	17-Oct-13	23-Oct-13	0d
C3840-TTM-120	Eng review Outline TTM Schemes	4d	24-Oct-13	28-Oct-13	0d
C3840-TTM-130	Prepare Detailed TTMS	5d	24-Oct-13	29-Oct-13	0d
C3840-TTM-140	Discussion and agree in priniciple at TMLG Meeting	1d	30-Oct-13	30-Oct-13	0d
Carnarvon Road Subway and Entrances		774d	14-Nov-13	28-Jun-16	0d
Utility Diversion		57d	10-Feb-14	17-Apr-14	0d
C3840-UTD-290	Diversion of Gasmain as necessary	57d	10-Feb-14	17-Apr-14	0d
Open Cut Sequence 1 (Advance Ground Works & Piling Works)		444d	14-Nov-13	18-May-15	0d
Advance Ground Works		69d	14-Nov-13	08-Feb-14	0d
C3840-AGW-020	Trial Pit/trench excavation	69d	14-Nov-13	08-Feb-14	0d
Piles & Grouting for Vertical Shaft		39d	27-Feb-14	14-Apr-14	0d
C3840-EVS-010	Mobilization for Piling Rig and Setup	4d	27-Feb-14	03-Mar-14	0d
C3840-EVS-020	52 nos. pipe piles with 1m. to 2.2m. minimum rock socket	35d	04-Mar-14	14-Apr-14	0d
Piles & Grouting for Temporary Staricase & C&C Subway		59d	15-Apr-14	28-Jun-14	0d
C3840-ETS-020	70 nos. pipe piles along Grid Line A with 1m. to 3.1m minimum rock socket	47d	15-Apr-14	14-Jun-14	0d



Actual Work ◆ ◆ Milestone
Remaining Work
Critical Remaining Work

Data Date: 11-Oct-13

Preliminary Master Programme

Extract Critical Path 2

Maeda/P/PMP/2			
Date	Revision	Checked	Approved
27-Feb-14	REV 2	BG	AW

CONTRACT C3840-13C Tsim Sha Tsui Station, Carnarvon Road Subway

MTR

MAEDA

Activity ID	Activity Name	Orig Dur	Planned Start	Planned Finish	Total Float
C3840-ETS-030	Curtain Grouting along Grid Line A	24d	29-May-14	26-Jun-14	2d
C3840-ETS-070	Type III Sheet PIle, 355m along between Grids A & B	6d	22-Apr-14	28-Apr-14	0d
C3840-ETS-080	Toe Grouting	8d	29-Apr-14	09-May-14	0d
C3840-ETS-090	Mobilization for Piling Rig and Setup	4d	10-May-14	14-May-14	0d
C3840-ETS-110	37 nos. pipe piels along Grid Line B with 1m. to 1.5m. minimum rock socket	25d	15-May-14	13-Jun-14	0d
C3840-ETS-120	Curtain Grouting along Grid Line B	13d	14-Jun-14	28-Jun-14	0d
Piles & Grouting for Remaining Section of Cofferdam at D2		20d	24-Apr-15	18-May-15	0d
C3840-ECD-010	Mobilization for Piling Rig and Setup	4d	24-Apr-15	28-Apr-15	0d
C3840-ECD-020	23 nos. pipe piles along Grid Line B at D2 with 1m. to 3.2m minimum rock socket	16d	29-Apr-15	18-May-15	0d
Open Cut Sequence 2 (Excavation for Temporary Staricase)		209d	30-Jun-14	11-Mar-15	0d
Excavation		93d	30-Jun-14	20-Oct-14	0d
C3840-EXC-100	Pump test prior to excavate for temporary staricase	24d	30-Jun-14	28-Jul-14	0d
C3840-EXC-120	Excavation for 1st layer at D1 208m3	4d	29-Jul-14	01-Aug-14	0d
C3840-EXC-130	Install 1st waling & strut 21ton & temporary support to underground UUs	7d	02-Aug-14	09-Aug-14	0d
C3840-EXC-140	Install Truss for Suport Temp D1	6d	11-Aug-14	16-Aug-14	0d
C3840-EXC-150	Shotcrete 1st layer	2d	18-Aug-14	19-Aug-14	0d
C3840-EXC-160	Demolish D1 4m below GL	6d	20-Aug-14	26-Aug-14	0d
C3840-EXC-170	Excavation for 2nd layer at D1 230m3	5d	27-Aug-14	01-Sep-14	0d
C3840-EXC-180	Install 2nd waling & strut 17ton	7d	02-Sep-14	10-Sep-14	0d
C3840-EXC-190	Shotcrete 2nd layer	2d	11-Sep-14	12-Sep-14	0d
C3840-EXC-200	Excavation for 3rd layer at D1 216m3	5d	13-Sep-14	18-Sep-14	0d
C3840-EXC-210	Install 3rd waling & strut 15ton	6d	19-Sep-14	25-Sep-14	0d
C3840-EXC-220	Shotcrete 3rd layer	4d	26-Sep-14	30-Sep-14	0d
C3840-EXC-230	Excavation for 4th layer at D1 166m3	4d	03-Oct-14	07-Oct-14	0d
C3840-EXC-240	Install channel on opening	3d	08-Oct-14	10-Oct-14	0d
C3840-EXC-250	Shotcrete 4th layer	4d	11-Oct-14	15-Oct-14	0d
C3840-EXC-260	Make formation and Blinding	4d	16-Oct-14	20-Oct-14	0d
RC Structure (Temporary Staricase)		116d	21-Oct-14	11-Mar-15	0d
C3840-TSC-100	Install Dowel bars (130#)	6d	21-Oct-14	27-Oct-14	0d
C3840-TSC-110	Const. Bay1 : 18m3	6d	28-Oct-14	03-Nov-14	0d
C3840-TSC-120	Const. Bay2 : 16m3	9d	04-Nov-14	13-Nov-14	0d
C3840-TSC-130	Const. Bay3 : 6m3	6d	14-Nov-14	20-Nov-14	0d

Actual Work ◆ ◆ Milestone

Remaining Work

Critical Remaining Work

Data Date: 11-Oct-13

Preliminary Master Programme

Extract Critical Path 2

Maeda/P/PMP/2

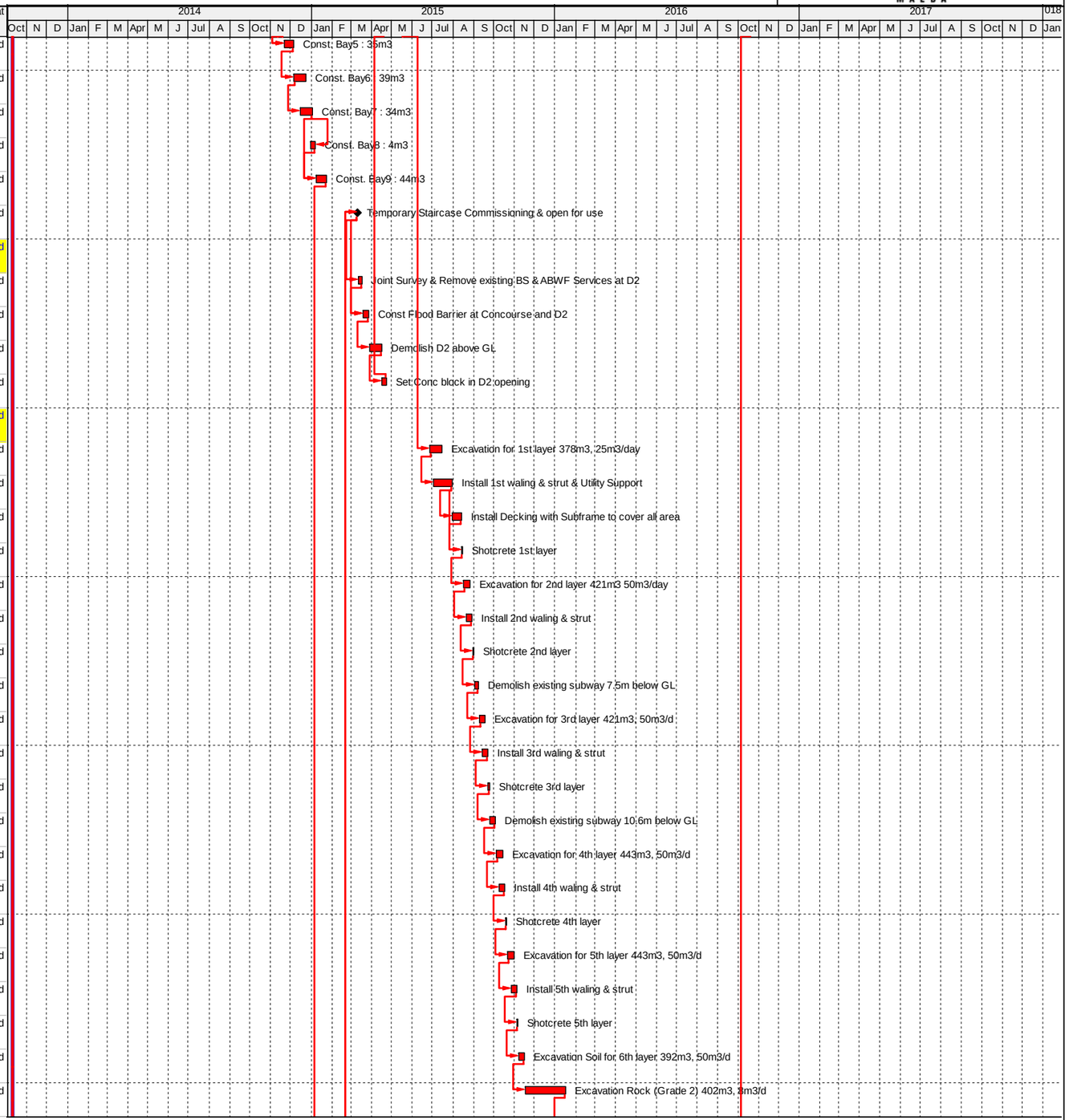
Date	Revision	Checked	Approved
27-Feb-14	REV 2	BG	AW

CONTRACT C3840-13C Tsim Sha Tsui Station, Carnarvon Road Subway

MTR

MAEDA

Activity ID	Activity Name	Orig Dur	Planned Start	Planned Finish	Total Float
C3840-TSC-150	Const. Bay5 : 35m3	13d	21-Nov-14	05-Dec-14	0d
C3840-TSC-160	Const. Bay6 : 39m3	15d	06-Dec-14	23-Dec-14	0d
C3840-TSC-170	Const. Bay7 : 34m3	14d	16-Dec-14	03-Jan-15	0d
C3840-TSC-180	Const. Bay8 : 4m3	6d	31-Dec-14	07-Jan-15	0d
C3840-TSC-190	Const. Bay9 : 44m3	14d	08-Jan-15	23-Jan-15	0d
C3840-TSC-240	Temporary Staircase Commissioning & open for use	0d		11-Mar-15	0d
Open Cut Sequence 3 (Advance Ground Works & Piling Works at D2 & in front of D1)		33d	12-Mar-15	23-Apr-15	0d
C3840-ELS-510	Joint Survey & Remove existing BS & ABWF Services at D2	6d	12-Mar-15	18-Mar-15	0d
C3840-ELS-520	Const Flood Barrier at Concourse and D2	9d	19-Mar-15	28-Mar-15	0d
C3840-ELS-530	Demolish D2 above GL	12d	30-Mar-15	16-Apr-15	0d
C3840-ELS-540	Set Conc block in D2 opening	6d	17-Apr-15	23-Apr-15	0d
Open Cut Sequence 4 (Excavation for Subway in front of D1)		182d	27-Jun-15	02-Feb-16	0d
C3840-ELSD1-100	Excavation for 1st layer 378m3, 25m3/day	15d	27-Jun-15	15-Jul-15	0d
C3840-ELSD1-110	Install 1st waling & strut & Utility Support	24d	03-Jul-15	30-Jul-15	0d
C3840-ELSD1-130	Install Decking with Subframe to cover all area	12d	31-Jul-15	13-Aug-15	0d
C3840-ELSD1-140	Shotcrete 1st layer	2d	14-Aug-15	15-Aug-15	0d
C3840-ELSD1-150	Excavation for 2nd layer 421m3 50m3/day	9d	17-Aug-15	26-Aug-15	0d
C3840-ELSD1-160	Install 2nd waling & strut	8d	21-Aug-15	29-Aug-15	0d
C3840-ELSD1-170	Shotcrete 2nd layer	2d	31-Aug-15	01-Sep-15	0d
C3840-ELSD1-180	Demolish existing subway 7.5m below GL	6d	02-Sep-15	08-Sep-15	0d
C3840-ELSD1-190	Excavation for 3rd layer 421m3, 50m3/d	9d	09-Sep-15	18-Sep-15	0d
C3840-ELSD1-200	Install 3rd waling & strut	8d	14-Sep-15	22-Sep-15	0d
C3840-ELSD1-210	Shotcrete 3rd layer	2d	23-Sep-15	24-Sep-15	0d
C3840-ELSD1-220	Demolish existing subway 10.6m below GL	6d	25-Sep-15	03-Oct-15	0d
C3840-ELSD1-230	Excavation for 4th layer 443m3, 50m3/d	9d	05-Oct-15	14-Oct-15	0d
C3840-ELSD1-240	Install 4th waling & strut	8d	09-Oct-15	17-Oct-15	0d
C3840-ELSD1-250	Shotcrete 4th layer	2d	19-Oct-15	20-Oct-15	0d
C3840-ELSD1-260	Excavation for 5th layer 443m3, 50m3/d	9d	22-Oct-15	31-Oct-15	0d
C3840-ELSD1-270	Install 5th waling & strut	8d	27-Oct-15	04-Nov-15	0d
C3840-ELSD1-280	Shotcrete 5th layer	2d	05-Nov-15	06-Nov-15	0d
C3840-ELSD1-290	Excavation Soil for 6th layer 392m3, 50m3/d	8d	07-Nov-15	16-Nov-15	0d
C3840-ELSD1-300	Excavation Rock (Grade 2) 402m3, 8m3/d	50d	17-Nov-15	16-Jan-16	0d



Actual Work ◆ ◆ Milestone

Remaining Work

Critical Remaining Work

Data Date: 11-Oct-13

Preliminary Master Programme

Extract Critical Path 2

Maeda/P/PMP/2

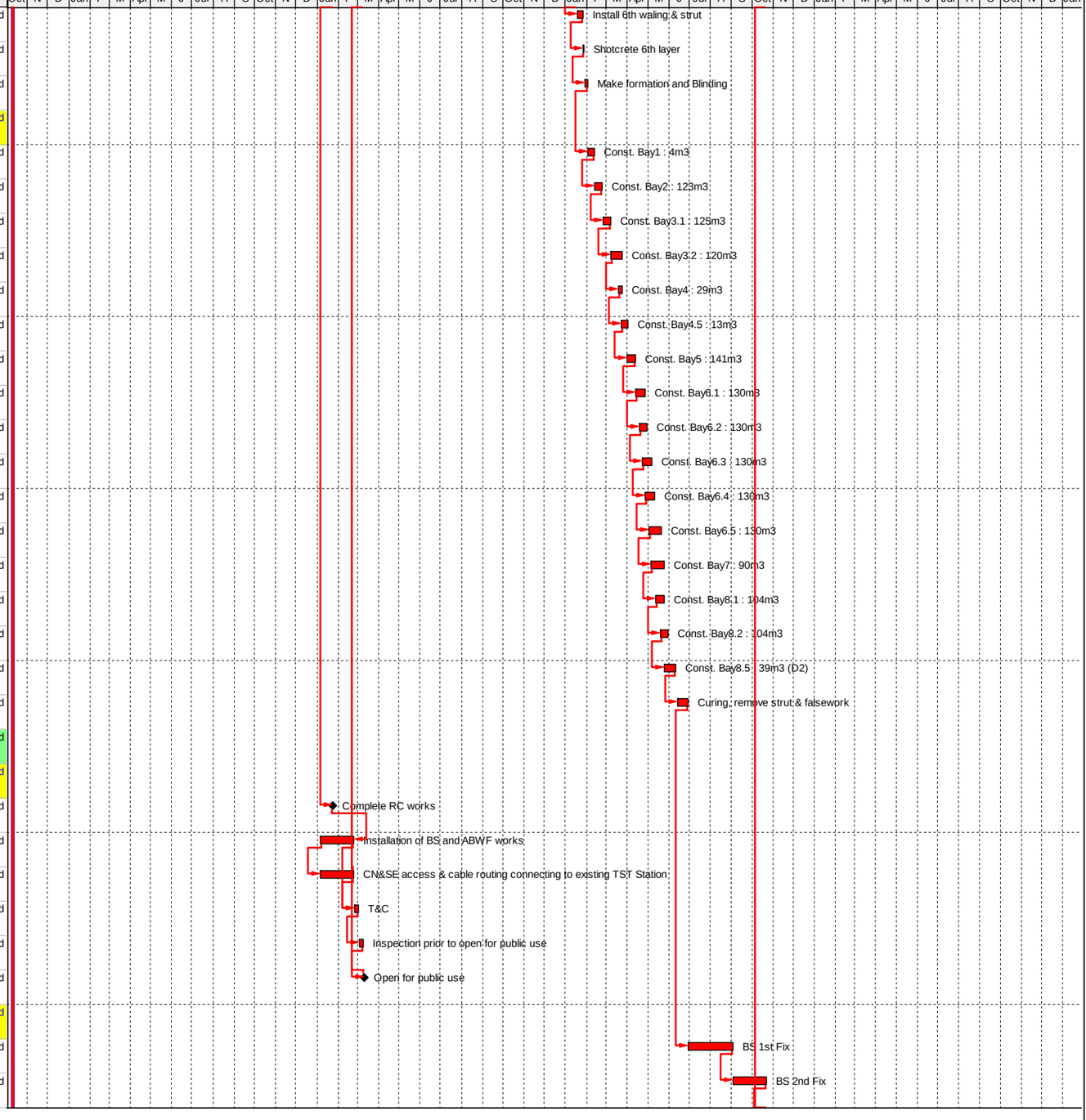
Date	Revision	Checked	Approved
27-Feb-14	REV 2	BG	AW

CONTRACT C3840-13C Tsim Sha Tsui Station, Carnarvon Road Subway

MTR

MAEDA

Activity ID	Activity Name	Orig Dur	Planned Start	Planned Finish	Total Float
C3840-ELSD1-310	Install 6th waling & strut	8d	18-Jan-16	26-Jan-16	0d
C3840-ELSD1-320	Shotcrete 6th layer	2d	27-Jan-16	28-Jan-16	0d
C3840-ELSD1-330	Make formation and Blinding	4d	29-Jan-16	02-Feb-16	0d
Open Cut Sequence 5 (Construction of Subway & D2)		116d	03-Feb-16	28-Jun-16	0d
C3840-STR-110	Const. Bay1 : 4m3	6d	03-Feb-16	12-Feb-16	0d
C3840-STR-120	Const. Bay2 : 123m3	10d	13-Feb-16	24-Feb-16	0d
C3840-STR-130	Const. Bay3.1 : 125m3	10d	25-Feb-16	07-Mar-16	0d
C3840-STR-140	Const. Bay3.2 : 120m3	15d	08-Mar-16	24-Mar-16	0d
C3840-STR-150	Const. Bay4 : 29m3	6d	18-Mar-16	24-Mar-16	0d
C3840-STR-160	Const. Bay4.5 : 13m3	6d	23-Mar-16	01-Apr-16	0d
C3840-STR-170	Const. Bay5 : 141m3	10d	31-Mar-16	12-Apr-16	0d
C3840-STR-180	Const. Bay6.1 : 130m3	12d	13-Apr-16	26-Apr-16	0d
C3840-STR-190	Const. Bay6.2 : 130m3	12d	18-Apr-16	30-Apr-16	0d
C3840-STR-200	Const. Bay6.3 : 130m3	12d	22-Apr-16	06-May-16	0d
C3840-STR-210	Const. Bay6.4 : 130m3	12d	27-Apr-16	11-May-16	0d
C3840-STR-220	Const. Bay6.5 : 130m3	15d	03-May-16	20-May-16	0d
C3840-STR-240	Const. Bay7 : 90m3	15d	06-May-16	24-May-16	0d
C3840-STR-260	Const. Bay8.1 : 104m3	10d	12-May-16	24-May-16	0d
C3840-STR-270	Const. Bay8.2 : 104m3	10d	19-May-16	30-May-16	0d
C3840-STR-280	Const. Bay8.5 : 39m3 (D2)	15d	25-May-16	11-Jun-16	0d
C3840-STR-290	Curing, remove strut & falsework	14d	13-Jun-16	28-Jun-16	0d
Building Services & ABWF Works		533d	05-Jan-15	22-Oct-16	0d
BS & ABWF Works at Temporary Staircase		54d	05-Jan-15	11-Mar-15	0d
C3840-TSBA-100	Complete RC works	0d		23-Jan-15	0d
C3840-TSBA-110	Installation of BS and ABWF works	40d	05-Jan-15	23-Feb-15	0d
C3840-TSBA-120	CN&SE access & cable routing connecting to existing TST Station	40d	05-Jan-15	23-Feb-15	1d
C3840-TSBA-130	T&C	6d	25-Feb-15	03-Mar-15	0d
C3840-TSBA-140	Inspection prior to open for public use	6d	04-Mar-15	10-Mar-15	0d
C3840-TSBA-150	Open for public use	0d		11-Mar-15	0d
BS & ABWF Works at Mid Landing Level & Plant Room		96d	29-Jun-16	22-Oct-16	0d
C3840-BSM-100	BS 1st Fix	56d	29-Jun-16	02-Sep-16	0d
C3840-BSM-110	BS 2nd Fix	40d	03-Sep-16	22-Oct-16	0d



Actual Work ◆ Milestone

Remaining Work

Critical Remaining Work

Data Date: 11-Oct-13

Preliminary Master Programme

Extract Critical Path 2

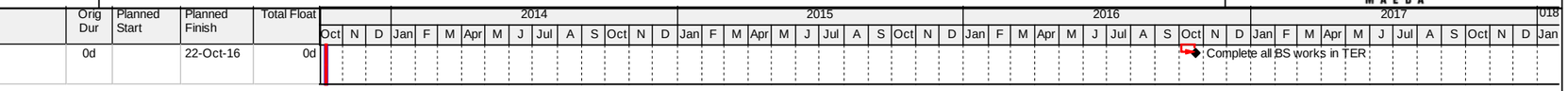
Maeda/P/PMP/2

Date	Revision	Checked	Approved
27-Feb-14	REV 2	BG	AW

CONTRACT C3840-13C Tsim Sha Tsui Station, Carnarvon Road Subway

MAEDA

Activity ID	Activity Name	Orig Dur	Planned Start	Planned Finish	Total Float
C3840-BSM-120	Complete all BS works in TER	0d		22-Oct-16	0d



Actual Work
Remaining Work
Critical Remaining Work
◆ Milestone

Data Date: 11-Oct-13

Page 5 of 5

Preliminary Master Programme

Extract Critical Path 2

Maeda/P/PMP/2

Date	Revision	Checked	Approved
27-Feb-14	REV 2	BG	AW

Appendix D

Implementation Schedule

Appendix VIII

Implementation Schedule

Project Profile Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
	Noise Impact					
S.3.1	Use of quieter plant	To minimise construction noise emissions	Contractor	Work site	Construction Stage	ProPECC PN2/93 and Noise Control Ordinance
S.3.1	Use of noise enclosure and movable barrier • movable barrier can achieve a 5 dB(A) reduction for movable PME and 10 dB(A) reduction for stationary PME; • noise enclosure can achieve 15dB(A) reduction for PME; • A typical design barrier with a steel frame of vertical / cantilever type would be adopted and located close to the noise generating part of PME; • Barrier material of surface mass in excess of 7kg/m^2 shall be required to achieve the maximum screening effect (and minimum 10kg/m^2 for noise enclosure); • The length of barrier should generally be at least five times greater than its height and the minimum height of a barrier should be such that no part of the noise source will be visible from the noise sensitive receiver being protected.	To minimize construction noise emissions	Contractor	Work site	Construction Stage	ProPECC PN2/93, Noise Control Ordinance and EIAO Guidance Note NO. 9/2010
S.3.1	General Construction Noise Control Measures • The Code of Practice on Good Management Practice	To minimize construction noise	Contractor	Work site	Construction Stage	ProPECC PN2/93 and Noise Control

Project Profile Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
	to Prevent Violation of the Noise Control Ordinance (Chapter 400) (for Construction Industry) published by EPD shall be adopted; • The statutory and non-statutory requirements and guidelines shall be complied with; • Approval for the method of working, equipment and noise mitigation measures intended to be used at the site shall be granted from the Project Engineer before commencing any work; • Working methods to minimize the noise impact on the surrounding NSRs shall be formulated and executed, and the implementation of these methods shall be monitored by experienced personnel with suitable training; • Noisy equipment and noisy activities shall be located as far away from the NSRs as is practical; • Unused equipment shall be turned off; • PME should be kept to a minimum and the parallel use of noisy equipment / machinery should be avoided; • All plant and equipment shall be maintained regularly; and • Material stockpiles and other structures shall be effectively utilized as noise barriers, whenever practicable.	emissions				Ordinance
	Air Quality Impact					
S.3.2	Construction Dust Control Measures • Decking will be provided subsequent to the completion of surface excavation works. The duration	To minimise the dust impacts arising from the	Contractor	Work site	Construction Stage	Air Pollution Control (Construction

Project Profile Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
	of decking is around 13 months after surface excavation works; • Regular watering to reduce dust emissions from all exposed site surface, particularly during dry weather; • Frequent watering for particularly dusty construction areas and areas close to air sensitive receivers; • Cover all excavated or stockpile of dusty material by impervious sheeting or spraying with water to maintain the entire surface wet; • Provision of vehicle washing facilities at the exit points of the site; and • Provision of tarpaulin covering of any dusty materials on a vehicle leaving the site.	construction works				Dust) Regulation
	Water Quality Impact					
S.3.3	Construction Water Quality Impact Measures • The Contractor should design and implement all the mitigation measures and practices specified in the ProPECC PN 1/94 "Construction Site Drainage" and "Recommended Pollution Control Clauses for Construction Contracts" issued by EPD. • All runoffs arising from the construction site should be properly collected and treated to ensure the discharge standards as stipulated in WPCO are met. Silt trap and oil interceptor should be provided to remove the oil, lubricants, grease, silt, grit and debris from the wastewater before being pumped to the public stormwater drainage system. The silt traps and oil interceptors should be cleaned and maintained regularly.	To reduce water quality impact induced by the construction work	Contractor	Work Site	Construction Stage	ProPECC PN1/94; Water Pollution Control Ordinance

Project Profile Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
	• Any foul effluent should not be discharged into any public sewer and stormwater drain, unless an effluent discharge permit is obtained under the WPCO by the Contractor. • Site toilet facilities, if needed, should be chemical toilets or should have the foul water effluent directed to a foul sewer.					
	Waste Management					
S.3.4	Construction Waste Management Measures • Excavated material should be reused on site as far as possible to minimise off-site disposal. Scrap metals or abandoned equipment should be recycled if possible. • Waste arising should be kept to a minimum and be handled, transported and disposed of in a suitable manner. • The Contractor should adopt a trip ticket system for the disposal of C&D materials to any designated public filling facility and/or landfill. Independent audits of the Contractor and resident site staff will be undertaken to ensure that the correct procedures are being followed. • Chemical waste shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes. • All general refuse should be segregated and stored in enclosed bins or compaction units and waste separation facilities for paper, aluminium cans, plastic bottles etc. should be provided to facilitate reuse or	To adopt waste management measures in the way of avoiding, minimising, reusing and recycling so as to reduce waste generation	Contractor	Work Site	Construction Stage	Waste Disposal Ordinance (Cap. 54); Waste Disposal (Chemical Waste) (General) Regulation; ETWB TCW No. 31/2004; ETWB TCW No. 19/2005.

