

Your Ref:
Our Ref: 60453136.40032976/2018000638E

By Email and Post

MTR Corporation Limited
Fo Tan Railway House
No. 9, Lok King Street, Fo Tan
Shatin, N.T.,
Hong Kong

Attn.: Mr. Alfa Liu

18 December 2018

Dear Sirs

**Consultancy Agreement A130-13
Independent Environmental Checker for CRS and LTS
CRS - Verification for 19th Quarterly Environmental Monitoring and Audit (EM&A) Report
(September 2018 to November 2018) (Report No.: EB001340R0781)**

We refer to the 19th Quarterly EM&A Report (September 2018 to November 2018) received under cover of the email from the Environmental Team, Arcadis Design & Engineering Limited, dated on 18 December 2018.

Further to our comments provided on 18 December 2018 and subsequent revision of the Report by Arcadis Design & Engineering Limited on 18 December 2018, we have no further comment and have verified the captioned report (Report No.: EB001340R0781).

Should you have any queries, please feel free to contact the undersigned at 3922 9366.

Yours faithfully
AECOM Consulting Services Ltd



Y. W. Fung
Independent Environmental Checker

LLMC/wwsc

cc Arcadis Design & Engineering Limited
Maeda Corporation

(Attn.: Mr. F. N. Wong) via email
(Attn.: Mr. Calvin Chan) via email



Maeda Corporation

QUARTERLY EM&A REPORT (SEPTEMBER TO NOVEMBER 2018)

MTRCL Contract C3840-13C

Tsim Sha Tsui Station Carnarvon Road Subway and
Entrances Modification Works





MAEDA

Maeda Corporation

QUARTERLY EM&A REPORT (SEPTEMBER TO NOVEMBER 2018)

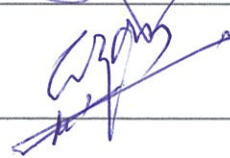
MTRCL Contract C3840-13C

Tsim Sha Tsui Station Carnarvon Road Subway and
Entrances Modification Works

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Report No EB001340R0781

CONTENTS

EXECUTIVE SUMMARY

1	INTRODUCTION.....	5
1.1	Project Background.....	5
1.2	Environmental Status	5
1.3	Construction Activities	6
2	EM&A REQUIREMENTS.....	7
2.1	Air Quality.....	7
2.2	Construction Noise.....	8
2.3	Monitoring Schedules	9
3	MONITORING RESULTS	10
3.1	Air Quality.....	10
3.2	Construction Noise.....	11
3.3	Conclusions and Recommendations	12
4	ENVIRONMENTAL AUDIT	13
4.1	Site Inspection.....	13
4.2	Compliance with Legal/ Contractual Requirements.....	15
4.3	Environmental Complaints.....	15
4.4	Notification of Summons/Successful Prosecutions	15
5	WASTE MANAGEMENT	16
5.1	Waste Management	16
5.2	Waste Management Record.....	16
6	FUTURE ENVIRONMENTAL ISSUES.....	16
6.1	Key Environmental Issues.....	16
6.2	Mitigation Measures	16
7	COMMENTS AND RECOMMENDATIONS.....	17
7.1	Conclusion.....	17
7.2	Recommendations	17

APPENDICES

- Appendix A** Site Location Plan
- Appendix B** Management Structure
- Appendix C** Construction Programme
- Appendix D** Implementation Schedule
- Appendix E** Status of Environmental Licenses and Permits
- Appendix F** Event and Action Plan
- Appendix G** Weather Information Extracted from HK Observatory
- Appendix H** Monitoring Results and Plots
- Appendix I** Flow Chart for Handling Environmental Complaints
- Appendix J** Waste Management Records

EXECUTIVE SUMMARY

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 site inspection and environmental audit during the Reporting Period recorded no deficiencies, non-compliance or adverse environmental impacts within the site of the project and on the sensitive receivers environed with the site;

Environmental Complaints

- ES03 No environmental complaints were recorded during the Report Period.

Notification of Summons & Successful Prosecutions

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

Reporting Changes

- ES05 Project Organization Chart in Environmental Management was updated during the Reporting Period. See **Appendix B**.
- ES06 Since 21 September 2018, due to outage of the HVS and damage of the HVS during the super typhoon who smashed into Hong Kong on 16 September 2018, the 24-Hr TSP monitoring has been replaced by 3 x 1-Hr TSP monitoring by hand-help dust meter when the highest dust impact occurs upon agreement with the IEC, MTRCL and Contractor.

Future Key Issues

General

- ES07 At-grade concrete super-structure works, backfilling and asphalt paving (road reinstatement) are anticipated to be completed within December 2018, and only minor works including pedestrian footpath reinstatement and defective works will be outstanding.
- ES08 Although the construction under the Project is approaching its final stage, the environmental mitigation measures recommended in the EM&A Plan and summarized in the implementation Schedule should be maintained in order to alleviate potential adverse environmental impacts generated from construction activities to acceptable levels.

Construction Noise

- ES09 Particular attention should be paid to construction noise mitigation measures 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

- ES10 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. Waste water treatment plant was replaced by sedimentation tank and no quarterly water sampling test due to no water discharge during the Reporting Period.

Air quality

- ES11 Furthermore, implying of construction dust suppression measures are recommended during dusty activities under dry and windy conditions.
- ES12 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 Project Background

- 1.1.1 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 project was commenced in March 2014 and is anticipated to be completed by end of 2018.
- 1.1.2 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.
- 1.1.3 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**.
- 1.1.4 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**.
- 1.1.5 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.
- 1.1.6 This is the 19th quarterly EM&A report (hereinafter referred as 'This Report') covering construction period from 1st September 2018 to 30th November 2018 (hereinafter referred as 'the Reporting Period').
- 1.1.7 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 Environmental Status

- 1.2.1 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 Arcadis Design & Engineering Limited (hereinafter referred as 'Arcadis') (formerly known as 'Hyder Consulting Limited') has been appointed as the Environmental Team under the Project (hereinafter referred as 'the ET').
- 1.2.2 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.

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

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

Item	Description	License/Permit Status
1	Air Pollution Control (Construction Dust)	Notification Ref. 403252 & 421293 & 433242 acknowledged on 02 Jun 2016, 18 Sep 2017 & 07 May 2018 respectively.
2	Water Pollution Control Ordinance (Discharge License)	The discharge license (Ref No. WT0019722-2014) was 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	Construction Noise Permit	GW-RE0635-18 approved on 19 September 2018 for operation of 4 submersible water pump (electric) or 1 drill for 24-hr; 4 drill & 4 grinders for 07:00-23:00 from 1 October 2018 to 30 March 2019.

1.3 Construction Activities

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

Table 1-4-1 Construction Activities Undertaken during the Reporting Period

Item	Description
1	Construction of RC Structure and superstructure for Entrance D1
2	Construction of the ABWF works
3	BS and ABWF for Entrance D1
4	Installation of the BS related works
5	Asphalt paving and Backfilling for road reinstatement
6	Reinstatement of the DSD drainage and underground Utility
7	Removal of steel decking and backfilling for road reinstatement

2 EM&A REQUIREMENTS

2.1 Air Quality

- 2.1.1 According to the EM&A Plan, 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. 1-Hour Total Suspended Particulates (hereinafter referred as '1-Hr TSP') is required to be monitored when exceedances of 24-Hr TSP occur, following the Event and Action Plan presented in **Appendix F**.
- 2.1.2 On 4th September 2018, when collecting filter paper from the HVS, the HVS was found out of service due to continuing wet weather as indicated by zero-hour elapsed time in the elapsed time recorder. Before the HVS was inspected and repaired by the HVS specialist, the HVS was blown down and seriously damaged by the super typhoon Mangkhut who smashed into Hong Kong on 16 September 2018. The two (2) rounds of the TSP monitoring for the weeks 2nd to 8th and 9th to 15th September 2018 were hence interrupted due to outage of the HVS, resulted missing of the associated 24-Hour TSP data.
- 2.1.3 Due to uncertainty of time for the HVS inspection and repair, the 24-Hr TSP monitoring has been replaced by 3 x 1-Hr TSP monitoring at K11 by hand-help dust meter when the highest dust impact occurs since 21 September 2018 upon agreement with the IEC and MTRC and MC.

Action and Limit Levels

- 2.1.4 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, $\mu\text{g}/\text{m}^3$

Parameter	Action Level	Limit Level
24-Hr TSP	For baseline level $\leq 200 \mu\text{g}/\text{m}^3$, Action level = $(130\% \text{ of baseline level} + \text{Limit level})/2$	260
1-Hr TSP	For baseline level $\leq 384 \mu\text{g}/\text{m}^3$, Action level = $(130\% \text{ of baseline level} + \text{Limit level})/2$ For baseline level $> 384 \mu\text{g}/\text{m}^3$, Action level = Limit level	500

- 2.1.5 The Action and Limit Levels for 24-Hr TSP established in the Baseline Monitoring Report were 221.6 and 260 respectively.

- 2.1.6 As the updated 1-Hr TSP baseline levels at the monitoring location are not available, the Action Level for 1-Hr TSP is calculated by adoption of the worst-case approach as follows:

According to 1-Hr TSP:

Limit Level = 500. In adopting the worst-case approach, let the 1-Hr TSP baseline levels be 0 (and of course $\leq 384!$):

$$1\text{-Hr TSP Action Level} = (130\% \text{ of Baseline Level} + \text{Limit Level}) \div 2 = (0 + 500) \div 2 = 250$$

2.1.7 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, $\mu\text{g}/\text{m}^3$

Parameter	Action Level	Limit Level
24-Hr TSP	221.6	260
1-Hr TSP	250	500

Event and Action Plan

2.1.8 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

2.1.9 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

2.1.10 Provision of tarpaulin covering for any dusty materials on a vehicle leaving the site. 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
Leq in 30 minutes	Once a week

Action and Limit Levels

2.2.2 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

Event and Action Plan

- 2.2.3 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

- 2.2.4 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 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; and
 - i) Material stockpiles and other structures shall be effectively utilized as noise barriers, whenever practicable.
- 2.2.5 Details of the implementation schedule for the mitigation measures are presented in **Appendix D**.

2.3 Monitoring Schedules

- 2.3.1 Monitoring schedules for 24-Hr TSP and 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.

3 MONITORING RESULTS

3.1 Air Quality

Monitoring Results

- 3.1.1 1-Hr TSP monitoring during the Reporting Period was conducted following the agreed monitoring schedule.
- 3.1.2 1-Hr TSP results of the Reporting Period are summarized in the following **Table 3-1-1**. Graphical plots of the parameter are illustrated in **Appendix H**.

Table 3-1-1 Summary of 1-Hr TSP Monitoring Results. $\mu\text{g}/\text{m}^3$

Monitoring Date	1-Hr TSP	A/L Levels	
21 September 2018	28	Action Level: 250	Limit Level: 500
21 September 2018	31		
21 September 2018	31		
27 September 2018	79		
27 September 2018	71		
27 September 2018	76		
02 October 2018	84		
02 October 2018	91		
02 October 2018	97		
09 October 2018	91		
09 October 2018	102		
09 October 2018	112		
16 October 2018	101		
16 October 2018	96		
16 October 2018	91		
23 October 2018	83		
23 October 2018	77		
23 October 2018	72		
23 October 2018	72		
23 October 2018	71		
23 October 2018	70		
06 November 2018	69		
06 November 2018	70		
06 November 2018	60		
13 November 2018	61		
13 November 2018	70		
13 November 2018	68		
20 November 2018	70		
20 November 2018	70		
20 November 2018	62		
27 November 2018	65		
27 November 2018	70		
27 November 2018	73		
Mean (Min – Max)	74 (28 – 112)		

- 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 extra attention to noisy construction activities within the Reporting Month and the coming month. 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 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 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.
- 3.3.5 Construction noise shall be eliminated to avoid adverse impacts on the nearby sensitive receivers.

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

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

Date	Deficiencies or findings	Follow-Up Action
04 September 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
11 September 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
18 September 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
26 September 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
02 October 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
09 October 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.

Table 4-1-1 (Continued)

Date	Deficiencies or findings	Follow-Up Action
16 October 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
23 October 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
30 October 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
06 November 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
13 November 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
20 November 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.
27 November 2018	Follow-up item(s)	
	No follow-up items.	Not required.
	Observation(s) on the day of inspection	
	No deficiency was observed on site.	Not required.

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 4-2-1** summarizes breaches of legal and contractual requirements.

Table 4-2-1 Summary of Breaches of Legal and Contractual Requirements

Month	No. of Breaches	Cumulative no. of Breaches
Sep 2018	0	0
Oct 2018	0	0
Nov 2018	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 No complaint was received during the Reporting Period.
- 4.3.3 Environmental complaints registered during the Reporting Period and cumulative statistics of environmental complaints are summarized in **Table 4-3-1** below:

Table 4-3-1 Summary of Complaint

Month	No. of Complaint	Cumulative no. from March 2014 to the Reporting Period
Sep 2018	0	6
Oct 2018	0	6
Nov 2018	0	6

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 4-4-1** below:

Table 4-4-1 Summary of Summon and Successful Prosecutions

Month	Number of Issue	Cumulative no. from March 2014 to the Reporting Period
Sep 2018	0	0
Oct 2018	0	0
Nov 2018	0	0

5 WASTE MANAGEMENT

5.1 Waste Management

5.1.1 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.

5.2.2 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 to minimize adverse environmental impacts to be generated from construction of the Project.

6 FUTURE ENVIRONMENTAL ISSUES

6.1 Key Environmental Issues

6.1.1 Future key environmental issues include:

- 1) Air quality, construction dust during dusty construction activities, e.g. handling of dusty materials 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 to be generated from 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 COMMENTS AND RECOMMENDATIONS

7.1 Conclusion

- 7.1.1 EM&A results during the Reporting Period showed that adverse environmental impacts generated from construction activities under the Project was alleviated to acceptable levels via implementation of the environmental mitigation measures recommended in the EM&A Plan and summarized in the Implementation Schedule.
- 7.1.2 Neither NOE & the associated NOE investigation nor follow-up actions were required as the environmental monitoring results registered no exceedances of A/L Levels of air quality and construction noise during the Reporting Period.
- 7.1.3 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 sensitive receivers environed with the site of the Project.
- 7.1.4 In addition, no remedial actions were required as no notification of summons and successful prosecutions were reported during the Reporting Period.

7.2 Recommendations

- 7.2.1 The existing environmental mitigation measures have been proven effective. They should be properly maintained.
- 7.2.2 Where appropriate, additional or improvement of the environmental mitigation measures should be implemented.
- 7.2.3 Attention should be paid to construction noise mitigation measures 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.
- 7.2.4 In addition, suppression of construction dust is reminded during dusty construction activities under dry and windy conditions.
- 7.2.5 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

APPENDIX B

MANAGEMENT STRUCTURE

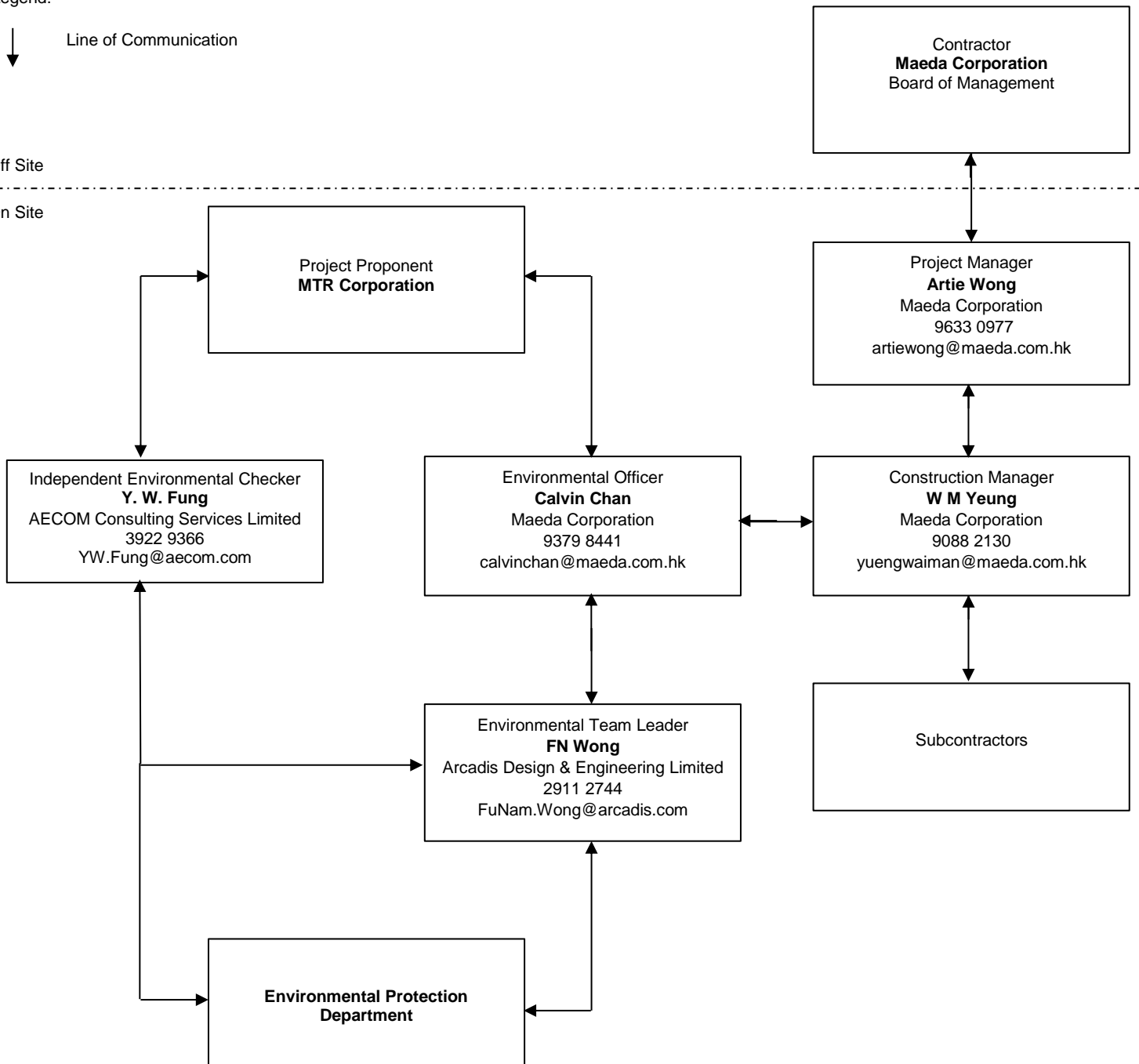
Project Organization Chart in Environmental Management (Rev.05)

Legend:

↓ Line of Communication

Off Site

On Site



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



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	2014												2015												2016												2017												2018												2019											
								O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
C3840-TD-170	Prepare Temporary Work Design	24d	0d	01-Dec-13 A	06-Jan-14 A	100%		■ Prepare Temporary Work Design																																																																							
C3840-TD-180	Design review & endorse by ICE	40d	0d	02-Jan-14 A	04-Feb-14 A	100%		■ Design review & endorse by ICE																																																																							
C3840-TD-190	Design review & comment by Eng/MTRC	28d	0d	07-Jan-14 A	21-Jan-14 A	100%		■ Design review & comment by Eng/MTRC																																																																							
C3840-TD-210	Design review & approve by Eng/MTRC	28d	0d	05-Feb-14 A	18-Mar-14 A	100%		■ Design review & approve by Eng/MTRC																																																																							
C3840-TD-220	Obtain Final Approval	0d	0d		18-Mar-14 A	100%		◆ Obtain Final Approval																																																																							
Temporary Works Design for Temporary Traffic Decking		129d	0d	18-Dec-13 A	23-Jun-14 A																																																																										
C3840-TD-230	Prepare Temporary Work Design	24d	0d	18-Dec-13 A	09-Jan-14 A	100%		■ Prepare Temporary Work Design																																																																							
C3840-TD-240	Design review & endorse by ICE	40d	0d	27-Mar-14 A	11-Jun-14 A	100%		■ Design review & endorse by ICE																																																																							
C3840-TD-250	Design review and comment by Eng/MTRC	28d	0d	10-Jan-14 A	14-Apr-14 A	100%		■ Design review and comment by Eng/MTRC																																																																							
C3840-TD-260	Design re-submission	18d	0d	01-Mar-14 A	26-Mar-14 A	100%		■ Design re-submission																																																																							
C3840-TD-270	Design review and approve by Eng/MTRC	28d	0d	27-Mar-14 A	23-Jun-14 A	100%		■ Design review and approve by Eng/MTRC																																																																							
C3840-TD-310	Obtain Final Approval	0d	0d		23-Jun-14 A	100%		◆ Obtain Final Approval																																																																							
Temporary Work Design for Utilities Supports		118d	0d	16-Dec-13 A	23-Jun-14 A																																																																										
C3840-TD-320	Prepare Temporary Work Design	24d	0d	16-Dec-13 A	09-Jan-14 A	100%		■ Prepare Temporary Work Design																																																																							
C3840-TD-330	Design review & endorse by ICE	24d	0d	27-Mar-14 A	11-Jun-14 A	100%		■ Design review & endorse by ICE																																																																							
C3840-TD-340	Design review & comment by Eng/MTRC	28d	0d	10-Jan-14 A	14-Apr-14 A	100%		■ Design review & comment by Eng/MTRC																																																																							
C3840-TD-350	Design re-submission	18d	0d	01-Mar-14 A	26-Mar-14 A	100%		■ Design re-submission																																																																							
C3840-TD-360	Design review & approve by Eng/MTRC	28d	0d	27-Mar-14 A	23-Jun-14 A	100%		■ Design review & approve by Eng/MTRC																																																																							
C3840-TD-370	Obtain Final Approval	0d	0d		23-Jun-14 A	100%		◆ Obtain Final Approval																																																																							
Demolition Plan for Existing D1, D2 and Subway		89d	0d	15-Nov-13 A	18-Mar-14 A																																																																										
C3840-DMD-100	Develop Demolition Plan, Temporary Works Design, Risk Assessment & Method Statement	24d	0d	15-Nov-13 A	24-Dec-13 A	100%		■ Develop Demolition Plan, Temporary Works Design, Risk Assessment & Method Statement																																																																							
C3840-DMD-110	Demolition plan review & endorse by ICE	24d	0d	01-Feb-14 A	06-Mar-14 A	100%		■ Demolition plan review & endorse by ICE																																																																							
C3840-DMD-120	Demolition plan review & comment by Eng/MTRC/ BD consultation	28d	0d	25-Dec-13 A	13-Jan-14 A	100%		■ Demolition plan review & comment by Eng/MTRC/ BD consultation																																																																							
C3840-DMD-130	Demolition plan re-submission	18d	0d	14-Jan-14 A	08-Mar-14 A	100%		■ Demolition plan re-submission																																																																							
C3840-DMD-140	Demolition plan review & approve by Eng/MTRC/ BD consultation	28d	0d	09-Mar-14 A	18-Mar-14 A	100%		■ Demolition plan review & approve by Eng/MTRC/ BD consultation																																																																							
C3840-DMD-190	Final approval for demolition to commence granted	0d	0d		18-Mar-14 A	100%		◆ Final approval for demolition to commence granted																																																																							
Submission/Approval for Demolition & Modification Works at Basement Wall of K11		99d	0d	18-Aug-14 A	27-Jul-15 A																																																																										
C3840-DMD-400	Develop & submit Demolition Plan	24d	0d	18-Aug-14 A	18-Sep-14 A	100%		■ Develop & submit Demolition Plan																																																																							
C3840-DMD-430	Review & comment by Eng/MTRC	28d	0d	19-Sep-14 A	23-Oct-14 A	100%		■ Review & comment by Eng/MTRC																																																																							
C3840-DMD-440	Demolition Plan re-submission	18d	0d	24-Oct-14 A	31-Oct-14 A	100%		■ Demolition Plan re-submission																																																																							
C3840-DMD-450	Review & approve by Eng/MTRC	28d	0d	01-Nov-14 A	27-Jul-15 A	100%		■ Review & approve by Eng/MTRC																																																																							
ELS Design for Tunnel (Vertical Shaft)		118d	0d	15-Oct-13 A	26-May-14 A																																																																										
C3840-ED-100	Prepare Temporary Work Design	55d	0d	15-Oct-13 A	12-Nov-13 A	100%		■ Prepare Temporary Work Design																																																																							
C3840-ED-110	Design review & endorse by ICE	40d	0d	22-Jan-14 A	12-May-14 A	100%		■ Design review & endorse by ICE																																																																							

