



# **Development at West Kowloon Cultural District**

Monthly Environmental Monitoring and Audit  
(EM&A) Report for July 2017

August 2017



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

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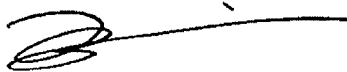
August 2017





**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:**



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

Date

9.8.2017

**Verified by:**



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

Date

10 Aug 2017

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# 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 Foundation Works (Contract No.: CC/2015/3A/014) at West Kowloon Cultural District (WKCD) (The Project) as part of the WKCD development. The Project Proponent is the West Kowloon Cultural District Authority (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 foundation works of Lyric Theatre Complex conducted from 1 July to 31 July 2017.

## **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 6, 13, 20 and 27 July 2017 for M+ Museum and 5, 12, 19 and 26 July 2017 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.

## **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:

- Construction of 3/F, 2/F, 1M/F, 1/F, G/F and LG/F
- Construction of column from LGF to GF, G/F to 1/F, 1/F to 1M/F, 1M/F to 2/F, 2/F to 3/F
- Encasement of Mega Trusses
- ABWF work at DCS
- E&M work at B2/F and SPS

- Construction of B1 slab and beam and Roof Beam and slab at ICP
- Sheet Pile Installation for seawater outfall pipe between Ch0+66 to Ch0+108
- Storm Drainage at Portion M45
- Sewerage work at Portion L08
- West core wall up to 4/F

The major site works at Lyric Theatre Complex scheduled to be commissioned in the coming month include:

- Pumping Test
- Bulk Excavation
- Preparation works for ELS
- Steel Struct ELS 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 Foundation Works (Contract No.: CC/2015/3A/014) at West Kowloon Cultural District (WKCD) (The Project) as part of the WKCD development. The Project Proponent is the West Kowloon Cultural District Authority (WKDA). 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 foundation works of Lyric Theatre Complex conducted from 1 July to 31 July 2017. 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:

- Construction of 3/F, 2/F, 1M/F, 1/F, G/F, LG/F, B1 slab

- Construction of column from B1 to LGF, LGF to GF, G/F to 1/F, 1/F to 1M/F, 1M/F to 2/F, 2/F to 3/F
- Installation and encasement of Mega Trusses
- ABWF work at DCS
- E&M work at B2/F and SPS
- Construction of B1 slab and beam and Roof Beam and slab at ICP
- Tam Grouting of dewatering wells
- Sheet Pile Installation for seawater outfall pipe between Ch0+66 to Ch0+108
- Storm Drainage at Portion M45
- Sewerage work at Portion L08
- West core wall up to 4/F
- East core wall up to 4/F

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

- Installation of Monitoring Instrumentation
- Pumping Test
- Bulk Excavation
- Preparation works for ELS
- Steel Struct ELS Installation

The Construction Works Programmes of M+ Museum and Lyric Theatre Complex are provided in **Appendix B**. A layout plan of the Project is provided in **Figure 1**. Please refer to **Table 4.3** 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
<b>24-hour TSP monitoring</b>	
High Volume Sampler	TE-5170 (Serial No.: 0767 and 8919)
Calibrator	TE-5025A (Orifice I.D.: 2454)
<b>1-hour TSP monitoring</b>	
Portable direct reading dust meter	Sibata LD-3B (Serial No.: 276020 and 2Z6240)

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 m<sup>3</sup>/min. The range specified in the EM&A Manual was between 0.6-1.7 m<sup>3</sup>/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 min), $L_{90}$ (30 min) & $L_{10}$ (30 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-52 (Serial No.00131627)	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	05-Jul-17	10:40	39	44	42	38-59	273.7	500
	11-Jul-17	10:40	44	50	46			
	17-Jul-17	10:40	38	42	45			
	21-Jul-17	14:02	59	55	57			
	27-Jul-17	10:40	40	46	42			
AM2A	05-Jul-17	10:52	57	48	53	42-70	274.2	500
	11-Jul-17	10:52	52	49	47			
	17-Jul-17	10:54	42	46	59			
	21-Jul-17	14:14	70	69	66			
	27-Jul-17	10:54	52	49	47			

#### 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	05-Jul-17	10:38	44	42-49	143.6	260
	11-Jul-17	10:38	45			
	17-Jul-17	10:42	45			
	21-Jul-17	14:00	49			
	27-Jul-17	10:42	42			
AM2A	05-Jul-17	10:50	50	43-56	151.1	260
	11-Jul-17	10:50	43			
	17-Jul-17	10:52	45			
	21-Jul-17	14:12	56			
	27-Jul-17	10:52	44			

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))
05-Jul-17	14:00	14:30	68	75
11-Jul-17	14:00	14:30	68	
17-Jul-17	14:00	14:30	69	
27-Jul-17	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 2 and 9 July 2017. In accordance with the EM&A Manual, additional monitoring was carried out during the restricted hours on 2 and 9 July 2017. The Leq (5 mins) is in the range of 65-67 dB(A). Major noise source includes traffic. Construction Noise Permits for the works carried out during restricted hours were obtained and listed in **Table 4.3**.

### 3.4 Landscape and Visual Impact

Landscape and visual impact inspections were conducted as part of the weekly site inspections on 6 and 20 July 2017 for M+ Museum and 5 and 19 July 2017 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 6, 13, 20 and 27 July 2017. The joint site inspection with IEC, ET, ER and Contractor was held on 13 July 2017. 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)
22 Jun 2017	Waste management	Oil drums were found without drip trays. The contractor was reminded to provide drip trays for the oil drums.	On 30 Jun, the contractor has removed part of the oil drums. However, two oil drums were still observed without drip trays. The contractor was reminded to remove them offsite or provide drip trays.  On 6 Jul, the contractor has removed the oil drums offsite.	6 Jul 2017
30 Jun 2017	Water quality	The contractor was reminded to provide pits and 4" pumps near the seafront.	On 6 Jul, the contractor has still not provided 4" pumps and pits near seafront. The contractor was reminded to rectify it as soon as possible.  On 13 Jul, insufficient pits were observed near the seafront and 4" pumps were still not yet provided. The contractor was reminded to provide more pits and 4" pumps as prevention measures against rainstorm events.  On 20 Jul, the contractor has still not yet provided the 4" pumps and pits. The contractor was reminded to provide them as soon as possible.  On 27 Jul, one 4" pump and pit were provided. The contractor was reminded to replace the other two 2" pumps with 4" pumps.  Follow-up status will be provided in the next reporting month	On-going
30 Jun 2017	Water quality	As requested by EPD, the contractor is required to further enhance the bund at the seafront as it is considered not high enough. According to site observation, the contractor has not enhanced the bund yet. The contractor was reminded to provide a higher bund near the	On 6 Jul, bund at seashore has not been enhanced yet. The contractor was reminded to provide a higher bund as soon as possible.  On 13 Jul, some parts of the bund were enhanced. The contractor was reminded to provide a higher	On-going

Inspection Date	Parameter	Observation / Recommendation	Contactor's Responses / Action(s) Undertaken	Close-out (Date)
		seafront.	<p>bund for the remaining parts.</p> <p>On 20 Jul, the contractor has made the bund higher using sand bags and they are finishing off the bund with a layer of cement.</p> <p>On 27 Jul, the contractor has finished off most parts of the bund with a layer of cement. The contractor was reminded to finish off the remaining parts of the bund with a layer of cement.</p> <p>Follow-up status will be provided in the next reporting month</p>	
30 Jun 2017	Waste management	Construction waste was observed at B2. The contractor was reminded to remove the waste regularly.	The contractor has removed the construction waste at B2.	6 Jul 2017
30 Jun 2017	Air quality	The haul road at DCS was observed dry and dusty. The contractor was reminded to enhance water spraying to reduce dust impact.	The haul road was observed wet.	6 Jul 2017
30 Jun 2017	Waste management	Refuse was found on G/F of RDE. The contractor was reminded to remove them and provide more rubbish bins.	The contractor has removed the refuse and provided more rubbish bins.	6 Jul 2017
30 Jun 2017	Air quality	Cement bags at B2 were observed without proper cover. The contractor was reminded to cover them with impervious sheeting.	The contractor has covered the cement bags with impervious sheeting.	6 Jul 2017
30 Jun 2017	Noise	A construction blower was found without proper cover. The contractor was reminded to maintain it properly to reduce the noise impact.	The contractor has removed the construction blower offsite.	6 Jul 2017
6 Jul 2017	Water quality	Stagnant water was found near seafront. The contractor was reminded to switch on the pumps to pump out the stagnant water for treatment before discharge.	The contractor has removed the stagnant water near the seafront.	13 Jul 2017
6 Jul 2017	Waste management	Drip tray was found accumulated with oil mixture and leakage of mixture was found. The contractor was reminded to clean up the drip tray and treat it as chemical waste, and close the valve of the drip tray to prevent further leakage.	<p>On 13 Jul, oil mixture was still found in the drip tray. The contractor was reminded to clear the drip tray and close the valve.</p> <p>On 20 Jul, the contractor has cleared the drip tray.</p>	20 Jul 2017
6 Jul 2017	Waste management	Oil stain was found on the ground outside CSO. The contractor was reminded to clean it and treat it as chemical waste.	The contractor has removed the oil stain on the ground outside CSO.	13 Jul 2017
6 Jul 2017	Water quality	Effluent quality at ICP sampling point was checked. They were all visually clear when comparing with standard solution and with proper pH range.	N/A	N/A
13 Jul 2017	Waste management	Chemicals without drip tray were found. The contractor was reminded to provide sufficient drip trays for the chemicals.	On 20 Jul, chemicals were still observed without drip tray. The contractor was reminded to provide drip tray for the chemicals.	25 Jul 2017

Inspection Date	Parameter	Observation / Recommendation	Contractor's Responses / Action(s) Undertaken	Close-out (Date)
			On 25 Jul, the contractor has removed the chemicals off site.	
13 Jul 2017	Water quality	Algae was observed accumulated in the sedimentation tank. The contractor was reminded to remove the algae in the tank and ensure the compliance of the effluent quality with the requirement.	On 20 Jul, the contractor has not yet removed the algae in the tank. The contractor was reminded to remove the algae as soon as possible. On 25 Jul, the contractor has removed the algae in the sedimentation tank.	25 Jul 2017
13 Jul 2017	Water quality	Effluent quality at ICP sampling point was checked. They were visually clear when comparing with standard solution and within proper pH range.	N/A	N/A
20 Jul 2017	Air quality	No wheel-washing was found near Gate 3. The contractor was reminded to provide wheel-washing at Gate 3.	The contractor has arranged worker for wheel-washing at Gate 3.	25 Jul 2017
20 Jul 2017	Water quality	The contractor was reminded to provide an updated drainage layout plan to clearly indicate the drainage arrangement of the site.	On 27 Jul, the contractor was reminded to provide an updated drainage layout plan once available.	On-going
			Follow-up status will be provided in the next reporting month	
20 Jul 2017	Air quality	Cement bags were observed without proper cover at B1. The contractor was reminded to either remove it or cover it with impervious sheeting.	The contractor has covered the cement bags at B1 with impervious sheeting.	25 Jul 2017
20 Jul 2017	Water quality	Effluent quality at ICP sampling point was checked. They were found visually clear when comparing with standard solution and within proper pH range.	N/A	N/A
27 Jul 2017	Air quality	Cement bags at various area at B2 were found uncovered. The contractor was reminded to cover them with impervious sheeting to reduce dust impact or remove them off site.	Follow-up status will be provided in the next reporting month	On-going
27 Jul 2017	Waste management	Chemicals without drip tray were found at B2. The contractor was reminded to provide drip tray for the chemicals or remove them off site.	Follow-up status will be provided in the next reporting month	On-going
27 Jul 2017	Water quality	Water sampling could not be conducted at ICP sampling point as it was inaccessible due to leakage from drainage pipe nearby.	N/A	N/A

#### 4.1.2 Lyric Theatre Complex

Construction phase weekly site inspections were carried out on 5, 12, 19 and 26 July 2017. The joint site inspection with IEC, ET, ER and Contractor was held on 12 July 2017. 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 4.2**.

**Table 4.2: Summary of Site Inspections and Recommendations for Lyric Theatre Complex**

Inspection Date	Parameter	Observation / Recommendation	Contractor's Responses / Action(s) Undertaken	Close-out (Date)
27 Jun 2017	Waste management	Some drip trays were still unplugged in works area. The contractor was reminded to check the drip trays and plugged them properly to stop the stagnant water leakage.	The drip trays were checked and plugged properly.	3 Jul 2017
12 Jul 2017	Air quality	Dry haul road was observed near the car park. The Contractor was reminded to increase water spraying frequency to reduce dust impact.	Regular spraying of water was conducted.	19 Jul 2017
12 Jul 2017	Air quality	Neither NRMM label nor exceptional label was observed at the water pump at Area L06. The Contractor was reminded to check the site equipment and provide proper NRMM label or exceptional label.	Proof of NRMM not required label was displayed.	19 Jul 2017
19 Jul 2017	Water quality	Turbid water was observed at wetsep No.1. The Contractor was reminded to clean up the sludge in order to keep good quality of discharge water.	Wetsep No.1 was cleaned up.	22 Jul 2017

## 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, 95.71 tonnes, 227.55 tonnes and 1,143.3 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 164.2 tonnes of general refuse was disposed of at SENT landfill. 28.4 tonnes of metals<sup>1</sup>, 0.8 tonnes of paper/cardboard packaging, 0 tonne of plastic and 475.0 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 295.4 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

As advised by the Contractor, 2,111.17 and 503.81 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 17.8 tonnes of general refuse was 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. 804.0 tonnes of inert C&D materials was reused in other projects. 0 tonne of chemical waste was collected by licensed contractors in the reporting period.

<sup>1</sup>Since some metal generation amounts are still outstanding at the time of this report submission, the actual total amount of metals generated in July 2017 will be updated in the Appendix I of the Monthly EM&A Report for the next reporting month.