Project Profile Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
	recycling of materials and their proper disposal.					
	Landscape and Visual Impact					
S.3.5	Landscape and Visual Measures • Screening of construction works by hoardings/noise barriers around works area with visually unobtrusive colours	To reduce visual impact by construction works.	Contractor	Temporary Storage Area at Salisbury Road	Construction Stage	EIAO
S.3.5	• Reinstating the affected amenity planting area at Salisbury Road after the completion of works	To prevent loss of planter after construction	Contractor	Temporary Storage Area at Salisbury Road	Operation Stage	ETWB TCW No. 2/2004

Appendix E

Status of Environmental Licenses and Permits

Maeda Corporation

Contract No. C3840-13C
Tsim Sha Tsui Station Carnarvon Road Subway

Last Update: 31-August-2015

Licence Summary

Item No.	Our Ref.	Govt. Ord.	Type? (License / Permit / Account / Notification / Registration & etc.)	Description	Submission	Ref. No	Date of Submission (to EPD) (DD-MM-YYYY)	Date of Approval / Receipt (from EPD) (DD-MM-YYYY)	Date of Activation (DD-MM-YYYY)	Date of Expiry (DD-MM-YYYY) Green = expire next mth; Yellow = expire this wk; Red = Expired	Description	Remarks
000	000	EIAO	Permit	Environmental Permit	N/A	AEP-440/2012	N/A	N/A	18 - 07 - 2012	N/A	Baseline, Air & Noise Impact Monitoring	
001	001	APCO	Notification	Construction Dust Notification	Form NA – Notification S3(1) of APCO (Construction Dust)	365953	18 - 10 - 2013	21 - 10 - 2013	01 - 02 - 2014	01 - 10 - 2016	Demolition of a Building	
001	001	APCO	Notification	Construction Dust Notification	Form NA – Notification S3(1) of APCO (Construction Dust)	365953	18 - 10 - 2013	21 - 10 - 2013	01 - 08 - 2014	01 - 08 - 2016	Work carried out in any part of a tunnel that is within 100m of any exit to the open air	
001	001	APCO	Notification	Construction Dust Notification	Form NA – Notification S3(1) of APCO (Construction Dust)	365953	18 - 10 - 2013	21 - 10 - 2013	01 - 01 - 2016	01 - 03 - 2017	Construction of the Superstructure of a Building	
001	001	APCO	Notification	Construction Dust Notification	Form NA – Notification S3(1) of APCO (Construction Dust)	365953	18 - 10 - 2013	21 - 10 - 2013	01 - 11 - 2016	10 - 09 - 2017	Road Construction Work	
002	002	WDO	Account	Construction Waste Billing Account	EPD-211 (Form 1) Application for a Billing Account for Disposal of Construction Waste	7018523	18 - 10 - 2013	25 - 10 - 2013	25 - 10 - 2013	N/A	Disposal of C&D Waste	Application No. WFG12765
003	003 WPCO #002	WPCO	Licence	Water Discharge Licence	EPD-117 (Form A) Application for a Licence of Water Discharge	WT00019722-2014	24 - 07 - 2014	01 - 09 - 2014	01 - 09 - 2014	31 - 03 - 2019	Quarterly Report FlowRate 25m3/d, pH 6-9, SS 30mg/L, COD 80mg/L	
004	004 CWP#001	WDO	Registration	Chemical Waste Producer	EPD-129 Application for Registration as a Chemical Waste Producer	5213-2214-M2446-16	15 - 01 - 2014	04 - 03 - 2014	04 - 03 - 2014	N/A	Surplus paint, spent lubrucating oil, spent battery	
006	005 CNP#003	NCO	Permit	Construction Noise Permit	EPD74A(s) Form 1 - Application for a Construction Noise Permit	Application: 389338 Permit: GW-RE0558-15	27 - 05 - 2015	03 - 06 - 2015	23 - 06 - 2015	22 - 12 - 2015	Apply for 4nos Submersible Water pump (Electric) w/ new area to be included	

Appendix F

Event and Action Plan

Event and Action Plan for Air Quality

In case the Action and Limit Levels are not complied during construction stage, the Event and Action Plan shown below should be followed.

Event / Action	ET	IEC	ER	Contractor
Action Level				
Exceedance for one sample	1. Identify source; 2. If valid, inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate
Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and EPD; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency to daily; 5. Discuss with IEC and Contractor on remedial action required; 6. If exceedance continues, arrange meeting with IEC and ER; 7. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measure properly implemented.	1. Submit proposals for remedial action to IEC within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
Limit Level				
Exceedance for one sample	1. Identify source; 2. Inform ER and EPD; 3. Repeat measurement to confirm finding; 4. Increase	1. Check monitoring 2. data submitted by ET; 3. Check Contractor's working	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC

Event / Action	ET	IEC	ER	Contractor
	monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	method; 4. Discuss with ET and the Contractor on possible remedial measures; 5. Advise the ER on the effectiveness of the proposed remedial measures; 6. Supervise implementation of remedial measures.	measures properly implemented.	within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify sources; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess the effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the	1. Discuss amongst ER, ET and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ET accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action	ET	IEC	ER	Contractor
	results; 8. If exceedance stops, cease additional monitoring.			

Event and Action Plan for Construction Noise

In case the Action and Limit Levels are not complied during the construction stage, the Event and Action Plan shown below should be followed.

Event / Action	ET	IEC	ER	Contractor
Action Level	1. Notify IEC and Contractor. 2. Carry out investigation. 3. Report the results of investigation to the IEC and Contractor. 4. Discuss with the Contractor and formulate remedial measures 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analyzed result submitted by ET. 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analysed noise problem 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC 2. Implement noise mitigation proposals
Limit Level	1. Notify IEC, ER, EPD and Contractor, and follow other actions 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency 5. Check Contractor's working procedures to determine possible mitigation to be implemented 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances 7. Assess effectiveness of Contractor's	1. Discuss amongst ER, ET and Contractor on the potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ET accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of exceedances 2. Notify Contractor 3. Require Contractor to propose remedial measures 4. Ensure remedial measures are properly implemented 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notifications 3. Implement the agreed proposals 4. Revise and resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Event / Action	ET	IEC	ER	Contractor
	remedial actions and keep IEC, EPD, ER informed of the results 8. If exceedance stops, cease additional monitoring			

Appendix G

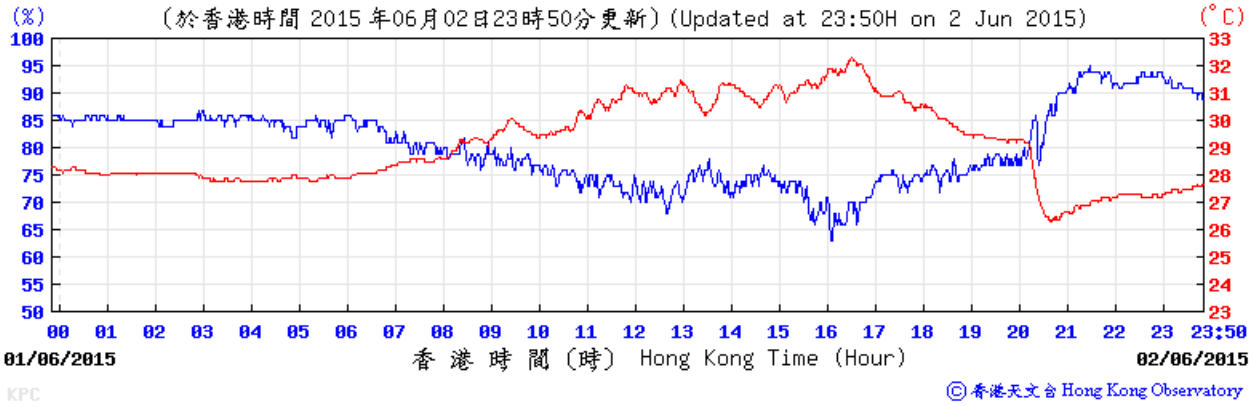
Weather Information Extracted from HK Observatory

Daily Total Rainfall (mm) at King's Park HKO Weather Monitoring Station in June 2015

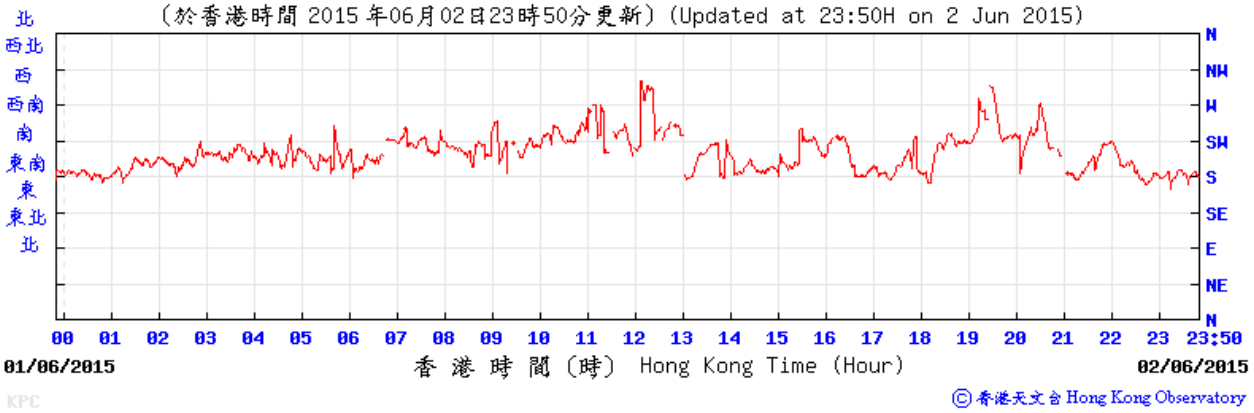
Day	June	24-hr TSP	Noise	Remarks
1	10.6	✓		
2	5.4		✓	**No rainfall recorded on site during Noise Monitoring**
3	<0.1			
4	-			
5	-			
6	0.8			
7	<0.1			
8	1.6	✓		
9	<0.1		✓	**No rainfall recorded on site during Noise Monitoring**
10	8.1			
11	0.8			
12	96.8			
13	0.4			
14	1.5			
15	5.2	✓		
16	-		✓	**No rainfall recorded on site during Noise Monitoring**
17	-			
18	-			
19	<0.1			
20	-			
21	39.9			
22	18.1	✓		
23	51.3		✓	**No rainfall recorded on site during Noise Monitoring**
24	9.7			
25	28.5			
26	10.4			
27	-			
28	1.9			
29	<0.1	✓		
30	<0.1		✓	**No rainfall recorded on site during Noise Monitoring**
Total	**291.0**			

King's Park Weather Station – 01 June 2015

Temperature and Humidity:



Wind Direction:



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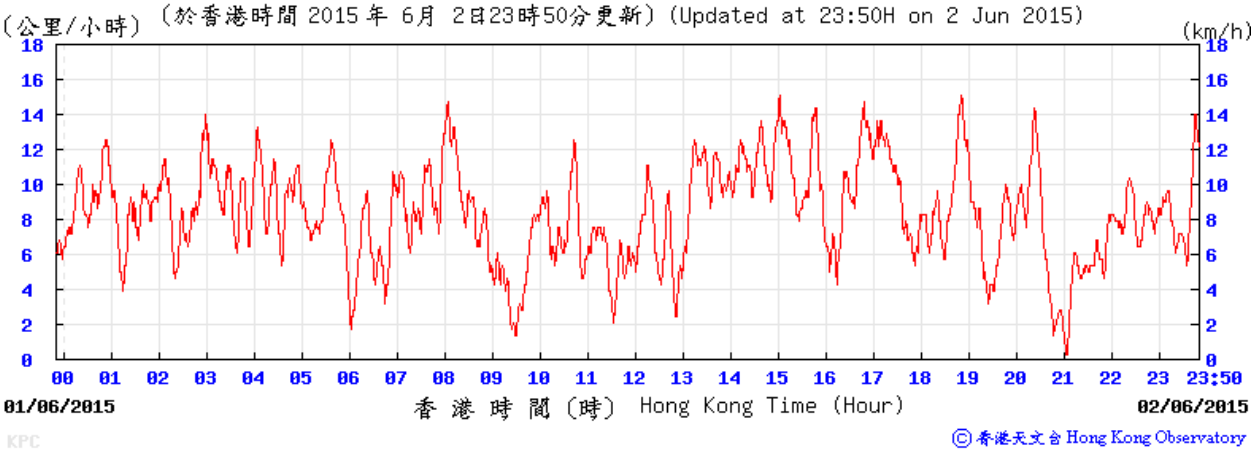

King's Park Weather Station – 02 June 2015

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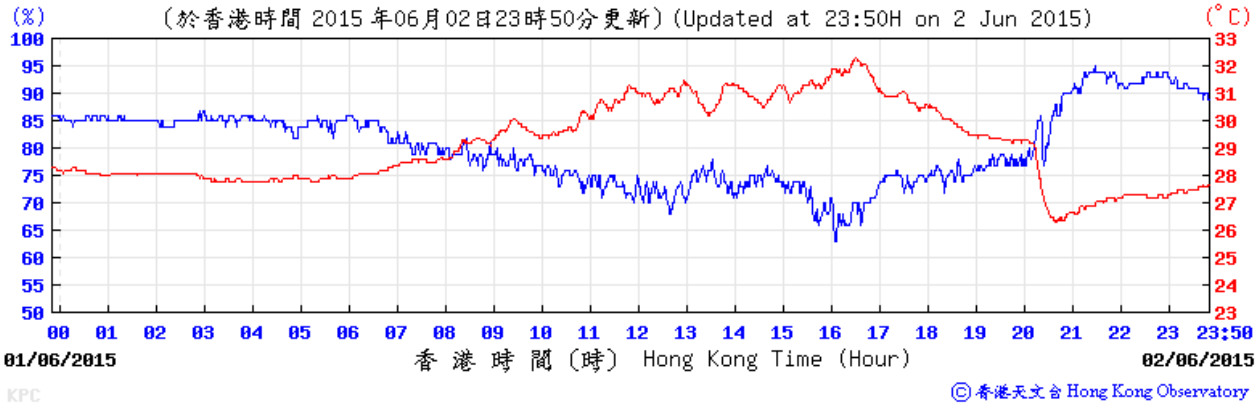

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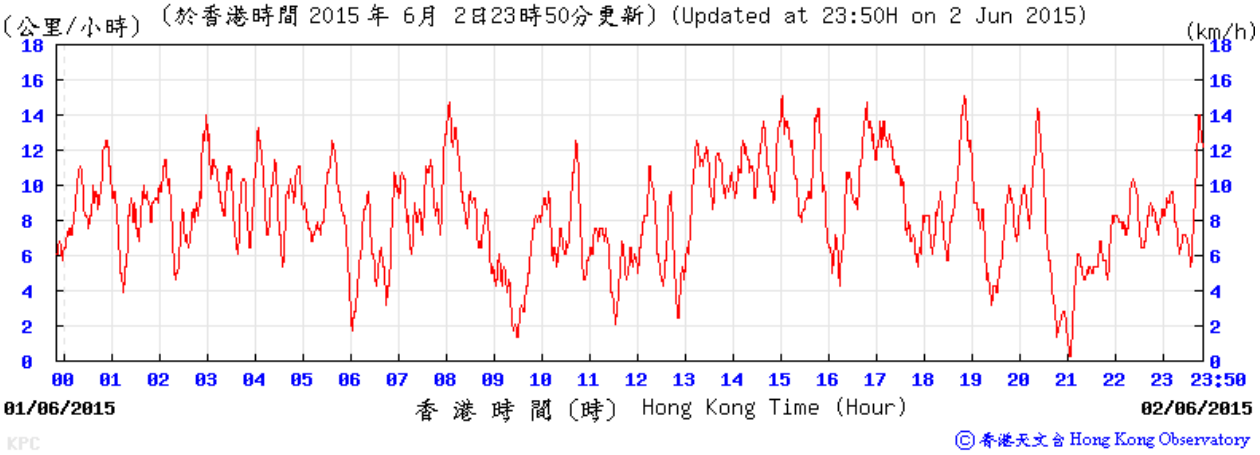
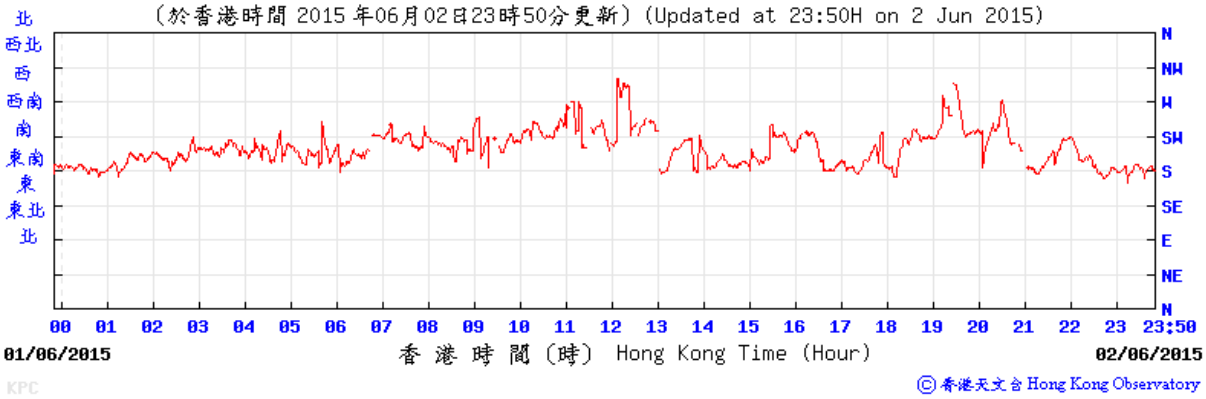
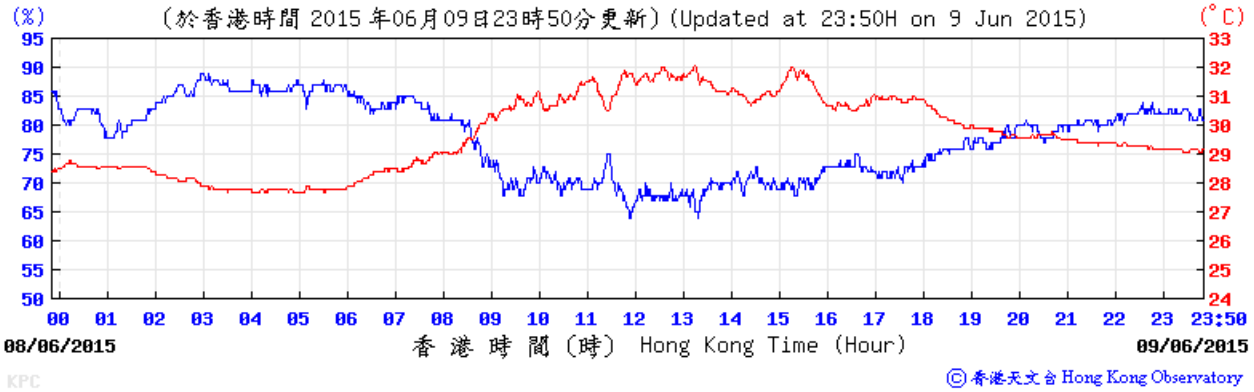


Wind Direction:



King's Park Weather Station – 08 June 2015

Temperature and Humidity:



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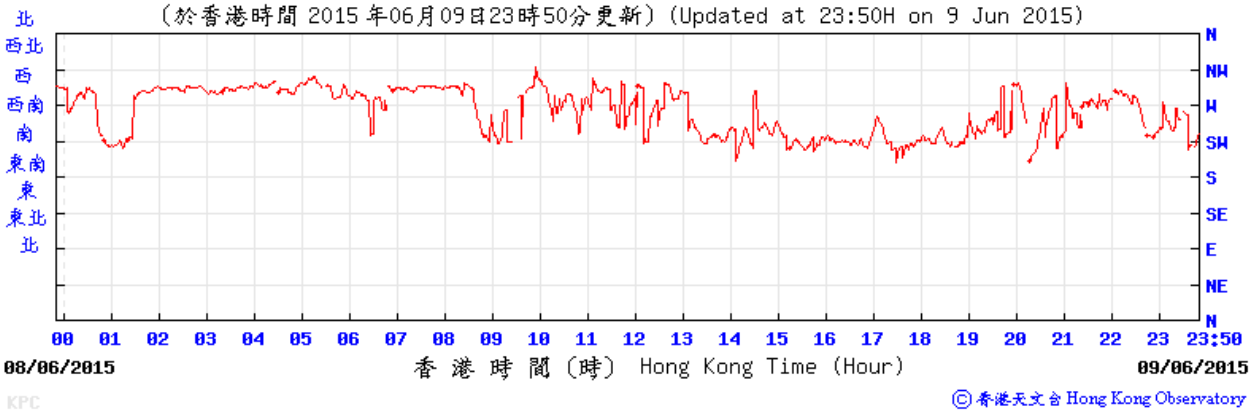