- Current Bar
- Critical Remaining Work
- Actual Work
- Milestone
- Remaining Work

Data Date: 01-Jun-18

Master Programme Revision RMPRSA1

RMPRSA1			
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01-Jun-18		BG	AW



Contract C3840-13C

Tsim Sha Tsui Station, Carnarvon Road Subway



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	2014 2015 2016 2017 2018 2019																																																							
								2014							2015							2016							2017							2018							2019																				
C3840-ED-120	Design review & comment by Eng/MTRC, GEO and BD consultation	28d	0d	13-Nov-13 A	27-Jan-14 A	100%		Design review & comment by Eng/MTRC, GEO and BD consultation																																																							
C3840-ED-130	Design re-submission	14d	0d	09-Jan-14 A	22-May-14 A	100%		Design re-submission																																																							
C3840-ED-140	Design review & approve by Eng/MTRC, GEO and BD consultation	28d	0d	13-Feb-14 A	26-May-14 A	100%		Design review & approve by Eng/MTRC, GEO and BD consultation																																																							
C3840-ED-170	Obtain Final Approval	0d	0d		26-May-14 A	100%		Obtain Final Approval																																																							
ELS Design for Subway and Temporary Staircase																																																															
C3840-ED-180	Prepare ELS Design	24d	0d	18-Dec-13 A	09-Jan-14 A	100%		Prepare ELS Design																																																							
C3840-ED-190	Design review & endorse by ICE	40d	0d	06-Mar-14 A	11-Jun-14 A	100%		Design review & endorse by ICE																																																							
C3840-ED-200	Design review & comment by Eng/MTRC, GEO and BD consultation	28d	0d	10-Jan-14 A	27-Jan-14 A	100%		Design review & comment by Eng/MTRC, GEO and BD consultation																																																							
C3840-ED-210	Design re-submission	12d	0d	05-Mar-14 A	12-Jun-14 A	100%		Design re-submission																																																							
C3840-ED-220	Design review & approve by Eng/MTRC, GEO and BD consultation	28d	0d	06-Mar-14 A	23-Jun-14 A	100%		Design review & approve by Eng/MTRC, GEO and BD consultation																																																							
C3840-ED-230	Obtain Final Approval	0d	0d		23-Jun-14 A	100%		Obtain Final Approval																																																							
ELS Design for Tunnel (Horizontal Pipe Piling)																																																															
C3840-ED-240	Prepare Temporary Work Design (AIP)	24d	0d	02-Jun-14 A	16-Jun-14 A	100%		Prepare Temporary Work Design (AIP)																																																							
C3840-ED-260	Design review & comment by Eng/MTRC and GEO	28d	0d	17-Jun-14 A	22-Jul-14 A	100%		Design review & comment by Eng/MTRC and GEO																																																							
C3840-ED-270	Design re-submission (DDA)	18d	0d	18-Jun-14 A	08-Aug-14 A	100%		Design re-submission (DDA)																																																							
C3840-ED-280	Design review & approve by Eng/MTRC	28d	0d	09-Aug-14 A	13-Aug-14 A	100%		Design review & approve by Eng/MTRC																																																							
C3840-ED-300	Design submission for BD approval	1d	0d	13-Aug-14 A	13-Aug-14 A	100%		Design submission for BD approval																																																							
C3840-ED-310	BD & GEO review and approval	60d	0d	14-Aug-14 A	28-Oct-14 A	100%		BD & GEO review and approval																																																							
C3840-ED-315	BA 8/ BA10 submission for ground treatment and GI field works	1d	0d	05-Feb-15 A	05-Feb-15 A	100%		BA 8/ BA10 submission for ground treatment and GI field works																																																							
C3840-ED-320	BA 8 submission for BD consent for HPP works	1d	0d	23-Mar-15 A	23-Mar-15 A	100%		BA 8 submission for BD consent for HPP works																																																							
C3840-ED-330	BD process BA 8/BA10 submission & BD issue consent	28d	0d	24-Mar-15 A	02-Jun-15 A	100%		BD process BA 8/BA10 submission & BD issue consent																																																							
ELS Design for Subway and D2 (C&C)																																																															
C3840-ED-340	Prepare ELS Design	24d	0d	18-Dec-13 A	09-Jan-14 A	100%		Prepare ELS Design																																																							
C3840-ED-350	Design review & endorse by ICE	40d	0d	27-Mar-14 A	11-Jun-14 A	100%		Design review & endorse by ICE																																																							
C3840-ED-360	Design review & comment by Eng/MTRC, GEO and BD consultation	28d	0d	10-Jan-14 A	27-Jan-14 A	100%		Design review & comment by Eng/MTRC, GEO and BD consultation																																																							
C3840-ED-370	Design re-submission	12d	0d	26-Mar-14 A	12-Jun-14 A	100%		Design re-submission																																																							
C3840-ED-380	Design review & approve by Eng/MTRC, GEO and BD consultation	28d	0d	27-Mar-14 A	23-Jun-14 A	100%		Design review & approve by Eng/MTRC, GEO and BD consultation																																																							
C3840-ED-410	Obtain Final Approval	0d	0d		23-Jun-14 A	100%		Obtain Final Approval																																																							
Temporary Traffic Mangement Schemes (TTMs) for Carnarvon Road Closure & Piling works at TS and C&C																																																															
C3840-TTM-100	Appoint Traffic Consultant	0d	0d		16-Oct-13 A	100%		Appoint Traffic Consultant																																																							
C3840-TTM-110	Prepare & submit review by Eng Outline TTM Schemes as per PS P20.4	6d	0d	17-Oct-13 A	23-Oct-13 A	100%		Prepare & submit review by Eng Outline TTM Schemes as per PS P20.4																																																							
C3840-TTM-120	Eng review Outline TTM Schemes	4d	0d	24-Oct-13 A	28-Oct-13 A	100%		Eng review Outline TTM Schemes																																																							
C3840-TTM-130	Prepare Detailed TTMS	5d	0d	24-Oct-13 A	30-Oct-13 A	100%		Prepare Detailed TTMS																																																							
C3840-TTM-140	Discussion and agree in principle at TMLG Meeting	1d	0d	30-Oct-13 A	30-Oct-13 A	100%		Discussion and agree in principle at TMLG Meeting																																																							

- █ Current Bar
- █ Critical Remaining Work
- █ Actual Work
- ◆ Milestone
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Contract C3840-13C

Tsim Sha Tsui Station, Carnarvon Road Subway



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	Gantt Chart																																																																					
								2014													2015													2016													2017													2018													2019				
C3840-TTM-150	Final TTMS Drawings	4d	0d	31-Oct-13 A	04-Nov-13 A	100%		Final TTMS Drawings																																																																					
C3840-TTM-160	Eng endorse TTMS Drawings	2d	0d	05-Nov-13 A	06-Nov-13 A	100%		Eng endorse TTMS Drawings																																																																					
C3840-TTM-170	TTMs endorse by HKP & TD and obtain road work advice from RMO	18d	0d	07-Nov-13 A	24-Nov-13 A	100%		TTMs endorse by HKP & TD and obtain road work advice from RMO																																																																					
C3840-TTM-180	Obtain Gazette Notice	18d	0d	07-Nov-13 A	14-Nov-13 A	100%		Obtain Gazette Notice																																																																					
C3840-TTM-190	Notification to Bus Company	28d	0d	07-Nov-13 A	04-Dec-13 A	100%		Notification to Bus Company																																																																					
C3840-TTM-210	Relocate bus stop, trial run & TTMs implementation (road closure)	5d	0d	05-Dec-13 A	10-Dec-13 A	100%		Relocate bus stop, trial run & TTMs implementation (road closure)																																																																					
C3840-TTM-220	Application & Approval of TTM Schemes for Piling work for TS and C&C	42d	0d	24-Jan-14 A	13-Jun-14 A	100%		Application & Approval of TTM Schemes for Piling work for TS and C&C																																																																					
Excavation Permit (XP)		1581d	175d	15-Oct-13 A	30-Dec-18		0d																																																																						
C3840-XP-100	XP in hand of MTR	0d	0d	15-Oct-13 A	15-Oct-13 A	100%		XP in hand of MTR																																																																					
C3840-XP-110	Transfer XP permit holder from MTR to Maeda & XP payment arrangement	15d	0d	15-Oct-13 A	31-Oct-13 A	100%		Transfer XP permit holder from MTR to Maeda & XP payment arrangement																																																																					
C3840-XP-130	Implement 1st XP	0d	0d	01-Nov-13 A	01-Nov-13 A	100%		Implement 1st XP																																																																					
C3840-XP-140	Implement Period 1st XP	1422d	0d	01-Nov-13 A	22-Sep-17 A	100%		Implement Period 1st XP																																																																					
C3840-XP-150	Re-application and issue 2nd XP	180d	0d	20-Apr-17 A	09-Aug-17 A	100%		Re-application and issue 2nd XP																																																																					
C3840-XP-160	Implement 2nd XP	0d	0d	23-Sep-17 A	23-Sep-17 A	100%		Implement 2nd XP																																																																					
C3840-XP-170	Implement Period for 2nd XP	464d	213d	23-Sep-17 A	30-Dec-18	40.95%	0d	Implement Period for 2nd XP																																																																					
Milestones for Cost Centre A - Preliminaries		1525d	45d	29-Aug-14 A	03-Oct-18		88d																																																																						
C3840-MS-A01	A1-Approval of PMP, S. P., ICE, ELS design for Cofferdam & temp decking	0d	0d	29-Aug-14 A	29-Aug-14 A	100%		A1-Approval of PMP, S. P., ICE, ELS design for Cofferdam & temp decking																																																																					
C3840-MS-A02	A2-Approval of ELS design of mined tunnel & Eng's confirmation of satisfactory implem. of P. M.Syt.	0d	0d	28-Oct-14 A	28-Oct-14 A	100%		A2-Approval of ELS design of mined tunnel & Eng's confirmation of satisfactory implem. of P. M.Syt.																																																																					
C3840-MS-A03	A3-Approval for method for demolition of K11 Diag. Wall & Eng's confirmation of satisf. implem. of S. P.	0d	0d	13-Nov-14 A	13-Nov-14 A	100%		A3-Approval for method for demolition of K11 Diag. Wall & Eng's confirmation of satisf. implem. of S. P.																																																																					
C3840-MS-A04	A4- Eng's confirmation of satisfactory implementation of Programming Management System	0d	0d	30-Nov-14 A	30-Nov-14 A	100%		A4- Eng's confirmation of satisfactory implementation of Programming Management System																																																																					
C3840-MS-A05	A5- Eng's confirmation of satisfactory implementation of Specified Plans	0d	0d	16-Mar-15 A	16-Mar-15 A	100%		A5- Eng's confirmation of satisfactory implementation of Specified Plans																																																																					
C3840-MS-A06	A6- Eng's confirmation of satisfactory implementation of Programming Management System	0d	0d	19-May-15 A	19-May-15 A	100%		A6- Eng's confirmation of satisfactory implementation of Programming Management System																																																																					
C3840-MS-A07	A7- Eng's confirmation of satisfactory implementation of Specified Plans	0d	0d	12-Aug-15 A	12-Aug-15 A	100%		A7- Eng's confirmation of satisfactory implementation of Specified Plans																																																																					
C3840-MS-A08	A8- Eng's confirmation of satisfactory implementation of Programming Management System	0d	0d	04-Jan-16 A	04-Jan-16 A	100%		A8- Eng's confirmation of satisfactory implementation of Programming Management System																																																																					
C3840-MS-A09	A9- Eng's confirmation of satisfactory implementation of Specified Plans	0d	0d	15-Mar-16 A	15-Mar-16 A	100%		A9- Eng's confirmation of satisfactory implementation of Specified Plans																																																																					
C3840-MS-A10	A10- Eng's confirmation of satisfactory implementation of Programming Management System	0d	0d	29-May-16 A	29-May-16 A	100%		A10- Eng's confirmation of satisfactory implementation of Programming Management System																																																																					
C3840-MS-A11	A11- Eng's conf. of satisf. implem. of S. P. and approval of all procedures for T&C of BS & ABWF works	0d	0d	26-May-17 A	26-May-17 A	100%		A11- Eng's conf. of satisf. implem. of S. P. and approval of all procedures for T&C of BS & ABWF works																																																																					
C3840-MS-A12	A12- Eng's confirmation of satisfactory implementation of Programming Management System	0d	0d	27-Nov-16 A	27-Nov-16 A	100%		A12- Eng's confirmation of satisfactory implementation of Programming Management System																																																																					
C3840-MS-A13	A13- Eng's confirmation of satisfactory implementation of Specified Plans	0d	0d	26-Feb-17 A	26-Feb-17 A	100%		A13- Eng's confirmation of satisfactory implementation of Specified Plans																																																																					
C3840-MS-A14	A14- Eng's confirmation of satisfactory implementation of Programming Management System	0d	0d	28-May-17 A	28-May-17 A	100%		A14- Eng's confirmation of satisfactory implementation of Programming Management System																																																																					
C3840-MS-A15	A15- Approval in principle of draft O&M Manuals and draft As-built Drwgs. for Whole of the Works	0d	0d	19-Aug-18	19-Aug-18	0%	133d	A15- Approval in principle of draft O&M Manuals and draft As-built Drwgs. for Whole of the Works																																																																					
C3840-MS-A16	A16- Approval in principle of O&M Manuals and As-built Drwgs. for Whole of the Works	0d	0d	03-Oct-18	03-Oct-18	0%	88d	A16- Approval in principle of O&M Manuals and As-built Drwgs. for Whole of the Works																																																																					
Carnarvon Road Subway and Entrances		1352d	122d	14-Oct-13 A	26-Oct-18		53d																																																																						
Instrumentation		52d	0d	16-Dec-13 A	02-Apr-14 A																																																																								

- Current Bar
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Data Date: 01-Jun-18

Page 6 of 26

Master Programme Revision RMPRSA1

RMPRSA1			
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01-Jun-18		BG	AW

Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	2014												2015												2016												2017												2018												2019																		
								O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A
Bay 5 (Staircase from +0.33 to 2.2mPD)																																																																																						
C3840-TSR-200	Soffit fwk	2d	0d	24-Sep-15 A	29-Sep-15 A	100%		I Soffit fwk.																																																																														
C3840-TSR-210	Rebar fixing, fwk for risers & concreting (2.0m3)	2d	0d	26-Sep-15 A	29-Sep-15 A	100%		I Rebar fixing, fwk for risers & concreting (2.0m3)																																																																														
Bay 6 (walls & roof from 2.2mPD to 4mPD)																																																																																						
C3840-TSR-150	Strike fwk, form cj, install waterproofing membrane & rebar fixing	4d	0d	02-Oct-15 A	06-Oct-15 A	100%		I Strike fwk, form cj, install waterproofing membrane & rebar fixing																																																																														
C3840-TSR-165	Erect fwk/working platform & concreting (16.0m3)	5d	0d	07-Oct-15 A	12-Oct-15 A	100%		I Erect fwk/working platform & concreting (16.0m3)																																																																														
Bay 7 (walls & roof from +4mPD to +5.7mPD)																																																																																						
C3840-TSR-215	Strike fwk, remove working platform, form cj & rebar fixing	2d	0d	13-Oct-15 A	14-Oct-15 A	100%		I Strike fwk, remove working platform, form cj & rebar fixing																																																																														
C3840-TSR-225	Falsework, fwk, working platform & concreting (13.5m3)	4d	0d	15-Oct-15 A	19-Oct-15 A	100%		I Falsework, fwk, working platform & concreting (13.5m3)																																																																														
Bay 8 (walls & roof above +5.7mPD)																																																																																						
C3840-TSR-230	Strike fwk, remove working platform, form cj, erect fwk & rebar fixing	10d	0d	20-Oct-15 A	31-Oct-15 A	100%		I Strike fwk, remove working platform, form cj, erect fwk & rebar fixing																																																																														
C3840-TSR-235	Falsework, fwk, working platform & concreting (33.5m3)	10d	0d	20-Oct-15 A	02-Nov-15 A	100%		I Falsework, fwk, working platform & concreting (33.5m3)																																																																														
C3840-TSR-236	Erect fwk and concreting (2m3) for upstand wall	2d	0d	03-Nov-15 A	05-Nov-15 A	100%		I Erect fwk and concreting (2m3) for upstand wall																																																																														
C3840-TSR-237	Concrete curing and remove fwk/falsework	15d	0d	03-Nov-15 A	20-Nov-15 A	100%		I Concrete curing and remove fwk/falsework																																																																														
Section between Grid 1 and 2																																																																																						
Bay 9 (Collar Frame up to -4.3mPD)																																																																																						
C3840-TSR-500	Coring dowel bars holes & form groove/cj	12d	0d	28-Oct-15 A	11-Nov-15 A	100%		I Coring dowel bars/holes & form groove/cj																																																																														
C3840-TSR-505	Install waterproofing membrane/dowel bars	5d	0d	04-Nov-15 A	09-Nov-15 A	100%		I Install waterproofing membrane/dowel bars																																																																														
C3840-TSR-510	Rebar fixing	2d	0d	11-Nov-15 A	12-Nov-15 A	100%		I Rebar fixing																																																																														
C3840-TSR-515	End fwk shuttering & concreting collar to slab (2.5m3)	3d	0d	13-Nov-15 A	16-Nov-15 A	100%		I End fwk shuttering & concreting collar to slab (2.5m3)																																																																														
Bay 12 (Base Slab at -4.32mPD)																																																																																						
C3840-TSR-540	Construct base slab (20.0m3)	13d	0d	04-Nov-15 A	19-Nov-15 A	100%		I Construct base slab (20.0m3)																																																																														
Bay 10 (Collar Frame up to -2mPD)																																																																																						
C3840-TSR-520	Erect working platform, install waterproofing membrane & rebar fixing	3d	0d	20-Nov-15 A	24-Nov-15 A	100%		I Erect working platform, install waterproofing membrane & rebar fixing																																																																														
C3840-TSR-525	Fwk & concreting to -2.2mPD (1.5m3)	4d	0d	25-Nov-15 A	27-Nov-15 A	100%		I Fwk & concreting to -2.2mPD (1.5m3)																																																																														
Bay 13 (Walls up to -3.2mPD)																																																																																						
C3840-TSR-550	Install water proofing system, rebar fixing for W1, W2, W3 & 250 mm partition wall	3d	0d	27-Nov-15 A	30-Nov-15 A	100%		I Install water proofing system, rebar fixing for W1, W2, W3 & 250 mm partition wall																																																																														
C3840-TSR-555	Erect working platform, fwk shuttering & concreting (9.0m3)	4d	0d	01-Dec-15 A	07-Dec-15 A	100%		I Erect working platform, fwk shuttering & concreting (9.0m3)																																																																														
Bay 11 (Collar Frame up to +1.2mPD)																																																																																						
C3840-TSR-530	Erect working platform, Install waterproofing membrane & rebar fixing	5d	0d	30-Nov-15 A	03-Dec-15 A	100%		I Erect working platform, Install waterproofing membrane & rebar fixing																																																																														
C3840-TSR-535	Fwk & concreting to collar (4.0m3)	7d	0d	01-Dec-15 A	07-Dec-15 A	100%		I Fwk & concreting to collar (4.0m3)																																																																														
Bay 14 (Walls up to -0.96mPD) and Bay 18a (Stair)																																																																																						
C3840-TSR-560	Construct bay 14 (18.5m3)	6d	0d	08-Dec-15 A	15-Dec-15 A	100%		I Construct bay 14 (18.5m3)																																																																														
C3840-TSR-602	Construct bay 18a (3.5m3)	5d	0d	19-Dec-15 A	28-Dec-15 A	100%		I Construct bay 18a (3.5m3)																																																																														

█ Current Bar █ Critical Remaining Work
█ Actual Work ◆ Milestone
█ Remaining Work