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 **Table 4.3** and **Table 4.4**.

#### 4.3.1 M+ Museum

**Table 4.3: Status of Environmental Submissions, Licenses and Permits for M+ Museum**

Permit / License No. / Notification / Reference No.	Valid Period		Status	Remarks
	From	To		
<b>Chemical Waste Producer Registration</b>				
5213-217-H2913-45	05-Nov-15	--	Valid	--
<b>Billing Account Construction Waste Disposal</b>				
7023393	13-Oct-15	--	Account Active	--
<b>Construction Noise Permit</b>				
GW-RE0348-17	4-May 17	3-Nov-17	Valid	
<b>Wastewater Discharge License</b>				
WT00023633-2016	4-Mar-16	31-Mar-21	Valid	--
<b>Notification under Air Pollution Control (Construction Dust) Regulation</b>				
394083	7-Oct-15	--	Notified	--

#### 4.3.2 Lyric Theatre Complex

**Table 4.4: Status of Environmental Submissions, Licenses and Permits for Lyric Theatre Complex**

Permit / License No. / Notification / Reference No.	Valid Period		Status	Remarks
	From	To		
<b>Chemical Waste Producer Registration</b>				
5213-217-G2347-39	17-Feb-16	--	Valid	--
<b>Billing Account Construction Waste Disposal</b>				
7024189	25-Jan-16	--	Account Active	--
<b>Construction Noise Permit</b>				
GW-RE0214-17	20-Mar-17	19-Sep-17	Valid	
<b>Wastewater Discharge License</b>				
WT00023648-2016	9-Mar-16	31-Mar-21	Valid till 23-Jul-17	Variation of license applied for changes in site boundary, sampling point and discharge point; variation is valid from 24-Jul-2017.
WT00023648-2016	24-Jul-17	31-Mar-21	Valid	
<b>Notification under Air Pollution Control (Construction Dust) Regulation</b>				
398075	18-Jan-16	--	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

- All chemical drum/ containers stored on site should be provided with drip trays.
- Any oil stain found on the ground should be removed and treat it as chemical waste.
- Drip trays should be regularly cleaned up to avoid accumulation of chemical waste.

##### Air Quality

- Maintain high standard of housekeeping to prevent emission of fugitive dust.
- Cement bags should be well covered by impervious sheeting to reduce dust impact.
- Wheel-washing should be provided at site entrances.

##### Water Quality

- Preventive measures, such as earth bund, pumps, sand bags, storage pits, should be in place near the seafront area to prevent overflow of any site runoff into the sea in case of rainstorms.
- Stagnant water on site, especially near the seafront should be regularly removed.
- Regular maintenance should be provided to wastewater treatment facilities including sedimentation tanks to avoid the accumulation of algae.
- An up-to-date drainage layout plan should be kept to clearly indicate the drainage arrangement of the site.

#### 4.4.2 Lyric Theatre Complex

##### Air Quality

- Enhance water spraying for haul roads to reduce dust impact.
- NRMM labels should be provided for non-road mobile machinery.

##### Water Quality

- Wetsep units should be regularly checked and maintained to ensure proper function to treat wastewater or runoff before discharge.

## 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 June 2017	14 July 2017

## 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:

- Construction of 3/F, 2/F, 1M/F, 1/F, G/F and LG/F
- Construction of column from LGF to GF, G/F to 1/F, 1/F to 1M/F, 1M/F to 2/F, 2/F to 3/F
- Encasement of Mega Trusses
- ABWF work at DCS
- E&M work at B2/F and SPS
- Construction of B1 slab and beam and Roof Beam and slab at ICP
- Sheet Pile Installation for seawater outfall pipe between Ch0+66 to Ch0+108
- Storm Drainage at Portion M45
- Sewerage work at Portion L08
- West core wall up to 4/F

#### 7.1.2 Lyric Theatre Complex

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

- Pumping Test
- Bulk Excavation
- Preparation works for ELS
- Steel Struct ELS 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 foundation works 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.

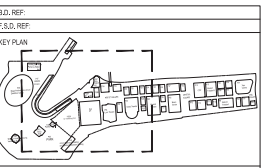
No environmental complaints were recorded in the reporting month. No notifications of summons or successful prosecution were received during the reporting month.

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**

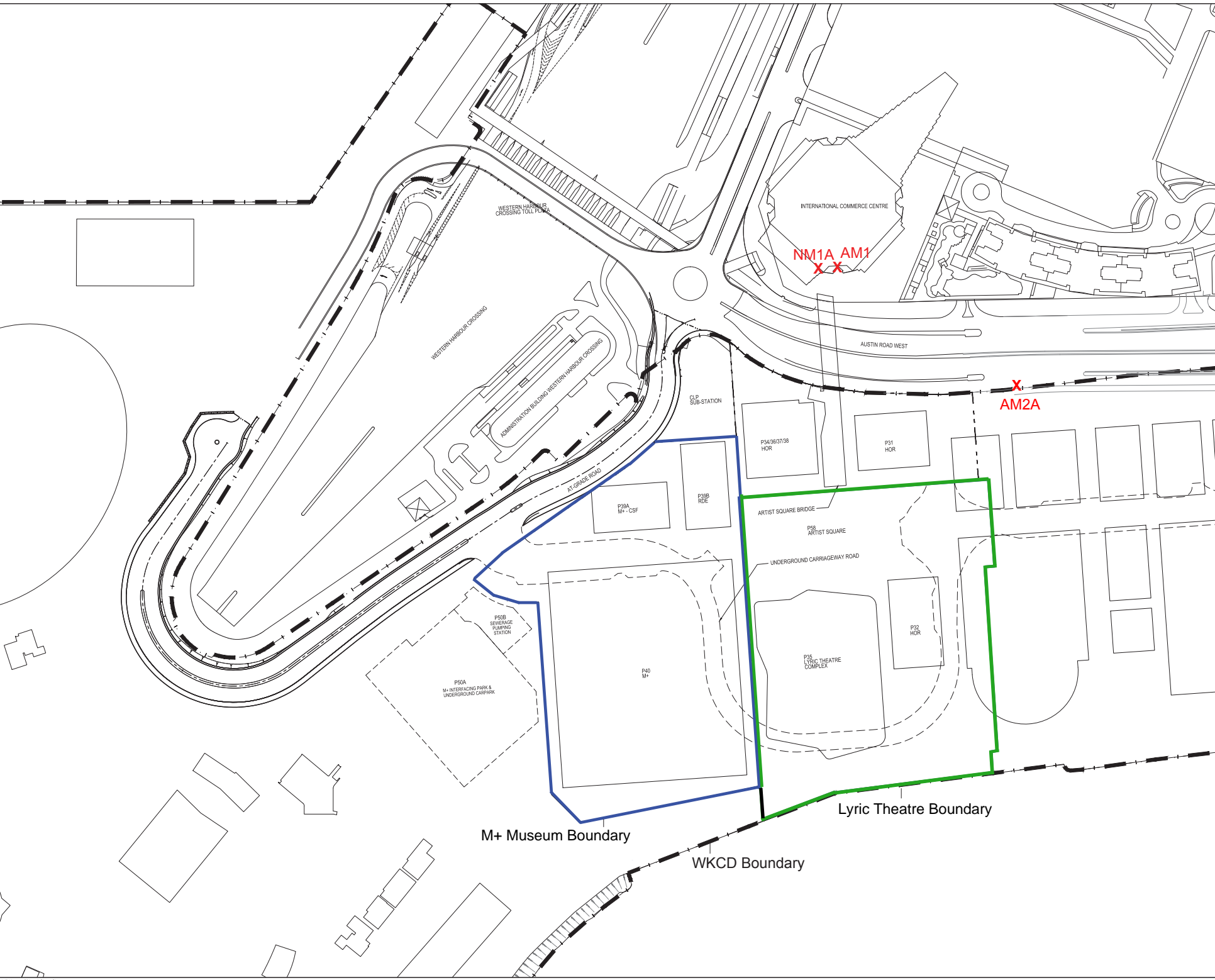
DRAWING TITLE: **PROPOSED LOCATIONS OF CONSTRUCTION AIR/NOISE MONITORING STATIONS**

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

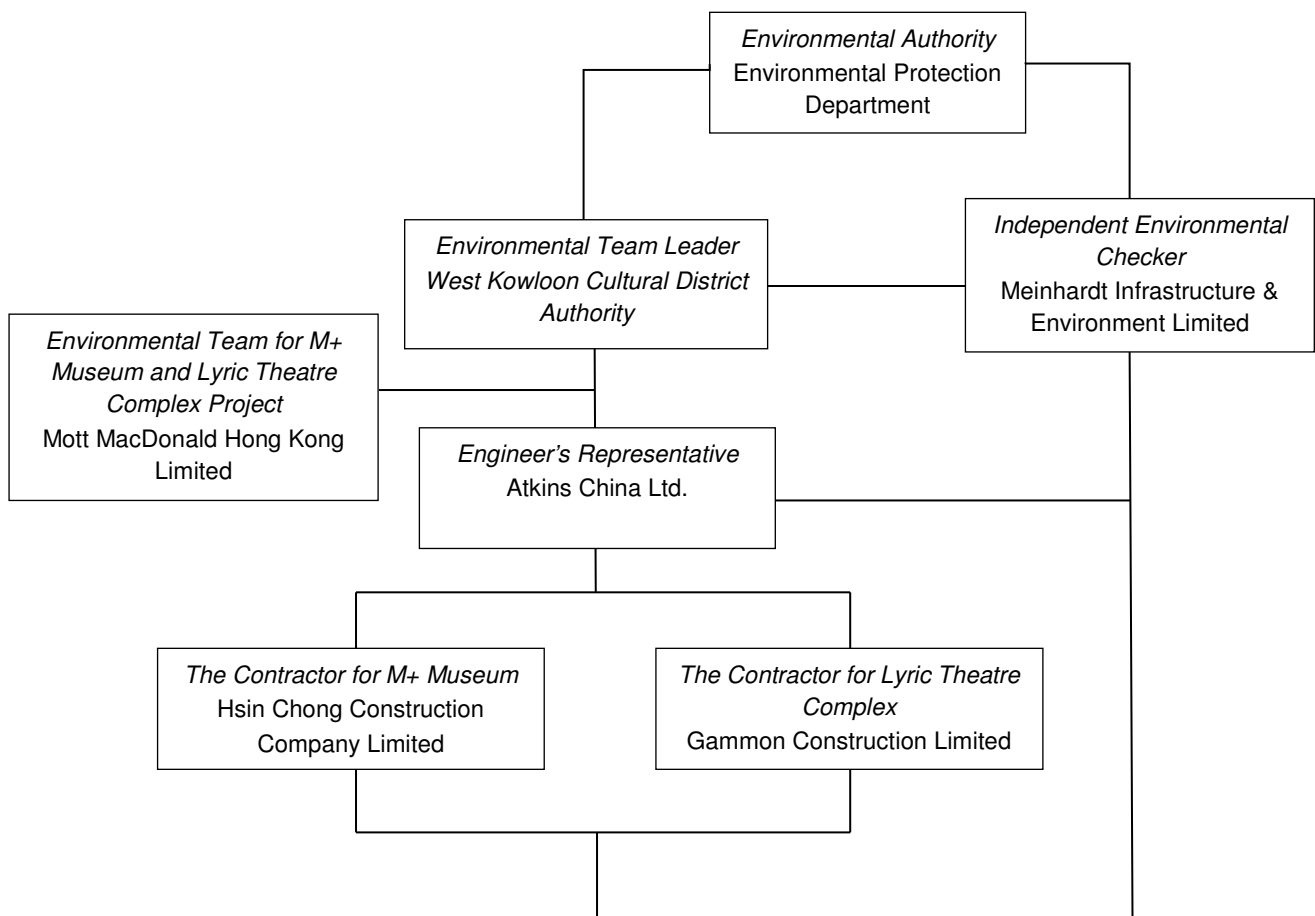
AUTHORITY



# 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. Leo Chow	9266 6855
Gammon Construction Limited	Environmental Manager	Ms. Michelle Tang	9267 8866
Mott MacDonald Hong Kong Ltd.	Contractor's Environmental Team Leader	Mr Brandon Wong	2828 5875
West Kowloon Cultural District Authority	Senior Environmental Specialist	Mr. Brian Tam	2200 0059



