



Development at West Kowloon Cultural District

Monthly Environmental Monitoring and Audit
(EM&A) Report for January 2018

February 2018

20/F AIA Kowloon Tower
Landmark East
100 How Ming Street
Kwun Tong
Kowloon
Hong Kong

T +852 2828 5757
F +852 2827 1823
mottmac.hk

Development at West Kowloon Cultural District

Monthly Environmental Monitoring and Audit
(EM&A) Report for January 2018

February 2018

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

Certified by:



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

Date

14 Feb 2018

Verified by:



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

Date

13 Feb 2018

Contents

Executive Summary	1
1 Introduction	3
1.1 Background	3
1.2 Project Organisation	3
1.3 Environmental Status in the Reporting Period	3
1.4 Summary of EM&A Requirements	4
2 Impact Monitoring Methodology	6
2.1 Introduction	6
2.2 Air Quality	6
2.2.1 Monitoring Parameters, Frequency and Duration	6
2.2.2 Monitoring Locations	6
2.2.3 Monitoring Equipment	6
2.2.4 Monitoring Methodology	7
2.3 Noise	8
2.3.1 Monitoring Parameters, Frequency and Duration	8
2.3.2 Monitoring Location	9
2.3.3 Monitoring Equipment	9
2.3.4 Monitoring Methodology	9
2.4 Landscape and Visual	10
2.4.1 Monitoring Program	10
3 Monitoring Results	11
3.1 Impact Monitoring	11
3.2 Air Quality Monitoring	11
3.2.1 1-hour TSP	11
3.2.2 24-hour TSP	11
3.3 Noise Monitoring	12
3.4 Landscape and Visual Impact	12
4 Environmental Site Inspection	13
4.1 Site Inspection	13
4.1.1 M+ Museum	13
4.1.2 Lyric Theatre Complex	14
4.2 Advice on the Solid and Liquid Waste Management Status	15
4.2.1 M+ Museum	15
4.2.2 Lyric Theatre Complex	16
4.3 Status of Environmental Licenses and Permits	16
4.3.1 M+ Museum	16

4.3.2	Lyric Theatre Complex	16
4.4	Recommended Mitigation Measures	17
4.4.1	M+ Museum	17
4.4.2	Lyric Theatre Complex	18
5	Compliance with Environmental Permit	19
6	Report in Non-compliance, Complaints, Notification of Summons and Successful Prosecutions	20
6.1	Record on Non-compliance of Action and Limit Levels	20
6.2	Record on Environmental Complaints Received	20
6.3	Record on Notifications of Summons and Successful Prosecution	20
7	Future Key Issues	21
7.1	Construction Works for the Coming Month(s)	21
7.1.1	M+ Museum	21
7.1.2	Lyric Theatre Complex	21
7.2	Key Issues for the Coming Month	21
7.2.1	M+ Museum	21
7.2.2	Lyric Theatre Complex	21
7.3	Monitoring Schedule for the Coming Month	21
8	Conclusions and Recommendations	22
8.1	Conclusions	22
8.2	Recommendations	22

Figure 1 Site Layout Plan and Monitoring Stations

Appendices

- A. Project Organisation
- B. Tentative Construction Programme
- C. Action and Limit Levels for Construction Phase
- D. Event and Action Plan for Air Quality, Noise, Landscape and Visual Impact
- E. Monitoring Schedule
- F. Calibration Certifications
- G. Graphical Plots of the Monitoring Results

- H. Meteorological Data Extracted from Hong Kong Observatory
- I. Waste Flow table
- J. Environmental Mitigation Measures – Implementation Status
- K. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Executive Summary

Mott MacDonald Hong Kong Limited (MMHK) was commissioned to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for the construction of M+ Museum Main Works (Contract No.: CC/2015/3A/022) and Lyric Theatre Complex including the Foundation Works (Contract No.: CC/2015/3A/014) and L1 Contract (Contract No. CC/2017/3A/030) at West Kowloon Cultural District (WKCD) (The Project) as part of the WKCD development. The Project Proponent is the West Kowloon Cultural District Authority (WKCDA). The construction works and EM&A programme for M+ Museum and Lyric Theatre Complex commenced on 31 October 2015 and 1 March 2016 respectively.

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

This Monthly EM&A Report presents the monitoring works at both the main works of M+ Museum and Lyric Theatre Complex (including Foundation Works and L1 Contract) conducted from 1 January to 31 January 2018.

Exceedance of Action and Limit Levels

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

Implementation of Mitigation Measures

Construction phase weekly site inspections were carried out on 4, 11, 18 and 25 January 2018 for M+ Museum and 3, 10, 17, 24 and 31 January 2018 for Lyric Theatre Complex to confirm the implementation measures undertaken by the Contractors in the reporting month. The outcomes are presented in Section 4 and the status of implementation of mitigation measures in the site is shown in **Appendix J**.

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

EPD site inspection with Contractor was conducted on 5 January 2018 at Lyric Theatre Complex. No adverse comment was received with a reminder to improve the part of the bund at the seafront.

Record of Complaints

No environmental complaints were recorded in the reporting month.

Record of Notification of Summons and Successful Prosecutions

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

Future Key Issues

The major site works at M+ Museum scheduled to be commissioned in the coming month include:

- M+ Construction Main Works of walls & columns, external walls, slab and beam construction on B1/F, G/F, 1/F to 1M/F, 2/F, 3/F, 4/F to 5/F
- RDE building construction of column, walls and beams from 1/F to 4/F
- CSF building construction of columns, walls and beams from 3/F to 4/F slab
- External works for seawater outfall pipe and DCS chiller pipe

The major works for Foundation Works for Lyric Theatre Complex has been completed on 31 January 2018. The major site works for L1 Contract scheduled to be commissioned in the coming month include:

- Dewatering
- King Post Installation

Potential environmental impacts due to the construction activities, including air quality, noise, water quality, waste, landscape and visual, will be monitored or reviewed. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.

1 Introduction

1.1 Background

Mott MacDonald Hong Kong Limited (MMHK) was commissioned to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for the construction of M+ Museum Main Works (Contract No.: CC/2015/3A/022) and Lyric Theatre Complex including the Foundation Works (Contract No.: CC/2015/3A/014) and L1 Contract (Contract No. CC/2017/3A/030) at West Kowloon Cultural District (WKCD) (The Project) as part of the WKCD development. The Project Proponent is the West Kowloon Cultural District Authority (WKCDA). The construction works and EM&A programme for M+ Museum and Lyric Theatre Complex commenced on 31 October 2015 and 1 March 2016 respectively.

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

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

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

The Monthly EM&A Report is prepared in accordance with the Condition 3.4 of the Environmental Permit No. EP-453/2013/B. This Monthly EM&A Report presents the monitoring works at both the main works of M+ Museum and Lyric Theatre Complex (including Foundation Works and L1 Contract) conducted from 1 January to 31 January 2018. The purpose of this report is to summarise the findings in the EM&A of the project over the reporting period.

1.2 Project Organisation

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

1.3 Environmental Status in the Reporting Period

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

- M+ Construction Main Works of walls & columns, external walls, slab from 5-8/F

- Construction of RDE and CSF Building including column, walls and slab
- Mega Truss Construction

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

- Foundation Works:
 - Pre-grouting adjacent to seawall
 - Pipe Pile Construction
 - Pumping Test
- L1 Contract (construction works commenced on 8 January 2018):
 - Plant Mobilization
 - Dewatering
 - King Post Installation

The Construction Works Programmes of M+ Museum and Lyric Theatre Complex (including Foundation Works and L1 Contract) are provided in **Appendix B**. A layout plan of the Project is provided in **Figure 1**. Please refer to **Table 4.4** on the status of the environmental licenses.

1.4 Summary of EM&A Requirements

The EM&A programme requires environmental monitoring of air quality, noise, landscape and visual as specified in the approved EM&A Manual.

A summary of impact EM&A requirements is presented in **Table 1.1**.

Table 1.1: Summary of Impact EM&A Requirements

Parameters	Descriptions	Locations	Frequencies
Air Quality	24-Hour TSP	AM1 - International Commerce Centre	At least once every 6 days
	1-Hour TSP	AM1 - International Commerce Centre	At least 3 times every 6 days
	24-Hour TSP	AM2A – Austin Road West opposite to The Harbourside Tower 1	At least once every 6 days
	1-Hour TSP	AM2A – Austin Road West opposite to The Harbourside Tower 1	At least 3 times every 6 days
Noise	Leq, 30 minutes	NM1A- Podium level of The Harbourside Tower 1	Weekly
Landscape & Visual	Monitor implementation of proposed mitigation measures during the construction stage	As described in Table 9.1 and 9.2 of the EM&A Manual	Bi-weekly

Given that the Project covers only a small part of the whole WKCD area (i.e. M+ Museum, Lyric Theatre Complex and respective portions of underpass road), it was proposed that the EM&A programme for the Project should only require 1 noise monitoring station and 2 air quality monitoring stations located closest to the Project area. Currently, the works under the captioned project are confined in the western part of the WKCD site. Therefore, only the monitoring stations AM1, AM2 and NM1 were set up. Other monitoring locations are too far away (i.e. AM3 to AM5 and NM2 to NM5) are not included in this EM&A programme until the construction of the corresponding area commences.

The Harbourside management office formally rejected our proposal of setting up air quality and noise monitoring equipment on its premises at the podium level of Tower 1 (AM2/NM1) on 10 November 2015. Alternative noise monitoring location was identified at The Arch (NM2), however The Arch management office formally rejected our proposal of setting up noise monitoring equipment on its premises on 23 November 2015. Nevertheless, suitable air quality monitoring location at AM2 was identified on the ground floor in front of The Harbourside Tower 1, which is at the same location as that

of baseline monitoring for consistency. No management approval is required at the ground floor for conducting the air monitoring. However, the electricity supply at AM2 was suspended from 31 August 2016 and was no longer available. In order to have a more secure electricity supply, an alternative air monitoring location (AM2A) was identified at Austin Road West opposite to The Harbourside Tower 1, which is close to Lyric Theatre Complex site entrance. This alternative air monitoring location was approved by EPD on 28 September 2016. Noise monitoring at G/F of Harbourside will not be representative. Approval from the management office of the International Commerce Centre has been granted on 29 February 2016 for conducting noise monitoring at the alternative noise monitoring location identified at the podium floor (NM1A) which is free from screening to the construction activities. Therefore, 2 air quality monitoring stations and 1 noise impact monitoring station were confirmed for the impact monitoring.

The Environmental Quality Performance Limits for air quality and noise are shown in **Appendix C**.

The Event and Action Plan for air quality, construction noise, landscape and visual are shown in **Appendix D**.

The EM&A programme followed the recommended mitigation measures in the EM&A Manual. The EM&A requirements as well as the summary of implementation status of the environmental mitigation measures are provided in **Appendix J**.

2 Impact Monitoring Methodology

2.1 Introduction

For air quality and noise, the monitoring methodology, including the monitoring locations, monitoring equipment used, monitoring parameters, and frequency and duration etc., for air quality and noise are detailed in this Section. The environmental monitoring schedules for the reporting period and the tentative monitoring Schedule for the coming month are provided in **Appendix E**.

For landscape and audit impact, the relevant EM&A monitoring requirements and details are also presented in this Section.

2.2 Air Quality

2.2.1 Monitoring Parameters, Frequency and Duration

Table 2.1 summarizes the monitoring parameters, frequency and duration of the TSP monitoring.

Table 2.1: Air Quality Monitoring Parameters, Frequency and Duration

Parameter	Frequency	Duration
24-hour TSP	At least once in every six-days	24 hours
1-hour TSP	At least 3 times every six-days	60 minutes

2.2.2 Monitoring Locations

Currently, the works under the captioned project are confined in the western part of the WKCD site. Therefore, only the monitoring stations AM1 and AM2A were set up at the proposed locations in accordance with updated EM&A Manual. Location of the monitoring station is given in **Table 2.2** and shown in **Figure 1**.

Table 2.2: Air Quality Monitoring Station

Monitoring Station	Location
AM1	International Commerce Centre (ICC)
AM2A	Austin Road West opposite to The Harbourside Tower 1

2.2.3 Monitoring Equipment

Continuous 24-hour TSP air quality monitoring was conducted using High Volume Sampler (HVS) (Model: TE-5170) located at the designated monitoring station. The HVS meets all the requirements stated in of the EM&A Manual. Portable direct reading dust meter was used to carry out the 1-hour TSP monitoring. **Table 2.3** summarizes the equipment used in the impact air quality monitoring. Copies of the calibration certificates for the HVS, calibration kit and portable dust meters are attached in **Appendix F**.

Table 2.3: TSP Monitoring Equipment

Equipment	Model
24-hour TSP monitoring	
High Volume Sampler	TE-5170 (Serial No.: 0767 and 8919)
Calibrator	TE-5025A (Orifice I.D.: 2454)
1-hour TSP monitoring	
Portable direct reading dust meter	Sibata LD-3B (Serial No.: 245833 and 276015)

Calibration of the HVS (five point calibration) using Calibration Kit was carried out every two months. The HVS calibration orifice will be calibrated annually. Calibration certificate of the TE-5025A Calibration Kit and the HVS are provided in **Appendix F**

The 1-hour TSP monitoring should be determined periodically (e.g. annually) by the HVS to check the validity and accuracy of the results measured by direct reading method.

2.2.4 Monitoring Methodology

24-hour TSP Monitoring

Installation

The HVS was installed at the site boundary. The following criteria were considered in the installation of the HVS.

- A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
- The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
- A minimum of 2 metres separation from walls, parapets and penthouse was required for rooftop sampler.
- A minimum of 2 metres separation from any supporting structure, measured horizontally was required.
- No furnace or incinerator flues or building vent were nearby.
- Airflow around the sampler was unrestricted.
- The sampler has been more than 20 metres from any drip line.
- Permission was obtained to set up the sampler and to obtain access to the monitoring station.
- A secured supply of electricity is needed to operate the sampler.

Preparation of Filter Papers

- Glass fibre filters were labelled and sufficient filters that were clean and without pinholes were selected.
- The filters used are specified to have a minimum collection efficiency of 99 percent for 0.3 µm (DOP) particles.
- All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ±3 °C with relative humidity (RH) < 50% and was not variable by more than ±5 %. A convenient working RH was 40%. All preparation of filters was done by Hong Kong Laboratory Accreditation Scheme (HOKLAS) accredited laboratory.

Field Monitoring Procedures

- The power supply was checked to ensure the HVS works properly.
- The filter holder and the area surrounding the filter were cleaned.
- The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
- The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
- The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges.
- The shelter lid was closed and was secured with the aluminium strip.
- The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
- A new flow rate record sheet was set into the flow recorder.
- The flow rate of the HVS was checked and adjusted at around 1.3 m³/min. The range specified in the EM&A Manual was between 0.6-1.7 m³/min.

- The programmable timer was set for a sampling period of 24 hours, and the starting time, weather condition and the filter number were recorded.
- The initial elapsed time was recorded.
- At the end of sampling, the sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
- It was then placed in a clean plastic envelope and sealed.
- All monitoring information was recorded on a standard data sheet.
- Filters were sent to a Hong Kong Laboratory Accreditation Scheme (HOKLAS) accredited laboratory for analysis.

Maintenance and Calibration

- The HVS and its accessories are maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- HVSs were calibrated upon installation and thereafter at bi-monthly intervals. The calibration kits were calibrated annually.
- Calibration records for HVS and calibration kit are shown in **Appendix F**.

1-hour TSP Monitoring

Field Monitoring

The measuring procedures of the 1-hour dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

- Turn the power on.
- Close the air collecting opening cover.
- Push the "TIME SETTING" switch to [BG].
- Push "START/STOP" switch to perform background measurement for 6 seconds.
- Turn the knob at SENSI ADJ position to insert the light scattering plate.
- Leave the equipment for 1 minute upon "SPAN CHECK" is indicated in the display.
- Push "START/STOP" switch to perform automatic sensitivity adjustment. This measurement takes 1 minute.
- Pull out the knob and return it to MEASURE position.
- Setting time period of 1 hour for the 1-hour TSP measurement.
- Push "START/STOP" to start the 1-hour TSP measurement.
- Regular checking of the time period setting to ensure monitoring time of 1 hour.

Maintenance and Calibration

- The 1-hour dust meter would be checked at 3-month intervals and calibrated at 1-year intervals throughout all stages of the air quality monitoring.
- Calibration records for direct dust meters are shown in **Appendix F**.

Weather Condition

- Meteorological data extracted from Hong Kong Observatory for the reporting month is provided in **Appendix H**.

2.3 Noise

2.3.1 Monitoring Parameters, Frequency and Duration

Table 2.4 summarizes the monitoring parameters, frequency and duration of noise monitoring. The noise in A-weighted levels L_{eq} , L_{10} and L_{90} are recorded in a 30-minute interval between 0700 and 1900 hours.

Table 2.4: Noise Monitoring Parameters, Period and Frequency

Time Period	Parameters	Frequency
Daytime on normal weekdays (0700-1900 hours)	$L_{eq}(30 \text{ min})$, $L_{90}(30 \text{ min})$ & $L_{10}(30 \text{ min})$	Once every week

2.3.2 Monitoring Location

Currently, the works under the captioned project are confined in the western part of the WKCD site. Therefore, only the monitoring station NM1A was set up at the proposed location in accordance with updated EM&A Manual. Location of the monitoring station is given in **Table 2.5** and shown in **Figure 1**.

Table 2.5: Noise Monitoring Station

Monitoring Station	Location
NM1A	Podium floor of International Commerce Centre (ICC)

2.3.3 Monitoring Equipment

Integrating Sound Level Meter was used for noise monitoring. It was a Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{Aeq}) and percentile sound pressure level (L_x). They comply with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). **Table 2.6** summarizes the noise monitoring equipment model being used.

Table 2.6: Noise Monitoring Equipments

Monitoring Station	Equipment Model	
	Integrating Sound Level Meter	Calibrator
NM1A	Rion NL-18 (Serial No.00360030)	Rion NC-73 (Serial No.10486660)

2.3.4 Monitoring Methodology

Field Monitoring

- The microphone of the Sound Level Meter was set at least 1.2 m above the ground.
- Free Field measurement was made at the monitoring locations.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - frequency weighting: A
 - time weighting: Fast
 - time measurement: 30 minutes intervals (between 0700-1900 on normal weekdays)
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1 kHz. If the difference in the calibration level before and after measurement was more than 1 dB, the measurement would be considered invalid and has to be repeated after re-calibration or repair of the equipment.
- During the monitoring period, the L_{eq} , L_{10} and L_{90} were recorded. In addition, any site observations and noise sources were recorded on a standard record sheet.
- A correction of +3dB(A) was made to the free field measurements.

Maintenance and Calibration

- The microphone head of the sound level meter and calibrator is cleaned with soft cloth at quarterly intervals.

- The sound level meter and calibrator are sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.
- Calibration records are shown in **Appendix F**.

Weather Condition

- Meteorological data extracted from Hong Kong Observatory for the reporting month is provided in **Appendix H**.

2.4 Landscape and Visual

2.4.1 Monitoring Program

Table 2.7 details the monitoring program (as proposed in the WKCD EIA report) for landscape and visual impact during the construction phase.

Table 2.7: Monitoring Program for Landscape and Visual Impact during Construction Phase

Stage	Monitoring Task	Frequency	Report	Approval
Construction	Monitor implementation of proposed mitigation measures during the construction stage.	Bi-weekly	ET to report on Contractor's compliance	Counter-signed by IEC

During the landscape and visual impact monitoring, any changes in relation to the landscape and visual amenity should be monitored with reference to the baseline conditions of the site. In addition, mitigation measures were proposed in the WKCD EIA report to minimise the landscape and visual impacts during the construction phase. The proposed mitigation measures as shown in Table 9.1 and Table 9.2 of the EM&A Manual should be checked for proper implementation.

3 Monitoring Results

3.1 Impact Monitoring

Construction impact monitoring for air quality, noise and landscape and visual impact was undertaken in compliance with the EM&A Manual during the reporting month.

3.2 Air Quality Monitoring

3.2.1 1-hour TSP

Results of 1-hour TSP at the monitoring location AM1 and AM2A are summarised in **Table 3.1**. Graphical plots of the monitoring results are shown in **Appendix G**.

Table 3.1: Summary of 1-hour TSP monitoring results

Monitoring Station	Monitoring Date	Start Time	1-hour TSP ($\mu\text{g}/\text{m}^3$)			Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
			1st Result	2nd Result	3rd Result			
AM1	04-Jan-18	10:50	71	82	69	45-177	273.7	500
	10-Jan-18	10:48	45	62	70			
	16-Jan-18	10:32	59	64	51			
	22-Jan-18	10:48	158	162	177			
	26-Jan-18	8:02	60	62	55			
AM2A	04-Jan-18	11:02	94	109	119	60-182	274.2	500
	10-Jan-18	11:02	75	91	95			
	16-Jan-18	10:44	82	94	93			
	22-Jan-18	11:00	168	178	182			
	26-Jan-18	8:14	78	95	60			

3.2.2 24-hour TSP

Results of 24-hour TSP at the monitoring location AM1 and AM2A are summarised in **Table 3.2**. Graphical plots of the monitoring results are shown in **Appendix G**.

Table 3.2: Summary of 24-hour TSP monitoring results

Monitoring Station	Monitoring Date	Start Time	Monitoring Results ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
AM1	04-Jan-18	10:48	49	35-52	143.6	260
	10-Jan-18	10:50	36			
	16-Jan-18	10:30	35			
	22-Jan-18	10:45	48			
	26-Jan-18	08:00	52			
AM2A	04-Jan-18	11:00	106	59-125	151.1	260
	10-Jan-18	11:00	88			
	16-Jan-18	10:42	59			
	22-Jan-18	10:58	125			
	26-Jan-18	08:12	85			

No exceedance of 1-hour and 24-hour TSP (Action or Limit Level) was recorded in the reporting period.

3.3 Noise Monitoring

The construction noise monitoring results at the monitoring location NM1A are summarized in **Table 3.3**. Graphical plots of the monitoring data and the station set-up of a free-field measurement are shown in **Appendix G**.

Table 3.3: Summary of noise monitoring results during normal weekdays

Monitoring Date	Start Time	End Time	Leq (30 mins), dB(A)	Limit Level for Leq (dB(A))
04-Jan-18	14:00	14:30	69	75
10-Jan-18	14:00	14:30	69	
16-Jan-18	14:00	14:30	69	
22-Jan-18	14:00	14:30	69	

Remarks:

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

No exceedance (Action/Limit Level) of construction noise was recorded in the reporting period as no noise related environmental complaint was received during the reporting period and noise levels recorded during the monitoring period were below 75 dB(A).

Construction works were extended to holidays on 7, 14, 21 and 28 January 2018. In accordance with the EM&A Manual, additional monitoring was carried out during the restricted hours on 7, 14, 21 and 28 January 2018. All the L_{eq} (5 mins) is in the range of 67-69 dB(A). Major noise source includes traffic. Construction Noise Permits for the works carried out during restricted hours were obtained and listed in **Table 4.4**.

3.4 Landscape and Visual Impact

Landscape and visual impact inspections were conducted as part of the weekly site inspections on 4 and 18 January 2018 for M+ Museum and 3, 17 and 31 January 2018 for Lyric Theatre Complex during the reporting month. As reviewed by the registered Landscape Architect, no adverse comment on landscape and visual aspects was made during these inspections.

The landscape and visual mitigation measures were implemented during the reporting period. The summary of implementation status of the environmental mitigation

measures are provided in **Appendix J**.

4 Environmental Site Inspection

4.1 Site Inspection

4.1.1 M+ Museum

Construction phase weekly site inspections were carried out on 4, 11, 18 and 25 January 2018. The joint site inspection with IEC, ET, ER and Contractor was held on 18 January 2018. All observations have been recorded in the site inspection checklist and passed to the Contractor together with the appropriate recommended mitigation measures where necessary. The key observations from the site inspections and associated recommendations are summarized in **Table 4.1**.

Table 4.1: Summary of Site Inspections and Recommendations for M+ Museum

Inspection Date	Parameter	Observation / Recommendation	Contractor's Responses / Action(s) Undertaken	Close-out (Date)
28 Dec 2017	Waste management	Oil drums and chemicals were found without drip tray near the seafront. The contractor was reminded to provide drip tray for the chemicals and oil drums.	On 4 Jan 2018, oil drum and chemicals were still found without drip tray. The contractor was reminded to provide drip trays for them. On 9 Jan 2018, drip tray was provided for the oil drum and chemicals.	9 Jan 2018
4 Jan 2018	Air quality	Stockpile near SPS was found not fully covered. The contractor was reminded to well cover them to reduce dust impact.	Covering was provided for the whole stockpile.	9 Jan 2018
4 Jan 2018	Air quality	Cement bags were observed without proper cover at B1. The contractor was reminded to cover them with impervious sheeting.	Impervious sheeting was provided to cover the cement bags.	9 Jan 2018
4 Jan 2018	Air quality	Haul road near Tower Crane no.4 was observed dry and dusty. The contractor was reminded to provide regular water spraying for dust suppression.	Water spray was provided for the haul road.	9 Jan 2018
4 Jan 2018	Water quality	Effluent quality at wetsep no. 4 was checked. It was found visually clear when comparing with standard solution and within proper pH range.	N/A	N/A
11 Jan 2018	Air quality	The Contractor was reminded to provide more frequent water spray for a haul road near SPS.	The contractor has enhanced water spraying for the haul road near SPS.	15 Jan 2018
11 Jan 2018	Waste management	The Contractor was reminded to regularly clear accumulated C&D waste at B2/F.	The contractor has cleared the accumulated C&D waste at B2/F.	15 Jan 2018
11 Jan 2018	Air quality	The Contractor was reminded to provide suitable dust mitigation measures for a stockpile of cement bags at B2/F.	The contractor has covered the cement bags at B2.	15 Jan 2018
11 Jan 2018	Air quality	Cement mixing area at B2/F was without proper dust mitigation measures. The Contractor was reminded to provide an enclosure.	The contractor has removed the cement mixing area and it is not in use now.	15 Jan 2018

Inspection Date	Parameter	Observation / Recommendation	Contractor's Responses / Action(s) Undertaken	Close-out (Date)
11 Jan 2018	Waste management	Some chemical containers without drip tray near the site office were observed. The Contractor was reminded to provide a suitable drip tray.	The contractor has removed the chemical containers previously observed without drip tray.	15 Jan 2018
11 Jan 2018	Water quality	Effluent quality at wetsep no. 4 was checked. It was found visually clear when comparing with standard solution and within proper pH range.	N/A	N/A
18 Jan 2018	Air quality	Haul road near DCS was observed dry and dusty. The contractor was reminded to provide frequent water spraying to reduce dust impact.	Frequent water spray was provided by the Contractor.	22 Jan 2018
18 Jan 2018	Waste management/ Air quality	No wheel washing was provided at Gate 3. The contractor was reminded to provide wheel washing at Gate 3.	Water spray was provided to wash the wheels of vehicles leaving the project site at Gate 3.	22 Jan 2018
18 Jan 2018	Water quality	Effluent quality at wetsep no. 4 was checked. It was found visually clear when comparing with standard solution and within proper pH range.	N/A	N/A
25 Jan 2018	Water quality	The Contractor was reminded to remove disused hoses next to Wetsep no. 1.	The contractor has removed the unused hoses next to wetsep no.1.	30 Jan 2018
25 Jan 2018	Air quality	A stockpile of 20 or more cement bags was observed in B2/F CSF. The Contractor was reminded to cover the cement bags with tarpaulin.	The contractor has removed the cement bags at B2.	30 Jan 2018
25 Jan 2018	Air quality	Part of the haul road near DCS was observed dry and dusty due to some unexpected water supply problem. The contractor was reminded to ensure that such water supply is readily available as required.	The contractor has resolved the water supply problem and resumed water spraying to the haul road near DCS.	30 Jan 2018
25 Jan 2018	Water quality	Effluent quality at Wetsep no. 1 was checked. It was found visually clear when comparing with standard solution and within proper pH range. No discharge was observed at Wetsep no. 4 during this site inspection.	N/A	N/A

4.1.2 Lyric Theatre Complex

Construction phase weekly site inspections were carried out on 3, 10, 17, 24 and 31 January 2018. The joint site inspection with IEC, ET, ER and Contractor was held on 24 January 2018. All observations have been recorded in the site inspection checklist and passed to the Contractor together with the appropriate recommended mitigation measures where necessary.

EPD site inspection was conducted on 5 January 2018. They conducted a general inspection and took photos at seafront area and wastewater treatment facilities. No adverse comment was received with a reminder to improve the part of the bund at the seafront.

The key observations from the site inspections and associated recommendations for Foundation Works and L1 Contract are summarized in **Table 4.2** and **Table 4.3** respectively.

Table 4.2: Summary of Site Inspections and Recommendations for Lyric Theatre Complex (Foundation Works)

Inspection Date	Parameter	Observation / Recommendation	Contractor's Responses / Action(s) Undertaken	Close-out (Date)
27 Dec 2017	Air quality	A discoloured NRMM label was observed for a generator. The Contractor was reminded to replace the label with correct colour.	The NRMM label for a generator was replaced with correct colour.	3 Jan 2018
27 Dec 2017	Waste management	No drip tray was observed for a power pack. The Contractor was reminded to provide a suitable drip tray for the power pack.	Drip tray was provided at the oil refuel location and was clear as a secondary containment in case of oil leakage.	3 Jan 2018

Table 4.3: Summary of Site Inspections and Recommendations for Lyric Theatre Complex (L1 Contract)

Inspection Date	Parameter	Observation / Recommendation	Contractor's Responses / Action(s) Undertaken	Close-out (Date)
3 Jan 2018	Waste management	Oil leakage was observed at a drip tray. The Contractor was reminded to stop the leakage and treated the contaminated soil as chemical waste.	The chemicals were re-arranged and stored properly. Proper sealing off of the drip tray was provided and the residual leakage was cleaned up.	6 Jan 2018
17 Jan 2018	Air quality	Dry haul road was observed near car park. The Contractor was reminded to increase water spraying frequency to avoid dust impact.	Regular water spraying was conducted to keep the haul road wet.	24 Jan 2018
17 Jan 2018	Water quality	Algae was observed at the wetsep. The Contractor was reminded to clear the algae in order to keep good quality of discharge water.	The wetsep was cleaned and no algae present.	24 Jan 2018
24 Jan 2018	Air quality	NRMM label was missing at a crane in L1. The contractor was reminded to provide suitable label for such equipment.	Suitable NRMM label was provided for the crane in L1 of which the label was missing.	30 Jan 2018
24 Jan 2018	Waste management	One drip tray was observed full of mud in L1. The Contractor was reminded to clear the mud to avoid leakage of stagnant water.	The mud in drip tray in L1 was cleared.	30 Jan 2018
31 Jan 2018	Water quality	Turbid water at wetsep. The Contract was reminded to clear the turbid substance to keep good quality of discharge water.	Follow-up status will be provided in the next reporting month	On-going

4.2 Advice on the Solid and Liquid Waste Management Status

The Contractors have been registered as a chemical waste producer for the Project. Construction and demolition (C&D) material sorting will be carried out on site. A sufficient number of receptacles were available for general refuse collection.

4.2.1 M+ Museum

As advised by the Contractor, 83.52 tonnes, 127.58 tonnes and 362.96 tonnes of inert C&D material were disposed of as public fill to Chai Wan Public Fill Barging Point, Tuen Mun Area 38 and Tseung Kwan O Area 137 Public Fill respectively, while 183.6 tonnes of general refuse were disposed of at SENT landfill. 773.3 tonnes of metals, 1.5 tonnes of paper/cardboard packaging, 0 tonne of plastic and 100.0 tonnes of timber were collected by recycling contractors in the reporting month. 0 tonne of inert C&D materials was reused on site. 0 tonne of inert C&D materials were reused in other projects and 441.2 tonnes of inert C&D materials were disposed to sorting facility. 0 tonne of chemical waste was collected by licensed contractors in the reporting period.

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

4.2.2 Lyric Theatre Complex

Regarding the Foundation Works, 1,636.58 and 992.15 tonnes of inert C&D material were disposed of as public fill to Tseung Kwan O Area 137 and Tuen Mun Area 38 respectively, while 2.9 tonnes of general refuse were disposed of at SENT landfill. 0 tonne of metals, 0 tonne of paper/cardboard packaging, 0 tonne of plastic and 0 tonne of timber were collected by recycling contractors in the reporting month. 0 tonne of inert C&D materials was reused on site. 1,455.0 tonnes of inert C&D materials were reused in other projects and 0 tonne of inert C&D materials were disposed to sorting facility. 0 tonne of chemical waste was collected by licensed contractors in the reporting period.

As advised by the Contractor, no waste was disposed for L1 Contract.

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

4.3 Status of Environmental Licenses and Permits

The environmental permits, licenses, and/or notifications on environmental protection for this Project which were valid during the period are summarised in **Tables Table 4.4-4.6**.

4.3.1 M+ Museum

Table 4.4: Status of Environmental Submissions, Licenses and Permits for M+ Museum

Permit / License No. / Notification / Reference No.	Valid Period		Status	Remarks
	From	To		
Chemical Waste Producer Registration				
5213-217-H2913-45	05-Nov-15	--	Valid	--
Billing Account Construction Waste Disposal				
7023393	13-Oct-15	--	Account Active	--
Construction Noise Permit				
GW-RE0790-17	3-Oct-17	2-Apr-18	Cancelled on 2-Jan-18	--
GW-RE0999-17	2-Jan-18	1-Apr-18	Valid	--
Wastewater Discharge License				
WT00023633-2016	4-Mar-16	31-Mar-21	Valid	--
Notification under Air Pollution Control (Construction Dust) Regulation				
394083	7-Oct-15	--	Notified	--

4.3.2 Lyric Theatre Complex

The status of environmental submissions, licenses and permits for the Foundation works are summarised as follows:

Table 4.5: Status of Environmental Submissions, Licenses and Permits for Lyric Theatre Complex (Foundation Works)

Permit / License No. / Notification / Reference No.	Valid Period		Status	Remarks
	From	To		
Chemical Waste Producer Registration				
5213-217-G2347-39	17-Feb-16	--	Valid	--

Permit / License No. / Notification / Reference No.	Valid Period		Status	Remarks
	From	To		
Billing Account Construction Waste Disposal				
7024189	25-Jan-16	--	Account Active	--
Construction Noise Permit				
GW-RE0844-17	14-Nov-17	13-May-18	Valid	--
Wastewater Discharge License				
WT00023648-2016	24-Jul-17	31-Mar-21	Valid	--
Notification under Air Pollution Control (Construction Dust) Regulation				
398075	18-Jan-16	--	Notified	--

The status of environmental submissions, licenses and permits for the L1 Contract are summarised as follows:

Table 4.6: Status of Environmental Submissions, Licenses and Permits for Lyric Theatre Complex (L1 Contract)

Permit / License No. / Notification / Reference No.	Valid Period		Status	Remarks
	From	To		
Chemical Waste Producer Registration				
5213-217-G2347-39	17-Feb-16	--	Valid	--
Billing Account Construction Waste Disposal				
7029925	22-Jan-18	--	Account Active	--
Construction Noise Permit				
GW-RE0844-17	14-Nov-17	13-May-18	Valid	--
Wastewater Discharge License				
WT00023648-2016	24-Jul-17	31-Mar-21	Valid	--
Notification under Air Pollution Control (Construction Dust) Regulation				
429708	16-Jan-18	--	Notified	--

4.4 Recommended Mitigation Measures

The EM&A programme followed the recommended mitigation measures in the EM&A Manual. The EM&A requirements as well as the summary of implementation status of the environmental mitigation measures are provided in **Appendix J**. In particular, the following mitigation measures were brought to attention during the site inspections:

4.4.1 M+ Museum

Chemical and Waste Management

- Oil drums and chemical containers should be provided with drip trays to prevent leakage of chemical wastes.
- Wheel-washing should be provided for all vehicles to minimise dust introduction to public roads.
- Accumulated construction waste should be regularly removed.

Air Quality

- Maintain high standard of housekeeping to prevent emission of fugitive dust.
- Stockpile of dusty materials/ cement bags should be well covered by impervious sheeting to reduce dust impact.
- Regular water spraying for haul roads should be provided for dust suppression.

- Regular checking of pipes to ensure no water supply problem for water spraying.
- Wheel-washing should be provided for all vehicles at each site entrances to avoid dusty materials from being carrying out of the site.
- Dust suppression measures should be provided to cement mixing area.

Water Quality

- Disused hoses should be removed.

4.4.2 Lyric Theatre Complex

Air Quality

- Proper NRMM labels should be provided for non-road mobile machinery.
- Regular water spraying for haul roads should be provided for dust suppression.

Chemical and Waste Management

- Chemical waste/ mud accumulated in drip trays should be regularly removed.
- Any oil leakage or contaminated soil should be properly removed and disposed of as chemical waste.

Water Quality

- Regular maintenance should be provided to all wetsep units, including removal of algae, so as to ensure the treatment performance of the wetsep units.

5 Compliance with Environmental Permit

The status of the required submission under the EP during the reporting period is summarized in **Table 5.1**.

Table 5.1: Status of Submissions under the Environmental Permit

EP Condition	Submission	Submission Date
Condition 3.4	Monthly EM&A Report for December 2017	12 January 2018

6 Report in Non-compliance, Complaints, Notification of Summons and Successful Prosecutions

6.1 Record on Non-compliance of Action and Limit Levels

There was no breach of Action or Limit Levels for Air Quality and Noise monitoring in the reporting month.

6.2 Record on Environmental Complaints Received

No environmental complaints were recorded in the reporting month. The cumulative statistics on complaints were provided in **Appendix K**.

6.3 Record on Notifications of Summons and Successful Prosecution

No notifications of summons or successful prosecution were received this month. The cumulative statistics on notifications of summons and successful prosecutions were provided in **Appendix K**.

7 Future Key Issues

7.1 Construction Works for the Coming Month(s)

7.1.1 M+ Museum

The major site works scheduled to be commissioned in the coming month include:

- M+ Construction Main Works of walls & columns, external walls, slab and beam construction on B1/F, G/F, 1/F to 1M/F, 2/F, 3/F, 4/F to 5/F
- RDE building construction of column, walls and beams from 1/F to 4/F
- CSF building construction of columns, walls and beams from 3/F to 4/F slab
- External works for seawater outfall pipe and DCS chiller pipe

7.1.2 Lyric Theatre Complex

The major works for Foundation Works for Lyric Theatre Complex has been completed on 31 January 2018. The major site works for L1 Contract scheduled to be commissioned in the coming month include:

- Dewatering
- King Post Installation

7.2 Key Issues for the Coming Month

7.2.1 M+ Museum

Key issues to be considered in the coming month include:

- Generation of dust from construction works;
- Noise impact from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- Management of stockpiles and slopes, particularly on rainy days;
- Sorting, recycling, storage and disposal of general refuse and construction waste; and
- Management of chemicals and avoidance of oil spillage on-site.

7.2.2 Lyric Theatre Complex

Key issues to be considered in the coming month include:

- Generation of dust from construction works;
- Noise impact from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- Management of stockpiles and slopes, particularly on rainy days;
- Sorting, recycling, storage and disposal of general refuse and construction waste; and
- Management of chemicals and avoidance of oil spillage on-site.

7.3 Monitoring Schedule for the Coming Month

The environmental site inspection and environmental monitoring will be continued in the coming month. Impact monitoring for air quality and noise in accordance with the approved EM&A Manual has commenced since 31 October 2015 and 5 March 2016 respectively. The tentative monitoring schedule for the coming month is shown in the **Appendix E**.

8 Conclusions and Recommendations

8.1 Conclusions

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

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

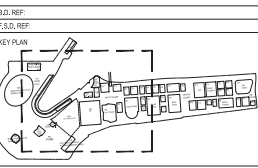
No environmental complaints were recorded in the reporting month. No notifications of summons or successful prosecution were received during the reporting month.

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

8.2 Recommendations

Potential environmental impacts due to the construction activities, including air quality, noise, water quality, waste, landscape and visual, will be monitored or reviewed. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.

Figure 1 Site Layout Plan and Monitoring Stations



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

REV.	DATE	DESCRIPTION	INITIAL

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

DRAWING TITLE: **PROPOSED LOCATIONS OF CONSTRUCTION AIR/NOISE MONITORING STATIONS**

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

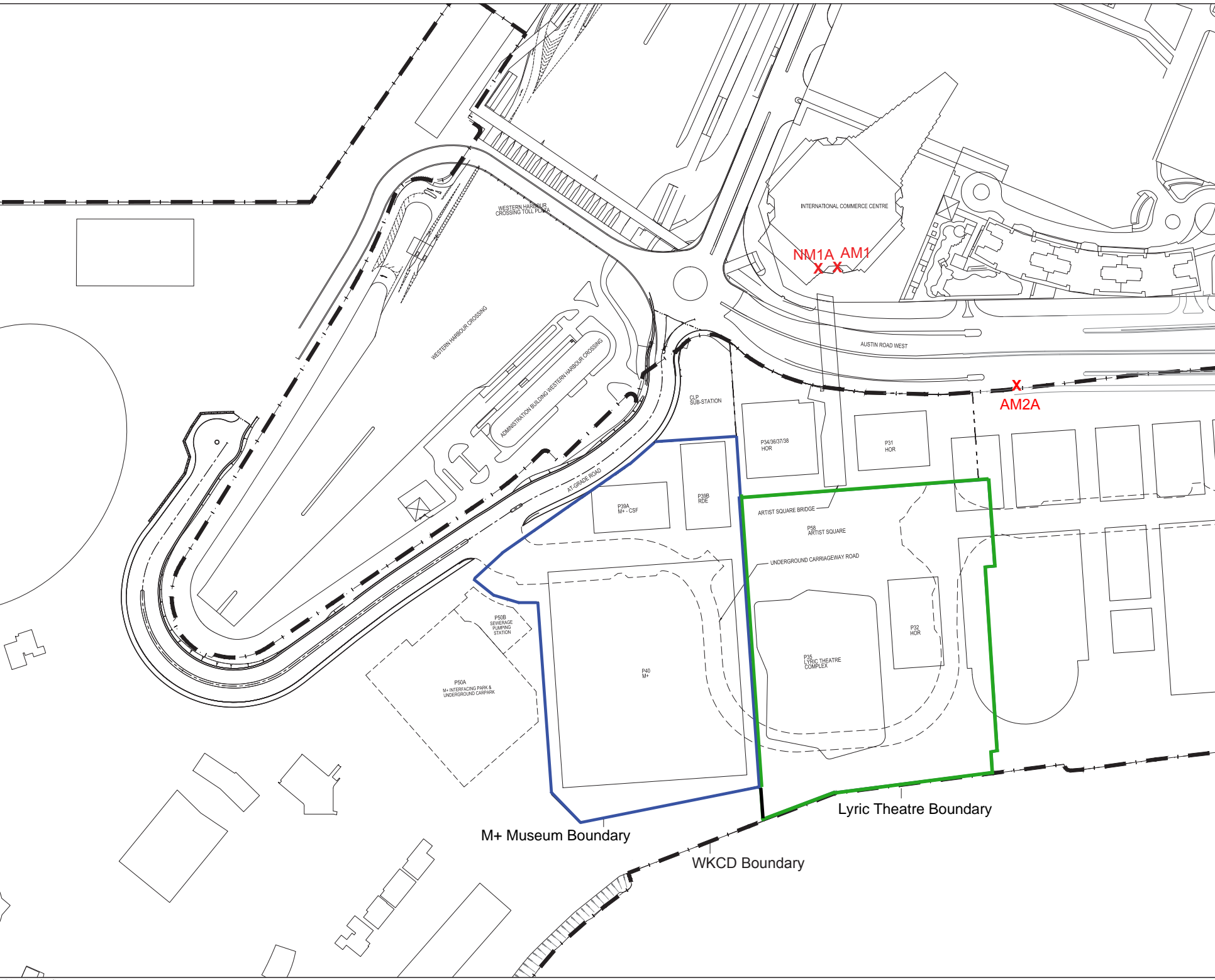
CONTRACT NO.