Data Date: 01-Jun-18

Page 11 of 26

Master Programme Revision RMPSA1

RMPSA1

Date	Revision	Checked	Approved
01-Jun-18		BG	AW



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



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	2014												2015												2016												2017												2018												2019																		
								O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A
Bay 15 (Walls up to +1.25mPD)																																																																																						
C3840-TSR-580	Remove platform & strike fwk, propping, water proofing, re-bar fixing, fwk suttering & concreting (20m3)	13d	0d	23-Dec-15 A	07-Jan-16 A	100%																		■ Remove platform & strike fwk, propping, water proofing, re-bar fixing, fwk suttering & concreting (20m3)																																																														
Bay 16 (Walls & Roof Slab)																																																																																						
C3840-TSR-590	Remove fwk, form cj, install WPS, remove L2, re-propping & erect falsework	5d	0d	08-Jan-16 A	16-Jan-16 A	100%																		■ Remove fwk, form cj, install WPS, remove L2, re-propping & erect falsework																																																														
C3840-TSR-595	Construct wall & roof slab (31.5m3)	14d	0d	18-Jan-16 A	23-Jan-16 A	100%																		■ Construct wall & roof slab (31.5m3)																																																														
C3840-TSR-600	Concrete curing, coring, saw cut & breakthrough, removal of scaffold/falsework/fwk, repropping	13d	0d	25-Jan-16 A	13-Feb-16 A	100%																		■ Concrete curing, coring, saw cut & breakthrough, removal of scaffold/falsework/fwk, repropping																																																														
Bays 17 and 18b (Stairs up to 2nd Landing)																																																																																						
C3840-TSR-585	Construct staircase (8.0m3)	7d	0d	15-Feb-16 A	20-Feb-16 A	100%																		■ Construct staircase (8.0m3)																																																														
Construction of Refuse Bin																																																																																						
C3840-TSR-604	Construct Refuse Bin	7d	0d	03-Mar-16 A	12-Mar-16 A	100%																		■ Construct Refuse Bin																																																														
Milestones for Cost Centre D - Temporary Entrance								1584d								0d								26-Jan-14 A								01-Aug-18								151d																																														
C3840-MS-D01	D1 - Comp. removal of all overhead signs affecting Works for the Temp. Entrance	0d	0d		26-Jan-14 A	100%																		◆ D1 - Comp. removal of all overhead signs affecting Works for the Temp. Entrance																																																														
C3840-MS-D02	D2-Comp. 20% of cofferdam for T. E. and all U/G UU diversion/protection for T.E. cofferdam	0d	0d		06-Sep-14 A	100%																		◆ D2-Comp. 20% of cofferdam for T. E. and all U/G UU diversion/protection for T.E. cofferdam																																																														
C3840-MS-D03	D3 - Comp. temp. cofferdam and grouting (excl. satisf. comp. of pump test)	0d	0d		18-Feb-15 A	100%																		◆ D3 - Comp. temp. cofferdam and grouting (excl. satisf. comp. of pump test)																																																														
C3840-MS-D04	D4-Comp. 66% const. of temp. stair measured by vol. of conc. poured & comp. form. open. into TST Stn	0d	0d		13-Feb-16 A	100%																		◆ D4-Comp. 66% const. of temp. stair measured by vol. of conc. poured & comp. form. open. into TST Stn																																																														
C3840-MS-D05	D5-Open Temporary Entrance for use	0d	0d		06-Jul-16 A	100%																		◆ D5-Open Temporary Entrance for use																																																														
C3840-MS-D06	D6-Comp. demolition of Temp. Entrance and disposal of all C&D waste arising there from	0d	0d		01-Aug-18	0%	151d																									◆ D6-Comp. demolition of																																																						
Open Cut Sequence 3 (Advance Ground Works at D2 & in front of D1)								178d								0d								17-Nov-15 A								17-Sep-16 A																																																						
C3840-ELS-400	Expose underground UUs and provide support to UUs; at grid 1-4	132d	0d	17-Nov-15 A	30-Apr-16 A	100%																		■ Expose underground UUs and provide support to UUs; at grid 1-4																																																														
C3840-ELS-410	Expose existing sewer & storm drainage/trim concrete surround for PCCW cable ducts & 1st lift of PCCW cable ducts	36d	0d	03-May-16 A	16-Jun-16 A	100%																		■ Expose existing sewer & storm drainage/trim concrete surround for PCCW cable ducts & 1st lift of PCCW cable ducts																																																														
C3840-ELS-420	Re-arrange existing sewer & storm drainage/ 2nd lift of PCCW cable ducts & provide support to cable ducts	50d	0d	17-Jun-16 A	09-Sep-16 A	100%																		■ Re-arrange existing sewer & storm drainage/ 2nd lift of PCCW cable ducts & provide support to cable ducts																																																														
C3840-ELS-430	Partial demolition of existing subway slab and coring through for two nos. king posts	12d	0d	28-Jul-16 A	18-Aug-16 A	100%																		■ Partial demolition of existing subway slab and coring through for two nos. king posts																																																														
C3840-ELS-450	Partial demolition of existing subway slab and coring through existing subway for piling PP175 to PP179	12d	0d	12-Sep-16 A	17-Sep-16 A	100%																		■ Partial demolition of existing subway slab and coring through existing subway for piling PP175 to PP179																																																														
C3840-ELS-510	Joint Survey & Remove existing BS & ABWF Services at D2	6d	0d	07-Jul-16 A	16-Jul-16 A	100%																		■ Joint Survey & Remove existing BS & ABWF Services at D2																																																														
C3840-ELS-520	Erect FRP hoarding and flood gate/scaffolding platform for demolish D2	9d	0d	12-Jul-16 A	26-Jul-16 A	100%																		■ Erect FRP hoarding and flood gate/scaffolding platform for demolish D2																																																														
C3840-ELS-530	Demolish D2 above GL	12d	0d	14-Jul-16 A	09-Aug-16 A	100%																		■ Demolish D2 above GL																																																														
C3840-ELS-540	Erect piling platform and shift hoarding	6d	0d	10-Aug-16 A	20-Aug-16 A	100%																		■ Erect piling platform and shift hoarding																																																														
Open Cut Sequence 4 (Excavation for Subway in front of D1)								249d								0d								31-Jul-16 A								09-Aug-17 A																																																						
C3840-ELSD1-102	Install support beam, load transfer & remove concrete support at grid 2	8d	0d	31-Jul-16 A	14-Sep-16 A	100%																		■ Install support beam, load transfer & remove concrete support at grid 2																																																														
C3840-ELSD1-115	Complete excavation up to +1.0mPD including vertical blinding/install L2 & struts	74d	0d	03-Oct-16 A	11-Jan-17 A	100%																		■ Complete excavation up to +1.0mPD including vertical blinding/install L2 & struts																																																														
C3840-ELSD1-145	Remove existing subway 7.5m below G.L. and excavate to L3 (-2.0mPD) with unforeseen infill	29d	0d	28-Dec-16 A	04-Mar-17 A	100%																		■ Remove existing subway 7.5m below G.L. and excavate to L3 (-2.0mPD) with unforeseen infill																																																														
C3840-ELSD1-155	Vertical blinding up to L3	8d	0d	09-Jan-17 A	27-Feb-17 A	100%																		■ Vertical blinding up to L3																																																														
C3840-ELSD1-165	Install waling and strut for L3	6d	0d	25-Jan-17 A	17-Mar-17 A	100%																		■ Install waling and strut for L3																																																														
C3840-ELSD1-175	Remove existing subway 10.6m below G.L. and excavate to L4 (-5.3mPD) with unforeseen infill	29d	0d	14-Feb-17 A	31-Mar-17 A	100%																		■ Remove existing subway 10.6m below G.L. and excavate to L4 (-5.3mPD) with unforeseen infill																																																														

- Current Bar
- Critical Remaining Work
- Actual Work
- Remaining Work
- Milestone

Data Date: 01-Jun-18

Page 12 of 26

Master Programme Revision RMPRSA1

RMPRSA1

Date	Revision	Checked	Approved
01-Jun-18		BG	AW



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



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	Gantt Chart (2014-2019)																														
								2014	2015	2016	2017	2018	2019																									
C3840-STR-D1-130	Construct Bay 4 (concourse base slab)	12d	0d	23-May-17 A	29-May-17 A	100%		[Gantt bar for C3840-STR-D1-130]																														
C3840-STR-D1-132	Construct Bay 5a (TER room North Wall)	10d	0d	12-Jun-17 A	23-Jun-17 A	100%		[Gantt bar for C3840-STR-D1-132]																														
C3840-STR-D1-132b	Construct Bay 5b (TER room bottom slab)	10d	0d	24-Jun-17 A	13-Jul-17 A	100%		[Gantt bar for C3840-STR-D1-132b]																														
C3840-STR-D1-133	Dismantle falsework for bay 5	2d	0d	25-Sep-17 A	26-Sep-17 A	100%		[Gantt bar for C3840-STR-D1-133]																														
C3840-STR-D1-134	Construct Bay 6a (TER room North & West Wall)	12d	0d	14-Jul-17 A	11-Aug-17 A	100%		[Gantt bar for C3840-STR-D1-134]																														
C3840-STR-D1-135	Construct Bay 6b (TER room top slab)	17d	0d	12-Aug-17 A	31-Aug-17 A	100%		[Gantt bar for C3840-STR-D1-135]																														
C3840-STR-D1-136	Dismantle falsework including curing time for bay 6	16d	0d	01-Sep-17 A	25-Sep-17 A	100%		[Gantt bar for C3840-STR-D1-136]																														
Additional Remedial Works for Permanent Structures		30d	4d	09-Jan-18 A	05-Jun-18		171d	[Summary bar for Remedial Works]																														
C3840-RMD-100	Issue Instruction (email) by MTRC for Additional Remedial Works for Permanent Structures	0d	0d		09-Jan-18 A	100%		[Gantt bar for C3840-RMD-100]																														
C3840-RMD-110	Construct RC Cross Beam underneath ST-01	30d	0d	10-Jan-18 A	12-Feb-18 A	100%		[Gantt bar for C3840-RMD-110]																														
C3840-RMD-120	Construct RC Collar Beam above +3.6mPD	30d	4d	10-Jan-18 A	05-Jun-18	63.3%	171d	[Gantt bar for C3840-RMD-120]																														
C3840-RMD-130	Construct Steel Beam for Plant Room	30d	0d	10-Jan-18 A	12-Feb-18 A	100%		[Gantt bar for C3840-RMD-130]																														
Reinstatement Works in Front of Entrance D2		84d	12d	15-Mar-18 A	14-Jun-18		12d	[Summary bar for Reinstatement Works]																														
C3840-STR-300	Backfilling up to +2.70mPD	76d	0d	15-Mar-18 A	24-Mar-18 A	100%		[Gantt bar for C3840-STR-300]																														
C3840-STR-302	Reinstatement of gasmain by HKG	8d	0d	26-Mar-18 A	10-Apr-18 A	100%		[Gantt bar for C3840-STR-302]																														
C3840-STR-304	Backfilling & modification of traffic deck	12d	0d	11-Apr-18 A	30-Apr-18 A	100%		[Gantt bar for C3840-STR-304]																														
C3840-STR-306	Reinstatement of DSD sewer and storm pipe & U/U reinstatement	12d	0d	02-May-18 A	16-May-18 A	100%		[Gantt bar for C3840-STR-306]																														
C3840-STR-308	Reinstatement of road kerbs and paving block	24d	12d	17-May-18 A	14-Jun-18	50%	12d	[Gantt bar for C3840-STR-308]																														
RC Structure at D1 Side (Between Grids 1.8 and 3.3)		209d	0d	22-Jul-17 A	07-Mar-18 A			[Summary bar for RC Structure]																														
C3840-STR-290	Concrete curing (concrete strength reach 40mPa) & removal of falsework/fwk for bay 30	9d	0d	25-Nov-17 A	27-Dec-17 A	100%		[Gantt bar for C3840-STR-290]																														
C3840-STR-310	Remove underpinning (load transfer) at Plant Room	25d	0d	13-Feb-18 A	07-Mar-18 A	100%		[Gantt bar for C3840-STR-310]																														
C3840-STR-D1-140	Construct Bay 21 (base slab of plant room except for pump pit)	7d	0d	07-Aug-17 A	22-Aug-17 A	100%		[Gantt bar for C3840-STR-D1-140]																														
C3840-STR-D1-150	Construct Bay 22a (side walls of plant room)	21d	0d	23-Aug-17 A	18-Sep-17 A	100%		[Gantt bar for C3840-STR-D1-150]																														
C3840-STR-D1-155	Construct Bay 22b (base slab of subway)	10d	0d	28-Aug-17 A	22-Sep-17 A	100%		[Gantt bar for C3840-STR-D1-155]																														
C3840-STR-D1-170	Curing & strike formwork/falsework	14d	0d	23-Sep-17 A	07-Oct-17 A	100%		[Gantt bar for C3840-STR-D1-170]																														
C3840-STR-D1-180	Construct staircase ST05 & Air Vent Wall & Slab	13d	0d	23-Sep-17 A	30-Sep-17 A	100%		[Gantt bar for C3840-STR-D1-180]																														
C3840-STR-D1-200	Construct Bay 23A (base slab for sump pit)	3d	0d	22-Jul-17 A	28-Jul-17 A	100%		[Gantt bar for C3840-STR-D1-200]																														
C3840-STR-D1-210	Construct Bay 23B (remaining base slab for plant room)	6d	0d	14-Aug-17 A	22-Aug-17 A	100%		[Gantt bar for C3840-STR-D1-210]																														
C3840-STR-D1-212	Construct Bay 24 (side walls of plant room up to L5)	10d	0d	04-Sep-17 A	18-Sep-17 A	100%		[Gantt bar for C3840-STR-D1-212]																														
C3840-STR-D1-214	Construct Bay 25 (side walls of plant room & subway base slab)	9d	0d	04-Sep-17 A	18-Sep-17 A	100%		[Gantt bar for C3840-STR-D1-214]																														
C3840-STR-D1-215	Curing & dismantle falsework for Bay 25	14d	0d	19-Sep-17 A	07-Oct-17 A	100%		[Gantt bar for C3840-STR-D1-215]																														
C3840-STR-D1-216	Construct Bay 26 (side walls of subway up to escalator pit base slab)	9d	0d	19-Sep-17 A	10-Oct-17 A	100%		[Gantt bar for C3840-STR-D1-216]																														
C3840-STR-D1-217	Curing & dismantle falsework for Bay 26	14d	0d	11-Oct-17 A	28-Oct-17 A	100%		[Gantt bar for C3840-STR-D1-217]																														
C3840-STR-D1-222	Construct Bay 27 (side walls of subway and mid level slab @0.18mPD)	9d	0d	05-Oct-17 A	16-Oct-17 A	100%		[Gantt bar for C3840-STR-D1-222]																														

- █ Current Bar
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Data Date: 01-Jun-18

Master Programme Revision RMPRSA1

RMPRSA1			
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01-Jun-18		BG	AW



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



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	2014							2015							2016							2017							2018							2019																																																																			
								O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
Open Cut Sequence 6																																																																																																														
C3840-D1-100	Erect hoarding	12d	12d	01-Jun-18	14-Jun-18	0%	12d																																																																																																							
C3840-D1-110	Open New D2 & D3	1d	1d	30-Jun-18	30-Jun-18	0%	0d																																																																																																							
Open Cut Sequence 7 (D1)																																																																																																														
C3840-D1-120	Erect platform	6d	6d	03-Jul-18	09-Jul-18	0%	0d																																																																																																							
C3840-D1-130	Demolish (Saw cut) Temporary Staircase	20d	20d	10-Jul-18	01-Aug-18	0%	0d																																																																																																							
C3840-D1-150	Construct RC Structure at D1 Entrance	20d	20d	02-Aug-18	24-Aug-18	0%	0d																																																																																																							
C3840-D1-160	Concrete curing and removal of falsework/fw	6d	6d	25-Aug-18	31-Aug-18	0%	0d																																																																																																							
C3840-D1-170	Install Structural steel	12d	12d	01-Sep-18	14-Sep-18	0%	0d																																																																																																							
C3840-D1-190	Backfilling, removal of temporary decking & reinstate UUs	100d	100d	02-Jun-18	29-Sep-18	0%	0d																																																																																																							
C3840-D1-200	Cut head of Pipe Pile 2m	100d	100d	07-Jun-18	05-Oct-18	0%	0d																																																																																																							
C3840-D1-210	Reinstate Carnarvon Road	12d	12d	06-Oct-18	20-Oct-18	0%	0d																																																																																																							
C3840-D1-220	Reinstate traffic sign and shop sign	3d	3d	22-Oct-18	24-Oct-18	0%	0d																																																																																																							
C3840-D1-225	Inspection for acceptance by relevant authorities	1d	1d	25-Oct-18	25-Oct-18	0%	0d																																																																																																							
C3840-D1-230	Open New Entrance D1	1d	1d	26-Oct-18	26-Oct-18	0%	0d																																																																																																							
Excavation for Shaft and Tunnel																																																																																																														
Additional G.I. (ABH1)																																																																																																														
C3840-ABH1-10	Submission for BD consent	0d	0d	26-Nov-14 A	02-Jun-15 A	100%																																																																																																								
C3840-ABH1-20	Obtain consent from BD	65d	0d	27-Nov-14 A	31-Jan-15 A	100%																																																																																																								
C3840-ABH1-30	Site preparation, mobilization, set up and drilling hole for ABH1	6d	0d	02-Feb-15 A	06-Feb-15 A	100%																																																																																																								
C3840-ABH1-40	Prepare & submit assessment report to for ABH1 to MTRC for submission to BD	9d	0d	07-Feb-15 A	17-Feb-15 A	100%																																																																																																								
C3840-ABH1-50	BD review assessment report for ABH1 & issue consent for horizontal piling	62d	0d	18-Feb-15 A	02-Jun-15 A	100%																																																																																																								
Shaft Excavation, Tunnel Grouting and HPP Works																																																																																																														
C3840-SH-100	Pump Test	13d	0d	13-Oct-14 A	27-Oct-14 A	100%																																																																																																								
C3840-SH-110	Expose utilities, excavate from +5.5 to +0.2mPD (496.8m3), install 1st waling and traffic decking	17d	0d	28-Oct-14 A	15-Nov-14 A	100%																																																																																																								
C3840-SH-120	Utilities protection and temporary diversion and install lagging wall	18d	0d	17-Nov-14 A	06-Dec-14 A	100%																																																																																																								
C3840-SH-130	Install steel plate lagging and 2nd layer waling & strut	13d	0d	08-Dec-14 A	27-Dec-14 A	100%																																																																																																								
C3840-SH-140	Forming platform for tunnel works	15d	0d	29-Dec-14 A	12-Jan-15 A	100%																																																																																																								
C3840-SH-150	Regrouting for curtain grouting & pumping test (re-test)	24d	0d	12-Jan-15 A	07-Feb-15 A	100%																																																																																																								
C3840-SH-160	Mobilization & set up for tunnel grouting works (Simon & Son)	4d	0d	09-Feb-15 A	12-Feb-15 A	100%																																																																																																								
C3840-SH-170	Trial grouting	7d	0d	13-Feb-15 A	24-Feb-15 A	100%																																																																																																								
C3840-SH-180	Horizontal grouting for top section (44 nos. holes)	23d	0d	25-Feb-15 A	23-Mar-15 A	100%																																																																																																								
C3840-SH-190	Excavation of tunnel shaft from 0.2mPD to -0.5mPD (67m3)	2d	0d	07-Mar-15 A	09-Mar-15 A	100%																																																																																																								
C3840-SH-200	Demobilize plants for tunnelling works	2d	0d	24-Mar-15 A	25-Mar-15 A	100%																																																																																																								

■ Current Bar ■ Critical Remaining Work
■ Actual Work ◆ Milestone
■ Remaining Work

Data Date: 01-Jun-18

Page 16 of 26

Master Programme Revision RMPRSA1

RMPRSA1			
Date	Revision	Checked	Approved
01-Jun-18		BG	AW



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



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	2014												2015												2016												2017												2018												2019																																																		
								O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
C3840-SH-560	Modification of drilling platform	2d	0d	19-Apr-16 A	21-Apr-16 A	100%																										Modification of drilling platform																																																																																						
C3840-SH-570	Installation of HPP wall (3 numbers)	8d	0d	18-Apr-16 A	25-Apr-16 A	100%																										Installation of HPP wall (3 numbers)																																																																																						
C3840-SH-572	Drilling for HPP64 & HPP25, cease drilling due to obstruction & extract HPP64	8d	0d	26-Apr-16 A	04-May-16 A	100%																										Drilling for HPP64 & HPP25, cease drilling due to obstruction & extract HPP64																																																																																						
C3840-SH-620	Demobilize HPP rig, dismantle drilling platform, mobilization & setup for Horizontal Grouting works	2d	0d	05-May-16 A	16-May-16 A	100%																										Demobilize HPP rig, dismantle drilling platform, mobilization & setup for Horizontal Grouting works																																																																																						
C3840-SH-630	Drilling for horizontal grout hoels (13 nos.)	5d	0d	16-May-16 A	26-May-16 A	100%																										Drilling for horizontal grout hoels (13 nos.)																																																																																						
C3840-SH-632	Grouting for horizontal grout holes (13 nos.)	4d	0d	25-May-16 A	14-Jul-16 A	100%																										Grouting for horizontal grout holes (13 nos.)																																																																																						
C3840-SH-640	Modification of drilling rig for HPP works & mobilization and set up HPP works	1d	0d	27-May-16 A	30-May-16 A	100%																										Modification of drilling rig for HPP works & mobilization and set up HPP works																																																																																						
C3840-SH-642	Extract HPP25	2d	0d	30-May-16 A	31-May-16 A	100%																										Extract HPP25																																																																																						
C3840-SH-644	Drilling for HPP wall (5 nos.) including extraction of casing for HPP64	5d	0d	01-Jun-16 A	10-Jun-16 A	100%																										Drilling for HPP wall (5 nos.) including extraction of casing for HPP64																																																																																						
C3840-SH-646	Demolize drilling rig	3d	0d	13-Jun-16 A	13-Jun-16 A	100%																										Demolize drilling rig																																																																																						
C3840-SH-648	Modification of waling L3 & L3A/setting up drilling rig platform/mobilize & set up drilling rig	2d	0d	14-Jun-16 A	16-Jun-16 A	100%																										Modification of waling L3 & L3A/setting up drilling rig platform/mobilize & set up drilling rig																																																																																						
C3840-SH-650	Drilling for HPP wall (8 nos.)	23d	0d	17-Jun-16 A	14-Jul-16 A	100%																										Drilling for HPP wall (8 nos.)																																																																																						
C3840-SH-660	Demobilize drilling rig/Dismantle drilling platform	2d	0d	15-Jul-16 A	16-Jul-16 A	100%																										Demobilize drilling rig/Dismantle drilling platform																																																																																						
C3840-SH-665	Removal of vertical pipe piles PP89b	2d	0d	12-Aug-16 A	13-Aug-16 A	100%																										Removal of vertical pipe piles PP89b																																																																																						
C3840-SH-668	Assembly of drilling platform for HPP rig	2d	0d	12-Aug-16 A	13-Aug-16 A	100%																										Assembly of drilling platform for HPP rig																																																																																						
C3840-SH-670	Drilling and horizontal grouting (13 nos.)	18d	0d	13-Aug-16 A	24-Aug-16 A	100%																										Drilling and horizontal grouting (13 nos.)																																																																																						
C3840-SH-680	Modification of drilling rig	2d	0d	24-Aug-16 A	25-Aug-16 A	100%																										Modification of drilling rig																																																																																						
C3840-SH-690	Drilling for HPP wall (8 nos.)	8d	0d	25-Aug-16 A	10-Sep-16 A	100%																										Drilling for HPP wall (8 nos.)																																																																																						
C3840-SH-740	Modification of drilling rig	2d	0d	10-Sep-16 A	12-Sep-16 A	100%																										Modification of drilling rig																																																																																						
Re-fabrication and Delivery of Remaining Interlocking HPP Casing		87d	0d	07-Sep-15 A	12-Jan-16 A																																																																																																																	
C3840-CF-100	Fabrication for remaining casing (Roof); 1st batch	20d	0d	07-Sep-15 A	30-Sep-15 A	100%																										Fabrication for remaining casing (Roof); 1st batch																																																																																						
C3840-CF-102	Delivery of casing (Roof); 1st batch	7d	0d	02-Oct-15 A	15-Oct-15 A	100%																										Delivery of casing (Roof); 1st batch																																																																																						
C3840-CF-104	Fabrication for remaining casing (Roof); 2nd batch	20d	0d	05-Oct-15 A	31-Oct-15 A	100%																										Fabrication for remaining casing (Roof); 2nd batch																																																																																						
C3840-CF-106	Delivery of casing (roof); 2nd batch	7d	0d	02-Nov-15 A	09-Nov-15 A	100%																										Delivery of casing (roof); 2nd batch																																																																																						
C3840-CF-108	Fabrication for remaining casing; 3rd batch	20d	0d	21-Nov-15 A	17-Dec-15 A	100%																										Fabrication for remaining casing; 3rd batch																																																																																						
C3840-CF-110	Delivery of casing (Wall); 3rd batch	7d	0d	18-Dec-15 A	24-Dec-15 A	100%																										Delivery of casing (Wall); 3rd batch																																																																																						
C3840-CF-112	Fabrication for remaining casing (wall); 4th batch	12d	0d	18-Dec-15 A	02-Jan-16 A	100%																										Fabrication for remaining casing (wall); 4th batch																																																																																						
C3840-CF-114	Delivery of casing (Wall); 4th batch	7d	0d	04-Jan-16 A	12-Jan-16 A	100%																										Delivery of casing (Wall); 4th batch																																																																																						
BD Submissions Prior to Tunnel Excavation		403d	0d	23-Nov-15 A	20-Jan-17 A																																																																																																																	
C3840-BD-100	Submit piling record for phase 1 HPP	14d	0d	02-Jul-16 A	14-Jul-16 A	100%																										Submit piling record for phase 1 HPP																																																																																						
C3840-BD-102	Submit grouting record for pahse 1 grouting work	5d	0d	23-Nov-15 A	28-Nov-15 A	100%																										Submit grouting record for pahse 1 grouting work																																																																																						
C3840-BD-106	BA8 for phase 1 tunnel excavation	28d	0d	18-Jul-16 A	27-Sep-16 A	100%																										BA8 for phase 1 tunnel excavation																																																																																						
C3840-BD-108	BA10 for pahse 1 tunnel excavation	7d	0d	19-Sep-16 A	27-Sep-16 A	100%																										BA10 for pahse 1 tunnel excavation																																																																																						
C3840-BD-109	Obtain consent from BD for commencing phase 1 tunnel excavation	0d	0d		28-Sep-16 A	100%																										Obtain consent from BD for commencing phase 1 tunnel excavation																																																																																						