## B. Tentative Construction Programme

**M+ Museum**

# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D5 Start	CMWP - R0.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July					August				September				October				November																		
											22		23		30		06		13		20		27		03		10		17		24		01		08		15		22		29		05		12	
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12																
<b>Three Months Rolling Programme 3MRP - Mth22 (31 July 2017)</b>																																														
<b>M+</b>																																														
<b>Contract Dates</b>																																														
CD01	Contract Period (1218 days)	800	17-Dec-16	24-Feb-19	17-Dec-16 A	02-Apr-19	28%	25.43%	-37																																					
<b>Contract Key Dates</b>																																														
CKD01	Sewage Pumping Station (SPS) - Practical Completion for	0		25-Jun-17		29-Sep-17*	100%	0%	-96																																					
CKD07	Interfacing Car Park (ICP) - Complete of Structure	0		25-Jun-17		02-Aug-17*	100%	0%	-38																																					
<b>Forecast Completion Dates</b>																																														
KD01	Sewage Pumping Station (SPS) - Practical Completion for	0		15-Sep-17		29-Sep-17*	0%	0%	-14																																					
KD07	Interfacing Car Park (ICP) - Complete of Structure	0		25-Jun-17		02-Aug-17*	100%	0%	-38																																					
<b>Critical Key Dates</b>																																														
<b>Critical Key Dates - M+ Tower Structure RC Works</b>																																														
<b>Critical Key Dates - M+ Tower Structure Works - Tower</b>																																														
A13070	Complete Tower Structure - 5/F Slab, Wall & Column (G	0		23-Sep-17		07-Oct-17	0%	0%	-10																																					
A13080	Complete Tower Structure - 6/F Slab, Wall & Column (G	0		09-Oct-17		20-Oct-17	0%	0%	-10																																					
A13090	Complete Tower Structure - 7/F Slab, Wall & Column (G	0		20-Oct-17		02-Nov-17	0%	0%	-10																																					
<b>Critical Key Dates - M+ Tower Structure Works - East Core</b>																																														
A12920	Complete East Core Wall - 5/F Slab, Wall & Column (GL	0		28-Aug-17		04-Sep-17	0%	0%	-6																																					
A12930	Complete East Core Wall - 6/F Slab, Wall & Column (GL	0		11-Sep-17		18-Sep-17	0%	0%	-6																																					
A12940	Complete East Core Wall - 7/F Slab, Wall & Column (GL	0		22-Sep-17		29-Sep-17	0%	0%	-6																																					
A12950	Complete East Core Wall - 8/F Slab, Wall & Column (GL	0		06-Oct-17		13-Oct-17	0%	0%	-6																																					
A12970	Complete East Core Wall - 9/F Slab, Wall & Column (GL	0		18-Oct-17		25-Oct-17	0%	0%	-6																																					
<b>Critical Key Dates - M+ Tower Structure Works - West Core</b>																																														
A12770	Complete West Core Wall - 5/F Slab, Wall & Column (GI	0		21-Jul-17		30-Aug-17	100%	0%	-34																																					
A12780	Complete West Core Wall - 6/F Slab, Wall & Column (GI	0		07-Aug-17		15-Sep-17	0%	0%	-34																																					
A12790	Complete West Core Wall - 7/F Slab, Wall & Column (GI	0		21-Aug-17		29-Sep-17	0%	0%	-34																																					
A12800	Complete West Core Wall - 8/F Slab, Wall & Column (GI	0		04-Sep-17		16-Oct-17	0%	0%	-34																																					
A12810	Complete West Core Wall - 9/F Slab, Wall & Column (GI	0		18-Sep-17		31-Oct-17	0%	0%	-34																																					
A12820	Complete West Core Wall - 10/F Slab, Wall & Column (C	0		03-Oct-17		20-Nov-17	0%	0%	-39																																					
A12830	Complete West Core Wall - 11/F Slab, Wall & Column (C	0		18-Oct-17		02-Dec-17	0%	0%	-38																																					
<b>Critical Key Dates - Mega Truss Works</b>																																														
<b>Critical Key Dates - Mega Truss Erection &amp; Construction</b>																																														
A13200	Complete Truss 3 - Construction	0		03-Aug-17		26-Aug-17	0%	0%	-20																																					
A15520	Complete Truss 4 - Construction	0		14-Aug-17		05-Sep-17	0%	0%	-19																																					
A40525	Complete Truss 1 - Construction	0		04-Aug-17		16-Aug-17	0%	0%	-10																																					
A46720	Complete Truss 2 Construction	0		01-Aug-17		16-Aug-17	0%	0%	-13																																					
A50580	Complete Truss 5 - Steel Erection	0		18-Jul-17		10-Jun-17 A	100%	100%	32																																					
A50600	Complete Truss 5 - Construction	0		28-Aug-17		21-Aug-17	0%	0%	7																																					
<b>Critical Key Dates - Removal of Falsework</b>																																														
A18360	Complete Removal of T5 falseworks	0		04-Oct-17		15-Nov-17	0%	0%	-34																																					
A18370	Complete Removal of T1 & T2 falseworks @GLL-H	0		20-Oct-17		02-Nov-17	0%	0%	-10																																					
A18380	Complete Removal of T1 & T2 falseworks @GLH-E	0		20-Oct-17		02-Nov-17	0%	0%	-10																																					
A18440	Complete Removal of T3 falseworks	0		01-Nov-17		03-Oct-17	0%	0%	24																																					
<b>Critical Key Dates - Podium Structure RC Works</b>																																														
A11110	Complete Zone A - G/F Slab, Wall & Columns	0		31-May-17		03-Aug-17	100%	0%	-54																																					
A11120	Complete Zone A - 1M/F Slab, Wall & Columns	0		27-Jun-17		18-Aug-17	100%	0%	-44																																					
A11125	Complete Zone A - 2/F Slab, Wall & Columns	0		22-Jul-17		11-Sep-17	100%	0%	-43																																					
A11800	Complete Zone A - 3/F Slab, Wall & Columns	0		21-Aug-17		12-Oct-17	0%	0%	-43																																					
A11810	Complete Zone H - B1/F Slab	0		06-Jun-17		14-Aug-17	100%	0%	-58																																					
A11820	Complete Zone H - LG/F Slab, Wall & Columns	0		17-Jun-17		25-Aug-17	100%	0%	-58																																					
A11830	Complete Zone H - G/F Slab, Wall & Columns	0		02-Aug-17		03-Oct-17	0%	0%	-52																																					
A11840	Complete Zone H - 1/F Slab, Wall & Columns	0		21-Aug-17		23-Oct-17	0%	0%	-52																																					
A11850	Complete Zone H - 1M/F Slab, Wall & Columns	0		07-Sep-17		10-Nov-17	0%	0%	-52																																					
A11860	Complete Zone H - 2/F Slab, Wall & Columns	0		25-Sep-17		27-Nov-17	0%	0%	-51																																					

■ 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 5)**



Date	Revision	Checked	Approved
31-Mar-17	3MRP_M18_31 Mar 17	Chris S.	Chis Chau / Ricky Lau
30-Apr-17	3MRP_M19_30 April 17	Chris S.	Chis Chau / Ricky Lau
31-May-17	3MRP_M20_31 May 17	Chris S.	Chis Chau / Ricky Lau
30-Jun-17	3MRP_M21_30 Jun 17	Chris S.	Chis Chau / Ricky Lau
31-Jul-17	3MRP_M22_31 July 17	Chris S.	Chis Chau / Ricky Lau

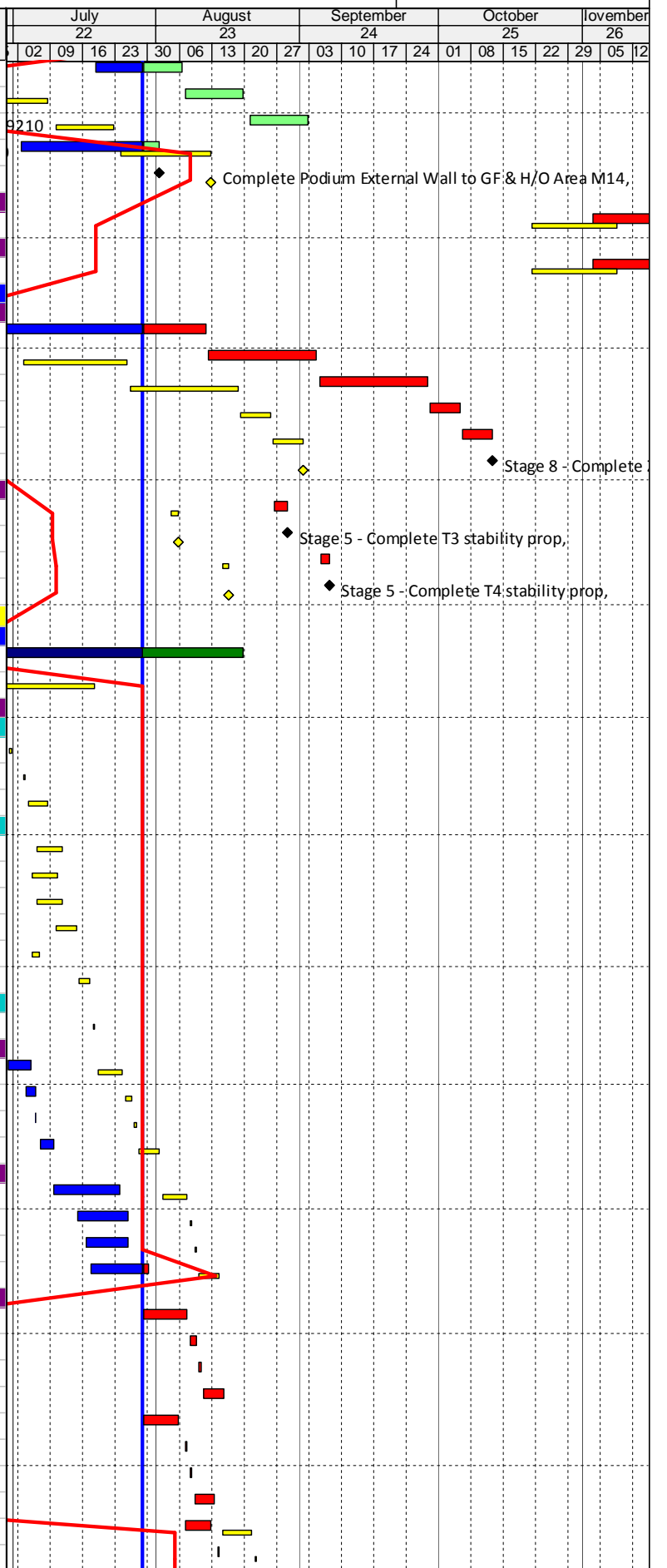






# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August			September			October		November			
											02	09	16	23	30	06	13	20	27	03	10	17	24	01
A59190	Construct tunnel base slab (GL 11/L-M)	10	14-Jun-17	23-Jun-17	19-Jul-17 A	06-Aug-17	100%	15%	-44															
A59200	Construct B1 slab (GL 9-11/K-L)	12	24-Jun-17	08-Jul-17	07-Aug-17	19-Aug-17	100%	0%	-36															
A59210	Construct carriageway wall CWA (GL 11-11.5/L)	12	10-Jul-17	22-Jul-17	21-Aug-17	02-Sep-17	100%	0%	-36															
A59260	Construct column, wall & GF slab (GL 8-12/M)	18	24-Jul-17	12-Aug-17	03-Jul-17 A	01-Aug-17	27.78%	85%	10															
A59270	Complete Podium External Wall to GF & H/O Area M14	0		12-Aug-17		01-Aug-17	0%	0%	10															
<b>Zone K &amp; L @ GL 8-11/H-M (K, L &amp; P de-prop together)</b>																								
A16420	Stage 7 - Propping & Construct 1MF beam & slab (GL 8-1	15	21-Oct-17	08-Nov-17	03-Nov-17	20-Nov-17	0%	0%	-10															
<b>Zone P @ GL 11-8/7-5</b>																								
A16590	Stage 1 - Construct retaining wall (GL 8-10/D-G)	15	21-Oct-17	08-Nov-17	03-Nov-17	20-Nov-17	0%	0%	-10															
<b>Podium Structure Zone E, G &amp; J (Deferred Zone Near T3 &amp; T4)</b>																								
<b>Zone E &amp; E1 @ GL 10-8/A-E (not within deferred zone)</b>																								
A16850	Stage 3 - Construct 1MF beam & slab (GL 12-8/A-C)	60	15-Mar-17	31-May-17	15-Mar-17 A	11-Aug-17	100%	80%	-61	GL 8-10 to be cast on 12 June 17.														
A16870	Stage 4 - Construct 2F beam & slab (GL 12-8/A-C)	20	03-Jul-17	25-Jul-17	12-Aug-17	04-Sep-17	100%	0%	-35															
A16890	Stage 5 - Construct wall, column & 3F roof (GL 12-8/A-C)	21	26-Jul-17	18-Aug-17	05-Sep-17	28-Sep-17	14.29%	0%	-35															
A16920	Stage 8 - 1MF, 2F & 3F Concrete Curing (GL 12-8/A-C: inr	7	19-Aug-17	25-Aug-17	29-Sep-17	05-Oct-17	0%	0%	-41															
A16930	Stage 9 - De-prop 1MF & 3F	6	26-Aug-17	01-Sep-17	06-Oct-17	12-Oct-17	0%	0%	-33															
A16940	Stage 8 - Complete Zone E	0		01-Sep-17		12-Oct-17	0%	0%	-33															
<b>Installation of Stability Prop for T3 &amp; T4</b>																								
A16960	Stage 5 - Install T3 stability prop	2	04-Aug-17	05-Aug-17	26-Aug-17	29-Aug-17	0%	0%	-20															
A16970	Stage 5 - Complete T3 stability prop	0		05-Aug-17		29-Aug-17	0%	0%	-20															
A16980	Stage 5 - Install T4 stability prop	2	15-Aug-17	16-Aug-17	05-Sep-17	07-Sep-17	0%	0%	-19															
A16990	Stage 5 - Complete T4 stability prop	0		16-Aug-17		07-Sep-17	0%	0%	-19															
<b>M+ Mega Truss Site Construction</b>																								
<b>Site Construction of Truss 5</b>																								
A50525	T5 Steel Truss Concrete Encasement (LoE)	91	08-Mar-17	29-Jun-17	08-Mar-17 A	19-Aug-17	100%	79.12%	-43															
A50570	T5 Steel Truss Erection - Part 2 (incl. T5N04, T5-D21 & T5	16	29-Jun-17	18-Jul-17	08-Jun-17 A	09-Jun-17 A	100%	100%	33															
<b>T5 Steel Erection (incl. Modular Towers &amp; Working Platform)</b>																								
<b>Installation of T5 Remaining Components</b>																								
MT1710	Installation T5-N04	1	30-Jun-17	30-Jun-17	09-Jun-17 A	09-Jun-17 A	100%	100%	19															
MT1720	Installation T5-D21	1	03-Jul-17	03-Jul-17	10-Jun-17 A	10-Jun-17 A	100%	100%	19															
MT1730	Installation T5-B14	5	04-Jul-17	08-Jul-17	10-Jun-17 A	10-Jun-17 A	100%	100%	24															
<b>Welding and NDT of Top Chords (Remaining)</b>																								
MT1740	Welding D21-N01	5	06-Jul-17	11-Jul-17	16-Jun-17 A	17-Jun-17 A	100%	100%	20															
MT1750	Welding N04(A) N04 (B)	5	05-Jul-17	10-Jul-17	16-Jun-17 A	17-Jun-17 A	100%	100%	19															
MT1760	Welding N04-D21	5	06-Jul-17	11-Jul-17	16-Jun-17 A	17-Jun-17 A	100%	100%	20															
MT1770	Welding B14-N05	5	10-Jul-17	14-Jul-17	16-Jun-17 A	23-Jun-17 A	100%	100%	18															
MT1780	Welding N04-B14	2	05-Jul-17	06-Jul-17	16-Jun-17 A	17-Jun-17 A	100%	100%	16															
MT1790	NDT for top chord (main)	2	15-Jul-17	17-Jul-17	22-Jun-17 A	23-Jun-17 A	100%	100%	20															
<b>Completion of T5 Installation</b>																								
MT1800	Survey check for overall truss T5	1	18-Jul-17	18-Jul-17	26-Jun-17 A	26-Jun-17 A	100%	100%	19															
<b>RC Works CJ2 to +23.7mPD (Bottom Chord)</b>																								
A50690	Rebar Fixing CJ2 @GL 5-7	5	19-Jul-17	24-Jul-17	30-Jun-17 A	05-Jul-17 A	100%	100%	17															
A50740	Formworks CJ2 @GL 5-7	2	25-Jul-17	26-Jul-17	04-Jul-17 A	06-Jul-17 A	100%	100%	18															
A50820	Concreting CJ2 @GL 5-7	1	27-Jul-17	27-Jul-17	06-Jul-17 A	06-Jul-17 A	100%	100%	19															
A50930	Concrete Curing CJ2 @GL 5-7	5	28-Jul-17	01-Aug-17	07-Jul-17 A	10-Jul-17 A	20%	100%	23															
<b>RC Works to CJ3 to +28.6mPD (7 nos. of Bracing)</b>																								
A51180	Rebar Fixing CJ3 @GL 5-7	5	02-Aug-17	07-Aug-17	10-Jul-17 A	24-Jul-17 A	0%	100%	13															
A51190	Formworks CJ3 @GL 5-7	1	08-Aug-17	08-Aug-17	15-Jul-17 A	26-Jul-17 A	0%	100%	12															
A51240	Concreting CJ3 @GL 5-7	1	09-Aug-17	09-Aug-17	17-Jul-17 A	26-Jul-17 A	0%	100%	13															
A51290	Concrete Curing CJ3 @GL 5-7	5	10-Aug-17	14-Aug-17	18-Jul-17 A	30-Jul-17	0%	75%	16															
<b>RC Works to +31.3mPD (Top Chord - 3/F)</b>																								
A51710	Rebar Fixing CJ4 @GL 1-3	8	20-May-17	29-May-17	29-Jul-17	07-Aug-17	100%	0%	-58															
A51740	Formworks CJ4 @GL 1-3	2	31-May-17	01-Jun-17	08-Aug-17	09-Aug-17	100%	0%	-58															
A51840	Concreting Top Chord CJ4 @GL 1-3	1	02-Jun-17	02-Jun-17	10-Aug-17	10-Aug-17	100%	0%	-58															
A51940	Concrete Curing Top Chord CJ4 @GL 1-3	5	03-Jun-17	07-Jun-17	11-Aug-17	15-Aug-17	100%	0%	-69															
A52030	Rebar Fixing CJ4 @GL 3-5	7	20-May-17	27-May-17	29-Jul-17	05-Aug-17	100%	0%	-58															
A52060	Formworks CJ4 @GL 3-5	1	29-May-17	29-May-17	07-Aug-17	07-Aug-17	100%	0%	-58															
A52150	Concreting Top Chord CJ4 @GL 3-5	1	31-May-17	31-May-17	08-Aug-17	08-Aug-17	100%	0%	-58															
A52240	Concrete Curing Top Chord CJ4 @GL 3-5	5	01-Jun-17	05-Jun-17	09-Aug-17	13-Aug-17	100%	0%	-69															
A52330	Rebar Fixing CJ4 @GL 5-7	6	15-Aug-17	21-Aug-17	07-Aug-17	12-Aug-17	0%	0%	7															
A52420	Formworks CJ4 @GL 5-7	1	22-Aug-17	22-Aug-17	14-Aug-17	14-Aug-17	0%	0%	7															











# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D5 Start	CMWP - R0.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August			September			October			November						
											22	23	23	24	24	25	26	26	27	28	29	30	01	02	03	04	05	06
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15	22	29
A18300	Remove PERI Tower Jack head	2	22-Sep-17	23-Sep-17	06-Oct-17	07-Oct-17	0%	0%	-10																			
A18310	Remove PERI Tower (12 nos.)	4	25-Sep-17	28-Sep-17	09-Oct-17	12-Oct-17	0%	0%	-10																			
A57710	Lower down 18M truss (6 nos.)	1	29-Sep-17	29-Sep-17	13-Oct-17	13-Oct-17	0%	0%	-10																			
A57720	Disconnect strand jack system at T1 & T2	1	29-Sep-17	29-Sep-17	13-Oct-17	13-Oct-17	0%	0%	-10																			
A57730	Remove T1 & T2 working platform	3	30-Sep-17	04-Oct-17	14-Oct-17	17-Oct-17	0%	0%	-10																			
A57740	Remove 18M truss (6 nos.)	4	06-Oct-17	10-Oct-17	18-Oct-17	21-Oct-17	0%	0%	-10																			
A57750	Remove 9M truss (12 nos.)	4	11-Oct-17	14-Oct-17	23-Oct-17	26-Oct-17	0%	0%	-10																			
A57760	Remove Non-Typical truss	4	16-Oct-17	19-Oct-17	27-Oct-17	01-Nov-17	0%	0%	-10																			
A57770	Remove Spreader Beam	3	18-Oct-17	20-Oct-17	31-Oct-17	02-Nov-17	0%	0%	-10																			
<b>Removal of T3 Falseworks</b>																												
<b>Pre-setup Works</b>																												
A18410	Install additional beam for strengthening T3 9M trusses	6	30-Aug-17	05-Sep-17	11-Sep-17	16-Sep-17	0%	0%	-10																			
A18420	Remove Strand Jack on Strand Jack Support at T1 & T2	5	23-Sep-17	28-Sep-17	18-Sep-17	22-Sep-17	0%	0%	5																			
A18430	Set up Strand Jack Support System at T3	4	29-Sep-17	04-Oct-17	23-Sep-17	27-Sep-17	0%	0%	5																			
<b>Removal Works for T3 Falseworks</b>																												
A57990	Install Strand Jack on Strand Jack Support at T3	5	06-Oct-17	11-Oct-17	06-Sep-17	12-Sep-17	0%	0%	24																			
A58000	Lift up 100mm	1	12-Oct-17	12-Oct-17	12-Sep-17	13-Sep-17	0%	0%	24																			
A58010	Remove PERI Tower Jack head	2	13-Oct-17	14-Oct-17	13-Sep-17	15-Sep-17	0%	0%	24																			
A58020	Remove PERI Tower (12 nos.)	3	16-Oct-17	18-Oct-17	15-Sep-17	19-Sep-17	0%	0%	24																			
A58030	Lower down 9M truss (6 nos.)	1	19-Oct-17	19-Oct-17	19-Sep-17	20-Sep-17	0%	0%	24																			
A58040	Disconnect strand jack system at T3	1	20-Oct-17	20-Oct-17	20-Sep-17	21-Sep-17	0%	0%	24																			
A58050	Remove T3 working platform	3	21-Oct-17	24-Oct-17	21-Sep-17	25-Sep-17	0%	0%	24																			
A58070	Remove 9M truss (12 nos.)	4	25-Oct-17	30-Oct-17	25-Sep-17	29-Sep-17	0%	0%	24																			
A58080	Remove Non-Typical truss	4	25-Oct-17	30-Oct-17	25-Sep-17	29-Sep-17	0%	0%	24																			
A58090	Remove Spreader Beam	2	31-Oct-17	01-Nov-17	29-Sep-17	03-Oct-17	0%	0%	24																			
<b>Removal of T4 Falseworks</b>																												
<b>Pre-setup Works</b>																												
A18470	Install additional beam for strengthening T4 9M trusses	6	06-Oct-17	12-Oct-17	28-Sep-17	06-Oct-17	0%	0%	5																			
A18480	Remove Strand Jack on Strand Jack Support at T3	5	21-Oct-17	26-Oct-17	07-Oct-17	12-Oct-17	0%	0%	12																			
A18490	Set up Strand Jack Support System at T4	4	27-Oct-17	01-Nov-17	13-Oct-17	17-Oct-17	0%	0%	12																			
<b>Removal Works for T4 Falseworks</b>																												
A58100	Installation of Strand Jack on Strand Jack Support at T4	5	02-Nov-17	07-Nov-17	18-Oct-17	23-Oct-17	0%	0%	12																			
A58110	Lift up 100mm	1	08-Nov-17	08-Nov-17	24-Oct-17	24-Oct-17	0%	0%	12																			
A58120	Remove PERI Tower Jack head	2	09-Nov-17	10-Nov-17	25-Oct-17	26-Oct-17	0%	0%	12																			
A58130	Remove PERI Tower (12 nos.)	3	11-Nov-17	14-Nov-17	27-Oct-17	31-Oct-17	0%	0%	12																			
<b>RC Works for T1 &amp; T2 In-fill Slabs</b>																												
<b>RC Works for 4/F In-fill Slab</b>																												
<b>Area Between Modular Towers</b>																												
A18000	Scaffolding for 4/F Slab RC Works @GL L-H	4	12-Aug-17	16-Aug-17	24-Aug-17	28-Aug-17	0%	0%	-10																			
A18005	Rebar fixing of 4/F Slab @GL L-H	3	18-Aug-17	21-Aug-17	30-Aug-17	01-Sep-17	0%	0%	-10																			
A18015	Formworks of 4/F Slab @GL L-H	1	17-Aug-17	17-Aug-17	29-Aug-17	29-Aug-17	0%	0%	-10																			
A18030	Concreting 4/F Slab @GL L-H	1	22-Aug-17	22-Aug-17	02-Sep-17	02-Sep-17	0%	0%	-10																			
A18035	Concrete Curing 4/F Slab @GL L-H	3	23-Aug-17	25-Aug-17	03-Sep-17	05-Sep-17	0%	0%	-11																			
A18040	Scaffolding for 4/F Slab RC Works @GL H-E	4	16-Aug-17	19-Aug-17	28-Aug-17	31-Aug-17	0%	0%	-10																			
A18050	Rebar fixing of 4/F Slab @GL H-E	3	22-Aug-17	24-Aug-17	02-Sep-17	05-Sep-17	0%	0%	-10																			
A18160	Formworks of 4/F Slab @GL H-E	1	21-Aug-17	21-Aug-17	01-Sep-17	01-Sep-17	0%	0%	-10																			
A18165	Concreting 4/F Slab @GL H-E	1	25-Aug-17	25-Aug-17	06-Sep-17	06-Sep-17	0%	0%	-10																			
A18175	Concrete Curing 4/F Slab @GL H-E	3	26-Aug-17	28-Aug-17	07-Sep-17	09-Sep-17	0%	0%	-12																			
<b>Area of Modular Towers</b>																												
A57480	Scaffolding for 4/F Slab RC Works @GL L-H	4	30-Aug-17	02-Sep-17	09-Sep-17	13-Sep-17	0%	0%	-9																			
A57490	Rebar fixing of 4/F Slab @GL L-H	3	02-Sep-17	05-Sep-17	13-Sep-17	15-Sep-17	0%	0%	-9																			
A57500	Formworks of 4/F Slab @GL L-H	1	06-Sep-17	06-Sep-17	16-Sep-17	16-Sep-17	0%	0%	-9																			
A57510	Concreting 4/F Slab @GL L-H	1	07-Sep-17	07-Sep-17	18-Sep-17	18-Sep-17	0%	0%	-9																			
A57520	Concrete Curing 4/F Slab @GL L-H	3	08-Sep-17	10-Sep-17	19-Sep-17	21-Sep-17	0%	0%	-11																			
A57530	Scaffolding for 4/F Slab RC Works @GL H-E	4	01-Sep-17	05-Sep-17	14-Sep-17	18-Sep-17	0%	0%	-11																			
A57540	Rebar fixing of 4/F Slab @GL H-E	3	06-Sep-17	08-Sep-17	19-Sep-17	21-Sep-17	0%	0%	-11																			
A57550	Formworks of 4/F Slab @GL H-E	1	09-Sep-17	09-Sep-17	22-Sep-17	22-Sep-17	0%	0%	-11																			
A57560	Concreting 4/F Slab @GL H-E	1	11-Sep-17	11-Sep-17	23-Sep-17	23-Sep-17	0%	0%	-11																			
A57570	Concrete Curing 4/F Slab @GL H-E	3	12-Sep-17	14-Sep-17	24-Sep-17	26-Sep-17	0%	0%	-12																			
<b>RC Works for 2/F Slab &amp; Beams (6 nos. of Beam)</b>																												
<b>Area Between Modular Towers</b>																												

# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D5 Start	CMWP - R0.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August		September		October		November			
											22	23	23	24	01	02	03	04	05	06		
											02	09	16	23	30	06	13	20	27	03	10	17
A18065	Scaffolding for 2/F Slab & Beam @GLL-H	3	12-Aug-17	15-Aug-17	24-Aug-17	26-Aug-17	0%	0%	-10													
A18070	Rebar fixing of 2/F Slab & Beam @GLL-H	3	16-Aug-17	18-Aug-17	28-Aug-17	30-Aug-17	0%	0%	-10													
A18080	Formworks of 2/F Slab & Beam @GLL-H	2	19-Aug-17	21-Aug-17	31-Aug-17	01-Sep-17	0%	0%	-10													
A18090	Concreting 2/F Slab & Beam @GLL-H	1	22-Aug-17	22-Aug-17	02-Sep-17	02-Sep-17	0%	0%	-10													
A18100	Concrete Curing 2/F Slab & Beam @GLL-H	3	23-Aug-17	25-Aug-17	03-Sep-17	05-Sep-17	0%	0%	-11													
A18105	Scaffolding for 2/F Slab & Beam @GLH-E	3	16-Aug-17	18-Aug-17	28-Aug-17	30-Aug-17	0%	0%	-10													
A50340	Rebar fixing of 2/F Slab & Beam @GLH-E	3	19-Aug-17	22-Aug-17	31-Aug-17	02-Sep-17	0%	0%	-10													
A50350	Formworks of 2/F Slab & Beam @GLH-E	2	23-Aug-17	24-Aug-17	04-Sep-17	05-Sep-17	0%	0%	-10													
A50360	Concreting 2/F Slab & Beam @GLH-E	1	25-Aug-17	25-Aug-17	06-Sep-17	06-Sep-17	0%	0%	-10													
A50370	Concrete Curing 2/F Slab & Beam @GLH-E	3	26-Aug-17	28-Aug-17	07-Sep-17	09-Sep-17	0%	0%	-12													
<b>Area of Modular Towers</b>																						
A57580	Scaffolding for 2/F Slab & Beam @GLL-H	3	25-Aug-17	28-Aug-17	06-Sep-17	08-Sep-17	0%	0%	-10													
A57590	Rebar fixing of 2/F Slab & Beam @GLL-H	3	31-Aug-17	02-Sep-17	12-Sep-17	14-Sep-17	0%	0%	-10													
A57600	Formworks of 2/F Slab & Beam @GLL-H	2	29-Aug-17	30-Aug-17	09-Sep-17	11-Sep-17	0%	0%	-10													
A57610	Concreting 2/F Slab & Beam @GLL-H	1	04-Sep-17	04-Sep-17	15-Sep-17	15-Sep-17	0%	0%	-10													
A57620	Concrete Curing 2/F Slab & Beam @GLL-H	3	05-Sep-17	07-Sep-17	16-Sep-17	18-Sep-17	0%	0%	-11													
A57630	Scaffolding for 2/F Slab & Beam @GLH-E	3	29-Aug-17	31-Aug-17	09-Sep-17	12-Sep-17	0%	0%	-10													
A57640	Rebar fixing of 2/F Slab & Beam @GLH-E	3	04-Sep-17	06-Sep-17	15-Sep-17	18-Sep-17	0%	0%	-10													
A57650	Formworks of 2/F Slab & Beam @GLH-E	2	01-Sep-17	02-Sep-17	13-Sep-17	14-Sep-17	0%	0%	-10													
A57660	Concreting 2/F Slab & Beam @GLH-E	1	07-Sep-17	07-Sep-17	19-Sep-17	19-Sep-17	0%	0%	-10													
A57670	Concrete Curing 2/F Slab & Beam @GLH-E	3	08-Sep-17	10-Sep-17	20-Sep-17	22-Sep-17	0%	0%	-12													
<b>RC Works for 3/F Beams (2 nos.)</b>																						
A18110	Falseworks for 3/F Beams RC Works @GLL-H	5	26-Aug-17	31-Aug-17	06-Sep-17	11-Sep-17	0%	0%	-9													
A18115	Rebar fixing of 3/F Beams @GLL-H	3	01-Sep-17	04-Sep-17	12-Sep-17	14-Sep-17	0%	0%	-9													
A18120	Formworks of 3/F Beams @GLL-H	3	05-Sep-17	07-Sep-17	15-Sep-17	18-Sep-17	0%	0%	-9													
A18130	Concreting 3/F Beams @GLL-H	1	08-Sep-17	08-Sep-17	19-Sep-17	19-Sep-17	0%	0%	-9													
A18140	Concrete Curing 3/F Beams @GLL-H	5	09-Sep-17	13-Sep-17	20-Sep-17	24-Sep-17	0%	0%	-11													
A18180	Falseworks for 3/F Beams RC Works @GLH-E	5	01-Sep-17	06-Sep-17	12-Sep-17	16-Sep-17	0%	0%	-9													
A18190	Rebar fixing of 3/F Beams @GLH-E	5	07-Sep-17	12-Sep-17	18-Sep-17	22-Sep-17	0%	0%	-9													
A18200	Formworks of 3/F Beams @GLH-E	3	13-Sep-17	15-Sep-17	23-Sep-17	26-Sep-17	0%	0%	-9													
A18230	Concreting 3/F Beams @GLH-E	1	16-Sep-17	16-Sep-17	27-Sep-17	27-Sep-17	0%	0%	-9													
A18240	Concrete Curing 3/F Beams @GLH-E	5	17-Sep-17	21-Sep-17	28-Sep-17	02-Oct-17	0%	0%	-11													
<b>RC Works for 3/F Wall, Column &amp; Upper Slab (In-fill)</b>																						
A50455	Scaffolding for 3/F Upper Slab RC Works	7	26-Aug-17	02-Sep-17	06-Sep-17	13-Sep-17	0%	0%	-9													
A50460	Rebar fixing of 3/F Upper Slab	12	04-Sep-17	16-Sep-17	14-Sep-17	27-Sep-17	0%	0%	-9													
A50470	Formworks of 3/F Upper Slab	12	13-Sep-17	26-Sep-17	23-Sep-17	09-Oct-17	0%	0%	-9													
A50480	Concreting 3/F Upper Slab	1	27-Sep-17	27-Sep-17	10-Oct-17	10-Oct-17	0%	0%	-9													
A50490	Concrete Curing 3/F Upper Slab	5	28-Sep-17	02-Oct-17	11-Oct-17	15-Oct-17	0%	0%	-13													
<b>RC Works for 3/F Wall, Column &amp; Lower Slab (In-fill)</b>																						
A17915	Scaffolding for 3/F Wall, Columns & Lower Slab RC Work	3	03-Oct-17	06-Oct-17	16-Oct-17	18-Oct-17	0%	0%	-10													
A17920	Rebar fixing of 3/F Wall, Columns & Lower Slab	8	07-Oct-17	16-Oct-17	19-Oct-17	27-Oct-17	0%	0%	-10													
A17930	Formworks of 3/F Wall, Columns & Lower Slab	8	17-Oct-17	25-Oct-17	27-Oct-17	07-Nov-17	0%	0%	-10													
A17940	Concreting 3/F Wall, Columns & Lower Slab	1	26-Oct-17	26-Oct-17	07-Nov-17	08-Nov-17	0%	0%	-10													
A17950	Concrete Curing 3/F Wall, Columns & Lower Slab	3	27-Oct-17	29-Oct-17	08-Nov-17	11-Nov-17	0%	0%	-13													
<b>RC Works for 1M/F In-fill Slab</b>																						
A50375	Construct retaining wall (GL 7-8/G-H)	15	21-Oct-17	08-Nov-17	03-Nov-17	20-Nov-17	0%	0%	-10													
<b>Spiral Staircase Construction</b>																						
A58980	Preparation of Shop Drawing	20	08-Jun-17	30-Jun-17	25-Apr-17 A	10-May-17 A	100%	100%	44													
A58990	1st Review of Shop Drawings by MJV/Atkins	14	03-Jul-17	18-Jul-17	11-Jul-17 A	29-Jul-17	100%	95%	-10													
A59000	Re-submission of shop drawing	7	19-Jul-17	26-Jul-17	29-Jul-17	07-Aug-17	100%	0%	-10													
A59010	2nd Review of Shop Drawings by MJV/Atkins	13	27-Jul-17	10-Aug-17	07-Aug-17	22-Aug-17	15.38%	0%	-10													
A59020	Approval of Shop Drawings	0		10-Aug-17		22-Aug-17	0%	0%	-10													
A59030	Staircase Fabrication	30	11-Aug-17	14-Sep-17	22-Aug-17	26-Sep-17	0%	0%	-10													
A59040	Trial Assembly	6	15-Sep-17	21-Sep-17	26-Sep-17	04-Oct-17	0%	0%	-10													
A59050	Installation of cast-in bolts	30	12-Aug-17	15-Sep-17	24-Aug-17	27-Sep-17	0%	0%	-10													
A59060	Installation of Staircase	20	21-Sep-17	16-Oct-17	03-Oct-17	27-Oct-17	0%	0%	-10													
<b>M+ Tower Structure RC Works</b>																						
<b>Tower Structure - West Core Wall (Non-deferred Zone M) @ GL 7-8/A-E</b>																						
A42960	4F-5F Wall, Column & 5F slab (GL 7-8/A-E)	14	06-Jul-17	21-Jul-17	15-Aug-17	30-Aug-17	100%	0%	-34													
A42970	5F-6F Wall, Column & 6F slab (GL 7-8/A-E)	14	22-Jul-17	07-Aug-17	30-Aug-17	15-Sep-17	42.86%	0%	-34													