DRAWING NO.	FIGURE 1	REV.	XA
-------------	-----------------	------	----

CAD REF NAME: XXXXX\AUT-PMS-DWG-POU\000000-XXX.dwg

AUTHORITY

westKowloon
西九文化區



Appendices

- A. Project Organisation
- B. Tentative Construction Programme
- C. Action and Limit Levels for Construction Phase
- D. Event and Action Plan for Air Quality, Noise, Landscape and Visual Impact
- E. Monitoring Schedule
- F. Calibration Certifications
- G. Graphical Plots of the Monitoring Results
- H. Meteorological Data Extracted from Hong Kong Observatory
- I. Waste Flow table
- J. Environmental Mitigation Measures – Implementation Status
- K. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

A. Project Organisation

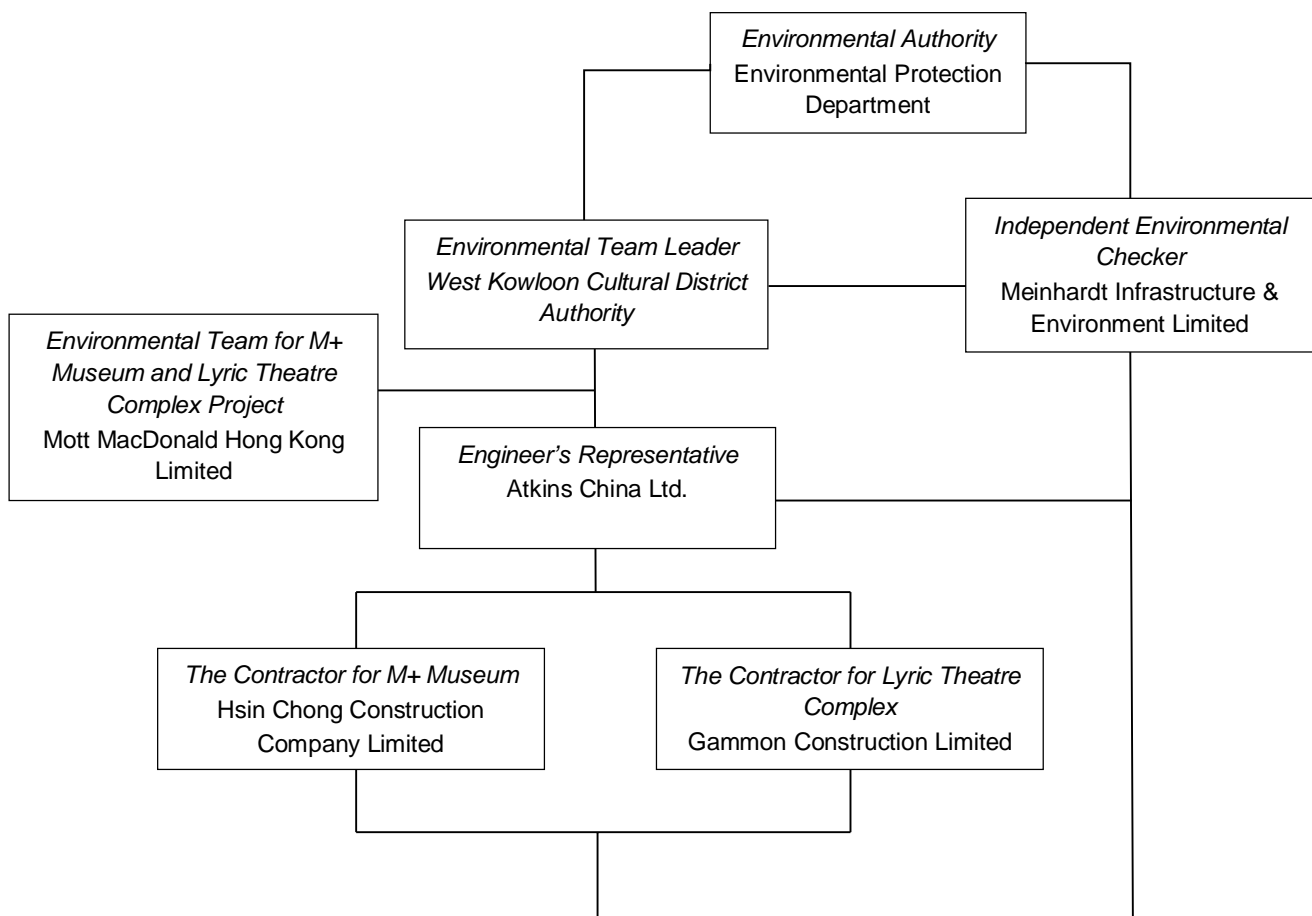


Table A-1: Contact information

Company Name	Role	Name	Telephone
Atkins China Ltd.	Resident Engineer	Mr. Benny Ip	9379 5614
Meinhardt Infrastructure & Environment Limited	Independent Environmental Checker	Mr. Fredrick Leong	2859 1739
Hsin Chong Construction Company Limited	Environmental Manager	Mr. Andy Leung	9016 2503
Gammon Construction Limited	Environmental Manager	Ms. Michelle Tang	9267 8866
Mott MacDonald Hong Kong Ltd.	Contractor's Environmental Team Leader	Mr Brandon Wong	2828 5875
West Kowloon Cultural District Authority	Senior Environmental Specialist	Mr. Brian Tam	2200 0059

B. Tentative Construction Programme

M+ Museum

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP - R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May			
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	32			
3MRP-28 Three Months Rolling Programme Status at 27 Jan 2018																																	
Forecast Completion Dates																																	
KD01	Sewage Pumping Station (SPS) - Practical Completion for H/	0		11-Dec-17		05-Feb-18*	100%	0%	-56	◆ Sewage Pumping Station (SPS) - Practical Completion for H/D to DSD,																							
M+ Podium & Tower FACADE Preliminaries																																	
SHOP DRAWING SUBMISSIONS FACADE SYSTEM & EMBEDS																																	
SHOP DRAWING - Metal Cladding FAC-LV-01a/FAC-LV-01b (Additional Scope)																																	
A51420	2nd Shopdrawing Submission	5	20-Oct-17	25-Oct-17	02-Dec-17 A	28-Jan-18	100%	80%	-95																								
A51430	2nd Shopdrawing Submission - Review & Approval	7	25-Oct-17	01-Nov-17	28-Jan-18	07-Feb-18	100%	0%	-98																								
BD SUBMISSIONS FACADE SYSTEM & EMBEDS																																	
BD Submission - Garden Gallery Ceramic Cladding System & Embed																																	
A51790	Garden Gallery Ceramic - Consent	10	10-Nov-17	20-Nov-17	27-Jan-18	26-Feb-18	100%	0%	-98																								
A51780	Garden Gallery Ceramic - BD Approval	21	20-Oct-17	10-Nov-17	05-Apr-17 A	27-Jan-18	100%	94%	-78																								
BD Submission - Glass Wall with T Mullion System & Embed																																	
A51830	2nd Submission - Review & Approval by MJV (w/ RSE Endo	1	20-Oct-17	21-Oct-17	05-Jun-17 A	26-Jan-18	100%	95%	-97																								
A51860	Glass Wall with T Mullion - BD Approval	3	20-Oct-17	23-Oct-17	05-Jun-17 A	27-Jan-18	100%	85%	-96																								
A51870	Glass Wall with T Mullion - Concer	2	23-Oct-17	25-Oct-17	05-Jun-17 A	28-Jan-18	100%	80%	-95																								
BD Submission - Strip Glazing at Skylight Gallery & Plaza Skylight at L3 System & Embed																																	
A51950	Strip Glazing at Skylight Gallery & Plaza Skylight - Concer	10	20-Oct-17	30-Oct-17	09-Sep-17 A	26-Jan-18	100%	99%	-88																								
BD Submission - Glass Wall with Ceramic/Precast Concrete Mullion, Concrete Tube & Perforated Claddin																																	
A51980	2nd Submission	5	20-Oct-17	25-Oct-17	26-Dec-17 A	27-Jan-18	100%	76%	-94																								
A51990	2nd Submission - Review & Approval by MJV (w/ RSE Endo	7	25-Oct-17	01-Nov-17	02-Jan-18 A	05-Feb-18	100%	21%	-96																								
A52010	Glass Wall with Ceramic & Precast Concrete Mullion - BD Apj	20	01-Nov-17	21-Nov-17	05-Feb-18	22-Mar-18	100%	0%	-121																								
A52020	Glass Wall with Ceramic & Precast Concrete Mullion - Concer	10	21-Nov-17	01-Dec-17	22-Mar-18	21-Apr-18	100%	0%	-141																								
A52000	Glass Wall with Ceramic & Precast Concrete Mullion - Submi	0		01-Nov-17		05-Feb-18	100%	0%	-79	◆ Glass Wall with Ceramic & Precast Concrete Mullion - Submission to BD,																							
SHOPDRAWING SUBMISSIONS - FACADE DOORS																																	
Facade Doors Package #1 - Glazed door between Ceramic Concrete Mullion - Total No. of Doors = 53																																	
A52120	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	02-Jan-18 A	19-Feb-18	100%	20%	-112																								
A52130	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	19-Feb-18	12-Mar-18	100%	0%	-126																								
A52140	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	12-Mar-18	27-Mar-18	100%	0%	-136																								
A52160	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	31-Mar-18	21-Apr-18	100%	0%	-154																								
Facade Doors Package #2 - Sliding door at L3 Storefront - Total No. of Doors = 4																																	
A52170	1st Shopdrawing Submission	11	20-Oct-17	31-Oct-17	02-Jan-18 A	21-Feb-18	100%	20%	-113																								
A52180	1st Shopdrawing Submission - Review & Approval	7	31-Oct-17	07-Nov-17	21-Feb-18	14-Mar-18	100%	0%	-127																								
A52200	2nd Shopdrawing - Review & Approval	7	12-Nov-17	19-Nov-17	29-Mar-18	19-Apr-18	100%	0%	-151																								
A52190	2nd Shopdrawing Submission	5	07-Nov-17	12-Nov-17	14-Mar-18	29-Mar-18	100%	0%	-137																								
Facade Doors Package #3 - Swing Door at L3 Cafe- Total No. of Doors = 1																																	
A52210	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	02-Jan-18 A	19-Feb-18	100%	20%	-112																								
A52220	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	19-Feb-18	12-Mar-18	100%	0%	-126																								
A52230	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	12-Mar-18	27-Mar-18	100%	0%	-136																								
A52250	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	27-Mar-18	17-Apr-18	100%	0%	-150																								
Facade Doors Package #4 - Swing Door mounted in GW with T Mullion - Total No. of Doors = 29																																	
A52260	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	02-Jan-18 A	19-Feb-18	100%	20%	-112																								
A52270	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	19-Feb-18	12-Mar-18	100%	0%	-126																								
A52280	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	12-Mar-18	27-Mar-18	100%	0%	-136																								
A52290	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	27-Mar-18	17-Apr-18	100%	0%	-150																								
Facade Doors Package #5 - Large double door at B1 Transformer Room - Total No. of Doors = 1																																	
A52300	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	02-Jan-18 A	19-Feb-18	100%	20%	-112																								
A52310	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	19-Feb-18	12-Mar-18	100%	0%	-126																								
A52320	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	12-Mar-18	27-Mar-18	100%	0%	-136																								
A52340	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	27-Mar-18	17-Apr-18	100%	0%	-150																								
Facade Doors Package #6 - B1 Exit Door - Total No. of Doors = 7 (7 x Manual)																																	
A52350	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	02-Jan-18 A	19-Feb-18	100%	20%	-112																								
A52360	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	19-Feb-18	12-Mar-18	100%	0%	-126																								

■ Remaining Level of Effort ◆ Actual Milestone
■ Actual Level of Effort ◆ Project Baseline
◆ Milestone ◆ Project LoE Baseline
◆ Critical Milestone ◆ Baseline Milestone
■ Actual Work
■ Remaining Work
■ Critical Remaining Work

West Kowloon Cultural District Authority
M+ Contractor's Main Works Programme CMWP -
(Rev. 0 - Draft 8)



Date	Revision	Checked	Approved
30-Sep-17	3MRP_M24_3...	Sam T.	Chris Chau / Ricky Lau
31-Oct-17	3MRP-M25_31...	Sam T.	Chris Chau / Ricky Lau
30-Nov-17	3MRP-M26_30...	Robby Y.	Chris Chau / Ricky Lau
31-Dec-17	3MRP-M27_31...	Robby Y.	Chris Chau / Ricky Lau
30-Jan-18	3MRP-M28_30...	Robby Y.	Chris Chau / Ricky Lau

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May								
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	32								
A10360	Application of PVF2 Coating	4	04-Jan-18	08-Jan-18	07-Mar-18	11-Mar-18	100%	0%	-63																													
A10430	Delivery of Aluminium Frame to Site	2	29-Jan-18	30-Jan-18	03-Apr-18	04-Apr-18	0%	0%	-49																													
A10440	Delivery of Frame Members to Site	3	28-Jan-18	31-Jan-18	31-Mar-18	03-Apr-18	0%	0%	-63																													
A10340	Die Making - Bulk Production	20	11-Dec-17	31-Dec-17	02-Jan-18 A	13-Mar-18	100%	22%	-72																													
A10370	Fabrication of Aluminium Frame to Site	20	08-Jan-18	28-Jan-18	11-Mar-18	31-Mar-18	88.33%	0%	-63																													
Precast Concrete Facade																																						
A10410	1st Delivery to Site - Precast Concrete	0	07-Apr-18		17-Sep-18		0%	0%	-135																													
A10380	Concreting of Precast Concrete	45	29-Jan-18	24-Mar-18	03-Apr-18	28-May-18	0%	0%	-49																													
A10390	Curing	7	26-Mar-18	06-Apr-18	29-May-18	05-Jun-18	0%	0%	-49																													
A10400	Delivery of Precast Concrete to Site	13	07-Apr-18	21-Apr-18	06-Jun-18	21-Jun-18	0%	0%	-49																													
04B GW with Ceramic Mullion (GF & 1F) (Bulk)																																						
A54580	1st Delivery to Site - GW with Ceramic Mullion - East	0	30-Jan-18		17-Sep-18		0%	0%	-230																													
A54560	1st Delivery to Site - GW with Ceramic Mullion - North	0	08-Jan-18		26-Aug-18		100%	0%	-230																													
A54550	1st Delivery to Site - GW with Ceramic Mullion - West	0	31-Dec-17		18-Aug-18		100%	0%	-230																													
A54540	Production & Fabrication - GW with Ceramic Mullion (GF & 1F)	72	20-Oct-17	31-Dec-17	02-Jan-18 A	04-Aug-18	100%	5%	-216																													
Glass Production & Fabrication																																						
A10460	Coated Glass Production	67	20-Oct-17	10-Jan-18	02-Jan-18 A	25-Apr-18	100%	7%	-83																													
A10470	Fabrication of Insulated Glass Panel	110	11-Jan-18	29-May-18	25-Apr-18	05-Sep-18	11.82%	0%	-83																													
Alum Frame Production & Fabrication																																						
A10490	Aluminium Extrusion Production	34	06-Jan-18	15-Feb-18	27-Nov-17 A	12-Mar-18	47.39%	7%	-17																													
A10500	Application of PVF2 Coating	6	15-Feb-18	26-Feb-18	03-Jan-18 A	01-Feb-18	0%	7.01%	18																													
A10480	Die Making - Bulk Production	31	28-Nov-17	06-Jan-18	31-Jul-17 A	01-Mar-18	100%	22%	-42																													
A10510	Fabrication of Aluminium Frame to Site	33	26-Feb-18	10-Apr-18	01-Feb-18	15-Mar-18	0%	0%	18																													
Terracotta Production																																						
A10570	Application of PVF2 Coating	67	09-Feb-18	08-May-18	27-Jan-18	24-Apr-18	0%	0%	11																													
A10550	Die Making - Bulk Production	40	09-Nov-17	27-Dec-17	07-Aug-17 A	09-Mar-18	100%	25%	-57																													
A10560	Terracotta Production (Bulk)	67	13-Jan-18	10-Apr-18	02-Jan-18 A	28-Apr-18	15.09%	2%	-16																													
Precast Concrete Facade Die Making																																						
A10590	Aluminium Extrusion Production	87	28-Feb-18	16-Jun-18	02-Jan-18 A	14-May-18	0%	3%	28																													
A10600	Curing of 1st Lot	5	06-Mar-18	12-Mar-18	28-Feb-18	06-Mar-18	0%	0%	4																													
A10580	Precast Concrete Mould Making	24	27-Jan-18	28-Feb-18	02-Jan-18 A	23-Feb-18	0%	11%	4																													
Precast Concrete Facade																																						
A10610	1st Delivery to Site - East	0	30-Jan-18		17-Sep-18		0%	0%	-230																													
A10620	1st Delivery to Site - North	0	08-Jan-18		26-Aug-18		100%	0%	-230																													
A10540	1st Delivery to Site - West	0	31-Dec-17		18-Aug-18		100%	0%	-230																													
A10520	Assemble of Alum Section to Precast Mullion	87	30-May-18	10-Sep-18	02-Jan-18 A	11-May-18	0%	5%	101																													
A10530	Delivery of Precast Concrete to Site	112	11-Jun-18	25-Oct-18	26-Jan-18	15-Jun-18	0%	0%	108																													
05 Ceramic Concrete Tubes & Perforated Cladding (Bulk)																																						
A54610	1st Delivery to Site - Ceramic Concrete Tubes & Perforated C	0	26-Feb-18		18-Aug-18		0%	0%	-173																													
A54600	Production & Fabrication - Ceramic Concrete Tubes & Perfor	77	20-Oct-17	05-Jan-18	02-Jan-18 A	18-Aug-18	100%	5%	-225																													
Alum Frame Production & Fabrication																																						
A10650	Aluminium Extrusion Production	45	22-Jan-18	19-Mar-18	02-Jan-18 A	20-Mar-18	7.16%	6%	-1																													
A10660	Application of PVF2 Coating	5	19-Mar-18	24-Mar-18	20-Mar-18	26-Mar-18	0%	0%	-1																													
A10640	Die Making - Bulk Production	64	04-Nov-17	22-Jan-18	02-Jan-18 A	29-Mar-18	100%	21%	-54																													
A10670	Fabrication of Aluminium Frame to Site	46	24-Mar-18	24-May-18	26-Mar-18	25-May-18	0%	0%	-1																													
Terracotta Production																																						
A10700	Application of PVF2 Coating	56	23-Feb-18	04-May-18	02-Jan-18 A	04-Apr-18	0%	6%	24																													
A10680	Die Making - Bulk Production	69	20-Oct-17	12-Jan-18	02-Jan-18 A	25-Apr-18	100%	11%	-80																													
A10690	Terracotta Production (Bulk)	67	13-Jan-18	09-Apr-18	25-Apr-18	17-Jul-18	16.42%	0%	-80																													
Precast Concrete Facade Die Making																																						
A10750	1st Delivery to Site - Ceramic Concrete Tubes	0	26-Feb-18		19-Apr-18*		0%	0%	-52																													
A10740	Assemble of Brackets to Ceramic Concrete Tubes	97	02-Feb-18	06-Jun-18	27-Mar-18	27-Jul-18	0%	0%	-41																													
A10720	Concreting of Precast Concrete	88	05-Jan-18	25-Apr-18	26-Feb-18	15-Jun-18	20.45%	0%	-41																													
A10730	Curing of 1st Lot	6	11-Jan-18	18-Jan-18	03-Mar-18	10-Mar-18	100%	0%	-41																													
A10710	Precast Concrete Mould Making	23	06-Dec-17	04-Jan-18	02-Jan-18 A	26-Feb-18	100%	11%	-41																													
06A Plaza Skylight 3F (Bulk)																																						
A19130	Production & Fabrication - Plaza Skylight 3F	47	03-Dec-17	19-Jan-18	02-Jan-18 A	07-Jun-18	100%	6%	-139																													
Glass Production & Fabrication																																						
A18750	Coated Glass Production	64	04-Dec-17	22-Feb-18	02-Jan-18 A	23-Apr-18	67.19%	6%	-47																													
A18760	Fabrication of Insulated Glass Panel	32	23-Feb-18	04-Apr-18	26-Jan-18	07-Mar-18	0%	0%	21																													
Alum Frame Production & Fabrication																																						

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May			
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	32			
Truss Deprop & Removal of T5 Falseworks																																	
Dismantle of T5 Falseworks System (by TC2)																																	
A60370	Dismantle scaffold platform	4	01-Nov-17	04-Nov-17	01-Feb-18	05-Feb-18	100%	0%	-76																								
A60360	Remove tie beams & working platform between 9M trusses	5	25-Oct-17	31-Oct-17	26-Jan-18	31-Jan-18	100%	0%	-76																								
Truss Deprop & Removal of T3 Falseworks																																	
Dismantle of T3 Falsework System (by TC2 & TC3)																																	
A60460	Remove bracing tower @C85 & C86	7	03-Nov-17	10-Nov-17	26-Jan-18	03-Feb-18	100%	0%	-70																								
Truss Deprop & Removal of T1 & T2 Falseworks																																	
Depropping of Truss 1																																	
A60880	Jack up ram jacks, cut & lower support by 50mm	3	21-Oct-17	25-Oct-17	27-Jan-18	31-Jan-18	100%	0%	-80																								
A60870	Setup depropping system @T1	3	20-Oct-17	23-Oct-17	26-Jan-18	29-Jan-18	100%	0%	-80																								
A60890	Slowly reduce jack till truss takes full self-weight, rests on ne	1	24-Oct-17	25-Oct-17	30-Jan-18	31-Jan-18	100%	0%	-80																								
Depropping of Truss 2																																	
A60560	Jack up ram jacks, cut & lower support by 50mm	3	23-Oct-17	25-Oct-17	29-Jan-18	31-Jan-18	100%	0%	-80																								
A60570	Load ram jack & slowly reduce jack till truss takes full self-w	1	24-Oct-17	24-Oct-17	30-Jan-18	30-Jan-18	100%	0%	-80																								
A60550	Setup depropping system @T2	2	20-Oct-17	21-Oct-17	02-Sep-17 A	27-Jan-18	100%	25%	-80																								
Dismantle of T1 & T2 Falsework System (13-Jun-2017 update)																																	
A60640	Erect levelling scaffold platform	5	18-Nov-17	24-Nov-17	02-Feb-18	08-Feb-18	100%	0%	-63																								
A60650	Lower down 9/18M trusses (6 nos.)	1	24-Nov-17	25-Nov-17	08-Feb-18	09-Feb-18	100%	0%	-63																								
A60660	Remove 9/18M	12	25-Nov-17	09-Dec-17	09-Feb-18	27-Feb-18	100%	0%	-63																								
A60630	Remove all PERI Tower underneath T1 & T2	9	10-Nov-17	21-Nov-17	08-Dec-17 A	05-Feb-18	100%	2%	-63																								
A60680	Remove bracing tower @C68 & C71	9	29-Nov-17	09-Dec-17	28-Dec-17 A	05-Jan-18 A	100%	100%	-20																								
A60690	Remove ground I-beam	2	09-Dec-17	12-Dec-17	28-Dec-17 A	05-Jan-18 A	100%	100%	-18																								
Truss Deprop & Removal of T4 Falseworks																																	
Depropping of Truss 4																																	
A60480	Jack up ram jacks cut & lower support by 50mm	3	24-Oct-17	26-Oct-17	30-Jan-18	01-Feb-18	100%	0%	-80																								
A60010	Setup depropping system @T4	3	20-Oct-17	23-Oct-17	26-Jan-18	29-Jan-18	100%	0%	-80																								
A60490	Slowly reduce jack till truss takes full self-weight, rests on ne	1	27-Oct-17	27-Oct-17	02-Feb-18	02-Feb-18	100%	0%	-80																								
Dismantle of T4 Falsework System (by TC2 & TC3)																																	
A60510	Dismantle scaffold platform	4	08-Nov-17	13-Nov-17	26-Jan-18	30-Jan-18	100%	0%	-64																								
A60530	Remove bracing tower @C85 & C86	7	16-Nov-17	24-Nov-17	26-Jan-18	03-Feb-18	100%	0%	-58																								
RC Works for T1 & T2 In-fill Slabs																																	
RC Works for 2/F Slab & Beams (6 nos. of Beam)																																	
Area at Modular Towers																																	
A57670	Concrete Curing 2/F Slab & Beam @GL H-E	3	23-Dec-17	26-Dec-17	22-Nov-17 A	24-Nov-17 A	100%	100%	32																								
RC Works for 3/F Beams (2 nos.)																																	
A18240	Concrete Curing 3/F Beams @GL H-E	5	18-Jan-18	23-Jan-18	22-Jan-18 A	28-Jan-18	100%	60%	-4																								
A18140	Concrete Curing 3/F Beams @GL L-H	5	10-Jan-18	15-Jan-18	27-Jan-18	01-Feb-18	100%	0%	-17																								
A18230	Concreting 3/F Beams @GL H-E	1	18-Jan-18	18-Jan-18	20-Jan-18 A	26-Jan-18	100%	60%	-6																								
A18130	Concreting 3/F Beams @GL L-H	1	10-Jan-18	10-Jan-18	27-Jan-18	27-Jan-18	100%	0%	-15																								
A18180	Falseworks for 3/F Beams RC Works @GL H-E	5	03-Jan-18	08-Jan-18	22-Nov-17 A	06-Dec-17 A	100%	100%	26																								
A18110	Falseworks for 3/F Beams RC Works @GL L-H	5	27-Dec-17	02-Jan-18	22-Nov-17 A	23-Dec-17 A	100%	100%	6																								
A18200	Formworks of 3/F Beams @GL H-E	3	15-Jan-18	17-Jan-18	25-Nov-17 A	26-Jan-18	100%	90%	-7																								
A18120	Formworks of 3/F Beams @GL L-H	3	06-Jan-18	09-Jan-18	25-Nov-17 A	26-Jan-18	100%	80%	-15																								
A18190	Rebar fixing of 3/F Beams @GL H-E	5	09-Jan-18	13-Jan-18	12-Dec-17 A	27-Jan-18	100%	70%	-12																								
A18115	Rebar fixing of 3/F Beams @GL L-H	3	03-Jan-18	05-Jan-18	27-Dec-17 A	27-Jan-18	100%	60%	-18																								
RC Works for 3/F Wall, Column & Upper Slab (In-fill)																																	
A50490	Concrete Curing 3/F Upper Slab	5	20-Mar-18	25-Mar-18	23-Feb-18	28-Feb-18	0%	0%	25																								
A50480	Concreting 3/F Upper Slab	1	19-Mar-18	20-Mar-18	22-Feb-18	23-Feb-18	0%	0%	21																								
A50470	Formworks of 3/F Upper Slab	12	05-Mar-18	19-Mar-18	05-Feb-18	22-Feb-18	0%	0%	21																								
A50460	Rebar fixing of 3/F Upper Slab	12	24-Feb-18	09-Mar-18	27-Jan-18	10-Feb-18	0%	0%	21																								
A50455	Scaffolding for 3/F Upper Slab RC Works	7	13-Feb-18	23-Feb-18	28-Dec-17 A	27-Jan-18	0%	80%	21																								
RC Works for 3/F Wall, Column & Lower Slab (In-fill)																																	
A17950	Concrete Curing 3/F Wall, Columns & Lower Slab	3	12-Feb-18	15-Feb-18	28-Dec-17 A	18-Jan-18 A	0%	100%	29																								
A17940	Concreting 3/F Wall, Columns & Lower Slab	1	12-Feb-18	12-Feb-18	28-Dec-17 A	15-Jan-18 A	0%	100%	25																								
A17930	Formworks of 3/F Wall, Columns & Lower Slab	8	02-Feb-18	10-Feb-18	25-Nov-17 A	05-Jan-18 A	0%	100%	31																								
A17920	Rebar fixing of 3/F Wall, Columns & Lower Slab	8	27-Jan-18	05-Feb-18	12-Dec-17 A	05-Jan-18 A	0%	100%	26																								
A17915	Scaffolding for 3/F Wall, Columns & Lower Slab RC Works	3	24-Jan-18	26-Jan-18	22-Nov-17 A	05-Jan-18 A	66.67%	100%	19																								
RC Works for 1M/F In-fill Slab																																	
A50375	Construct retaining wall (GL 7-8/G-H)	15	12-Dec-17	02-Jan-18	02-Nov-17 A	21-Nov-17 A	100%	100%	33																								
Area Affected by Struts @ GL 7-8/D-E																																	
A57870	Complete 4/F West Core Wall Podium Structure (GL 7-8/D-E)	0		27-Jan-18		08-Feb-18	0%	0%	-9																								
A57850	Construct 2F-3F Wall, Column & 3F Slab (GL 7-8/D-E)	18	23-Dec-17	16-Jan-18	22-Nov-17 A	27-Jan-18	100%	95%	-9																								

◆ Complete 4/F West Core Wall Podium Structure (GL 7-8/D-E),

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May									
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29											
A60120	Stage 5 - Construct 2F slab (GL 8-11/D-H)	27	28-Dec-17	30-Jan-18	02-Nov-17 A	10-Feb-18	87.65%	50%	-10																														
A60137	Stage 6 - 3F Concrete Curing	3	28-Feb-18	03-Mar-18	12-Mar-18	15-Mar-18	0%	0%	-12																														
A60136	Stage 6 - Construct 2F wall, column & 3/F slab (GL 8-11/D-H)	22	30-Jan-18	28-Feb-18	10-Feb-18	12-Mar-18	0%	0%	-10																														
A60065	Stage 7 - Construct B1 Slab (GL 8-11/D-H)	22	26-Mar-18	25-Apr-18	04-May-18	31-May-18	0%	0%	-29																														
A60070	Stage 7 - Construct GF column & slab (GL 8-11/E-H)	20	12-Apr-18	07-May-18	17-May-18	09-Jun-18	0%	0%	-29																														
A60138	Stage 8 - De-prop 2F (GL 8-11/D-J)	3	03-Mar-18	07-Mar-18	15-Mar-18	19-Mar-18	0%	0%	-10																														
40-Seat Cinema (G.L 9-10 / G-H)																																							
A65010	Construct B1F-LGF walls, columns, 40-seat cinema inclined :	42	12-Apr-18	26-May-18	17-May-18	29-Jun-18	0%	0%	-34																														
Retaining Wall @ GL 8-11/D-F																																							
A64020	Stage 4 - Construct retaining wall @B2F +1 to +2mPD @ GL 8-	6	28-Feb-18	07-Mar-18	07-Apr-18	13-Apr-18	0%	0%	-29																														
A64040	Stage 4 - Construct retaining wall @B2F +2 to +6mPD @GL 8-	9	20-Mar-18	03-Apr-18	27-Apr-18	08-May-18	0%	0%	-29																														
A64030	Stage 4 - Construct slab @ +2mPD GL 8-11/D-F	11	07-Mar-18	20-Mar-18	14-Apr-18	26-Apr-18	0%	0%	-29																														
A64010	Stage 4 - Excavate existing GF @ +5mPD to +2mPDF @ GL 8-	11	12-Feb-18	28-Feb-18	21-Mar-18	06-Apr-18	0%	0%	-29																														
A64000	Stage 4 - Remove strut @ GL 8-11/D-F	2	09-Feb-18	12-Feb-18	19-Mar-18	20-Mar-18	0%	0%	-29																														
Zone K & L (Revised Sequence) @GL 8-11/H-M (K, L & P de-prop together)																																							
A60235	Propping for 3/F TBC	0			23-Mar-18	15-Apr-18	0%	0%																															
A60215	Stage 7 - Concrete Curing of WB11, 1MF, 2F beam	7	10-Mar-18	17-Mar-18	25-May-18	01-Jun-18	0%	0%	-76																														
A60195	Stage 7 - Propping & Construct WB11 (Section Y & Z), 1MF &	25	18-Dec-17	18-Jan-18	20-Dec-17 A	22-Feb-18	100%	20%	-27																														
A60218	Stage 8 - Construct B1 slab (GL 8-11/H-K)	25	26-Mar-18	27-Apr-18	09-Jun-18	10-Jul-18	0%	0%	-59																														
A60217	Stage 8 - Deprop WB11 (GL 9-10/H-K) & 1MF beam & 2F slab	6	19-Mar-18	24-Mar-18	02-Jun-18	08-Jun-18	0%	0%	-59																														
A60240	Stage 8 - Propping & Construct 1MF column, wall & 2F slab	25	19-Jan-18	20-Feb-18	22-Feb-18	23-Mar-18	24%	0%	-27																														
A60220	Stage 9 - Propping & Construct 2F column, wall & 3F slab (G	25	03-Apr-18	03-May-18	14-Jun-18	14-Jul-18	0%	0%	-59																														
Podium Structure Zone E, G & J (Deferred Zone Near T3 & T4)																																							
Zone E @GL 8-11/A-C (not within deferred zone)																																							
A16890	Stage 5 - Construct wall, column & 3F slab (GL 12-8/A-C)	13	20-Oct-17	04-Nov-17	21-Sep-17 A	06-Feb-18	100%	46.43%	-77																														
A16920	Stage 8 - 1MF, 2F & 3F Slab Concrete Curing (GL 12-8/A-C)	3	04-Nov-17	07-Nov-17	06-Feb-18	12-Feb-18	100%	0%	-97																														
A16940	Stage 8 - Complete Zone E	0		14-Nov-17		22-Feb-18	100%	0%	-80																														
A16930	Stage 9 - De-prop 1MF & 3F Slab	6	08-Nov-17	14-Nov-17	13-Feb-18	22-Feb-18	100%	0%	-80																														
Installation of Stability Prop for T3 & T4																																							
A16970	Stage 5 - Complete T3 stability prop	0		20-Oct-17		26-Jan-18	100%	0%	-79																														
A16990	Stage 5 - Complete T4 stability prop	0		30-Oct-17		26-Jan-18	100%	0%	-72																														
A16960	Stage 5 - Install T3 stability prop	1	20-Oct-17	20-Oct-17	09-Aug-17 A	26-Jan-18	100%	80%	-79																														
A16980	Stage 5 - Install T4 stability prop	1	30-Oct-17	30-Oct-17	09-Aug-17 A	26-Jan-18	100%	80%	-72																														
Zone E1 Connecting Zone @GL 8-11/C-D																																							
A17000	Stage 6 - Propping & Construct 1MF slab (GL 11-8/C-D)	16	13-Dec-17	04-Jan-18	15-Nov-17 A	03-Jan-18 A	100%	100%	1																														
A17010	Stage 7 - Construct 2/F beam & slab (GL 11-8/C-D)	16	01-Feb-18	23-Feb-18	20-Nov-17 A	23-Jan-18 A	0%	100%	25																														
A17040	Stage 8 - 1F, GF, 2/F & 3F slab Concrete Curing	3	16-Mar-18	19-Mar-18	10-Apr-18	13-Apr-18	0%	0%	-25																														
A17015	Stage 8 - 2/F Concrete Curing	3	23-Feb-18	26-Feb-18	26-Jan-18	29-Jan-18	0%	0%	29																														
A17020	Stage 8 - Construct 2/F beam & 3/F slab (GL 11-8/C-D)	16	23-Feb-18	14-Mar-18	26-Jan-18	13-Feb-18	0%	0%	22																														
A17060	Stage 9 - Complete De-propping 1MF for E1 & E2	0		12-Apr-18		03-May-18	0%	0%	-17																														
A17030	Stage 9 - Construct B1-GF wall, column & slab (GL 11-10/C-D)	16	26-Feb-18	16-Mar-18	19-Mar-18	10-Apr-18	0%	0%	-17																														
A17050	Stage 9 - De-prop GF (GL 14-13/A-G) & 3F (GL 13-11/A-G)	3	09-Apr-18	12-Apr-18	30-Apr-18	03-May-18	0%	0%	-17																														
A17025	Stage 9 - Construct GF-1F Wall/Column Slab (GL 11-8/C-D)	16	16-Mar-18	09-Apr-18	11-Apr-18	28-Apr-18	0%	0%	-17																														
Zone G @GL 11-14/A-F (Revised Sequence)																																							
GL 11-14/A-B (B1 to L3)																																							
A63080	Stage 8 - Construct 3/F beam & slab (GL 14-12/A-B)	11	06-Apr-18	19-Apr-18	15-Mar-18	27-Mar-18	0%	0%	16																														
GL 11-14/B-E (B1 to L3)																																							
A63200	Construct B1 Slab	11	20-Mar-18	06-Apr-18	27-Apr-18	10-May-18	0%	0%	-29																														
A63220	Construct B1-GF Wall/Column/Slab	16	06-Apr-18	25-Apr-18	11-May-18	30-May-18	0%	0%	-29																														
A63280	Construct GF-1F Wall/Column/Slab, Hanger Column to 1MF	16	25-Apr-18	15-May-18	31-May-18	19-Jun-18	0%	0%	-29																														
A63020	Stage 6 - Propping & Construct 1MF slab (GL 13-14/B-D)	16	15-Dec-17	06-Jan-18	04-Dec-17 A	12-Dec-17 A	100%	100%	20																														
A63245	Stage 8 - Construct 1MF-2F walls (Gallery) , column & slab (i	22	06-Jan-18	01-Feb-18	26-Jan-18	23-Feb-18	73.23%	0%	-16																														
A63255	Stage 9 - Construct 2F-3F, Wall/Column/Slab (GL 11-14/B-E)	16	14-Mar-18	06-Apr-18	24-Feb-18	14-Mar-18	0%	0%	16																														
GL 11-14/E-F (B1 to L3)																																							
A63030	Stage 6 - Propping & Construct 1MF slab (GL 11-14/E-F)-co	16	27-Nov-17	15-Dec-17	26-Jan-18	15-Feb-18	100%	0%	-50																														
A65040	T4 Falsework Removed	0		27-Nov-17		26-Jan-18	100%	0%	-56																														
Zone J @ GL 11-14/H-F																																							
A46350	Construct 2F Slab (GL 11-14/E-H)	22	13-Jan-18	08-Feb-18	20-Mar-18	18-Apr-18	45.96%	0%	-52																														
A46360	Construct Wall, Column & 3F slab (GL 11-14/E-H)	11	19-Apr-18	03-May-18	23-Apr-18	05-May-18	0%	0%	-2																														
A46340	Construct WB15 (GL F- H+) ,1MF Slab, Wall, Column (GL 11-	22	15-Dec-17	13-Jan-18	20-Feb-18	19-Mar-18	100%	0%	-52																														
A46355	De-prop 1MF (GL 12-14/E-H)	3	08-Feb-18	12-Feb-18	19-Apr-18	21-Apr-18	0%	0%	-52																														

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May					
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	32						
M+ Podium Glass Wall & Skylight (By RedLand, Permasteelisa)																																			
(By Permasteelisa) Preliminary Works																																			
A41110	Handover of Working Areas @ Zone A & provide reference li	0		21-Dec-17		07-Feb-18	100%	0%	-37																										
A41130	Submission of Embeds Survey Report	54	10-Jan-18	17-Mar-18	26-Feb-18	05-May-18	25.31%	0%	-37																										
A41120	Surveying for Embeds	54	22-Dec-17	01-Mar-18	07-Feb-18	26-Apr-18	50%	0%	-43																										
1/F to 2/F Level																																			
(By Permasteelisa) Glass Wall with Ceramic/Ceramic Mullion/Precast Concrete																																			
Zone A																																			
A46690	PISA-Install Ceramic Tube @ GL 3/D-E (FAC-CE-02a)	11	02-Jan-18	13-Jan-18	18-Aug-18	30-Aug-18	100%	0%	-185																										
A46700	PISA-Install Glass Wall with Ceramic Mullion @ GL 3-4/E-G (I	18	15-Jan-18	03-Feb-18	31-Aug-18	20-Sep-18	55.56%	0%	-185																										
A46710	PISA-Install Glass Wall with Ceramic Tube w/ PC & AL Panel (	27	05-Feb-18	10-Mar-18	21-Sep-18	25-Oct-18	0%	0%	-185																									
Zone H																																			
A46620	Handover Zone H - 1/F Working Area	0		12-Feb-18		18-Aug-18	0%	0%	-149																										
Zone E																																			
A46610	Handover Zone E - 1/F Working Area	0		12-Apr-18		25-Oct-18	0%	0%	-161																										
A46730	PISA-Install Ceramic Tube @ GL 9-11/B-F (FAC-CE-02a)	11	12-Apr-18	25-Apr-18	26-Oct-18	07-Nov-18	0%	0%	-161																										
A46740	PISA-Install Glass Wall with Ceramic Mullion @ GL 8-9/C-D (	18	25-Apr-18	17-May-18	08-Nov-18	28-Nov-18	0%	0%	-161																									
Zone C & D																																			
A46680	Handover Zone C & D - 1/F Working Area	0		22-Feb-18		27-Apr-18	0%	0%	-51																										
A46950	PISA-Install Ceramic Tube @ GL 5-6/J-K, 2-3/K-M (FAC-CE-0	16	23-Feb-18	13-Mar-18	28-Apr-18	17-May-18	0%	0%	-51																										
A46940	PISA-Install Glass Wall with Ceramic Mullion @ GL 2-5/H-L (f	18	12-Mar-18	06-Apr-18	04-Oct-18	25-Oct-18	0%	0%	-167																										
A46930	PISA-Install Glass Wall with Ceramic Mullion @ GL 5-8/J-L (F,	14	05-Mar-18	21-Mar-18	09-May-18	26-May-18	0%	0%	-51																										
A46980	PISA-Install Glass Wall with PC & AL Panel @ GL 2-3/K-L (FAC	9	07-Apr-18	18-Apr-18	27-Oct-18	07-Nov-18	0%	0%	-167																										
A46970	PISA-Install Glass Wall with PC & AL Panel @ GL 4-6/J-K (FAC	9	23-Mar-18	07-Apr-18	16-Oct-18	27-Oct-18	0%	0%	-167																										
3/F Roof Level																																			
(By Permasteelisa) Skylight/Ceramic Cladding/Storefront																																			
Zone M, F & N																																			
A47610	Handover Zone F - 3/F Working Area	0		19-Jan-18		26-Jan-18	100%	0%	-5																										
A47590	Handover Zone M - 3/F Working Area	0		21-Apr-18		23-Mar-18	0%	0%	21																										
A47600	Handover Zone N - 3/F Working Area	0		20-Oct-17		26-Jan-18	100%	0%	-79																										
M+ Podium External Envelope (By Permasteelisa)																																			
Zone A																																			
Podium Facade Panel (1M/F External)																																			
A47635	Bracket Installation & Embed Remedial 1M/F @ GL 1/A-H	8	20-Jan-18	30-Jan-18	08-Mar-18	17-Mar-18	59.72%	0%	-37																										
A47010	Handover Zone A - 1M/F Working Area	0		20-Jan-18		08-Mar-18	100%	0%	-37																										
A47640	Install Podium Facade Panel Zone A - 1M/F @ GL 1/A-H (52	8	30-Jan-18	08-Feb-18	17-Mar-18	27-Mar-18	0%	0%	-37																										
A47660	Install Podium Facade Panel Zone A -1M/F @ GL 1-8/A (37 r	6	21-Feb-18	28-Feb-18	10-Apr-18	17-Apr-18	0%	0%	-37																										
Podium Facade Panel (2/F External)																																			
A47645	Bracket Installation & Embed Remedial 2/F @ GL 1-8/A	8	30-Jan-18	08-Feb-18	17-Mar-18	27-Mar-18	0%	0%	-37																										
A47160	Handover Zone A - 2/F Working Area	0		20-Jan-18		08-Mar-18	100%	0%	-37																										
A47670	Install Podium Facade Panel 2/F @ GL 1-8/A (37 nos.)	6	28-Feb-18	07-Mar-18	17-Apr-18	24-Apr-18	0%	0%	-37																										
A47650	Install Podium Facade Panel 2/F @ GL 1/A-H (52 nos.)	8	08-Feb-18	21-Feb-18	27-Mar-18	10-Apr-18	0%	0%	-37																										
Zone M																																			
Podium Facade Panel (1M/F External)																																			
A22390	Bracket Installation & Embed Remedial 1M/F @ GL 7-8/A	10	23-Apr-18	04-May-18	27-Mar-18	12-Apr-18	0%	0%	19																										
A22380	Handover Zone M - 1M/F Working Area	0		21-Apr-18		23-Mar-18	0%	0%	21																										
Podium Facade Panel (2/F External)																																			
A22445	Bracket Installation & Embed Remedial 2/F @ GL 7-8/A	10	05-May-18	16-May-18	12-Apr-18	24-Apr-18	0%	0%	19																										
A22440	Handover Zone M - 2/F Working Area	0		21-Apr-18		23-Mar-18	0%	0%	21																										
A22450	Install Podium Facade Panel Zone M - 2/F @ GL 7-8/A (7 no:	1	17-May-18	17-May-18	24-Apr-18	25-Apr-18	0%	0%	19																										
Zone E																																			
Podium Facade Panel (1M/F External)																																			
A47675	Bracket Installation & Embed Remedial 1M/F @ GL 8-11/A	12	17-May-18	31-May-18	24-Apr-18	09-May-18	0%	0%	19																										
A47030	Handover Zone E - 1M/F Working Area	0		30-Oct-17		26-Jan-18	100%	0%	-72																										
Podium Facade Panel (2/F External)																																			
A47180	Handover Zone E - 2/F Working Area	0		30-Oct-17		26-Jan-18	100%	0%	-72																										
Zone H																																			
Podium Facade Panel (1M/F External)																																			
A47697	Bracket Installation & Embed Remedial 1M/F @ GL 11-14/M	7	03-Apr-18	12-Apr-18	20-Jun-18	28-Jun-18	0%	0%	-63																										
A47695	Bracket Installation & Embed Remedial 1M/F @ GL 14/H-M	7	14-Mar-18	22-Mar-18	02-Jun-18	11-Jun-18	0%	0%	-63																										
A47020	Handover Zone H - 1M/F Working Area	0		14-Mar-18		02-Jun-18	0%	0%	-63																										
Podium Facade Panel (2/F External)																																			
A47177	Bracket Installation & Embed Remedial 2/F @ GL 11-14/M	7	12-Apr-18	20-Apr-18	28-Jun-18	07-Jul-18	0%	0%	-63																										
A47175	Bracket Installation & Embed Remedial 2/F @ GL 14/H-M	7	22-Mar-18	03-Apr-18	11-Jun-18	20-Jun-18	0%	0%	-63																										