- Current Bar
- Critical Remaining Work
- Actual Work
- Milestone
- Remaining Work

Data Date: 01-Jun-18

Page 18 of 26

Master Programme Revision RMPSA1

RMPSA1

Date	Revision	Checked	Approved
01-Jun-18		BG	AW



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



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	Gantt Chart																												
								2014							2015							2016							2017							2018
C3840-MS-B09	B9-Exc. of Subway reached -5.5mPD, grids 4-5 blinded, comp. exc. for tunnel & 50% removal of K11 D. wall	0d	0d		30-Nov-17 A	100%		◆ B9-Exc. of Subway reached -5.5mPD, grids 4-5 blinded																												
C3840-MS-B10	B10-Comp. all Subway RC structures fr. grids 1 to 4+3m,	0d	0d		28-Dec-17 A	100%		◆ B10-Comp. all Subway RC structures fr. grids 1 to 4+3m																												
C3840-MS-B11	B11-Comp. all RC structures betn TST Stn wall & grid 4+3m & mined tunnel	0d	0d		29-Jan-18 A	100%		◆ B11-Comp. all RC structures betn TST Stn wall & grid 4+3m & mined tunnel																												
C3840-MS-B12	B12-Comp. all ABWF works to Deg. 1 except for works assoc. with new entrance D1	0d	0d		26-Feb-18 A	100%		◆ B12-Comp. all ABWF works to Deg. 1 except for works assoc. with new entrance D1																												
C3840-MS-B13	B13-Comp. all ABWF works to Deg. 3 except for works assoc. with new entrance D1	0d	0d		13-Jun-18	0%	200d	◆ B13-Comp. all ABWF works to Deg. 3 except for works assoc. with new entrance D1																												
C3840-MS-B14	B14-Complete all works in this Cost Centre	0d	0d		24-Oct-18	0%	67d	◆ B14-Complete all works in this Cost Centre																												
Building Services & ABWF Works		1445d	121d	01-Feb-14 A	25-Oct-18		54d																													
Site Validation		228d	0d	01-Feb-14 A	31-Dec-14 A																															
C3840-SV-100	Carry out detailed site survey	6d	0d	01-Feb-14 A	28-Feb-14 A	100%		■ Carry out detailed site survey																												
C3840-SV-110	Prepare Implementation Programme/Method Statement with detailed Phasing/Sequence	90d	0d	01-Aug-14 A	29-Sep-14 A	100%		■ Prepare Implementation Programme/Method Statement with detailed Phasing/Sequence																												
C3840-SV-120	Obtain Eng's approval for Implementation Programme/Method Statement for modification & diversion works	60d	0d	30-Sep-14 A	31-Dec-14 A	100%		■ Obtain Eng's approval for Implementation Programme/Method Statement for modification & diversion works																												
Design for BS & ABWF Works at Temporary Staircase		646d	0d	07-Jul-14 A	15-Dec-15 A																															
C3840-TSD-100	Prepare and submit detailed designs for BS works	49d	0d	07-Jul-14 A	11-Aug-14 A	100%		■ Prepare and submit detailed designs for BS works																												
C3840-TSD-110	Obtain approval detailed designs for BS works from Eng	50d	0d	12-Aug-14 A	05-Sep-14 A	100%		■ Obtain approval detailed designs for BS works from Eng																												
C3840-TSD-120	Issue working drawings of BS works for construction	60d	0d	06-Sep-14 A	05-Nov-14 A	100%		■ Issue working drawings of BS works for construction																												
C3840-TSD-160	Prepare and submit detailed designs for ABWF works	6d	0d	17-Nov-15 A	24-Nov-15 A	100%		■ Prepare and submit detailed designs for ABWF works																												
C3840-TSD-170	Obtain approval detailed designs for ABWF works from Eng	30d	0d	25-Nov-15 A	14-Dec-15 A	100%		■ Obtain approval detailed designs for ABWF works from Eng																												
C3840-TSD-180	Issue working drawings of ABWF works for construction	0d	0d		15-Dec-15 A	100%		◆ Issue working drawings of ABWF works for construction																												
Material Submission & Material Procurement/Delivery for Temporary Staircase		535d	0d	09-Apr-14 A	05-Mar-16 A																															
C3840-TSD-130	Material submission	21d	0d	09-Apr-14 A	05-Feb-16 A	100%		■ Material submission																												
C3840-TSD-140	Obtain approval of material submission from MTR	56d	0d	22-May-14 A	22-Feb-16 A	100%		■ Obtain approval of material submission from MTR																												
C3840-TSD-150	Procurement & delivery of materials	10d	0d	12-Jan-16 A	05-Mar-16 A	100%		■ Procurement & delivery of materials																												
BS & ABWF Works at Temporary Staircase		200d	0d	20-Nov-15 A	06-Jul-16 A																															
C3840-TSBA-100	Complete RC works for grid 2-4	0d	0d		20-Nov-15 A	100%		◆ Complete RC works for grid 2-4																												
C3840-TSBA-105	Complete RC works for grid 1-2	0d	0d		20-Feb-16 A	100%		◆ Complete RC works for grid 1-2																												
C3840-TSBA-110	Installation of BS and ABWF works for grid 2-4	59d	0d	12-Jan-16 A	23-Mar-16 A	100%		■ Installation of BS and ABWF works for grid 2-4																												
C3840-TSBA-115	Installation of BS and ABWF work for grid 1-2	33d	0d	15-Feb-16 A	23-Mar-16 A	100%		■ Installation of BS and ABWF work for grid 1-2																												
C3840-TSBA-117	CN&SE Works by others	2d	0d	14-Mar-16 A	15-Mar-16 A	100%		■ CN&SE Works by others																												
C3840-TSBA-130	T&C	4d	0d	14-Mar-16 A	17-Mar-16 A	100%		■ T&C																												
C3840-TSBA-140	Inspection prior to open for public use	83d	0d	22-Mar-16 A	22-Jun-16 A	100%		■ Inspection prior to open for public use																												
C3840-TSBA-150	Open for public use	0d	0d		06-Jul-16 A	100%		◆ Open for public use																												
Scheme Designs for BS Works		85d	0d	07-Jul-14 A	05-Nov-14 A																															
C3840-SD-100	Prepare a scheme designs	60d	0d	07-Jul-14 A	15-Aug-14 A	100%		■ Prepare a scheme designs																												
C3840-SD-120	Scheme design review & comment by Eng/MTRC & FSD	28d	0d	16-Aug-14 A	15-Sep-14 A	100%		■ Scheme design review & comment by Eng/MTRC & FSD																												

- Current Bar
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- Remaining Work
- Critical Remaining Work
- ◆ Milestone

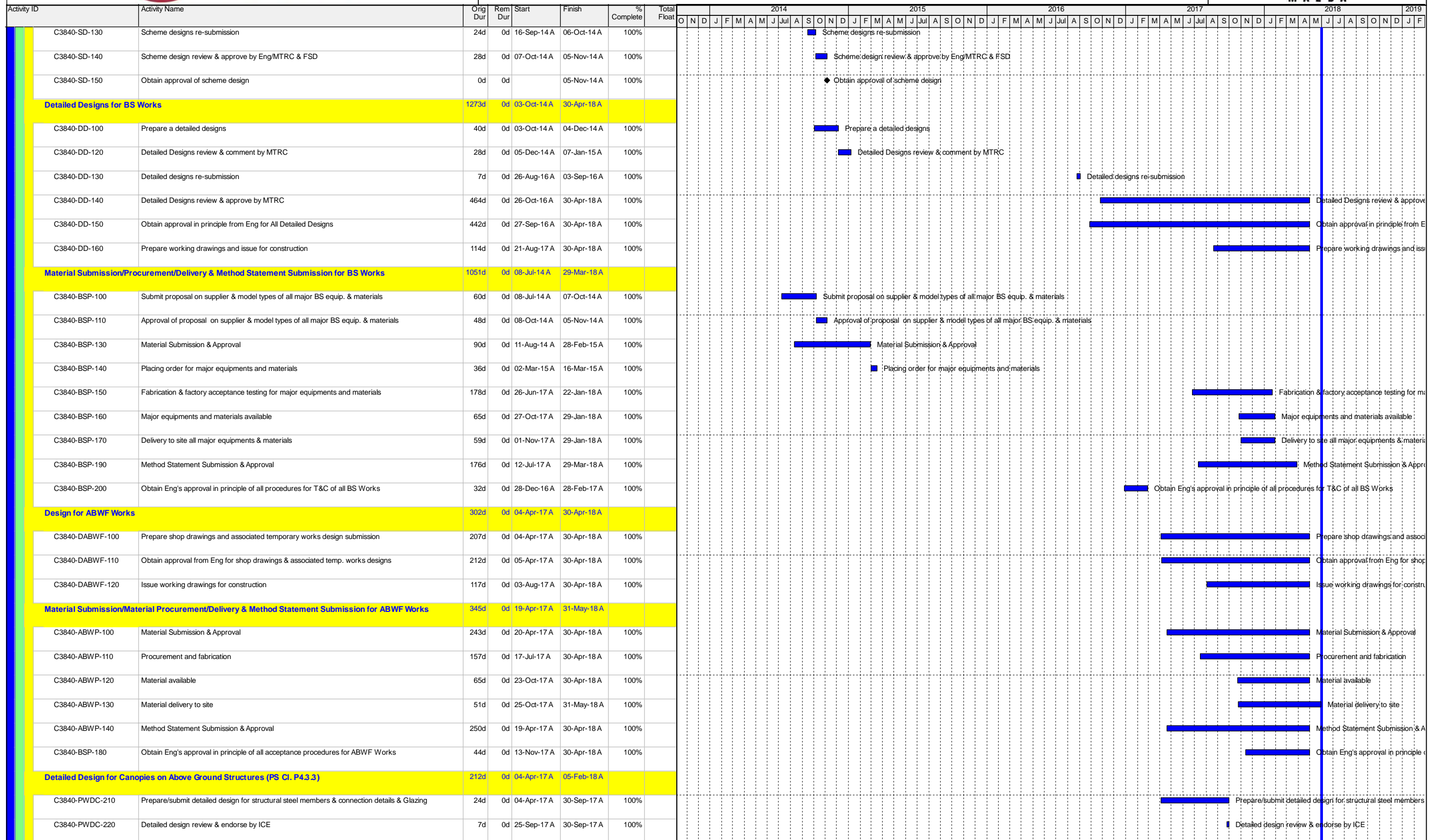
Data Date: 01-Jun-18
Page 22 of 26

Master Programme Revision RMPRSA1

RMPRSA1			
Date	Revision	Checked	Approved
01-Jun-18		BG	AW



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



- Current Bar
- Critical Remaining Work
- Actual Work
- ◆ Milestone
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Data Date: 01-Jun-18

Master Programme Revision RMPRSA1

RMPRSA1			
Date	Revision	Checked	Approved
01-Jun-18		BG	AW

Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	2014												2015												2016												2017												2018												2019				
								O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F
C3840-PWDC-230	Detailed design review & comment by Eng/MTRC	28d	0d	23-Jun-17 A	16-Oct-17 A	100%																																																		Detailed design review & comment by Eng/MTRC																
C3840-PWDC-240	Detailed design submission to BD Consultation	6d	0d	11-Oct-17 A	11-Oct-17 A	100%																																																		Detailed design submission to BD Consultation																
C3840-PWDC-250	Detailed design review & approve by Eng/MTRC/BD	44d	0d	12-Oct-17 A	05-Feb-18 A	100%																																																		Detailed design review & approve by Eng/MTRC/BD																
C3840-PWDC-270	Issue Working Drawings for Construction	6d	0d	13-Nov-17 A	05-Feb-18 A	100%																																																		Issue Working Drawings for Construction																
BS Works at TST Station		234d	0d	19-Dec-14 A	31-May-18 A																																																																			
C3840-BST-140	Cable containment work for Substation #4 inside TST Station (Night Time Work)	7d	0d	19-Dec-14 A	30-Dec-14 A	100%																																																		Cable containment work for Substation #4 inside TST Station (Night Time Work)																
C3840-BST-150	Cable containment & pipe work for SCR inside Station (Night Time Work)	114d	0d	18-Jul-17 A	08-Dec-17 A	100%																																																		Cable containment & pipe work for SCR inside Station (Night Time Work)																
C3840-BST-180	Cable laying inside Station (Night Time Work)	24d	0d	26-Jan-18 A	09-Feb-18 A	100%																																																		Cable laying inside Station (Night Time Work)																
C3840-BST200	Submit T&C Record	2d	0d	20-Nov-17 A	31-May-18 A	100%																																																		Submit T&C Record																
BS & ABWF Works at D2 Entrance including at By Pass Corridor		47d	0d	02-Jan-18 A	26-May-18 A																																																																			
C3840-BSD2-110	BS 1st Fix	24d	0d	08-Jan-18 A	07-Apr-18 A	100%																																																		BS 1st Fix																
C3840-BSD2-120	BS 2nd Fix	24d	0d	05-Feb-18 A	30-Apr-18 A	100%																																																		BS 2nd Fix																
C3840-BSD2-130	ABWF Works to Deg. 1 & 2 Completion including installation for SS steelwork	24d	0d	02-Jan-18 A	14-Apr-18 A	100%																																																		ABWF Works to Deg. 1 & 2 Completion																
C3840-BSD2-135	ABWF Works to Deg. 3 Completion	24d	0d	15-Jan-18 A	26-May-18 A	100%																																																		ABWF Works to Deg. 3 Completion																
BS & ABWF Works at Subway Conc. Level, including at Plant Room & D3		180d	11d	23-Oct-17 A	13-Jun-18		2d																																																																	
C3840-BSS-100	BS 1st Fix	90d	0d	02-Nov-17 A	14-Apr-18 A	100%																																																		BS 1st Fix																
C3840-BSS-110	BS 2nd Fix	40d	5d	01-Feb-18 A	06-Jun-18	99%	5d																																																	BS 2nd Fix																
C3840-BSS-120	ABWF Works to Deg. 1 & 2 Completion	80d	0d	23-Oct-17 A	24-Apr-18 A	100%																																																		ABWF Works to Deg. 1 & 2 Completion																
C3840-BSS-125	ABWF Works to Deg. 3 Completion	40d	11d	02-Jan-18 A	13-Jun-18	98%	2d																																																	ABWF Works to Deg. 3 Completion																
BS & ABWF Works at Mid Landing Level including TER Rooms		120d	0d	18-Dec-17 A	31-May-18 A																																																																			
C3840-BSM-100	BS 1st Fix	56d	0d	02-Jan-18 A	21-Apr-18 A	100%																																																		BS 1st Fix																
C3840-BSM-110	BS 2nd Fix	40d	0d	01-Feb-18 A	30-Apr-18 A	100%																																																		BS 2nd Fix																
C3840-BSM-120	Complete all BS works in TER	0d	0d		18-Apr-18 A	100%																																																		Complete all BS works in TER																
C3840-BSM-130	Complete all BS works in Electrical Room & Power On for New MCB Board	0d	0d		08-May-18 A	100%																																																		Complete all BS works in Electrical Room & Power On for New MCB Board																
C3840-BSM-140	ABWF Works to Deg. 1 & 2 Completion	40d	0d	18-Dec-17 A	14-Apr-18 A	100%																																																		ABWF Works to Deg. 1 & 2 Completion																
C3840-BSM-150	ABWF Works to Deg. 3 Completion	40d	0d	15-Jan-18 A	31-May-18 A	100%																																																		ABWF Works to Deg. 3 Completion																
T&C and Statutory Inspections Prior to Open Entrances D2/D3 for Public Use		25d	24d	05-Feb-18 A	29-Jun-18		0d																																																																	
C3840-BSM-160	Testing & Commissioning including issuance of FSD Form 501 for completion of FSD works	24d	8d	05-Feb-18 A	09-Jun-18	50%	4d																																																	Testing & Commissioning including issuance of FSD Form 501 for completion of FSD works																
C3840-BSM-170	Operational Team and all Statutory inspections / obtain compliance certificates	24d	24d	15-May-18 A	29-Jun-18	20%	0d																																																	Operational Team and all Statutory inspections / obtain compliance certificates																
BS & ABWF Works at D1 Entrance		38d	38d	01-Sep-18	18-Oct-18		60d																																																																	
C3840-BSD1-130	BS 1st Fix	24d	24d	11-Sep-18	10-Oct-18	0%	0d																																																	BS 1st Fix																
C3840-BSD1-140	BS 2nd Fix	18d	18d	26-Sep-18	18-Oct-18	0%	0d																																																	BS 2nd Fix																
C3840-BSD1-150	ABWF Works to Deg. 1 & 2 Completion including installation of SS steelwork	24d	24d	01-Sep-18	29-Sep-18	0%	0d																																																	ABWF Works to Deg. 1 & 2 Completion including installation of SS steelwork																
C3840-BSD1-155	ABWF Works to Deg. 3 Completion	18d	18d	22-Sep-18	15-Oct-18	0%	62d																																																	ABWF Works to Deg. 3 Completion																

Current Bar
 Critical Remaining Work
 Actual Work
 Remaining Work
 Milestone

Data Date: 01-Jun-18
 Page 24 of 26

Master Programme Revision RMPRSA1

RMPSA1			
Date	Revision	Checked	Approved
01-Jun-18		BG	AW



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



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Complete	Total Float	2014							2015							2016							2017							2018							2019																																											
								O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A
T&C and Statutory Inspection Prior to Open Entrance D1 for Public Use								24d	24d	26-Sep-18	25-Oct-18			0d																																																																								
C3840-BSD1-170	T&C With Operation Inspection	24d	24d	26-Sep-18	25-Oct-18	0%	0d																																																																															
Operational & Maintenance Manuals, As-built Drawings, Design Data								114d	103d	02-May-18 A	03-Oct-18			19d																																																																								
C3840-OD-1000	Prepare and submit 1st draft of O&M Manuals as per PS 18	30d	0d	02-May-18 A	22-May-18 A	100%																																																																																
C3840-OD-1010	Eng review, comment & approve draft O&M Manuals as per PS 18	56d	40d	23-May-18 A	10-Jul-18	20%	43d																																																																															
C3840-OD-1020	Prepare and submit final version of O&M Manuals as per PS 18	15d	15d	11-Jul-18	25-Jul-18	0%	43d																																																																															
C3840-OD-1030	Eng approve final version of O&M Manuals as per PS 18	50d	50d	26-Jul-18	13-Sep-18	0%	43d																																																																															
C3840-OD-1040	Prepare and submit draft as-built Drawings as per PS 18	30d	30d	14-Jun-18	20-Jul-18	0%	19d																																																																															
C3840-OD-1050	Eng review, comment & approve draft as-built Drawings as per PS 18	30d	30d	21-Jul-18	19-Aug-18	0%	23d																																																																															
C3840-OD-1060	Prepare and submit final as-built Drawings as per PS 18	15d	15d	20-Aug-18	03-Sep-18	0%	23d																																																																															
C3840-OD-1070	Eng approve As-built Drawings as per PS 18	30d	30d	04-Sep-18	03-Oct-18	0%	23d																																																																															
Milestones for Cost Centre C - Building Services								1304d	0d	10-Nov-14 A	29-Jun-18			184d																																																																								
C3840-MS-C01	C1- Approval of detailed designs for BS works, suppliers/models/types of BS equip./mat. & SD for T. E.	0d	0d		10-Nov-14 A	100%		◆ C1- Approval of detailed designs for BS works, suppliers/models/types of BS equip./mat. & SD for T. E.																																																																														
C3840-MS-C02	C2- Approval in principle of all BS Shop Drwgs	0d	0d		10-Nov-14 A	100%		◆ C2- Approval in principle of all BS Shop Drwgs																																																																														
C3840-MS-C03	C3- Comp. placing all orders for all major BS equipment & materials	0d	0d		16-Mar-15 A	100%		◆ C3- Comp. placing all orders for all major BS equipment & materials																																																																														
C3840-MS-C04	C4- Comp. all factory acceptance testing	0d	0d		22-Jan-18 A	100%		◆ C4- Comp. all factory acceptance testing																																																																														
C3840-MS-C05	C5- Comp. delivery to site of all major equipment for the basement E&M plant room	0d	0d		29-Jan-18 A	100%		◆ C5- Comp. delivery to site of all major equipm																																																																														
C3840-MS-C06	C6- Comp. T&C/all statutory & operational team inspections for New Entrance D2	0d	0d		29-Jun-18	0%	184d	◆ C6- Comp. T&C/all statutor																																																																														
C3840-MS-C07	C7- Comp. T&C/all statutory & operanal team inspection for new Entrance D3 and Subway	0d	0d		29-Jun-18	0%	184d	◆ C7- Comp. T&C/all statutor																																																																														
DSD Entrusted Drainage Works - Option								1119d	44d	20-Dec-13 A	24-Jul-18			131d																																																																								
Submissions								1368d	0d	20-Dec-13 A	14-May-18 A																																																																											
C3840-ENT-010	Engineer Exercise Option 1 (Assume 1 year after Contract Commence)	0d	0d		08-Oct-14 A	100%		◆ Engineer Exercise Option 1 (Assume 1 year after Contract Commence)																																																																														
C3840-ENT-020	Material submission & get approval from MTRC	60d	0d	18-Apr-18 A	14-May-18 A	100%		■ Material submission & get approv																																																																														
C3840-ENT-030	Proposed procedures for diversion agreed during meeting held on 20 Dec 13	0d	0d		20-Dec-13 A	100%		◆ Proposed procedures for diversion agreed during meeting held on 20 Dec 13																																																																														
DSD Entrusted Sewage Works								604d	44d	26-Jul-16 A	24-Jul-18			78d																																																																								
C3840-ENT-070	Temporary diversion of existing flows	18d	0d	26-Jul-16 A	09-Nov-16 A	100%		■ Temporary diversion of existing flows																																																																														
C3840-ENT-080	Construct 4 nos. manholes and pipe laying in between 4 nos. manholes (85%)	13d	0d	26-Apr-18 A	31-May-18 A	100%		■ Construct 4 nos. manholes and																																																																														
C3840-ENT-082	Inspection & Diversion of sewer flow from temporary sewer pipeline to newly constructed sewer pipeline	18d	18d	01-Jun-18 A	22-Jun-18	0%	78d	■ Inspection & Diversion of sei																																																																														
C3840-ENT-090	Consturct remaining section of entrusted sewage works (15%)	8d	8d	23-Jun-18	03-Jul-18	0%	78d	■ Consturct remaining sectio																																																																														
C3840-ENT-160	CCTV Inspection including report	12d	12d	04-Jul-18	17-Jul-18	0%	78d	■ CCTV Inspection includin																																																																														
C3840-ENT-170	Backfill & Install manhole cover	12d	12d	04-Jul-18	17-Jul-18	0%	78d	■ Backfill & Install manhole																																																																														
C3840-ENT-180	Handover Inspection	6d	6d	18-Jul-18	24-Jul-18	0%	78d	■ Handover, Inspection																																																																														
C3840-ENT-190	Handover to DSD	0d	0d		24-Jul-18	0%	78d	◆ Handover to DSD																																																																														
Milestones for Cost Centre E - DSD Entrusted Drainage Works - Option								21d	21d	03-Jul-18	24-Jul-18			159d																																																																								