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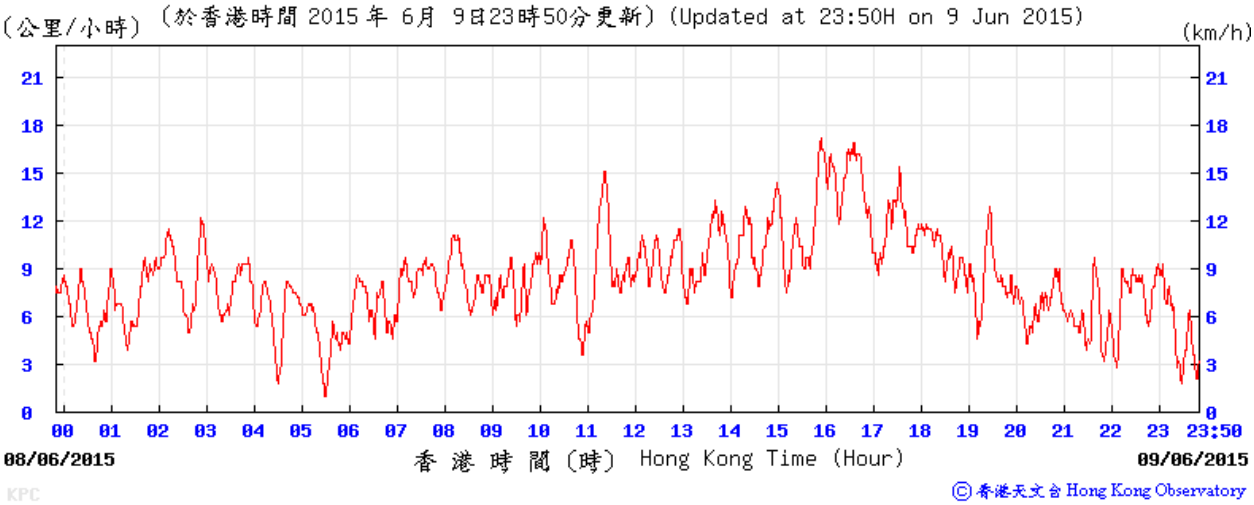

King's Park Weather Station – 09 June 2015

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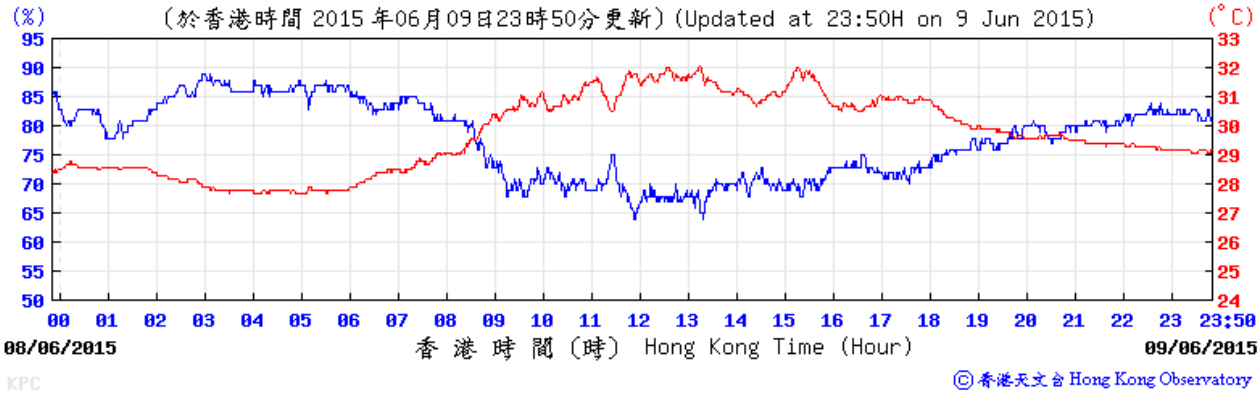

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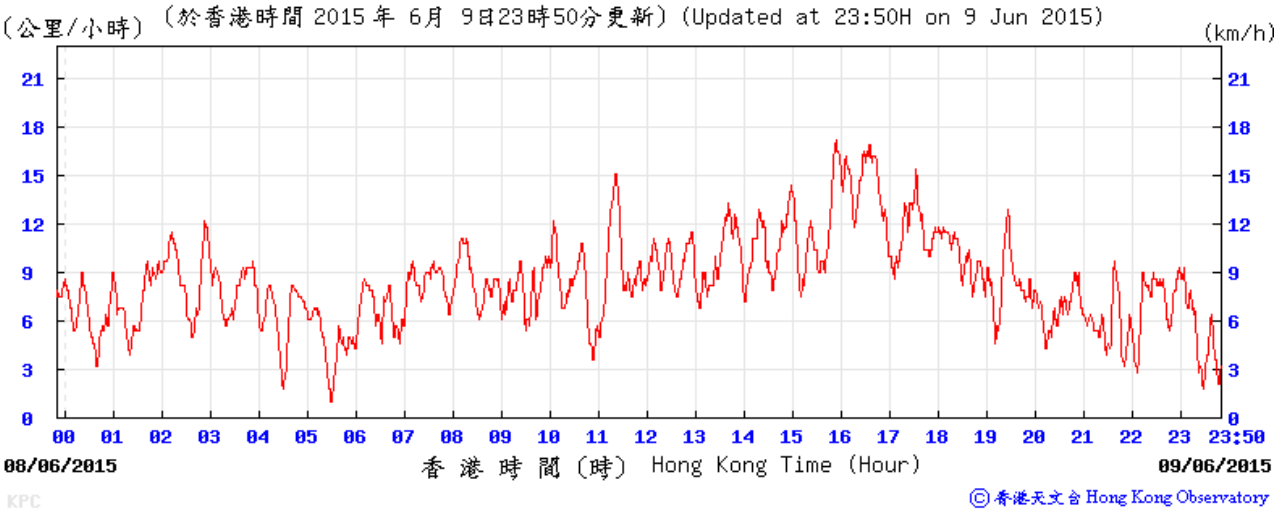

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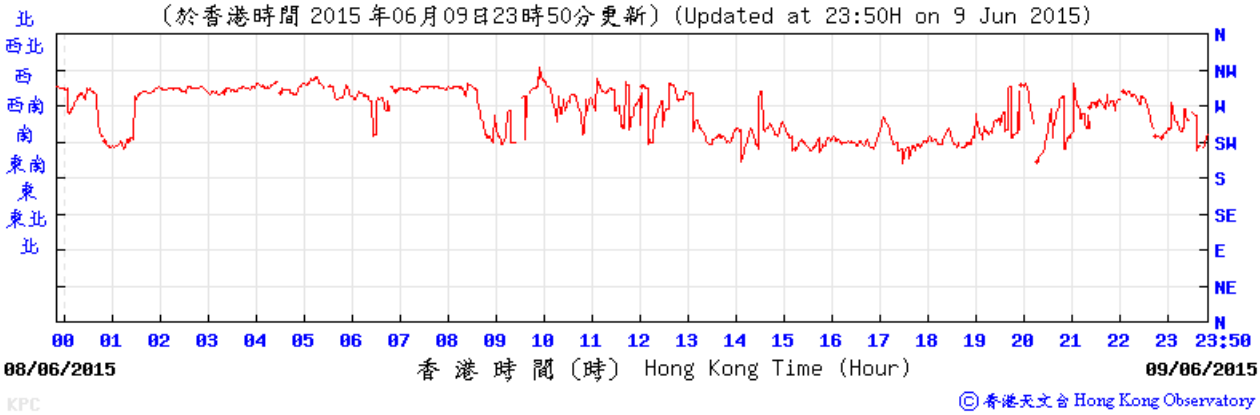

King's Park Weather Station – 15 June 2015

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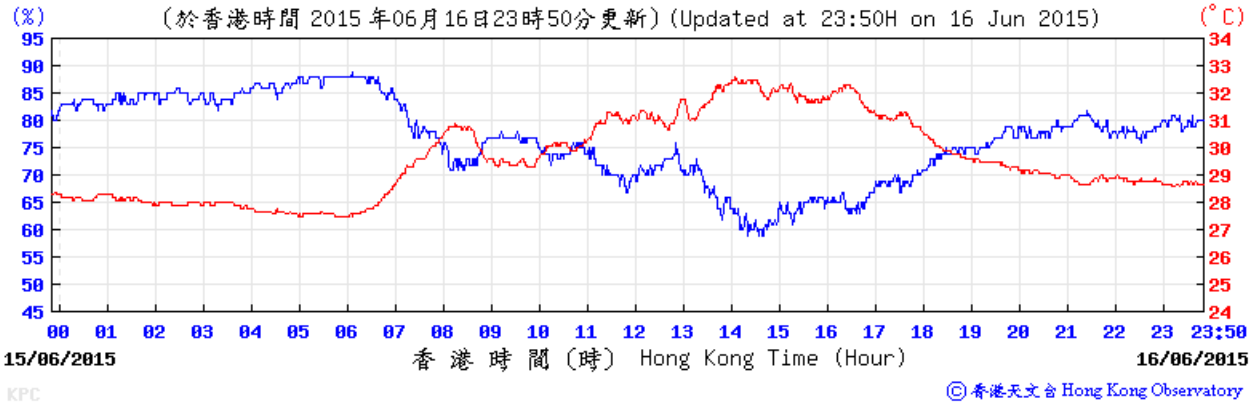

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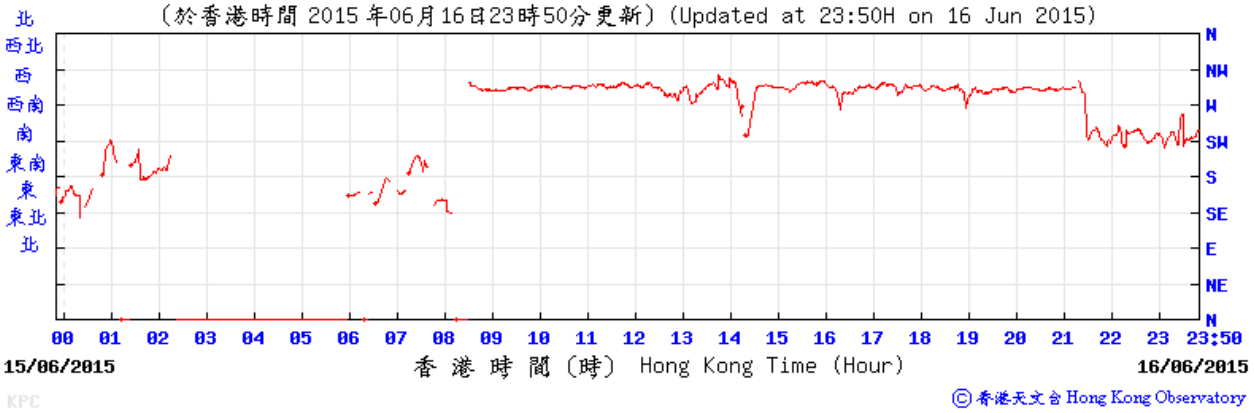

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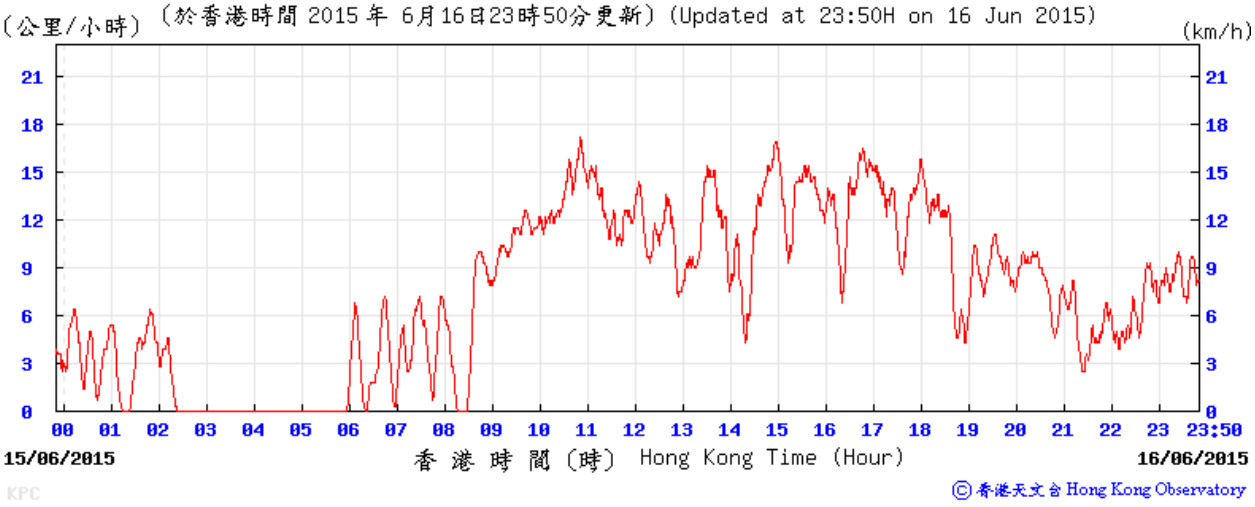

King's Park Weather Station – 16 June 2015

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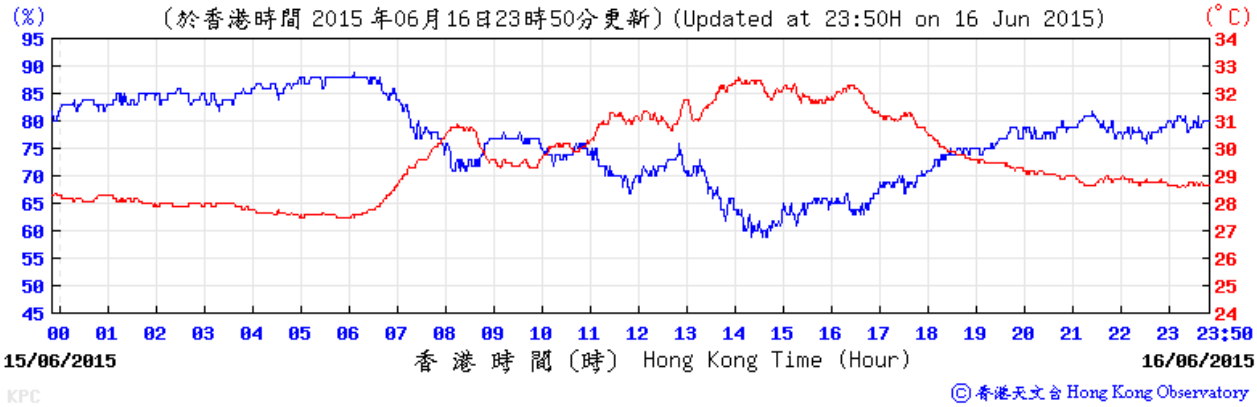

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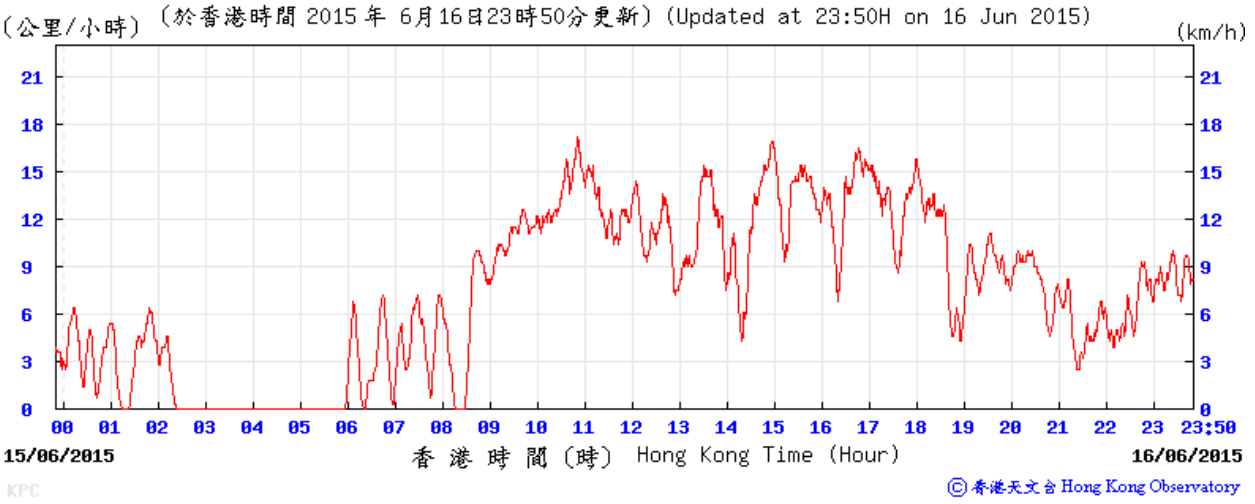
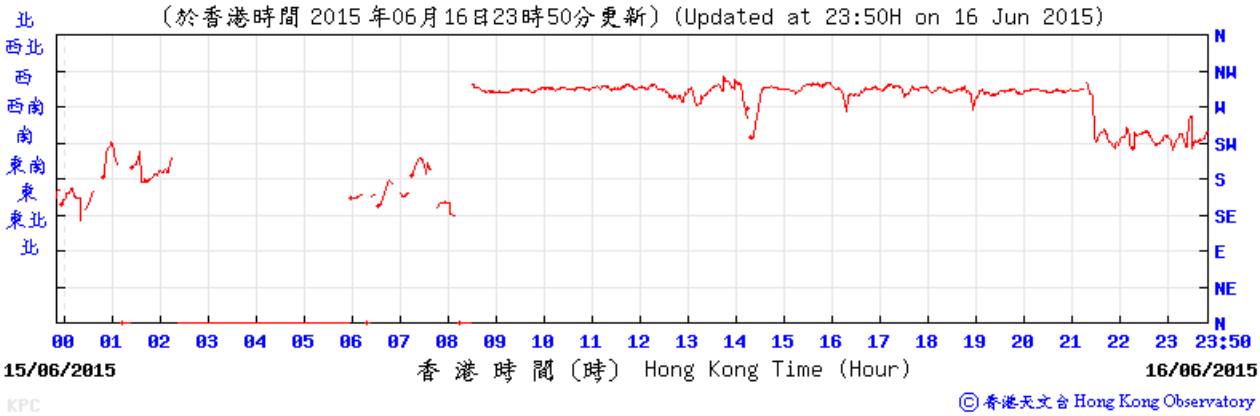
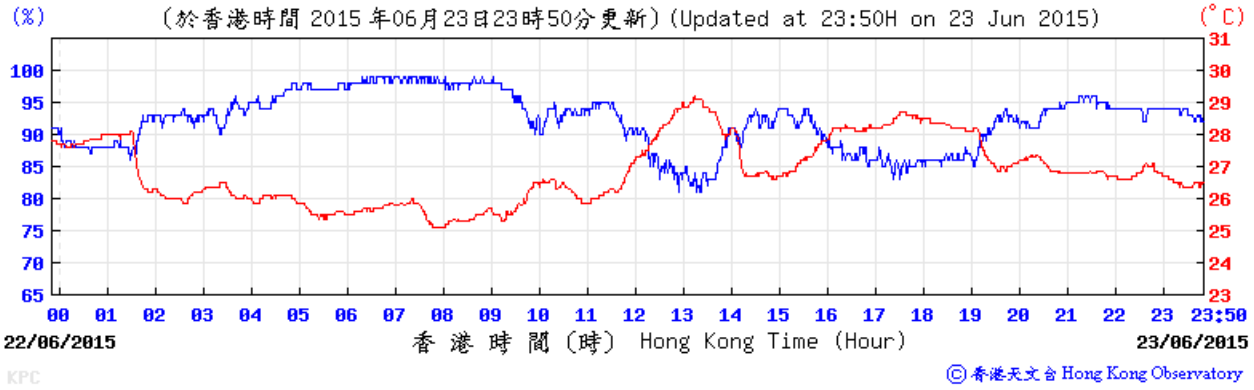


Wind Direction:

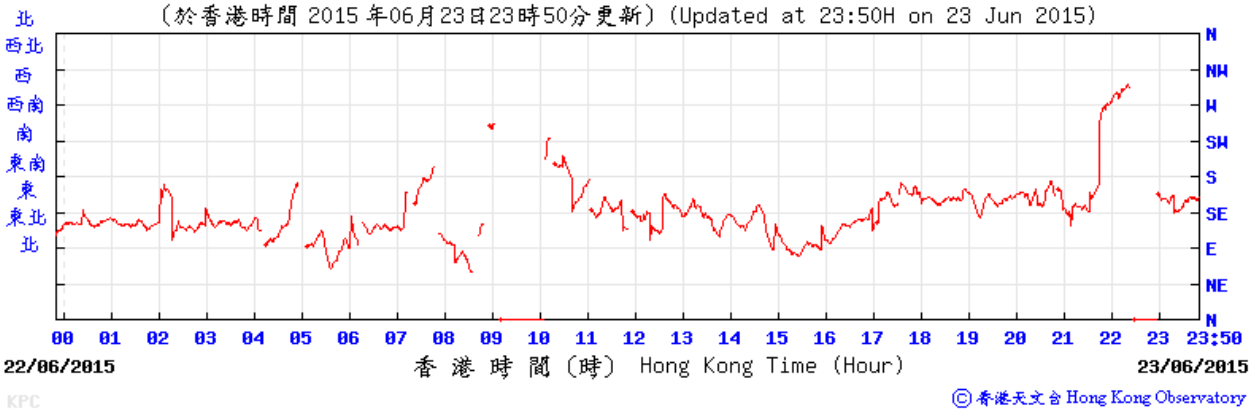


King's Park Weather Station – 22 June 2015

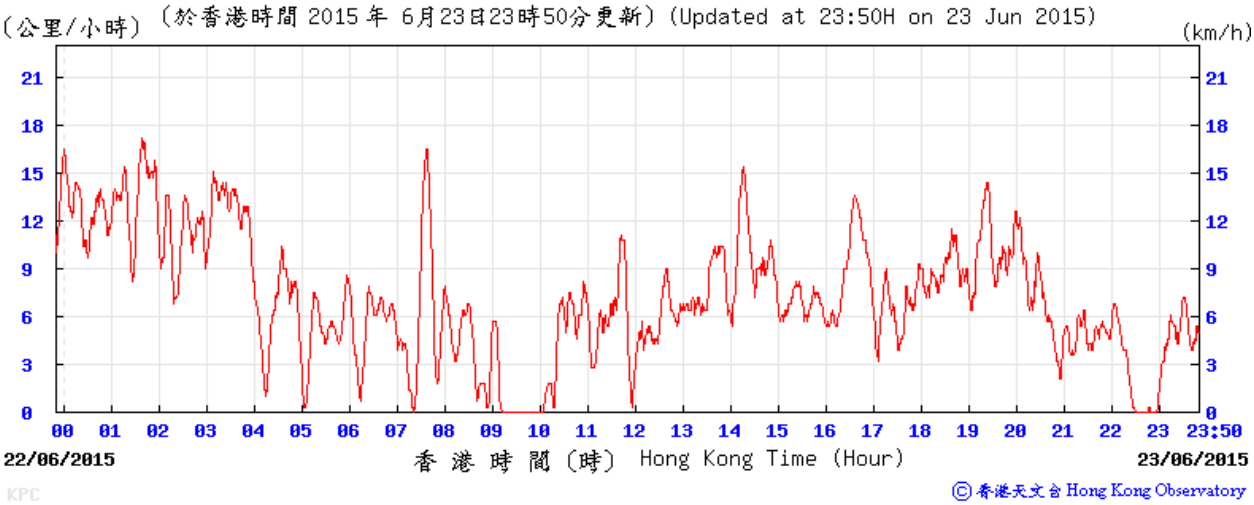
Temperature and Humidity:



Wind Direction:

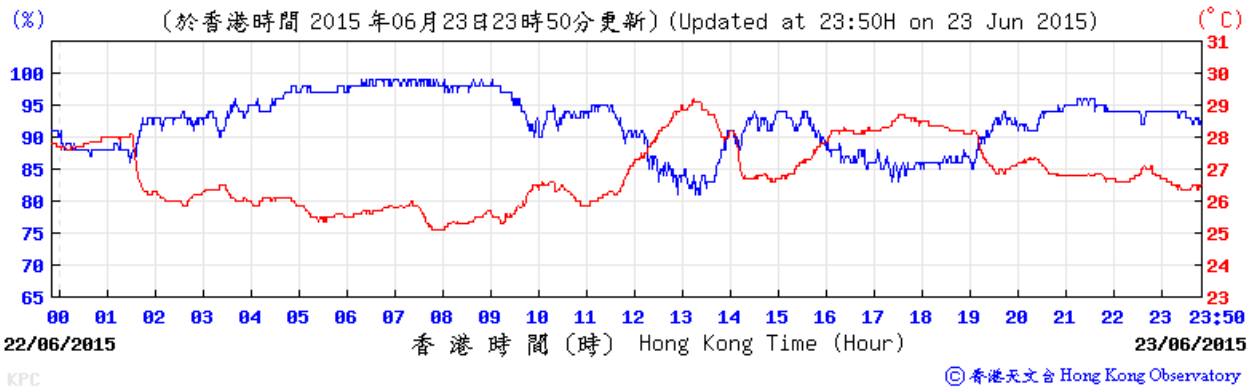


Wind Speed:

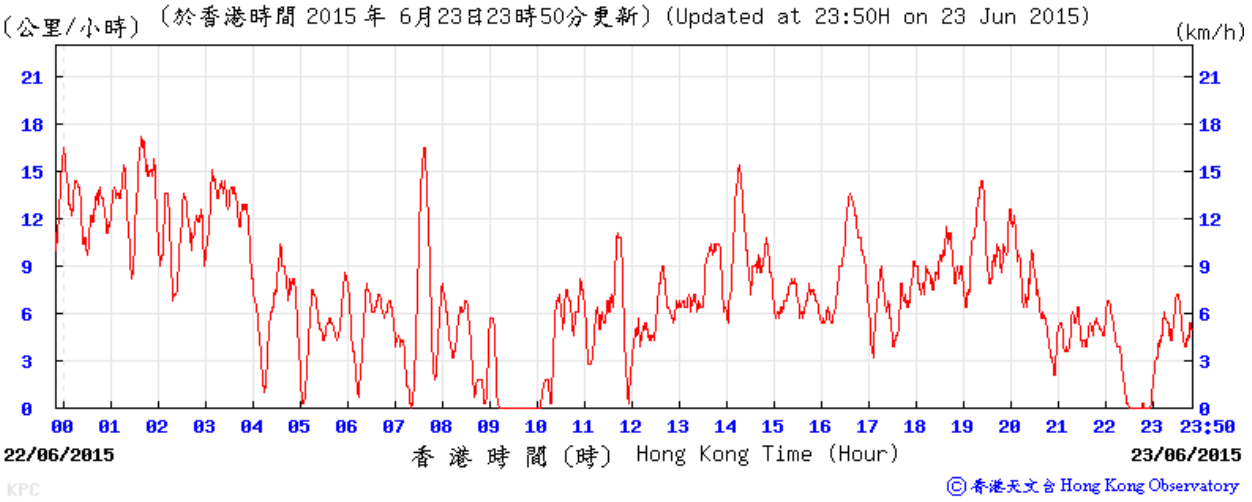


King's Park Weather Station – 23 June 2015

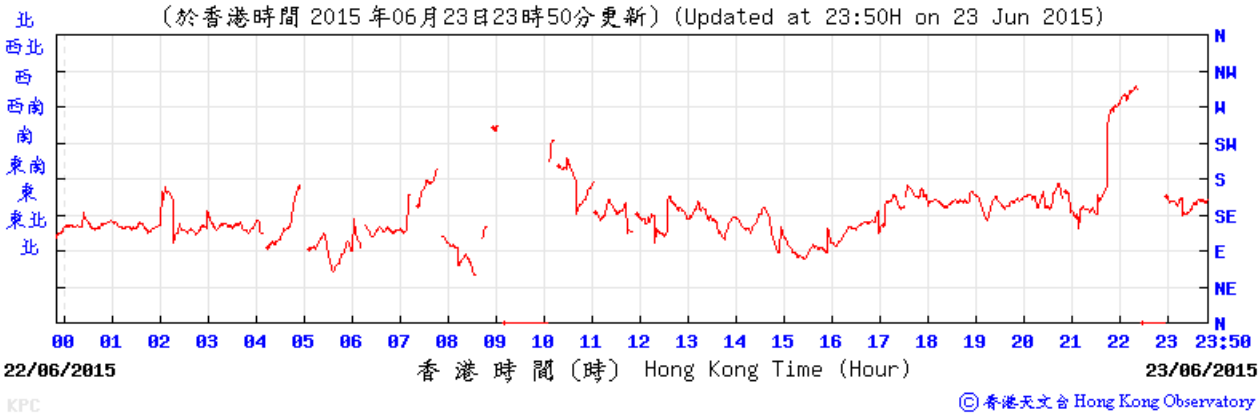
Tempearture/Humidity:



Wind Speed:

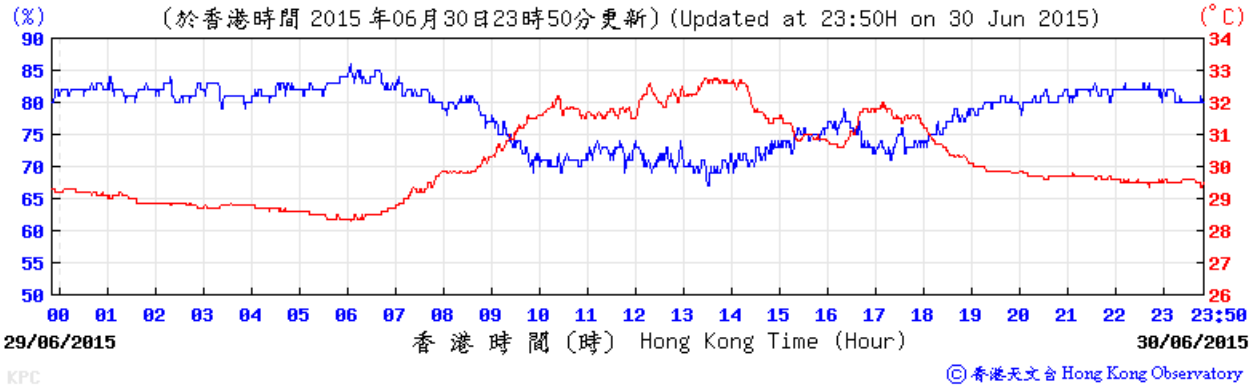


Wind Direction:

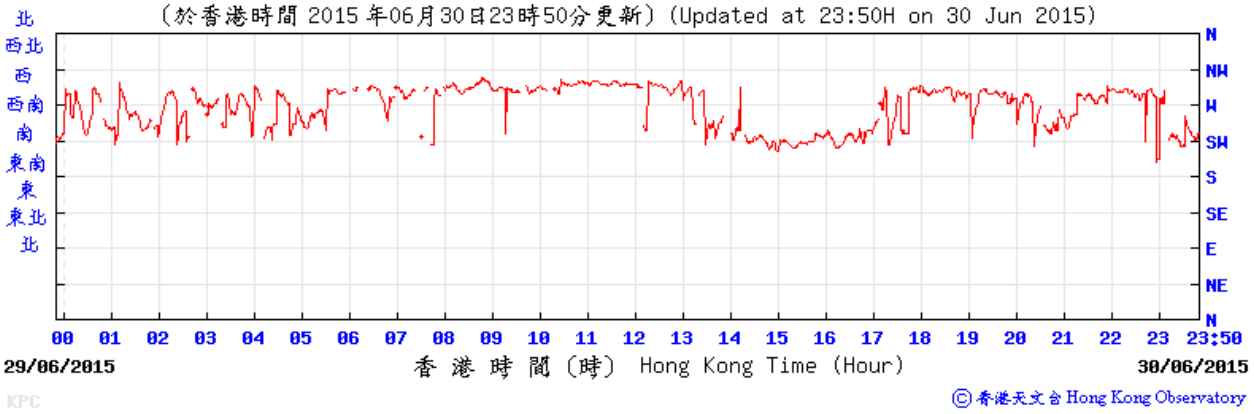


King's Park Weather Station – 29 June 2015

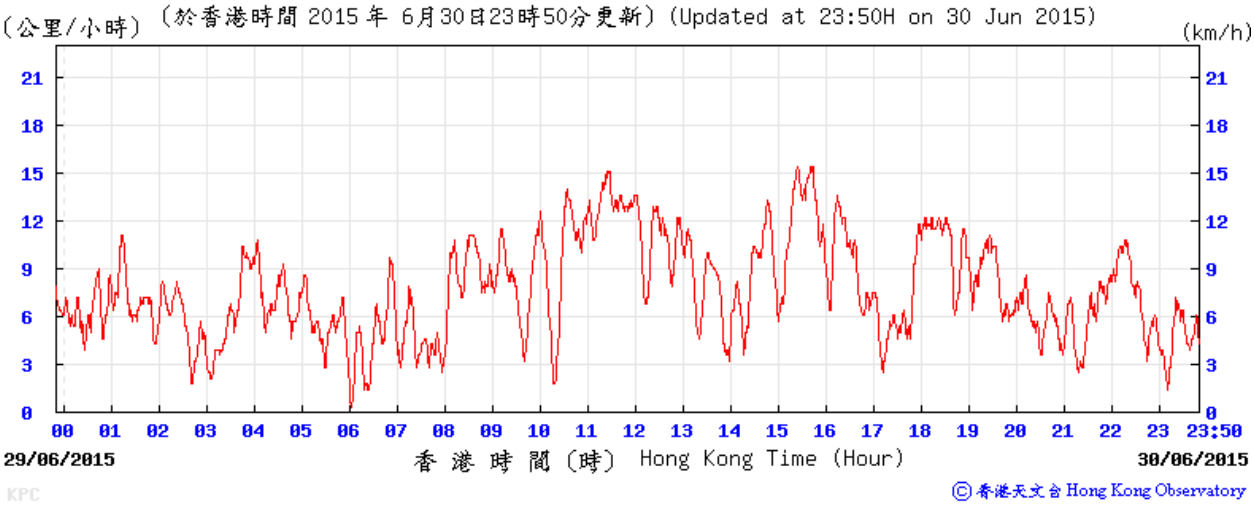
Temperature and Humidity:



Wind Direction:

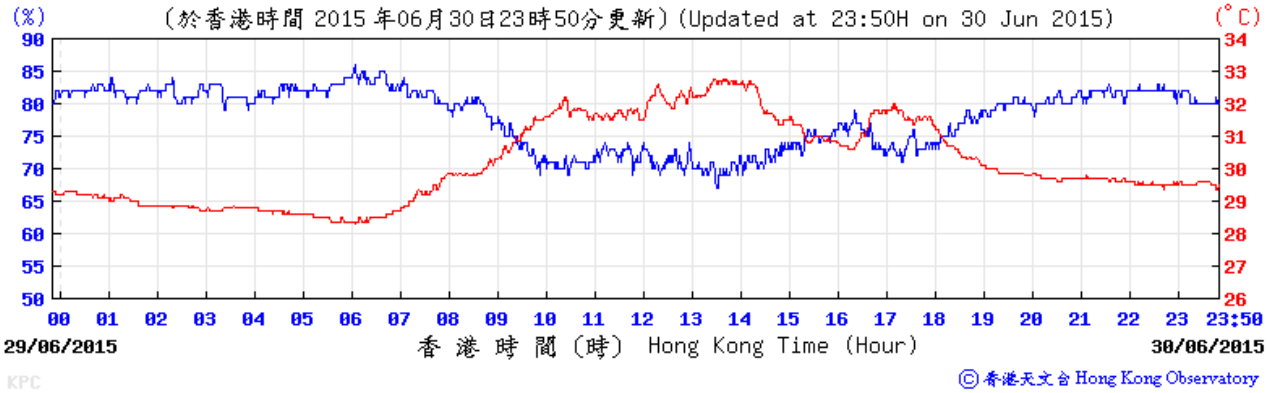


Wind Speed:

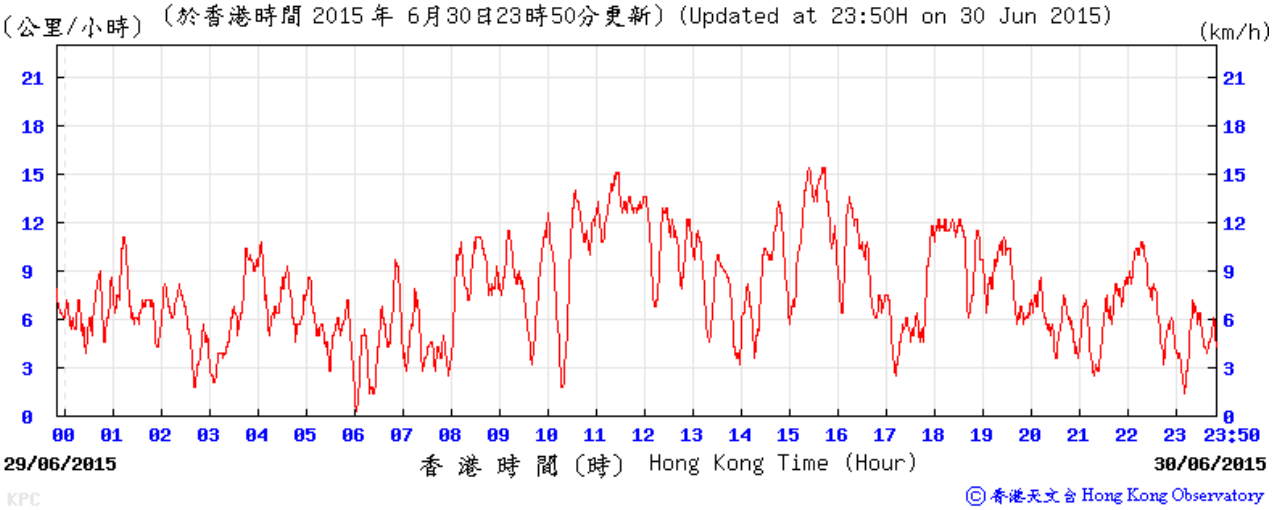


King's Park Weather Station – 30 June 2015

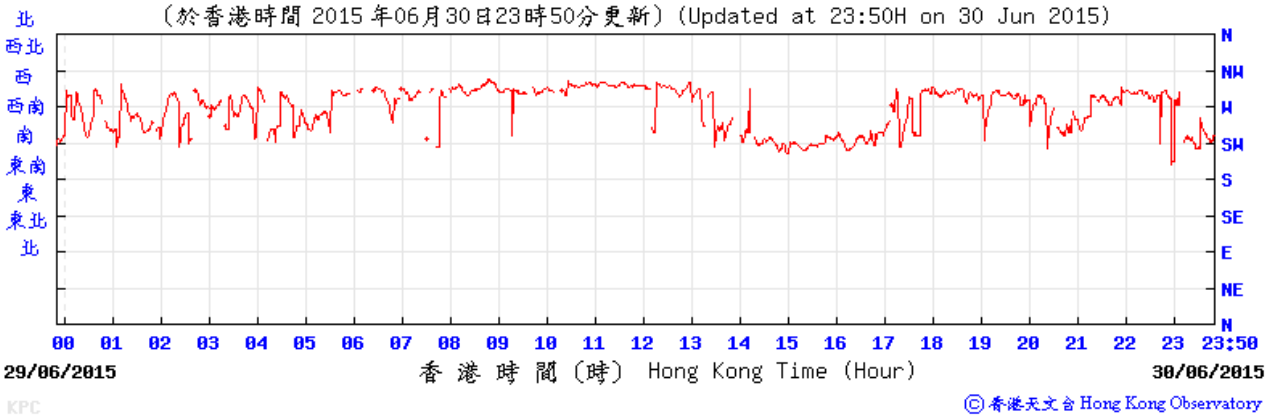
Tempearture/Humidity:



Wind Speed:



Wind Direction:

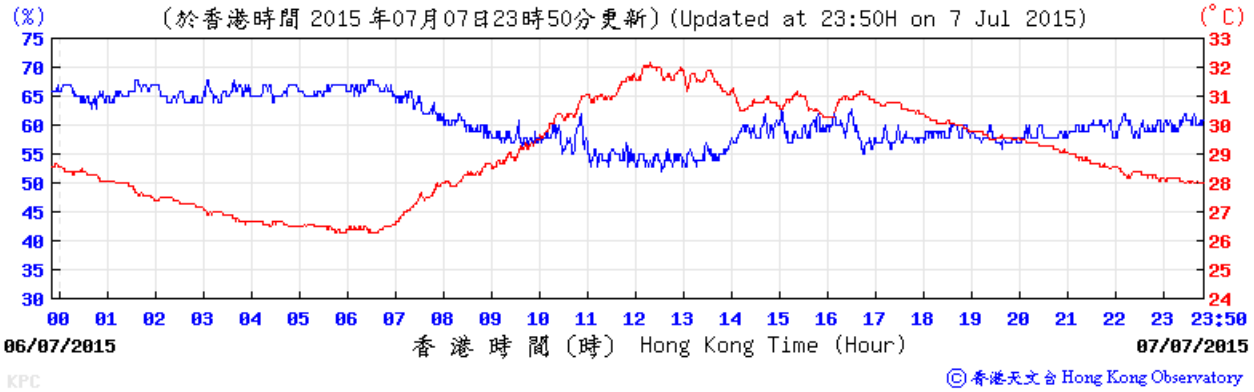


Daily Total Rainfall (mm) at King's Park HKO Weather Monitoring Station in July 2015

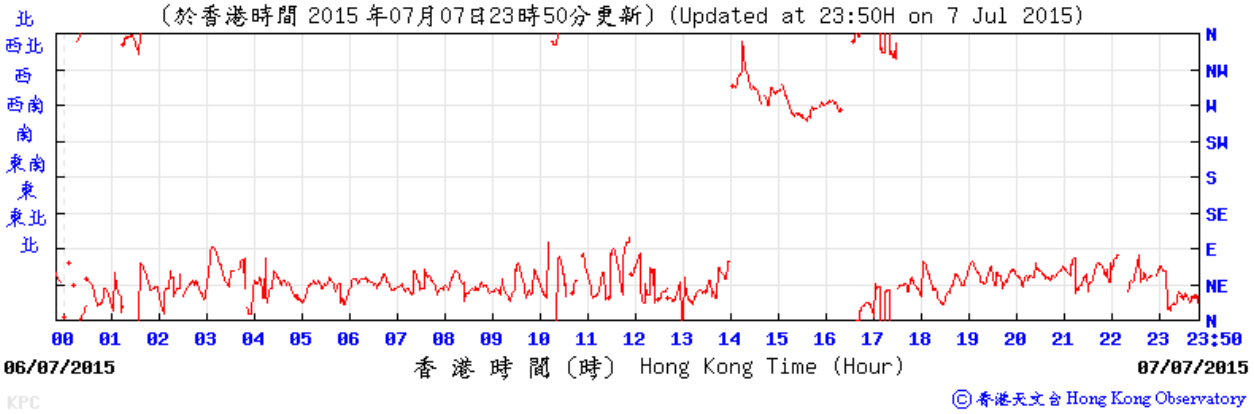
Day	July	24-hr TSP	Noise	Remarks
1	-			
2	-			
3	-			
4	-			
5	-			
6	-	✓		
7	-		✓	No rainfall recorded on site during Noise Monitoring
8	-			
9	2.6			
10	26.4			
11	-			
12	-			
13	-	✓		
14	-		✓	No rainfall recorded on site during Noise Monitoring
15	5.2			
16	3.3			
17	1.3			
18	0.4			
19	0.1			
20	52.0	✓		
21	43.4		✓	No rainfall recorded on site during Noise Monitoring
22	208.4			
23	48.8			
24	4.3			
25	11.0			
26	34.5			
27	0.6	✓		
28	-		✓	No rainfall recorded on site during Noise Monitoring
29	7.1			
30	0.9			
31	-			
Total	**450.3**			

King's Park Weather Station – 06 July 2015

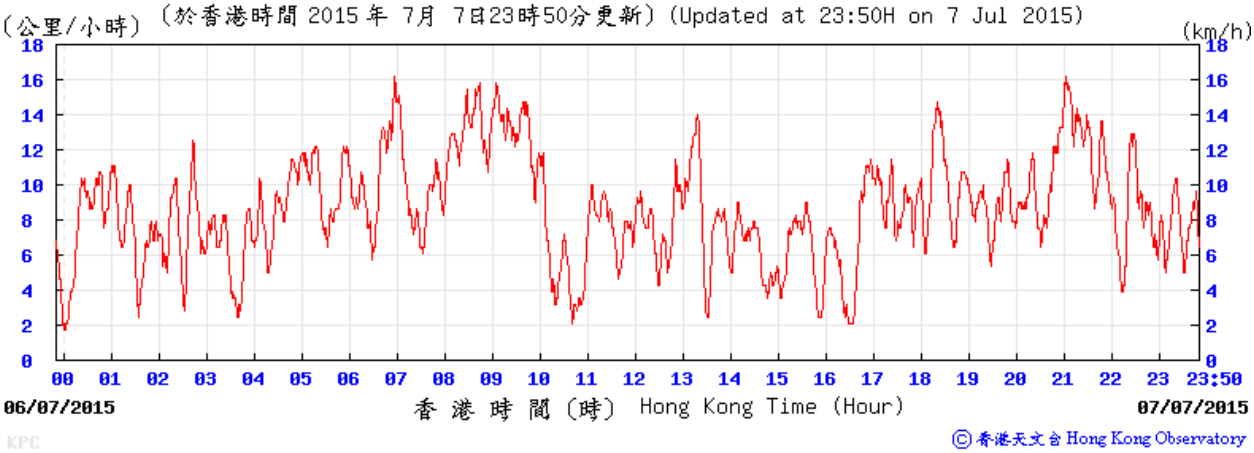
Temperature and Humidity:



Wind Direction:

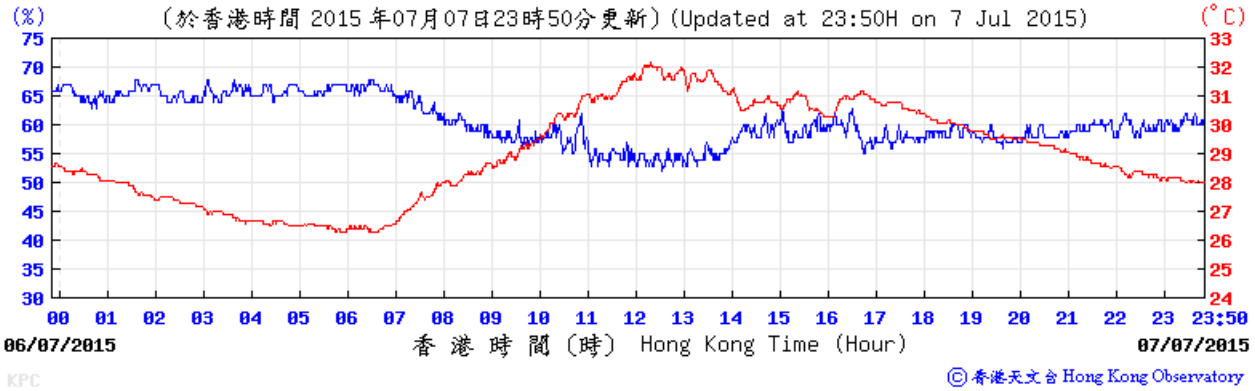


Wind Speed:

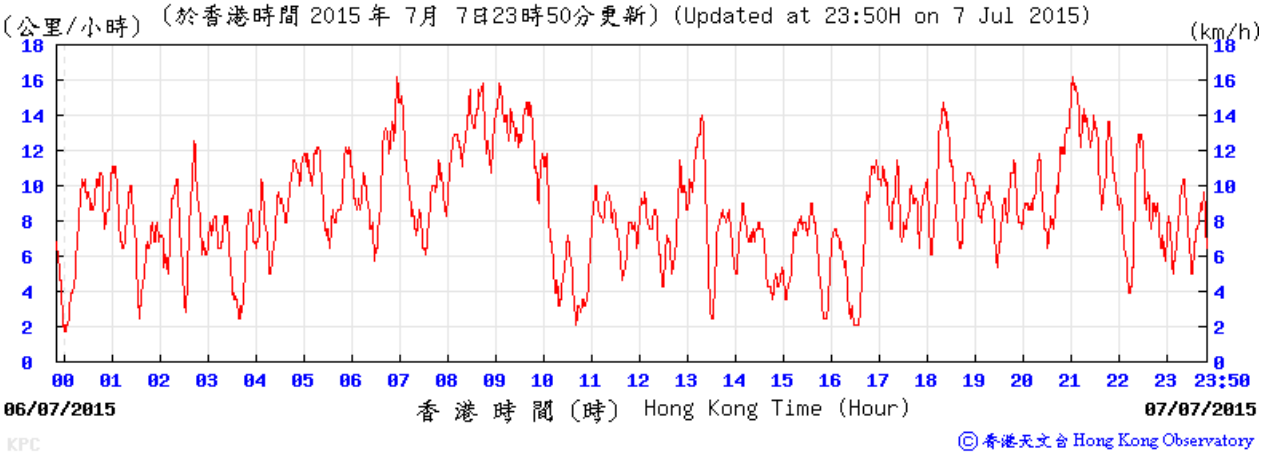


King's Park Weather Station – 07 July 2015

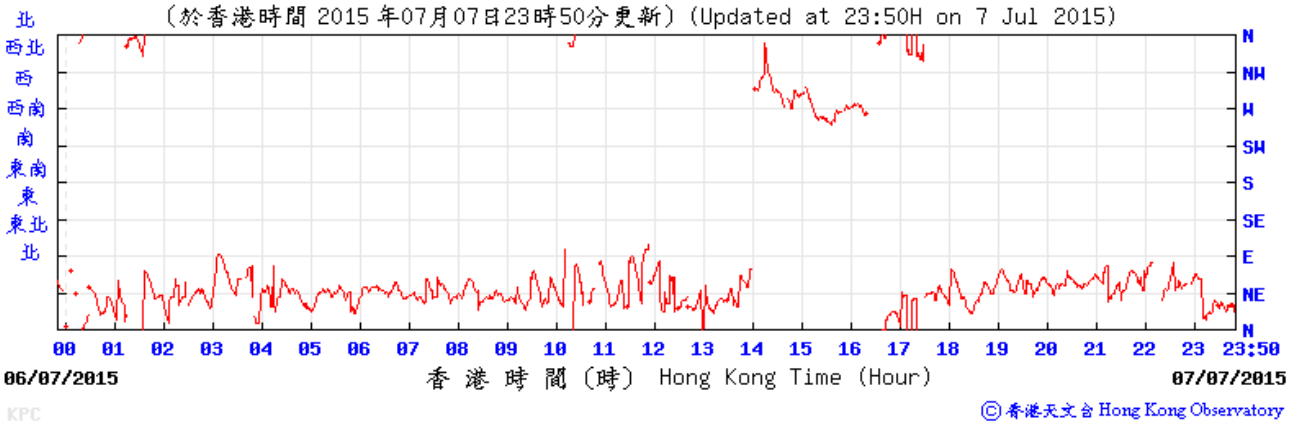
Tempearture/Humidity:



Wind Speed:

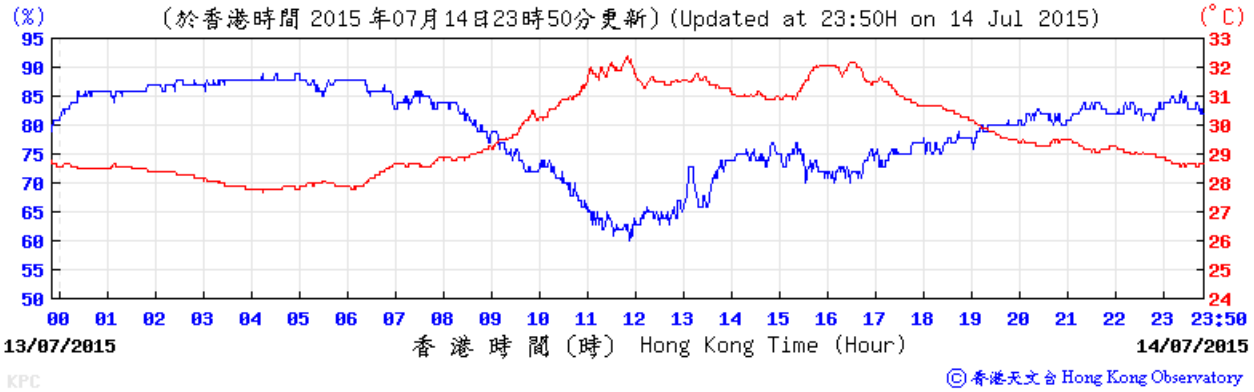


Wind Direction:

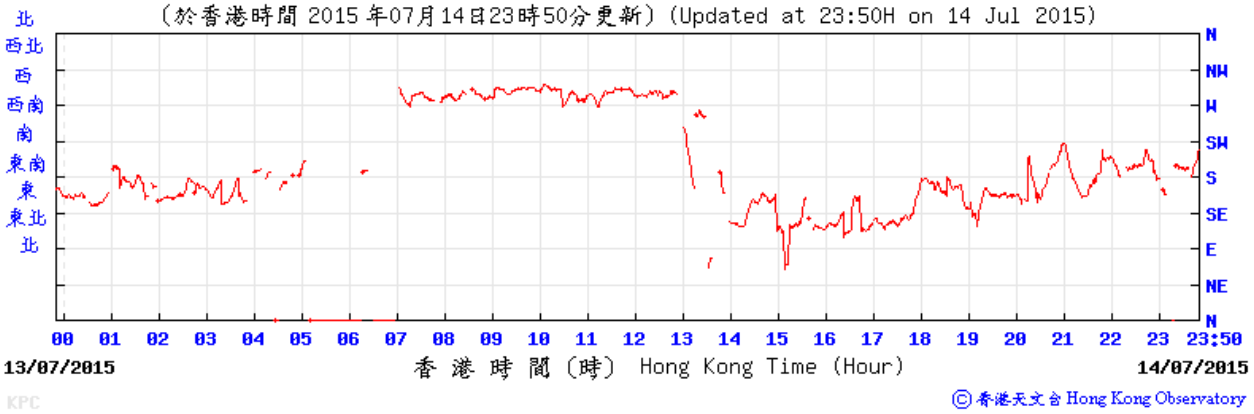


King's Park Weather Station – 13 July 2015

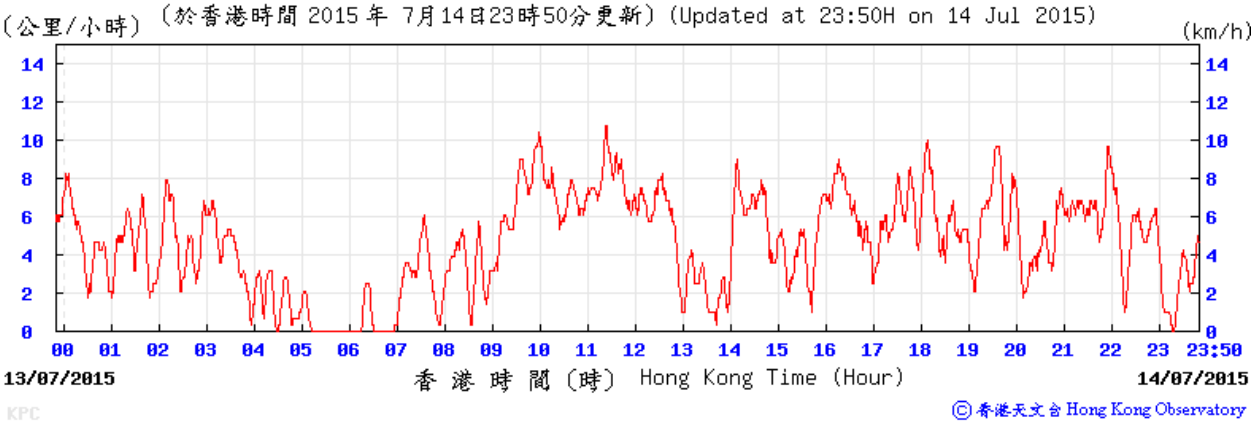
Temperature and Humidity:



Wind Direction:

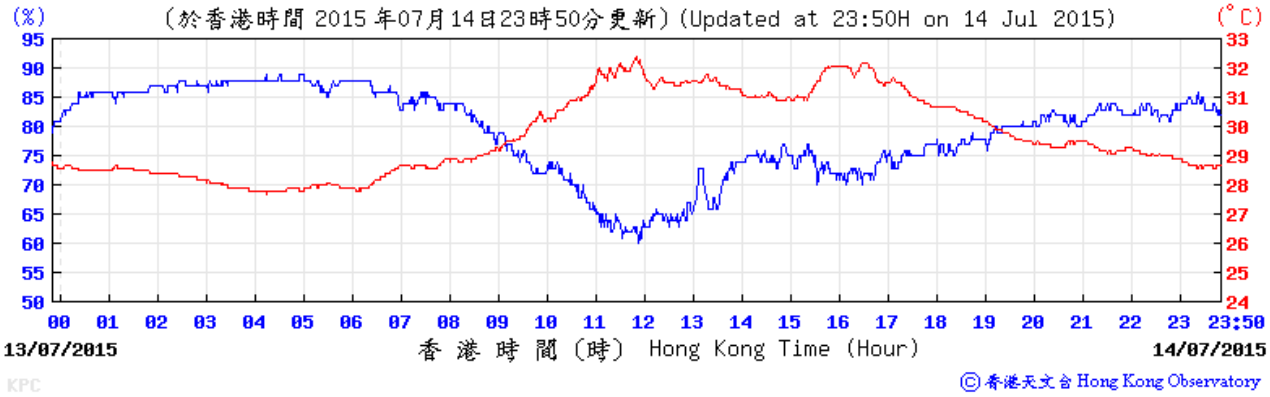


Wind Speed:

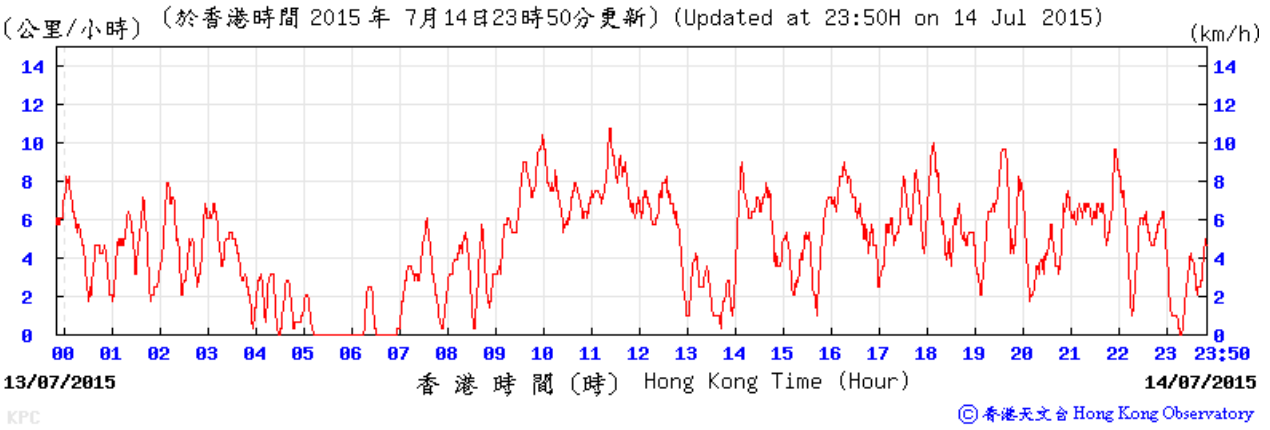


King's Park Weather Station – 14 July 2015

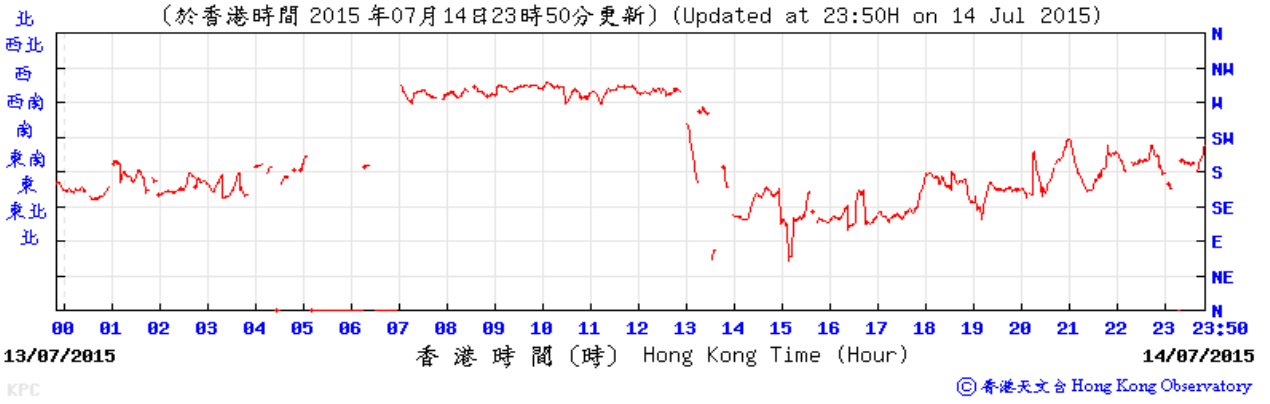
Tempearture/Humidity:



Wind Speed:

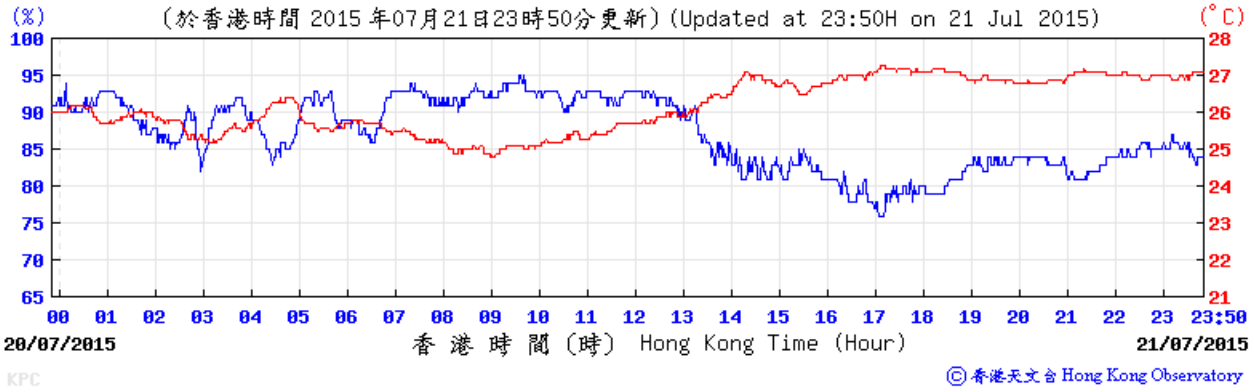


Wind Direction:

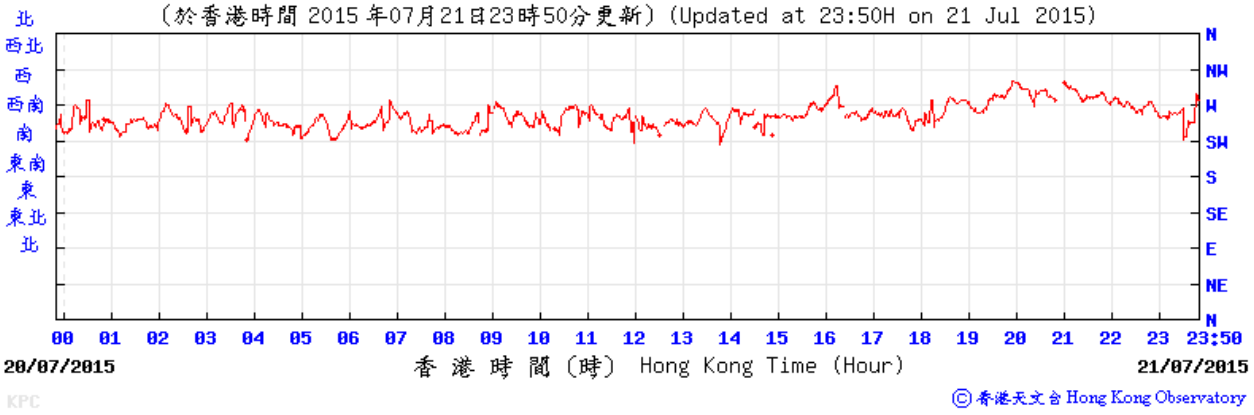


King's Park Weather Station – 20 July 2015

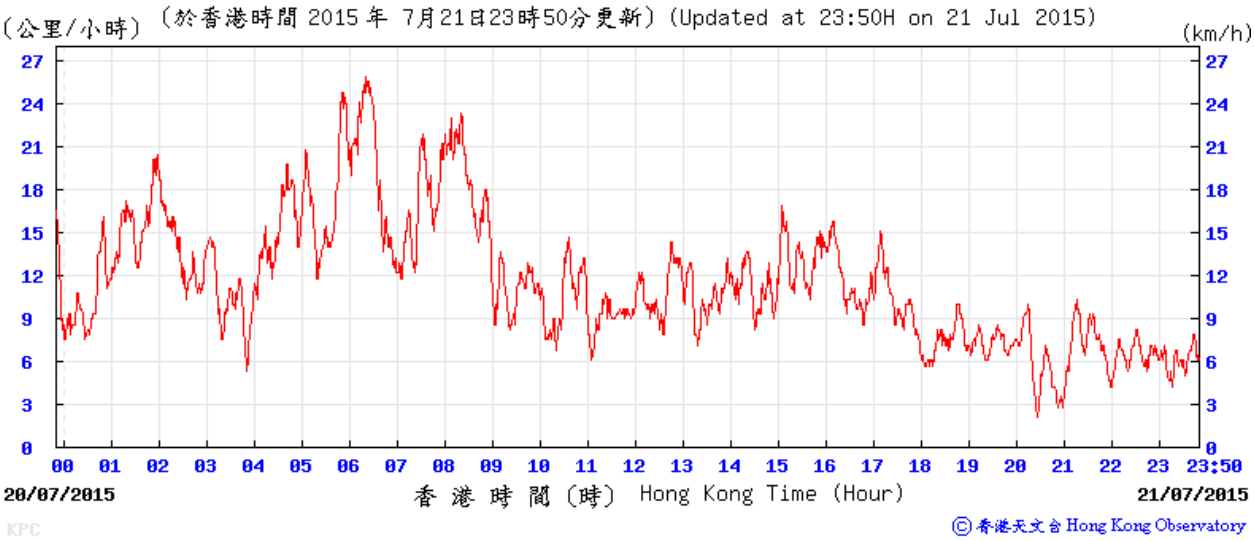
Temperature and Humidity:



Wind Direction:

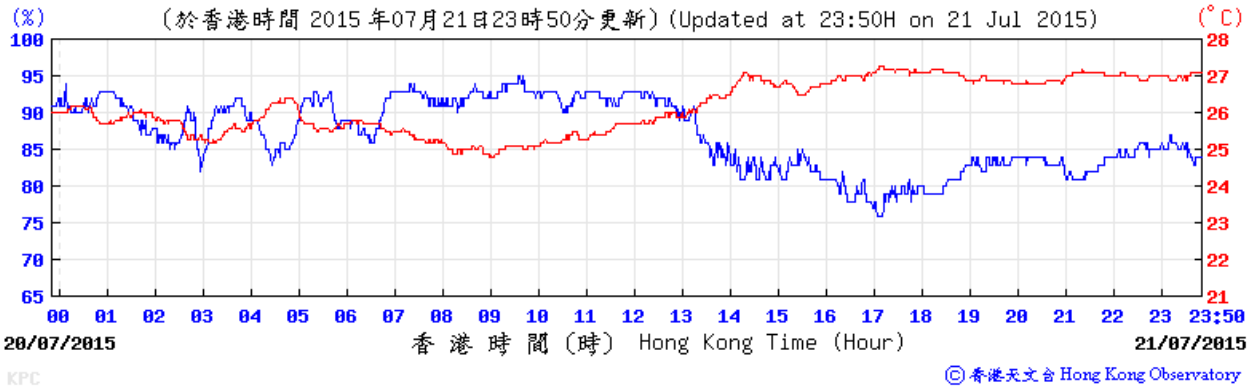


Wind Speed:

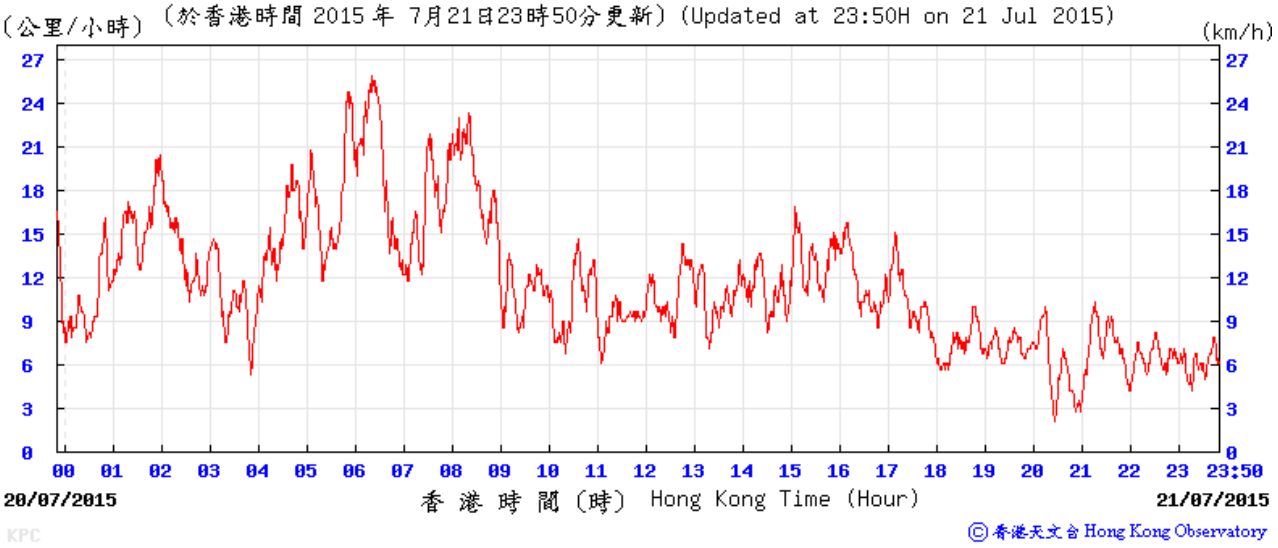


King's Park Weather Station – 21 July 2015

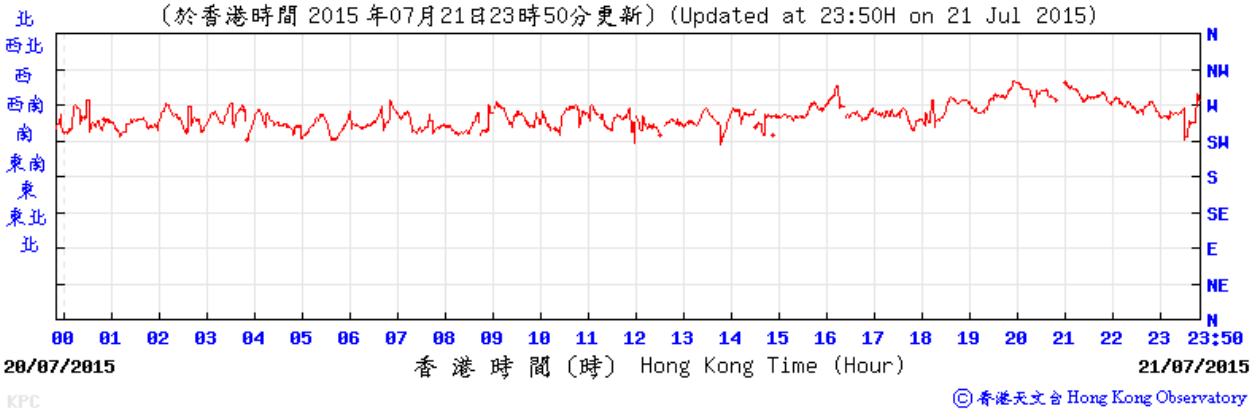
Tempearture/Humidity:



Wind Speed:

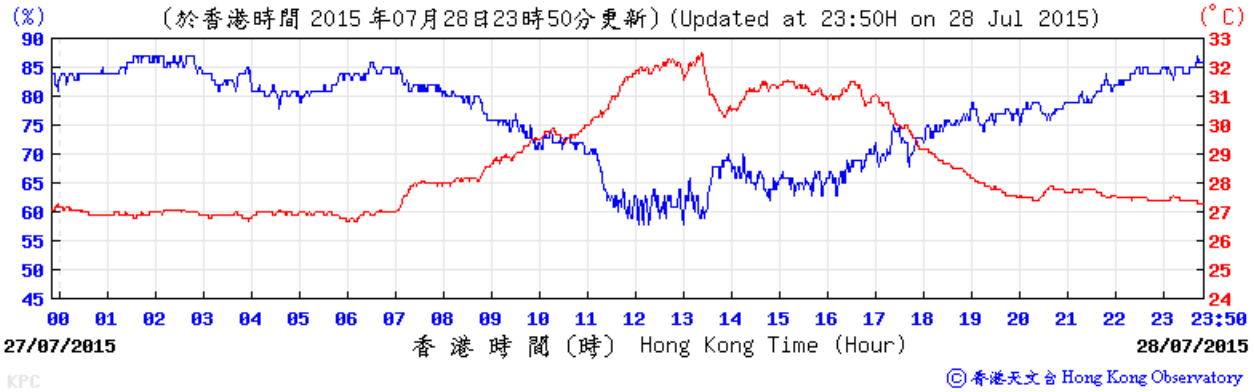


Wind Direction:

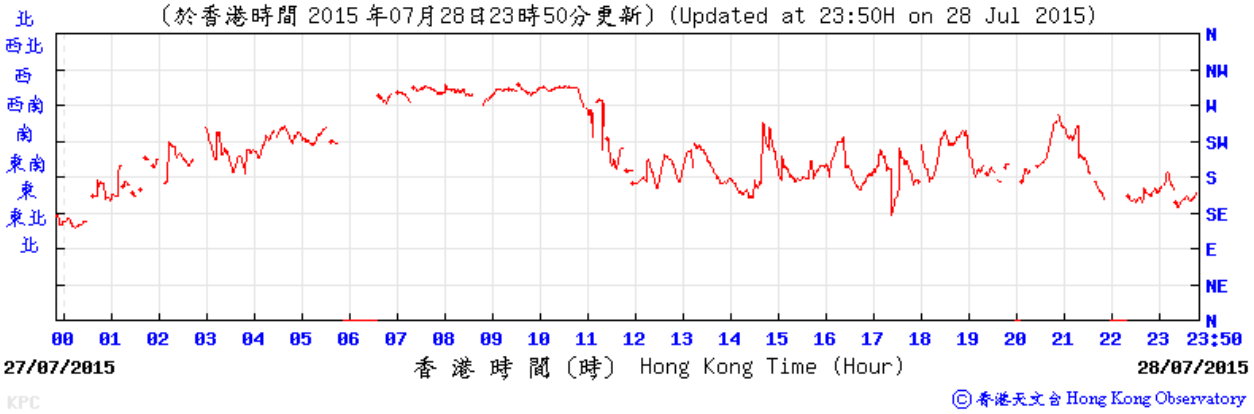


King's Park Weather Station – 27 July 2015

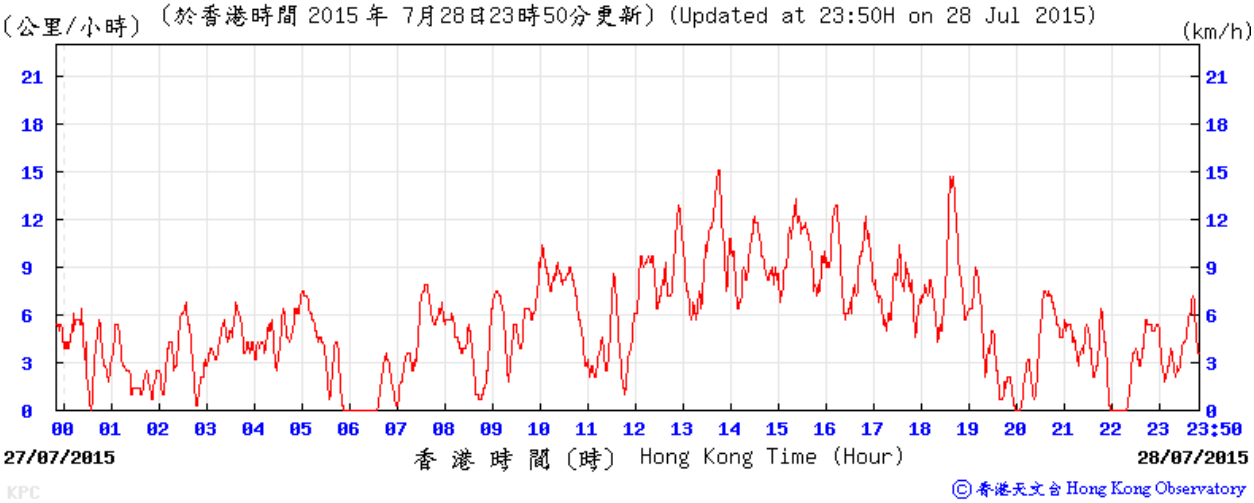
Temperature and Humidity:



Wind Direction:

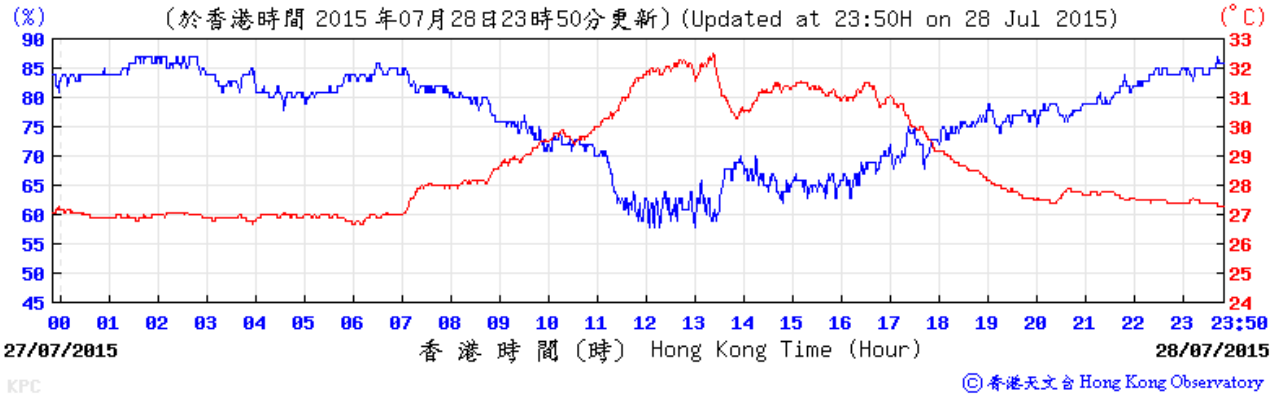


Wind Speed:

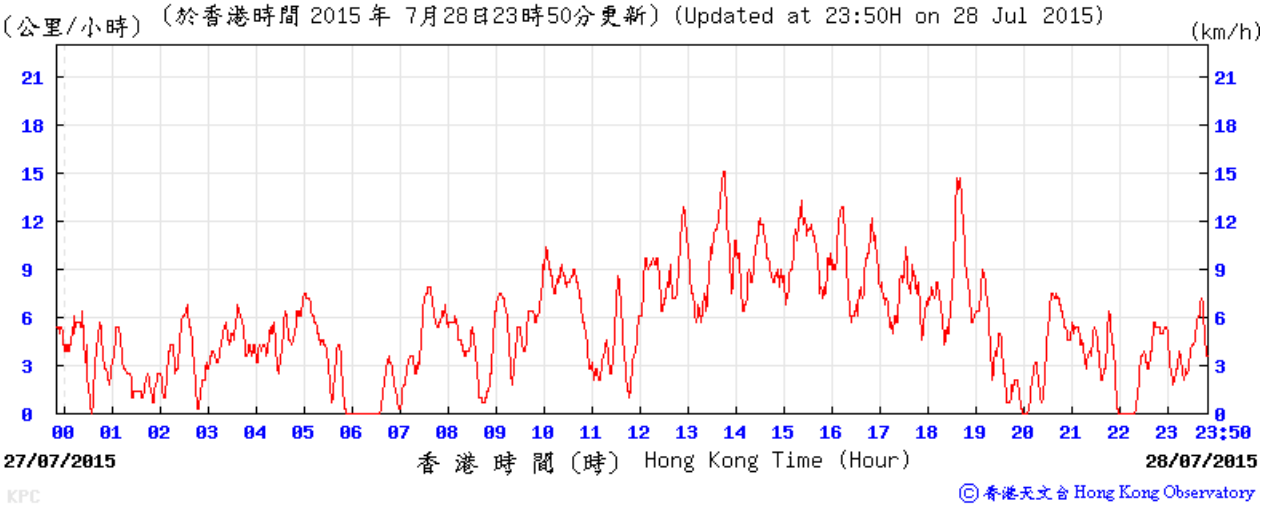


King's Park Weather Station – 28 July 2015

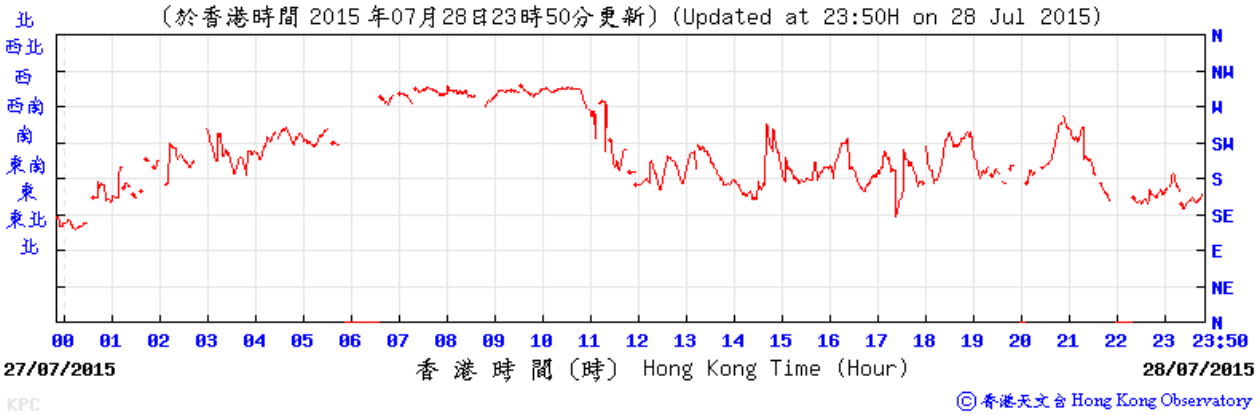
Tempearture/Humidity:



Wind Speed:



Wind Direction:

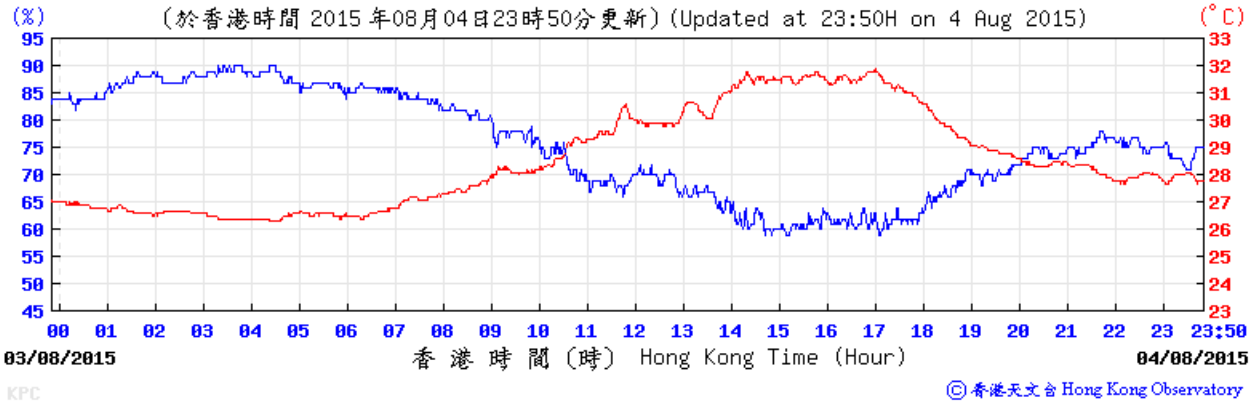


Daily Total Rainfall (mm) at King's Park HKO Weather Monitoring Station in August 2015

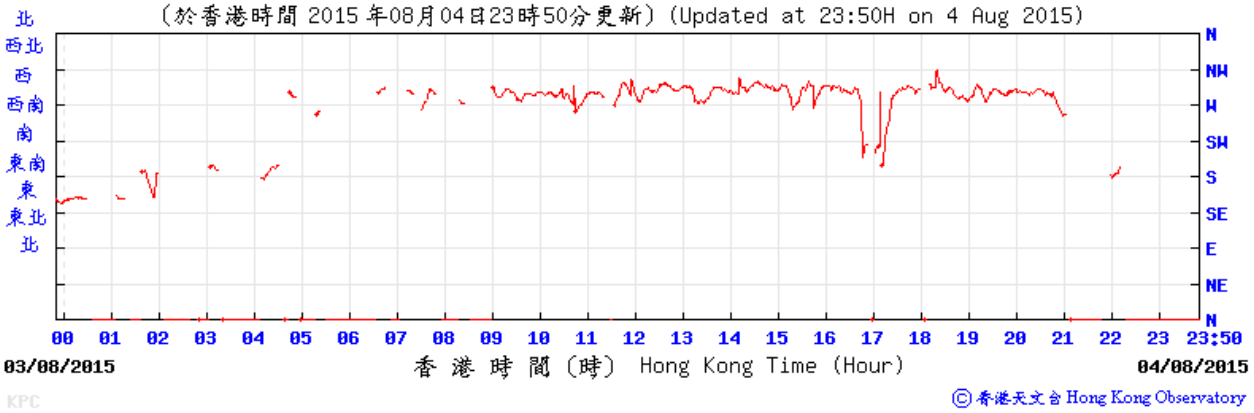
Day	August	24-hr TSP	Noise	Remarks
1	-			
2	-			
3	-	✓		
4	-		✓	No rainfall recorded on site during Noise Monitoring
5	-			
6	-			
7	-			
8	-			
9	17.5			
10	27.3	✓		
11	19.8		✓	No rainfall recorded on site during Noise Monitoring
12	-			
13	42.5			
14	19.9			
15	23.1			
16	2.0			
17	-	✓		
18	-		✓	No rainfall recorded on site during Noise Monitoring
19	-			
20	7.2			
21	-			
22	-			
23	5.7			
24	-	✓		
25	-		✓	No rainfall recorded on site during Noise Monitoring
26	0.6			
27	-			
28	0.1			
29	2.5			
30	6.6			
31	0.2	✓		
Total	**175.0**			

King's Park Weather Station – 03 August 2015

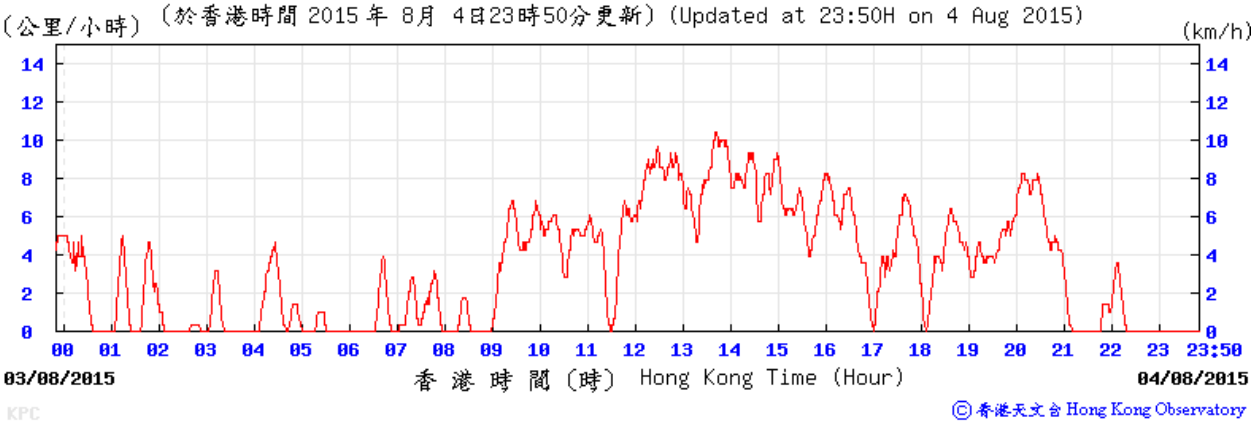
Temperature and Humidity:



Wind Direction:

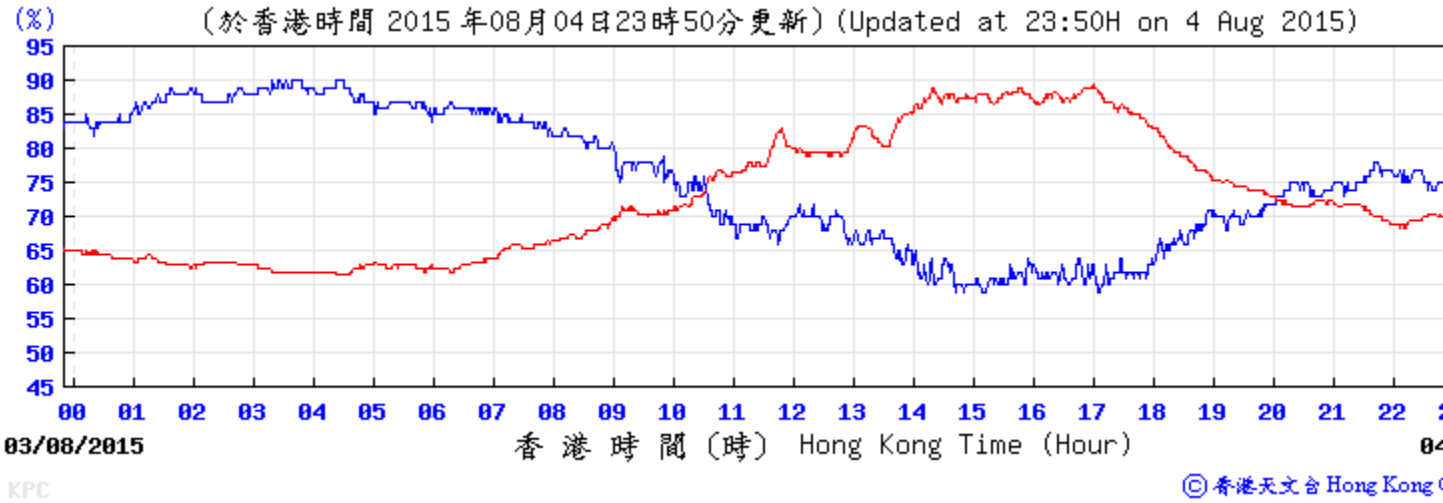


Wind Speed:

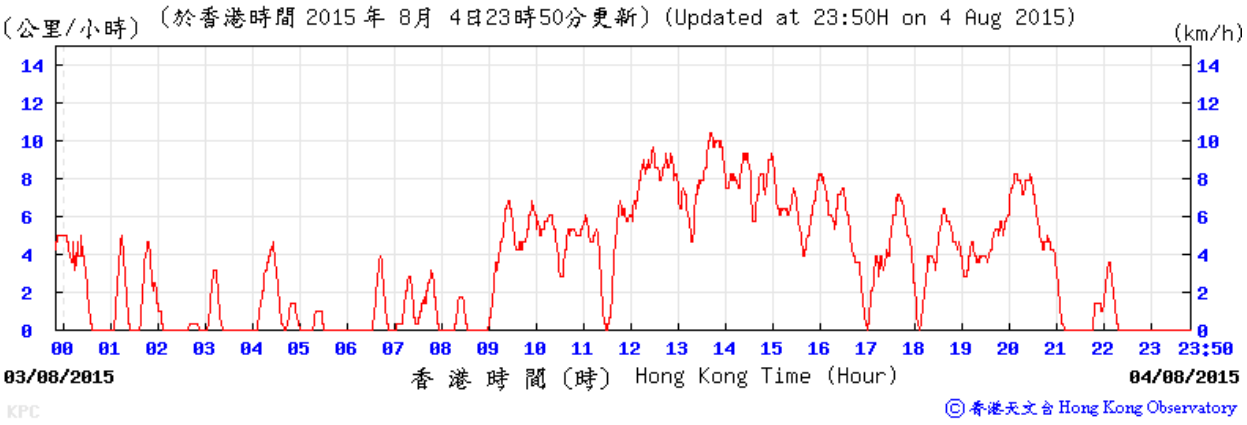


King's Park Weather Station – 04 August 2015

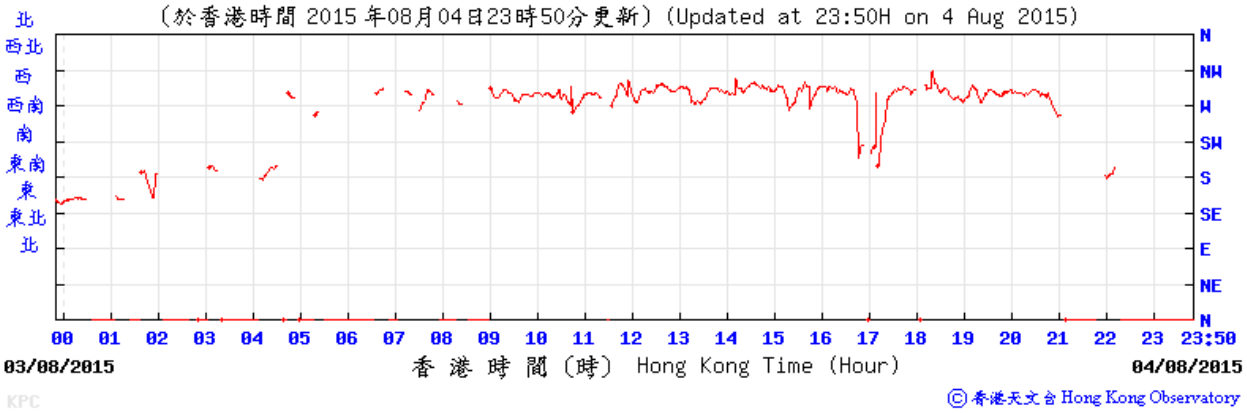
Tempearture/Humidity:



Wind Speed:

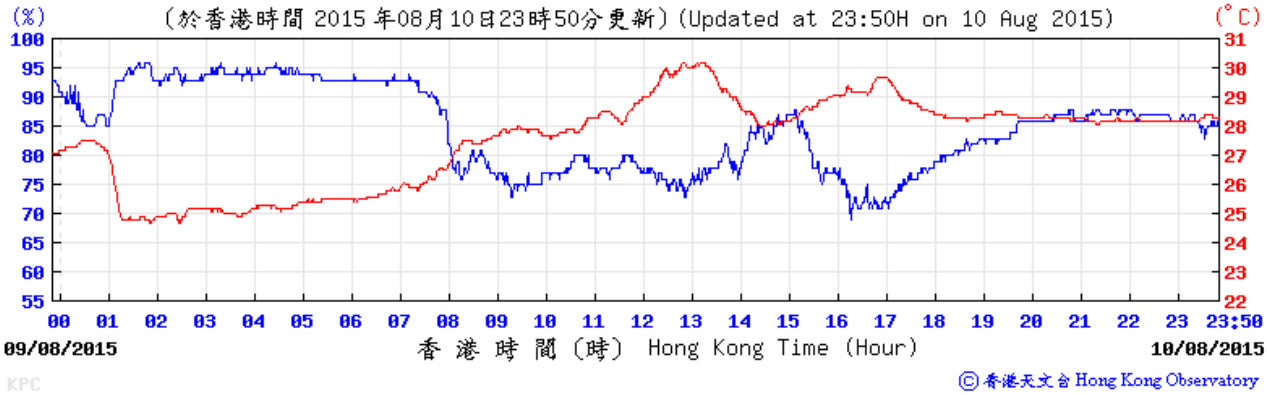


Wind Direction:

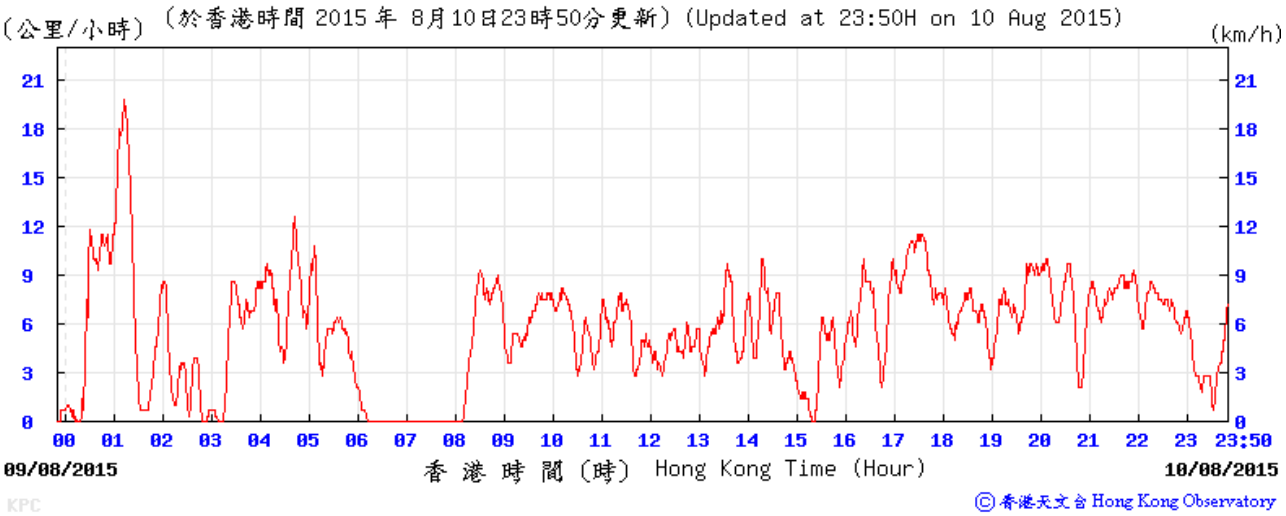


King's Park Weather Station – 10 August 2015

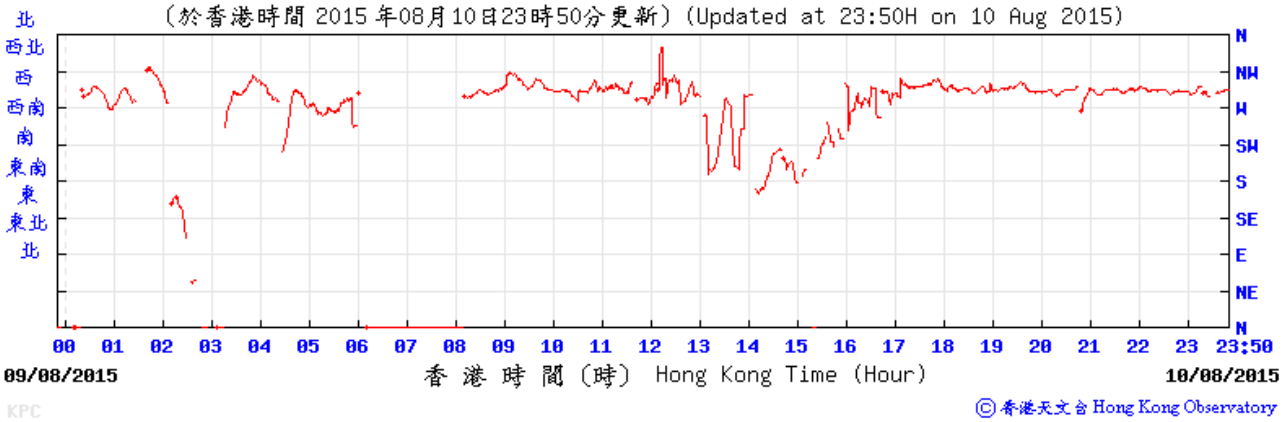
Tempearture/Humidity:



Wind Speed:



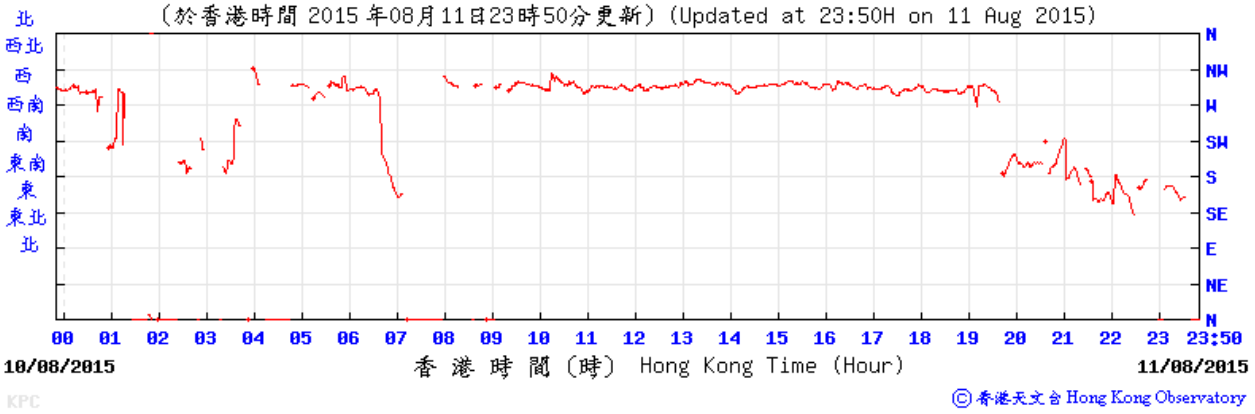
Wind Direction:



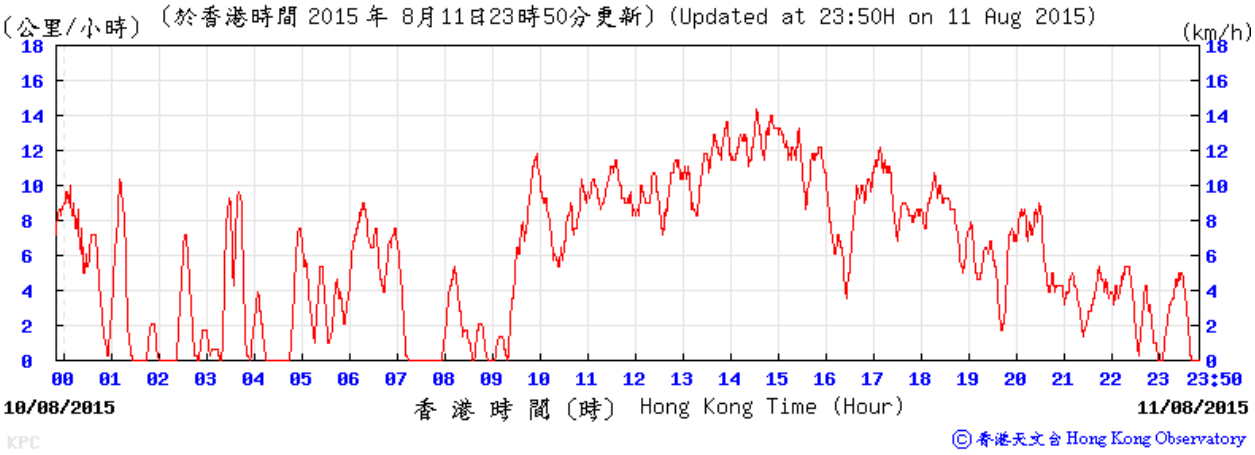
King's Park Weather Station – 11 August 2015

Tempearture/Humidity:

Wind Direction:

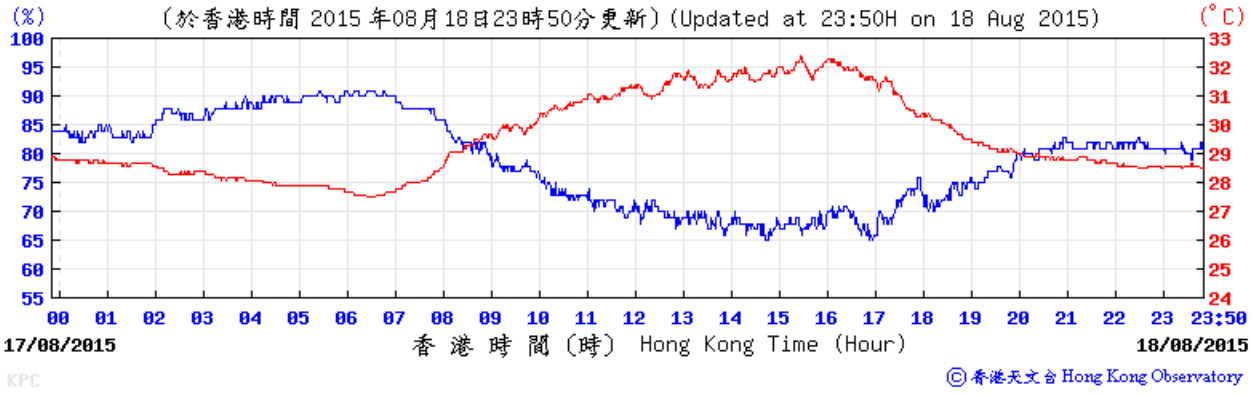


Wind Speed:

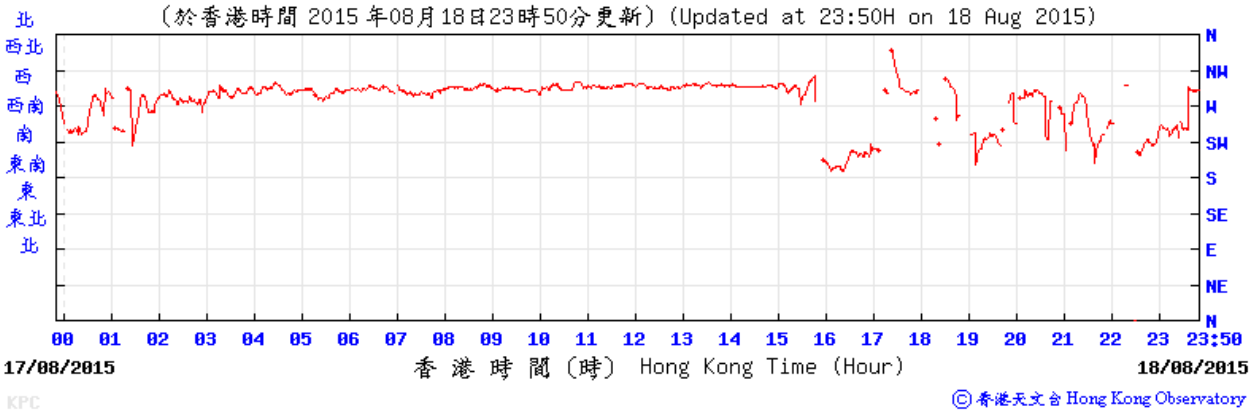


King's Park Weather Station – 17 August 2015

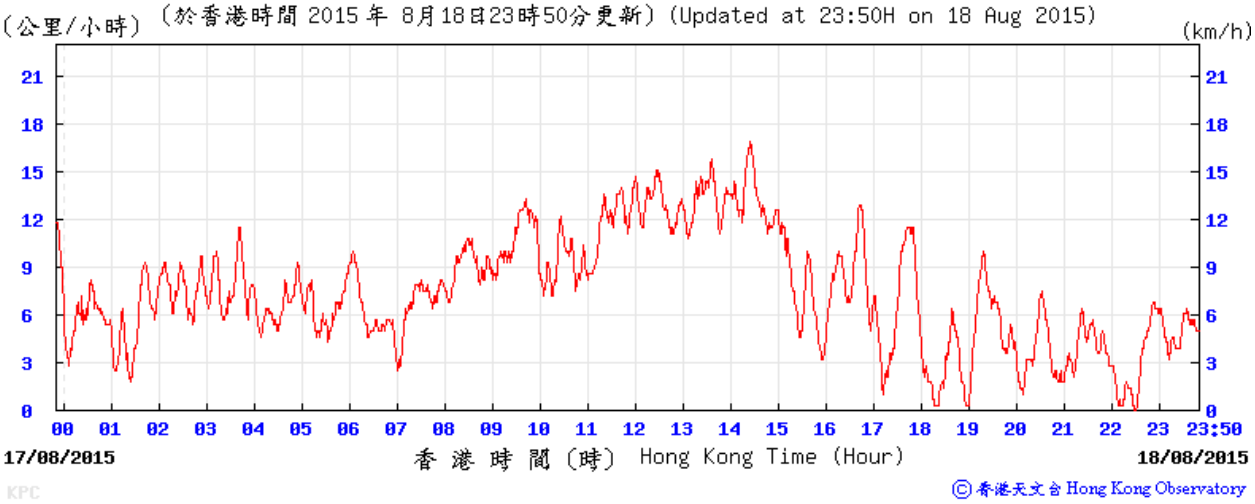
Temperature and Humidity:



Wind Direction:

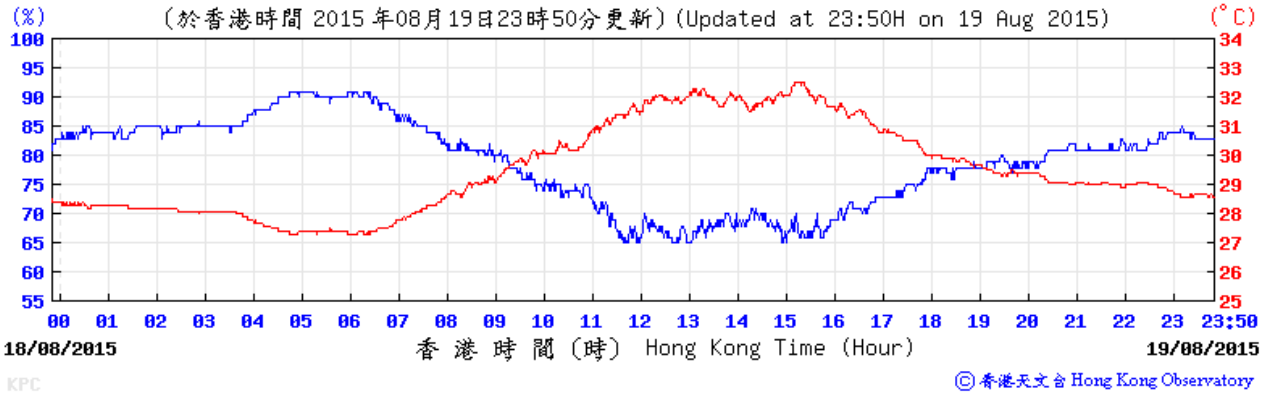


Wind Speed:

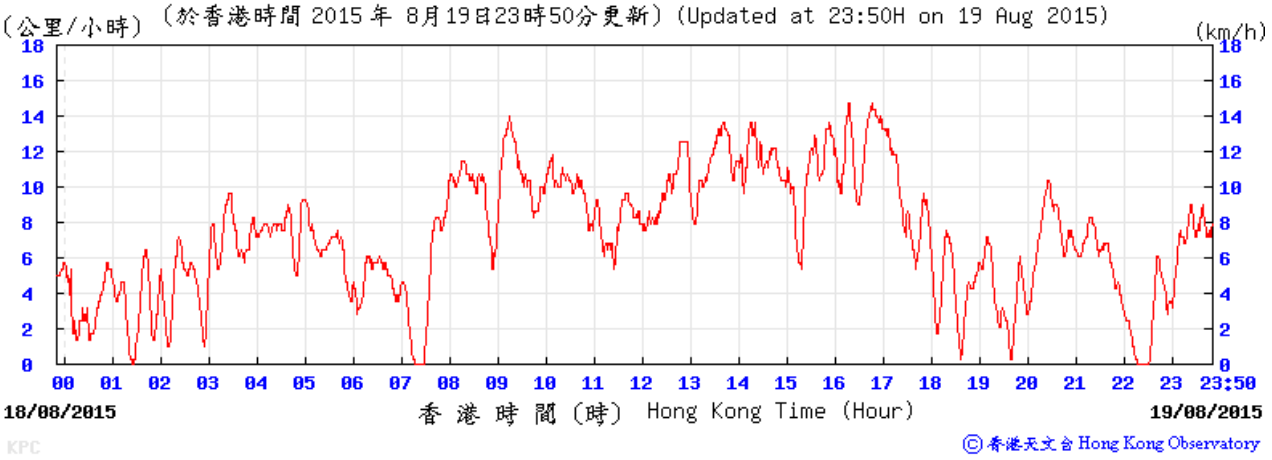


King's Park Weather Station – 18 August 2015

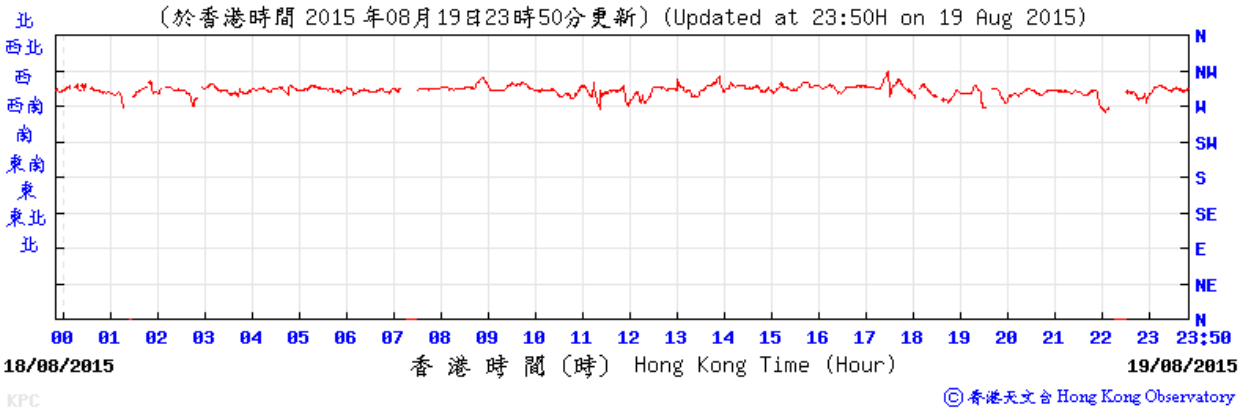
Tempearture/Humidity:



Wind Speed:

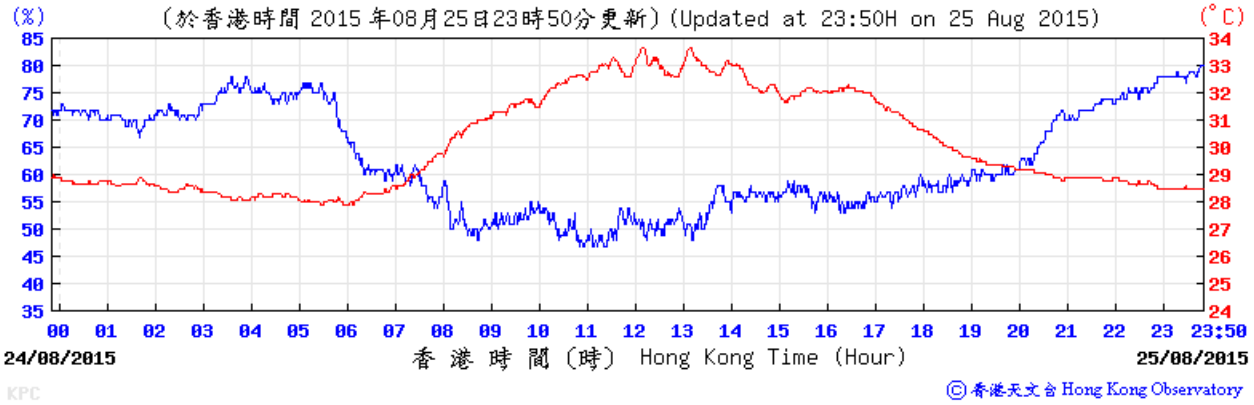


Wind Direction:

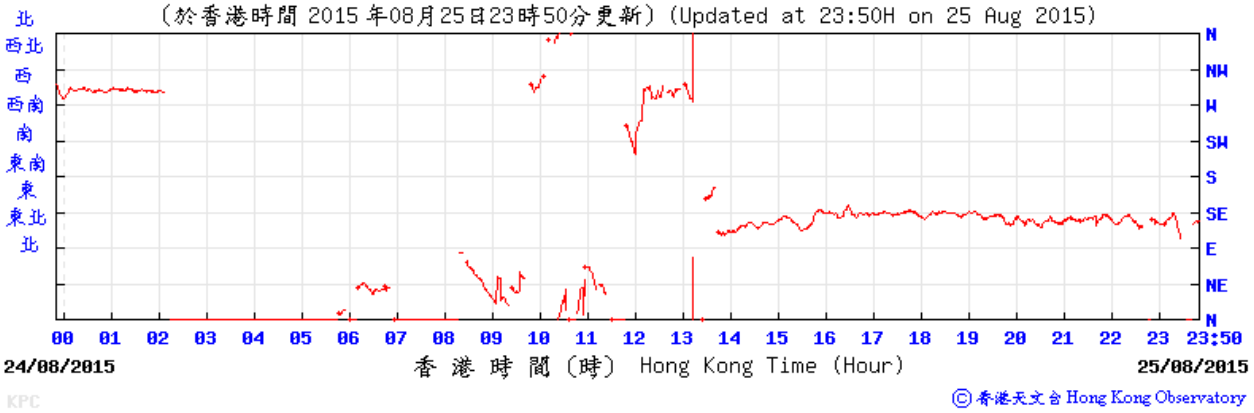


King's Park Weather Station – 24 August 2015

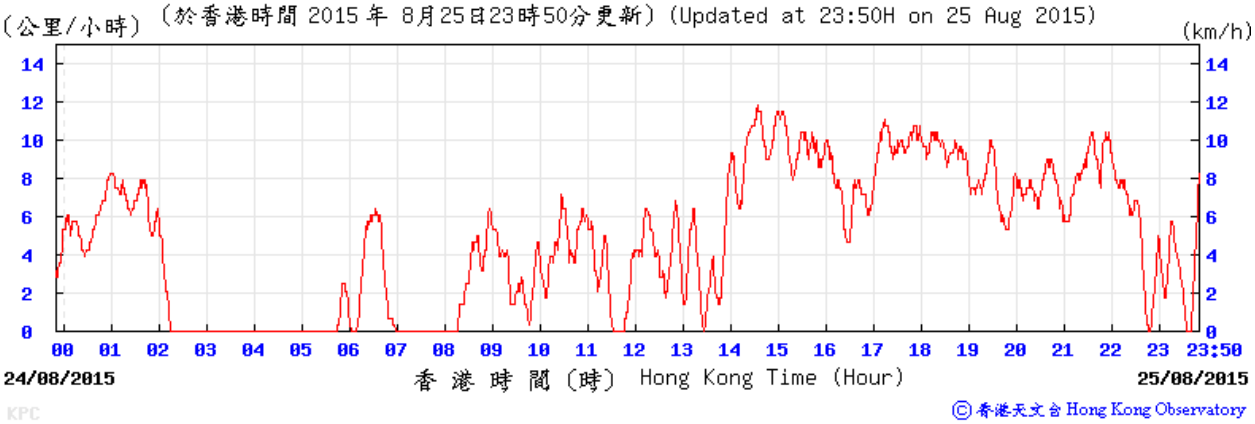
Temperature and Humidity:



Wind Direction:

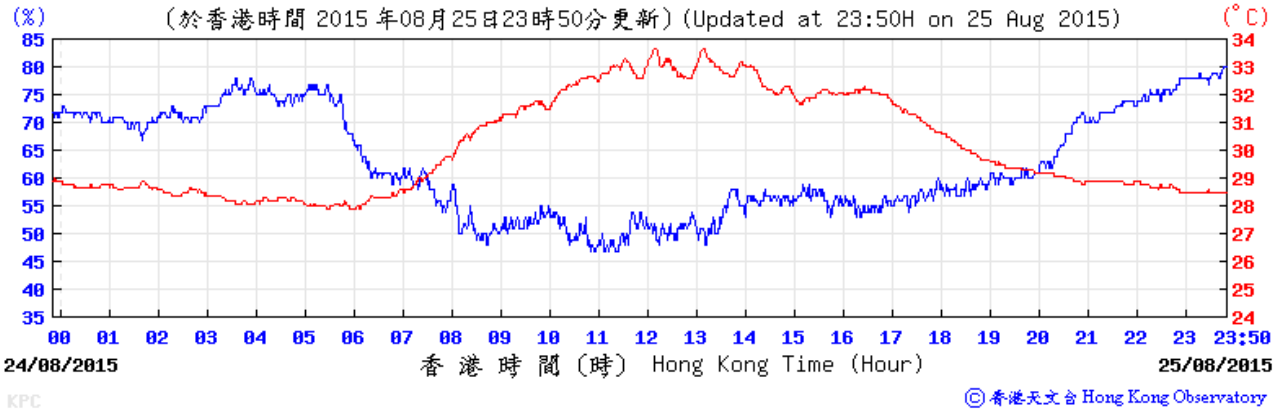


Wind Speed:



King's Park Weather Station – 25 August 2015

Tempearture/Humidity:



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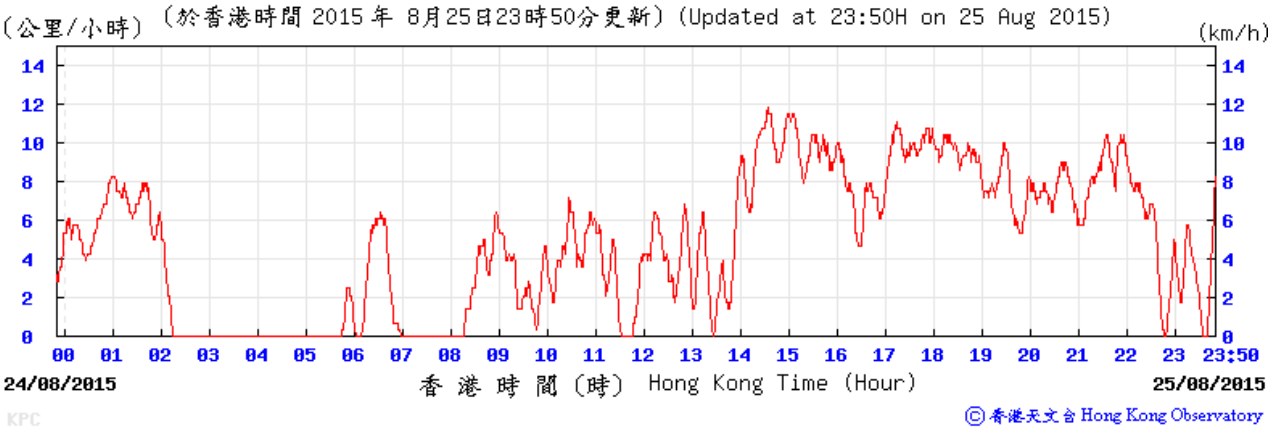
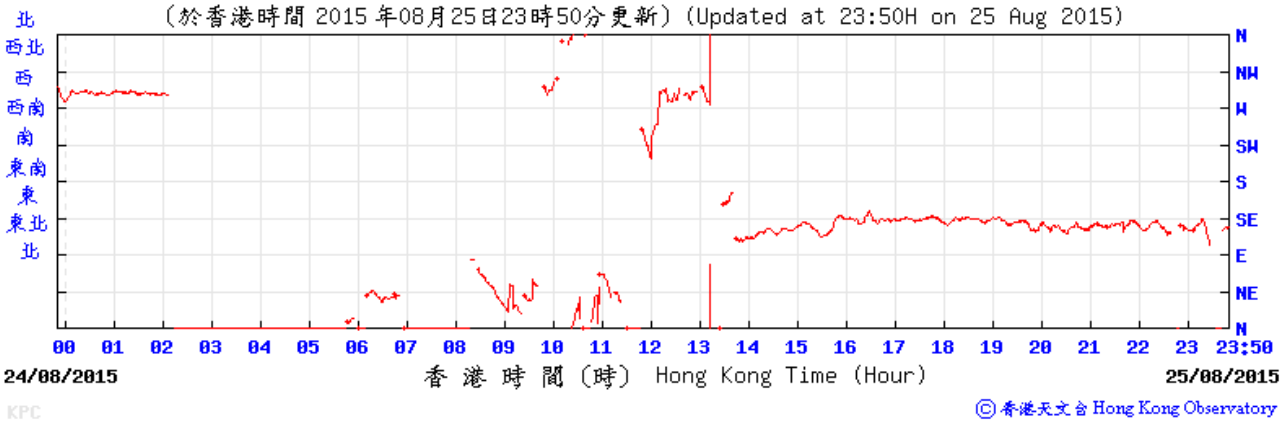
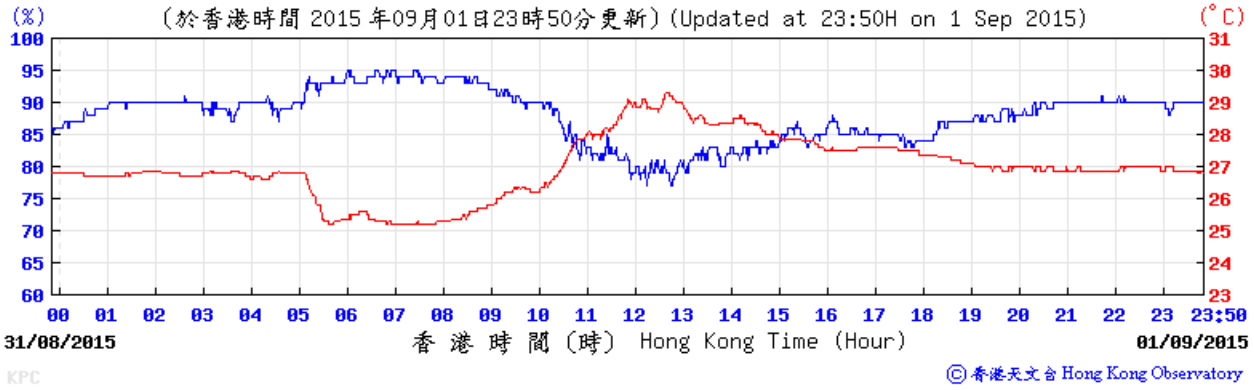


Wind Direction:

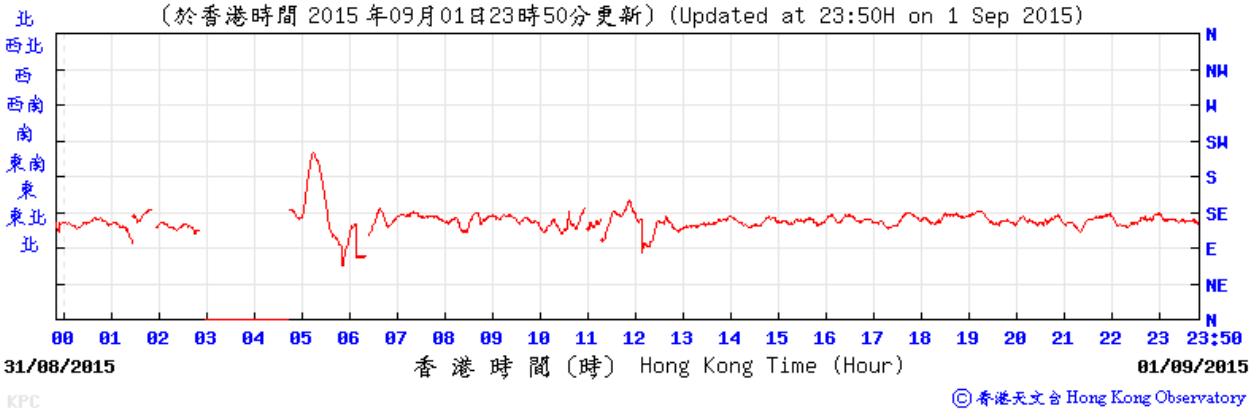


King's Park Weather Station – 31 August 2015

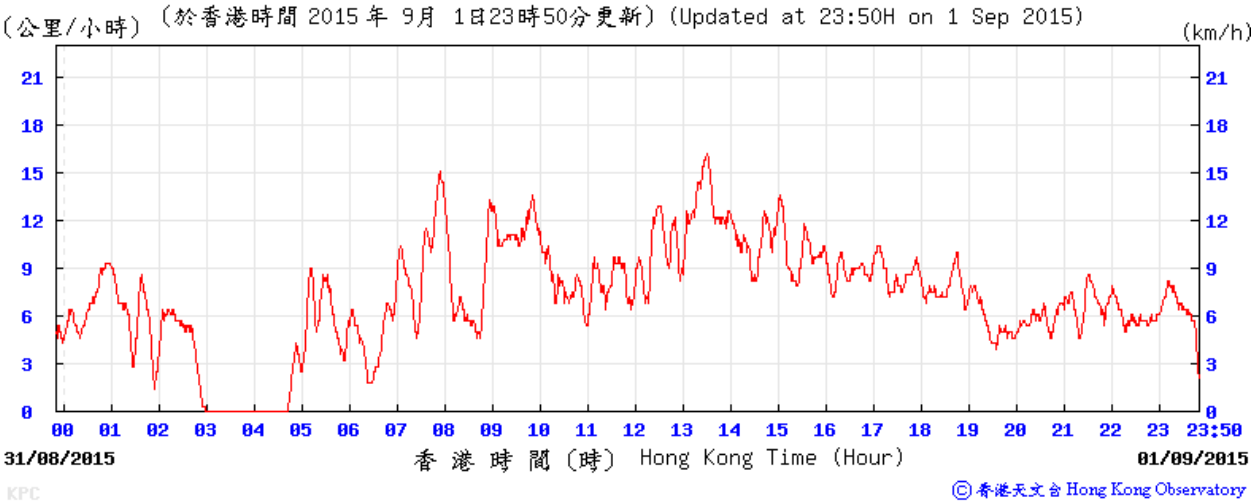
Temperature and Humidity:



Wind Direction:



Wind Speed:

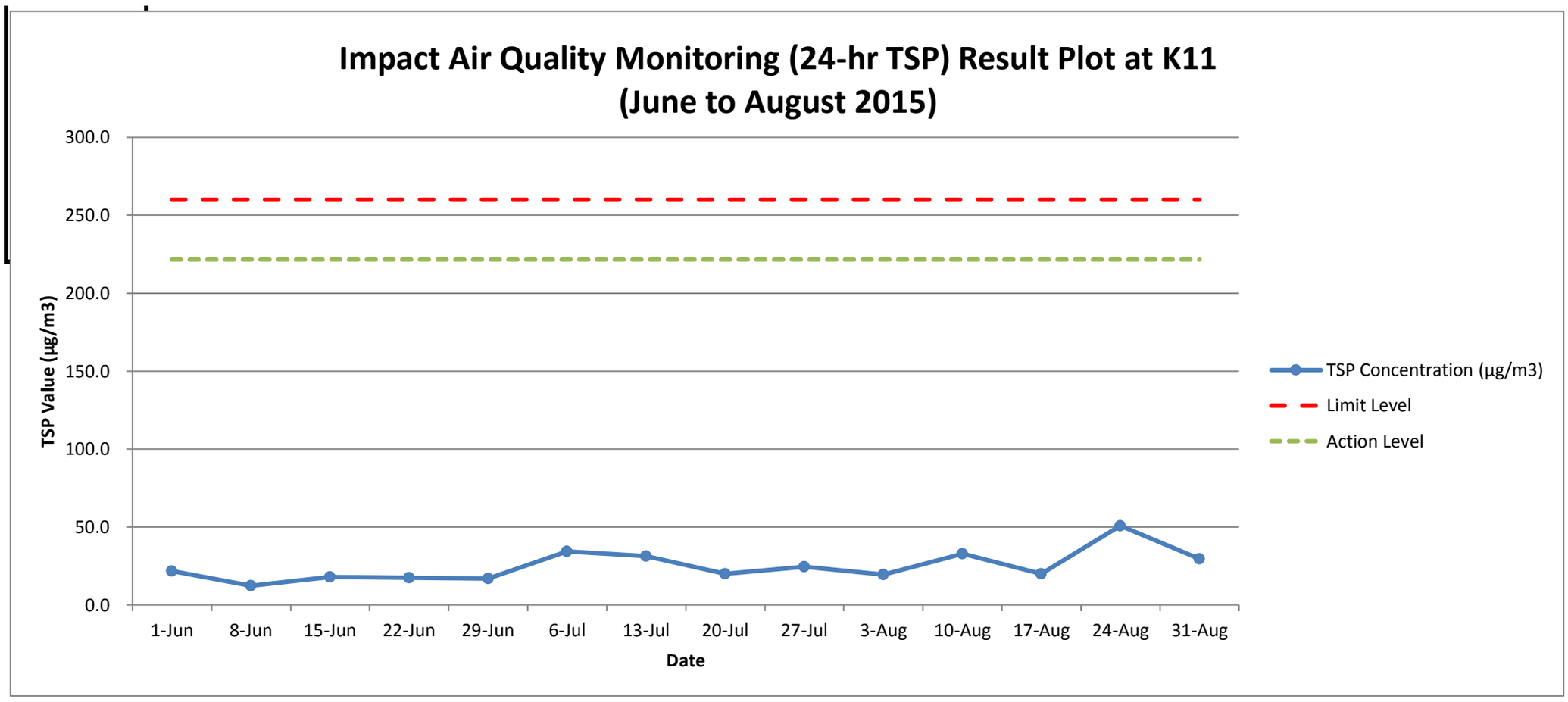


Appendix H

Monitoring Results and Plots

C3840-13C MTRCL Tsim Sha Tsui Station Carnarvon Road Subway and Entrances Modification Works
Impact Air Quality Monitoring (24-hr TSP) Results at K11 (June to August 2015)

Location	Monitoring Date	Start Time	Weather Conditions	Temperature	Elapse Time			Flow Rate (CFM)			TSP Concentration (µg/m3)	Action/Limit Levels
					Initial	Final	Sampling Hours	Initial	Final	Average Flow Rate		
K11	1-Jun-15	0:00	Cloudy	28.3	828499	830900	24	40	40	40	21.7	221.6/260
	8-Jun-15	0:00	Sunny	27.5	830900	833300	24	33	33	33	12.3	221.6/260
	15-Jun-15	0:00	Sunny	27.9	833300	835700	24	40	42	41	17.9	221.6/260
	22-Jun-15	0:00	Rainy	27.5	835700	838100	24	38	40	39	17.4	221.6/261
	29-Jun-15	0:00	Sunny	28.9	838100	840500	24	38	40	39	16.9	221.6/260
	6-Jul-15	0:00	Sunny	28.7	840500	842900	24	35	36	36	34.3	221.6/260
	13-Jul-15	0:00	Sunny	29.0	842900	845301	24	40	40	40	31.2	221.6/260
	20-Jul-15	0:00	Rainy	26.0	845301	847700	24	40	41	41	20.0	221.6/260
	27-Jul-15	0:00	Sunny	27.0	847700	850100	24	38	40	39	24.5	221.6/260
	3-Aug-15	0:00	Sunny	27.0	850100	852500	24	38	38	38	19.5	221.6/260
	10-Aug-15	0:00	Overcast	28.0	852500	854900	24	34	34	34	32.8	221.6/260
	17-Aug-15	0:00	Sunny	29.0	854900	857300	24	40	40	40	19.9	221.6/260
	24-Aug-15	0:00	Sunny	29.0	857300	859700	24	34	35	35	50.8	221.6/260
	31-Aug-15	0:00	Cloudy	25.5	859700	862100	24	40	42	41	29.5	221.6/261

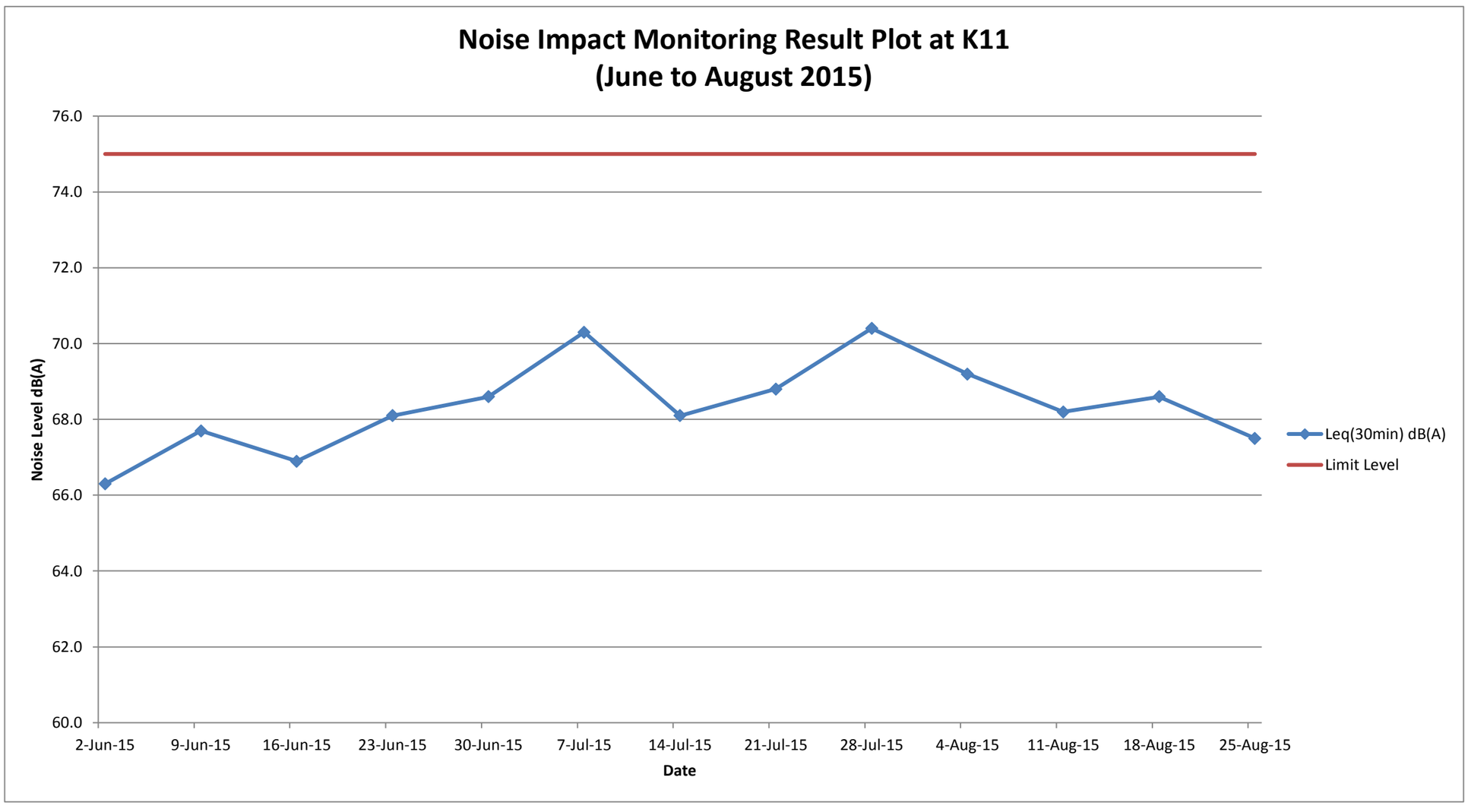


C3840-13C MTRCL Tsim Sha Tsui Station Carnarvon Road Subway and Entrances Modification Works
Noise Impact Monitoring Results at K11 (March to May 2015)

Monitoring Locations	Date	Weather Conditions	Temperature	Wind Speed (m/s)	Start Time	End Time	Background Level dB(A)	Limit Level dB(A)	Leq(30min) dB(A)	L10(30min) dB(A)	L90(30min) dB(A)
K11 Art Mall	2-Jun-15	Cloudy	29.5	2.5	9:41	10:11	65.3	75	66.3	67.5	64.5
	9-Jun-15	Sunny	30.5	1.5	11:29	11:59	65.3	75	67.7	68.0	65.5
	16-Jun-15	Sunny	29.3	1.3	9:52	10:22	65.3	75	66.9	67.5	65.5
	23-Jun-15	Rainy	26.0	1.6	11:16	11:46	65.3	75	68.1	68.5	66.5
	30-Jun-15	Sunny	31.0	2.1	9:48	10:18	65.3	75	68.6	71.0	65.0
	7-Jul-15	Sunny	29.5	1.6	10:05	10:35	65.3	75	70.3	73.5	66.5
	14-Jul-15	Sunny	30.5	0.6	9:45	10:15	65.3	75	68.1	69.5	66.0
	21-Jul-15	Rainy	26.5	3.2	13:42	14:12	65.3	75	68.8	70.5	66.0
	28-Jul-15	Sunny	29.8	0.9	10:10	10:40	65.3	75	70.4	73.0	66.5
	4-Aug-15	Fine	29.2	0.8	10:18	10:48	65.3	75	69.2	70.0	67.5
	11-Aug-15	Sunny	29.5	0.4	10:09	10:39	65.3	75	68.2	69.0	66.5
	18-Aug-15	Sunny	31.5	0.4	11:28	11:58	65.3	75	68.6	70.0	66.5
	25-Aug-15	Sunny	31.5	0.1	9:53	10:23	65.3	75	67.5	69.0	65.5

* Not collected

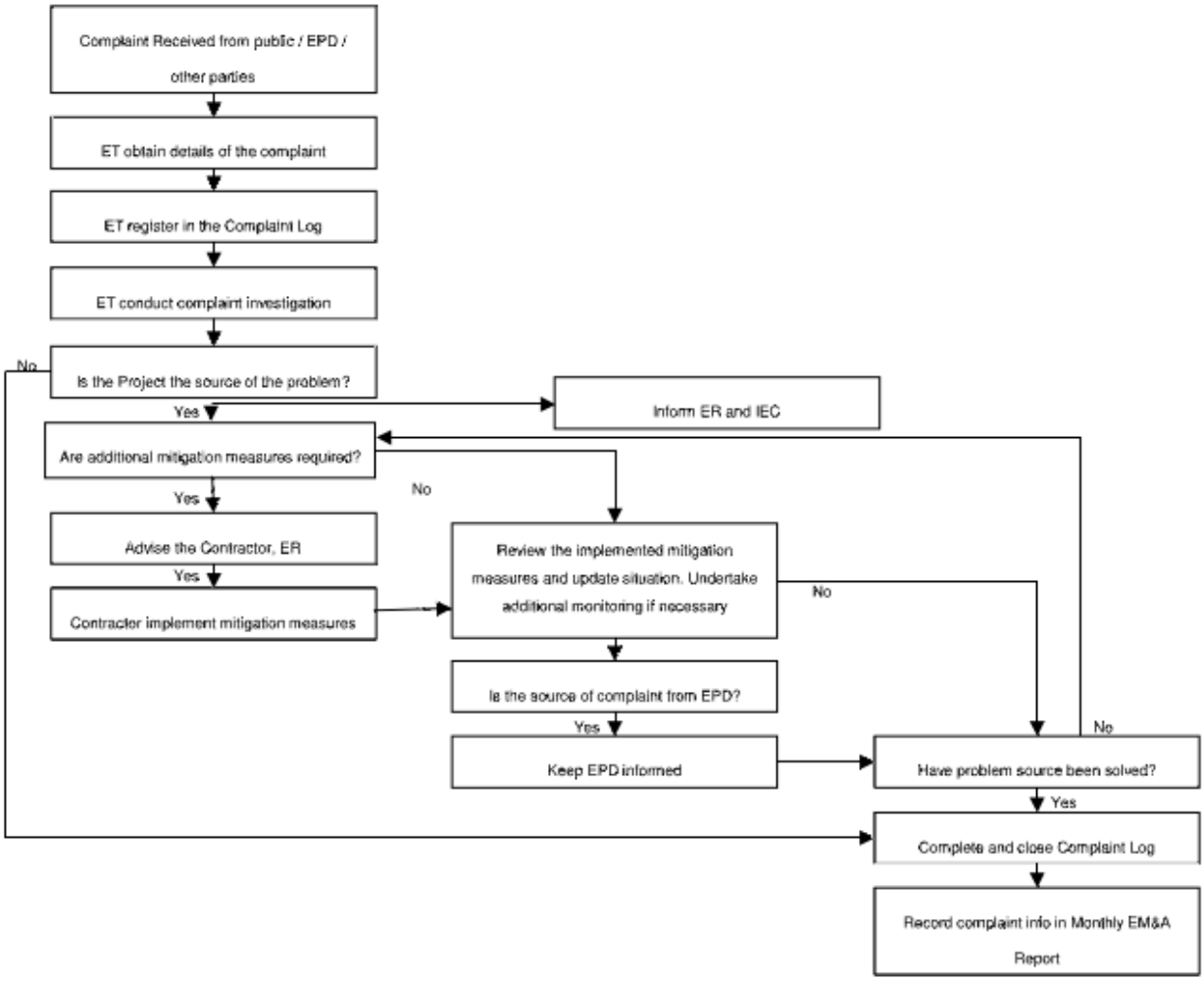
Note:
The limit level of NSR1 is 65dB(A) during school examination period.
Red Bold indicates an exceedance of Limit Level



Appendix I

Flow Chart for Handling Environmental Complaints

Complaint Response Procedure



Appendix J

Waste Management Records

Monthly Summary Waste Flow Table for 2015 (year)

Contract No: C3840-13C Tsim Sha Tsui Station Carnarvon Road Subway
Date Reported: 2-September-2015

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rocks and Large Broken Concrete (See Note 3)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000kg)	(in '000kg)	(in '000kg)	(in'000kg)	(in '000m³/tonne)
Carried from 2014	0.9342	-	-	-	0.9342	-	-	-	-	-	0.0035
Jan	0.0682	-	-	-	0.0682	-	-	-	-	-	-
Feb	0.0418	-	-	-	0.0418	-	-	-	-	-	-
Mar	0.2563	-	-	-	0.2563	-	-	-	-	-	0.0020
Apr	0.2182	-	-	-	0.2182	-	-	-	-	-	-
May	0.1011	-	-	-	0.1011	-	-	-	-	-	-
June	0.2604	-	-	-	0.2604	-	-	-	-	-	-
Sub-total	0.9460	-	-	-	0.9460	-	-	-	-	-	0.0020
July	0.1806	-	-	-	0.1806	-	-	-	-	-	-
Aug	0.1006	-	-	-	0.1006	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
Total	1.2272	-	-	-	1.2272	-	-	-	-	-	0.0020
Acc. Total	2.1614	(accumulated quantity of the project = carried amount + this year amount)									0.0055

Notes:

(1) The performance targets are given below:
- All excavated materials to be sorted for recovering the inert portion of C&D materials, e.g. hard rocks, soil and broken concrete, for reuse on the Site or disposal to designated outlets;
- All metallic waste to be recovered for collection by recycling contractors;
- All cardboard and paper packaging (for plant, equipment and materials) to be recovered, properly stockpiled in dry and covered condition to prevent cross contamination;
- All chemical wastes to be collected and properly disposed of by specialist contractors; and
- All demolition debris to be stored to recover broken concrete, reinforcement bars, mechanical and electrical fittings, hardware as well as other fitting / materials that have established recycling outlets.

(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(3) Broken concrete for recycling into aggregates.

(4) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.