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May									
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	32										
BS-B2-10i	MEP H/L 1st Fix Installation	33	04-Dec-17	15-Jan-18	27-Nov-17 A	03-Mar-18	100%	15%	-38																														
Cappark EAF Room (B2-1-005)																																							
AW-B2-12	ABWF-Door Frame/Door/Final Coat(Wall & Floor)	13	28-Mar-18	17-Apr-18	26-Jun-18	11-Jul-18	0%	0%	-69																														
AW-B2-12	ABWF-Wet Trade (Plastering/Floor Screeding/1st coat paint)	19	24-Nov-17	16-Dec-17	21-Feb-18	14-Mar-18	100%	0%	-69																														
AS-B2-10i	Access for ABWF/MEP Installation	0	02-Nov-17		18-Jan-18 A		100%	100%	-73																														
AW-B2-12	BW-RC Plinth/Waterproofing/Water Test	19	02-Nov-17	24-Nov-17	26-Jan-18	20-Feb-18	100%	0%	-69																														
BS-B2-11i	MEP - AC equipment on site	0	20-Jan-18		20-Apr-18		100%	0%	-82																														
BS-B2-10i	MEP 1st / 2nd Fix	27	16-Dec-17	20-Jan-18	15-Mar-18*	19-Apr-18	100%	0%	-69																														
BS-B2-11i	MEP Fan / LMCP Installation	54	20-Jan-18	28-Mar-18	20-Apr-18	25-Jun-18	8.02%	0%	-69																														
BS-B2-10i	MEP- Equipment System Self-test/Start up	7	17-Apr-18	25-Apr-18	12-Jul-18	19-Jul-18	0%	0%	-69																														
AS-B2-10i	MEP- Room Power On	0		17-Apr-18		12-Jul-18	0%	0%	-81																														
AS-B2-10i	Ready for System T&C	0		25-Apr-18		20-Jul-18	0%	0%	-81																														
PAU Room (B2-1-807M & B2-1-808M)																																							
AW-B2-12	ABWF-Door Frame/Door/Final Coat(Wall & Floor)	13	16-Mar-18	03-Apr-18	23-Jun-18	10-Jul-18	0%	0%	-78																														
AW-B2-12	ABWF-Wet Trade (Plastering/Floor Screeding/1st coat paint)	19	13-Nov-17	04-Dec-17	15-Feb-18	13-Mar-18	100%	0%	-78																														
AW-B2-12	BW-RC Plinth/Waterproofing/Water Test	19	20-Oct-17	11-Nov-17	09-Dec-17 A	15-Feb-18	100%	10%	-78																														
BS-B2-11i	MEP - PAU equipment on site	0	09-Jan-18		18-Apr-18*		100%	0%	-92																														
BS-B2-10i	MEP 1st / 2nd	27	05-Dec-17	08-Jan-18	13-Mar-18*	18-Apr-18	100%	0%	-78																														
BS-B2-11i	MEP PAU / LMCP Installation	54	09-Jan-18	15-Mar-18	18-Apr-18	23-Jun-18	27.78%	0%	-78																														
Staircase Press (B2-1-801M) at GL D'-E' 4																																							
AW-B2-12	ABWF-Door/Ironmoaries	6	04-Jan-18	11-Jan-18	19-Apr-18	25-Apr-18	100%	0%	-82																														
AW-B2-12	ABWF-Plinth/Sealer	21	02-Nov-17	27-Nov-17	10-Feb-18	09-Mar-18	100%	0%	-82																														
AS-B2-10i	Access for ABWF/MEP Installation	0	02-Nov-17		10-Feb-18		100%	0%	-96																														
BS-B2-11i	MEP - AC equipment on site	0	10-Jan-18		19-Apr-18		100%	0%	-92																														
BS-B2-11i	MEP- 1st / 2nd Fix	30	27-Nov-17	04-Jan-18	10-Mar-18	18-Apr-18	100%	0%	-82																														
BS-B2-11i	MEP- Air Duct/Fan/LMCP Installation	54	10-Jan-18	16-Mar-18	19-Apr-18	23-Jun-18	25.93%	0%	-78																														
BS-B2-11i	MEP- Fan Self Test	5	17-Mar-18	22-Mar-18	25-Jun-18	29-Jun-18	0%	0%	-78																														
AS-B2-10i	MEP-Room Power On	0		17-Mar-18		24-Jun-18	0%	0%	-92																														
ELV Room (B2-1-956M)																																							
AW-B2-12	ABWF-ceiling soffit & application of epoxy paint on wall	7	02-Nov-17	10-Nov-17	10-Feb-18	21-Feb-18	100%	0%	-82																														
AW-B2-12	ABWF-Wall/ floor Final Paint	3	02-Dec-17	06-Dec-17	16-Mar-18	19-Mar-18	100%	0%	-82																														
AS-B2-10i	Access for ABWF/MEP Installation	0	02-Nov-17		10-Feb-18		100%	0%	-96																														
AW-B2-12	ELV Room Door & ironmongeries installation	3	06-Dec-17	09-Dec-17	20-Mar-18	22-Mar-18	100%	0%	-82																														
BS-B2-11i	MEP-1st/2nd Fix Installation	19	10-Nov-17	02-Dec-17	22-Feb-18	15-Mar-18	100%	0%	-82																														
AW-B2-12	MEP-Final Fix	3	14-Feb-18	21-Feb-18	01-Jun-18	04-Jun-18	0%	0%	-82																														
BS-B2-11i	MEP/ELV-Equipment Rack/Cabling	54	09-Dec-17	14-Feb-18	23-Mar-18	31-May-18	69.14%	0%	-82																														
AS-B2-10i	Ready for T&C (FS)	0		21-Feb-18		04-Jun-18	0%	0%	-82																														
M+ Heat Exchange Room (B2-1-806M)																																							
AW-B2-12	ABWF- ceiling soffit & application of epoxy paint on wall	7	18-Nov-17	27-Nov-17	08-Jan-18 A	30-Jan-18	100%	50%	-52																														
AW-B2-12	ABWF-Concrete plinth and waterproofing & water test	7	02-Nov-17	10-Nov-17	26-Jan-18	02-Feb-18	100%	0%	-69																														
AW-B2-12	ABWF-Floor Screeding & wall rendering (PD-B2GP-2460)	7	10-Nov-17	18-Nov-17	03-Feb-18	10-Feb-18	100%	0%	-69																														
BS-B2-11i	MEP-1st/2nd Fix-Pipe/duct/Containment Installation	54	27-Nov-17	01-Feb-18	02-Jan-18 A	03-Apr-18	89.51%	5%	-46																														
BS-B2-11i	MEP-Pump/HX/LMCC Installation/Final Connection	27	01-Feb-18	08-Mar-18	03-Apr-18	07-May-18	0%	0%	-46																														
Chilled Water Pump (B2-1-801R)																																							
AW-B2-1C	ABWF- ceiling soffit & application of epoxy paint on wall	7	22-Feb-18	02-Mar-18	28-Apr-18	08-May-18	0%	0%	-52																														
AW-B2-1C	ABWF-Concrete plinth and waterproofing & water test	7	02-Feb-18	10-Feb-18	12-Apr-18	20-Apr-18	0%	0%	-52																														
AW-B2-1C	ABWF-Floor Screeding & wall rendering (PD-B2GP-2460)	7	10-Feb-18	22-Feb-18	20-Apr-18	28-Apr-18	0%	0%	-52																														
AS-B2-10i	Access for ABWF/MEP Installation	0	02-Feb-18		12-Apr-18		0%	0%	-62																														
BS-B2-10i	MEP-1st/2nd Fix- Pipe/Duct/Containment Installation	54	02-Mar-18	10-May-18	08-May-18	13-Jul-18	0%	0%	-52																														
RDE Sprinkler Water Tank (B2-3-502R) & FS Tank (B2-3-604R)																																							
AW-B2-12	ABWF/MEP Installation in RDE FS Pump (Detail refer to CSF I	134	17-Nov-17	05-May-18	27-Feb-18	11-Aug-18	42.04%	0%	-81																														
AW-B2-12	ABWF/MEP Installation in RDE Water Tanks (Detail refer to N	27	09-Mar-18	14-Apr-18	15-May-18	16-Jun-18	0%	0%	-52																														
AS-B2-10i	Access for ABWF/MEP Installation	0	02-Nov-17		10-Feb-18		100%	0%	-96																														
RDE TBR Room/Mobile Equipment Room @ GL J' , 4'-5'																																							
AW-B2-14	ABWF - Final coat of paint on wall / floor sealer	3	12-Dec-17	15-Dec-17	26-Mar-18	28-Mar-18	100%	0%	-82																														
AW-B2-14	ABWF / Door & ironmongeries installation	3	19-Dec-17	22-Dec-17	06-Apr-18	09-Apr-18	100%	0%	-82																														
AW-B2-14	ABWF-ceiling soffit & application of epoxy paint on wall	7	02-Nov-17	10-Nov-17	10-Feb-18	21-Feb-18	100%	0%	-82																														
AS-B2-10i	Access for ABWF/MEP Installation	0	02-Nov-17		10-Feb-18		100%	0%	-96																														
AS-B2-10i	Access ready for utility provider	0		22-Dec-17		10-Apr-18	100%	0%	-98																														
BS-B2-11i	MEP 1st / 2nd fix	27	10-Nov-17	12-Dec-17	22-Feb-18	24-Mar-18	100%	0%	-82																														

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May				
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	08	15	22	29	
M+, CSF FS Water Tanks along GL A																																		
AW-B2-1C	ABWF-MW-Cat Ladder/Hatch Cover	13	30-Jan-18	14-Feb-18	02-Mar-18	16-Mar-18	0%	0%	-23																									
AW-B2-1C	ABWF-Wet Trade-Rendering/Tile	27	28-Dec-17	30-Jan-18	26-Jan-18	01-Mar-18	86.83%	0%	-23																									
AS-B2-10I	Access for ABWF/MEP Installation	0	24-Nov-17		28-Dec-17 A		100%	100%	-31																									
AW-B2-1C	BW-Waterproofing/Water Test	27	24-Nov-17	28-Dec-17	02-Jan-18 A	12-Jan-18 A	100%	100%	-11																									
BS-B2-11I	MEP-Pipework Assessors and Final connection	19	14-Feb-18	12-Mar-18	23-Jan-18 A	20-Feb-18	0%	3%	17																									
AS-B2-11I	Ready for System T&C	0		12-Mar-18		06-Apr-18	0%	0%	-20																									
Industrial Space (B2-1-051)																																		
AW-B2-1C	ABWF-Wet Trade-Patching up tie-bolt/Ceiling/Wall(2m belo	13	08-Feb-18	26-Feb-18	28-Mar-18	17-Apr-18	0%	0%	-39																									
AS-B2-10I	Access for ABWF/MEP Installation (GF Slab@ zone B cast/de	0	16-Jan-18		05-Mar-18		100%	0%	-46																									
AW-B2-1C	BW-Fairface Concrete Defect Rectification	7	31-Jan-18	07-Feb-18	20-Mar-18	28-Mar-18	0%	0%	-39																									
AW-B2-1C	GW-Dismantle Scaffold	7	29-Mar-18	10-Apr-18	18-May-18	28-May-18	0%	0%	-39																									
AW-B2-1C	GW-Erect Common Scaffold (2m below Soffit)	13	16-Jan-18	30-Jan-18	05-Mar-18	20-Mar-18	69.23%	0%	-39																									
BS-B2-11I	MEP H/L 1st/2nd/Final Fix Installation (Including FS Device)-	19	27-Feb-18	20-Mar-18	17-Apr-18	10-May-18	0%	0%	-39																									
BS-B2-11I	MEP Installation under Soffit Completed/Tested/Inspected	0		29-Mar-18		18-May-18	0%	0%	-46																									
BS-B2-11I	MEP-FS Device/Loop Test under Soffit -Test/Inspected	7	21-Mar-18	28-Mar-18	10-May-18	18-May-18	0%	0%	-39																									
2. Zone D1 GL 1-5/J-M																																		
AHU Room (B2-1-809R)																																		
AW-B2-11	ABWF-Door/Ironmoaries	5	01-Mar-18	07-Mar-18	20-Apr-18	26-Apr-18	0%	0%	-39																									
AW-B2-11	ABWF-Plinth/Sealer	7	02-Feb-18	10-Feb-18	12-Apr-18	20-Apr-18	0%	0%	-52																									
AS-B2-10I	Access for ABWF/MEP Installation	0	02-Feb-18		12-Apr-18		0%	0%	-62																									
BS-B2-11I	MEP - AHU equipment installation / Connection	25	01-Mar-18	03-Apr-18	09-Feb-18	14-Mar-18	0%	0%	14																									
BS-B2-11I	MEP- 1st / 2nd fix - Pipe / Duct / Containment Installation	13	10-Feb-18	01-Mar-18	23-Jan-18 A	09-Feb-18	0%	3.01%	14																									
BS-B2-11I	MEP- AHU/systemSelf Test	5	03-Apr-18	10-Apr-18	18-May-18	25-May-18	0%	0%	-37																									
BS-B2-11I	MEP-AHU equipment on site	0	01-Mar-18		09-Feb-18		0%	0%	17																									
BS-B2-11I	MEP-Room Power On	0		03-Apr-18		18-May-18	0%	0%	-43																									
AS-B2-11I	Ready for FS System T&C	0		10-Apr-18		25-May-18	0%	0%	-43																									
3. Zone D																																		
RDE FS Tank & Pump Room (B2-3-500R)																																		
AW-B2-11	ABWF-Wet Trade-Ceiling/Wall/Floor Paint	7	21-Feb-18	01-Mar-18	27-Apr-18	07-May-18	0%	0%	-52																									
AW-B2-11	ABWF/MEP Installation in RDE Water Tanks (Detail refer to N	27	02-Feb-18	09-Mar-18	12-Apr-18	15-May-18	0%	0%	-52																									
AS-B2-10I	Access for ABWF/MEP Installation	0	02-Feb-18		12-Apr-18		0%	0%	-62																									
AW-B2-11	BW-RC Plinth/Waterproofing/Water Test	13	02-Feb-18	21-Feb-18	12-Apr-18	27-Apr-18	0%	0%	-52																									
BS-B2-11I	MEP 1st/2nd fix / FS Pumps Set / Pipework / LMCC	27	01-Mar-18	06-Apr-18	07-May-18*	08-Jun-18	0%	0%	-52																									
BS-B2-11I	MEP-FS Pumps/LMCC Installation and Connection	27	06-Apr-18	09-May-18	08-Jun-18	12-Jul-18	0%	0%	-52																									
BS-B2-11I	MEP-FS Water pump equipment on site	0	06-Apr-18		08-Jun-18		0%	0%	-61																									
Crate Workshop																																		
AW-B2-11	ABWF- Door/Ironmongeries	7	12-Apr-18	20-Apr-18	14-Jun-18	23-Jun-18	0%	0%	-52																									
AW-B2-11	ABWF- Install Security Shutter	13	21-Feb-18	08-Mar-18	27-Apr-18	14-May-18	0%	0%	-52																									
AW-B2-11	ABWF- Wall Final Paint	7	27-Mar-18	09-Apr-18	02-Jun-18	11-Jun-18	0%	0%	-52																									
AW-B2-11	ABWF-H/L Steel Platform	13	08-Mar-18	23-Mar-18	14-May-18	30-May-18	0%	0%	-52																									
AW-B2-11	ABWF-Wet Trade;Rendering/Floor screeding/sealer	13	02-Feb-18	21-Feb-18	12-Apr-18	27-Apr-18	0%	0%	-52																									
AS-B2-10I	Access for ABWF & MEP Installation	0	02-Feb-18		12-Apr-18		0%	0%	-62																									
BS-B2-11I	MEP- 2nd Fix-Wiring/connection/Dropper under Platform	3	23-Mar-18	27-Mar-18	30-May-18	02-Jun-18	0%	0%	-52																									
BS-B2-11I	MEP-1st/2nd Fix Installation/Ceiling Mounted AHU	13	21-Feb-18	08-Mar-18	27-Apr-18	14-May-18	0%	0%	-52																									
BS-B2-11I	MEP-Ceiling/Wall Final Fix	3	09-Apr-18	12-Apr-18	11-Jun-18	14-Jun-18	0%	0%	-52																									
AS-B2-11I	Ready for FS System T&C	0		20-Apr-18		23-Jun-18	0%	0%	-61																									
4. Zone H GL 9-14/H-M																																		
DCS Chiller Plant																																		
BS-B2-11I	MEP- Equipment Connection	27	03-Mar-18	07-Apr-18	23-Jan-18 A	27-Feb-18	0%	10%	31																									
BS-B2-11I	MEP-1st Fix Containment	27	23-Dec-17	26-Jan-18	05-Mar-18	13-Apr-18	96.3%	0%	-58																									
BS-B2-11I	MEP-1st Fix- Main Pipeworks Installation	54	20-Oct-17	22-Dec-17	20-Oct-17 A	05-Mar-18	100%	46%	-55																									
BS-B2-11I	MEP-1st Fix- Position Pumps/Stainers/MCC and Remaining	54	23-Dec-17	02-Mar-18	27-Nov-17 A	21-Mar-18	48.15%	20%	-15																									
BS-B2-11I	MEP-2nd Fix Installation-Cabling	27	27-Jan-18	02-Mar-18	13-Apr-18	16-May-18	0%	0%	-58																									
BS-B2-11I	MEP-Final Fix-Pipe Insulation/Detector	27	09-Apr-18	10-May-18	21-May-18	23-Jun-18	0%	0%	-36																									
5. Zone B,E1, F, Q																																		
Found Space (B2M-01-001)																																		
AS-B2-10I	Access for ABWF/MEP Installation (L2 Slab@ zone B,P cast/i	0	20-Apr-18		02-Jun-18		0%	0%	-41																									
AW-B2-11	GW-Erect Common Scaffold (2m below GF and 1M Soffit)	11	20-Apr-18	04-May-18	02-Jun-18	14-Jun-18	0%	0%	-35																									
AS-B2-11	Ready for FS System T&C (SES)	0		20-Oct-17		26-Jan-18	100%	0%	-94																									

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May					
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	08	15	22	29		
1. CSF/RDE Zone																																			
Carpark Area																																			
AW-B1-11	ABWF - Wet Trade / Block wall / rendering / Ceiling / Floor	19	14-Nov-17	06-Dec-17	22-Feb-18	19-Mar-18	100%	0%	-82																										
AS-B1-10	Access for ABWF and MEP Installation	0	14-Nov-17		22-Feb-18*		100%	0%	-94																										
AW-B1-11	HC-Construction Logistic/Temporary Site Storage Period	156	22-Jan-18	04-Aug-18	27-Mar-18	06-Oct-18	2.07%	0%	-52																										
BS-B1-12	MEP 2nd Fix Installation-Cabling	54	22-Jan-18	29-Mar-18	27-Mar-18*	05-Jun-18	5.97%	0%	-52																										
BS-B1-12	MEP H/L 1st Fix Installation	50	21-Nov-17	22-Jan-18	27-Nov-17 A	27-Mar-18	100%	19%	-52																										
Generator & Fuel & Tank Rooms (B1-2-708) GL 5'-6"/A-K'																																			
AW-B1-11	ABWF - Door & Louvers Installation	7	02-Jan-18	10-Jan-18	02-Feb-18	10-Feb-18	100%	0%	-27																										
AW-B1-11	ABWF - Plastering, tank soffit sealer & cat ladder installation	13	06-Dec-17	21-Dec-17	19-Mar-18	09-Apr-18	100%	0%	-83																										
AW-B1-11	ABWF final touch up	3	10-Jan-18	13-Jan-18	07-Feb-18	10-Feb-18	100%	0%	-24																										
AW-B1-11	General Builder's Works, including concrete plinth & waterp	19	14-Nov-17	06-Dec-17	22-Feb-18	19-Mar-18	100%	0%	-82																										
BS-B1-10	Generator Installation	54	15-Feb-18	26-Apr-18	23-Jan-18 A	10-Apr-18	0%	5%	14																										
AW-B1-11	Generator On site	0	15-Feb-18		22-Jan-18 A		0%	100%	21																										
BS-B1-10	Generator SAT	13	27-Apr-18	12-May-18	11-Apr-18	25-Apr-18	0%	0%	14																										
BS-B1-10	MEP 1st Fix/2nd	7	21-Dec-17	02-Jan-18	02-Jan-18 A	02-Feb-18	100%	5%	-27																										
AW-B1-11	Position Fuel Tank	7	20-Oct-17	27-Oct-17	26-Jan-18	02-Feb-18	100%	0%	-80																										
Master Meter Room (B1-2-600) GL 4'-5"/K'-A'																																			
AW-B1-11	ABWF - Ceiling / Wall / floor - 1st Coat	19	14-Nov-17	06-Dec-17	22-Feb-18	16-Mar-18	100%	0%	-80																										
AW-B1-11	ABWF - Door frame & panels & ironmongeries installation	7	30-Dec-17	09-Jan-18	12-Apr-18	20-Apr-18	100%	0%	-80																										
AW-B1-11	ABWF final touch up	7	09-Jan-18	17-Jan-18	20-Apr-18	28-Apr-18	100%	0%	-80																										
BS-B1-10	MEP Installation	19	06-Dec-17	30-Dec-17	16-Mar-18	12-Apr-18	100%	0%	-80																										
DG Store (B1-2-957) GL 2'-3"/C'-D'																																			
AW-B1-11	ABWF - Ceiling / Wall / floor - 1st Coat	19	06-Dec-17	30-Dec-17	16-Mar-18	12-Apr-18	100%	0%	-80																										
AW-B1-11	ABWF - Door frame & panels & ironmongeries installation	7	23-Jan-18	31-Jan-18	05-May-18	14-May-18	34.92%	0%	-80																										
AW-B1-11	ABWF final touch up	7	31-Jan-18	08-Feb-18	14-May-18	23-May-18	0%	0%	-80																										
BS-B1-10	MEP Installation	19	30-Dec-17	23-Jan-18	12-Apr-18	05-May-18	100%	0%	-80																										
Transformer Room (B1-3-700R) GL 2'-3"/D'-F'																																			
BS-B1-11	CLP Installations for Tx Rm (RDE)	80	14-Dec-17	24-Mar-18	19-Oct-17 A	01-Dec-17 A	41.94%	100%	91																										
BS-B1-11	Tx Rm RDE Power On by CLP	0		24-Mar-18		26-Jan-18	0%	0%	55																										
LV Switch Room (B1-3-701R) GL 2'-3"/E'-F'																																			
AW-B1-11	ABWF - Door frame & panels & ironmongeries installation	7	27-Dec-17	05-Jan-18	15-Feb-18	27-Feb-18	100%	0%	-42																										
AW-B1-11	ABWF - Dust free sealer on floor	3	05-Jan-18	09-Jan-18	27-Feb-18	02-Mar-18	100%	0%	-42																										
AS-B1-10	Access for ABWF / MEP Installation	0	02-Nov-17		05-Jan-18 A		100%	100%	-60																										
BS-B1-10	LV Switch Room 1 & 2 Installation	54	09-Jan-18	16-Mar-18	20-Nov-17 A	07-Mar-18	27.57%	42%	8																										
BS-B1-10	LV Switchboards SAT	7	16-Mar-18	24-Mar-18	25-Nov-17 A	02-Dec-17 A	0%	100%	90																										
BS-B1-10	MEP Installation	19	02-Dec-17	27-Dec-17	05-Jan-18 A	15-Feb-18	100%	10%	-42																										
Lighting Control Centre (B1-2-705C)																																			
AW-B1-12	ABWF - Ceiling / Wall / floor - 1st Coat	19	22-Nov-17	14-Dec-17	02-Mar-18	27-Mar-18	100%	0%	-82																										
AW-B1-12	ABWF-Door/Ironmongeries/Final touch up	27	02-Feb-18	09-Mar-18	31-May-18	04-Jul-18	0%	0%	-92																										
AS-B1-10	Access for MEP / ABWF Installation	0	14-Nov-17		22-Feb-18		100%	0%	-94																										
AW-B1-11	General Builder's Works	7	14-Nov-17	22-Nov-17	22-Feb-18	02-Mar-18	100%	0%	-80																										
BS-B1-11	MEP-1st/2nd Fix Installation (G.L. 2-11/C-D)	40	14-Dec-17	02-Feb-18	27-Mar-18	31-May-18	83.61%	0%	-92																										
BS-B1-11	MEP-Lighting Control System Installation/Connection	107	09-Mar-18	21-Jul-18	04-Jul-18	09-Nov-18	0%	0%	-92																										
BS-B1-11	Room Power On	0		02-Feb-18		31-May-18	0%	0%	-109																										
2. Carriageway																																			
Zone S																																			
Zone S Carriageway FS Control Room (B1-1-907M)-1																																			
AW-B1-1	ABWF-Door/Ironmongeries	27	20-Oct-17	21-Nov-17	26-Jan-18	01-Mar-18	100%	0%	-80																										
AW-B1-1	ABWF-Soffit Sealer	7	01-Dec-17	09-Dec-17	12-Mar-18	20-Mar-18	100%	0%	-80																										
BS-B1-11	Access for ABWF / MEP Installation	0	01-Dec-17		12-Mar-18		100%	0%	-95																										
BS-B1-12	MEP-1st/2nd Fix Installation	40	09-Dec-17	29-Jan-18	20-Mar-18	11-May-18	93.61%	0%	-80																										
BS-B1-12	MEP-AFA Wiring and Connection	54	05-Mar-18	12-May-18	13-Jun-18	17-Aug-18	0%	0%	-80																										
BS-B1-12	MEP-Fire Control Panel Installation	27	29-Jan-18	05-Mar-18	11-May-18	13-Jun-18	0%	0%	-80																										
Zone S Communal Area FS Control Room (B1-1-908M)																																			
AW-B1-1	ABWF-Door/Ironmongeries	1	29-Jan-18	30-Jan-18	11-May-18	12-May-18	0%	0%	-80																										
AW-B1-1	ABWF-Soffit Sealer	7	01-Dec-17	09-Dec-17	12-Mar-18	20-Mar-18	100%	0%	-80																										
AS-B1-1	Access for ABWF / MEP Installation	0	01-Dec-17		12-Mar-18		100%	0%	-95																										
BS-B1-10	MEP-1st/2nd Fix Installation	40	09-Dec-17	29-Jan-18	20-Mar-18	11-May-18	93.61%	0%	-80																										
BS-B1-10	MEP-AFA Wiring and Connection	54	06-Mar-18	14-May-18	14-Jun-18	18-Aug-18	0%	0%	-80																										
BS-B1-10	MEP-Fire Control Panel Installation	27	30-Jan-18	06-Mar-18	12-May-18	14-Jun-18	0%	0%	-80																										

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

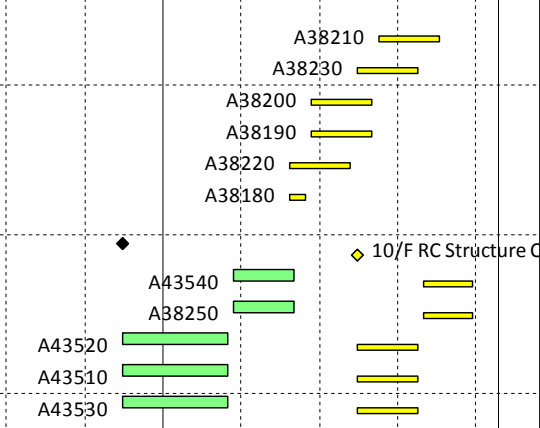
Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May				
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	31	31			
5. Zone B, Q, F, N																																		
AS-1M-10	Access for ABWF/MEP Installation (Linked from L3 Slab Cast	0	03-Mar-18		23-Apr-18		0%	0%	-47																									
AW-1M-1C	BW-MEP Plinths/Ceiling Paint (Sealer)	27	03-Mar-18	09-Apr-18	23-Apr-18	25-May-18	0%	0%	-39																									
6. Zone P, E1																																		
AS-1M-10	Access for ABWF/MEP Installation (Linked from L3 Slab Cast	0	09-Feb-18		19-Mar-18		0%	0%	-35																									
AW-1M-1C	BW-MEP Plinths/Ceiling Paint (Sealer)	19	09-Feb-18	07-Mar-18	19-Mar-18	13-Apr-18	0%	0%	-29																									
BS-1M-10	MEP 1st/2nd Fix Installation- Containment/Pipe/Duct/MEP	80	09-Feb-18	24-May-18	19-Mar-18	27-Jun-18	0%	0%	-29																									
ELV Room																																		
AW-1M-1	ABWF-Erect Block Wall, Wall/Ceiling/Floor Finish/Door Fran	25	09-Feb-18	14-Mar-18	19-Mar-18	20-Apr-18	0%	0%	-29																									
BS-1M-1C	ELV-Cablings/Wiring	72	16-Apr-18	13-Jul-18	21-May-18*	15-Aug-18	0%	0%	-29																									
BS-1M-1C	ELV-Equipment Rack	5	10-Apr-18	16-Apr-18	15-May-18	19-May-18	0%	0%	-29																									
BS-1M-1C	MEP- 1st/2nd Fix	19	14-Mar-18	10-Apr-18	21-Apr-18	14-May-18	0%	0%	-29																									
2/F																																		
1. Zone A, E, M																																		
Zone A- Temporary Exhibition, Gallery 5 & 6 and Tall Gallery 1 & 2/BOH Area																																		
AW-2F-1C	ABWF Wall Plastering/Wall Under/1st Coat	13	24-Mar-18	12-Apr-18	12-May-18	29-May-18	0%	0%	-37																									
AW-2F-1C	ABWF-Ceiling Frame(FOH)/ Door Frame/Fire Shutter(BOH)	25	13-Apr-18	12-May-18	29-May-18	28-Jun-18	0%	0%	-37																									
AW-2F-1C	ABWF-Drywall stud/1side broad/MEP conceal/Drywall close	38	05-Feb-18	23-Mar-18	23-Mar-18	12-May-18	0%	0%	-37																									
AW-2F-1C	ABWF/MEP-Mobilisation	7	20-Jan-18	29-Jan-18	15-Jan-18 A	01-Feb-18	63.49%	20%	-3																									
AS-2F-10	Access for ABWF/MEP/Fit-out Installation (link from L3 slab	0	20-Jan-18		08-Mar-18		100%	0%	-44																									
AW-2F-1C	BW-Floor screeding	19	20-Jan-18	12-Feb-18	08-Mar-18	03-Apr-18	23.39%	0%	-37																									
BS-2F-10	MEP 1st/2nd Fix -Containment/A/C duct/FS Pipe/ Riser in li	25	12-Feb-18	16-Mar-18	03-Apr-18	04-May-18	0%	0%	-37																									
BS-2F-10	MEP H/L 1st/2nd Fix -Containment/A/C duct/FS Pipe (FOH /	38	29-Jan-18	17-Mar-18	15-Jan-18 A	13-Mar-18	0%	5%	4																									
BS-2F-10	MEP/ELV Cablings & Wiring	19	16-Mar-18	12-Apr-18	04-May-18	28-May-18	0%	0%	-37																									
Zone M-Stair/Lift Lobbys/First Aid Room																																		
AW-2F-1C	ABWF-Floor screeding/Door Frame, Ceiling/Wall/Floor Paint	54	10-Apr-18	14-Jun-18	04-Apr-18	09-Jun-18	0%	0%	4																									
BS-2F-10	MEP H/L 1st/2nd Fix -Containment/A/C duct/FS Pipe/ Rainw	80	17-Apr-18	24-Jul-18	12-Apr-18	19-Jul-18	0%	0%	4																									
2. Zone C, D1 and D2																																		
Zone C- Skylight Gallery and BOH along GL 1 and GL K																																		
AS-2F-10	Access for ABWF/MEP Installation (Link from L3 Precast We	0	26-Jan-18		03-Apr-18		0%	0%	-61																									
AW-2F-1C	Skylight Installation Completed (Link from Act ID 47350)	0		29-Mar-18		04-Jun-18	0%	0%	-61																									
Zone D1- Plaza view Gallery, Gallery 1-4 and 14 & 15 and BOH along GL M & GL 5-6																																		
AW-2F-1C	ABWF Installation before A/C On- Typical Sequence Please re	94	21-Mar-18	18-Jul-18	26-May-18	15-Sep-18	0%	0%	-51																									
AS-2F-10	Access for ABWF/MEP Installation (Link from L3 Slab cast/d	0	21-Mar-18		26-May-18		0%	0%	-60																									
BS-2F-10	MEP Installation before A/C On - Typical Sequence Please re	94	21-Mar-18	18-Jul-18	26-May-18	15-Sep-18	0%	0%	-51																									
5. Zone B, Q, F, P, E1																																		
Zone P- Jukebox Gallery and Gallery 11																																		
AS-2F-10	Access for ABWF/MEP Installation (Link from L3 Slab cast/d	0	01-Apr-18		04-Jun-18		0%	0%	-61																									
AS-2F-10	Facade Completed and Weathertight	0		29-Mar-18		04-Jun-18	0%	0%	-61																									
Zone E1- Gallery 7 and Garden Gallery 1																																		
AW-2F-1C	ABWF Installation before A/C On- Typical Sequence Please re	107	20-Jan-18	05-Jun-18	21-Mar-18	02-Aug-18	4.15%	0%	-48																									
AS-2F-10	Access for ABWF/MEP Installation (Link from L3 Slab cast/d	0	20-Jan-18		21-Mar-18		100%	0%	-57																									
BS-2F-10	MEP Installation before A/C On - Typical Sequence Please re	107	20-Jan-18	05-Jun-18	21-Mar-18	02-Aug-18	4.15%	0%	-48																									
4. Zone L, K, H, J																																		
Zone J Gallery 12																																		
AS-2F-10	Access for ABWF/MEP Installation (Link from L3 Slab cast/d	0	21-Mar-18		26-May-18		0%	0%	-60																									
3/F																																		
Roof Terrace																																		
Zone A (G.L. A-H/1-6)																																		
AW-3F-1C	ABWF-Wet Trade / Screeding / Water Proofing / Test / Insulz	38	26-Jan-18	15-Mar-18	03-Apr-18	19-May-18	0%	0%	-51																									
AS-3F-11	ABWF/MEP Access Installation	0	26-Jan-18		03-Apr-18		0%	0%	-61																									
BS-3F-10	MEP-1st & 2nd Fix	54	15-Mar-18	24-May-18	19-May-18	25-Jul-18	0%	0%	-51																									
Zone E & P & G (G.L. A-G/8-14)																																		
Zone P																																		
AW-3F-1	PISA-Skylight Installation	23	02-Mar-18	29-Mar-18	07-May-18	04-Jun-18	0%	0%	-51																									
AW-3F-1	Zone P Remaining Structure for Skylight (Link from Zone P 3	27	26-Jan-18	02-Mar-18	03-Apr-18	07-May-18	0%	0%	-51																									
Zone B & C & D (G.L. A-E/8-11)																																		
Zone B & D																																		
AS-3F-11	ABWF/MEP Access Installation	0	02-Mar-18		07-May-18		0%	0%	-61																									
Zone C																																		
AW-3F-1	PISA-Skylight Installation	23	13-Apr-18	10-May-18	14-Jun-18	12-Jul-18	0%	0%	-51																									
AW-3F-1	REL-Precast Wall / Roof Ready	27	08-Mar-18	12-Apr-18	12-May-18	13-Jun-18	0%	0%	-51																									
AW-3F-1	Zone C Remaining Structure for Skylight (Link from Zone C 3	27	01-Feb-18	07-Mar-18	10-Apr-18	11-May-18	0%	0%	-51																									
Zone F																																		