- Current Bar
- Critical Remaining Work
- Actual Work
- Remaining Work
- ◆ Milestone

Data Date: 01-Jun-18

Page 25 of 26

Master Programme Revision RMPRSA1

RMPRSA1			
Date	Revision	Checked	Approved
01-Jun-18		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
S.3.1	Noise Impact	Use of quieter plant	To minimise construction noise emissions	Contractor	Work site	Construction Stage	ProPECC PN2/93 and Noise Control Ordinance
S.3.1		<p>Use of noise enclosure and movable barrier</p> <ul style="list-style-type: none"> 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/m² shall be required to achieve the maximum screening effect (and minimum 10kg/m² 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		<p>General Construction Noise Control Measures</p> <ul style="list-style-type: none"> 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
		<p>to Prevent Violation of the Noise Control Ordinance (Chapter 400) (for Construction Industry) published by EPD shall be adopted;</p> <ul style="list-style-type: none"> • 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		To minimise the dust impacts arising from the	Contractor	Work site	Construction Stage	Air Pollution Control (Construction)
	<ul style="list-style-type: none"> • Decking will be provided subsequent to the completion of surface excavation works. The duration 						

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
		<p>of decking is around 13 months after surface excavation works;</p> <ul style="list-style-type: none"> 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
S.3.3	Water Quality Impact	<p>Construction Water Quality Impact Measures</p> <ul style="list-style-type: none"> 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
		<ul style="list-style-type: none"> 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. 					
S.3.4	Waste Management Construction Waste Management Measures <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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: 01-December-2018

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	APCO #004	APCO	Notification	Construction Dust Notification	Form NB – Notification S3(3) of APCO (Construction Dust)	433242	04 - 05 - 2018	07 - 05 - 2018	01 - 01 - 2016	31 - 12 - 2018	Construction of the Superstructure of a Building	Change of anticipated date of completion is notified
001	APCO #002	APCO	Notification	Construction Dust Notification	Form NB – Notification S3(3) of APCO (Construction Dust)	403252	27 - 05 - 2016	02 - 06 - 2016	01 - 11 - 2016	28 - 02 - 2019	Road Construction Work	Change of anticipated date of completion is notified
002	APCO #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	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	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 lubricating oil, spent battery	
006	CNP#011	NCO	Permit	Construction Noise Permit	EPD74A(s) Form 1 - Application for a Construction Noise Permit	OSS Ref: 002069312 Permit: GW-RE0635-18	05 - 09 - 2018	19 - 09 - 2018	01 - 10 - 2018	30 - 03 - 2019	4nos Submersible Water pump (Electric) or 1 drill for 24-hr; 4 drill & 4 grinder for 07:00-23:00	Working Area includes the underground area

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	<ol style="list-style-type: none"> 1. Identify source; 2. If valid, inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method. 	<ol style="list-style-type: none"> 1. Notify Contractor 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practice; 2. Amend working methods if appropriate
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measure properly implemented. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Identify source; 2. Inform ER and EPD; 3. Repeat measurement to confirm finding; 4. Increase 	<ol style="list-style-type: none"> 1. Check monitoring 2. data submitted by ET; 3. Check Contractor's working 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC

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

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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC 2. Implement noise mitigation proposals
Limit Level	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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

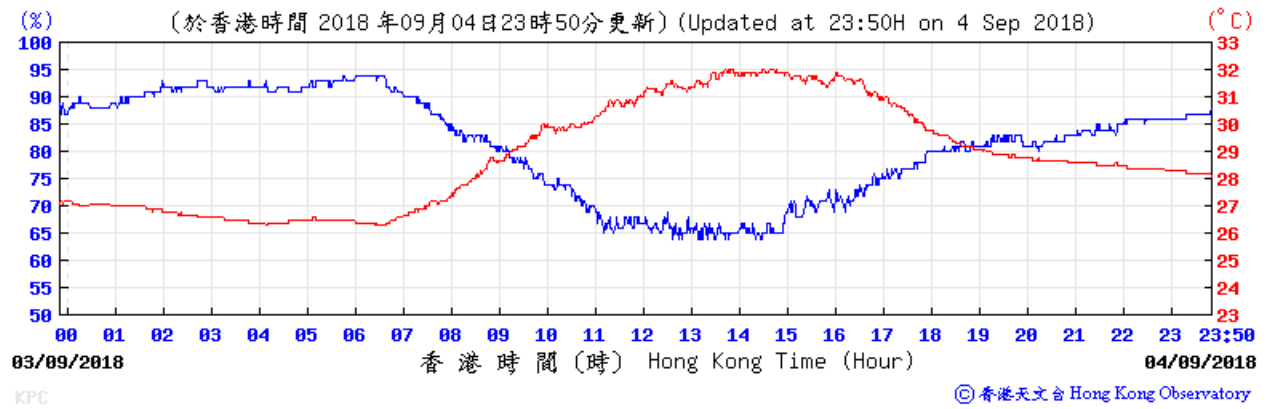
WEATHER INFORMATION EXTRACTED FROM HK OBSERVATORY

Daily Total Rainfall at King's Park HKO Weather Monitoring Station - September 2018

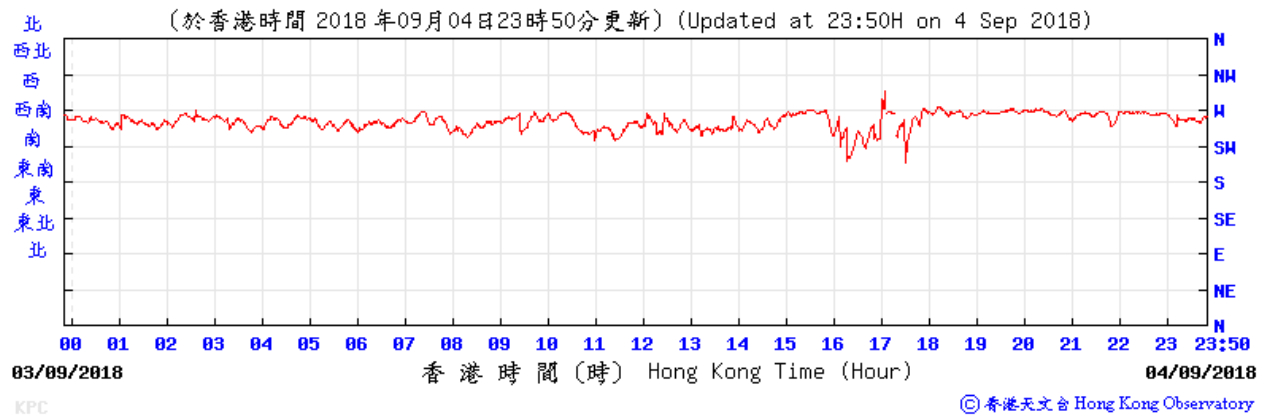
Day	Total Rainfall, mm	1-hr TSP	Noise	Remarks
1	32			
2	9.8			
3	0.3			
4	0		✓	No significant rainfall during noise measurement
5	0.1			
6	0			
7	Trace			
8	24.6			
9	16.7			
10	0.2			
11	0		✓	No significant rainfall during noise measurement
12	Trace			
13	2.5			
14	0			
15	Trace			
16	167.5			
17	12			
18	1.2			
19	0			
20	0			
21	0	✓	✓	No significant rainfall during noise measurement
22	0			
23	Trace			
24	72.2			
25	34.5			
26	9.7			
27	Trace	✓	✓	No significant rainfall during noise measurement
28	0			
29	0			
30	0			
Mean/Total	383.3			
Normal	327.6			

King's Park Weather Station – 04 September 2018

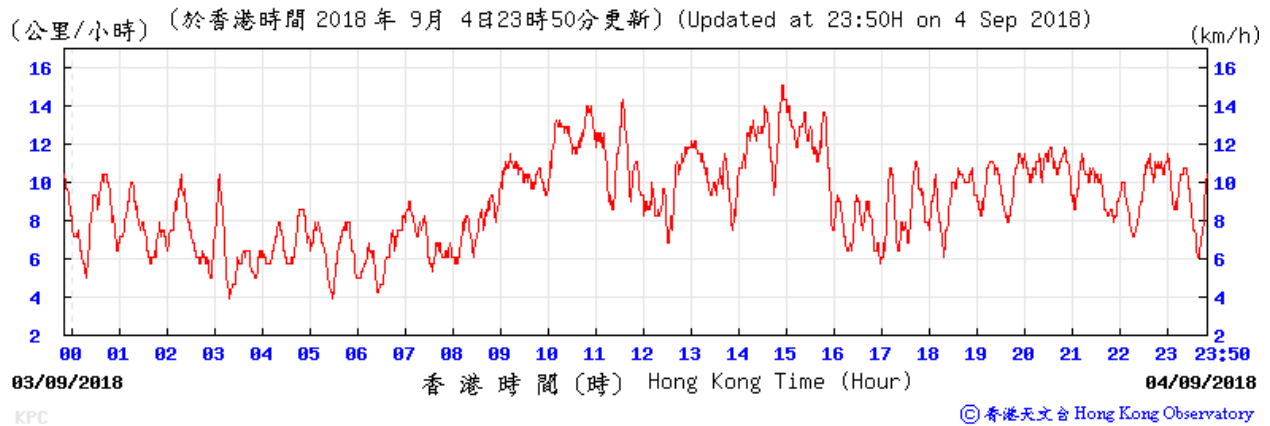
Temperature/Humidity:



Wind Direction:

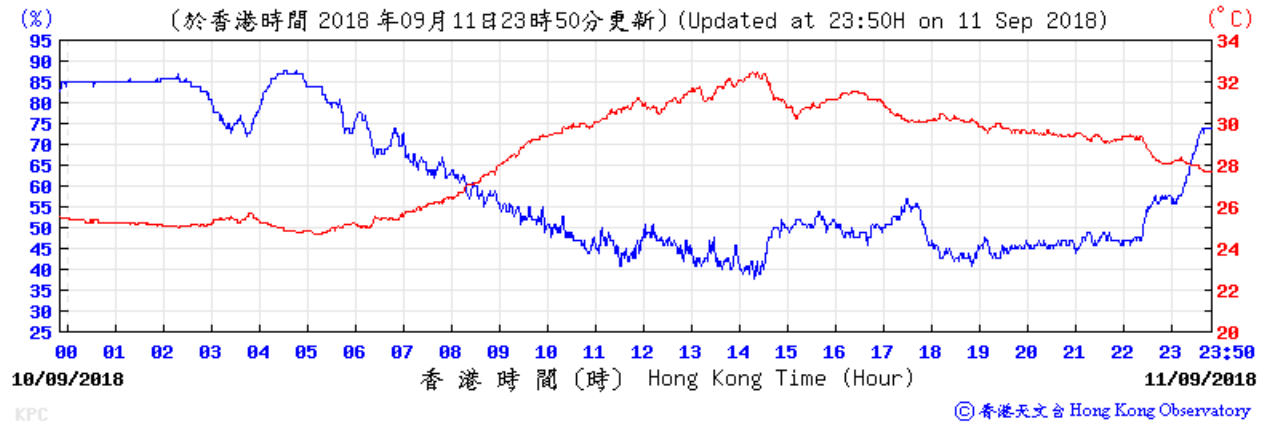


Wind Speed:

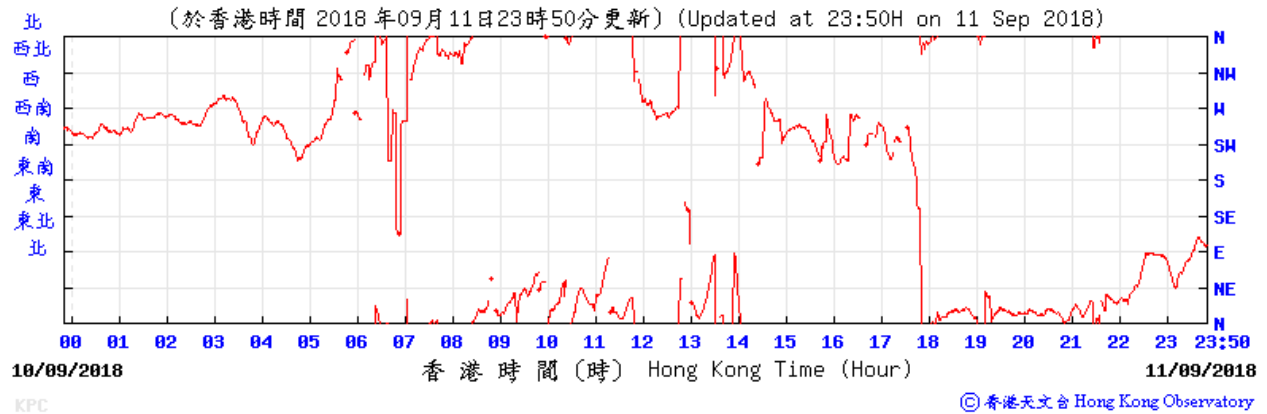


King's Park Weather Station – 11 September 2018

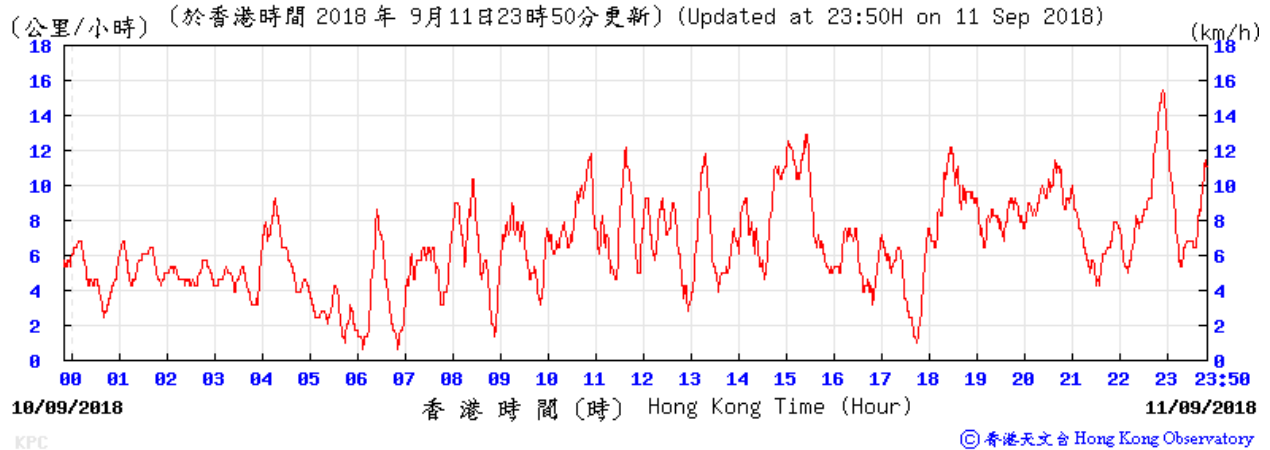
Temperature/Humidity:



Wind Direction:

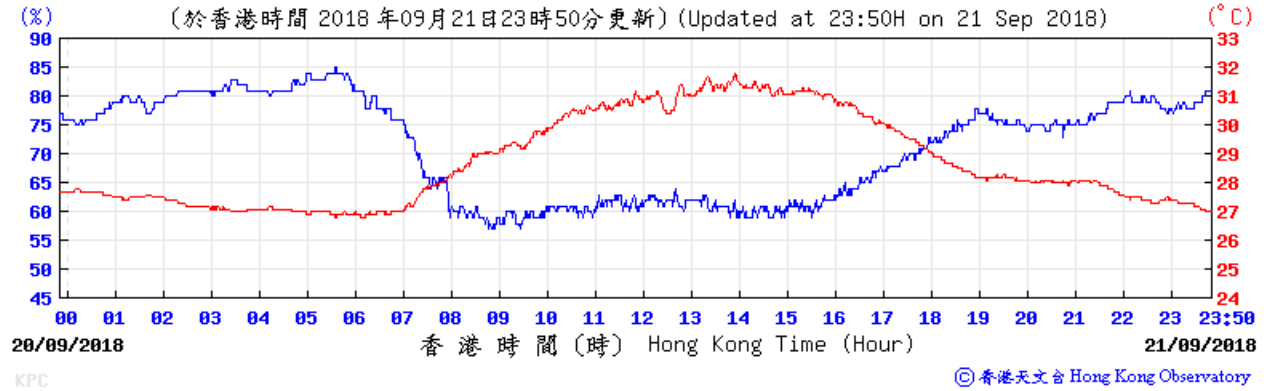


Wind Speed:

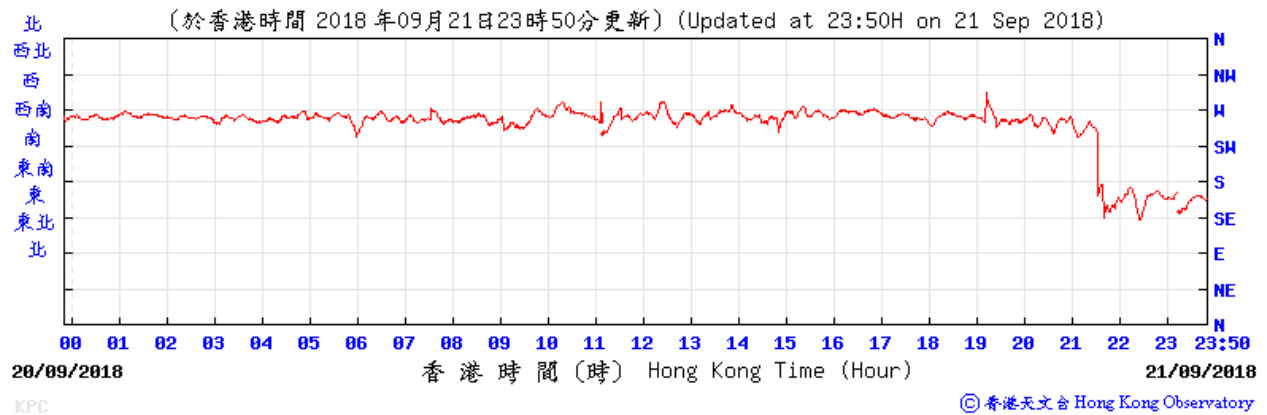


King's Park Weather Station – 21 September 2018

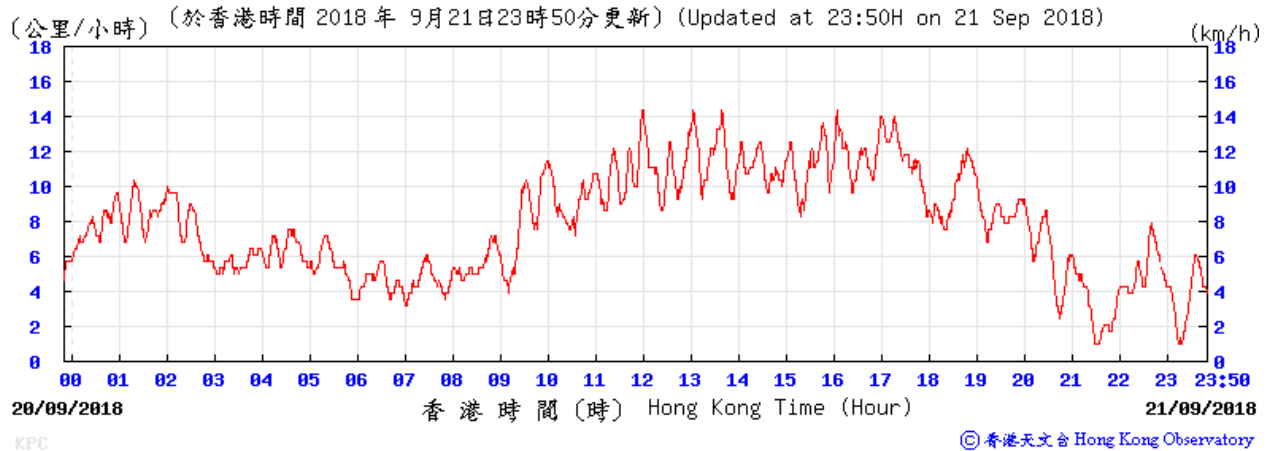
Temperature/Humidity:



Wind Direction:

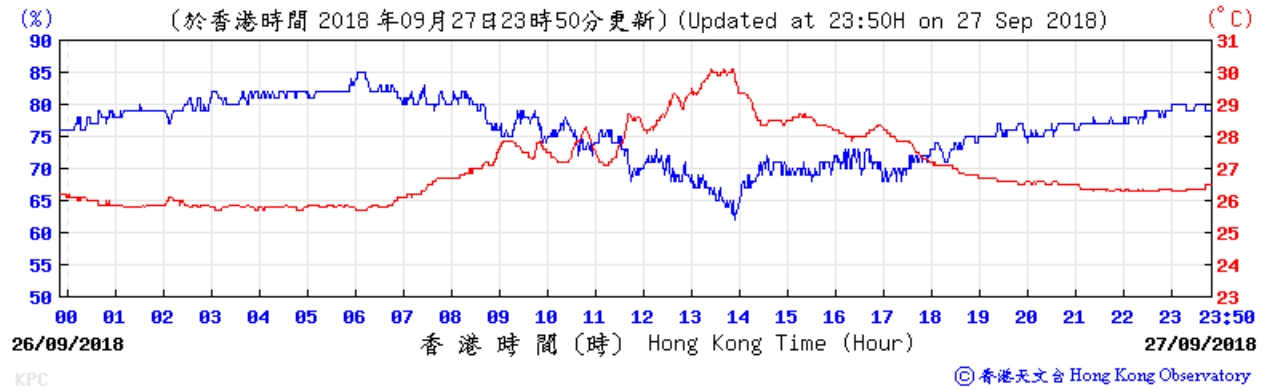


Wind Speed:

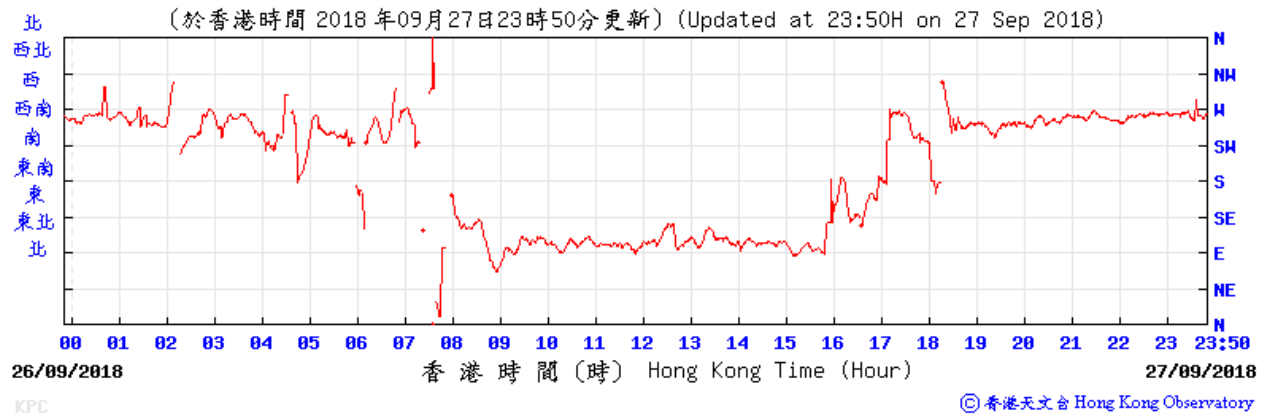


King's Park Weather Station – 27 September 2018

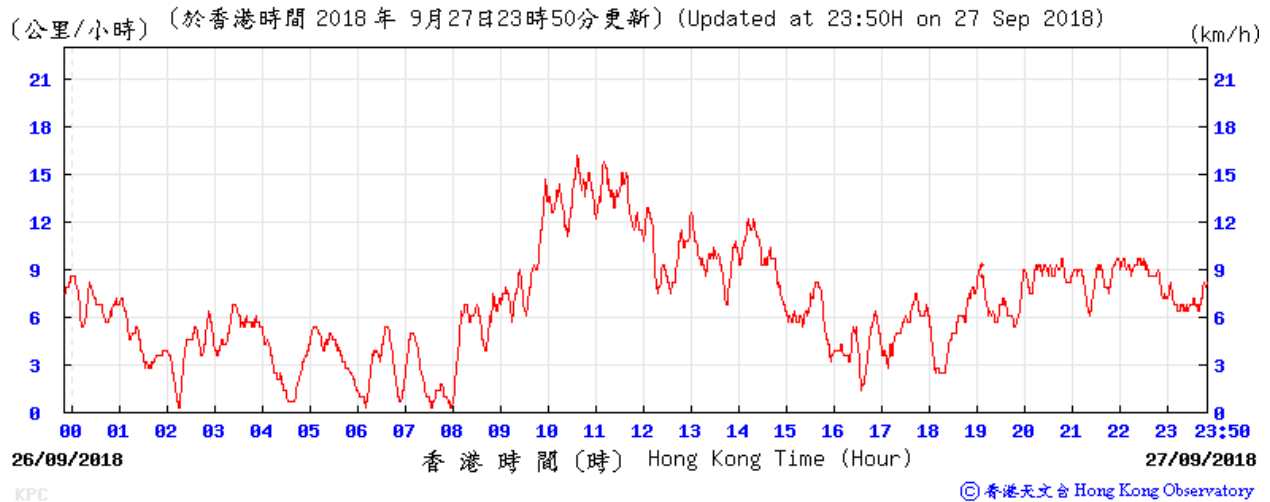
Temperature/Humidity:



Wind Direction:



Wind Speed:

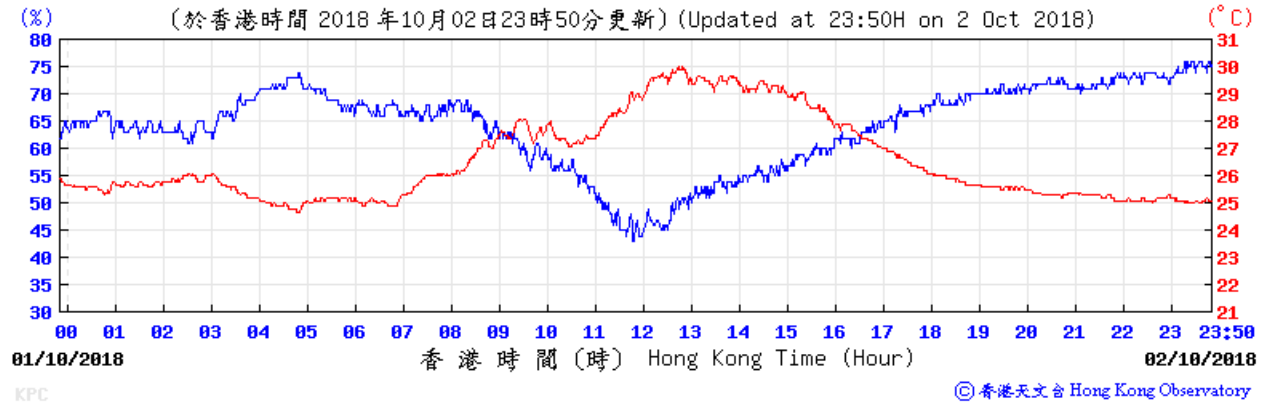


Daily Total Rainfall at King's Park HKO Weather Monitoring Station - October 2018

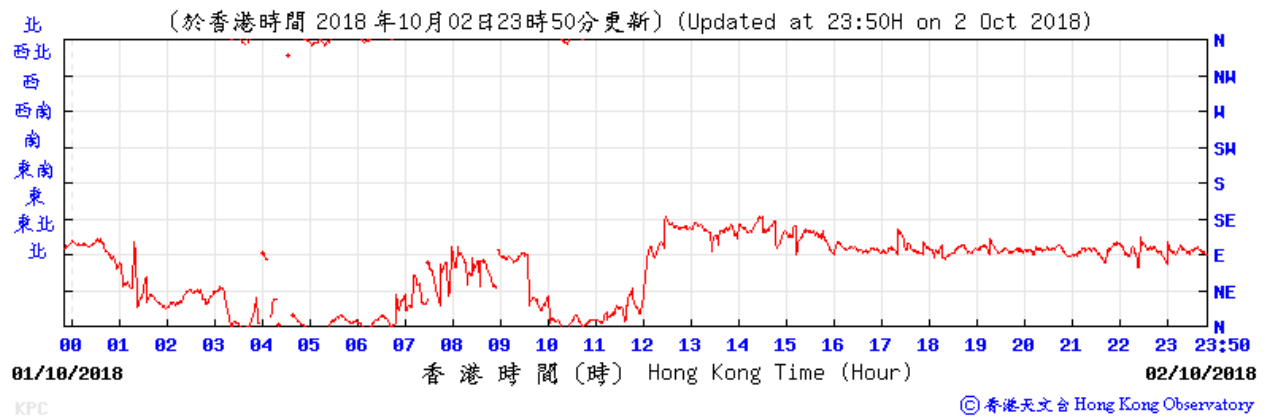
Day	Total Rainfall, mm	1-hr TSP	Noise	Remarks
1	2.9			
2	0.0	✓	✓	No significant rainfall during noise measurement
3	0.0			
4	0.0			
5	0.0			
6	0.0			
7	0.0			
8	2.0			
9	0.6	✓	✓	No significant rainfall during noise measurement
10	42.8			
11	0.0			
12	0.3			
13	0.4			
14	0.6			
15	31.4			
16	8.9	✓	✓	No significant rainfall during noise measurement
17	1.5			
18	12.6			
19	0.2			
20	Trace			
21	Trace			
22	Trace			
23	0.1	✓	✓	No significant rainfall during noise measurement
24	Trace			
25	0.0			
26	0.0			
27	0.0			
28	0.0			
29	0.0			
30	0.0	✓	✓	No significant rainfall during noise measurement
31	0.0			
Mean/Total	104.3			

King's Park Weather Station – 02 October 2018

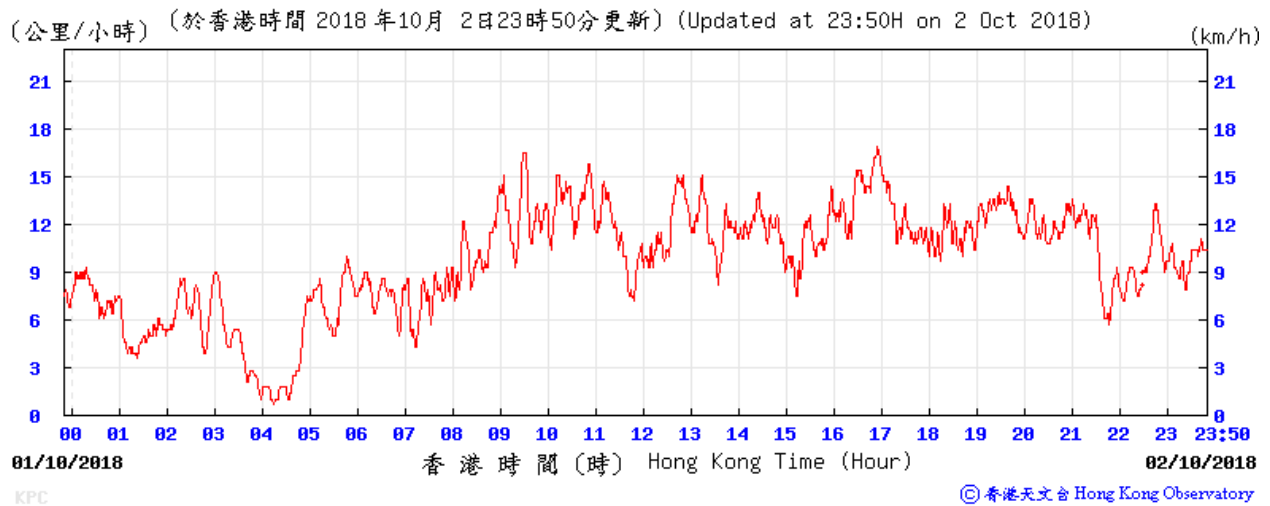
Temperature/Humidity:



Wind Direction:

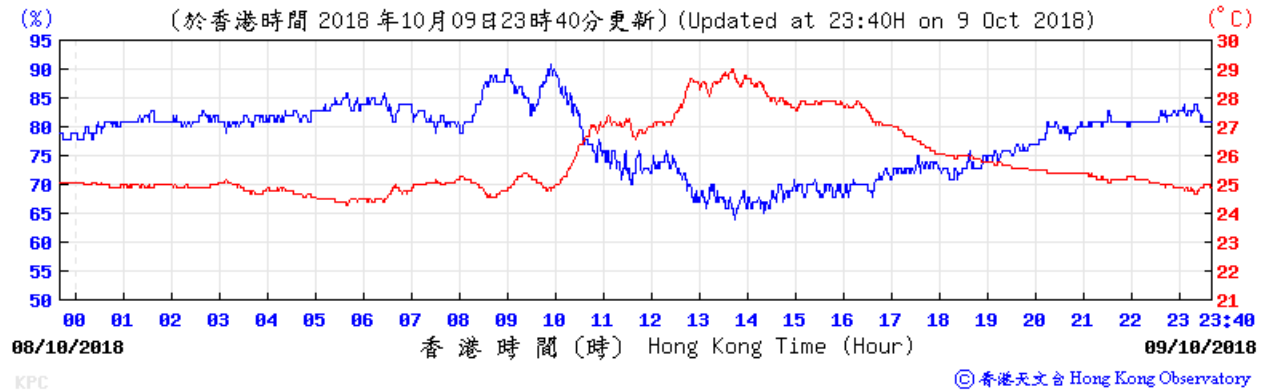


Wind Speed:

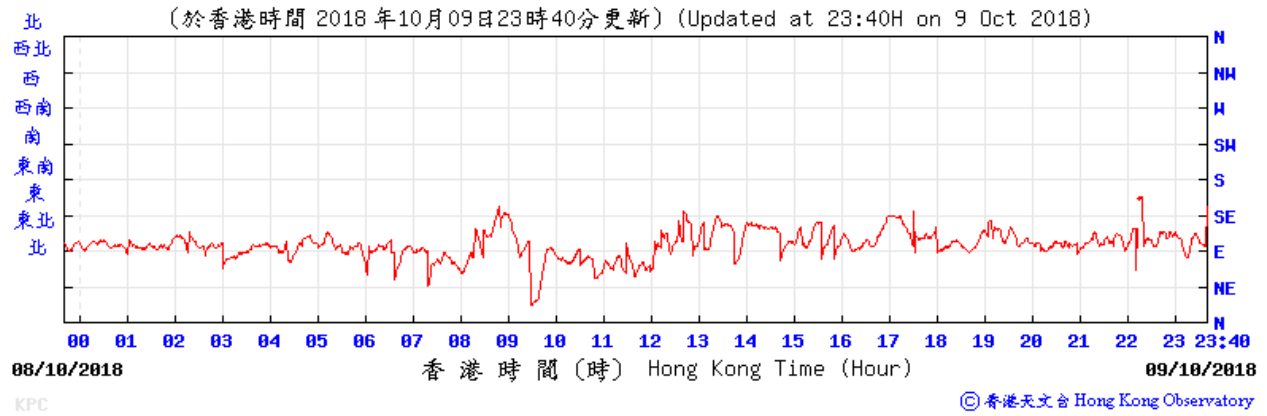


King's Park Weather Station – 09 October 2018

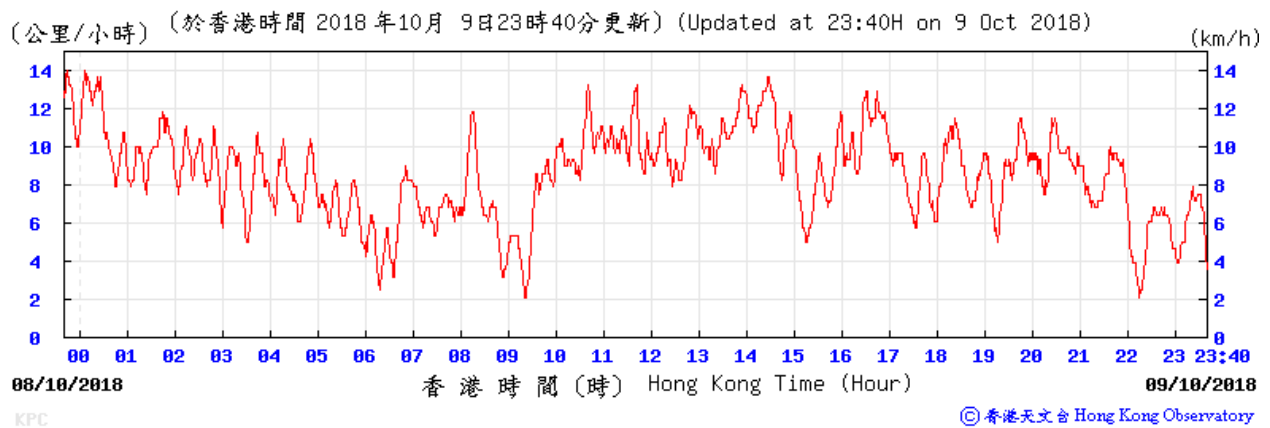
Temperature/Humidity:



Wind Direction:

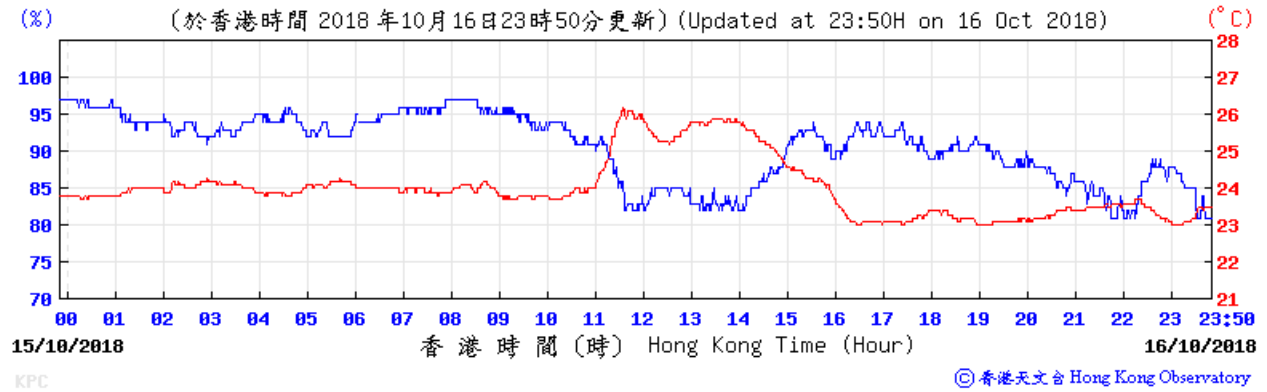


Wind Speed:

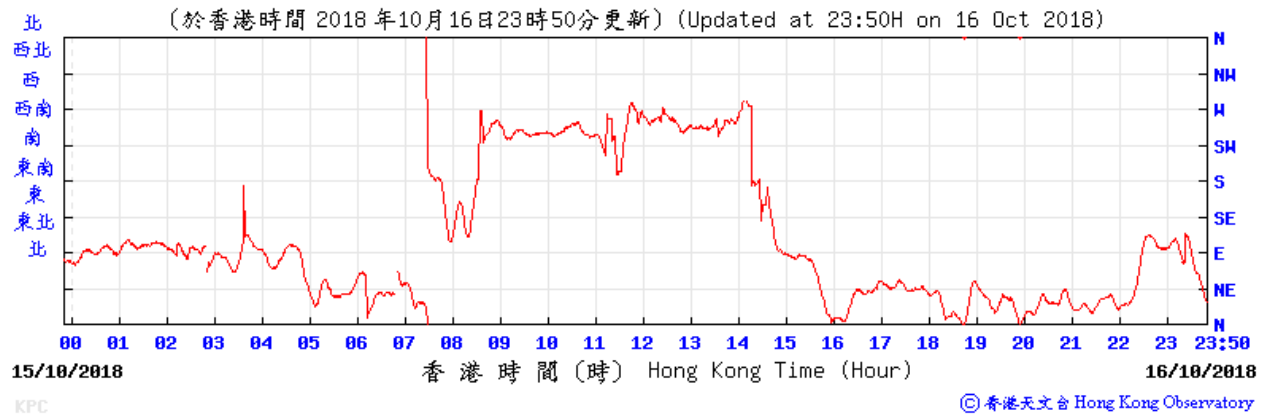


King's Park Weather Station – 16 October 2018

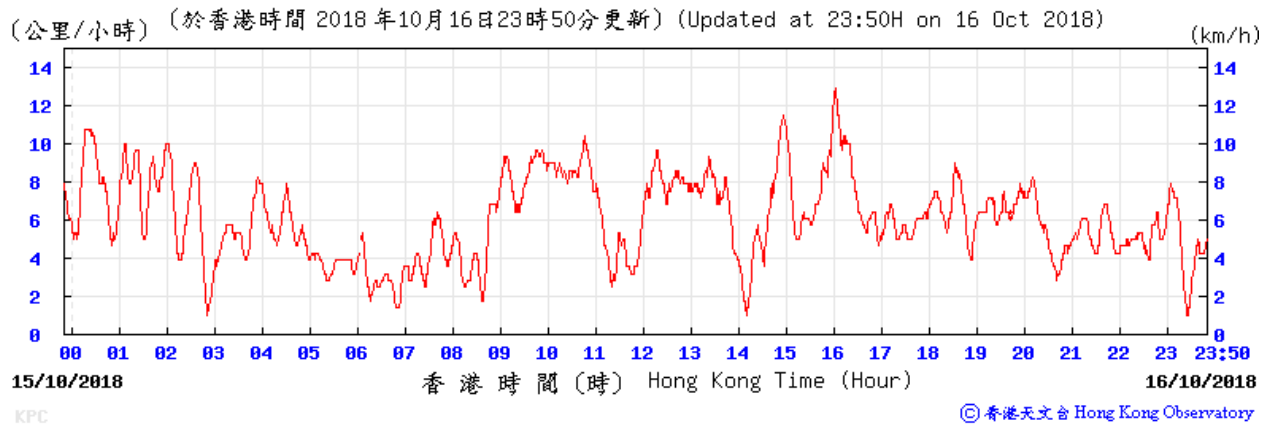
Temperature/Humidity:



Wind Direction:

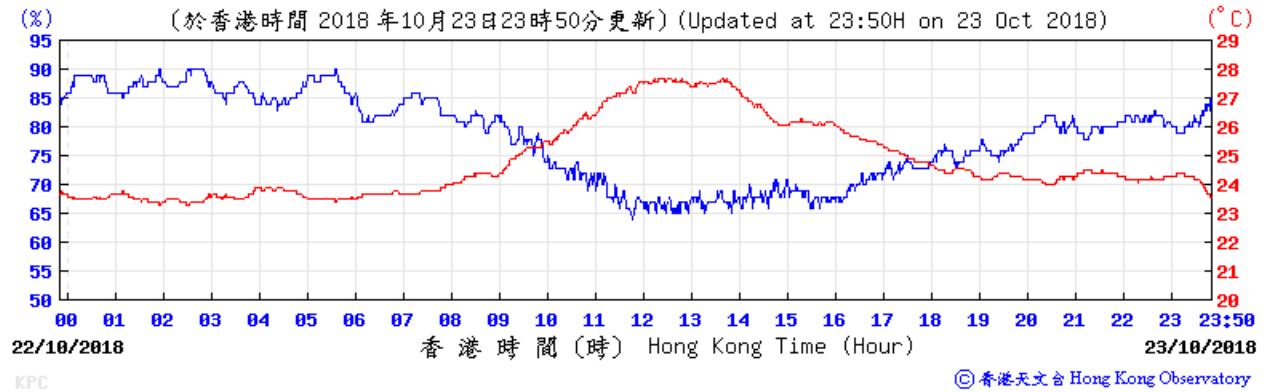


Wind Speed:

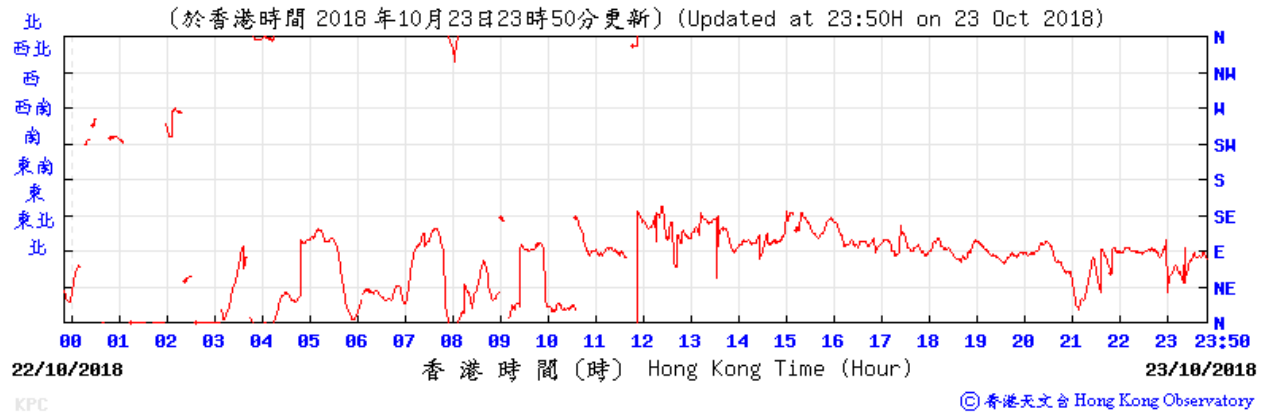


King's Park Weather Station – 23 October 2018

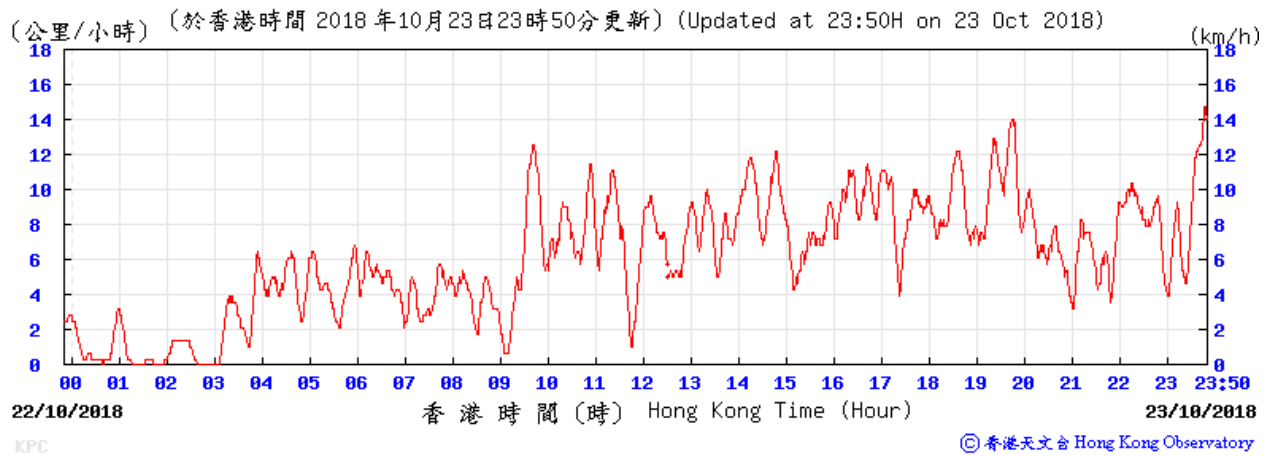
Temperature/Humidity:



Wind Direction:

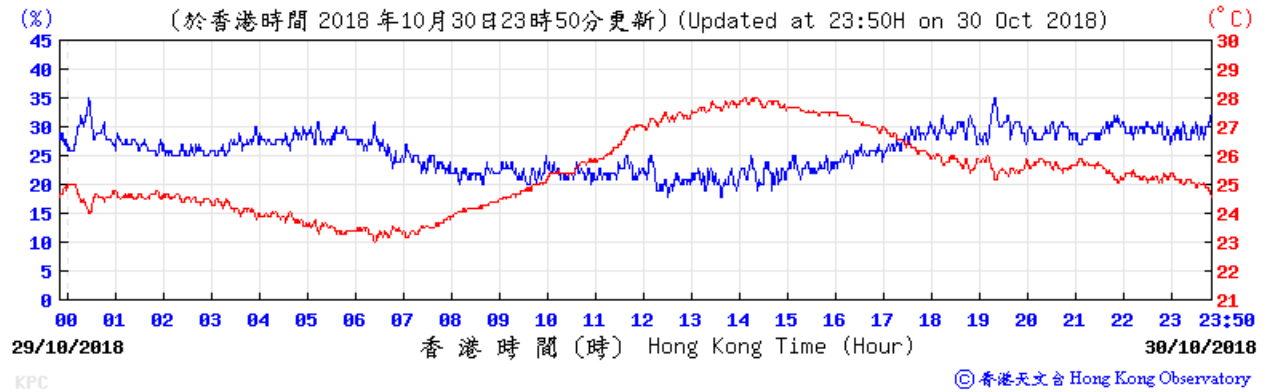


Wind Speed:

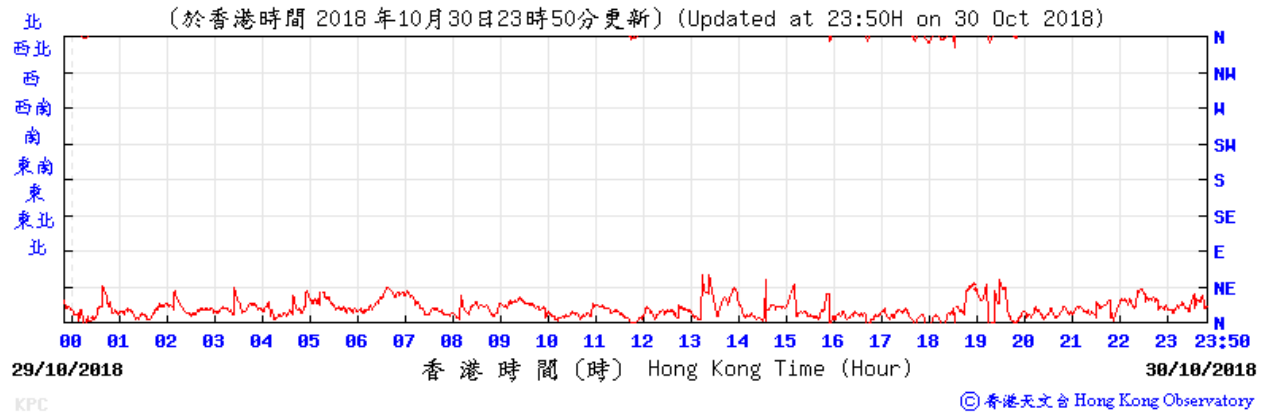


King's Park Weather Station – 30 October 2018

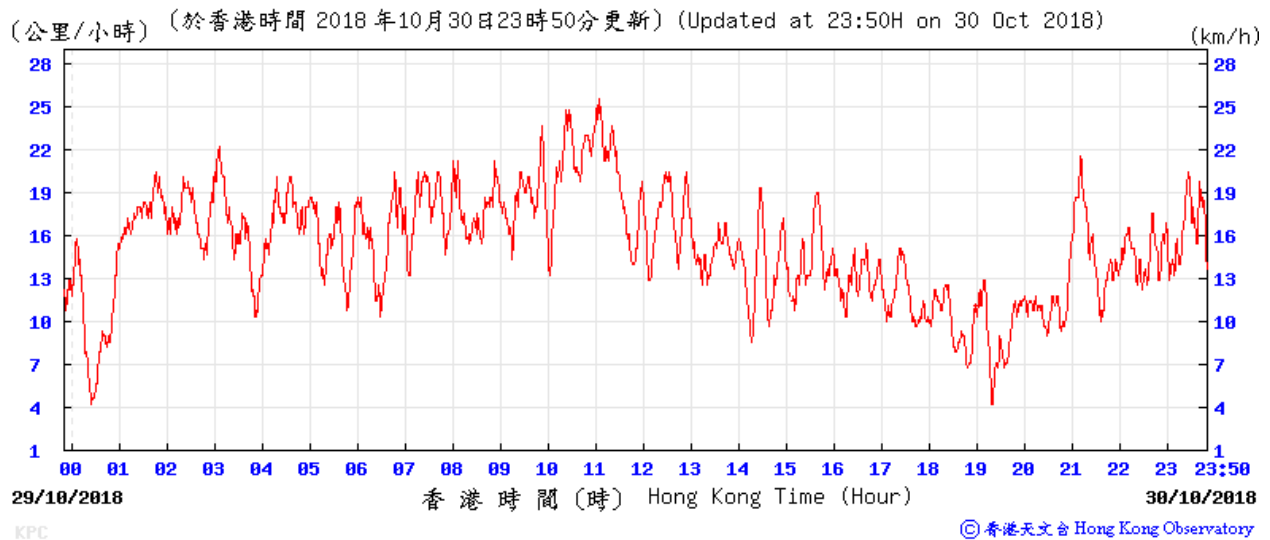
Temperature/Humidity:



Wind Direction:



Wind Speed:

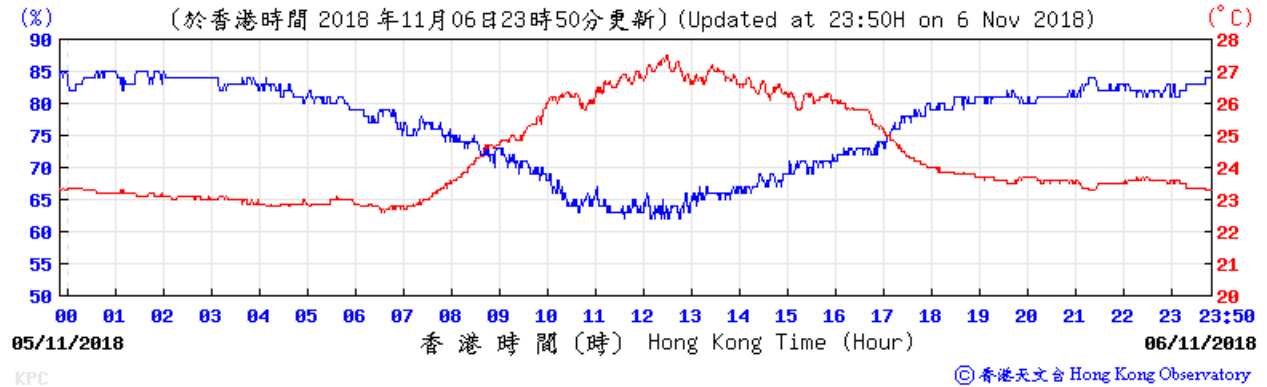


Daily Total Rainfall at King's Park HKO Weather Monitoring Station - November 2018

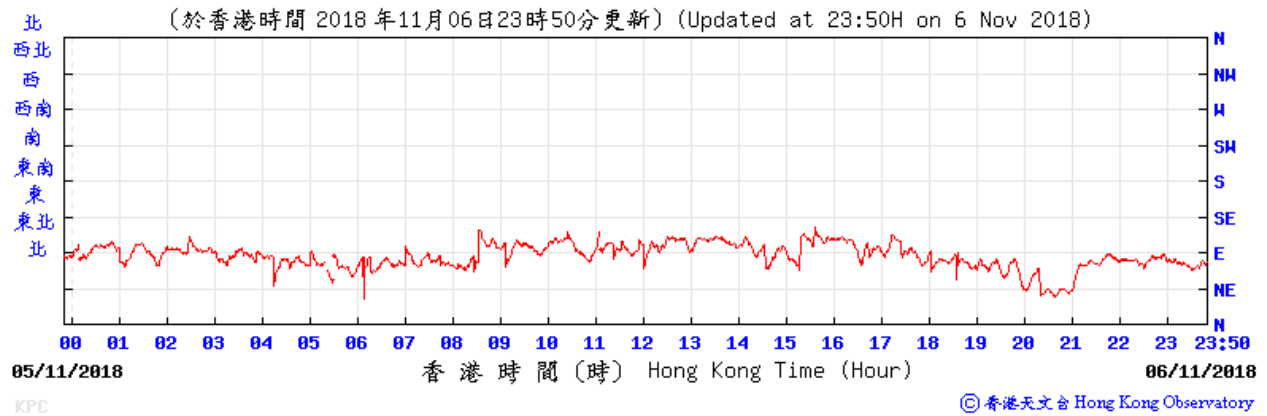
Day	Total Rainfall, mm	1-hr TSP	Noise	Remarks
1	0.0			
2	0.1			
3	8.3			
4	Trace			
5	Trace			
6	0.0	✓	✓	No significant rainfall during noise measurement
7	0.0			
8	Trace			
9	0.0			
10	Trace			
11	0.0			
12	Trace			
13	Trace	✓	✓	No significant rainfall during noise measurement
14	Trace			
15	Trace			
16	1.1			
17	0.5			
18	0.0			
19	0.0			
20	0.1	✓	✓	No significant rainfall during noise measurement
21	2.4			
22	0.2			
23	Trace			
24	Trace			
25	21.0			
26	15.7			
27	16.3	✓	✓	No significant rainfall during noise measurement
28	7.7			
29	Trace			
30	0.0			
Mean/Total	73.4			

King's Park Weather Station – 06 November 2018

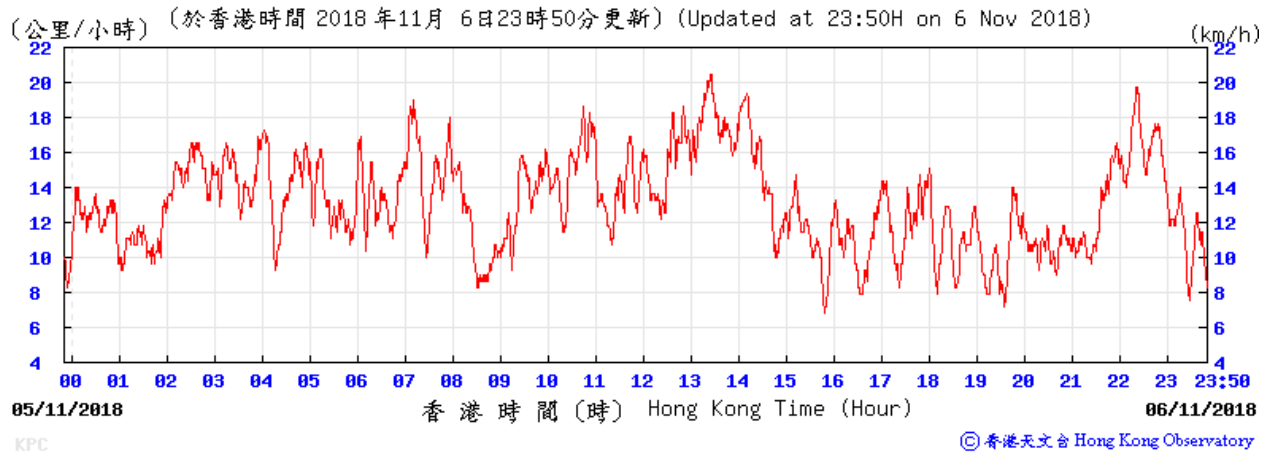
Temperature/Humidity:



Wind Direction:

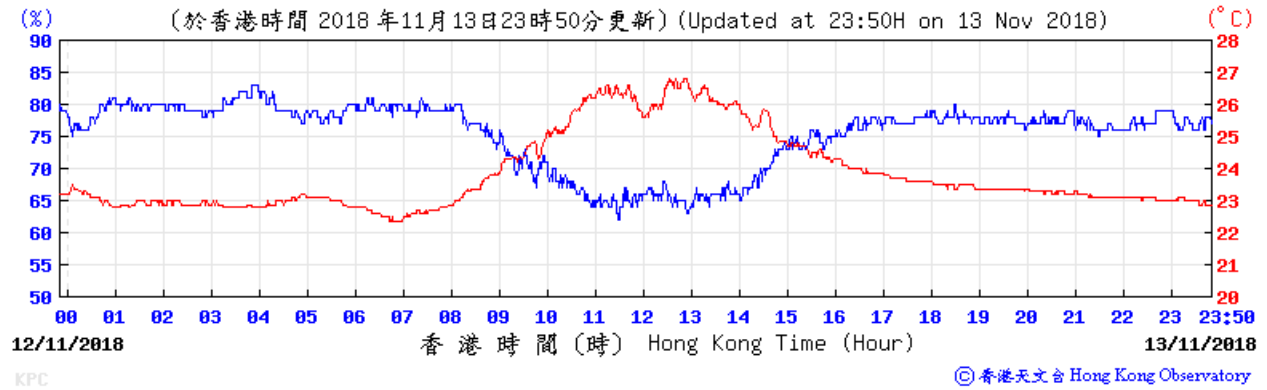


Wind Speed:

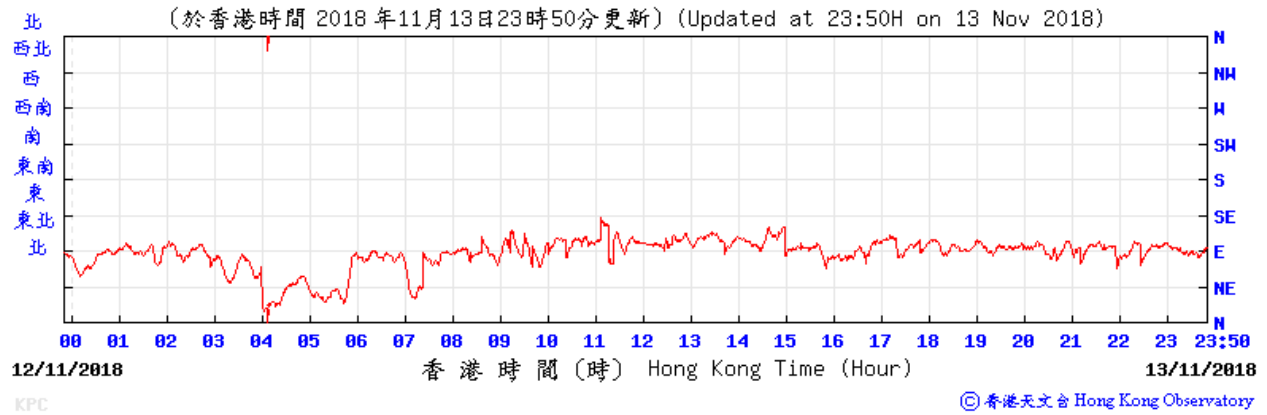


King's Park Weather Station – 13 November 2018

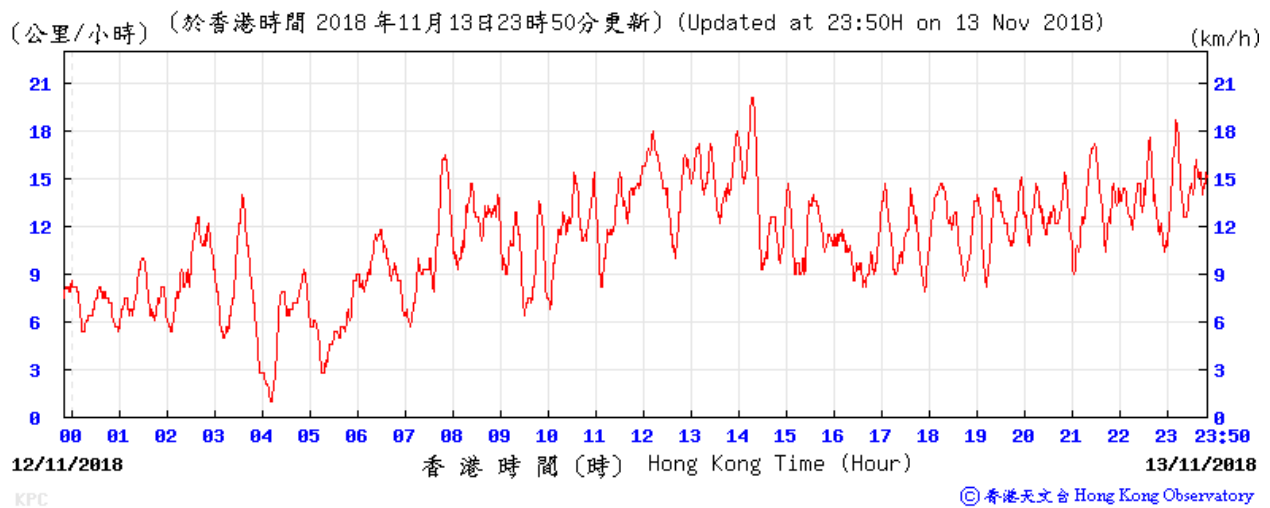
Temperature/Humidity:



Wind Direction:

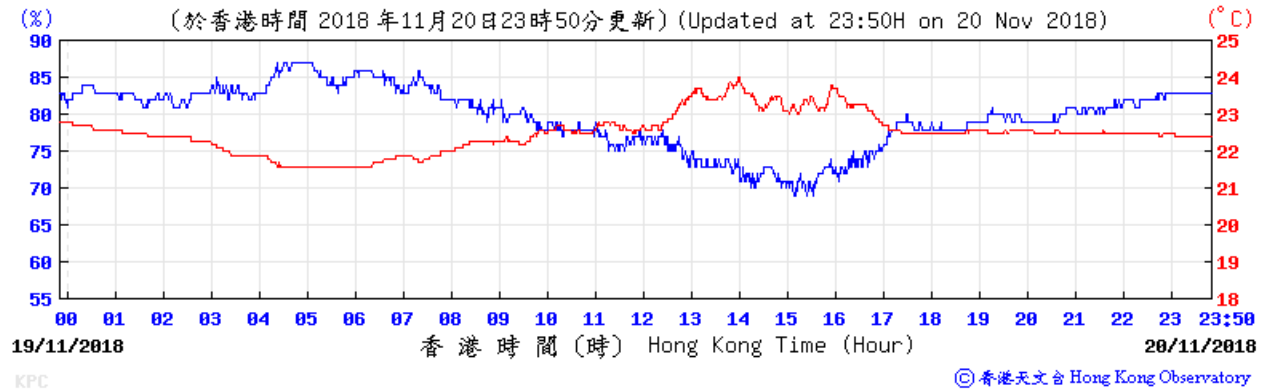


Wind Speed:

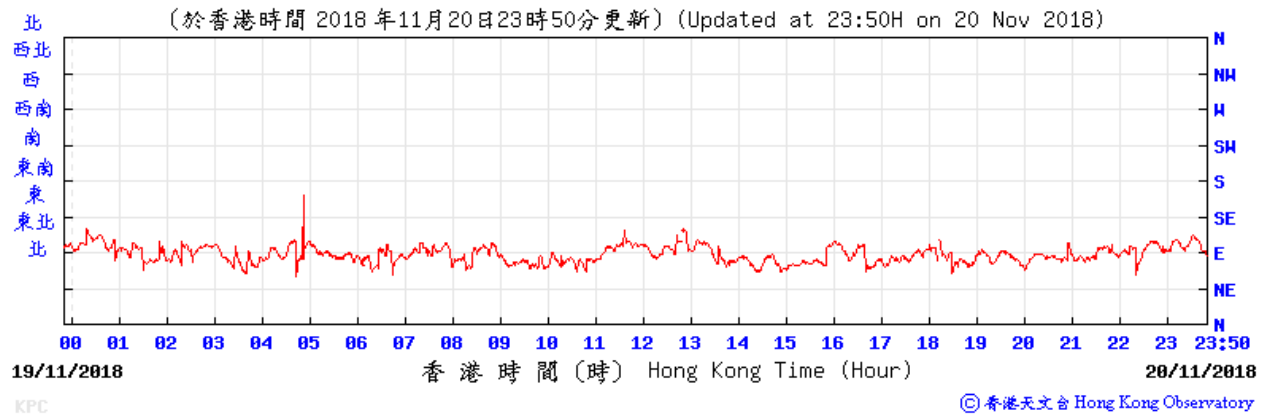


King's Park Weather Station – 20 November 2018

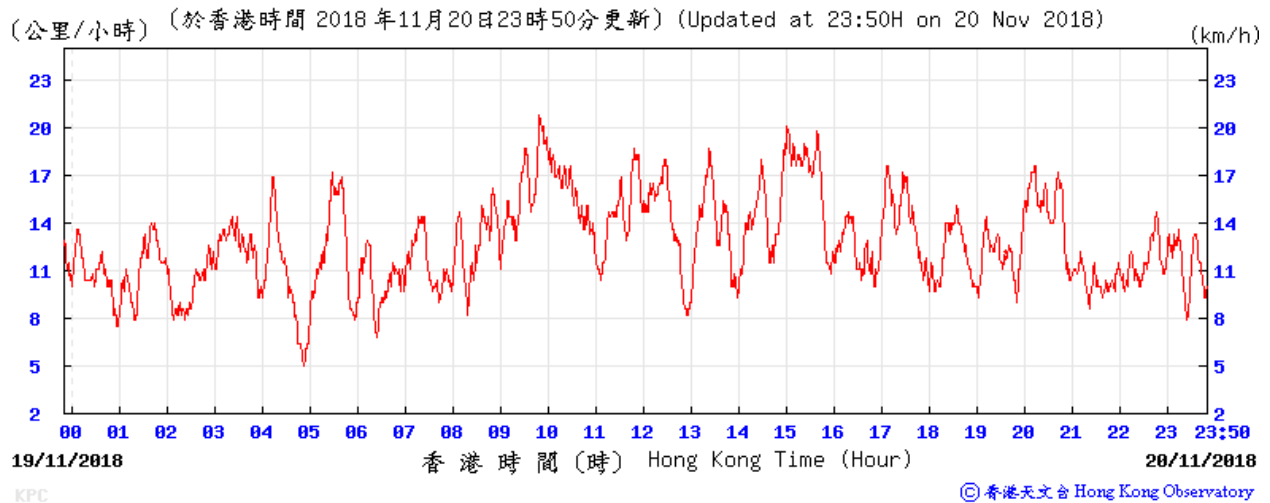
Temperature/Humidity:



Wind Direction:

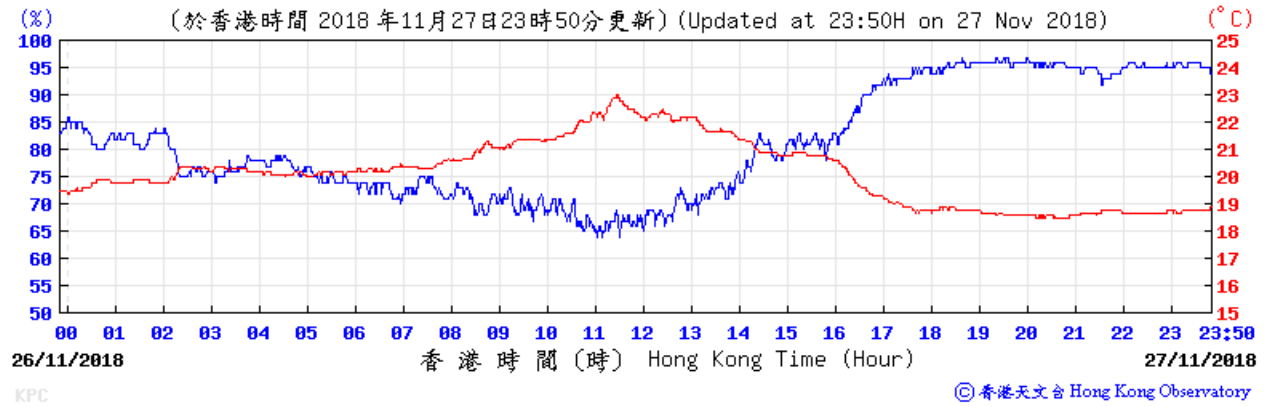


Wind Speed:

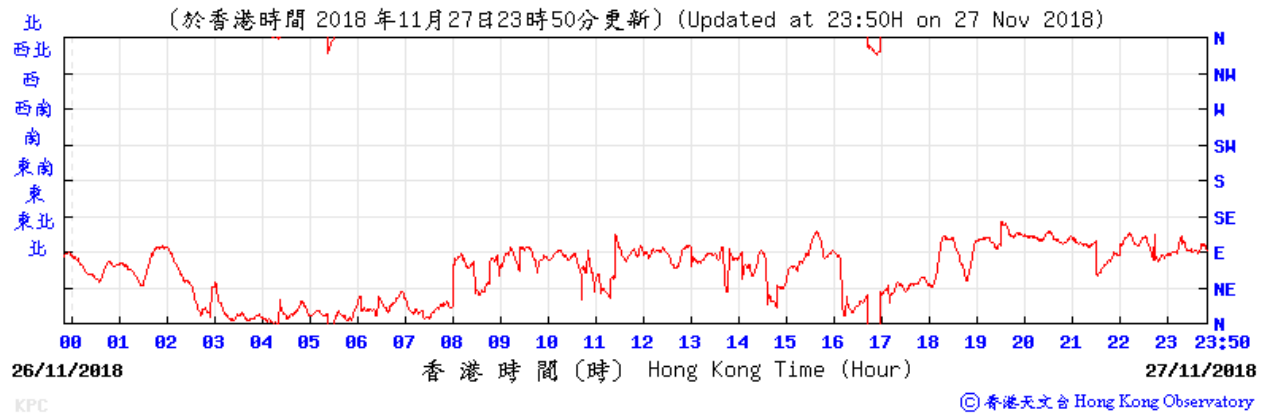


King's Park Weather Station – 27 November 2018

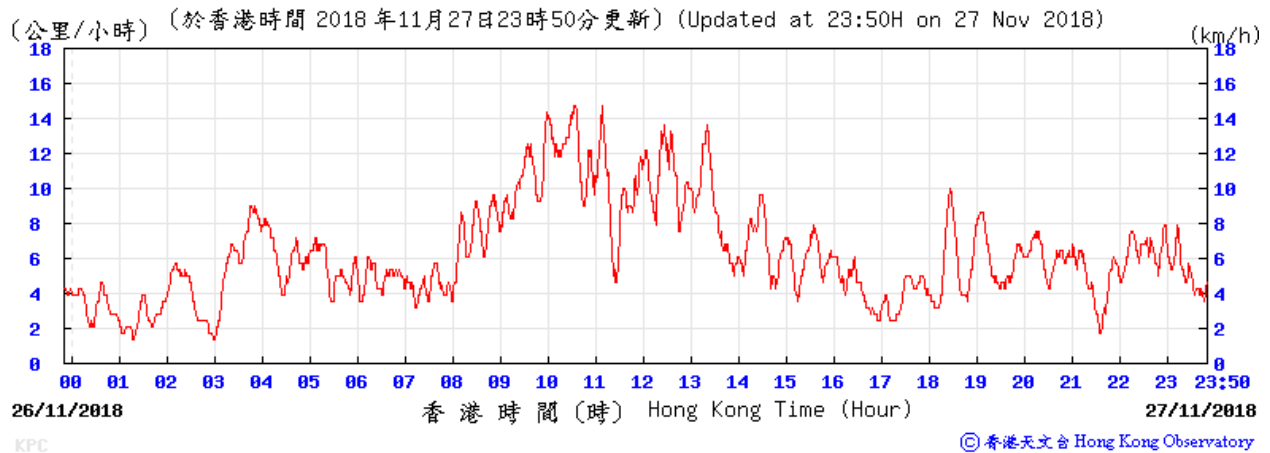
Temperature/Humidity:



Wind Direction:



Wind Speed:



APPENDIX H

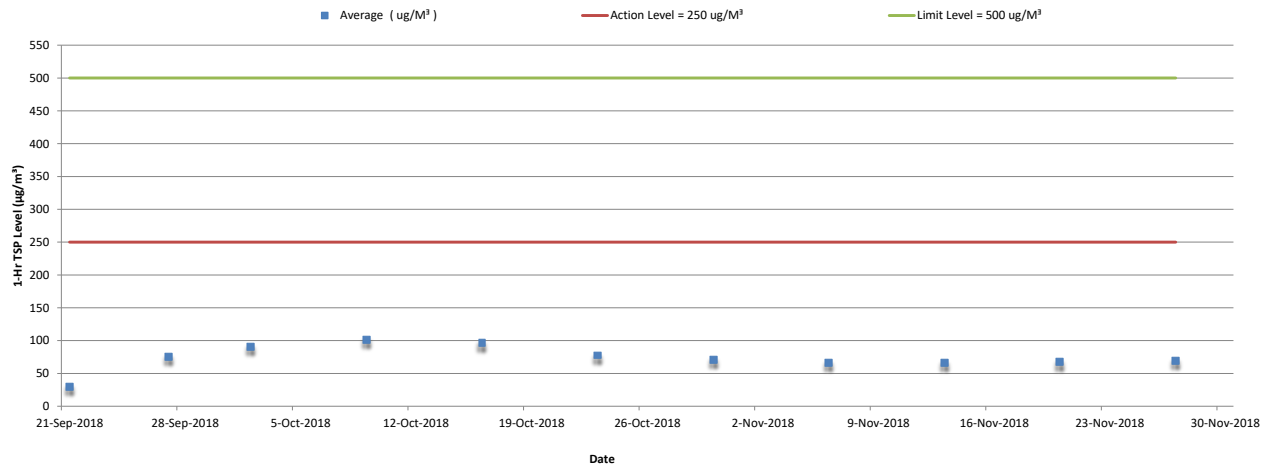
MONITORING RESULTS AND PLOTS

1-Hr TSP Results and Plot

Date	Time	Result (ug/M ³)	Average (ug/M ³)	Action Level = 250 ug/M ³	Limit Level = 500 ug/M ³
21-Sep-2018	09:00-10:00	28	30	250	500
21-Sep-2018	10:00-11:00	31		250	500
21-Sep-2018	11:00-12:01	31		250	500
27-Sep-2018	09:00-10:00	79	75	250	500
27-Sep-2018	10:00-11:00	71		250	500
27-Sep-2018	11:00-12:01	76		250	500
2-Oct-2018	09:53-10:53	84	91	250	500
2-Oct-2018	10:53-11:53	91		250	500
2-Oct-2018	11:53-12:53	97		250	500
9-Oct-2018	09:43-10:43	91	102	250	500
9-Oct-2018	10:43-11:43	102		250	500
9-Oct-2018	11:43-12:43	112		250	500
16-Oct-2018	09:31-10:31	101	96	250	500
16-Oct-2018	10:31-11:31	96		250	500
16-Oct-2018	11:31-12:31	91		250	500
23-Oct-2018	09:47-10:47	83	77	250	500
23-Oct-2018	10:47-11:47	77		250	500
23-Oct-2018	11:47-12:47	72		250	500
30-Oct-2018	09:07-10:07	72	71	250	500
30-Oct-2018	10:07-11:07	71		250	500
30-Oct-2018	11:07-12:07	70		250	500
6-Nov-2018	09:11-10:11	69	66	250	500
6-Nov-2018	10:11-11:11	70		250	500
6-Nov-2018	11:11-12:11	60		250	500
13-Nov-2018	09:13-10:13	61	66	250	500
13-Nov-2018	10:13-11:13	70		250	500
13-Nov-2018	11:13-12:13	68		250	500
20-Nov-2018	09:17-10:17	70	67	250	500
20-Nov-2018	10:17-11:17	70		250	500
20-Nov-2018	11:17-12:17	62		250	500
27-Nov-2018	09:17-10:17	65	69	250	500
27-Nov-2018	10:17-11:17	70		250	500
27-Nov-2018	11:17-12:17	73		250	500

1-Hr TSP Concentration (September to November 2018) *

Note: * 1-Hr TSP has replaced the 24-Hr TSP since 21 September 2018 due to HVS outage

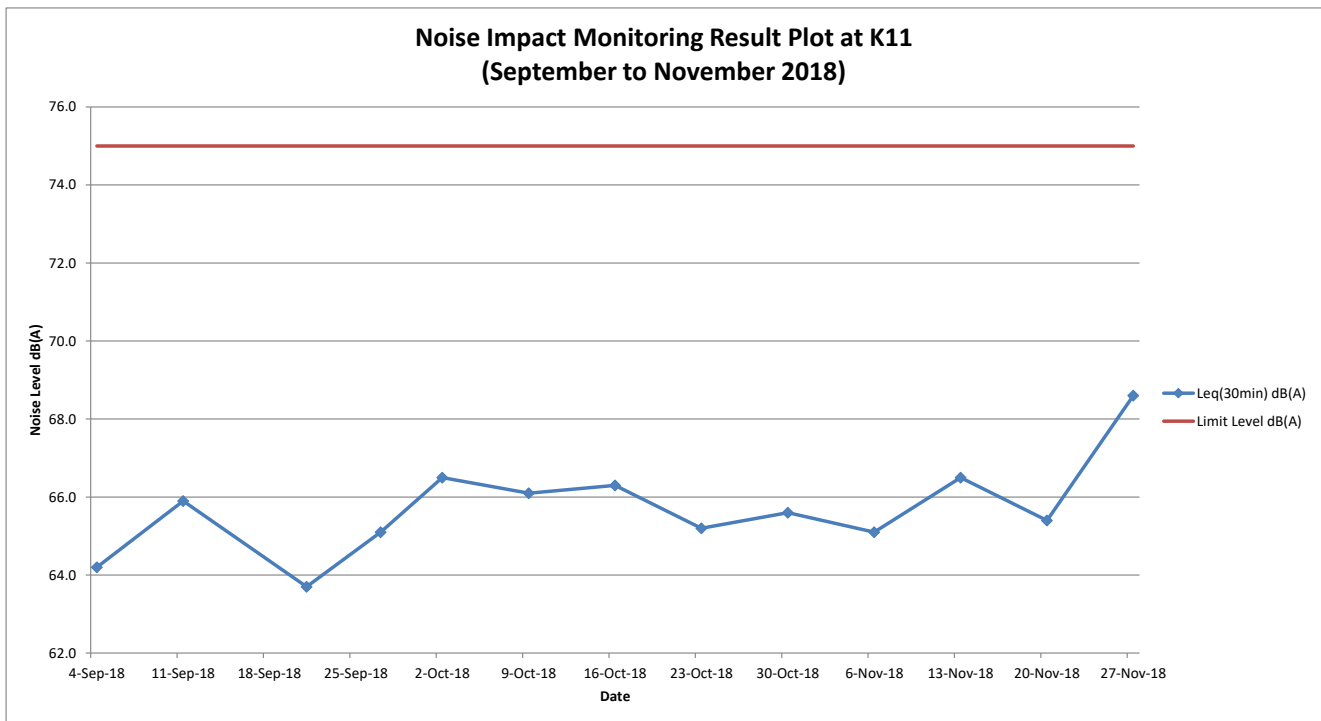


Noise Impact Monitoring Results at K11 (September to November 2018)

Monitoring Locations	Date	Weather Conditions	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	4-Sep-18	Sunny	0.8	10:12	10:42	65.3	75	64.2	58.0	58.5
	11-Sep-18	Sunny	1.6	8:39	9:09	65.3	75	65.9	67.5	63.0
	21-Sep-18	Sunny	1.6	10:00	10:30	65.3	75	63.7	64.5	62.5
	27-Sep-18	Overcast	2.1	10:21	10:51	65.3	75	65.1	65.0	62.5
	2-Oct-18	Overcast	0.8	9:53	10:23	65.3	75	66.5	67.0	64.5
	9-Oct-18	Overcast	1.6	9:43	10:13	65.3	75	66.1	65.5	63.5
	16-Oct-18	Overcast	1.4	9:31	10:01	65.3	75	66.3	67.5	64.0
	23-Oct-18	Overcast	0.9	8:41	9:11	65.3	75	65.2	66.5	62.5
	30-Oct-18	Overcast	0.9	9:07	9:37	65.3	75	65.6	67.0	63.5
	6-Nov-18	Overcast	1.6	9:11	9:41	65.3	75	65.1	65.0	62.5
	13-Nov-18	Overcast	0.8	9:13	9:43	65.3	75	66.5	67.5	64.0
	20-Nov-18	Overcast	1.5	9:17	9:47	65.3	75	65.4	67.0	63.0
	27-Nov-18	Overcast	1.7	9:17	9:47	65.3	75	68.6	71.0	65.0

* Not collected

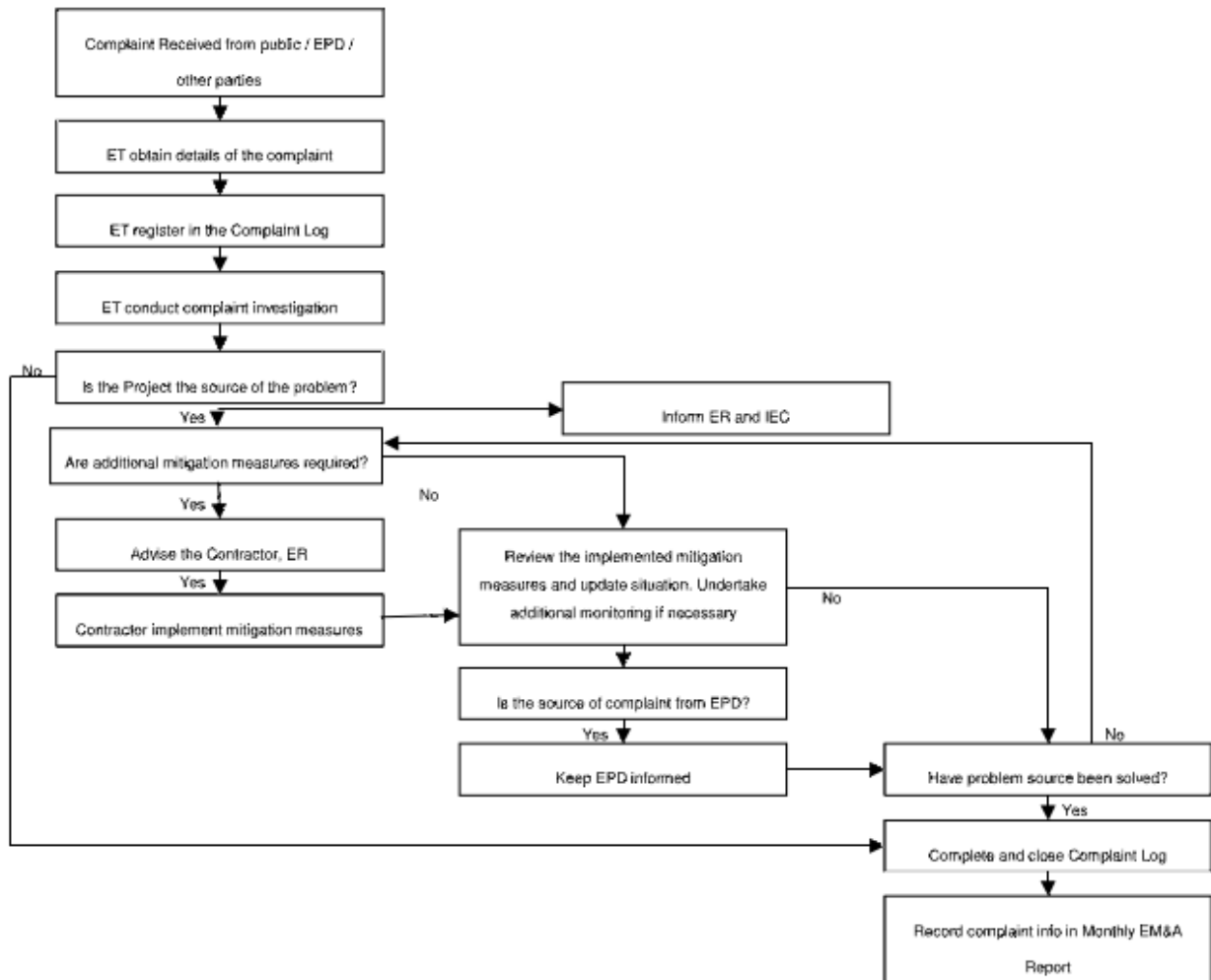
Red Bold indicates an exceedance of Limit Level



APPENDIX I

FLOW CHART FOR HANDLING ENVIRONMENTAL COMPLAINTS

Complaint Response Procedure



APPENDIX J

WASTE MANAGEMENT RECORDS

Monthly Summary Waste Flow Table for 2018 (year)

Contract No: C3840-13C Tsim Sha Tsui Station Carnarvon Road Subway
Date Reported: 1-December-2018

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	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
		(See Note 3)							(see Note 2)		
(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in'000kg)	(in '000m ³ /tonne)
Carried from Project Start	9.6228	-	-	-	9.6228	-	-	-	-	-	0.1930
Jan	0.0212	-	-	-	0.0212	-	-	-	-	-	0.0198
Feb	0.0033	-	-	-	0.0033	-	-	-	-	-	0.0090
Mar	0.0072	-	-	-	0.0072	-	-	-	-	-	0.0089
Apr	0.0024	-	-	-	0.0024	-	-	-	-	-	0.0048
May	0.0022	-	-	-	0.0022	-	-	-	-	-	0.0065
June	0.0000	-	-	-	0.0000	-	-	-	-	-	0.0192
Sub-total	0.0363	-	-	-	0.0363	-	-	-	-	-	0.0682
July	0.0540	-	-	-	0.0540	-	-	-	-	-	0.0081
Aug	0.0410	-	-	-	0.0410	-	-	-	-	-	0.0092
Sept	0.0057	-	-	-	0.0057	-	225.1300	-	-	-	0.0077
Oct	0.0235	-	-	-	0.0235	-	41.6400	-	-	-	0.0084
Nov	0.0216	-	-	-	0.0216	-	-	-	-	-	0.0069
Dec	-	-	-	-	-	-	-	-	-	-	-
Total	0.1821	-	-	-	0.1821	-	266.7700	-	-	-	0.1085
Acc. Total	9.8049	(accumulated quantity of the project = carried amount + this year amount)						0.3015			

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.