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

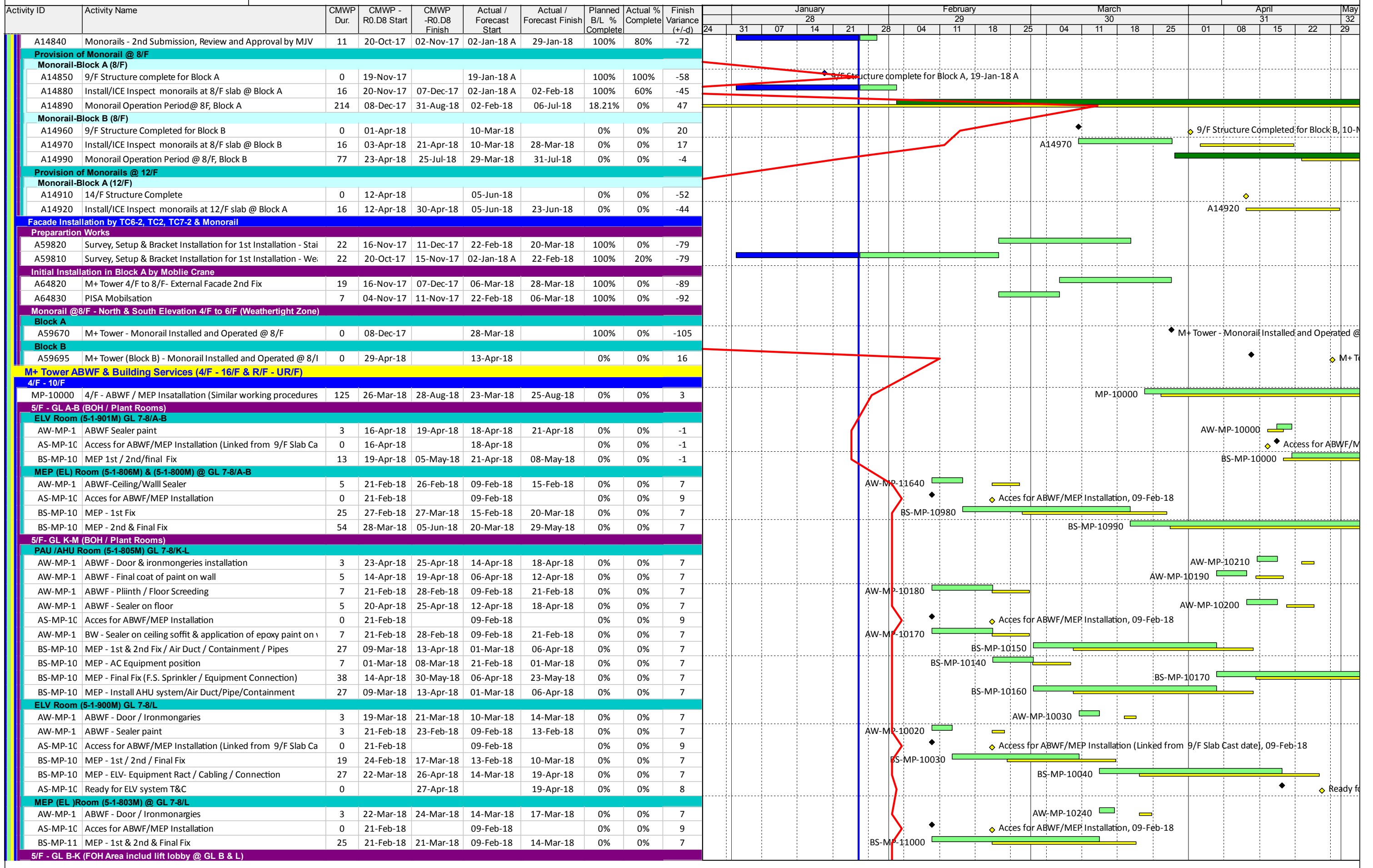
Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May					
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	32						
Staircase & Staircase Lobby																																			
ST-B2-102	Staircase ST-76 (Similar working procedures as ST-04B)	75	03-Mar-18	06-Jun-18	15-Mar-18	19-Jun-18	0%	0%	-10																										
All Levels Works																																			
Risers																																			
1. Zone A & M																																			
BS-ALL-1C	Zone A(GL B & E)- MEP Riser Installation-1st/2nd Fix Installa	54	26-Jan-18	07-Apr-18	03-Apr-18	08-Jun-18	0%	0%	-51																										
BS-ALL-1C	Zone A(GL B & E)-MEP Riser Installation-Cablings	54	07-Apr-18	12-Jun-18	08-Jun-18	13-Aug-18	0%	0%	-51																										
BS-ALL-1C	Zone A(GL H)- MEP Riser Installation-1st/2nd Fix Installation	54	01-Mar-18	09-May-18	19-May-18	25-Jul-18	0%	0%	-63																										
BS-ALL-1C	Zone M- MEP Riser Installation-1st/2nd Fix Installation	41	10-Apr-18	30-May-18	04-Apr-18	25-May-18	0%	0%	4																										
2. Zone N																																			
BS-ALL-1C	Zone N- MEP Riser Installation-1st/2nd Fix Installation	41	24-Apr-18	13-Jun-18	26-Jun-18	14-Aug-18	0%	0%	-51																										
4. Zone D1																																			
BS-ALL-1C	Zone D1- MEP Riser Installation-1st/2nd Fix Installation	41	02-Mar-18	24-Apr-18	07-May-18	26-Jun-18	0%	0%	-51																										
BS-ALL-1C	Zone D1-MEP Riser Installation-Cablings	54	24-Apr-18	29-Jun-18	26-Jun-18	29-Aug-18	0%	0%	-51																										
6. Zone E																																			
BS-ALL-1C	Zone E- MEP Riser Installation-1st/2nd Fix Installation	41	11-Dec-17	31-Jan-18	21-Mar-18	14-May-18	88.89%	0%	-80																										
BS-ALL-1C	Zone E-MEP Riser Installation-Cablings	54	31-Jan-18	12-Apr-18	14-May-18	19-Jul-18	0%	0%	-80																										
7. RDE / CSF																																			
BS-ALL-1C	B2/F_RDE ICT Riser (B2-1-950M) GL 5'/F'	41	24-Apr-18	13-Jun-18	11-Jul-18	28-Aug-18	0%	0%	-63																										
Staircases																																			
M+																																			
Stair cores @ GL B-C/3 (Zone A)																																			
Staircase B2/F - G/F Staircase ST-04B																																			
AW-ALL-	ABWF-Door/Ironmongeries	7	26-Jan-18	02-Feb-18	17-Apr-18	25-Apr-18	0%	0%	-63																										
AW-ALL-	ABWF-Metal Work- Hand rail, balustrade (7 days)	7	15-Dec-17	22-Dec-17	05-Mar-18	13-Mar-18	100%	0%	-63																										
AW-ALL-	ABWF-Wet Trade, Floor/Wall/Ceiling	19	23-Dec-17	17-Jan-18	13-Mar-18	09-Apr-18	100%	0%	-63																										
AS-ALL-	Access Date for ST-04B	0	07-Dec-17		24-Feb-18		100%	0%	-63																										
BS-ALL-	MEP 1st /2nd Fix, FS Riser / Containment	7	07-Dec-17	14-Dec-17	24-Feb-18	05-Mar-18	100%	0%	-63																										
BS-ALL-	MEP Final Fix (7days)	7	18-Jan-18	25-Jan-18	09-Apr-18	17-Apr-18	100%	0%	-63																										
Staircase G/F/ - 3/F Staircase ST-04																																			
AW-ALL-	ABWF-Door/Ironmongeries	7	16-Apr-18	24-Apr-18	03-Jul-18	11-Jul-18	0%	0%	-63																										
AW-ALL-	ABWF-Metal Work- Hand rail, balustrade (7 days)	13	22-Feb-18	08-Mar-18	11-May-18	28-May-18	0%	0%	-63																										
AW-ALL-	ABWF-Wet Trade, Floor/Wall/Ceiling	25	09-Mar-18	11-Apr-18	28-May-18	27-Jun-18	0%	0%	-63																										
AS-ALL-	Access Date for ST-04	0	03-Feb-18		25-Apr-18		0%	0%	-63																										
BS-ALL-	MEP 1st /2nd Fix, FS Riser / Containment	13	03-Feb-18	21-Feb-18	25-Apr-18	11-May-18	0%	0%	-63																										
BS-ALL-	MEP Final Fix (7days)	7	12-Apr-18	19-Apr-18	27-Jun-18	06-Jul-18	0%	0%	-63																										
Stair cores @ G-H/2-3 (Zone D)																																			
Staircase B2/F - G/F Staircase ST-07B																																			
AS-ALL-	Access Date for ST-04B	0	24-Apr-18		11-Jul-18		0%	0%	-63																										
BS-ALL-	MEP 1st /2nd Fix, FS Riser / Containment	7	24-Apr-18	03-May-18	11-Jul-18	19-Jul-18	0%	0%	-63																										
Stair cores @ L-M/7-8 (Zone N)																																			
Staircase B1/F - G/F Staircase ST-03B																																			
AS-ALL-	Access Date for ST-03B	0	24-Apr-18		11-Jul-18		0%	0%	-63																										
BS-ALL-	MEP 1st /2nd Fix, FS Riser / Containment	7	24-Apr-18	03-May-18	11-Jul-18	19-Jul-18	0%	0%	-63																										
Stair cores @ A-B/7-8 (Zone M)																																			
Staircase B1/F - G/F Staircase ST-01B																																			
AW-ALL-	ABWF-Door/Ironmongeries	7	22-Jan-18	30-Jan-18	13-Apr-18	21-Apr-18	49.21%	0%	-63																										
AW-ALL-	ABWF-Metal Work- Hand rail, balustrade	7	15-Dec-17	22-Dec-17	05-Mar-18	13-Mar-18	100%	0%	-63																										
AW-ALL-	ABWF-Wet Trade, Floor/Wall/Ceiling	19	23-Dec-17	17-Jan-18	13-Mar-18	09-Apr-18	100%	0%	-63																										
AS-ALL-	Access Date for ST-01B	0	07-Dec-17		24-Feb-18		100%	0%	-63																										
BS-ALL-	MEP 1st /2nd Fix, FS Riser / Containment	7	07-Dec-17	14-Dec-17	24-Feb-18	05-Mar-18	100%	0%	-63																										
BS-ALL-	MEP Final Fix	7	18-Jan-18	25-Jan-18	09-Apr-18	17-Apr-18	100%	0%	-63																										
Staircase G/F/ - 3/F Staircase ST-01																																			
AW-ALL-	ABWF-Metal Work- Hand rail, balustrade	13	25-Apr-18	11-May-18	08-May-18	24-May-18	0%	0%	-10																										
AS-ALL-	Access Date for ST-03	0	10-Apr-18		21-Apr-18		0%	0%	-10																										
BS-ALL-	MEP 1st /2nd Fix, FS Riser / Containment	13	10-Apr-18	25-Apr-18	21-Apr-18	08-May-18	0%	0%	-10																										
M+ Basement & Podium Testing & Commissioning																																			
MEP System T&C																																			
Electrical																																			
M+ Podium																																			
EL-CLP-10	SPS meter Cabinet CLP power on	0		20-Oct-17		26-Jan-18	100%	0%	-94																										
EL-CLP-10	TX Room A CLP power on (M+ & CSF)	0		24-Mar-18		28-Apr-18	0%	0%	-31																										
EL-CLP-10	TX Room B CLP power on (M+ & CSF)	0		24-Mar-18		28-Apr-18	0%	0%	-31																										
EL-CLP-10	TX Room ICP CLP power on	0		08-Jan-18		26-Jan-18*	100%	0%	-17																										

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May				
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	08	15	22	29	
HVAC																																		
BS-BaP-TC:	T&C for Seawater Side	13	03-Feb-18	22-Feb-18	23-Feb-18	10-Mar-18	0%	0%	-14	BS-BaP-TC300																								
Handover Inspection & Close Out (M+ Basement & Podium)																																		
M+ Basement & Podium																																		
BaP-DG	DG Inspection	0	08-Feb-18		23-May-18		0%	0%	-95																									
M+ Tower																																		
M+ Tower RC Structure Construction (4/F - 16/F & R/F - UR/F)																																		
Tower Structure - West Core Wall (Non-deferred Zone M) @ GL 7-8/A-D																																		
Tower Structure - West Core Wall @GL7-8/A-D (TC2 TIE TO WCW)																																		
A37570	10F-11F Wall, Column & 11F slab (GL 7-8/A-D)	12	24-Jan-18	06-Feb-18	26-Jan-18	27-Feb-18	16.67%	0%	-15																									
A37580	11F-12F Wall, Column & 12F slab (GL 7-8/A-D)	12	07-Feb-18	23-Feb-18	28-Feb-18	22-Mar-18	0%	0%	-23																									
A37590	12F-13F Wall, Column & 13F slab (GL 7-8/A-D)	12	24-Feb-18	09-Mar-18	23-Mar-18	13-Apr-18	0%	0%	-26																									
A37600	13F-14F Wall, Column & 14F slab (GL 7-8/A-D)	12	10-Mar-18	23-Mar-18	14-Apr-18	04-Jun-18	0%	0%	-56																									
A37610	14F-15F Wall, Column & 15F slab (GL 7-8/A-D)	12	24-Mar-18	11-Apr-18	05-Jun-18	22-Jun-18	0%	0%	-59																									
A37620	15F-16F Wall, Column & 16F slab (GL 7-8/A-D)	12	12-Apr-18	25-Apr-18	23-Jun-18	14-Jul-18	0%	0%	-65																									
A37565	9F-10F Wall, Column & 10F slab (GL 7-8/A-D)	12	10-Jan-18	23-Jan-18	19-Dec-17 A	12-Jan-18 A	100%	100%	10																									
Tower Structure - Deferred Zone F & East Core Wall Zone N @GL 7-8/H-M																																		
A43000	4F-5F Wall, Column & 5F slab (GL 7-8/H-M)	15	27-Dec-17	13-Jan-18	28-Dec-17 A	05-Jan-18 A	100%	100%	8																									
A43010	5F-6F Wall, Column & 6F slab (GL 7-8/H-M)	14	15-Jan-18	30-Jan-18	05-Jan-18 A	29-Jan-18	71.43%	85%	2																									
A43020	6F-7F Wall, Column & 7F slab (GL 7-8/H-M)	14	31-Jan-18	15-Feb-18	29-Jan-18	21-Feb-18	0%	0%	-1																									
A43030	7F-8F Wall, Column & 8F slab (GL 7-8/H-M)	14	20-Feb-18	07-Mar-18	21-Feb-18	10-Mar-18	0%	0%	-2																									
A43040	8F-9F Wall, Column & 9F slab (GL 7-8/H-M)	14	08-Mar-18	23-Mar-18	10-Mar-18	04-Apr-18	0%	0%	-6																									
A43060	Complete East Core Wall Structure to 9F slab	0		24-Mar-18		04-Apr-18	0%	0%	-8																									
Tower Structure - Deferred Zone F & East Core Wall Zone N @GL7-8/H-M																																		
A37660	10F-11F Wall, Column & 11F slab (GL 7-8/H-M)	13	13-Apr-18	27-Apr-18	23-Apr-18	11-May-18	0%	0%	-10																									
A37655	9F-10F Wall, Column & 10F slab (GL 7-8/H-M)	13	24-Mar-18	12-Apr-18	04-Apr-18	23-Apr-18	0%	0%	-8																									
Tower Structure - Deferred Zone F @ GL 7-8/D-H																																		
Tower Structure - Deferred Zone F @ GL 7-8/D-H																																		
A37820	10F-11F Wall, Column & 11F slab (GL 7-8/D-H)	12	18-Apr-18	02-May-18	28-Mar-18	18-Apr-18	0%	0%	11																									
A37830	11F-12F Wall, Column & 12F slab (GL 7-8/D-H)	12	03-May-18	16-May-18	19-Apr-18	07-May-18	0%	0%	8																									
A37760	4F-5F Wall, Column & 5F slab (GL 7-8/D-H)	14	04-Jan-18	19-Jan-18	18-Dec-17 A	25-Dec-17 A	100%	100%	20																									
A37770	5F-6F Wall, Column & 6F slab (GL 7-8/D-H)	14	20-Jan-18	05-Feb-18	19-Dec-17 A	30-Dec-17 A	35.71%	100%	31																									
A37780	6F-7F Wall, Column & 7F slab (GL 7-8/D-H)	14	06-Feb-18	24-Feb-18	02-Jan-18 A	20-Jan-18 A	0%	100%	27																									
A37790	7F-8F Wall, Column & 8F slab (GL 7-8/D-H)	14	26-Feb-18	13-Mar-18	20-Jan-18 A	08-Feb-18	0%	20%	25																									
A37800	8F-9F Wall, Column & 9F slab (GL 7-8/D-H)	14	14-Mar-18	29-Mar-18	09-Feb-18	09-Mar-18	0%	0%	17																									
A37810	9F-10F Wall, Column & 10F slab (GL 7-8/D-H)	12	03-Apr-18	17-Apr-18	10-Mar-18	27-Mar-18	0%	0%	14																									
M+ Tower External Envelope (By Permasteelisa)																																		
Tower Facade Advance Works																																		
Provision of Catchfan																																		
A42770	Preparation & Design of Catchfan & Working Platform	11	03-Nov-17	15-Nov-17	09-Oct-17 A	26-Jan-18	100%	96.01%	-59																									
Provision of Catch fan @ 9/F for Block A																																		
A43490	Inspection, ICE & RPE certification for Catchfan @ 11th/F Bl	5	28-Nov-17	02-Dec-17	30-Jan-18	05-Feb-18	100%	0%	-52																									
A43270	Inspection, ICE & RPE certification for Working Platform @ B	5	28-Nov-17	02-Dec-17	01-Feb-18	06-Feb-18	100%	0%	-53																									
A43480	Install Catch fan @ 9/F slab North Elevation Block A	5	22-Nov-17	27-Nov-17	15-Jan-18 A	30-Jan-18	100%	25%	-52																									
A43260	Install Catch fan @ 9/F slab South Elevation Block A	5	22-Nov-17	27-Nov-17	15-Jan-18 A	30-Jan-18	100%	25%	-52																									
A47980	Install Working Platform @ 6th/F & 8th/F for South North E	5	22-Nov-17	27-Nov-17	26-Jan-18	31-Jan-18	100%	0%	-53																									
A43250	Remove Scaffolding @ 10/F Block A	2	20-Nov-17	21-Nov-17	26-Jan-18	27-Jan-18	100%	0%	-55																									
Provision of Catch fan @ 13/F for Block A																																		
A38210	Inspection, ICE & RPE certification for Catchfan @15/F Blocl	5	20-Apr-18	25-Apr-18	03-Jul-18	07-Jul-18	0%	0%	-59																									
A38230	Inspection, ICE & RPE certification for Working Platform @ B	5	18-Apr-18	23-Apr-18	11-Jun-18	15-Jun-18	0%	0%	-44																									
A38200	Install Catch fan @ 15/F North Elevation Block A	5	14-Apr-18	19-Apr-18	26-Jun-18	30-Jun-18	0%	0%	-59																									
A38190	Install Catch fan @ 15/F South Elevation Block A	5	14-Apr-18	19-Apr-18	26-Jun-18	30-Jun-18	0%	0%	-59																									
A38220	Install Working Platform @ 12th/F & 14th/F for South Nortl	5	12-Apr-18	17-Apr-18	05-Jun-18	09-Jun-18	0%	0%	-44																									
A38180	Remove Scaffolding @ 15/F Block A	2	12-Apr-18	13-Apr-18	23-Jun-18	25-Jun-18	0%	0%	-59																									
Provision of Catch fan @ 9/F for Block B																																		
A43500	10/F RC Structure Completed	0	18-Apr-18		28-Mar-18		0%	0%	14																									
A43540	Inspection, ICE & RPE certification for Catchfan @11/F Blocl	5	24-Apr-18	28-Apr-18	07-Apr-18	12-Apr-18	0%	0%	14																									
A38250	Inspection, ICE & RPE certification for Working Platform @ B	5	24-Apr-18	28-Apr-18	07-Apr-18	12-Apr-18	0%	0%	14																									
A43520	Install Catch fan @ 9th/F slab North Elevation Block B	5	18-Apr-18	23-Apr-18	28-Mar-18	06-Apr-18	0%	0%	14																									
A43510	Install Catch fan @ 9th/F slab South Elevation Block B	5	18-Apr-18	23-Apr-18	28-Mar-18	06-Apr-18	0%	0%	14																									
A43530	Install Working Platform @ 6th/F & 8th/F for South North E	5	18-Apr-18	23-Apr-18	28-Mar-18	06-Apr-18	0%	0%	14																									
Provision of Monorails, Catch fan & Working Platform																																		



Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018



Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May				
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	32				
Prod MU - CSF Facade Panel																																		
A55480	CSF Facade Panel Prod MU	54	12-Apr-18	15-Jun-18	19-Jul-18	19-Sep-18	0%	0%	-80																									
BIM MODEL SUBMISSION																																		
BIM MODEL SUBMISSION - CSF Glass Wall (All Area)																																		
A19760	2nd BIM Model Submission	13	20-Oct-17	04-Nov-17	02-Jan-18 A	05-Jan-18 A	100%	100%	-49																									
A19770	2nd BIM Model Submission - Review & Approval	19	06-Nov-17	27-Nov-17	05-Jan-18 A	05-Jan-18 A	100%	100%	-30																									
BIM MODEL SUBMISSION - CSF Louvre FAC-LV-03 (Additional Scope)																																		
A19800	2nd BIM Model Submission	13	20-Oct-17	04-Nov-17	02-Jan-18 A	05-Jan-18 A	100%	100%	-49																									
A19810	2nd BIM Model Submission - Review & Approval	19	06-Nov-17	27-Nov-17	05-Jan-18 A	05-Jan-18 A	100%	100%	-30																									
Fabrication & Delivery of CSF Facade System																																		
A19570	Glass Production and Fabrication	113	07-Dec-17	30-Apr-18	02-Mar-18	21-Jul-18	34.91%	0%	-67																									
A19560	Glass Wall Production and Fabrication	187	06-Nov-17	26-Jun-18	26-Jan-18	13-Sep-18	35.83%	0%	-67																									
A19580	Roof Louvre Wall Production & Fabrication	144	03-Jan-18	03-Jul-18	26-Mar-18	19-Sep-18	13.81%	0%	-67																									
Glass Production & Fabrication																																		
A19600	Fabrication of Insulated Glass Panel	54	03-Jan-18	09-Mar-18	16-Apr-18	20-Jun-18	37.04%	0%	-81																									
A19590	Ordering of Coated Glass	60	20-Oct-17	02-Jan-18	06-Jul-17 A	14-Apr-18	100%	0%	-81																									
Glass Wall Production & Fabrication																																		
A19620	Aluminium Extrusion Production	22	17-Nov-17	12-Dec-17	06-Feb-18	07-Mar-18	100%	0%	-66																									
A19640	Application of PVF2 Coating	16	24-Jan-18	12-Feb-18	15-Mar-18	06-Apr-18	9.03%	0%	-39																									
A19610	Die Making	10	06-Nov-17	16-Nov-17	03-Mar-17 A	06-Feb-18	100%	80%	-66																									
A19630	PVF2 Paint Ordering	38	07-Dec-17	24-Jan-18	04-Oct-17 A	14-Mar-18	100%	16.18%	-39																									
A19650	Steel Frame Fabrication - Roof Louvre	66	14-Mar-18	06-Jun-18	05-May-18	25-Jul-18	0%	0%	-39																									
Roof Louvre Wall Production & Fabrication																																		
A19700	Aluminium Extrusion Production	27	10-Mar-18	16-Apr-18	27-Mar-18	03-May-18	0%	0%	-14																									
A19720	Application of PVF2 Coating	11	16-Apr-18	28-Apr-18	03-May-18	16-May-18	0%	0%	-14																									
A19690	Die Making	54	03-Jan-18	10-Mar-18	02-Jan-18 A	27-Mar-18	36.83%	10%	-14																									
A19710	PVF2 Paint Ordering	27	10-Mar-18	16-Apr-18	27-Mar-18	03-May-18	0%	0%	-14																									
A19680	Steel Frame Fabrication - Roof Louvre	107	03-Jan-18	17-May-18	26-Mar-18	07-Aug-18	18.59%	0%	-67																									
CSF External Envelope																																		
CSF Structure Milestones																																		
A19830	CSF - Wall, Column & 6/F to 7/F Slab Complete	0		27-Jan-18		24-Mar-18	0%	0%	-44																									
A19840	CSF - Wall, Column & 7/F to 8/F Slab Complete	0		13-Feb-18		14-Apr-18	0%	0%	-44																									
A19850	CSF - Wall, Column & R/F Slab Complete	0		20-Apr-18		19-Jun-18	0%	0%	-60																									
FACADE INSTALLATION - by Permasteelisa																																		
A19950	Access for PISA Survey G/F to 1/F	0		21-Nov-17		05-Jan-18 A	100%	100%	-35																									
A19860	Access for PISA Survey (6/F to 8/F)	0		09-Feb-18		10-Apr-18	0%	0%	-44																									
A20020	Handover of Working Area (7/F to R/F)	0		24-Apr-18		23-Jun-18	0%	0%	-48																									
A19961	PISA-Embed Survey/Report/Remedial/Bracket Installation	7	09-Feb-18	21-Feb-18	10-Apr-18	18-Apr-18	0%	0%	-44																									
A64790	PISA-Embed Survey/Report/Remedial/Bracket Installation	69	25-Apr-18	18-Jul-18	23-Jun-18	13-Sep-18	0%	0%	-48																									
A19951	PISA-Embed Survey/Report/Remedial/Bracket Installation	57	21-Nov-17	30-Jan-18	26-Jan-18	10-Apr-18	93.57%	0%	-53																									
A20220	PISA-Embed Survey/Report/Remedial/Bracket Installation	65	25-Apr-18	14-Jul-18	25-Jun-18	08-Sep-18	0%	0%	-49																									
MEP Vertical Louvre Screen Wall - South Elevation (East to West)																																		
A20140	Access for PISA Survey (R/F, GL 4'-5' / B'-F')	0		25-Apr-18		25-Jun-18	0%	0%	-49																									
CSF Building Lift Installation																																		
Platform Lifts (LT30, LT31 & LT32) @ Zone T																																		
LT10880	Available of lift Shaft LT30, LT31 & LT32	0	20-Apr-18		19-Jun-18		0%	0%	-60																									
LT10890	Builders' Work for LT30, LT31 & LT32 Lift Shaft	23	21-Apr-18	18-May-18	19-Jun-18	17-Jul-18	0%	0%	-47																									
CSF Lifts (LT52) @ Zone T																																		
LT11030	Available of lift Shaft LT52 (after AHU Transported G/F to 7/I)	0	20-Apr-18		19-Jun-18		0%	0%	-60																									
LT11040	Builders' Work for LT52 Lift Shaft & M/C Room	13	21-Apr-18	07-May-18	19-Jun-18	05-Jul-18	0%	0%	-47																									
CSF Tower ABWF & Building Services (G/F - 8/F & R/F)																																		
CSF Tower GF-1F, 3-6F																																		
CSF-10350	1/F BOH /FOH ABWF/MEP Installation	85	23-Dec-17	12-Apr-18	14-Feb-18	04-Jun-18	30.59%	0%	-42																									
CSF-10310	3/F BOH /FOH ABWF/MEP Installation	85	29-Jan-18	16-May-18	24-Mar-18	11-Jul-18	0%	0%	-44																									
CSF-10320	4/F BOH /FOH ABWF/MEP Installation	85	14-Feb-18	02-Jun-18	14-Apr-18	27-Jul-18	0%	0%	-44																									
CSF-10330	5/F BOH /FOH ABWF/MEP Installation	85	06-Mar-18	20-Jun-18	07-May-18	17-Aug-18	0%	0%	-48																									
CSF-10340	6/F BOH /FOH ABWF/MEP Installation	85	21-Apr-18	02-Aug-18	19-Jun-18	28-Sep-18	0%	0%	-47																									
CSF-10370	G/F BOH /FOH ABWF/MEP Installation	85	07-Dec-17	22-Mar-18	27-Jan-18	15-May-18	47.06%	0%	-41																									
2/F																																		
2/F, GL B'-F' (FOH Area)																																		
AW-CSF-12	ABWF-Ceiling Close-up	7	10-Mar-18	17-Mar-18	05-May-18	14-May-18	0%	0%	-43																									
AW-CSF-12	ABWF-Ceiling Frame	7	22-Feb-18	01-Mar-18	18-Apr-18	26-Apr-18	0%	0%	-43																									
AW-CSF-12	ABWF-Door/Ironmogaries	6	21-Apr-18	27-Apr-18	13-Jun-18	21-Jun-18	0%	0%	-43																									

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April		May						
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29					
RDE Structure @ Portion - U (G/F to 15M/F)																																	
Block A Grid Line G' to J' / 1' to 6'																																	
A50940	RDE - Walls, Columns & 10/F Slab - Zone A	14	25-Apr-18	11-May-18	22-Jun-18	09-Jul-18	0%	0%	-47																								
A50945	RDE - Walls, Columns & 10/F Slab - Zone B	14	19-Apr-18	05-May-18	03-Jul-18	18-Jul-18	0%	0%	-60																								
A50855	RDE - Walls, Columns & 2/F Slab - Pour 2	30	20-Oct-17	24-Nov-17	06-Sep-17 A	05-Jan-18 A	100%	100%	-32																								
A50857	RDE - Walls, Columns & 2/F Slab - Pour 3	39	30-Oct-17	13-Dec-17	20-Oct-17 A	11-Jan-18 A	100%	100%	-21																								
A50858	RDE - Walls, Columns & 2/F Slab - Pour 4	39	02-Nov-17	16-Dec-17	09-Aug-17 A	09-Jan-18 A	100%	100%	-17																								
A50860	RDE - Walls, Columns & 3/F Slab - Zone A	14	20-Dec-17	08-Jan-18	08-Dec-17 A	05-Mar-18	100%	0%	-45																								
A50865	RDE - Walls, Columns & 3/F Slab - Zone B	14	14-Dec-17	02-Jan-18	06-Dec-17 A	12-Mar-18	100%	0%	-56																								
A50870	RDE - Walls, Columns & 4/F Slab - Zone A	14	09-Jan-18	24-Jan-18	06-Mar-18	23-Mar-18	100%	0%	-47																								
A50875	RDE - Walls, Columns & 4/F Slab - Zone B	14	03-Jan-18	18-Jan-18	13-Mar-18	06-Apr-18	100%	0%	-60																								
A50880	RDE - Walls, Columns & 5/F Slab - Zone A	14	25-Jan-18	09-Feb-18	24-Mar-18	13-Apr-18	7.14%	0%	-47																								
A50885	RDE - Walls, Columns & 5/F Slab - Zone B	14	19-Jan-18	03-Feb-18	07-Apr-18	23-Apr-18	42.86%	0%	-60																								
A50890	RDE - Walls, Columns & 6/F Slab - Zone A	14	10-Feb-18	01-Mar-18	14-Apr-18	30-Apr-18	0%	0%	-47																								
A50895	RDE - Walls, Columns & 6/F Slab - Zone B	14	05-Feb-18	23-Feb-18	24-Apr-18	10-May-18	0%	0%	-60																								
A50900	RDE - Walls, Columns & 7/F Slab - Zone A	14	02-Mar-18	17-Mar-18	02-May-18	17-May-18	0%	0%	-47																								
A50905	RDE - Walls, Columns & 7/F Slab - Zone B	14	24-Feb-18	12-Mar-18	11-May-18	28-May-18	0%	0%	-60																								
A50910	RDE - Walls, Columns & 8/F Slab - Zone A	14	19-Mar-18	07-Apr-18	18-May-18	04-Jun-18	0%	0%	-47																								
A50915	RDE - Walls, Columns & 8/F Slab - Zone B	14	13-Mar-18	28-Mar-18	29-May-18	13-Jun-18	0%	0%	-60																								
A50920	RDE - Walls, Columns & 9/F Slab - Zone A	14	09-Apr-18	24-Apr-18	05-Jun-18	21-Jun-18	0%	0%	-47																								
A50925	RDE - Walls, Columns & 9/F Slab - Zone B	14	29-Mar-18	18-Apr-18	14-Jun-18	30-Jun-18	0%	0%	-60																								
RDE Building Temporary Works																																	
RD10090	Material Hoist Erection (Initial)	8	25-Jan-18	02-Feb-18	24-Mar-18	06-Apr-18	12.5%	0%	-47																								
RDE Building FACADE Preliminaries																																	
SHOP DRAWINGS + DESIGN CALCULATION																																	
SHOPDRAWING + DESIGN CALCULATION - by Redland																																	
A53490	3rd Shopdrawing for PreCast Tubes, Columns and Roof Pan	13	20-Oct-17	04-Nov-17	02-Jan-18 A	03-Feb-18	100%	45%	-74																								
A53500	3rd Shopdrawing for PreCast Tubes, Columns and Roof Pan	13	06-Nov-17	20-Nov-17	03-Feb-18	21-Feb-18	100%	0%	-73																								
SHOPDRAWING + DESIGN CALCULATION - by PISA																																	
A53830	2nd Shopdrawing for Window Wall & Louver at 15F to RF	13	24-Oct-17	08-Nov-17	02-Dec-17 A	16-Jan-18 A	100%	100%	-55																								
A53710	2nd Shopdrawing for Window Wall, Facade Window, Louver	13	20-Oct-17	04-Nov-17	02-Dec-17 A	01-Feb-18	100%	53.85%	-73																								
A53720	2nd Shopdrawing for Window Wall, Facade Window, Louver	13	09-Nov-17	23-Nov-17	02-Dec-17 A	02-Feb-18	100%	56%	-58																								
A53860	3rd Shopdrawing for Window Wall & Louver at 15F to RF - f	13	09-Dec-17	23-Dec-17	02-Jan-18 A	07-Feb-18	100%	25%	-36																								
A53800	3rd Shopdrawing for Window Wall & Louver at 2F to 14F - f	13	20-Oct-17	04-Nov-17	02-Dec-17 A	29-Jan-18	100%	81%	-69																								
A53680	3rd Shopdrawing Cast-in Embed for Window Wall & Louver	13	24-Nov-17	08-Dec-17	02-Jan-18 A	05-Feb-18	100%	25%	-47																								
A53620	3rd Shopdrawing Cast-in Embed for Window Wall & Louver	16	20-Oct-17	08-Nov-17	10-Mar-17 A	26-Jan-18	100%	95%	-65																								
A53730	3rd Shopdrawing for Window Wall, Facade Window, Louver	13	24-Nov-17	08-Dec-17	03-Jan-18 A	08-Feb-18	100%	25%	-49																								
A53740	3rd Shopdrawing for Window Wall, Facade Window, Louver	13	09-Dec-17	23-Dec-17	04-Jan-18 A	07-Feb-18	100%	25%	-36																								
PERFORMANCE MOCK UP TEST																																	
PERFORMANCE MOCK UP TEST - by PISA																																	
A54010	2nd Performance Mock Up Test Design Submission of Wind	13	06-Nov-17	20-Nov-17	15-Dec-17 A	29-Dec-17 A	100%	100%	-31																								
A54020	2nd Performance Mock Up Test Design Submission of Wind	13	21-Nov-17	05-Dec-17	23-Dec-17 A	25-Jan-18 A	100%	100%	-40																								
A54030	3rd Performance Mock Up Test Design Submission of Windc	13	06-Dec-17	20-Dec-17	02-Jan-18 A	26-Jan-18 A	100%	100%	-28																								
A54040	3rd Performance Mock Up Test Design Submission of Windc	13	21-Dec-17	08-Jan-18	02-Jan-18 A	26-Jan-18 A	100%	100%	-15																								
A53980	3rd Performance Mock Up Test Design Submission of Windc	13	06-Dec-17	20-Dec-17	16-Dec-17 A	30-Dec-17 A	100%	100%	-6																								
BD DRAWING + DESIGN CALCULATION																																	
BD DRAWING + DESIGN CALCULATION - by PISA																																	
A54220	1st BD Submission Cast-in Embed for Window Wall & Louve	11	20-Oct-17	02-Nov-17	30-Mar-17 A	26-Jan-18	100%	98.01%	-69																								
A54400	1st BD Submission for Window Wall & Louver at 15F to RF -	13	06-Nov-17	20-Nov-17	28-Oct-17 A	02-Jan-18 A	100%	100%	-33																								
A54420	2nd BD Submission for Window Wall & Louver at 15F to RF	13	06-Dec-17	20-Dec-17	02-Dec-17 A	02-Jan-18 A	100%	100%	-7																								
A54230	2nd BD Submission Cast-in Embed for Window Wall & Louve	13	03-Nov-17	17-Nov-17	14-Dec-17 A	12-Jan-18 A	100%	100%	-44																								
A54240	2nd BD Submission Cast-in Embed for Window Wall & Louve	13	18-Nov-17	02-Dec-17	02-Dec-17 A	27-Jan-18	100%	88%	-45																								
A54360	2nd BD Submission for Window Wall & Louver at 2F to 14F	13	06-Nov-17	20-Nov-17	28-Oct-17 A	02-Jan-18 A	100%	100%	-33																								
A54300	2nd BD Submission for Window Wall, Facade Window, Louv	13	06-Nov-17	20-Nov-17	28-Oct-17 A	02-Jan-18 A	100%	100%	-33																								
A54430	3rd BD Submission for Window Wall & Louver at 15F to RF	13	21-Dec-17	08-Jan-18	23-Dec-17 A	02-Jan-18 A	100%	100%	6																								
A54380	3rd BD Submission for Window Wall & Louver at 2F to 14F	13	06-Dec-17	20-Dec-17	02-Dec-17 A	02-Jan-18 A	100%	100%	-7																								
A54250	3rd BD Submission Cast-in Embed for Window Wall & Louve	13	04-Dec-17	18-Dec-17	02-Jan-18 A	12-Jan-18 A	100%	100%	-18																								
A54260	3rd BD SUBmission Cast-in Embed for Window Wall & Louve	13	19-Dec-17	05-Jan-18	02-Jan-18 A	12-Jan-18 A	100%	100%	-5																								
A54440	3rd BD Submission for Window Wall & Louver at 15F to RF -	13	09-Jan-18	23-Jan-18	08-Jan-18 A	12-Jan-18 A	100%	100%	10																								
RDE External Envelope																																	
RDE Structure																																	

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May				
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	01	08	15	22	29
Zone 1																																		
A36430	ICP (FS-Wet) - B2/F Building Services (1st Fix)	36	01-Mar-18	17-Apr-18	31-Jan-18	17-Mar-18	0%	0%	23																									
A36440	ICP (FS-Wet) - B2/F Building Services (2nd / Final Fix) & Testi	54	17-Apr-18	22-Jun-18	07-Mar-18	16-Apr-18	0%	0%	56																									
Zone 2																																		
A36450	ICP (FS-Wet) - B2/F Building Services (1st Fix)	36	19-Dec-17	02-Feb-18	26-Jan-18	05-Mar-18	82.1%	0%	-24																									
A36460	ICP (FS-Wet) - B2/F Building Services (2nd / Final Fix) & Testi	54	22-Feb-18	02-May-18	09-Feb-18	19-Mar-18	0%	0%	32																									
Fire Services (Dry)																																		
Zone 1																																		
A36480	ICP (FS-Dry) - B2/F Building Services (2nd / Final Fix) & Testi	54	17-Apr-18	22-Jun-18	07-Mar-18	16-Apr-18	0%	0%	56																									
A36470	ICP (FS-Dry) - B2/F Building Services (1st Fix)	36	01-Mar-18	17-Apr-18	31-Jan-18	17-Mar-18	0%	0%	23																									
Zone 2																																		
A36490	ICP (FS-Dry) - B2/F Building Services (1st Fix)	36	19-Dec-17	02-Feb-18	26-Jan-18	05-Mar-18	82.1%	0%	-24																									
A36500	ICP (FS-Dry) - B2/F Building Services (2nd / Final Fix) & Testi	54	22-Feb-18	02-May-18	09-Feb-18	19-Mar-18	0%	0%	32																									
Lift Installation																																		
A36510	Handover of Completed Lift Shaft (Lift 1 & Lift 2)	0	15-Dec-17		26-Jan-18*		100%	0%	-32	♦ Handover of Completed Lift Shaft (Lift 1 & Lift 2), 26-Jan-18*																								
A36560	ICP (Lift 1 & 2) - Car Installation	13	12-Apr-18	26-Apr-18	26-Jan-18	09-Feb-18	0%	0%	58																									
A36590	ICP (Lift 1 & 2) - Lift Fitout & Ready for EMSD Inspection	27	28-May-18	28-Jun-18	29-Mar-18	05-May-18	0%	0%	45																									
A36580	ICP (Lift 1 & 2) - Lift Testing & Commissioning	13	11-May-18	26-May-18	27-Feb-18	13-Mar-18	0%	0%	58																									
A36530	ICP (Lift 1 & 2) - Machine Room Installation	11	28-Dec-17	11-Jan-18	06-Feb-18	21-Feb-18	100%	0%	-32																									
A36540	ICP (Lift 1 & 2) - Pit Installation	6	11-Jan-18	18-Jan-18	12-Feb-18	21-Feb-18	100%	0%	-26																									
A36520	ICP (Lift 1 & 2) - Rail & Door Installation	9	15-Dec-17	28-Dec-17	26-Jan-18	05-Feb-18	100%	0%	-32																									
A36550	ICP (Lift 1 & 2) - Stable Power Installation	0	11-Apr-18		26-Jan-18		0%	0%	58	♦ ICP (Lift 1 & 2) - Stable Power																								
A36570	ICP (Lift 1 & 2) - Wiring	11	27-Apr-18	10-May-18	10-Feb-18	26-Feb-18	0%	0%	58																									
ELV Extra Low Voltage (Site Wide)																																		
Zone 1																																		
A36600	ICP (ELV) - B2/F Building Services (1st Fix)	36	31-Oct-17	11-Dec-17	01-Feb-18	12-Mar-18	100%	0%	-71																									
A36610	ICP (ELV) - B2/F Building Services (2nd / Final Fix) & Testing	54	12-Dec-17	15-Feb-18	15-Feb-18	26-Mar-18	66.67%	0%	-29																									
Zone 2																																		
A36620	ICP (ELV) - B2/F Building Services (1st Fix)	36	02-Feb-18	20-Mar-18	05-Feb-18	15-Mar-18	0%	0%	4																									
A36630	ICP (ELV) - B2/F Building Services (2nd / Final Fix) & Testing	45	07-Mar-18	04-May-18	02-Mar-18	11-Apr-18	0%	0%	19																									
B1/F Level																																		
CLP Works Leading to Energization / Power-On																																		
Electrical (B1/F) - Transformer Room (B128)																																		
A36680	CLP Power-On & Energization	0		11-Apr-18		05-May-18	0%	0%	-19																									
A36670	CLP Transformer Installation Works	80	30-Dec-17	11-Apr-18	26-Jan-18	03-Mar-18	27.5%	0%	29																									
A36660	Inspection for Handover to CLP	10	16-Dec-17	29-Dec-17	27-Nov-17 A	07-Dec-17 A	100%	100%	18																									
Electrical (B1/F) - LV Switch room (B126)																																		
A36690	LV Switch room - Builders Works & BS Installation	28	14-Nov-17	15-Dec-17	27-Nov-17 A	07-Mar-18	100%	5%	-63																									
A36700	LV Switch room - Install LV Switch Board & Testing	40	16-Dec-17	03-Feb-18	07-Mar-18	05-May-18	80%	0%	-69																									
External Electrical Power and Lead-In Cable Ducts																																		
A36730	MV Cable Laying & Testing	27	30-Dec-17	31-Jan-18	26-Jan-18	01-Mar-18	81.48%	0%	-22																									
A36740	MV Cable Termination and Test (by CLP)	11	01-Feb-18	13-Feb-18	02-Mar-18	14-Mar-18	0%	0%	-22																									
A36760	MV Syst Energized / Syst Commissioning Acceptance Test	6	24-Feb-18	02-Mar-18	22-Mar-18	28-Mar-18	0%	0%	-22																									
A36770	Power Energization Complete and Ready for Power-On	0		02-Mar-18		28-Mar-18	0%	0%	-22	♦ Power Energization Complete and Ready for Po																								
A36750	Pre-Energization Checked & Testing	6	14-Feb-18	23-Feb-18	15-Mar-18	21-Mar-18	0%	0%	-22																									
Electrical (B1/F) - General Works																																		
A36780	ICP (Electrical) - B1/F Building Services (1st Fix)	54	30-Dec-17	08-Mar-18	27-Nov-17 A	27-Feb-18	40.53%	55%	8																									
A36790	ICP (Electrical) - B1/F Building Services (2nd / Final Fix) & Tes	67	01-Mar-18	25-May-18	09-Apr-18	12-May-18	0%	0%	10																									
A36800	ICP (Electrical) - Install Generator Set & Testing	40	12-Apr-18	30-May-18	23-Mar-18	05-May-18	0%	0%	21																									
Mechanical General																																		
A36810	ICP (MVAC) - B1/F Building Services (1st Fix)	54	29-Dec-17	07-Mar-18	27-Nov-17 A	27-Feb-18	41.15%	55%	7																									
A36820	ICP (MVAC) - B1/F Building Services (2nd / Final Fix) & Testir	67	10-Feb-18	09-May-18	26-Jan-18	21-Apr-18	0%	0%	13																									
FS Plant Rooms (FS Pump Room and Security Room)																																		
A36830	FS Rooms - Builders Works & BS Installation	40	20-Oct-17	06-Dec-17	16-Dec-17 A	07-Mar-18	100%	30%	-72																									
A36850	FS Rooms - Install Fresh / Potable Pipeworks & Testing	27	16-Dec-17	19-Jan-18	16-Mar-18	21-Apr-18	100%	0%	-72																									
A36840	FS Rooms - Install Pumps, Equipment & Cabinet	40	15-Nov-17	04-Jan-18	09-Feb-18	11-Apr-18	100%	0%	-77																									
A36860	Install Water Meter Cabinet	11	20-Jan-18	01-Feb-18	21-Apr-18	05-May-18	45.45%	0%	-72																									
Fire Services (Wet)																																		
Zone 1																																		
A36870	ICP (FS-Wet) - B1/F Building Services (1st Fix)	36	27-Nov-17	11-Jan-18	27-Nov-17 A	21-Feb-18	100%	45%	-33																									
A36880	ICP (FS-Wet) - B1/F Building Services (2nd / Final Fix) & Testi	45	08-Jan-18	03-Mar-18	18-Dec-17 A	20-Mar-18	35.56%	5%	-14																									
Zone 2																																		
A36890	ICP (FS-Wet) - B1/F Building Services (1st Fix)	45	11-Jan-18	08-Mar-18	27-Nov-17 A	27-Feb-18	28.64%	45%	7																									

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May											
										24	31	07	14	21	28	04	11	18	25	01	08	15	22	29	05	12	19	26	02	09	16	23	30	06	13	20	27	03	10	17	24
A36900	ICP (FS-Wet) - B1/F Building Services (2nd / Final Fix) & Testi	54	22-Feb-18	30-Apr-18	18-Dec-17 A	03-Apr-18	0%	5%	23																																
Fire Services (Dry)																																									
Zone 1																																									
A36910	ICP (FS-Dry) - B1/F Building Services (1st Fix)	36	27-Nov-17	11-Jan-18	09-Dec-17 A	03-Mar-18	100%	20%	-42																																
A36920	ICP (FS-Dry) - B1/F Building Services (2nd / Final Fix) & Testi	45	08-Jan-18	03-Mar-18	26-Jan-18	22-Mar-18	35.56%	0%	-16																																
Zone 2																																									
A36930	ICP (FS-Dry) - B1/F Building Services (1st Fix)	45	11-Jan-18	08-Mar-18	09-Dec-17 A	12-Mar-18	28.64%	20%	-4																																
A36940	ICP (FS-Dry) - B1/F Building Services (2nd / Final Fix) & Testi	54	22-Feb-18	30-Apr-18	26-Jan-18	06-Apr-18	0%	0%	20																																
ELV Extra Low Voltage (Site Wide)																																									
Zone 1																																									
A36950	ICP (ELV) - B1/F Building Services (1st Fix)	40	24-Feb-18	17-Apr-18	31-Jan-18 A	05-Mar-18	0%	0%	33																																
A36960	ICP (ELV) - B1/F Building Services (2nd / Final Fix) & Testing	45	02-May-18	25-Jun-18	27-Feb-18	06-Apr-18	0%	0%	65																																
Zone 2																																									
A36970	ICP (ELV) - B1/F Building Services (1st Fix)	40	17-Apr-18	05-Jun-18	27-Feb-18	07-Apr-18	0%	0%	48																																
A36980	ICP (ELV) - B1/F Building Services (2nd / Final Fix) & Testing	45	16-May-18	11-Jul-18	27-Mar-18	07-May-18	0%	0%	53																																
ICP - External Envelope																																									
A37020	ICP - Facade Louvre Screen Final Cleaning	14	05-Dec-17	20-Dec-17	17-Mar-18	09-Apr-18	100%	0%	-84																																
A37000	ICP - GRC Facade Final Cleaning	14	05-Dec-17	20-Dec-17	17-Mar-18	09-Apr-18	100%	0%	-84																																
A37010	ICP - Install Facade Louvre Screen	36	23-Oct-17	04-Dec-17	26-Jan-18	16-Mar-18	100%	0%	-82																																
A36990	ICP - Install GRC Architectural Louvre & Bracket	36	23-Oct-17	04-Dec-17	26-Jan-18	16-Mar-18	100%	0%	-82																																
ICP - Statutory Inspection (Original)																																									
WSD (FS Water)																																									
A37080	ICP - Inspection and Approval by WSD for (FS Pipeworks)	7	04-Jan-18	11-Jan-18	10-Apr-18	17-Apr-18	100%	0%	-75																																
A37090	ICP - Issuance of WW046 (Part 5) by WSD (Water Certificate	13	23-Jan-18	06-Feb-18	28-Apr-18	14-May-18	23.08%	0%	-75																																
A37070	ICP - Submit & Approval of Form WW046 (Part 4) to WSD (I	13	16-Dec-17	03-Jan-18	21-Mar-18	09-Apr-18	100%	0%	-75																																
A37100	ICP - Water Meter Connection (FS) by WSD	13	07-Feb-18	24-Feb-18	15-May-18	30-May-18	0%	0%	-75																																
A37085	ICP - Water Sample (2 nos.) & Report Submission	9	12-Jan-18	22-Jan-18	18-Apr-18	27-Apr-18	100%	0%	-75																																
Potable Water / Flushing Water																																									
A37120	ICP - Inspection and Approval by WSD	7	11-Jan-18	19-Jan-18	12-Apr-18	20-Apr-18	100%	0%	-72																																
A37130	ICP - Issuance of WW046 (Part 5) by WSD (Water Certificate	13	30-Jan-18	14-Feb-18	02-May-18	17-May-18	0%	0%	-72																																
A37110	ICP - Submit & Approval of Form WW046 (Part 4) to WSD (I	13	16-Dec-17	03-Jan-18	16-Mar-18	04-Apr-18	100%	0%	-72																																
A37140	ICP - Water Meter Connection (Plumbing) by WSD	13	14-Feb-18	05-Mar-18	17-May-18	02-Jun-18	0%	0%	-72																																
A37125	ICP - Water Sample (2 nos.) & Report Submission	9	19-Jan-18	30-Jan-18	20-Apr-18	02-May-18	64.2%	0%	-72																																
EPD Submission and Approval																																									
A37150	ICP - EPD Submission and Approval for (Genset Installation)	27	16-Dec-17	19-Jan-18	28-Aug-17 A	22-Sep-17 A	100%	100%	97																																
External Works																																									
SPS																																									
SPS - G/F External Utilities & Roadworks																																									
Works Above SPS and ICP at Portion A																																									
A37330	Portion A - Above Slab Utilities & Fire Hydrant	54	21-Nov-17	26-Jan-18	26-Jan-18	13-Apr-18	98.77%	0%	-59																																
A37350	Portion A - EVA Carriageway / Roadworks	54	26-Jan-18	06-Apr-18	06-Feb-18	17-Apr-18	0%	0%	-9																																
A37340	Portion A - Final backfilling	54	22-Dec-17	02-Mar-18	28-Oct-17 A	05-Mar-18	49.38%	80%	-3																																
A37320	Portion A - Waterproofing & Backfilling	53	20-Oct-17	22-Dec-17	08-Oct-17 A	05-Mar-18	100%	44%	-57																																
ICP																																									
ICP - G/F External Utilities & Roadworks																																									
Entrance Portal from At-grade Road																																									
A56630	ICP - Construct Entrance Carriageway	11	01-Dec-17	13-Dec-17	01-Mar-18	13-Mar-18	100%	0%	-71																																
A56620	ICP - Final backfilling at Entrance Portal	2	29-Nov-17	30-Nov-17	27-Feb-18	28-Feb-18	100%	0%	-71																																
Works Above ICP at Portion B																																									
A37480	Portion B - Above Slab Utilities & Fire Hydrant	27	04-Dec-17	08-Jan-18	20-Feb-18	27-Mar-18	100%	0%	-64																																
A37500	Portion B - EVA Carriageway / Roadworks	54	28-Nov-17	01-Feb-18	26-Jan-18	13-Apr-18	88.89%	0%	-54																																
A37490	Portion B - Final backfilling	85	20-Oct-17	31-Jan-18	30-Aug-17 A	16-Mar-18	94.12%	0%	-35																																
A37470	Portion B - Waterproofing & Backfilling	27	03-Nov-17	04-Dec-17	23-Sep-17 A	20-Feb-18	100%	30%	-61																																
Co-ordinated External Works & Utilities Services Installation																																									
Interface Dates																																									
Access Dates																																									
A60730	L01 - West of Lyric Main Site L01 (near M14 & M14a) (15Au	0	20-Oct-17		26-Jan-18		100%	0%	-98																																
A25130	M70 - Arts Pavilion Area on M+ side of M+ / Park Interface (0	20-Oct-17		26-Jan-18*		100%	0%	-98																																
Vacation Date																																									
A60770	L01 - West of Lyric Main Site L01 (near M14 & M14a) (15Au	0		01-Dec-17		26-Jan-18*	100%	0%	-55																																
A60740	L04 - East of Lyric Main Site L04 (near AISO office) (27Jun20	0		15-Nov-17		26-Jan-18	100%	0%	-72																																
A60750	L04 - West of Lyric Main Site L04 (near M14) (15Aug2017)	0		01-Dec-17		26-Jan-18*	100%	0%	-55																																
A60760	L06 - West of Lyric Main Site (near M14 & M14a) (15Aug20	0		01-Dec-17		26-Jan-18*	100%	0%	-55																																

- ◆ L01 - West of Lyric Main Site L01 (near M14 & M14a) (15Aug2017), 26-Jan-18
- ◆ M70 - Arts Pavilion Area on M+ side of M+ / Park Interface (t.b.a.), 26-Jan-18*
- ◆ L01 - West of Lyric Main Site L01 (near M14 & M14a) (15Aug2017),
- ◆ L04 - East of Lyric Main Site L04 (near AISO office) (27Jun2017),
- ◆ L04 - West of Lyric Main Site L04 (near M14) (15Aug2017),
- ◆ L06 - West of Lyric Main Site (near M14 & M14a) (15Aug2017),

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May									
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	08	15	22	29						
A26200	Complete drainage works for WHC6_1f	0		06-Dec-17		26-Jan-18	100%	0%	-40	Complete drainage works for WHC6_1f,																													
Towngas Interface PIW																																							
DN150 incoming gas main at Entrance Portal (CIV-DWG-0403)																																							
A26230	Allow Towngas to install gas main (By Towngas)	6	27-Oct-17	03-Nov-17	10-Mar-18	16-Mar-18	100%	0%	-108																														
A26240	Backfill Trench to Ground Levels	3	04-Nov-17	07-Nov-17	17-Mar-18	21-Mar-18	100%	0%	-108																														
A26220	Excavate Trench & Install Shoring for Gas Main @ Footway (	6	20-Oct-17	26-Oct-17	01-Mar-18*	09-Mar-18	100%	0%	-108																													
DN150 incoming gas main for RDE (CIV-DWG-0404)																																							
A26260	Allow Towngas to install gas main (By Towngas)	6	06-Jan-18	12-Jan-18	22-Mar-18	16-Apr-18	100%	0%	-73	A26260																													
A26270	Backfill Trench to Ground Levels	3	13-Jan-18	16-Jan-18	17-Apr-18	30-Apr-18	100%	0%	-82	A26270																													
A26250	Excavate Trench & Install Shoring for Gas Main @ Footway (	6	29-Dec-17	05-Jan-18	01-Mar-18*	21-Mar-18	100%	0%	-61																													
A26280	Vacate M45 (8 July 2017)	0		16-Jan-18		30-Apr-18	100%	0%	-82																														
Towngas Meter Application for M+																																							
A26290	Submit Application for Installation of Towngas Meter	0	03-Mar-18		20-Jun-18		0%	0%	-86																														
Power Interface with PIW																																							
Power interface with PIW - South of M+																																							
A26300	Allow access for PIW Contractor after completion of 11kV C	0	02-May-18		21-Apr-18		0%	0%	8																														
Seawater Cooling Intake Pipes Interface PIW																																							
Civil Works Interface with PIW Watermain South of M+																																							
DN450 Fresh Water & DN450 Salt Water District Wide main South of M+ (Item51 - App D1)																																							
A26340	Allow Access to PIW Contractor to Construct DN450 Fresh \	0	27-Oct-17		26-Jan-18		100%	0%	-74	Allow Access to PIW Contractor to Construct DN450 Fresh Watermain & DN450 Salt Water Main, 26-Jan-18																													
A26350	M+ Commencement of EVA & Promenade Terrace	0		17-Mar-18		15-Jun-18	0%	0%	-71																														
Park																																							
A26390	Allow access for Park Contractor to carry out soil filling & so	0	26-Jan-18		26-Jan-18*		0%	0%	0	Allow access for Park Contractor to carry out soil filling & soft landscaping (6 mths prior OP); 26-Jan-18*																													
A26410	Vacate M08 and M09 to Park contractor (Park Remaining Pc	0		26-Jan-18		26-Jan-18	0%	0%	0	Vacate M08 and M09 to Park contractor (Park Remaining Portion),																													
Drainage Interface w/ Park PIW (SW of M+)																																							
A26420	Allow access for Park Contractor to construct manhole SE2.:	0	07-Feb-18		04-Apr-18		0%	0%	-41	Allow access for Park Contractor to co																													
Sewage Interface w/ Park PIW (SW of M+ & ICP SPS)																																							
A26450	Complete drain test & Handover to DSD (3 months prior to l	0		03-Jan-18		28-Feb-18	100%	0%	-45	Complete drain test & Handover to DSD (3 months prior to KD03 of Park Contract)																													
A26430	Complete Laying Sewer Pipe DN300 from F2.1E to SM19	0		14-Nov-17		06-Apr-18	100%	0%	-113	Complete Laying Sewer Pipe DN300																													
A26440	Complete Laying Sewer Pipe DN450 to Park Contractor MH:	0		03-Jan-18		28-Feb-18	100%	0%	-45	Complete Laying Sewer Pipe DN450 to Park Contractor MH SM13,																													
SPS & Interface Carpark Interface w/ Park																																							
A26500	Complete Access Road to SPS for FS Inpection (Park above ll	0		02-Nov-17		05-Feb-18	100%	0%	-78	Complete Access Road to SPS for FS Inpection (Park above ICP),																													
A26490	SPS Complete H/O to DSD	0		11-Dec-17		05-Feb-18	100%	0%	-46	SPS Complete H/O to DSD,																													
A26480	SPS Statutory Inspection Complete	0		20-Oct-17		05-Jan-18 A	100%	100%	-62	SPS Statutory inspection Complete,																													
A26470	SPS Test & Commissioning Complete	0		11-Nov-17		26-Jan-18	100%	0%	-62	SPS Test & Commissioning Complete,																													
Telecoms Interface w/ Park PIW (W of M+)																																							
A26530	Allow Access to Park Contractor to connect ELV Cable Ducts	0	20-Oct-17		26-Jan-18		100%	0%	-80	Allow Access to Park Contractor to connect ELV Cable Ducts to M+ Draw-pit, 26-Jan-18																													
A26520	Allow Access to Park Contractor to connect ICT Cable Ducts	0	20-Oct-17		26-Jan-18		100%	0%	-80	Allow Access to Park Contractor to connect ICT Cable Ducts to M+ Draw-pit, 26-Jan-18																													
A26540	Allow Access to Park Contractor to construct & connect FTN	0	20-Oct-17		26-Jan-18		100%	0%	-80	Allow Access to Park Contractor to construct & connect FTNS Cable Ducts at M+ GLA/6-7, 26-Jan-18																													
CLP																																							
A27780	Handover ICP - Transformer Room to CLP	0	29-Dec-17		16-Dec-17 A		100%	100%	14	Handover ICP - Transformer Room to CLP, 16-Dec-17 A																													
Pre-Construction Works																																							
Shop Drawings Submission & Approval																																							
PC-SDSA-1C	Shop drawings	164	20-Oct-17	12-May-18	03-Oct-16 A	23-Jul-18	48.78%	0%	-58																														
Method Statement & ITP Submission & Approval																																							
PC-MSSA-1	Method statement & ITP	164	20-Oct-17	12-May-18	03-Oct-16 A	23-Jul-18	48.78%	0%	-58																														
Materials Submission & Approval																																							
General Items																																							
PC-MTSA-:	General materials	164	20-Oct-17	12-May-18	03-Oct-16 A	23-Jul-18	48.78%	0%	-58																														
Long Lead Items																																							
PC-MTSA-:	Carpet, linoleum & mats	216	14-Nov-17	09-Aug-18	29-Jan-18	19-Oct-18	27.37%	0%	-58																														
PC-MTSA-:	Door Ironmongeries	164	20-Oct-17	12-May-18	03-Oct-16 A	04-Jul-18	48.78%	53%	-41																														
PC-MTSA-:	Doors	164	20-Oct-17	12-May-18	03-Oct-16 A	04-Jul-18	48.78%	53%	-41																														
PC-MTSA-:	Fabric	211	31-Jan-18	19-Oct-18	15-May-17 A	14-Sep-18	0%	0%	27																														
PC-MTSA-:	FF&E Items (seating/ cushion, curtain, blinds, etc)	174	19-Jan-18	23-Aug-18	04-Apr-18	02-Nov-18	3.19%	0%	-58																														
PC-MTSA-:	Fire shutters	164	20-Oct-17	12-May-18	03-Oct-16 A	04-Jul-18	48.78%	53%	-41																														
PC-MTSA-:	Glazing works	156	25-Nov-17	09-Jun-18	09-Mar-17 A	22-Jun-18	31.62%	27%	-10																														
PC-MTSA-:	Metal ceiling	126	29-Dec-17	06-Jun-18	10-Apr-17 A	23-May-18	17.99%	43%	12																														
PC-MTSA-:	Raised floor system	160	15-Jan-18	02-Aug-18	27-Apr-17 A	06-Aug-18	5.83%	4%	-3																														
PC-MTSA-:	Security shutters (Lateral sliding type)	164	20-Oct-17	12-May-18	03-Oct-16 A	04-Jul-18	48.78%	53%	-41																														
PC-MTSA-:	Security shutters (Top-mounted)	164	20-Oct-17	12-May-18	03-Oct-16 A	04-Jul-18	48.78%	53%	-41																														
PC-MTSA-:	Smoke curtain	164	20-Oct-17	12-May-18	03-Oct-16 A	04-Jul-18	48.78%	53%	-41																														
PC-MTSA-:	Tiling works	164	20-Oct-17	12-May-18	03-Oct-16 A	04-Jul-18	48.78%	53%	-41																														

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May									
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	32										
PC-MTSA-	Timber (floor, wall & ceiling)	134	01-Nov-17	18-Apr-18	13-Feb-17 A	30-May-18	52.74%	39%	-34																														
Procurement																																							
General Items																																							
PC-MTPR-	General items	203	07-Dec-17	16-Aug-18	17-Nov-16 A	07-Sep-18	19.7%	40%	-19																														
Long Lead Items																																							
Doors																																							
PC-MTPR-	Priority Doors (for Mechanical Rooms)	80	03-Nov-17	08-Feb-18	26-Jan-18	08-May-18	86.11%	0%	-69																														
PC-MTPR-	Remaining Doors	116	19-Jan-18	14-Jun-18	17-Apr-18	04-Sep-18	4.6%	0%	-68																														
PC-MTPR-	Transformer Room Doors	23	03-Mar-18	03-Apr-18	09-Feb-17 A	27-Feb-18	0%	0%	26																														
Ironmongeries																																							
PC-MTPR-	Priority Door Ironmongeries (for Mechanical Rooms)	80	03-Nov-17	08-Feb-18	26-Jan-18	08-May-18	86.11%	0%	-69																														
PC-MTPR-	Remaining Door Ironmongeries	116	19-Jan-18	14-Jun-18	17-Apr-18	04-Sep-18	4.6%	0%	-68																														
PC-MTPR-	Transformer Room Door Ironmongeries	23	03-Mar-18	03-Apr-18	09-Feb-17 A	27-Feb-18	0%	68.75%	26																														
Tiling Works																																							
PC-MTPR-	Other Tiling Areas	107	30-Jan-18	14-Jun-18	23-Mar-18	03-Aug-18	0%	0%	-41																														
Timber (Floor, Wall & Ceiling)																																							
PC-MTPR-	Timber for Benchmark Toilet/ Toilet Lobby @ B2/F)	169	22-Jan-18	18-Aug-18	05-May-17 A	13-Jul-18	2.37%	0%	32																														
Other Long Lead Items																																							
PC-MTPR-	Fire shutters	54	06-Mar-18	12-May-18	27-Apr-18	04-Jul-18	0%	0%	-41																														
PC-MTPR-	Glazing works	107	06-Apr-18	13-Aug-18	18-Apr-18	25-Aug-18	0%	0%	-10																														
PC-MTPR-	Metal ceiling	80	29-Mar-18	09-Jul-18	14-Mar-18	23-Jun-18	0%	0%	12																														
PC-MTPR-	Security shutters (Lateral sliding type)	80	23-Feb-18	04-Jun-18	18-Apr-18	25-Jul-18	0%	0%	-41																														
PC-MTPR-	Security Shutters (Top mounted)	107	30-Jan-18	14-Jun-18	23-Mar-18	03-Aug-18	0%	0%	-41																														
PC-MTPR-	Smoke curtain	54	06-Mar-18	12-May-18	27-Apr-18	04-Jul-18	0%	0%	-41																														
Construction																																							
Seawater Outfall Pipe																																							
Construction at CH0+66 to CH0+108																																							
Trench Excavation & Pipe works (CH0+66 to CH0+102)																																							
A26700	Remaining Works (according to GCL Cofferdam Works)	75	20-Oct-17	19-Jan-18	05-Jan-18 A	03-Feb-18	100%	5%	-13																														
Construct Cofferdam & Pipe works for Lead In (CH0+102 to CH0+108)																																							
A26930	Back Filling to 1st Layer Struts	2	30-Jan-18	31-Jan-18	18-Apr-18	19-Apr-18	0%	0%	-60																														
A26910	Back Filling to 2nd Layer Strut	2	24-Jan-18	25-Jan-18	13-Apr-18	14-Apr-18	100%	0%	-61																														
A26890	Back Filling to 3rd Layer Strut	2	18-Jan-18	19-Jan-18	11-Apr-18	12-Apr-18	100%	0%	-64																														
A26950	Back Filling to GL	2	05-Feb-18	06-Feb-18	24-Apr-18	25-Apr-18	0%	0%	-60																														
A26860	Construct 2 Nos of Bend Block	6	21-Dec-17	29-Dec-17	21-Mar-18	27-Mar-18	100%	0%	-71																														
A26870	Construct Valve Chamber	9	30-Dec-17	10-Jan-18	23-Mar-18	06-Apr-18	100%	0%	-67																														
A26760	Curtain Grouting (where required)	9	31-Oct-17	09-Nov-17	30-Jan-18	09-Feb-18	100%	0%	-76																														
A26770	Dewatering	1	10-Nov-17	10-Nov-17	10-Feb-18	12-Feb-18	100%	0%	-77																														
A26940	Dismantle 1st Layer Struts & Wailing	3	01-Feb-18	03-Feb-18	20-Apr-18	23-Apr-18	0%	0%	-60																														
A26920	Dismantle 2nd Layer Struts & Wailing	3	26-Jan-18	29-Jan-18	16-Apr-18	18-Apr-18	0%	0%	-61																														
A26900	Dismantle 3rd Layer Struts & Wailing	3	20-Jan-18	23-Jan-18	11-Apr-18	13-Apr-18	100%	0%	-62																														
A26750	Drive in Sheetpiles (Cofferdam) @ 18m depth	8	20-Oct-17	30-Oct-17	26-Jan-18	06-Feb-18	100%	0%	-82																														
A26820	ELS Excavation (Cofferdam) @+0.275mPD to -2.45mPD	3	02-Dec-17	05-Dec-17	06-Mar-18	08-Mar-18	100%	0%	-74																														
A26800	ELS Excavation (Cofferdam) @+3.0mPD to +0.275mPD	3	22-Nov-17	24-Nov-17	26-Feb-18	28-Feb-18	100%	0%	-76																														
A26780	ELS Excavation (Cofferdam) @GL +5.0mPD to +3.0mPD	3	11-Nov-17	14-Nov-17	13-Feb-18	15-Feb-18	100%	0%	-77																														
A26840	ELS Excavation Final (Cofferdam) @ -2.45mPD to -3.70mPD	3	13-Dec-17	15-Dec-17	13-Mar-18	15-Mar-18	100%	0%	-71																														
A26790	Install 1st Layer Strut & Wailing (Cofferdam) @ +3.5mPD	6	15-Nov-17	21-Nov-17	15-Feb-18	24-Feb-18	100%	0%	-76																														
A26810	Install 2nd Layer Strut & Wailing (Cofferdam) @ +0.775mPD	6	25-Nov-17	01-Dec-17	28-Feb-18	06-Mar-18	100%	0%	-75																														
A26830	Install 3rd Layer Strut & Wailing (Cofferdam) @ -1.95mPD	6	06-Dec-17	12-Dec-17	08-Mar-18	14-Mar-18	100%	0%	-73																														
A26850	Pipe Laying & Associated Works	4	16-Dec-17	20-Dec-17	16-Mar-18	20-Mar-18	100%	0%	-71																														
A26880	Pressure Test	6	11-Jan-18	17-Jan-18	03-Apr-18	10-Apr-18	100%	0%	-64																														
Construction at CH0+0 to CH66																																							
Trench Excavation & Pipe works CH0+32 to CH0+66																																							
A27060	Back Filling to 1st Layer of Struts	6	18-Nov-17	24-Nov-17	21-Dec-17 A	29-Dec-17 A	100%	100%	-28																														
A27080	Back Filling to GL	6	29-Nov-17	05-Dec-17	02-Jan-18 A	09-Jan-18 A	100%	100%	-26																														
A27070	Dismantle 1st Layer Struts & Wailing	3	25-Nov-17	28-Nov-17	29-Dec-17 A	30-Dec-17 A	100%	100%	-26																														
A27090	Extract Sheetpiles	3	06-Dec-17	08-Dec-17	10-Jan-18 A	12-Jan-18 A	100%	100%	-26																														
Trench Excavation & Pipe works CH0+0 to CH0+32																																							
A27190	Back Filling to 1st layer Struts	1	06-Apr-18	06-Apr-18	16-Apr-18	17-Apr-18	0%	0%	-9																														
A27210	Back Filling to GL	1	14-Apr-18	14-Apr-18	24-Apr-18	25-Apr-18	0%	0%	-9																														
A27160	Construct Bend Blocks	9	15-Mar-18	24-Mar-18	24-Mar-18	09-Apr-18	0%	0%	-9																														
A27170	Construct Wash Out Chamber	9	15-Mar-18	24-Mar-18	24-Mar-18	09-Apr-18	0%	0%	-9																														

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May				
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	31	32				
Sewerage at Portion M01, Gridline A / 3-14																																		
A27940	HCC grant access to Park Contractor for SM100 constructor	0	22-Nov-17		17-Apr-18		100%	0%	-115																									
MH F2.1D to MH F2.1C																																		
A28140	Backfill to ground level	3	08-Nov-17	10-Nov-17	16-Jan-18 A	01-Feb-18	100%	0%	-68																									
A28080	Completion of G/F Slab, Wall & Column at Portion E	0		20-Oct-17		26-Jan-18	100%	0%	-80																									
A28100	Construct Manhole F2.1D	9	24-Oct-17	03-Nov-17	12-Jan-18 A	31-Jan-18	100%	50%	-73																									
A28120	Lay & Connect Sewerage Pipe incoming from M+ to MH F2.1	2	30-Oct-17	31-Oct-17	02-Jan-18 A	04-Jan-18 A	100%	100%	-52																									
A28110	Lay Sewerage Pipe DN375 between MH F2.1D to F2.1C (Ap	4	24-Oct-17	27-Oct-17	12-Jan-18 A	27-Jan-18	100%	50%	-75																									
A28090	Manhole & Trench Excavation for Sewerage Pipe between M	3	20-Oct-17	23-Oct-17	04-Jan-18 A	10-Jan-18 A	100%	100%	-64																									
A28130	Pressure Test	3	04-Nov-17	07-Nov-17	15-Jan-18 A	31-Jan-18	100%	0%	-70																									
MH F2.1E to MH F2.1D																																		
A28190	Backfill to ground level	3	18-Nov-17	21-Nov-17	12-Apr-18	16-Apr-18	100%	0%	-115																									
A28160	Construct Manholes F2.1E	6	08-Nov-17	14-Nov-17	23-Feb-18	19-Mar-18	100%	0%	-101																									
A28170	Lay Sewerage Pipe between MH F2.1E to F2.1D (DN375mm	6	08-Nov-17	14-Nov-17	23-Feb-18	06-Apr-18	100%	0%	-113																									
A28150	Manhole & Trench Excavation for Sewerage Pipe between M	3	04-Nov-17	07-Nov-17	02-Jan-18 A	22-Feb-18	100%	0%	-86																									
A28180	Pressure Test	3	15-Nov-17	17-Nov-17	07-Apr-18	11-Apr-18	100%	0%	-114																									
Sewerage at Portion M05 & M27																																		
MH SM21A to Interface MH SM13																																		
Submissions																																		
A28450	RSS Review & Approve ELS Design	11	27-Oct-17	09-Nov-17	21-Dec-17 A	05-Jan-18 A	100%	100%	-46																									
Construction																																		
A28510	Backfill to formation level	5	28-Dec-17	03-Jan-18	28-Feb-18	28-Feb-18	100%	0%	-45																									
A28460	Drive In Sheetpiles	11	10-Nov-17	22-Nov-17	06-Jan-18 A	12-Jan-18 A	100%	100%	-40																									
A28470	Remaining works between SM21A to SM13	16	23-Nov-17	11-Dec-17	23-Feb-18*	27-Feb-18	100%	0%	-61																									
Storm Drainage																																		
Storm Drain DN750 along Gridline A/3-11 (MH S2.4 to S2.6)																																		
A28560	Backfill to existing ground level	5	21-Nov-17	27-Nov-17	21-Nov-17 A	03-Feb-18	100%	0%	-56																									
A28530	Construct Manhole S2.4 & S2.6	11	20-Oct-17	02-Nov-17	20-Oct-17 A	26-Jan-18	100%	100%	-69																									
A28540	Lay DN700 pipe from Manholes S2.4 to S2.6 (Approx. 78m)	13	02-Nov-17	17-Nov-17	02-Nov-17 A	01-Feb-18	100%	60%	-62																									
A28550	Pressure Test	3	17-Nov-17	21-Nov-17	17-Nov-17 A	02-Feb-18	100%	0%	-60																									
Storm Drain DN1050 along Gridline A/11-14 (MH S2.6 to S2.6A to S2.7 to S2.8)																																		
A28610	Backfill to existing ground level	5	19-Dec-17	27-Dec-17	14-Dec-17 A	08-Feb-18	100%	0%	-36																									
A28580	Construct Manhole S2.6a, S2.7 & S2.8	11	24-Nov-17	07-Dec-17	11-Dec-17 A	02-Feb-18	100%	45%	-46																									
A28570	Excavate to formation level & install shoring	6	17-Nov-17	24-Nov-17	27-Nov-17 A	27-Jan-18	100%	80%	-52																									
A28600	Pressure Test	3	15-Dec-17	19-Dec-17	13-Dec-17 A	05-Feb-18	100%	0%	-38																									
Storm Drain DN1050 along Gridline A/14 (MH S2.8 to S2.9a to SE2.7)																																		
A28670	Backfill to existing ground level	5	01-Feb-18	07-Feb-18	26-Mar-18	03-Apr-18	0%	0%	-41																									
A28640	Construct Manhole S2.9a & SE2.7	11	08-Jan-18	20-Jan-18	01-Mar-18	13-Mar-18	100%	0%	-41																									
A28630	Excavate to formation level & install shoring	6	30-Dec-17	08-Jan-18	22-Feb-18	28-Feb-18	100%	0%	-41																									
A28620	Excavate Trial Trench for existing underground utilities	11	15-Dec-17	30-Dec-17	26-Jan-18	07-Feb-18	100%	0%	-32																									
A28650	Lay DN1050 pipe from Manholes S2.8 to S2.9a to SE2.7 (Ap	7	20-Jan-18	29-Jan-18	14-Mar-18	21-Mar-18	61.9%	0%	-41																									
A28660	Pressure Test	3	29-Jan-18	01-Feb-18	22-Mar-18	24-Mar-18	0%	0%	-41																									
Storm Drain DN600 along Gridline G-M/14 (MH S2.12 to S2.13)																																		
A28870	Backfill to existing ground level	3	29-Sep-17	03-Oct-17	08-Mar-17 A	11-Apr-18	100%	0%	-151																									
A28820	Complete Intake, Chiller & D.I Pipe Adjacent to DCS	0		10-Nov-17		12-Jan-18 A	100%	100%	-50																									
A28850	Construct Manhole S2.12 & S2.13	11	09-Sep-17	21-Sep-17	22-Jul-17 A	20-Mar-18	100%	0%	-145																									
A28840	Excavate to formation level	5	02-Sep-17	08-Sep-17	22-Jul-17 A	14-Mar-18	100%	0%	-152																									
A28830	Excavate Trial Trench	11	30-Oct-17	10-Nov-17	17-Jul-17 A	01-Mar-18	100%	0%	-89																									
A28860	Lay DN450 pipe from Manholes S2.13 to S2.12 (Approx.50	4	23-Sep-17	28-Sep-17	08-Apr-17 A	06-Apr-18	100%	0%	-151																									
Storm Drain at Gridline M/13																																		
A28900	Backfill to existing ground level	1	16-Nov-17	17-Nov-17	20-Feb-18	20-Feb-18	100%	0%	-75																									
A28880	Excavate and lay 225 U-Channel Drain with Gully Trap	3	07-Nov-17	10-Nov-17	07-Feb-18*	09-Feb-18	100%	0%	-75																									
A28890	Excavate trench and lay 150DN Pipe from Gully Trap to MH	5	10-Nov-17	16-Nov-17	10-Feb-18	15-Feb-18	100%	0%	-75																									
Storm Drain DN600 along Gridline E-G/14 (MH S2.12 to S2.11 to S2.10)																																		
A28960	Backfill to existing ground level	3	21-Nov-17	23-Nov-17	22-Jan-18 A	20-Feb-18	100%	50%	-70																									
A28930	Construct Manhole S2.10 & S2.11	14	27-Oct-17	13-Nov-17	04-Dec-17 A	18-Jan-18 A	100%	100%	-53																									
A28920	Excavate to formation level	6	20-Oct-17	26-Oct-17	30-Sep-17 A	16-Jan-18 A	100%	100%	-65																									
A28940	Lay DN600 pipe from Manholes S2.12 to S2.11 to S2.10(Ap	3	14-Nov-17	16-Nov-17	11-Dec-17 A	20-Jan-18 A	100%	100%	-52																									
A28950	Pressure Test	3	17-Nov-17	20-Nov-17	18-Dec-17 A	22-Jan-18 A	100%	100%	-50																									
Storm Drain DN600 along Gridline B-E/14 (MH S2.10 to S2.9c)																																		
A29010	Backfill to existing ground level	3	04-Nov-17	07-Nov-17	12-Feb-18	14-Feb-18	100%	0%	-82																									
A28980	Excavate to Formation Level	3	24-Oct-17	26-Oct-17	01-Feb-18	03-Feb-18	100%	0%	-82																									

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

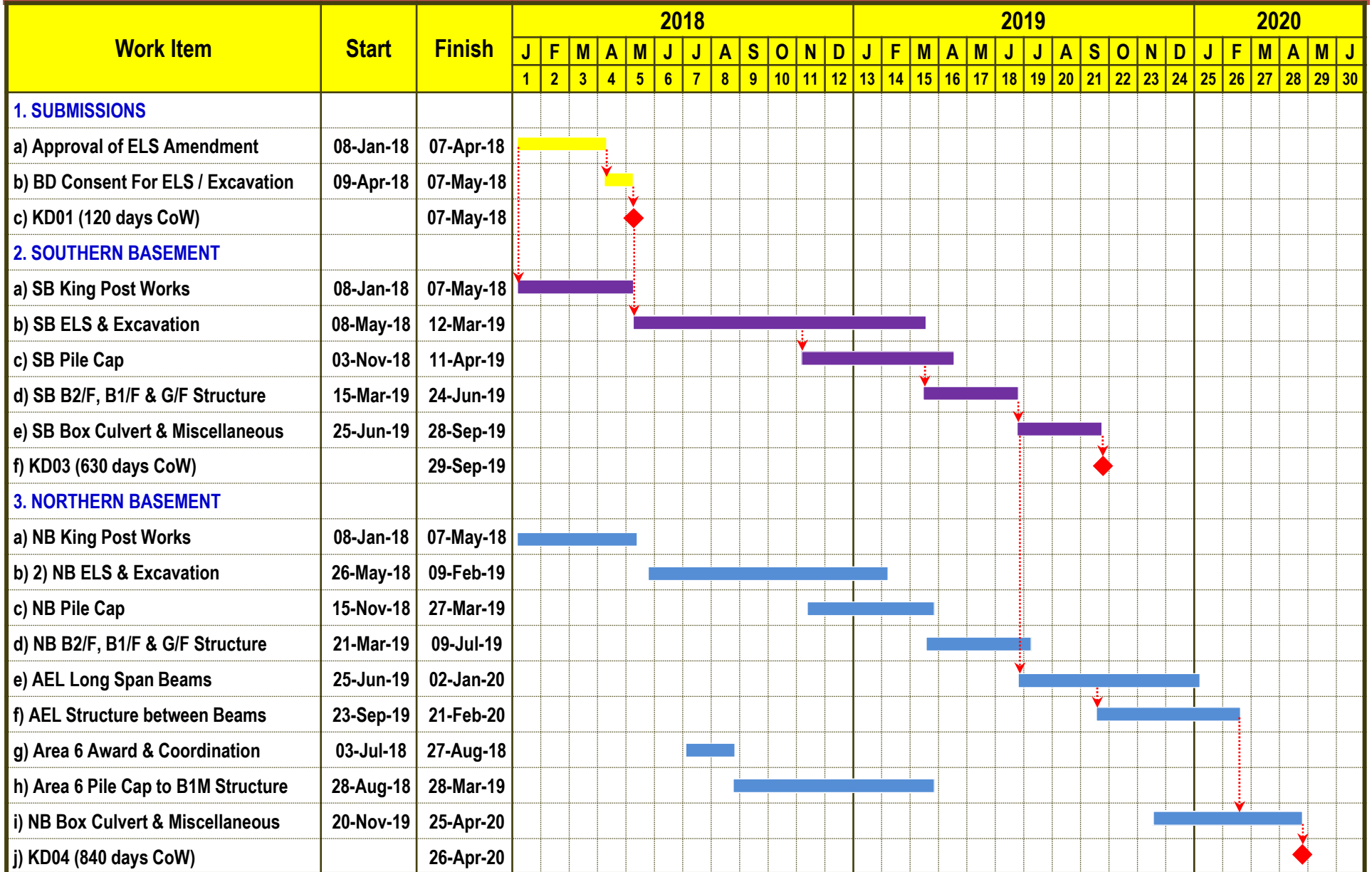
Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January					February					March					April					May			
										28					29					30					31					32			
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	32				
M+ MEP Preliminaries																																	
M+ HVAC																																	
A65060	Shop Drawing Submission and Approval (M+ HVAC)	120	20-Oct-17	17-Feb-18	14-Nov-15 A	26-May-18	81.39%	0%	-98																								
M+ Electrical																																	
A65070	Shop Drawing Submission and Approval (Electrical)	120	20-Oct-17	17-Feb-18	14-Dec-15 A	26-May-18	81.39%	0%	-98																								
M+ FS																																	
A65090	Shop Drawing Submission and Approval (Fire Services)	120	20-Oct-17	17-Feb-18	17-Jun-16 A	26-May-18	81.39%	0%	-98																								
M+ P&D																																	
A65080	Shop Drawing Submission and Approval (Plumbing and Dra	120	20-Oct-17	17-Feb-18	24-Mar-16 A	26-May-18	81.39%	0%	-98																								
CSF MEP Preliminaries																																	
M+ HVAC																																	
A65100	Shop Drawing Submission and Approval (CSF HVAC)	120	20-Oct-17	17-Feb-18	11-Apr-17 A	26-May-18	81.39%	0%	-98																								
M+ Electrical																																	
A65110	Shop Drawing Submission and Approval (Electrical)	120	20-Oct-17	17-Feb-18	14-Dec-15 A	26-May-18	81.39%	0%	-98																								
M+ P&D																																	
A65120	Shop Drawing Submission and Approval (Plumbing and Dra	120	20-Oct-17	17-Feb-18	16-Nov-16 A	26-May-18	81.39%	0%	-98																								
M+ FS																																	
A65130	Shop Drawing Submission and Approval (Fire Services)	120	20-Oct-17	17-Feb-18	17-Jun-16 A	26-May-18	81.39%	0%	-98																								
RDE MEP Preliminaries																																	
M+ Electrical																																	
A65170	Shop Drawing Submission and Approval (Electrical)	120	20-Oct-17	17-Feb-18	14-Dec-15 A	26-May-18	81.39%	0%	-98																								
M+ FS																																	
A65150	Shop Drawing Submission and Approval (Fire Services)	120	20-Oct-17	17-Feb-18	17-Jun-16 A	26-May-18	81.39%	0%	-98																								
M+ HVAC																																	
A65140	Shop Drawing Submission and Approval (RDE HVAC)	120	20-Oct-17	17-Feb-18	21-Nov-16 A	26-May-18	81.39%	0%	-98																								
M+ P&D																																	
A65160	Shop Drawing Submission and Approval (Plumbing and Dra	120	20-Oct-17	17-Feb-18	14-Dec-16 A	26-May-18	81.39%	0%	-98																								
Provisional Items Cost Centre G (FS / OP non related items tentative for reference only)																																	
1B) Fixed & loose furniture at M+ Tower																																	
P1B6000	CAI for Fixed & loose furniture at M+ Tower	0			20-Apr-18		0%	0%														◆ CAI for Fixed & lo											
1C) Fixed & loose furniture at M+ Galleries																																	
P1C6000	CAI for Fixed & loose furniture at M+ Galleries	0			03-Apr-18		0%	0%														◆ CAI for Fixed & loose furniture at M+ Ga											
P1C6010	Fixed & loose furniture at M+ Galleries subletting	0			12-Apr-18	12-Jun-18	0%	0%																									
1D) Juke Box equipment system & machinery																																	
P1D6000	CAI for Juke Box equipment system & machinery	0			07-Apr-18		0%	0%														◆ CAI for Juke Box equipment syste											
P1D6010	Juke Box equipment system & machinery subletting	0			16-Apr-18	16-Jun-18	0%	0%																									
1F) Fixed & loose furniture for Moving Image Centre																																	
P1F6000	CAI for Fixed & loose furniture for Moving Image Centre	0			28-Mar-18		0%	0%														◆ CAI for Fixed & loose furniture for Moving Imag											
P1F6010	Fixed & loose furniture for Moving Image Centre subletting	0			10-Apr-18	10-Jun-18	0%	0%																									
2C) Elements Cooling Main access modification																																	
P2C6000	CAI for Elements Cooling Main access modification	0			20-Apr-18		0%	0%														◆ CAI for Elements											
2E) MEP & Misc building works assoc. District Cooling System intake pump cell																																	
P2E6000	CAI for MEP & Misc building works assoc. District Cooling Sy	0			20-Apr-18		0%	0%														◆ CAI for MEP & M											
Contractor's Summary Works Programme																																	
Milestone Dates																																	
Cost Centre A - Preliminaries & General Requirements																																	
MSA.12	Compliance Review to the CA's satisfaction on Project Time	0				26-Jan-18	0%	0%														◆ Compliance Review to the CA's satisfaction on;Project Time & Construction PMgt Doc (t=M27),											
MSA.13i	Compliance Review to the CA's satisfaction on Project Time	0				26-Jan-18	0%	0%														◆ Compliance Review to the CA's satisfaction on;Project Time & Construction PMgt Doc (t=M27),											
MSA.14	Compliance Review to the CA's satisfaction on Project Time	0				01-Apr-18*	0%	0%														◆ Compliance Review to the CA's satisfactio											
Cost Centre B - M+ Museum & CSF																																	
MSB.06.e	Complete 3F slab at Zone A1 to A5, Zone E and Zone H (Tr=M	0				22-Apr-18	0%	0%														◆ Complete 3F s											
MSB.06.d	Complete 4F and 2F infill slab between truss 1 and 2 (Tr=M2	0				02-Feb-18	0%	0%														◆ Complete 4F and 2F infill slab between truss 1 and 2 (Tr=M27),											
MSB.12iii	Complete installation of DCS plant and equipment (Tr=M31)	0				21-Mar-18	0%	0%														◆ Complete installation of DCS plant and equipment (Tr=M											
MSB.09i	Handover TX Rooms for CLP installation (Tr=M26)	0				02-Mar-18	0%	0%														◆ Handover TX Rooms for CLP installation (Tr=M26),											
Cost Centre J - RDE Building																																	
MSJ.01-2	1F Structure Complete to 100% (Tr=M23)	0				26-Jan-18	0%	0%														◆ 1F Structure Complete to 100% (Tr=M23),											
MSJ.01a	4F Structure Complete (Tr=M28)	0				07-Apr-18	0%	0%														◆ 4F Structure Complete (Tr=M28),											
M+																																	
SUM-1600	M+ Podium External Envelope (By Permasteelisa)	265	18-Nov-17	12-Oct-18	26-Jan-18	17-Jan-19	21.09%	0%	-79																								
SUM-1500	M+ Podium Glass Wall & Skylight (By RedLand, Permasteelis	232	21-Oct-17	04-Aug-18	26-Jan-18	17-Jan-19	34.12%	0%	-136																								
SUM-1100	M+ Podium Structure RC Works	204	20-Oct-17	03-Jul-18	09-Sep-16 A	04-Aug-18	39.15%	62.82%	-29																								
SUM-1400	M+ Podium Tower Facade Preliminaries	184	20-Oct-17	06-Jun-18	06-Mar-16 A	17-Aug-18	43.5%	71.57%	-60																								
SUM-1700	M+ Tower External Envelope (By Permasteelisa)	368	20-Oct-17	16-Jan-19	06-Jan-17 A	08-Nov-18	21.75%	42.94%	56																								
SUM-1300	M+ Tower Structure RC Works	248	20-Oct-17	22-Aug-18	31-Jul-17 A	08-Sep-18	32.26%	3.8%	-15																								

Three Months Rolling Programme (3MRP) - Mth 28 - 30 January 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	January 28					February 29					March 30					April 31					May 32				
										24	31	07	14	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29						
CSF & RDE Construction																																		
SUM-2200	CSF Building Facade Preliminaries	200	20-Oct-17	26-Jun-18	03-Mar-17 A	13-Sep-18	40%	44.93%	-67																									
SUM-2300	CSF External Envelope	255	20-Oct-17	30-Aug-18	19-Jun-17 A	07-Nov-18	31.43%	3.75%	-56																									
SUM-2100	CSF Super-Structure RC Works	146	20-Oct-17	20-Apr-18	20-Mar-17 A	19-Jun-18	54.79%	55.93%	-47																									
SUM-2500	RDE Building FACADE Preliminaries	78	20-Oct-17	23-Jan-18	20-Oct-16 A	12-Jan-18 A	100%	100%	10																									
SUM-2600	RDE External Envelope	210	07-Apr-18	15-Dec-18	04-Jun-18	31-Jan-19	0%	0%	-37																									
SUM-2400	RDE Super-Structure RC Works	281	20-Oct-17	02-Oct-18	29-Mar-17 A	27-Nov-18	28.47%	18.66%	-47																									
ABWF & Building Services																																		
SUM-3100	ABWF & BS Pre-Construction Works	0			05-Jan-18 A	05-Jan-18 A	0%	100%																										
SUM-3200	ABWF & Building Services Installation	443	20-Oct-17	23-Apr-19	06-Apr-17 A	06-Jun-19	18.04%	33.62%	-36																									
SUM-3000	Lifts and Escalators	309	22-Dec-17	09-Jan-19	07-Feb-18	17-Apr-19	8.74%	0%	-80																									
ICP & SPS																																		
SUM-4200	External Works	134	20-Oct-17	06-Apr-18	29-Dec-16 A	17-Apr-18	59.7%	78.52%	-9																									
SUM-4100	ICP WORKS (Interfacing Car Park)	312	20-Oct-17	09-Nov-18	29-Oct-16 A	08-Oct-18	25.63%	63.26%	27																									
SUM-4000	SPS WORKS (Sewerage Pumping Station)	43	20-Oct-17	11-Dec-17	29-Jul-16 A	26-Jan-18	100%	100%	-37																									
Co-ordinated External Works & Utilities Services Installation																																		
SUM-5100	Construction	311	20-Oct-17	07-Nov-18	12-Jul-16 A	21-Nov-18	25.76%	59.13%	-12																									
SUM-5000	Interface Dates	497	20-Oct-17	27-Jun-19	10-Jan-15 A	25-Jan-19	16.1%	73.72%	121																									

Lyric Theatre Complex

L1 Contract for Lyric Theatre Complex and the Extended Basement Summary Programme



L1 Contract for Lyric Theatre Complex and the Extended Basement Summary Programme

Work Item	Start	Finish	2018												2019												2020					
			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
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
4. BOX CULVERT & DCS WORKS																																
a) DCS Intake H/O M39 & M41A to L1		06-Oct-18																														
b) DCS Intake Prep. & Demolish ESS	08-Oct-18	18-Dec-18																														
c) DCS Intake BD Consent & Excav.	19-Dec-18	28-Feb-19																														
d) BC/DCS Outfall Comp of SB Struct.		24-Jun-19																														
e) BC/DCS Outfall ELS & Excavation	25-Jun-19	28-Aug-19																														
f) BC/DCS Outfall Cast In-situ Culvert	29-Aug-19	25-Nov-19																														
g) BC/DCS Outfall Excav. / Remove SW	26-Nov-19	21-Dec-19																														
h) BC/DCS Outfall Pre-cast Culvert	23-Dec-19	21-Apr-20																														
i) KD04 / KD05 (840 days CoW)		26-Apr-20																														
5. AR WEST & EXTERNAL WORKS																																
a) AR West TTM & Excav. Permit	18-Jan-18	04-Aug-18																														
b) AR West Drainage & Utilities	06-Aug-19	09-Aug-19																														
c) AR West Road Works	14-Mar-19	17-Mar-20																														
d) Ext. Work TTM & Excav. Permit	18-Jan-18	04-Aug-18																														
e) Ext. Work Drainage	06-Aug-18	18-Apr-19																														
f) Ext. Work Utilities & Road Works	23-Apr-19	10-Mar-20																														
g) KD05 (840 days CoW)		26-Apr-20																														

C. Action and Limit Levels for Construction Phase

Air Quality

The Action and Limit Levels for 1-hour and 24-hour TSP for the monitoring station are presented in following tables:

Table C-1: Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level (mg/m ³)	Limit Level (mg/m ³)
AM1	273.7	500
AM2A	274.2	500

Table C-2: Action and Limit Levels for 24-hour TSP

Monitoring Station	Action Level (µg/m ³)	Limit Level (µg/m ³)
AM1	143.6	260
AM2A	151.1	260

Noise

The Action and Limit Levels for Noise for the monitoring stations are presented in following table:

Table C-3: Action and Limit Levels for Construction Noise

Time Period & Monitoring Locations	Action Level	Limit Level
NM1A		
0700-1900 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)

D. Event and Action Plan for Air Quality, Noise, Landscape and Visual Impact

Air Quality

In case the Action and Limit Levels are not complied during construction stage, the following Event and Action Plan should be followed:

Table D-1: Event and Action Plan for Air Quality

Event	Action			
	ET	IEC	WKCD A	Contractor
Action Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and WKCD A; 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.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC and WKCD A; 3. Advise the WKCD A on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and WKCD A; 8. 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 ET on the effectiveness of the proposed remedial measures; 5. Monitor the 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 measures properly implemented. 	<ol style="list-style-type: none"> 1. Submit proposals for remedial to WKCD A within three working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
Limit Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform WKCD A, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCD A informed of the results. 	<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 WKCD A on the effectiveness of the proposed remedial measures; 5. Monitor the 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 measures properly implemented. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.

Event**Action**

2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none">1. Notify IEC, WKCDA, Contractor and EPD;2. Identify source;3. Repeat measurement to confirm findings;4. Increase monitoring frequency to daily;5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;6. Arrange meeting with IEC and WKCDA to discuss the remedial actions to be taken;7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCDA informed of the results;8. 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 amongst WKCDA, ET, and Contractor on the potential remedial actions;4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the WKCDA accordingly;5. Monitor the implementation of remedial measures.	<ol style="list-style-type: none">1. Confirm receipt of notification of failure in writing;2. Notify Contractor;3. In consolidation with the IEC, agree on the remedial measures to be implemented;4. Ensure remedial measures properly implemented;5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	<ol style="list-style-type: none">1. Take immediate action to avoid further exceedance;2. Submit proposals for remedial actions to IEC within three working days of notification;3. Implement the agreed proposals;4. Resubmit proposals if problem still not under control;5. Stop the relevant portion of works as determined by the WKCDA until the exceedance is abated.
---	--	--	---	--

Construction Noise

In case the Action and Limit Levels are not complied during construction stage, the following Event and Action Plan should be followed:

Table D-2: Event and Action Plan for Construction Noise

Event	Action			
	ET	IEC	WKCD	Contractor
Action Level	<ol style="list-style-type: none"> 1. Notify WKCD, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, WKCD and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the WKCD accordingly; 3. Advise the WKCD on the effectiveness of the proposed remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and WKCD; 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Inform IEC, WKCD, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and WKCD on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCD informed of the results; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Discuss amongst WKCD, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the WKCD accordingly. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance 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 and WKCD within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the WKCD until the exceedance is abated.

Landscape and Visual Impact

In case of non-compliance of landscape and visual impacts, procedures in accordance with the Event and Action Plan should be followed:

Table D-3: Event and Action Plan for Landscape and Visual Impact

Event	Action			
	ET	IEC	WKCD A	Contractor
Design Check	<ol style="list-style-type: none"> 1. Design check to make sure the design complies with all the proposed mitigation measures in the EIA report; 2. Prepare and submit report. 	<ol style="list-style-type: none"> 1. Check report submitted by ET; 2. Recommend remedial design if necessary. 	<ol style="list-style-type: none"> 1. Undertake remedial design if necessary. 	-
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Identify source of non-conformity; 2. Report to IEC and WKCD A; 3. Discuss remedial actions with IEC, WKCD A and Contractor; 4. Monitor remedial actions until rectification has been completed. 	<ol style="list-style-type: none"> 1. Check and verify source of non-conformity; 2. Discuss remedial actions with ET and Contractor; 3. Advise WKCD A on effectiveness of proposed remedial actions; 4. Check implementation of remedial actions. 	<ol style="list-style-type: none"> 1. Notify Contractor; 2. Ensure remedial actions are properly implemented. 	<ol style="list-style-type: none"> 1. Amend working method as necessary; 2. Rectify damage and undertake necessary replacement and remedial actions.
Repeated conformity	<ol style="list-style-type: none"> 1. Identify source of non-conformity; 2. Report to IEC and WKCD A; 3. Increase monitoring frequency; 4. Discuss remedial actions with IEC, WKCD A and Contractor; 5. Monitor remedial actions until rectification has been completed; 6. If non-conformity rectified, reduce monitoring frequency back to normal. 	<ol style="list-style-type: none"> 1. Check and verify source of non-conformity; 2. Check Contractor's working method; 3. Discuss remedial actions with ET and Contractor; 4. Advise WKCD A on effectiveness of proposed remedial actions; 5. Supervise implementation of remedial actions. 	<ol style="list-style-type: none"> 1. Notify Contractor; 2. Ensure remedial actions are properly implemented. 	<ol style="list-style-type: none"> 1. Amend working method as necessary; 2. Rectify damage and undertake necessary replacement and remedial actions.

E. Monitoring Schedule

JANUARY 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	5	6
7	8	9	10 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	11	12	13
14	15	16 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	17	18	19	20
21	22 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	23	24	25	26 AM1, AM2A - 24hrTSP, 1hr TSP x3	27
28	29	30	31			
		Notes: AM1 - International Commerce Centre (ICC) AM2A - Austin Road West (Opposite to The Harbourside) NM1A - International Commerce Centre (ICC)				

FEBRUARY 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	2	3
4	5	6	7 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	8	9	10
11	12	13 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	14	15 AM1, AM2A - 24hrTSP, 1hr TSP x3	16	17
18	19	20	21 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	22	23	24
25	26 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	27	28			
		Notes: AM1 - International Commerce Centre (ICC) AM2A - Austin Road West (Opposite to The Harbourside) NM1A - International Commerce Centre (ICC)				

F. Calibration Certifications

High-Volume TSP Sampler
5-Point Calibration Record

Location : AM1(ICC)
 Calibrated by : K.T.Ho
 Date : 12/12/2017

Sampler

Model : TE-5170
 Serial Number : S/N 0767

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 20 Mar 2017
 Slope (m) : 2.08464
 Intercept (b) : -0.03684
 Correlation Coefficient(r) : 0.99994

Standard Condition

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

Calibration Condition


Pa (hpa) : 1018
 Ta(K) : 293

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 | 18 holes	11.4	3.413	1.655	58	58.64
2 | 13 holes	8.8	2.999	1.456	48	48.53
3 | 10 holes	6.6	2.597	1.264	40	40.44
4 | 7 holes	4.6	2.168	1.058	30	30.33
5 | 5 holes	2.8	1.692	0.829	18	18.20

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship

Slope(m): 48.372 Intercept(b): -21.355 Correlation Coefficient(r): 0.9993

Checked by: 
 Magnum Fan

Date: 14/12/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location : AM2A (Harbourside)
 Calibrated by : K.T.Ho
 Date : 12/12/2017

Sampler

Model : TE-5170
 Serial Number : S/N 8919

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 20 Mar 2017
 Slope (m) : 2.08464
 Intercept (b) : -0.03684
 Correlation Coefficient(r) : 0.99994

Standard Condition

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

Calibration Condition


Pa (hpa) : 1018
 Ta(K) : 293

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.6	3.589	1.739	62	62.68
2	13 holes	9.4	3.100	1.505	50	50.55
3	10 holes	7.2	2.713	1.319	42	42.46
4	7 holes	4.6	2.168	1.058	32	32.35
5	5 holes	3.0	1.751	0.858	24	24.26

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship

Slope(m): 42.986 Intercept(b): -13.233 Correlation Coefficient(r): 0.9980

Checked by: 
 Magnum Fan

Date: 14/12/2017



TISCH ENVIRONMENTAL, INC.
 145 SOUTH MIAMI AVE
 VILLAGE OF CLEVELS, OH
 45002
 513.467.9000
 877.263.7610 TOLL FREE
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 20, 2017 Rootsmeter S/N 0438320 Ta (K) - 293
 Operator Tisch Orifice I.D. - 2454 Pa (mm) - 759.46

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER	ORFICE
					DIFF Hg (mm)	DIFF H2O (in.)
1	NA	NA	1.00	1.4390	3.2	2.00
2	NA	NA	1.00	1.0240	6.4	4.00
3	NA	NA	1.00	0.9170	7.9	5.00
4	NA	NA	1.00	0.8730	8.8	5.50
5	NA	NA	1.00	0.7200	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
1.0120	0.7033	1.4257	0.9958	0.6920	0.8784
1.0078	0.9842	2.0163	0.9916	0.9683	1.2423
1.0057	1.0967	2.2543	0.9895	1.0791	1.3889
1.0045	1.1507	2.3643	0.9884	1.1322	1.4567
0.9992	1.3878	2.8514	0.9831	1.3654	1.7568
Qstd slope (m) = 2.08464			Qa slope (m) = 1.30537		
intercept (b) = -0.03684			intercept (b) = -0.02270		
coefficient (r) = 0.99994			coefficient (r) = 0.99994		
y axis = SQRT[H2O(Pa/760) (298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

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

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

For subsequent flow rate calculations:

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

CALIBRATION CERTIFICATE

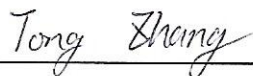
Date: July 27, 2017

Equipment Name	:	Digital Dust Indicator, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	245833
Sensitivity	:	0.001 mg/m ³
Sensitivity Adjustment	:	711CPM
Scale Setting	:	Jul 25, 2017

We hereby certify that the above mentioned instrument has been calibrated satisfactorily.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.



Tong Zhang

Overseas Sales Division



REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

REPORT NO. : HK1710682
 PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER
 DATE OF ISSUE : 21/8/2017

CUSTOMER : Envirotech Services Company
 ADDRESS : Rm. 113, 1/F., MY LOFT, 9 HOI WING ROAD, TUEN MUN, N.T.


REPORT NO. : HK1710682
 PROJECT ITEM NO. : HK1710682-01
PERFORMANCE CHECK / CALIBRATED EQUIPMENT
 TYPE : Digital Dust Indicator
 MANUFACTURER : SIBATA
 MODEL NO. : LD-3B
 SERIAL NO. : 245833
 EQUIPMENT NO. : ---
 RECEIPT DATE : 18/8/2017
 PERFORMANCE CHECK / CALIBRATION DATE : 18/8/2017

PERFORMANCE CHECK / CALIBRATION Information

CODE	Calibration Parameter	Method Procedure	Reference Method
Dust PC/CAL	Performance Check / Calibration of Dust Meter	CAL003	General Technical Requirements of Environmental Monitoring, Environmental Monitoring & Audit Guidelines for Development Projects in HK

- Notes : 1. This report shall not be reproduced, except in full, without prior approval from Pilot Testing Limited.
 2. Performance Check / Calibration result relates to performance check / calibration item(s) as received.

Approved Signatory

: 

 Wong Po Yan Pauline
 (Assistant Laboratory Manager)

Issue Date: 21/8/2017



REPORT OF PERFORMANCE CHECK / CALIBRATION

PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER
 DATE OF ISSUE : 21/8/2017
 REPORT NO. : HK1710682

PERFORMANCE CHECK / CALIBRATED EQUIPMENT

TYPE : Digital Dust Indicator
 MANUFACTURER : SIBATA
 MODEL NO. : LD-3B
 SERIAL NO. : 245833
 EQUIPMENT NO. : ---
 SENSITIVITY ADJUSTMENT : ---
 PERFORMANCE CHECK / CALIBRATION DATE : 18/8/2017

STANDARD EQUIPMENT

TYPE : HIGH VOLUME AIR SAMPLER
 MANUFACTURER : TISCH
 MODEL NO. : TE-5170
 EQUIPMENT REF NO. : PTL_HV002
 LAST CALIBRATION DATE : 31/7/2017

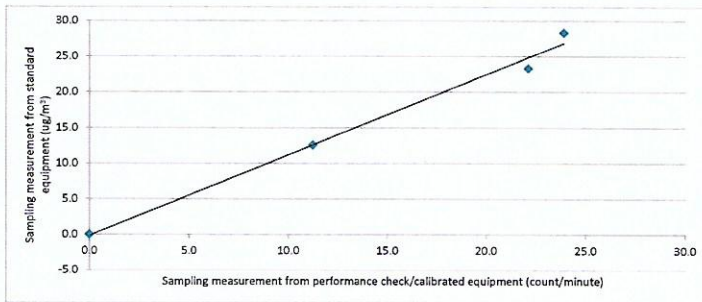
EQUIPMENT PERFORMANCE CHECK / CALIBRATION RESULTS:

Sensitivity Adjustment Scale Setting (Before Performance check / Calibration): 712 CPM
 Sensitivity Adjustment Scale Setting (After Performance check / Calibration): 712 CPM

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard equipment) (Y - Axis)	Total Count ² (Performance Check / Calibrated equipment)	Concentration in Count/Minute ³ (Performance Check / Calibrated equipment) (X - Axis)
Zero Check ¹	18/8/2017,1:15:00 PM	30.4	1010	0	0	0
1	18/8/2017,2:19:00 PM	30.4	1010	23	1327	22
2	18/8/2017,3:24:00 PM	30.4	1010	28	1434	24
3	18/8/2017,4:29:00 PM	30.4	1010	13	674	11

Linear Regression of Y on X

Slope (K- factor) : 1.1
 Correlation Coefficient : 0.9953
 Validity of Performance Check / Calibration Record : 18/8/2018



- Notes : 1. Zero check conducted as per CAL003 SOP and manufacturer's manual as appropriate.
 2. Total Count was measured by Digital Dust Indicator.
 3. Count/minute was calculated by (Total Count/60)
 4. This report shall not be reproduced, except in full, without prior approval from Pilot Testing Limited.
 5. Performance Check / Calibration result relates to performance check / calibration item(s) as received.

Operator: Lau, Natalie Signature: *Natalie* Date: 18/8/2017

Checked by: Wong Po Yan, Pauline Signature: *Wong Po Yan* Date: 21/8/2017

CALIBRATION CERTIFICATE

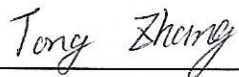
Date: July 27, 2017

Equipment Name	:	Digital Dust Indicator, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	276015
Sensitivity	:	0.001 mg/m ³
Sensitivity Adjustment	:	721CPM
Scale Setting	:	Jul 6, 2017

We hereby certify that the above mentioned instrument has been calibrated satisfactorily.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.



Tong Zhang

Overseas Sales Division



REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

REPORT NO. : HK1710683
 PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER
 DATE OF ISSUE : 21/8/2017

CUSTOMER : Envirotech Services Company
 ADDRESS : Rm. 113, 1/F., MY LOFT, 9 HOI WING ROAD, TUEN MUN, N.T.

REPORT NO. : HK1710683
 PROJECT ITEM NO. : HK1710683-01

PERFORMANCE CHECK / CALIBRATED EQUIPMENT

TYPE : Digital Dust Indicator
 MANUFACTURER : SIBATA
 MODEL NO. : LD-3B
 SERIAL NO. : 276015
 EQUIPMENT NO. : ---
 RECEIPT DATE : 18/8/2017
 PERFORMANCE CHECK / CALIBRATION DATE : 18/8/2017

PERFORMANCE CHECK / CALIBRATION Information

CODE	Calibration Parameter	Method Procedure	Reference Method
Dust PC/CAL	Performance Check / Calibration of Dust Meter	CAL003	General Technical Requirements of Environmental Monitoring, Environmental Monitoring & Audit Guidelines for Development Projects in HK

- Notes : 1. This report shall not be reproduced, except in full, without prior approval from Pilot Testing Limited.
 2. Performance Check / Calibration result relates to performance check / calibration item(s) as received.

Approved Signatory



Wong Po Yan Pauline
 (Assistant Laboratory Manager)

Issue Date:

21/8/2017


REPORT OF PERFORMANCE CHECK / CALIBRATION

PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER
 DATE OF ISSUE : 21/8/2017
 REPORT NO. : HK1710683

PERFORMANCE CHECK / CALIBRATED EQUIPMENT

TYPE : Digital Dust Indicator
 MANUFACTURER : SIBATA
 MODEL NO. : LD-3B
 SERIAL NO. : 276015
 EQUIPMENT NO. : ---
 SENSITIVITY ADJUSTMENT : ---
 PERFORMANCE CHECK / CALIBRATION DATE : 18/8/2017

STANDARD EQUIPMENT

TYPE : HIGH VOLUME AIR SAMPLER
 MANUFACTURER : TISCH
 MODEL NO. : TE-5170
 EQUIPMENT REF NO. : PTL_HV002
 LAST CALIBRATION DATE : 31/7/2017

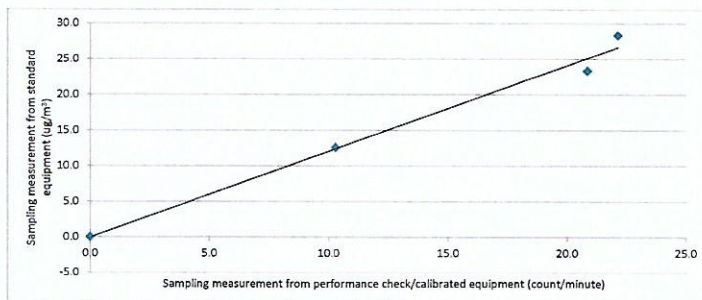
EQUIPMENT PERFORMANCE CHECK / CALIBRATION RESULTS:

Sensitivity Adjustment Scale Setting (Before Performance check / Calibration): 721 CPM
 Sensitivity Adjustment Scale Setting (After Performance check / Calibration): 721 CPM

Trial no. in 1-hr period	Time	Mean Temp (C)	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard equipment) (Y - Axis)	Total Count ² (Performance Check / Calibrated equipment)	Concentration in Count/Minute ³ (Performance Check / Calibrated equipment) (X - Axis)
Zero Check ¹	18/8/2017,1:15:00 PM	30.4	1010	0	0	0
1	18/8/2017,2:19:00 PM	30.4	1010	23	1252	21
2	18/8/2017,3:24:00 PM	30.4	1010	28	1329	22
3	18/8/2017,4:29:00 PM	30.4	1010	13	618	10

Linear Regression of Y on X

Slope (K- factor) : 1.2
 Correlation Coefficient : 0.9937
 Validity of Performance Check / Calibration Record : 18/8/2018



- Notes : 1. Zero check conducted as per CAL003 SOP and manufacturer's manual as appropriate.
 2. Total Count was measured by Digital Dust Indicator.
 3. Count/minute was calculated by (Total Count/60)
 4. This report shall not be reproduced, except in full, without prior approval from Pilot Testing Limited.
 5. Performance Check / Calibration result relates to performance check / calibration item(s) as received.

Operator: Lau, Natalie Signature: Natalie Date: 18/8/2017

Checked by: Wong Po Yan, Pauline Signature: Pauline Date: 21/8/2017



Certificate of Calibration

校正證書

Certificate No. : C174093
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-1613) Date of Receipt / 收件日期 : 11 July 2017
Description / 儀器名稱 : Precision Integrating Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-18
Serial No. / 編號 : 00360030
Supplied By / 委託者 : Envirotech Services Co.
Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

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

TEST SPECIFICATIONS / 測試規範

Calibration

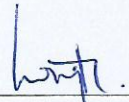
DATE OF TEST / 測試日期 : 22 July 2017

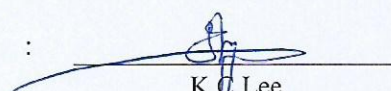
TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification. (after adjustment)
The results are detailed in the subsequent page(s).

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

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

Tested By : 
測試 : H T Wong
Technical Officer

Certified By : 
核證 : K C Lee
Engineer

Date of Issue : 24 July 2017
簽發日期

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書請先獲本實驗室書面批准。

Certificate of Calibration

校正證書

Certificate No. : C174093

證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- Self-calibration using the internal standard (After Adjustment) was performed before the test from 6.1.1.2 to 6.4.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL280	40 MHz Arbitrary Waveform Generator	C170048
CL281	Multifunction Acoustic Calibrator	PA160023

- Test procedure : MA101N.

- Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Adjustment

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	* 92.9	± 0.7

* Out of IEC 60651 Type 1 Spec.

6.1.1.2 After Adjustment

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
60 - 120	LA	A	Fast	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.1

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

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

Certificate of Calibration

校正證書

Certificate No. : C174093

證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	94.1	Ref.
			Slow			94.0	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
50 - 110	LA	A	Fast	106.00	Continuous	106.0	Ref.
	LAmx				200 ms	105.1	-1.0 ± 1.0
	LA	Slow	Continuous		106.0	Ref.	
	LAmx		500 ms		102.4	-4.1 ± 1.0	

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 110	LA	A	Fast	94.00	31.5 Hz	54.5	-39.4 ± 1.5
					63 Hz	67.7	-26.2 ± 1.5
					125 Hz	77.7	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.4	$+1.2 \pm 1.0$
					4 kHz	95.1	$+1.0 \pm 1.0$
					8 kHz	93.0	$-1.1 (+1.5 ; -3.0)$
12.5 kHz	89.8	$-4.3 (+3.0 ; -6.0)$					

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

Certificate of Calibration

校正證書

Certificate No. : C174093
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 110	LC	C	Fast	94.00	31.5 Hz	90.9	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.2	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	94.0	-0.2 ± 1.0
					4 kHz	93.3	-0.8 ± 1.0
					8 kHz	91.1	-3.0 (+1.5 ; -3.0)
12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)					

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)	
Range (dB)	Mode	Frequency Weighting	Integrating Time	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)			
50 - 110	LAeq	A	10 sec.	4	1	1/10	110	100	100.1	± 0.5	
			60 sec.					1/10 ²	90	90.1	± 0.5
								1/10 ³	80	79.5	± 1.0
			5 min.					1/10 ⁴	70	69.8	± 1.0

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。



輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration

校正證書

Certificate No. : C174093

證書編號

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

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

- Uncertainties of Applied Value :

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

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

Note :

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

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

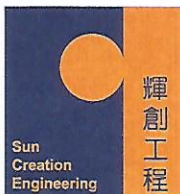
Sun Creation Engineering Limited - Calibration & Testing Laboratory

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 - 校正及檢測實驗室

c/o 香港新界屯門興安里一號青山灣機樓四樓

Tel 電話: 2927 2606 Fax 傳真: 2744 8986 E-mail 電郵: callab@suncreation.com Website 網址: www.suncreation.com



Certificate of Calibration 校正證書

Certificate No. : C171447
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0633) Date of Receipt / 收件日期 : 16 March 2017
Description / 儀器名稱 : Sound Level Calibrator
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-73
Serial No. / 編號 : 10486660
Supplied By / 委託者 : Envirotech Services Co.
Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件
Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範
Calibration check

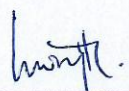
DATE OF TEST / 測試日期 : 17 March 2017


TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

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

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

Tested By : 
測試
H T Wong
Technical Officer

Certified By : 
核證
K C Lee
Project Engineer

Date of Issue : 23 March 2017
簽發日期

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。



輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C171447

證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C163709
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

- Test procedure : MA100N.

- Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.6	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.987	1 kHz ± 2 %	± 1

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

Note :

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

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

Sun Creation Engineering Limited – Calibration & Testing Laboratory

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 – 校正及檢測實驗室

c/o 香港新界屯門興安里一號青山灣機樓四樓

Tel/電話: 2927 2606

Fax/傳真: 2744 8986

E-mail/電郵: callab@suncreation.com

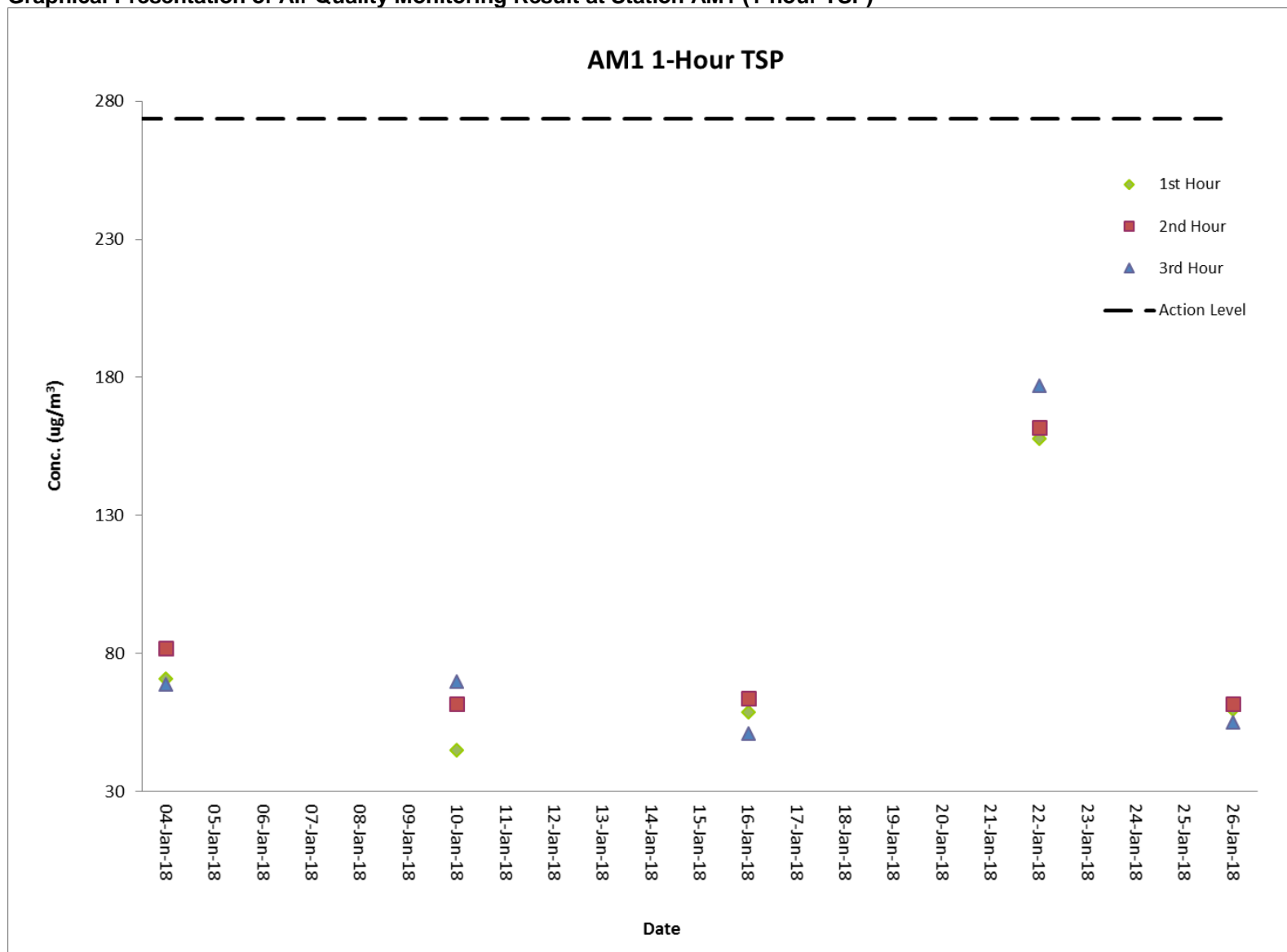
Website/網址: www.suncreation.com

G. Graphical Plots of the Monitoring Results

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

Date	Weather Condition	Time	Conc. ($\mu\text{g}/\text{m}^3$)			Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
			1st Hour	2nd Hour	3rd Hour		
04-Jan-18	Cloudy	10:50 - 16:00	71	82	69	273.7	500
10-Jan-18	Fine	10:48 - 16:00	45	62	70	273.7	500
16-Jan-18	Sunny	10:32 - 16:00	59	64	51	273.7	500
22-Jan-18	Sunny	10:48 - 16:00	158	162	177	273.7	500
26-Jan-18	Fine	8:02 - 11:02	60	62	55	273.7	500

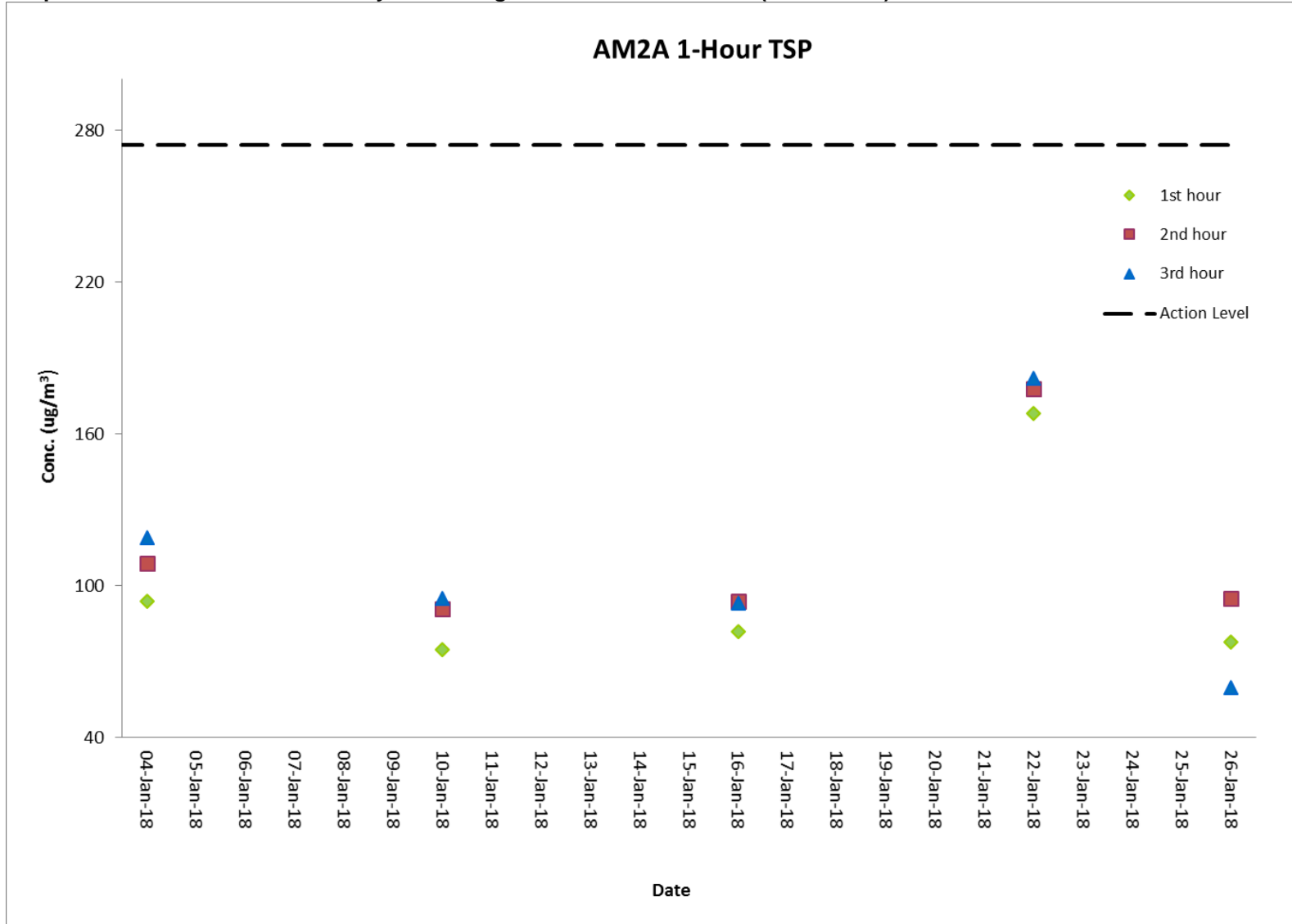
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (1-hour TSP)



Air Quality Monitoring Result at Station AM2A (1-hour TSP)

Date	Weather Condition	Time	Conc. ($\mu\text{g}/\text{m}^3$)			Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
			1st Hour	2nd Hour	3rd Hour		
04-Jan-18	Cloudy	11:02 - 16:10	94	109	119	274.2	500
10-Jan-18	Fine	11:02 - 16:10	75	91	95	274.2	500
16-Jan-18	Sunny	10:44 - 16:10	82	94	93	274.2	500
22-Jan-18	Sunny	11:00 - 16:10	168	178	182	274.2	500
26-Jan-18	Fine	8:14 - 11:14	78	95	60	274.2	500

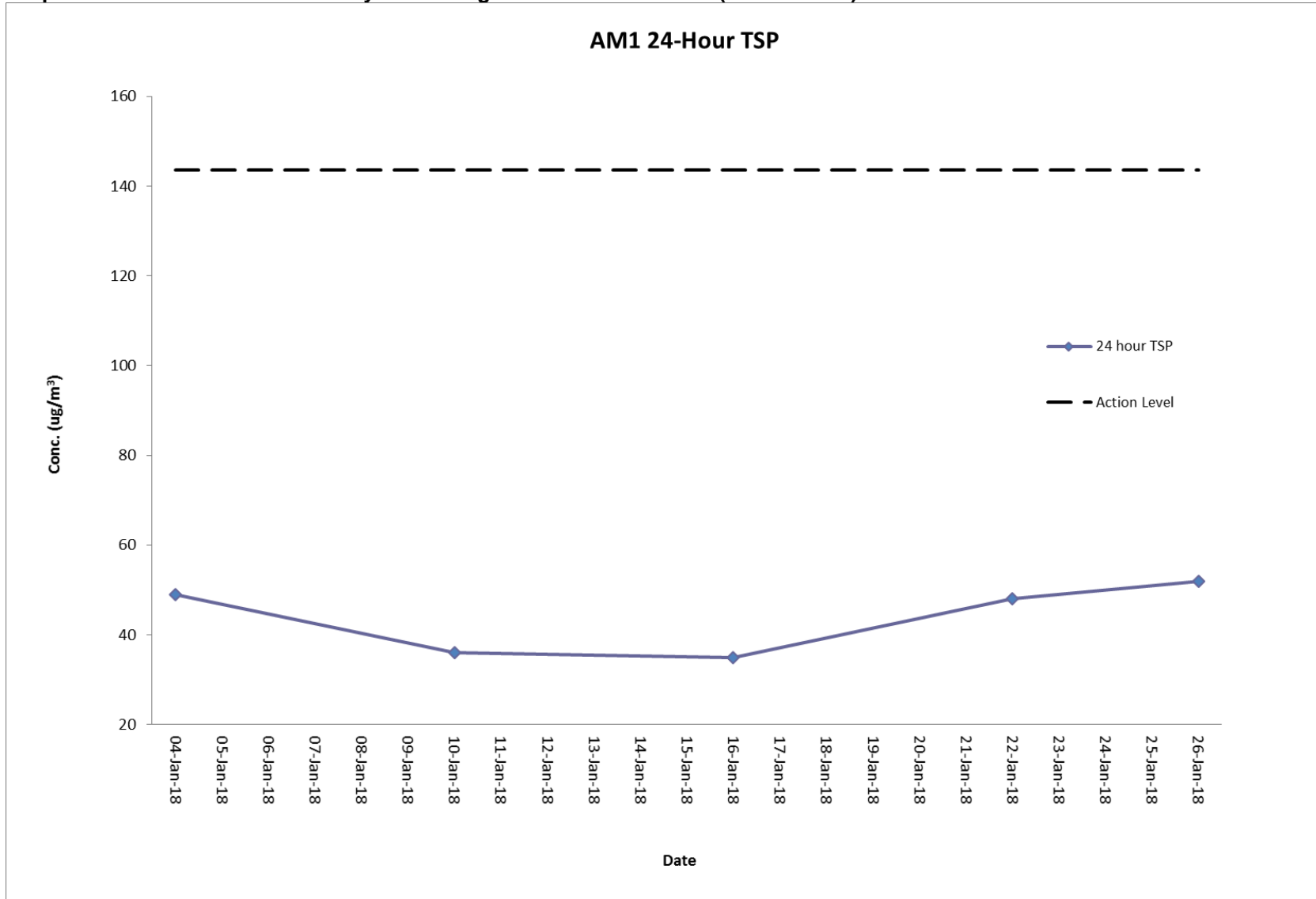
Graphical Presentation of Air Quality Monitoring Result at Station AM2A (1-hour TSP)



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

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			Conc. (µg/m ³)	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
04-Jan-18	10:48	05-Jan-18	10:48	2.773	2.8617	22056.38	22080.38	24	1.26	1.26	1.26	49	Cloudy	143.6	260
10-Jan-18	10:50	11-Jan-18	10:50	2.7732	2.8391	22080.38	22104.38	24	1.26	1.26	1.26	36	Fine	143.6	260
16-Jan-18	10:30	17-Jan-18	10:30	2.7376	2.8019	22104.38	22128.38	24	1.26	1.26	1.26	35	Sunny	143.6	260
22-Jan-18	10:45	23-Jan-18	10:45	2.7634	2.8498	22128.38	22152.38	24	1.26	1.26	1.26	48	Sunny	143.6	260
26-Jan-18	08:00	27-Jan-18	08:00	2.7685	2.8629	22152.38	22176.38	24	1.26	1.26	1.26	52	Fine	143.6	260

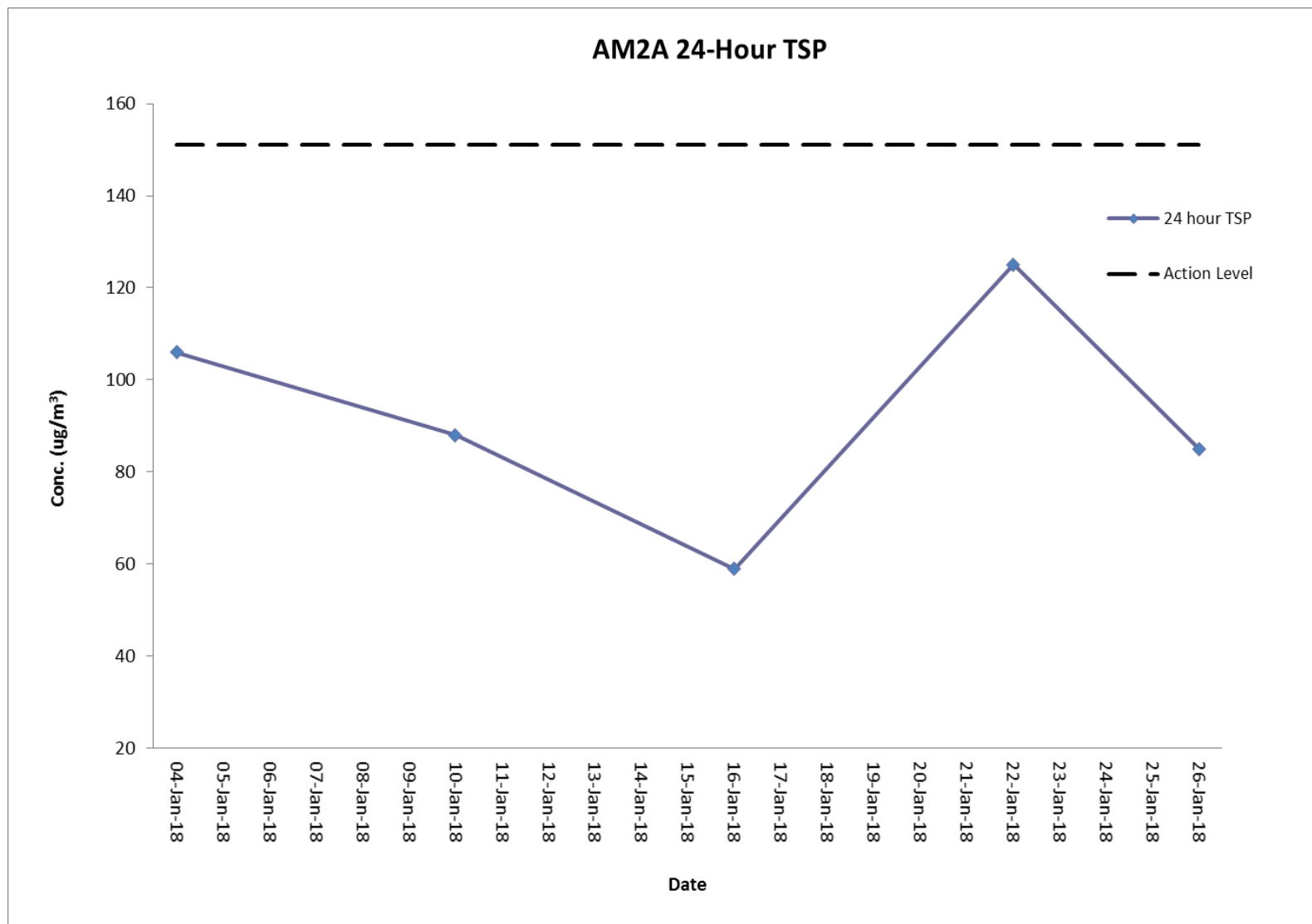
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (24-hour TSP)



Air Quality Monitoring Result at Station AM2A (24-hour TSP)

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m3/min)			Conc. (µg/m3)	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
04-Jan-18	11:00	05-Jan-18	11:00	2.7626	2.9517	17711.59	17735.59	24	1.24	1.24	1.24	106	Cloudy	151.1	260
10-Jan-18	11:00	11-Jan-18	11:00	2.7438	2.9009	17735.59	17759.59	24	1.24	1.24	1.24	88	Fine	151.1	260
16-Jan-18	10:42	17-Jan-18	10:42	2.7452	2.8505	17759.59	17783.59	24	1.24	1.24	1.24	59	Sunny	151.1	260
22-Jan-18	10:58	23-Jan-18	10:58	2.7376	2.9608	17783.59	17807.59	24	1.24	1.24	1.24	125	Sunny	151.1	260
26-Jan-18	08:12	27-Jan-18	08:12	2.7473	2.8988	17807.59	17831.59	24	1.24	1.24	1.24	85	Fine	151.1	260

Graphical Presentation of Air Quality Monitoring Result at Station AM2A (24-hour TSP)



Noise Monitoring Result at Station NM1A

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)
04-Jan-18	14:00	67.9	62.1	69
04-Jan-18	14:05	68.4	63.1	
04-Jan-18	14:10	68.7	63.4	
04-Jan-18	14:15	68.6	63.3	
04-Jan-18	14:20	68.0	62.5	
04-Jan-18	14:25	68.5	63.7	
10-Jan-18	14:00	67.9	63.7	69
10-Jan-18	14:05	68.0	64.1	
10-Jan-18	14:10	66.9	62.9	
10-Jan-18	14:15	67.2	63.7	
10-Jan-18	14:20	68.0	64.2	
10-Jan-18	14:25	68.8	64.7	
16-Jan-18	14:00	68.4	63.8	69
16-Jan-18	14:05	67.9	62.7	
16-Jan-18	14:10	68.0	62.9	
16-Jan-18	14:15	68.8	63.7	
16-Jan-18	14:20	68.9	63.8	
16-Jan-18	14:25	67.7	63.2	
22-Jan-18	14:00	67.9	63.4	69
22-Jan-18	14:05	68.4	64.0	
22-Jan-18	14:10	67.7	63.9	
22-Jan-18	14:15	68.9	64.7	
22-Jan-18	14:20	66.7	62.8	
22-Jan-18	14:25	67.2	63.2	

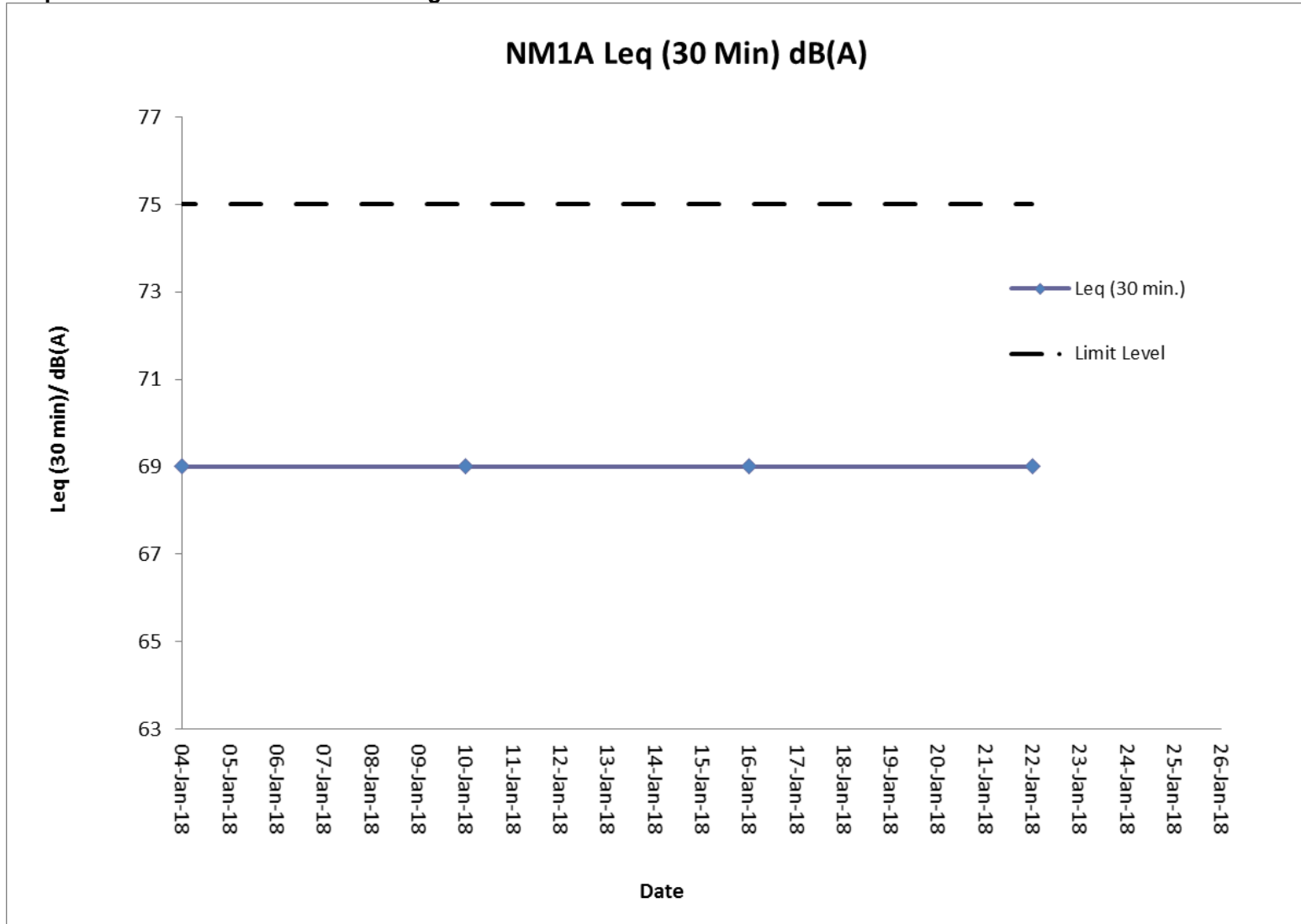
Remarks:

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



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

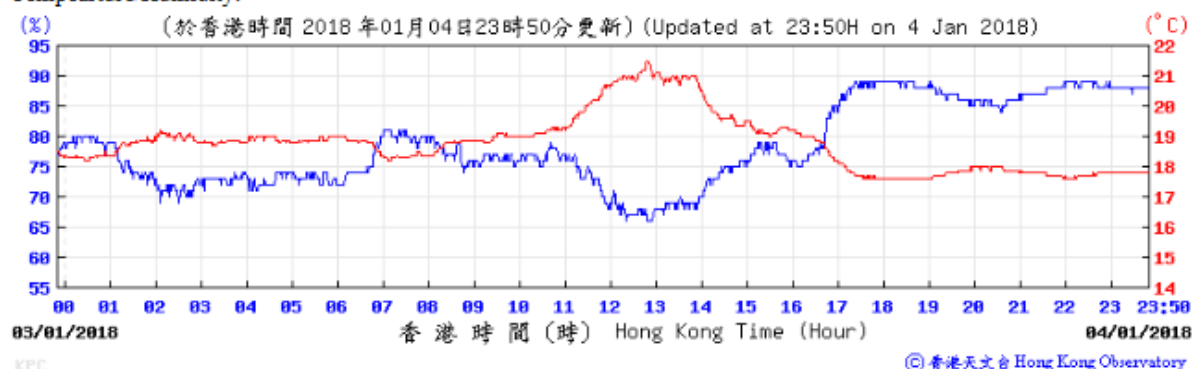
Graphical Presentation Noise Monitoring Result at Station NM1A



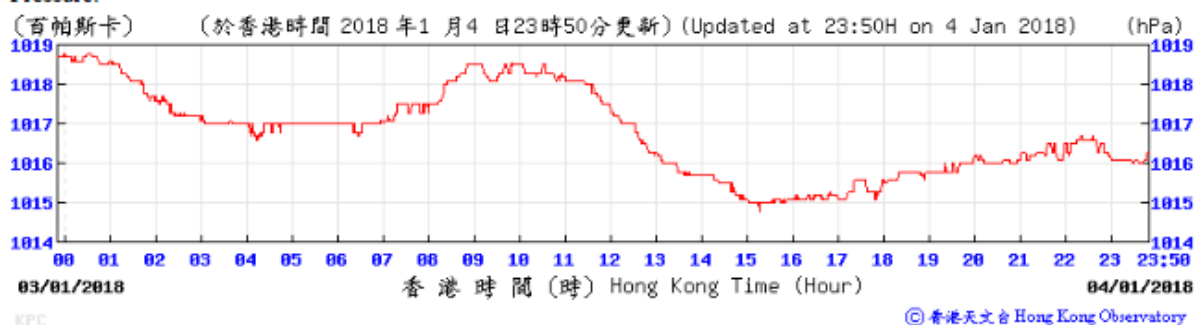
H. Meteorological Data Extracted from Hong Kong Observatory

Extract of Meteorological Observations for King's Park Automatic Weather Station, January 2018

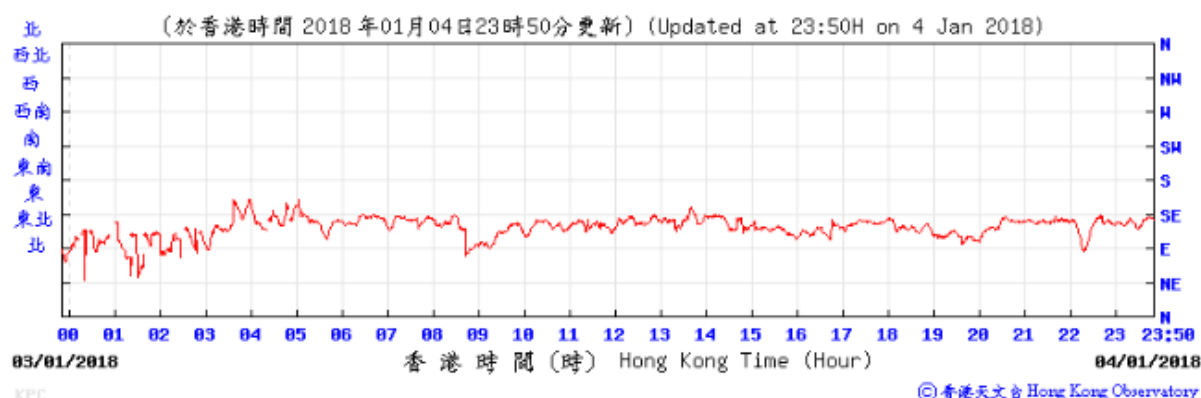
Temperature/Humidity:



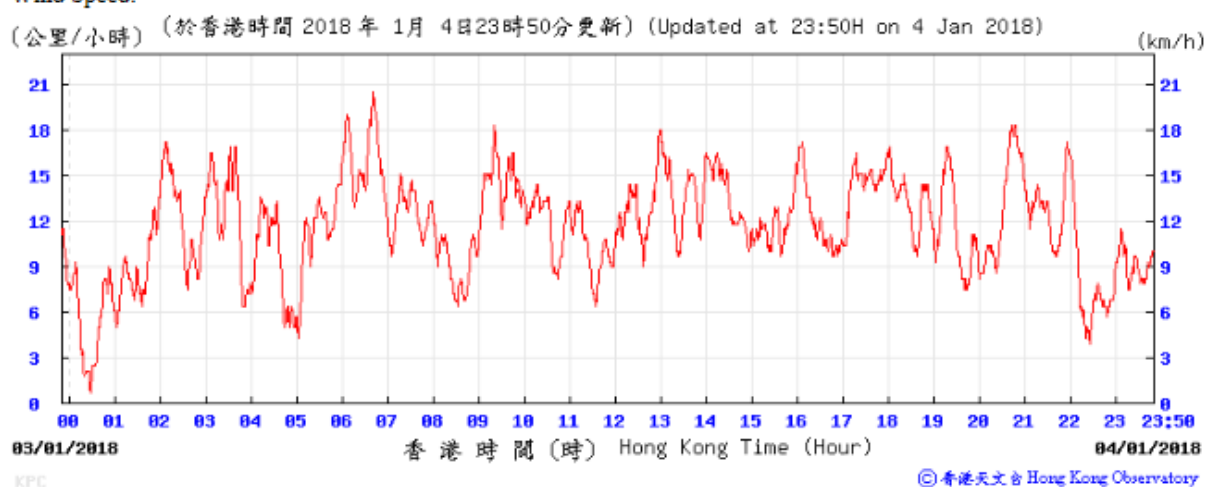
Pressure:



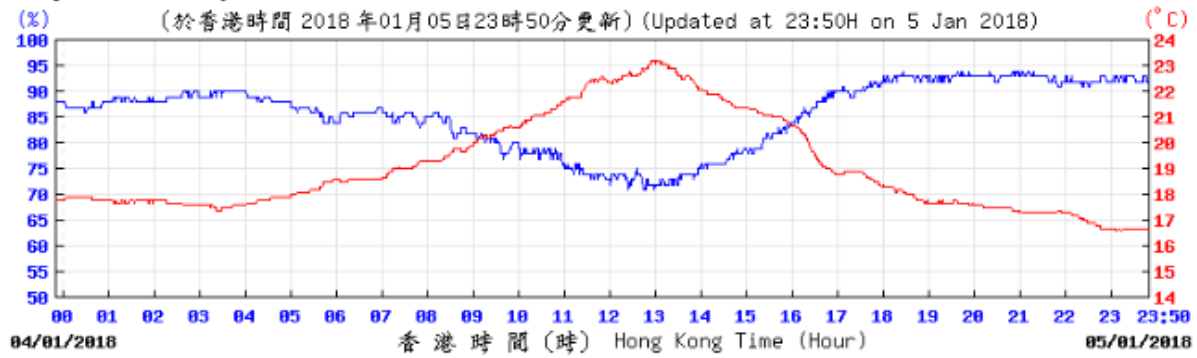
Wind Direction:



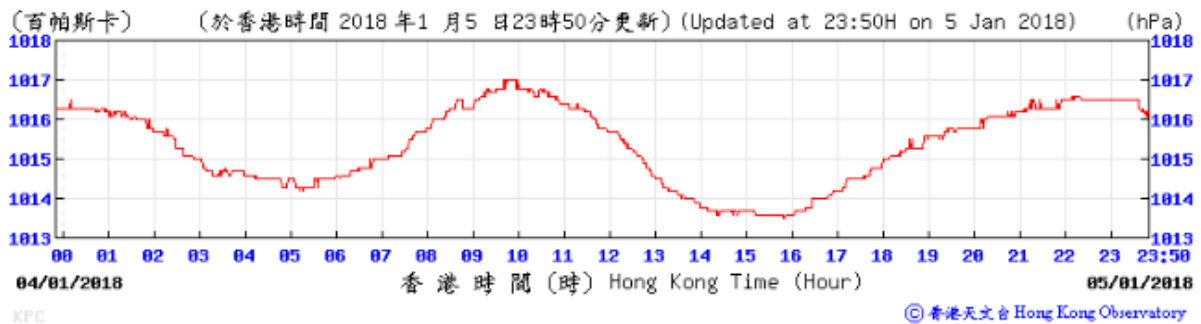
Wind Speed:



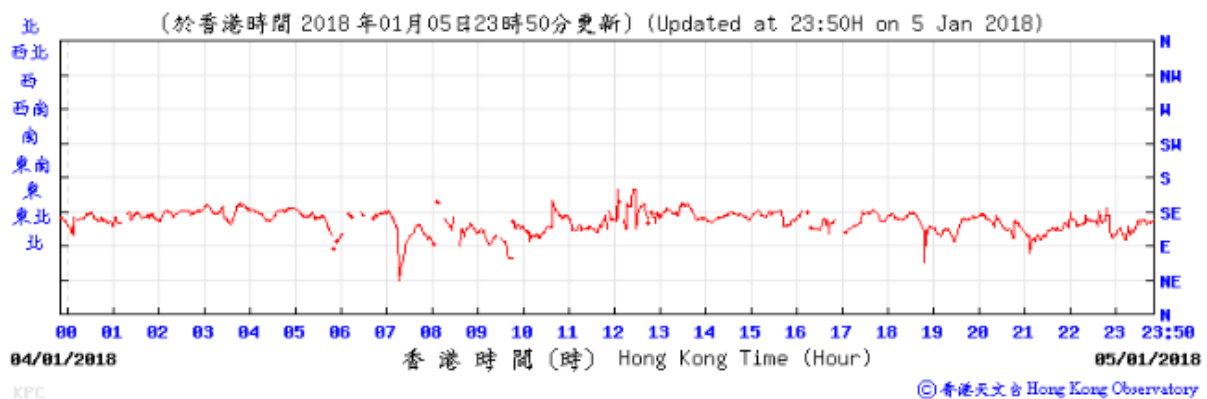
Temperature/Humidity:



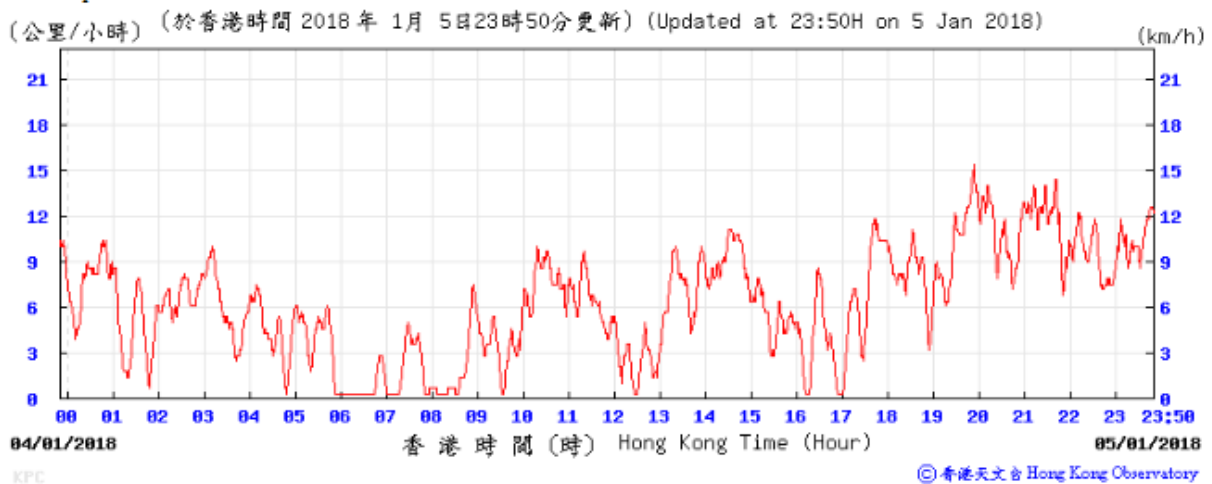
Pressure:



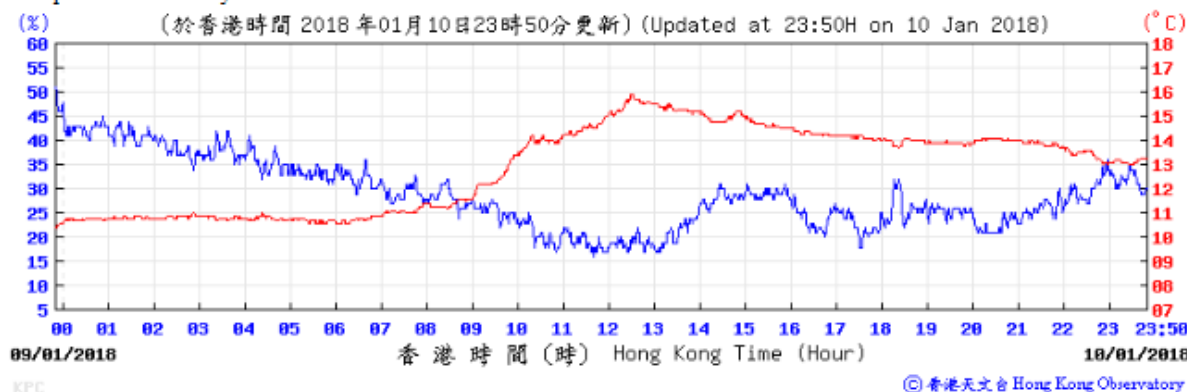
Wind Direction:



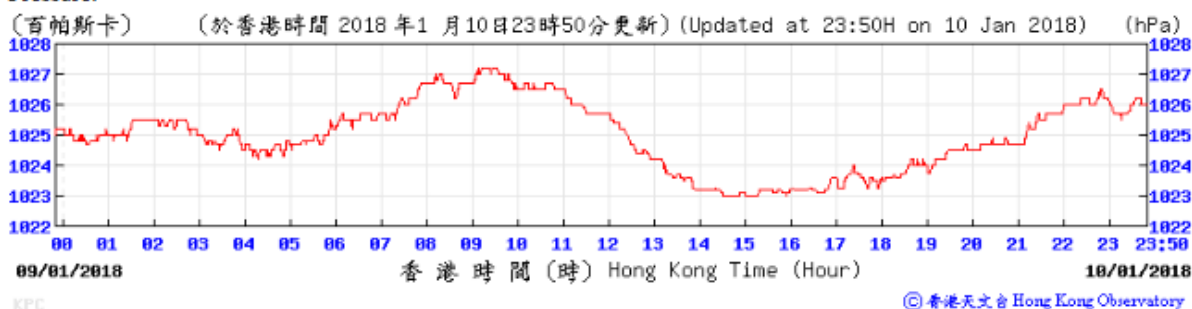
Wind Speed:



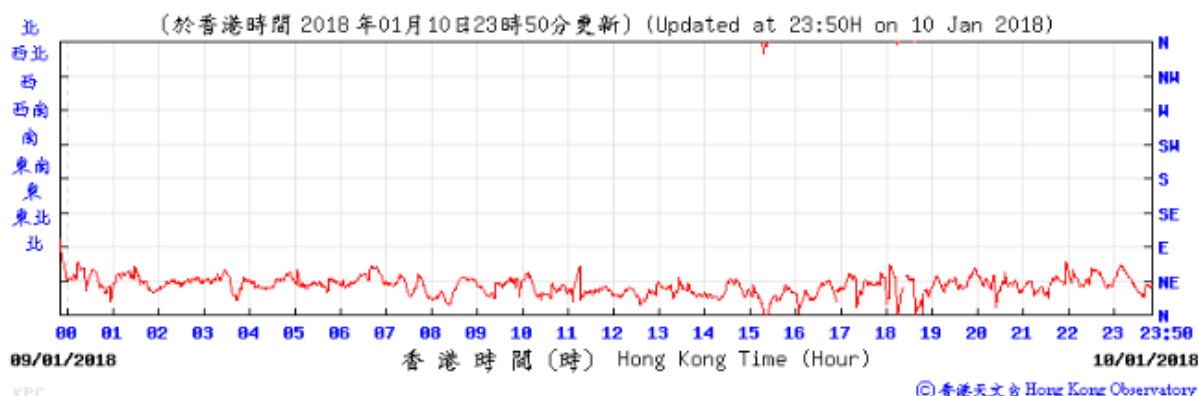
Temperature/Humidity:



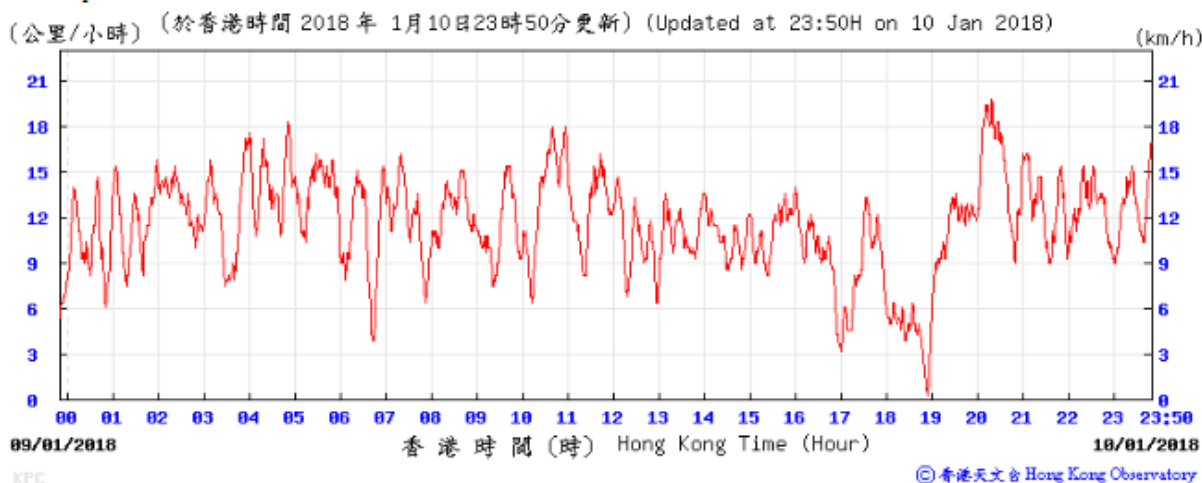
Pressure:



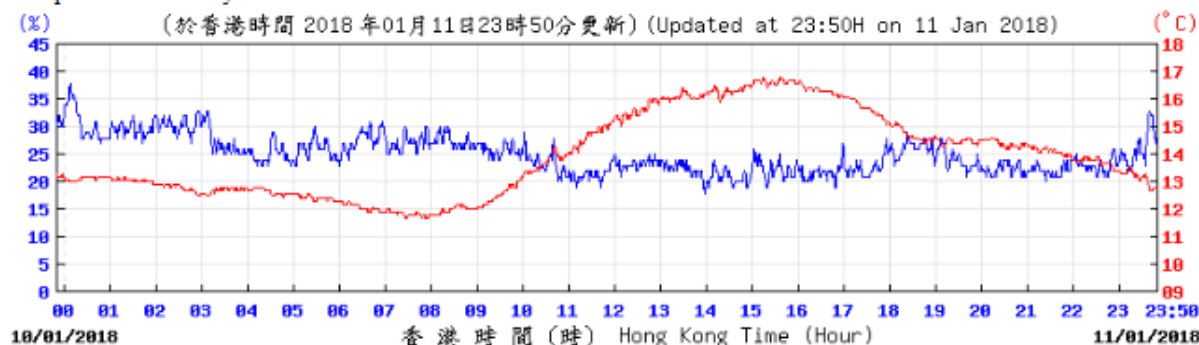
Wind Direction:



Wind Speed:

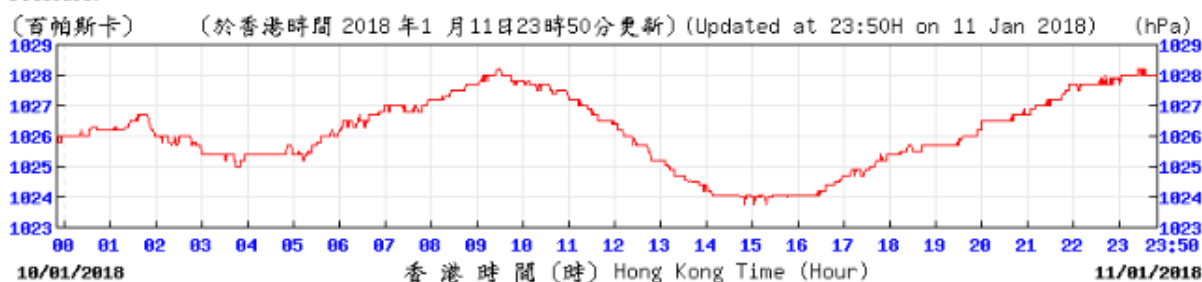


Temperature/Humidity:



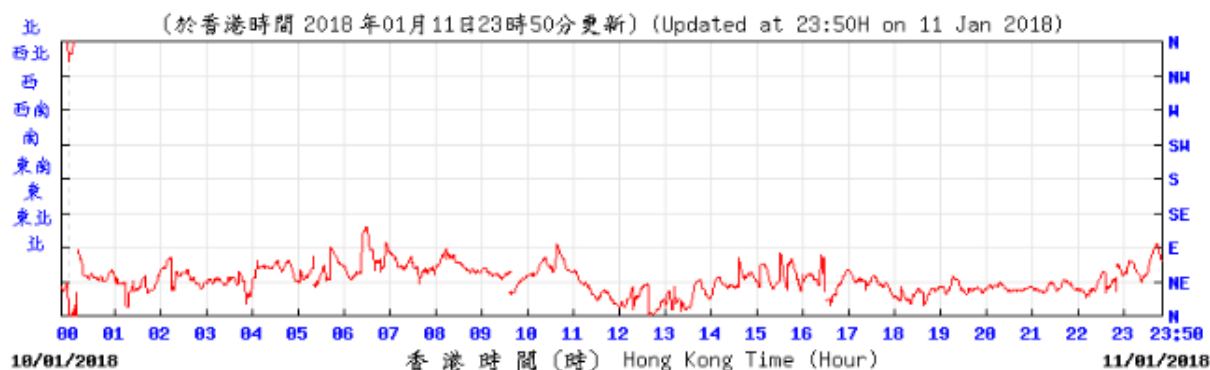
© 香港天文台 Hong Kong Observatory

Pressure:



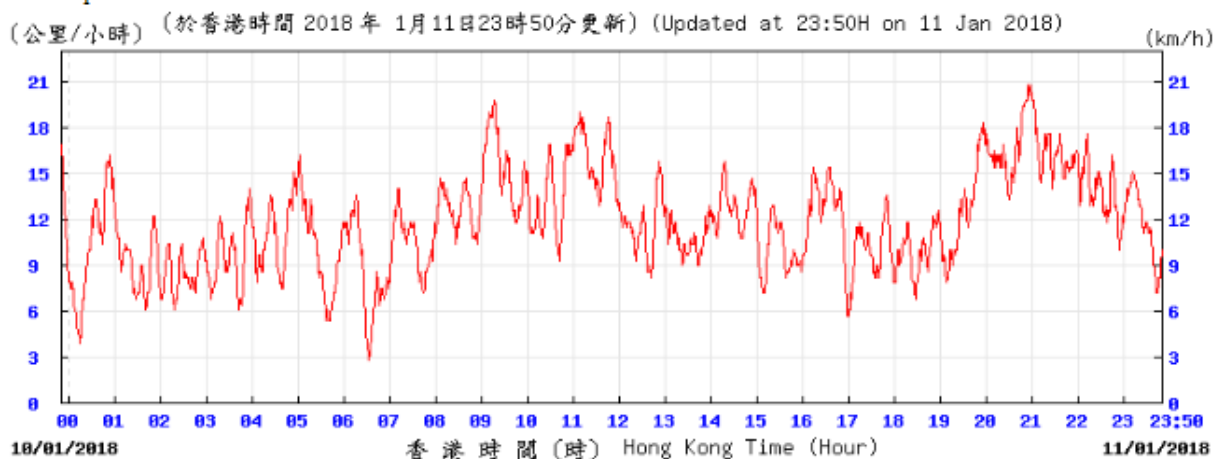
© 香港天文台 Hong Kong Observatory

Wind Direction:



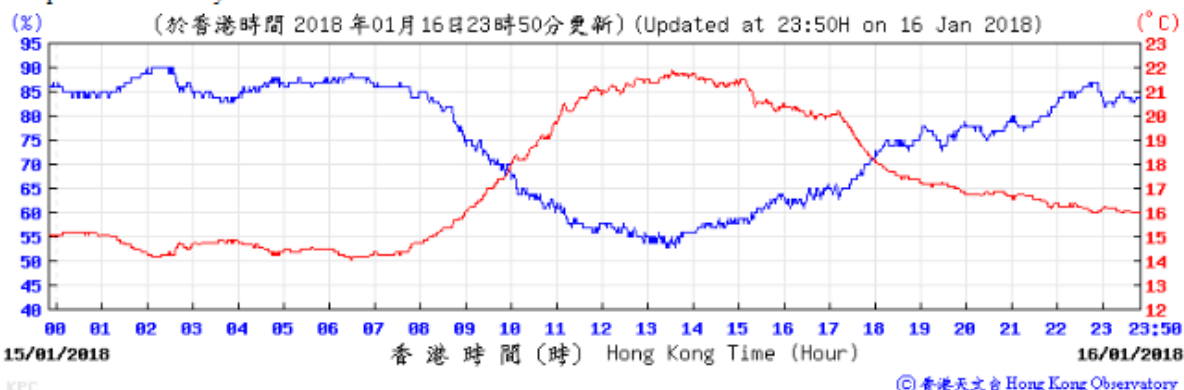
© 香港天文台 Hong Kong Observatory

Wind Speed:

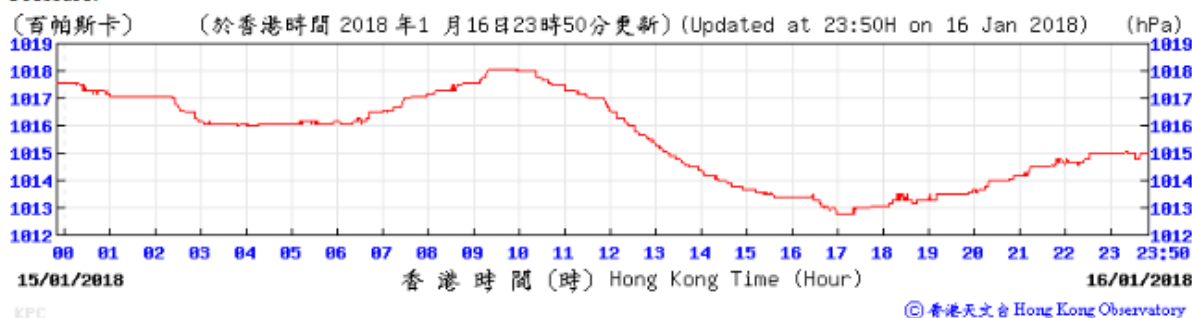


© 香港天文台 Hong Kong Observatory

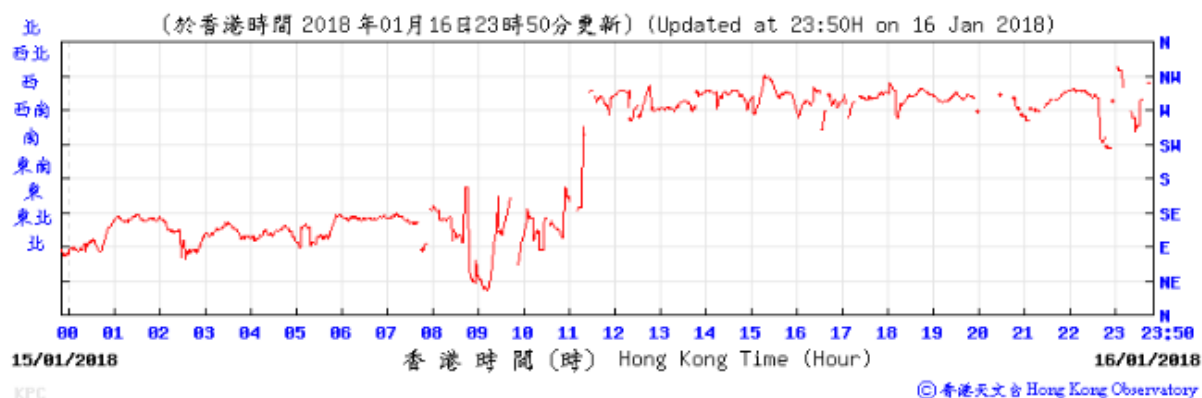
Temperature/Humidity:



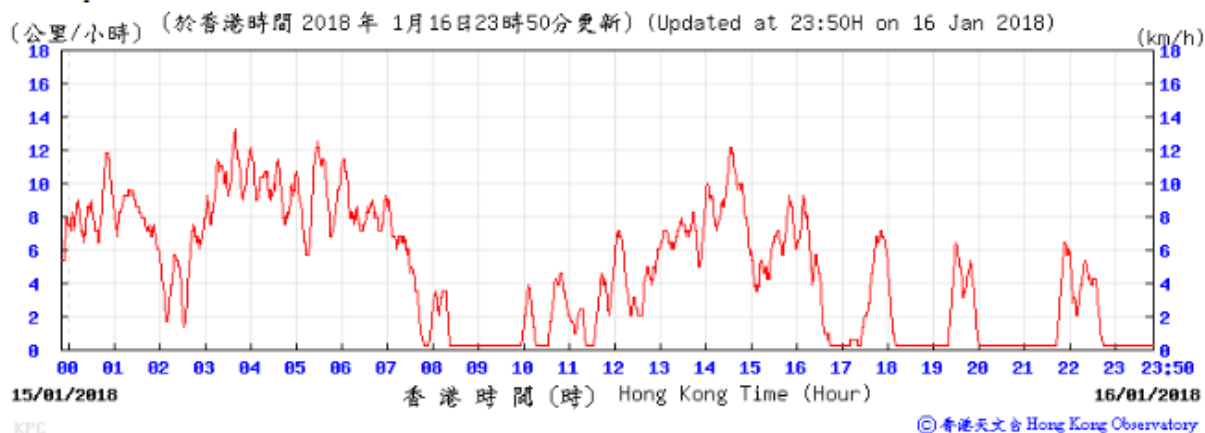
Pressure:



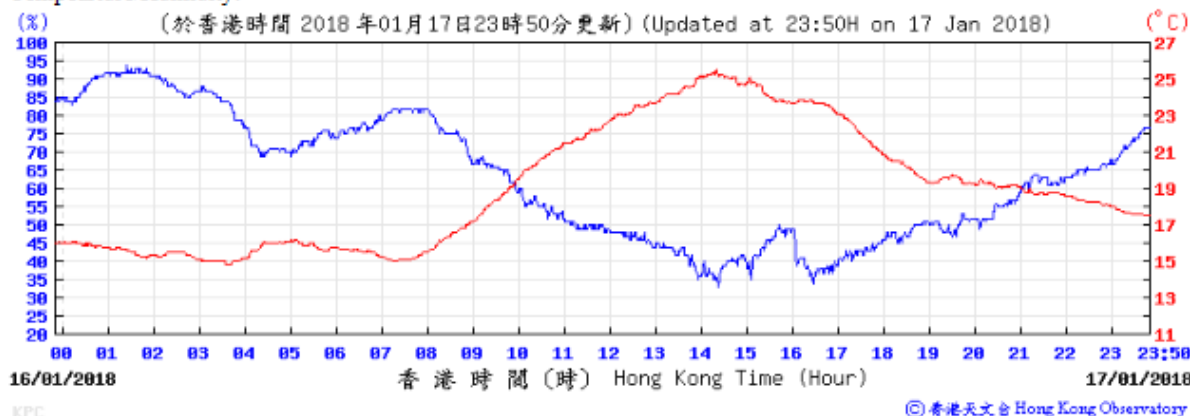
Wind Direction:



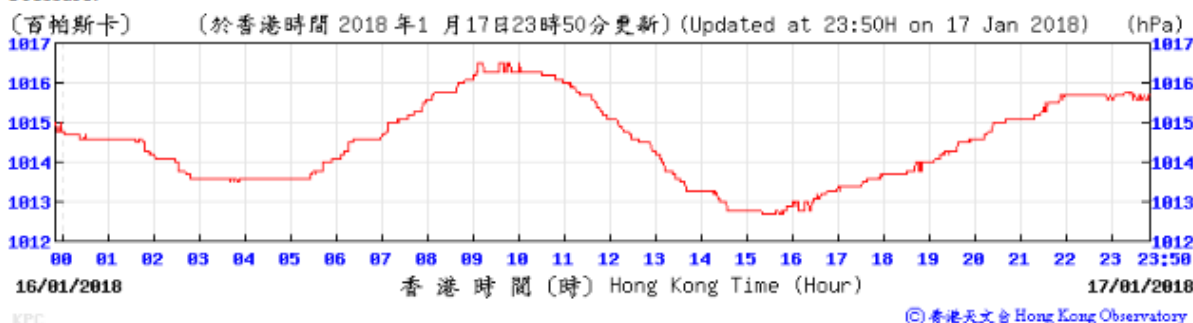
Wind Speed:



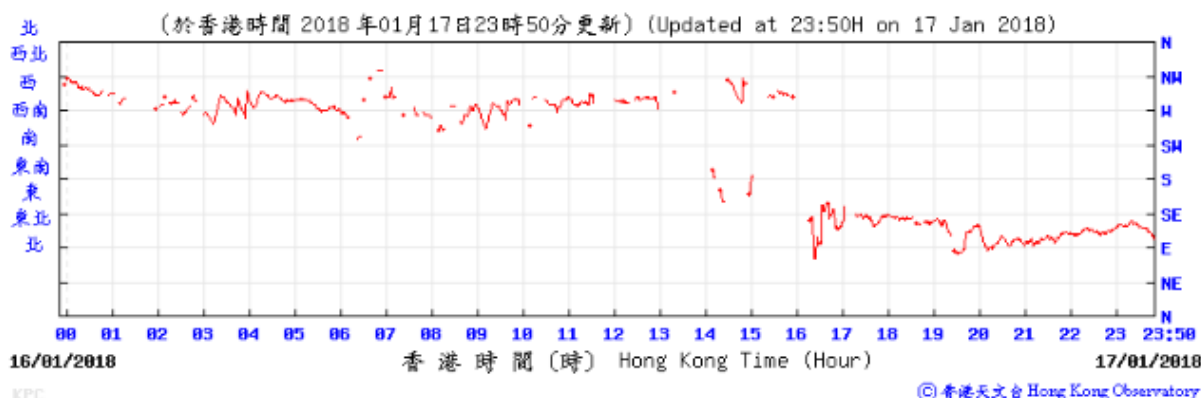
Temperature/Humidity:



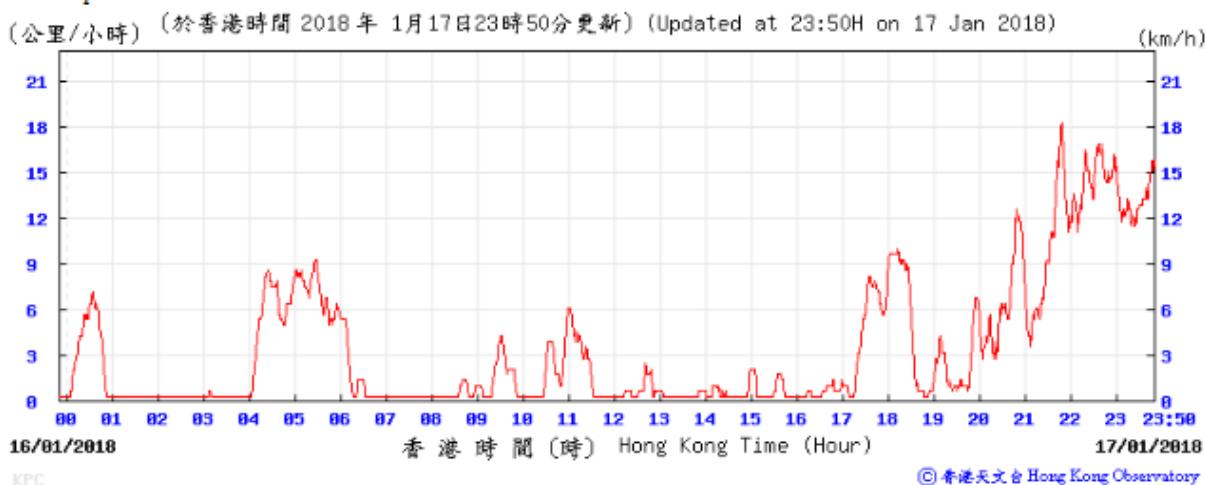
Pressure:



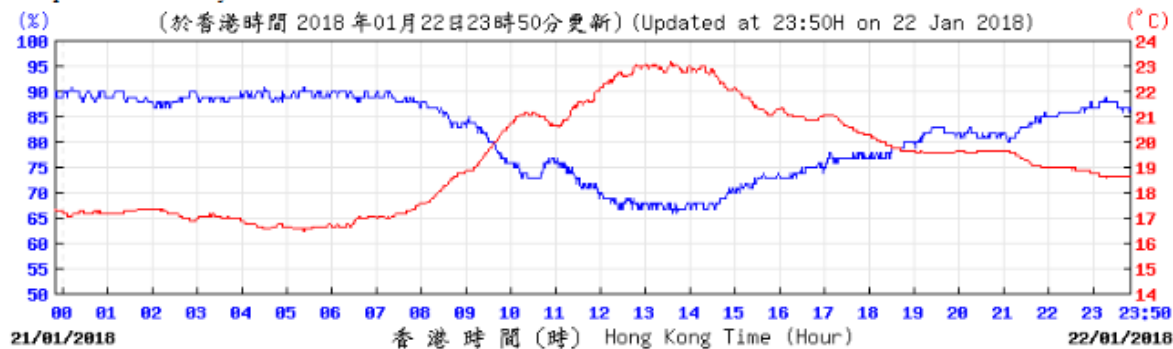
Wind Direction:



Wind Speed:

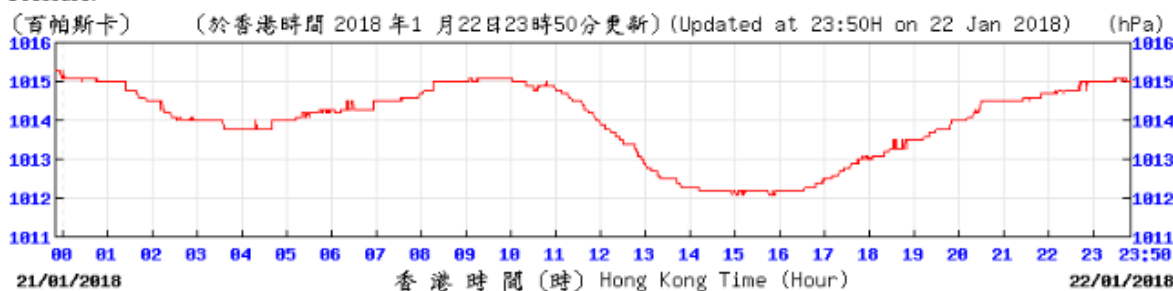


Temperature/Humidity:



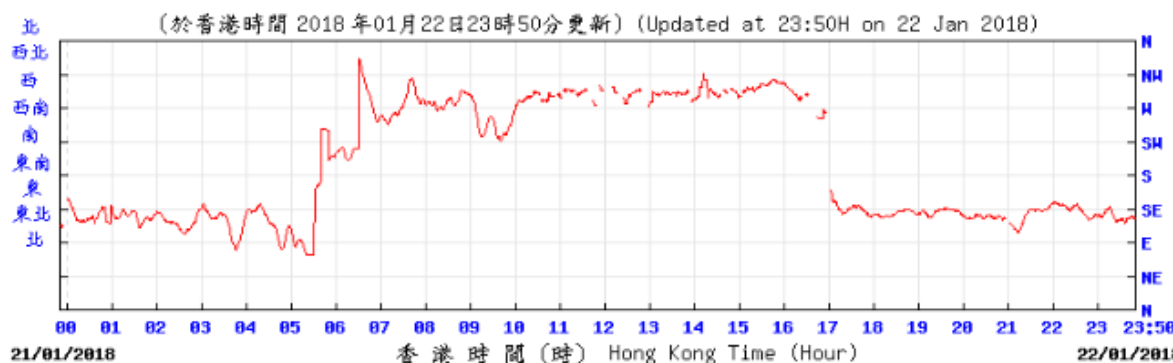
© 香港天文台 Hong Kong Observatory

Pressure:



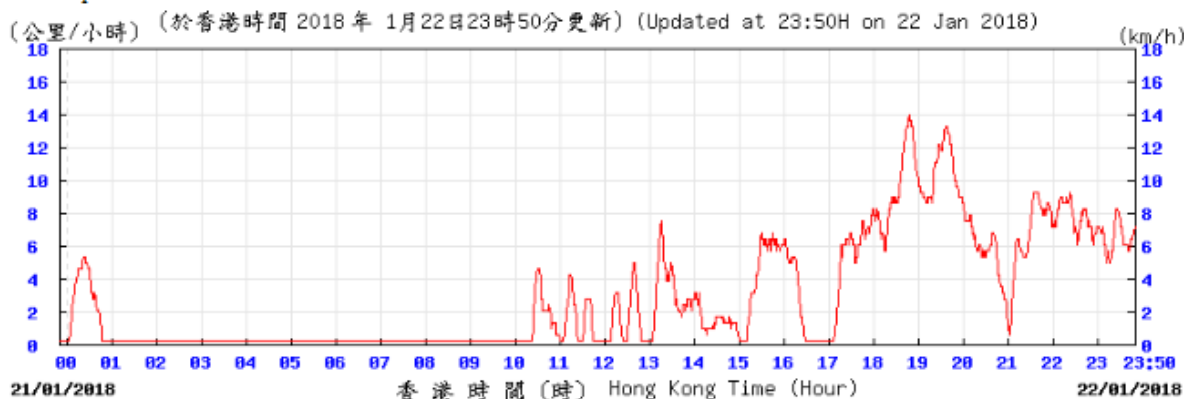
© 香港天文台 Hong Kong Observatory

Wind Direction:



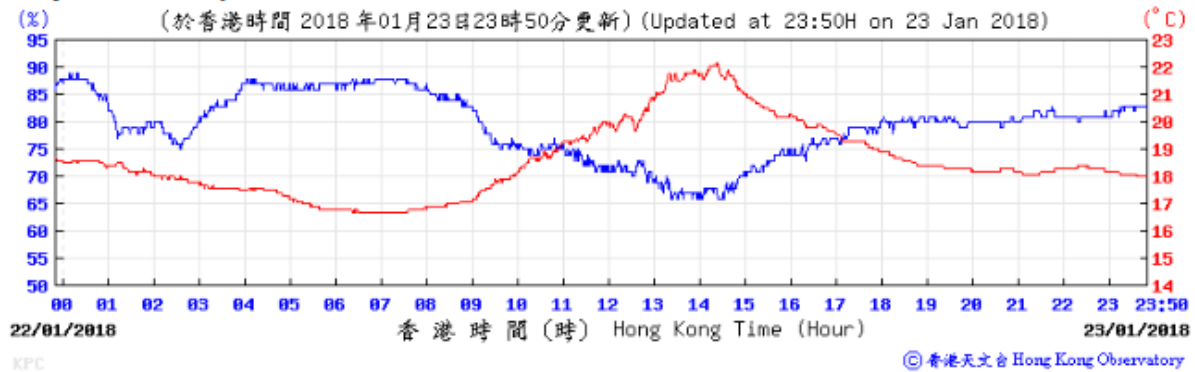
© 香港天文台 Hong Kong Observatory

Wind Speed:

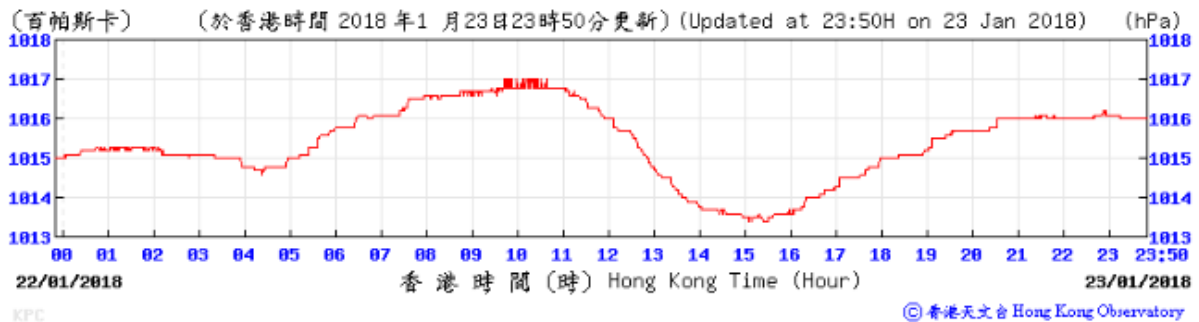


© 香港天文台 Hong Kong Observatory

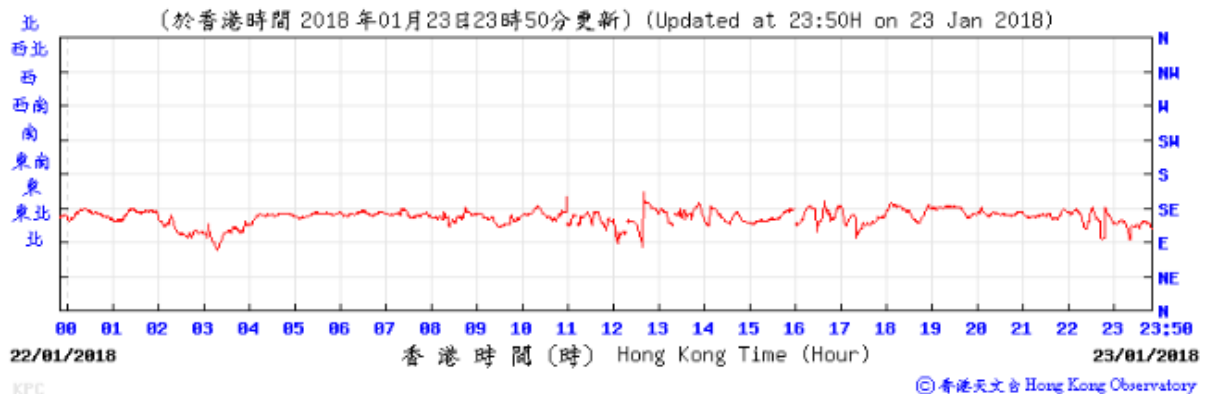
Temperature/Humidity:



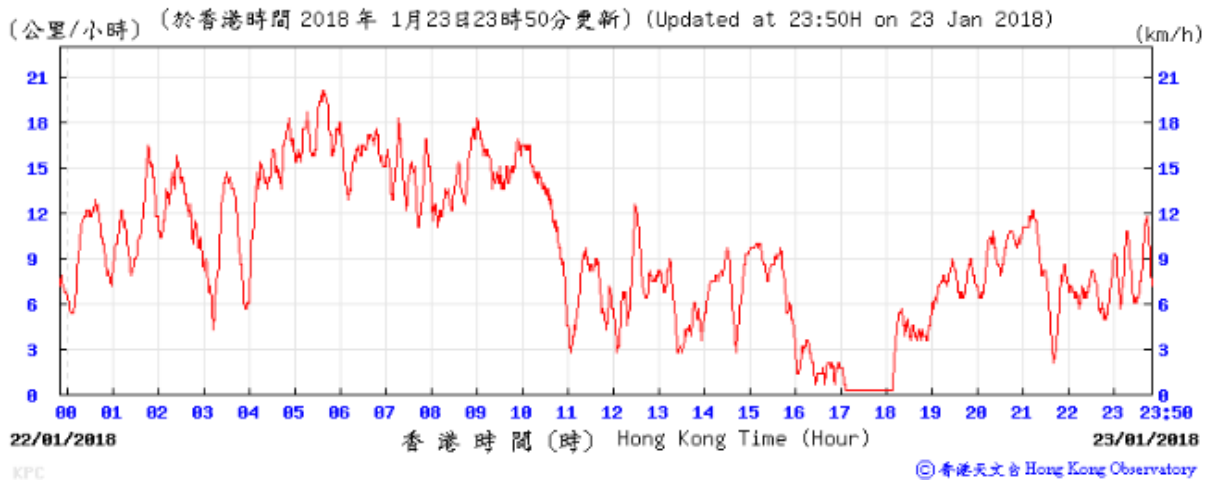
Pressure:



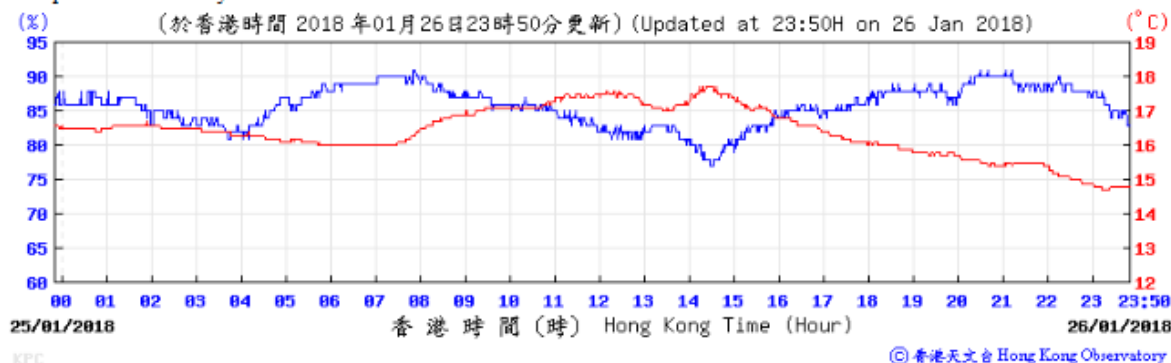
Wind Direction:



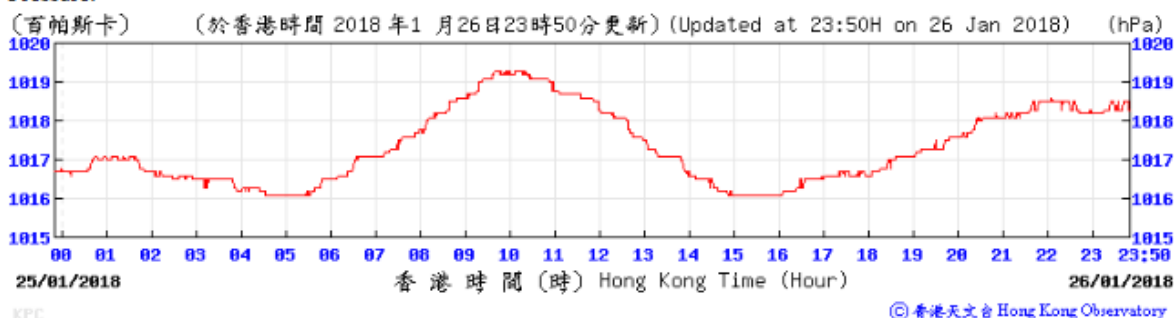
Wind Speed:



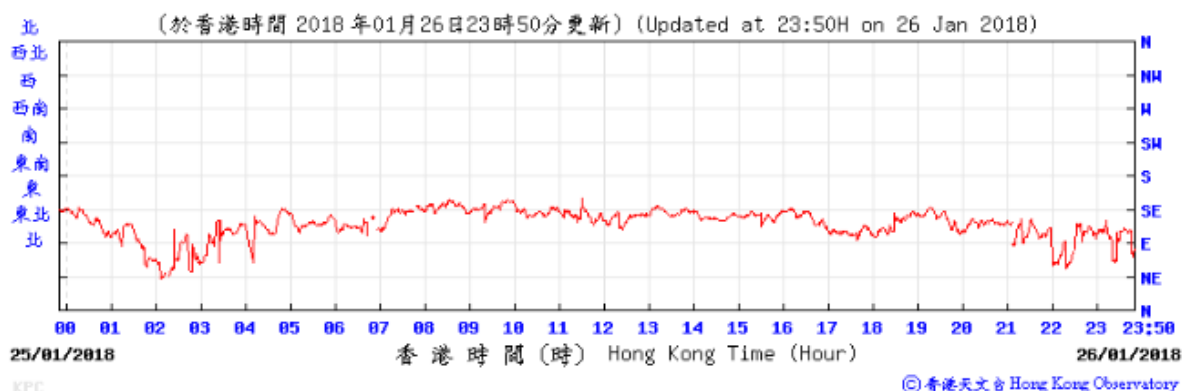
Temperature/Humidity:



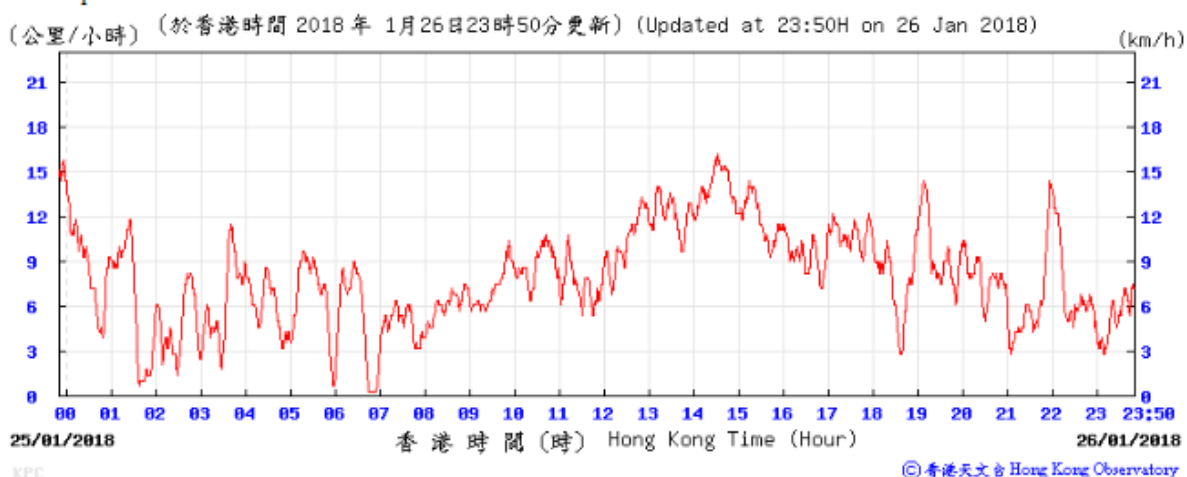
Pressure:



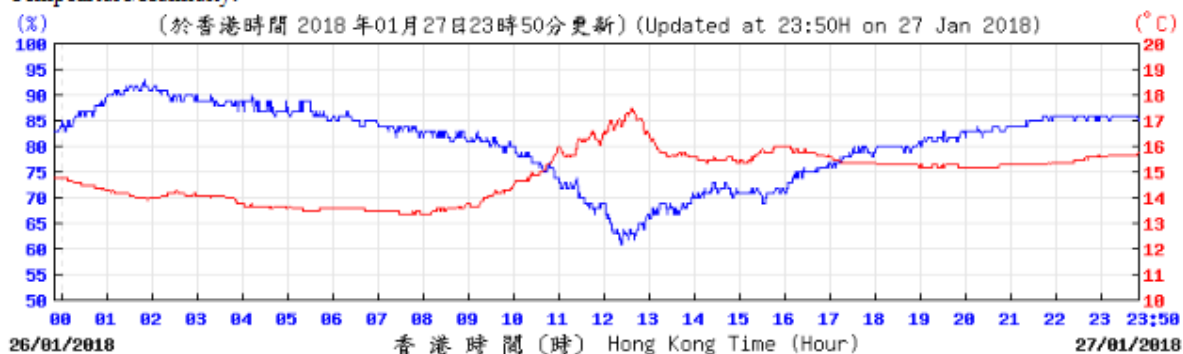
Wind Direction:



Wind Speed:

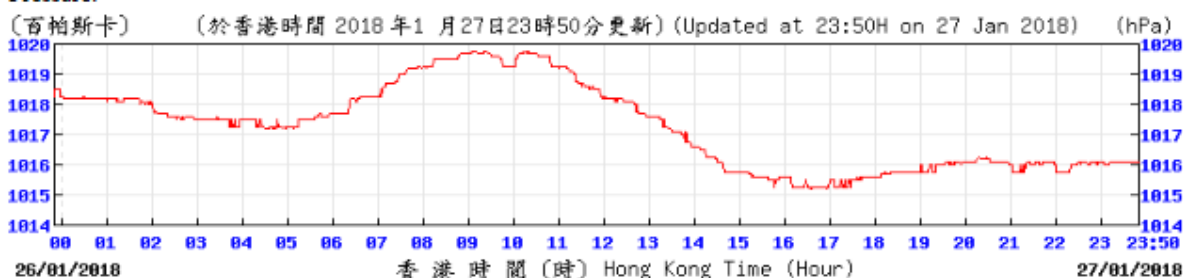


Temperature/Humidity:



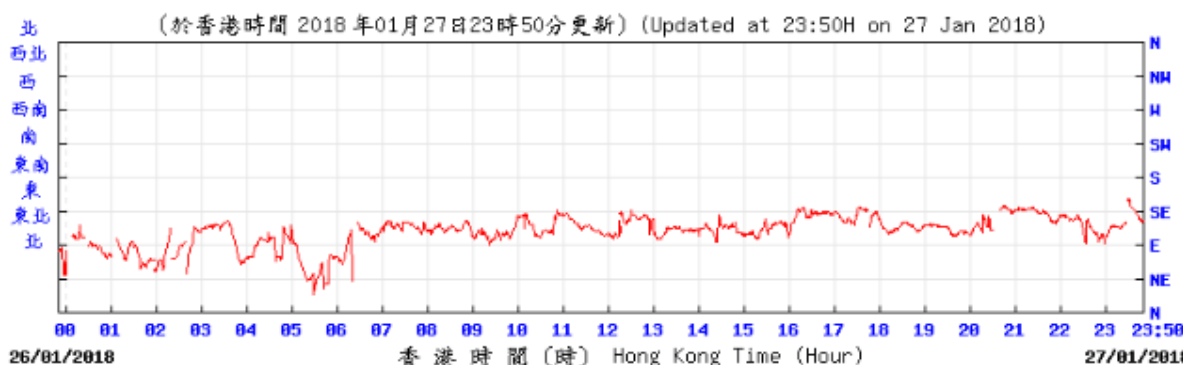
© 香港天文台 Hong Kong Observatory

Pressure:



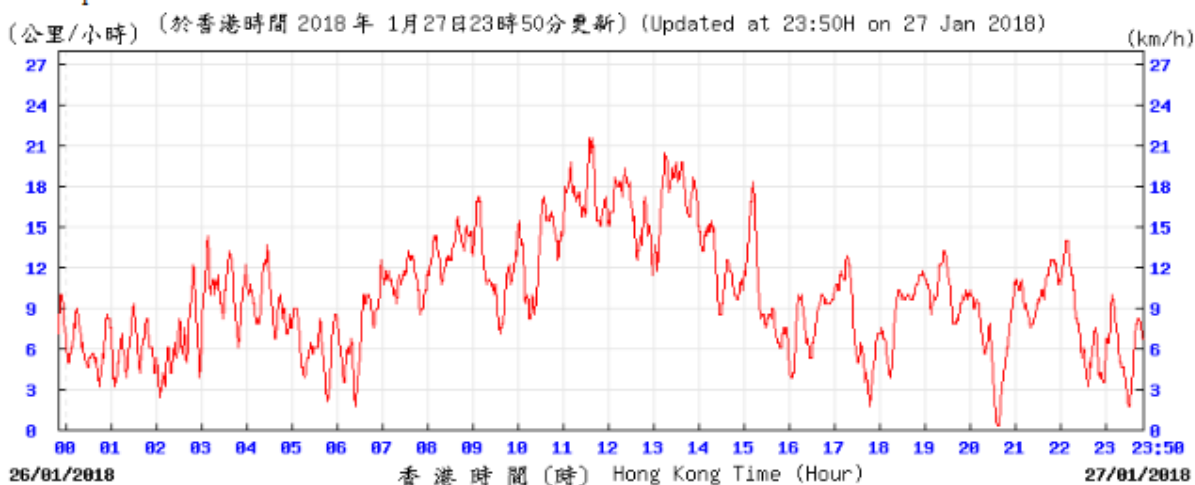
© 香港天文台 Hong Kong Observatory

Wind Direction:



© 香港天文台 Hong Kong Observatory

Wind Speed:



© 香港天文台 Hong Kong Observatory

I. Waste Flow table

M+ Museum

Table I-1: Monthly Waste Flow Table for M+ Museum

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
2015													
Nov	46607.4	0.0	0.0	8240.0	38367.4	0.0	0.0	76.2	0.0	0.0	0.0	0.0	67.6
Dec	29652.9	0.0	0.0	29621.4	31.5	0.0	0.0	26.3	0.0	0.0	0.0	1.0	66.0
Sub-total (2015)	76260.3	0.0	0.0	37861.4	38398.9	0.0	0.0	102.5	0.0	0.0	0.0	1.0	133.6
2016													
Jan	21077.4	0.0	6352.0	14576.0	149.4	0.0	0.0	18.8	0.0	0.0	0.0	0.0	23.2
Feb	7626.2	0.0	3424.0	4048.0	154.2	0.0	0.0	59.8	0.0	0.0	0.0	0.0	20.5
Mar	10442.5	0.0	1600.0	7888.0	954.5	0.0	0.0	29.7	0.0	0.0	0.0	0.0	46.3
Apr	30413.2	0.0	6352.0	23408.0	653.2	0.0	0.0	25.8	0.1	0.0	27.8	0.0	34.5
May	24083.5	0.0	112.0	23216.0	755.5	0.0	0.0	61.5	0.4	0.0	33.6	0.0	62.3
Jun	7880.1	0.0	4736.0	2384.0	760.1	0.0	0.0	106.6	0.1	0.0	14.6	0.0	52.8
Jul	5893.1	0.0	2656.0	2240.0	997.1	0.0	0.0	77.6	0.0	0.0	33.6	0.0	83.1
Aug	13709.6	0.0	0.0	12432.0	1277.6	0.0	0.0	111.3	0.2	0.0	38.5	0.0	104.9
Sep	6702.0	0.0	0.0	5648.0	1000.1	53.9	0.0	104.2	0.0	0.0	45.5	0.2	107.9
Oct	2103.6	0.0	0.0	496.0	1595.4	12.2	0.0	83.0	0.4	0.0	73.5	0.0	108.2
Nov	3302.7	0.0	0.0	2384.0	855.5	63.2	0.0	88.4	0.6	0.0	63.0	0.0	129.1
Dec	899.8	0.0	0.0	736.0	126.8	37.0	0.0	48.3	0.6	0.0	70.0	0.0	89.0
Sub-total (2016)	134133.5	0.0	25232.0	99456.0	9279.3	166.3	0.0	814.9	2.3	0.0	400.1	0.2	861.8
2017													
Jan	675.2	0.0	0.0	432.0	237.9	5.3	0.0	79.5	1.0	0.0	70.0	0.0	79.7
Feb	927.7	0.0	0.0	768.0	125.6	34.0	0.0	70.5	0.6	0.0	84.0	0.0	81.4
Mar	1856.7	0.0	0.0	1280.0	466.9	109.8	0.0	62.8	0.4	0.0	98.0	0.0	148.5
Apr	642.4	0.0	0.0	160.0	324.9	157.5	0.0	87.5	0.7	0.0	175.0	0.0	102.5
May	1118.2	0.0	0.0	528.0	416.4	173.7	0.0	118.3	0.0	0.0	280.0	0.0	139.0
June	650.0	0.0	0.0	0.0	451.6	198.4	0.0	199.7	1.4	0.0	350.0	0.0	98.7
Jul	1762.0	0.0	0.0	0.0	1466.6	295.4	0.0	36.9	1.2	0.0	244.0	0.0	164.2
Aug	1231.5	0.0	0.0	0.0	867.5	364.0	0.0	50.9	0.9	0.0	59.0	0.0	186.9
Sep	1681.7	0.0	0.0	0.0	1342.0	339.7	0.0	52.3	0.7	0.0	77.0	0.0	265.3
Oct	483.6	0.0	0.0	0.0	242.5	241.1	0.0	374.8	0.6	0.0	24.1	0.0	128.5

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
Nov	822.8	0.0	0.0	0.0	344.5	478.3	0.0	948.5	0.7	0.0	60.0	0.2	219.1
Dec	601.3	0.0	0.0	0.0	236.2	365.1	0.0	903.6	0.8	0.0	100.0	0.0	241.9
Sub-total (2017)	12453.0	0.0	0.0	3168.0	6522.6	2762.4	0.0	2985.3	8.9	0.0	1621.1	0.2	1855.5
2018													
Jan	1015.3	0.0	0.0	0.0	574.1	441.2	0.0	773.3	1.5	0.0	100.0	0.0	183.6
Sub-total (2018)	1015.3	0.0	0.0	0.0	574.1	441.2	0.0	773.3	1.5	0.0	100.0	0.0	183.6
Total	223862.1	0.0	25232.0	140485.4	54774.8	3369.9	0.0	4676.0	12.8	0.0	2121.2	1.4	3034.6

Note:

-83.52 tonnes, 127.58 tonnes and 362.96 tonnes of inert C&D material were disposed of as public fill to Chai Wan Public Fill Barging Point, Tuen Mun Area 38 and Tseung Kwan O Area 137 Public Fill respectively in the reporting month.

-For inert C&D materials reused in other projects, the projects refer to (1) Green Valley; (2) Advance Works for Shek Wu Hui Sewage Treatment Works (3) Design and Construction of Kai Tak Cable Tunnel, CLP; (4) MTR Contract 1002 Whampoa Station and Overrun Tunnel; (5) CEDD Tuen Mun Area 54 Contract No. CV/2015/03; (6) Union Construction Ltd.'s site; (7) Foundation Works at Marriot Hotel at Ocean Park.

Lyric Theatre Complex

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

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
2016													
Mar	2702.1	0.0	0.0	0.0	2702.1	0.0	0.0	4.5	0.1	0.0	0.0	0.0	30.6
Apr	8631.5	0.0	0.0	0.0	8631.5	0.0	0.0	16.0	0.0	0.0	0.0	0.0	19.2
May	12487.8	0.0	0.0	0.0	12487.8	0.0	0.0	34.0	0.0	0.0	0.0	0.7	60.5
Jun	8600.8	0.0	0.0	0.0	8600.8	0.0	0.0	31.4	0.2	0.0	0.0	0.5	13.5
Jul	12624.2	0.0	0.0	0.0	12624.2	0.0	0.0	19.6	0.0	0.0	0.0	2.0	9.9
Aug	14419.9	0.0	0.0	0.0	14419.9	0.0	0.0	43.9	0.0	0.0	0.0	0.0	11.1
Sep	13671.3	0.0	0.0	0.0	13671.3	0.0	0.0	59.8	0.0	0.0	0.0	1.6	12.4
Oct	13088.9	0.0	0.0	0.0	13088.9	0.0	0.0	36.9	0.2	1.5	0.0	0.0	15.2
Nov	12424.7	0.0	0.0	0.0	12424.7	0.0	0.0	74.7	0.0	0.0	0.0	1.4	10.2
Dec	12487.6	0.0	0.0	0.0	12487.6	0.0	0.0	13.9	0.0	0.0	0.0	1.3	9.0
Sub-total (2016)	111138.8	0.0	0.0	0.0	111138.8	0.0	0.0	334.5	0.4	1.5	0.0	7.6	191.6
2017													
Jan	9607.8	0.0	0.0	0.0	9607.8	0.0	0.0	29.5	0.0	0.0	0.0	0.0	7.3
Feb	9108.2	0.0	0.0	0.0	9108.2	0.0	0.0	50.2	0.2	0.0	0.0	0.7	9.8
Mar	11361.7	0.0	0.0	0.0	11361.7	0.0	0.0	16.1	0.0	0.0	0.0	1.4	8.5
Apr	2591.5	0.0	0.0	0.0	2591.5	0.0	0.0	35.7	0.0	0.0	0.0	0.0	4.7
May	2579.3	0.0	0.0	99.0	2480.3	0.0	0.0	20.9	0.1	0.0	0.0	0.5	10.0
Jun	476.0	0.0	0.0	341.0	129.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	7.6
Jul	3419.0	0.0	0.0	804.0	2615.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8
Aug	3730.9	0.0	0.0	1377.5	2353.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4
Sep	2108.2	0.0	0.0	1133.5	974.7	0.0	0.0	34.6	0.2	0.0	0.0	0.0	10.8
Oct	9159.0	0.0	0.0	7868.0	1291.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	9.3
Nov	5095.4	0.0	0.0	4352.0	725.2	18.1	0.0	0.0	0.0	0.0	0.0	0.0	38.8
Dec	3856.2	0.0	0.0	3076.0	780.2	0.0	0.0	0.0	0.2	0.0	0.0	0.4	8.4
Sub-total (2017)	63093.1	0.0	0.0	19051.0	44018.7	23.4	0.0	187.1	0.7	0.0	0.0	3.8	137.3

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
2018													
Jan*	4083.7	0.0	0.0	1455.0	2628.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9
Sub-total (2018)	4083.7	0.0	0.0	1455.0	2628.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9
Total	178315.6	0.0	0.0	20506.0	157786.2	23.4	0.0	521.5	1.1	1.5	0.0	11.3	331.8

Note:

*Please note that L1 Contract for Lyric Theatre commenced on 8 January 2018 and Foundation Works was completed on 31 January 2018. As advised by the contractor, for January 2018, all the reported waste generation was from Foundation Works and no waste was disposed for L1 Contract.

-1636.58 and 992.15 tonnes of inert C&D material were disposed of as public fill to Tseung Kwan O Area 137 and Tuen Mun Area 38 respectively in the reporting month.

J. Environmental Mitigation Measures – Implementation Status

Table J-1: Environmental Mitigation Measures Implementation Status

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

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	so as to keep the dusty material wet.		
	<i>Debris Handling</i>		
	<ul style="list-style-type: none"> Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides. 	✓	✓
	<ul style="list-style-type: none"> Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. 	✓	✓
	<i>Transport of Dusty Materials</i>		
	<ul style="list-style-type: none"> Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. 	✓	✓
	<i>Wheel washing</i>		
	<ul style="list-style-type: none"> Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. 	✓	✓
	<i>Use of vehicles</i>		
	<ul style="list-style-type: none"> The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site. 	✓	✓
	<ul style="list-style-type: none"> Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. 	Obs	✓
	<ul style="list-style-type: none"> Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle. 	✓	✓
	<i>Site hoarding</i>		
	<ul style="list-style-type: none"> Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit. 	✓	✓
2.1 & 10.3.1	<p>Best Practicable Means for Cement Works (Concrete Batching Plant)</p> <p>The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93) should be followed and implemented to further reduce the construction dust impacts of the Project. These best practices include:</p> <p>Exhaust from Dust Arrestment Plant</p>		

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	<ul style="list-style-type: none"> Wherever possible the final discharge point from particulate matter arrestment plant, where is not necessary to achieve dispersion from residual pollutants, should be at low level to minimise the effect on the local community in the case of abnormal emissions and to facilitate maintenance and inspection 	✓	✓
	Emission Limits		
	<ul style="list-style-type: none"> All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist or smoke 	✓	✓
	Engineering Design/Technical Requirements		
	<ul style="list-style-type: none"> As a general guidance, the loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should be carried out in a manner so as to prevent the release of visible dust and/or other noxious or offensive emissions 	✓	✓
-	<p>Non-Road Mobile Machinery (NRMM):</p> <p>All NRMMs operating on-site which are subject to emission control of Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation are approved/exempted (as the case may be) and affixed with the requisite approval/exemption labels.</p>	✓	Obs
Noise Impact (Construction)			
3.1 & 10.4.1	<p>Good Site Practice</p> <p>Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction:</p> <ul style="list-style-type: none"> only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum; plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; mobile plant should be sited as far away from NSRs as possible; and material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities. 	✓	✓
3.1 & 10.4.1	<p>Adoption of Quieter PME</p> <p>The recommended quieter PME adopted in the assessment were taken from the EPD's QPME Inventory and "Sound Power Levels of Other Commonly Used PME" are presented in Table 4.26 in the EIA report. It should be noted that the silenced PME selected for assessment can be found in Hong Kong.</p>	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
3.1 & 10.4.1	Use of Movable Noise Barriers Movable noise barriers can be very effective in screening noise from particular items of plant when constructing the Project. Noise barriers located along the active works area close to the noise generating component of a PME could produce at least 10 dB(A) screening for stationary plant and 5 dB(A) for mobile plant provided the direct line of sight between the PME and the NSRs is blocked.	N/A	✓
3.1 & 10.4.1	Use of Noise Enclosure/ Acoustic Shed The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the EIAO Guidance Note No.9/2010.	N/A	N/A
3.1 & 10.4.1	Use of Noise Insulating Fabric Noise insulating fabric can also be adopted for certain PME (e.g. drill rig, pilling machine etc). The fabric should be lapped such that there are no openings or gaps on the joints. According to the approved Tsim Sha Tsui Station Northern Subway EIA report (AEIAR-127/2008), a noise reduction of 10 dB(A) can be achieved for the PME lapped with the noise insulating fabric.	✓	✓
3.1 & 10.4.1	Scheduling of Construction Works outside School Examination Periods During construction phase, the contractor should liaise with the educational institutions (including NSRs LCS and CRGPS) to obtain the examination schedule and avoid the noisy construction activities during school examination periods.	N/A	N/A
Water Quality Impact (Construction)			
4.1 & 10.5.1	Construction site runoff and drainage The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and sensitive uses of the coastal area, and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts: <ul style="list-style-type: none"> At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the WKCDA's Contractor prior to the commencement of construction; Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the WKCDA's Contractor prior to the commencement of construction. All drainage facilities and erosion and sediment control structures should be regularly inspected and 	Rem	✓
		✓	✓
		✓	Obs

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.		
	<ul style="list-style-type: none"> Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities. 	✓	✓
	<ul style="list-style-type: none"> All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. 	✓	✓
	<ul style="list-style-type: none"> Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. 	✓	✓
	<ul style="list-style-type: none"> Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers. 	✓	✓
	<ul style="list-style-type: none"> Precautions should be taken at any time of the year when rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes. 	✓	✓
	<ul style="list-style-type: none"> Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries. 	N/A	N/A
	Barging facilities and activities		
	Recommendations for good site practices during operation of the proposed barging point include:		
	<ul style="list-style-type: none"> All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; 	N/A	N/A
	<ul style="list-style-type: none"> Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of 	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	materials or polluted water during loading or transportation;		
	<ul style="list-style-type: none"> All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site. 	N/A	N/A
4.1 & 10.5.1	<p>Sewage effluent from construction workforce</p> <p>Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p>	✓	✓
4.1 & 10.5.1	<p>General construction activities</p> <ul style="list-style-type: none"> Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used. Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event. 	✓	✓
		✓	✓
Waste Management Implications (Construction)			
6.1 & 10.7.1	<p>Good Site Practices</p> <p>Recommendations for good site practices during the construction activities include:</p> <ul style="list-style-type: none"> Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site Training of site personnel in proper waste management and chemical handling procedures Provision of sufficient waste disposal points and regular collection of waste Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&D materials is not anticipated 	✓	✓
		✓	✓
		Rem	✓
		✓	✓
		Obs	✓
		✓	✓
6.1 & 10.7.1	<p>Waste Reduction Measures</p> <p>Recommendations to achieve waste reduction include:</p>		

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

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

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	emissions and/or release of contaminated wastewater;	N/A	N/A
	<ul style="list-style-type: none"> • Truck bodies and tailgates should be sealed to stop any discharge; • Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping; • Speed control for trucks carrying contaminated materials should be exercised; • Observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and • Maintain records of waste generation and disposal quantities and disposal arrangements. 	N/A	N/A
Ecological Impact (Construction)			
No mitigation measure is required.			
Landscape and Visual Impact (Construction)			
Table 9.1 & 10.8 (CM1)	Trees should be retained in situ on site as far as possible. Should tree removal be unavoidable due to construction impacts, trees will be transplanted or felled with reference to the stated criteria in the Tree Removal Applications to be submitted to relevant government departments for approval in accordance to ETWB TCW No. 29/2004 and 3/2006.	N/A	N/A
Table 9.1 & 10.8 (CM2)	Compensatory tree planting shall be incorporated to the proposed project and maximize the new tree, shrubs and other vegetation planting to compensate tree felled and vegetation removed. Also, implementation of compensatory planting should be of a ratio not less than 1:1 in terms of quality and quantity within the site.	N/A	N/A
Table 9.1 & 10.8 (CM3)	Buffer trees for screening purposes to soften the hard architectural and engineering structures and facilities.	N/A	N/A
Table 9.1 & 10.8 (CM4)	Softscape treatments such as vertical green wall panel /planting of climbing and/or weeping plants, etc, to maximize the green coverage and soften the hard architectural and engineering structures and facilities.	N/A	N/A
Table 9.1 & 10.8 (CM5)	Roof greening by means of intensive and extensive green roof to maximize the green coverage and improve aesthetic appeal and visual quality of the building/structure.	N/A	N/A
Table 9.1 & 10.8 (CM6)	Sensitive streetscape design should be incorporated along all new roads and streets.	N/A	N/A
Table 9.1 & 10.8 (CM7)	Structure, ornamental planting shall be provided along amenity strips to enhance the landscape quality.	N/A	N/A
Table 9.1 & 10.8 (CM8)	Landscape design shall be incorporated to architectural and engineering structures in order to provide aesthetically pleasing designs.	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
Table 9.1 (CM9)	Minimize the structure of marine facilities to be built on the seabed and foreshore in order to minimize the affected extent to the waterbody	N/A	N/A
Table 9.2 & 10.9 (MCP1)	Use of decorative screen hoarding/boards	✓	✓
Table 9.2 & 10.9 (MCP2)	Early introduction of landscape treatments	N/A	N/A
Table 9.2 & 10.9 (MCP3)	Adoption of light colour for the temporary ventilation shafts for the basement during the transition period.	N/A	N/A
Table 9.2 & 10.9 (MCP4)	Control of night time lighting	✓	✓
Table 9.2 & 10.9 (MCP5)	Use of greenery such as grass cover for the temporary open areas will help achieve the visual balance and soften the hard edges of the structures.	N/A	N/A

N/A - Not Applicable

✓ - Implemented

Obs - Observed

Rem - Reminder

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

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

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

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting month	0	0	0
From 31 October 2015 to end of the reporting month	3	1	0

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

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting month	0	0	0
From 1 March 2016 to end of the reporting month	5	0	0