◆ Approval of Shop Drawings



# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	Gantt Chart										
											July 22		August 23		September 24		October 25		November 26		
											02	09	16	23	30	06	13	20	27	03	10
A42980	6F-7F Wall, Column & 7F slab (GL 7-8/A-E)	12	08-Aug-17	21-Aug-17	15-Sep-17	29-Sep-17	0%	0%	-34												
A42990	7F-8F Wall, Column & 8F slab (GL 7-8/A-E)	12	22-Aug-17	04-Sep-17	29-Sep-17	16-Oct-17	0%	0%	-34												
A43220	8F-9F Wall, Column & 9F slab (GL 7-8/A-E)	12	05-Sep-17	18-Sep-17	16-Oct-17	31-Oct-17	0%	0%	-34												
A43240	Complete West Core Wall Structure to 9F slab	0		18-Sep-17		31-Oct-17	0%	0%	-34											Complete	
<b>Tower Structure - West Core Wall @GL7-8/A-E (TC2 TIE TO WCW)</b>																					
A37565	9F-10F Wall, Column & 10F slab (GL 7-8/A-E)	12	19-Sep-17	03-Oct-17	07-Nov-17	20-Nov-17	0%	0%	-39												
A37570	10F-11F Wall, Column & 11F slab (GL 7-8/A-E)	12	04-Oct-17	18-Oct-17	20-Nov-17	02-Dec-17	0%	0%	-38												
A37580	11F-12F Wall, Column & 12F slab (GL 7-8/A-E)	12	19-Oct-17	02-Nov-17	02-Dec-17	15-Dec-17	0%	0%	-37												
<b>Tower Structure - East Core Wall (Non-deferred Zone N) @ GL 7-8/L-M</b>																					
A43000	4F-5F Wall, Column & 5F slab (GL 7-8/L-M)	12	15-Aug-17	28-Aug-17	22-Aug-17	04-Sep-17	0%	0%	-6												
A43010	5F-6F Wall, Column & 6F slab (GL 7-8/L-M)	12	29-Aug-17	11-Sep-17	05-Sep-17	18-Sep-17	0%	0%	-6												
A43020	6F-7F Wall, Column & 7F slab (GL 7-8/L-M)	10	12-Sep-17	22-Sep-17	19-Sep-17	29-Sep-17	0%	0%	-6												
A43030	7F-8F Wall, Column & 8F slab (GL 7-8/L-M)	10	23-Sep-17	06-Oct-17	30-Sep-17	13-Oct-17	0%	0%	-6												
A43040	8F-9F Wall, Column & 9F slab (GL 7-8/L-M)	10	07-Oct-17	18-Oct-17	14-Oct-17	25-Oct-17	0%	0%	-6												
A43060	Complete East Core Wall Structure to 9F slab	0		18-Oct-17		25-Oct-17	0%	0%	-6											Complete E	
<b>Tower Structure - East Core Wall @GL7-8/L-M (TC2 TIE TO WCW)</b>																					
A37655	9F-10F Wall, Column & 10F slab (GL 7-8/L-M)	10	19-Oct-17	31-Oct-17	07-Nov-17	18-Nov-17	0%	0%	-16												
<b>Tower Structure (Deferred Zone F - 4F to RF) @ GL 7-8/E-L</b>																					
<b>Tower Structure-Deferred Zone F @ GL 7-8/E-L (TC2 TIE TO WCW)</b>																					
A37760	4F-5F Wall, Column & 5F slab (GL 7-8/E-L)	12	11-Sep-17	23-Sep-17	22-Sep-17	07-Oct-17	0%	0%	-10												
A37770	5F-6F Wall, Column & 6F slab (GL 7-8/E-L)	11	25-Sep-17	09-Oct-17	09-Oct-17	20-Oct-17	0%	0%	-10												
A37780	6F-7F Wall, Column & 7F slab (GL 7-8/E-L)	10	10-Oct-17	20-Oct-17	21-Oct-17	02-Nov-17	0%	0%	-10												
A37790	7F-8F Wall, Column & 8F slab (GL 7-8/E-L)	10	21-Oct-17	02-Nov-17	03-Nov-17	14-Nov-17	0%	0%	-10												
<b>M+ Podium &amp; Tower FACADE Preliminaries</b>																					
<b>SHOP DRAWING SUBMISSIONS FACADE SYSTEM &amp; EMBEDS</b>																					
<b>SHOP DRAWING - Glass Wall with T Mullion</b>																					
A51280	2nd Shopdrawing Submission - Review & Approval	21	19-Apr-17	09-May-17	19-Apr-17 A	31-Jul-17	100%	90%	-82												
<b>SHOP DRAWING - Metal Cladding FAC-LV-01a/FAC-LV-01b (Additional Scope)</b>																					
A51410	1st Shopdrawing Submission - Review & Approval	21	11-Apr-17	01-May-17	11-Apr-17 A	31-Jul-17	100%	90%	-90												
A51420	2nd Shopdrawing Submission	14	25-May-17	07-Jun-17	31-Jul-17	14-Aug-17	100%	0%	-67												
A51430	2nd Shopdrawing Submission - Review & Approval	21	08-Jun-17	28-Jun-17	14-Aug-17	04-Sep-17	100%	0%	-67												
<b>SHOP DRAWING - Tower Facade Lighting</b>																					
A51450	3rd Shopdrawing Submission - Review & Approval	31	30-Nov-16	30-Dec-16	30-Nov-16 A	06-Jul-17 A	100%	100%	-187	4th round submission to be submitted											
<b>BD SUBMISSIONS FACADE SYSTEM &amp; EMBEDS</b>																					
<b>BD Submission - L3 Storefront System &amp; Embed</b>																					
A51550	L3 Storefront Embeds - BD Approval	60	16-Apr-17	14-Jun-17	16-Apr-17 A	29-Jul-17	100%	100%	-44												
A51560	L3 Storefront Embeds - Consent	30	15-Jun-17	14-Jul-17	19-Jun-17 A	29-Jul-17	100%	100%	-14												
<b>BD Submission - Garden Gallery Ceramic Cladding System &amp; Embed</b>																					
A51780	Garden Gallery Ceramic - BD Approval	60	04-May-17	02-Jul-17	04-May-17 A	03-Aug-17	100%	90%	-32												
A51790	Garden Gallery Ceramic - Consent	30	05-Jul-17	03-Aug-17	04-Aug-17	02-Sep-17	80%	0%	-30												
<b>BD Submission - Glass Wall with T Mullion System &amp; Embed</b>																					
A51830	2nd Submission - Review & Approval by MJV (w/ RSE Er	14	06-May-17	19-May-17	06-May-17 A	29-Jul-17	100%	95%	-71	50% as embeds are previously submitted and consent received under separ.											
A51860	Glass Wall with T Mullion - BD Approval	60	06-May-17	04-Jul-17	06-May-17 A	06-Aug-17	100%	85%	-33	50% as embeds are previously submitted and consent received under separ.											
A51870	Glass Wall with T Mullion - Consent	30	06-May-17	04-Jun-17	06-May-17 A	03-Aug-17	100%	80%	-60	50% as embeds are previously submitted and consent received under separ.											
<b>BD Submission - Strip Glazing at Skylight Gallery &amp; Plaza Skylight at L3 System &amp; Embed</b>																					
A51930	Strip Glazing at Skylight Gallery & Plaza Skylight - BD Ap	60	17-Apr-17	15-Jun-17	17-Apr-17 A	06-Aug-17	100%	85%	-52												
A51950	Strip Glazing at Skylight Gallery & Plaza Skylight - Conce	30	17-Jun-17	16-Jul-17	07-Aug-17	05-Sep-17	100%	0%	-51												
<b>BD Submission - Glass Wall with Ceramic/Precast Concrete Mullion, Concrete Tube &amp; Perforated Claddin</b>																					
A51970	1st Submission - Review & Approval by MJV	14	11-Apr-17	24-Apr-17	11-Apr-17 A	29-Jul-17	100%	98.01%	-95												
A51980	2nd Submission	7	23-May-17	29-May-17	29-Jul-17	05-Aug-17	100%	0%	-67												
A51990	2nd Submission - Review & Approval by MJV (w/ RSE Er	14	30-May-17	12-Jun-17	05-Aug-17	19-Aug-17	100%	0%	-67												
A52000	Glass Wall with Ceramic & Precast Concrete Mullion - St	0		12-Jun-17		19-Aug-17	100%	0%	-57												
A52010	Glass Wall with Ceramic & Precast Concrete Mullion - Bl	60	13-Jun-17	11-Aug-17	19-Aug-17	18-Oct-17	76.67%	0%	-67												
A52020	Glass Wall with Ceramic & Precast Concrete Mullion - Cc	30	12-Aug-17	10-Sep-17	18-Oct-17	17-Nov-17	0%	0%	-67												
<b>BD Submission - Metal Cladding FAC-LV-01a/FAC-LV-01b (North Perimeter Rd)</b>																					
A52090	Metal Cladding (North Perimeter Rd) - Submission to BD	0		02-Aug-17		26-Apr-17 A	0%	100%	80												
<b>SHOPDRAWING SUBMISSIONS - FACADE DOORS</b>																					
<b>Facade Doors Package #1 - Glazed door between Ceramic Concrete Mullion - Total No. of Doors = 53</b>																					
A52120	1st Shopdrawing Submission	67	20-May-17	25-Jul-17	29-Jul-17*	03-Oct-17	100%	0%	-70												
A52130	1st Shopdrawing Submission - Review & Approval	21	26-Jul-17	15-Aug-17	04-Oct-17	24-Oct-17	14.29%	0%	-70												
A52140	2nd Shopdrawing Submission	14	16-Aug-17	29-Aug-17	25-Oct-17	07-Nov-17	0%	0%	-70												
A52160	2nd Shopdrawing Submission - Review & Approval	21	30-Aug-17	19-Sep-17	08-Nov-17	28-Nov-17	0%	0%	-70												
<b>Facade Doors Package #2 - Sliding door at L3 Storefront - Total No. of Doors = 4</b>																					



# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August			September			October			November					
											22	23	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15	22
<b>PMU SHOPDRAWING SUBMISSION &amp; TEST - Kinked Glass with T Mullion</b>																											
A52720	Perf MU - 1st Shopdrawing Submission - Review & Appr	21	05-Apr-17	25-Apr-17	05-Apr-17 A	29-Jul-17	100%	97%	-95																		
A52730	Perf MU - 2nd Shopdrawing Submission	14	21-May-17	03-Jun-17	29-Jul-17	12-Aug-17	100%	0%	-70																		
A52740	Perf MU - 2nd Shopdrawing Submission - Review & App	21	04-Jun-17	24-Jun-17	12-Aug-17	02-Sep-17	100%	0%	-70																		
A54700	Perf MU - GW with T Mullion + Reflective Glass Orderin	123	05-Apr-17	05-Aug-17	05-Apr-17 A	01-Nov-17	93.5%	25%	-88																		
A54710	Perf MU - GW with T Mullion + Reflective Glass Installat	18	02-Sep-17	22-Sep-17	01-Nov-17	22-Nov-17	0%	0%	-49																		
A54720	Perf MU - Commence Testing of GW with T Mullion + Re	0	23-Sep-17		22-Nov-17		0%	0%	-49																		
A54730	Perf MU - Testing & Report Submission of GW with T Mu	12	23-Sep-17	09-Oct-17	22-Nov-17	06-Dec-17	0%	0%	-49																		
A55200	Perf MU - 1st GW with T Mullion Test Proposal Submissi	12	25-Jun-17	06-Jul-17	02-Sep-17	14-Sep-17	100%	0%	-70																		
A55210	Perf MU - 1st GW with T Mullion Test Proposal Review &	21	07-Jul-17	27-Jul-17	14-Sep-17	05-Oct-17	100%	0%	-70																		
A55220	Perf MU - 2nd GW with T Mullion Test Proposal Submis:	14	28-Jul-17	10-Aug-17	05-Oct-17	19-Oct-17	7.14%	0%	-70																		
A55230	Perf MU - 2nd GW with T Mullion Test Proposal Review	21	11-Aug-17	31-Aug-17	19-Oct-17	09-Nov-17	0%	0%	-70																		
<b>PMU SHOPDRAWING SUBMISSION &amp; TEST - Glass Wall with Ceramic Mullions at GF</b>																											
A52760	Perf MU - 1st Shopdrawing Submission - Review & Appr	21	11-Apr-17	01-May-17	11-Apr-17 A	29-Jul-17	100%	100%	-88																		
A52770	Perf MU - 2nd Shopdrawing Submission	10	18-May-17	27-May-17	18-May-17 A	31-Jul-17	100%	70%	-65																		
A52780	Perf MU - 2nd Shopdrawing Submission - Review & App	21	24-May-17	13-Jun-17	01-Aug-17	21-Aug-17	100%	0%	-69																		
A54740	Perf MU - GW with Ceramic Mullion G/F Production & F	130	11-Apr-17	18-Aug-17	11-Apr-17 A	17-Nov-17	83.85%	25%	-90																		
A54750	Perf MU - GW with Ceramic Mullion G/F Installation	20	11-Sep-17	04-Oct-17	17-Nov-17	11-Dec-17	0%	0%	-55																		
A54760	Perf MU - Commence Testing of GW with Ceramic Mulli	0	06-Oct-17		11-Dec-17		0%	0%	-55																		
A54770	Perf MU - Testing & Report Submission of GW with Cera	12	06-Oct-17	19-Oct-17	11-Dec-17	27-Dec-17	0%	0%	-55																		
A55240	Perf MU - 1st GW with Ceramic Mullion Test Proposal S	12	14-Jun-17	25-Jun-17	22-Aug-17	02-Sep-17	100%	0%	-69																		
A55250	Perf MU - 1st GW with Ceramic Mullion Test Proposal R	21	26-Jun-17	16-Jul-17	03-Sep-17	23-Sep-17	100%	0%	-69																		
A55260	Perf MU - 2nd GW with Ceramic Mullion Test Proposal S	14	17-Jul-17	30-Jul-17	24-Sep-17	07-Oct-17	85.71%	0%	-69																		
A55270	Perf MU - 2nd GW with Ceramic Mullion Test Proposal F	21	31-Jul-17	20-Aug-17	08-Oct-17	28-Oct-17	0%	0%	-69																		
<b>PMU SHOPDRAWING SUBMISSION &amp; TEST - Vertical Glass Wall at Skylight Gallery</b>																											
A54820	Perf MU - Vertical Glass Wall Skylight Gallery Productio	134	24-May-17	04-Oct-17	29-Jul-17	09-Dec-17	49.25%	0%	-66																		
A54830	Perf MU - Vertical Glass Wall Skylight Gallery Installation	36	06-Oct-17	17-Nov-17	11-Dec-17	24-Jan-18	0%	0%	-55																		
A55300	Perf MU - 2nd Vertical GW Skylight Gallery Test Proposa	14	20-May-17	02-Jun-17	29-Jul-17	11-Aug-17	100%	0%	-70																		
A55310	Perf MU - 2nd Vertical GW Skylight Gallery Test Proposa	21	03-Jun-17	23-Jun-17	12-Aug-17	01-Sep-17	100%	0%	-70																		
<b>PMU SHOPDRAWING SUBMISSION &amp; TEST - Plaza Skylight 3/F Terrace</b>																											
A52840	Perf MU - 1st Shopdrawing Submission - Review & Appr	21	11-Apr-17	01-May-17	11-Apr-17 A	31-Jul-17	100%	90%	-90																		
A52850	Perf MU - 2nd Shopdrawing Submission	14	24-May-17	06-Jun-17	31-Jul-17	14-Aug-17	100%	0%	-68																		
A52860	Perf MU - 2nd Shopdrawing Submission - Review & App	21	07-Jun-17	27-Jun-17	14-Aug-17	04-Sep-17	100%	0%	-68																		
A54780	Perf MU - Plaza Skylight 3/F Terrace Production & Fabric	117	05-Apr-17	30-Jul-17	05-Apr-17 A	04-Sep-17	98.29%	75%	-35																		
A54790	Perf MU - Plaza Skylight 3/F Terrace Installation	30	18-Jul-17	21-Aug-17	04-Sep-17	09-Oct-17	33.33%	0%	-39																		
A54800	Perf MU - Commence Testing of Plaza Skylight 3/F Terrac	0	22-Aug-17		09-Oct-17		0%	0%	-39																		
A54810	Perf MU - Testing & Report Submission of Plaza Skylight	12	22-Aug-17	04-Sep-17	09-Oct-17	23-Oct-17	0%	0%	-39																		
<b>PMU SHOPDRAWING SUBMISSION &amp; TEST - Acoustic Mock up</b>																											
A52880	Perf MU - 2nd Shopdrawing Submission - Review & App	21	11-Apr-17	01-May-17	11-Apr-17 A	31-Jul-17	100%	90%	-90																		
A52890	Perf MU - 3rd Shopdrawing Submission	14	25-May-17	07-Jun-17	31-Jul-17	14-Aug-17	100%	0%	-67																		
A52900	Perf MU - 3rd Shopdrawing Submission - Review & Appr	21	08-Jun-17	28-Jun-17	14-Aug-17	04-Sep-17	100%	0%	-67																		
A55100	Perf MU - Commence Testing of Acoustic Mock Up	0	29-Jun-17		04-Sep-17		100%	0%	-56																		
A55110	Perf MU - Testing & Report Submission of Acoustic Mock	12	29-Jun-17	13-Jul-17	04-Sep-17	18-Sep-17	100%	0%	-56																		
<b>PRODUCTION MOCK UP &amp; INSPECTION</b>																											
<b>Prod MU - Tower Facade Precast Panel</b>																											
A55360	Tower Precast Concrete & Curtain Wall Prod MU	60	27-Aug-17	25-Oct-17	12-Sep-17	10-Nov-17	0%	0%	-16																		
A55370	Inspection (Prod MU) - Tower Precast Concrete & Curtai	0	26-Oct-17		11-Nov-17		0%	0%	-16																		
<b>Prod MU - Podium Facade Precast Panel</b>																											
A55380	Podium Precast Concrete & Curtain Wall Prod MU	60	13-Oct-17	11-Dec-17	09-Nov-17	07-Jan-18	0%	0%	-27																		
<b>Prod MU - Kinked Glass with T Mullion</b>																											
A55400	GW with T Mullion (Kinked & Straight) Prod MU	60	10-Oct-17	08-Dec-17	06-Dec-17	04-Feb-18	0%	0%	-58																		
<b>Prod MU - Glass Wall with Ceramic Mullions at GF</b>																											
A55420	GW with Ceramic Mullion Prod MU	60	20-Oct-17	18-Dec-17	27-Dec-17	25-Feb-18	0%	0%	-68																		
<b>Prod MU - Plaza Skylight 3/F Terrace</b>																											
A55460	Plaza Skylight Prod MU	60	05-Sep-17	03-Nov-17	23-Oct-17	22-Dec-17	0%	0%	-48																		
<b>BIM MODEL SUBMISSION</b>																											
<b>BIM MODEL SUBMISSION - Tower Facade Precast Panel (MPLUS-BIM-D003)</b>																											
A52940	6th BIM Model Submission	14	17-Jun-17	30-Jun-17	20-Jun-17 A	23-Jun-17 A	100%	100%	8	No BIM Approval required																	
A52950	6th BIM Model Submission - Review & Approval	21	01-Jul-17	21-Jul-17	20-Jun-17 A	23-Jun-17 A	100%	100%	29	No BIM Approval required																	
<b>BIM MODEL SUBMISSION - Podium Facade Panel (MPLUS-BIM-D004)</b>																											
A52990	4th BIM Model Submission - Review & Approval	21	28-Jun-17	18-Jul-17	20-Jun-17 A	23-Jun-17 A	100%	100%	26	No BIM Approval required																	
<b>BIM MODEL SUBMISSION - Strip Glazing at Skylight Gallery &amp; Plaza Skylight at L3 (MPLUS-BIM-D006) &amp; (</b>																											



# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	Gantt Chart														
											July				August				September				October		November
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08
A53150	4th BIM Model Submission - Review & Approval	21	27-Jun-17	17-Jul-17	20-Jun-17 A	23-Jun-17 A	100%	100%	25	No BIM Approval required															
<b>BIM MODEL SUBMISSION -L3 Storefront (MPLUS-BIM-D001)</b>																									
A53190	6th BIM Model Submission - Review & Approval	21	28-Jun-17	18-Jul-17	20-Jun-17 A	23-Jun-17 A	100%	100%	26	No BIM Approval required															
<b>BIM MODEL SUBMISSION - Metal Cladding FAC-LV-01a/FAC-LV-01b (Additional Scope)</b>																									
A53280	2nd BIM Model Submission - Review & Approval	21	25-Jun-17	15-Jul-17	20-Jun-17 A	23-Jun-17 A	100%	100%	23	No BIM Approval required															
<b>FABRICATION &amp; DELIVERY OF M+ TOWER &amp; PODIUM FACADE SYSTEM</b>																									
<b>01A Tower Facade PC+CW (Bulk)</b>																									
A54880	Production & Fabrication - Precast Panel for Tower - Sum	229	19-Nov-16	05-Jul-17	19-Nov-16 A	28-Oct-17	100%	60%	-115																
<b>Glass Production &amp; Fabrication</b>																									
A54450	Coated Glass Production	108	19-Nov-16	31-Mar-17	19-Nov-16 A	29-Aug-17	100%	75%	-121																
A54460	Fabrication of Glass Panel	206	03-Mar-17	10-Nov-17	03-Mar-17 A	20-Jan-18	57.77%	30%	-57																
A54870	Coated Glass 1st Delivery to Factory	0	14-Jul-17		11-Sep-17		100%	0%	-50																
<b>CW Glazed Panel Production &amp; Fabrication</b>																									
A54860	Fabrication & Assemble of Curtain Wall Unit	203	18-Jul-17	21-Mar-18	11-Sep-17	21-May-18	4.93%	0%	-47																
A54910	Aluminium Extrusion Production	201	20-May-17	18-Jan-18	19-Jun-17 A	16-Jan-18	28.86%	30%	2																
A54920	Application of PVF2 Coating	171	04-Jul-17	25-Jan-18	01-Aug-17	26-Feb-18	12.87%	0%	-24																
<b>Terracotta Production</b>																									
A54940	Terracotta Production - Tower (Bulk)	222	17-Mar-17	13-Dec-17	17-Mar-17 A	02-Feb-18	48.2%	30%	-40																
A54950	Delivery to Precast Factory	212	25-May-17	05-Feb-18	22-Jun-17 A	04-Apr-18	25.47%	5%	-43																
<b>Precast Concrete Facade</b>																									
A54960	Precast Concrete Mould Making	215	31-May-17	13-Feb-18	29-Jul-17	20-Apr-18	23.26%	0%	-50																
A54970	Concreting of Precast Concrete	190	02-Aug-17	21-Mar-18	26-Sep-17	21-May-18	0%	0%	-47																
A54980	Assemble of Curtain Wall to Precast Facade	191	15-Aug-17	09-Apr-18	11-Oct-17	05-Jun-18	0%	0%	-47																
A54990	Inspection, Packing & Delivery to Site - Tower Facade	191	24-Aug-17	18-Apr-18	20-Oct-17	14-Jun-18	0%	0%	-47																
<b>01B Tower Lighting (Bulk)</b>																									
<b>Procurement &amp; Production (3F to Roof) &amp; Shipment</b>																									
A55020	Production - Tower Lighting Bar	189	18-Apr-17	01-Dec-17	16-Apr-17 A	09-Nov-17	44.44%	55%	20																
<b>CW Glazed Panel Production &amp; Fabrication</b>																									
A10000	IQC Inspection	190	06-Jun-17	20-Jan-18	14-Aug-17	06-Apr-18	23.68%	0%	-58																
A10010	OQC Inspection	190	15-Jun-17	30-Jan-18	23-Aug-17	16-Apr-18	19.47%	0%	-58																
A55030	Delivery & Assembly	200	20-May-17	17-Jan-18	29-Jul-17	29-Mar-18	29%	0%	-58																
<b>02 Podium Facade PC + CW (Bulk)</b>																									
A54470	Production & Fabrication - Precast Panel for Podium	262	12-Nov-16	31-Jul-17	12-Nov-16 A	10-Feb-18	98.85%	25%	-194																
<b>Glass Production &amp; Fabrication</b>																									
A10020	Ordering of Coated Glass	106	12-Nov-16	22-Mar-17	12-Nov-16 A	04-Sep-17	100%	70%	-134																
A10030	Fabrication of Insulated Glass Panel	166	05-Jul-17	20-Jan-18	04-Sep-17	27-Mar-18	12.65%	0%	-53																
<b>CW Glazed Panel Production &amp; Fabrication</b>																									
A10040	Die Making - Bulk Production	46	17-Feb-17	12-Apr-17	17-Feb-17 A	05-Aug-17	100%	84.78%	-92																
A10050	Aluminium Extrusion Production	140	29-May-17	13-Nov-17	07-Aug-17	23-Jan-18	36.43%	0%	-58																
A10060	Application of PVF2 Coating	157	12-Jun-17	15-Dec-17	19-Aug-17	28-Feb-18	25.48%	0%	-58																
A10070	Fabrication & Assemble of Curtain Wall Unit	157	15-Jul-17	20-Jan-18	14-Sep-17	27-Mar-18	7.64%	0%	-53																
<b>Terracotta Production</b>																									
A10100	Terracotta Production - Tower (Bulk)	165	24-Apr-17	09-Nov-17	24-Apr-17 A	25-Jan-18	47.88%	10%	-63																
A10160	Delivery of Terracotta to Precast Factory from Italy (by ship)	131	08-Jul-17	11-Dec-17	22-Jun-17 A	14-Dec-17	13.74%	12%	-2																
A10170	1st Lot Arrived (By Ship) Podium Bulk to Precast Concrete	0	19-Aug-17		04-Aug-17		0%	0%	13																
<b>Precast Concrete Facade</b>																									
A10110	Precast Concrete Mould Making	153	19-Jun-17	18-Dec-17	19-Jun-17 A	22-Dec-17	22.22%	20%	-3																
A10120	Concreting of Precast Concrete	119	29-Aug-17	20-Jan-18	01-Nov-17	27-Mar-18	0%	0%	-53																
A10130	Assemble of Curtain Wall to Precast Facade	116	16-Sep-17	05-Feb-18	20-Nov-17	16-Apr-18	0%	0%	-53																
A10140	Inspection, Packing & Delivery to Site - Podium Facade	116	30-Sep-17	22-Feb-18	04-Dec-17	30-Apr-18	0%	0%	-53																
A10180	Curing of 1st Lot	6	09-Sep-17	15-Sep-17	13-Nov-17	20-Nov-17	0%	0%	-53																
<b>03 GW with T Mullion (Kinked &amp; Straight B1F to GF) (Bulk)</b>																									
A54490	Production & Fabrication - GW with T Mullion (Kinked & Straight)	187	04-Aug-17	07-Feb-18	30-Sep-17	05-Apr-18	0%	0%	-58																
<b>Glass Production &amp; Fabrication</b>																									
A10190	Coated Glass Production	94	04-Aug-17	24-Nov-17	30-Sep-17	25-Jan-18	0%	0%	-50																
<b>Alum Section Production &amp; Fabrication</b>																									
A10210	Die Making - Bulk Production	38	25-Sep-17	10-Nov-17	24-Nov-17	11-Jan-18	0%	0%	-50																
<b>T Painted GMS Mullion, Transom &amp; Brackets</b>																									
A10250	GMS Fabrication	122	03-Oct-17	02-Mar-18	01-Dec-17	05-May-18	0%	0%	-50																
<b>04A GW with PC Mullion at 2F Courtyard (Bulk)</b>																									
A54520	Production & Fabrication - GW with PC Mullion at 2F Courtyard	200	11-Oct-17	28-Apr-18	17-Dec-17	05-Jul-18	0%	0%	-67																
<b>Alum Frame Production &amp; Fabrication</b>																									
A10340	Die Making - Bulk Production	60	11-Oct-17	20-Dec-17	18-Dec-17	03-Mar-18	0%	0%	-57																
<b>04B GW with Ceramic Mullion (GF &amp; 1F) (Bulk)</b>																									





















# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP -R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August			September			October			November	
											22	23	23	23	23	23	24	25	26	26			
											02	09	16	23	30	06	13	20	27	03	10	17	24
A20910	10/F Fit-Out Works Access	0	20-May-17		29-Jul-17		100%	0%	-68														
A20920	11/F Fit-Out Works Access	0	20-May-17		29-Jul-17		100%	0%	-68														
A20930	12/F Fit-Out Works Access	0	20-May-17		29-Jul-17		100%	0%	-68														
A20940	13/F Fit-Out Works Access	0	20-May-17		29-Jul-17		100%	0%	-68														
A20950	14/F Fit-Out Works Access	0	20-May-17		29-Jul-17		100%	0%	-68														
A23570	3/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23580	4/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23590	5/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23600	6/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23610	7/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23620	8/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23630	9/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23640	10/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23650	11/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23660	12/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23670	13/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23680	14/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23690	15/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
A23700	16/F Facade Installation Complete	0		19-May-17		29-Jul-17	100%	0%	-68														
<b>Lifts and Escalators</b>																							
<b>Podium Lift &amp; Escalator Installation</b>																							
<b>Art Lift (LT13) @ Zone A1</b>																							
LT10530	Available of lift Shaft LT13 (w/ Zone A1 Temporary water	0		19-Sep-17		11-Nov-17	0%	0%	-53														
LT10535	Builders' Work for LT13 Lift Shaft & M/C Room	12	20-Sep-17	04-Oct-17	11-Nov-17	25-Nov-17	0%	0%	-43														
LT10540	Commence LT13 Lift M/C Room Installation	0	05-Oct-17		25-Nov-17		0%	0%	-52														
LT10550	Lift M/C Room Installation @ B2/F (LT13)	25	06-Oct-17	04-Nov-17	25-Nov-17	27-Dec-17	0%	0%	-43														
<b>Passenger Lift, FS &amp; Disable Lift (LT12) @ Zone A1</b>																							
LT10590	Available of lift Shaft LT12 (w/ Zone A1 Temporary water	0	22-Aug-17		12-Oct-17		0%	0%	-52														
LT10600	Builders' Work for LT12 Lift Shaft	25	22-Aug-17	19-Sep-17	12-Oct-17	11-Nov-17	0%	0%	-43														
LT10610	Lift Car Installation (LT12)	60	20-Sep-17	18-Nov-17	11-Nov-17	10-Jan-18	0%	0%	-53														
<b>Passenger Lift, FS &amp; Disable Lift (LT14) @ Zone A4</b>																							
LT10640	Available of lift Shaft LT14 (w/ Zone A4 Temporary water	0	22-Aug-17		12-Oct-17		0%	0%	-52														
LT10650	Builders' Work for LT14 Lift Shaft	25	22-Aug-17	19-Sep-17	12-Oct-17	11-Nov-17	0%	0%	-43														
LT10660	Lift Car Installation (LT14)	60	20-Sep-17	18-Nov-17	11-Nov-17	10-Jan-18	0%	0%	-53														
<b>Passenger Lift, Diabile Lift (LT15, LT16 &amp; LT17) @ Zone A4</b>																							
LT10690	Available of lift Shaft LT14 (w/ Zone A4 Temporary water	0	20-Sep-17		11-Nov-17		0%	0%	-53														
LT10700	Builders' Work for LT15, LT16 & LT17 Lift Shafts	25	20-Sep-17	14-Oct-17	11-Nov-17	06-Dec-17	0%	0%	-53														
LT10710	Lifts Car Installation (LT15, LT16 & LT17)	60	15-Oct-17	13-Dec-17	06-Dec-17	04-Feb-18	0%	0%	-53														
<b>Passenger Lift, FS Lift (LT21 &amp; LT22) @ Zone E</b>																							
LT10820	Available of lift Shaft LT21 & LT22 (w/ Zone E Temporary	0	21-Sep-17		01-Dec-17		0%	0%	-71														
LT10830	Builders' Work for LT21 & LT22 Lift Shaft	25	21-Sep-17	21-Oct-17	01-Dec-17	02-Jan-18	0%	0%	-58														
LT10840	Lifts Car Installation (LT21 & LT22)	60	22-Oct-17	20-Dec-17	03-Jan-18	03-Mar-18	0%	0%	-73														
<b>Escalators (ES03 &amp; ES04) @ Zone A B1F to GF</b>																							
LT11170	Available of Escalator Pit ES03 & ES04 at Zone A	0		21-Aug-17		12-Oct-17	0%	0%	-52														
LT11180	Escalators ES03 & ES04 Installation	60	22-Aug-17	20-Oct-17	12-Oct-17	11-Dec-17	0%	0%	-52														
LT11190	EMSD Inspection (ES03 & ES04)	21	21-Oct-17	10-Nov-17	11-Dec-17	01-Jan-18	0%	0%	-52														
<b>Escalators (ES05 &amp; ES06) @ Zone A GF to 2F</b>																							
LT11210	Available of Escalator Pit ES05 & ES06 at Zone A	0		20-Oct-17		11-Dec-17	0%	0%	-52														
LT11220	Escalators ES05 & ES06 Installation	75	21-Oct-17	03-Jan-18	11-Dec-17	24-Feb-18	0%	0%	-52														
<b>ABWF &amp; BS Pre-Construction Works</b>																							
AB10070	Shop drawings Submission & Approval	210	02-Oct-16	12-May-17	02-Oct-16 A	29-Aug-17	100%	85%	-107														
AB10080	Method Statement & ITP Submission & Approval	210	02-Oct-16	12-May-17	02-Oct-16 A	29-Aug-17	100%	85%	-107														
AB10090	Materials Submission & Approval	210	02-Oct-16	12-May-17	02-Oct-16 A	18-Aug-17	100%	90%	-96														
<b>Long Lead Materials Procurement &amp; Delivery</b>																							
AB10100	Others	270	06-Jan-17	15-Oct-17	06-Jan-17 A	29-Dec-17	71.48%	45%	-72														
<b>Doors</b>																							
AB10110	B2/F & B1/F	0	01-Sep-17		01-Sep-17*		0%	0%	0														
AB10120	LG/F & G/F	0	01-Oct-17		01-Oct-17*		0%	0%	0														
<b>ABWF &amp; Building Services Installation</b>																							
<b>M+ Basement ABWF &amp; BS Installation</b>																							
<b>B2/F - Zone E &amp; Zone E2 (Sector A)</b>																							
<b>Tanks</b>																							

# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	Gantt Chart												
											July 22		August 23			September 24			October 25		November 26		
											02	09	16	23	30	06	13	20	27	03	10	17	24
<b>M+ Sprinkler Water Tank</b>																							
AB13590	Waterproofing & water test	12	20-May-17	01-Jun-17	29-Jul-17	09-Aug-17	100%	0%	-68	concrete defect being rectified													
AB13600	Plastering work (inside tank)	10	02-Jun-17	11-Jun-17	10-Aug-17	19-Aug-17	100%	0%	-68														
AB13610	Wall & floor tiling	14	12-Jun-17	25-Jun-17	20-Aug-17	02-Sep-17	100%	0%	-68														
AB13620	Application of sealer on soffit (outside tank)	7	26-Jun-17	03-Jul-17	03-Sep-17	09-Sep-17	100%	0%	-68														
AB13630	Cat ladder	7	04-Jul-17	10-Jul-17	10-Sep-17	16-Sep-17	100%	0%	-68														
AB13640	Hatch cover	7	11-Jul-17	17-Jul-17	17-Sep-17	23-Sep-17	100%	0%	-68														
<b>M+ FS Water Tank</b>																							
AB13660	Waterproofing & water test	12	12-Jun-17	23-Jun-17	20-Aug-17	31-Aug-17	100%	0%	-68														
AB13670	Plastering work (inside tank)	10	24-Jun-17	04-Jul-17	01-Sep-17	10-Sep-17	100%	0%	-68														
AB13680	Wall & floor tiling	14	05-Jul-17	18-Jul-17	11-Sep-17	24-Sep-17	100%	0%	-68														
AB13690	Application of sealer on soffit (outside tank)	7	19-Jul-17	25-Jul-17	25-Sep-17	01-Oct-17	100%	0%	-68														
AB13700	Cat ladder	7	26-Jul-17	01-Aug-17	03-Oct-17	10-Oct-17	42.86%	0%	-68														
AB13710	Hatch cover	7	02-Aug-17	08-Aug-17	11-Oct-17	17-Oct-17	0%	0%	-68														
<b>M+ IR Tank</b>																							
AB13730	Waterproofing & water test	12	05-Jul-17	16-Jul-17	11-Sep-17	22-Sep-17	100%	0%	-68														
AB13740	Plastering work (inside tank)	10	17-Jul-17	26-Jul-17	23-Sep-17	03-Oct-17	100%	0%	-68														
AB13750	Wall & floor tiling	14	27-Jul-17	09-Aug-17	04-Oct-17	18-Oct-17	14.29%	0%	-68														
AB13760	Application of sealer on soffit (outside tank)	7	10-Aug-17	16-Aug-17	19-Oct-17	25-Oct-17	0%	0%	-68														
AB13770	Cat ladder	7	17-Aug-17	23-Aug-17	26-Oct-17	02-Nov-17	0%	0%	-68														
AB13780	Hatch cover	7	24-Aug-17	30-Aug-17	03-Nov-17	09-Nov-17	0%	0%	-68														
<b>Rain Water Retention Tank</b>																							
AB13800	Waterproofing & water test	12	27-Jul-17	07-Aug-17	04-Oct-17	16-Oct-17	16.67%	0%	-68														
AB13810	Plastering work (inside tank)	10	08-Aug-17	17-Aug-17	17-Oct-17	26-Oct-17	0%	0%	-68														
AB13820	Wall & floor tiling	14	18-Aug-17	31-Aug-17	27-Oct-17	10-Nov-17	0%	0%	-68														
AB13830	Application of sealer on soffit (outside tank)	7	01-Sep-17	07-Sep-17	11-Nov-17	17-Nov-17	0%	0%	-68														
AB13840	Cat ladder	7	08-Sep-17	14-Sep-17	18-Nov-17	24-Nov-17	0%	0%	-68														
AB13850	Hatch cover	7	15-Sep-17	21-Sep-17	25-Nov-17	01-Dec-17	0%	0%	-68														
<b>Plantrooms</b>																							
<b>FS Pump Room</b>																							
<b>Builders' Work</b>																							
AB13370	Concrete plinth	5	30-Aug-17	03-Sep-17	20-Oct-17	24-Oct-17	0%	0%	-49														
AB13380	Wall rendering	7	04-Sep-17	10-Sep-17	25-Oct-17	01-Nov-17	0%	0%	-49														
AB13390	Floor Screeding	7	11-Sep-17	17-Sep-17	02-Nov-17	08-Nov-17	0%	0%	-49														
AB13400	Wall Epoxy Paint	7	18-Sep-17	24-Sep-17	09-Nov-17	15-Nov-17	0%	0%	-49														
AB13410	Sealer on ceiling soffit & application of epoxy paint on w	14	25-Sep-17	10-Oct-17	16-Nov-17	29-Nov-17	0%	0%	-49														
<b>Electrical Systems</b>																							
BS10000	FS Pump Room - MEP 2nd Fix	14	11-Oct-17	24-Oct-17	30-Nov-17	13-Dec-17	0%	0%	-49														
<b>FS &amp; Plumbing Systems</b>																							
BS10010	FS Pump Room - Install FS Pump	45	25-Oct-17	09-Dec-17	14-Dec-17	30-Jan-18	0%	0%	-49														
<b>IR/ RW/ ACC Condensate Pump Room &amp; Water Meter Room</b>																							
<b>Builders' Work</b>																							
AB13450	Concrete plinth	5	04-Sep-17	08-Sep-17	25-Oct-17	30-Oct-17	0%	0%	-49														
AB13460	Wall rendering	7	09-Sep-17	15-Sep-17	31-Oct-17	06-Nov-17	0%	0%	-49														
AB13470	Floor Screeding	7	16-Sep-17	22-Sep-17	07-Nov-17	13-Nov-17	0%	0%	-49														
AB13480	Wall Epoxy Paint	7	23-Sep-17	29-Sep-17	14-Nov-17	20-Nov-17	0%	0%	-49														
AB13490	Sealer on ceiling soffit & application of epoxy paint on w	14	30-Sep-17	15-Oct-17	21-Nov-17	04-Dec-17	0%	0%	-49														
<b>Electrical Systems</b>																							
BS10020	IR/ RW/ ACC Pump Room - MEP 2nd Fix	14	16-Oct-17	30-Oct-17	05-Dec-17	18-Dec-17	0%	0%	-49														
<b>General Builders' Work</b>																							
AB13320	Steel Post	14	20-May-17	03-Jun-17	29-Jul-17	11-Aug-17	100%	0%	-68														
AB13330	Blockwall	20	04-Jun-17	23-Jun-17	12-Aug-17	31-Aug-17	100%	0%	-68														
AB13340	Wall Plastering	14	23-Jun-17	08-Jul-17	31-Aug-17	14-Sep-17	100%	0%	-68														
AB13350	Floor Screeding	7	08-Jul-17	15-Jul-17	14-Sep-17	21-Sep-17	100%	0%	-68														
AB13360	Drywall (MEP concealed items, close up panel)	14	16-Aug-17	29-Aug-17	06-Oct-17	19-Oct-17	0%	0%	-49														
<b>General BS Installation</b>																							
<b>Electrical Systems</b>																							
AB13925	MEP 1st fix - B2F Sector A	30	30-Aug-17	28-Sep-17	20-Oct-17	19-Nov-17	0%	0%	-49														
AB13930	MEP 2nd fix - B2F Sector A	45	09-Oct-17	23-Nov-17	17-Dec-17	02-Feb-18	0%	0%	-68														
<b>Plumbing &amp; Drainage</b>																							
ABS2060	P&D 1st fix - B2F Sector A	30	30-Aug-17	28-Sep-17	20-Oct-17	19-Nov-17	0%	0%	-49														
ABS2070	P&D 2nd fix - B2F Sector A	45	29-Sep-17	15-Nov-17	20-Nov-17	06-Jan-18	0%	0%	-49														







# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	Gantt Chart															
											July				August				September				October			
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15
AB52330	P&D Final fix - B2F Sector C	30	03-Jul-17	01-Aug-17	07-Sep-17	09-Oct-17	86.67%	0%	-67																	
<b>FS System</b>																										
AB52340	FS 1st fix - B2F Sector C	30	15-Mar-17	16-Apr-17	15-Mar-17 A	20-Aug-17	100%	24%	-121	MEP work shared with wall finishing work																
AB52350	FS 2nd fix - B2F Sector C	45	10-Apr-17	29-May-17	10-Apr-17 A	05-Sep-17	100%	14%	-97	Pending for RCP submission and confirmation																
AB52360	FS Final fix - B2F Sector C	30	03-Jul-17	01-Aug-17	05-Sep-17	07-Oct-17	86.67%	0%	-65																	
<b>HVAC System</b>																										
AB52370	HVAC 1st fix - B2F Sector C	60	06-Feb-17	07-Apr-17	06-Feb-17 A	12-Sep-17	100%	24%	-151	MEP work shared with wall finishing work																
AB52380	HVAC 2nd fix - B2F Sector C	69	16-Jul-17	22-Sep-17	20-Jun-17 A	30-Sep-17	18.84%	8%	-7																	
AB52390	HVAC Final fix - B2F Sector C	30	23-Sep-17	24-Oct-17	30-Sep-17	02-Nov-17	0%	0%	-7																	
<b>Workshops, Storages &amp; Offices</b>																										
<b>Bulk Supply Storage, Museum Workshops, ICT Riser, Display Case -Plinth-Vitrine, Exhibit Workshops</b>																										
AB12240	Construction of maintenance platform	48	23-Sep-17	12-Nov-17	03-Dec-17	22-Jan-18	0%	0%	-68																	
AB12250	Fire shutters/ security shutters installation	28	22-Oct-17	19-Nov-17	02-Jan-18	29-Jan-18	0%	0%	-68																	
<b>Non-Art Loading Dock, Non-Art Holding/ Shipping/ Receiving Lock-up 1, Mail Room 1</b>																										
AB12420	Ceiling framework	21	03-Jul-17	23-Jul-17	03-Sep-17	24-Sep-17	100%	0%	-62																	
AB12430	MEP dropper	7	17-Jul-17	23-Jul-17	17-Sep-17	24-Sep-17	100%	0%	-62																	
AB12440	Ceiling close-up	14	24-Jul-17	06-Aug-17	24-Sep-17	10-Oct-17	35.71%	0%	-62																	
AB12450	Skim coat, application of sealer on wall, soffit and floor	14	07-Aug-17	20-Aug-17	10-Oct-17	24-Oct-17	0%	0%	-62																	
AB12460	Wall protection & corner guards installation	14	21-Aug-17	03-Sep-17	24-Oct-17	08-Nov-17	0%	0%	-62																	
AB12470	Door & ironmongeries installation	7	04-Sep-17	10-Sep-17	08-Nov-17	15-Nov-17	0%	0%	-62																	
<b>Uniforms &amp; Equipment Storage, RDE Storage, General Maintenance</b>																										
AB12480	Application of epoxy paint on wall and sealer on floor	21	21-Aug-17	10-Sep-17	24-Oct-17	15-Nov-17	0%	0%	-62																	
<b>Security Briefing Room, Security Office, Security Locker Room</b>																										
AB12290	Acoustic ceiling framework	21	03-Jul-17	23-Jul-17	03-Sep-17	24-Sep-17	100%	0%	-62																	
AB12300	MEP dropper	7	17-Jul-17	23-Jul-17	17-Sep-17	24-Sep-17	100%	0%	-62																	
AB12310	Acoustic ceiling close up	14	24-Jul-17	06-Aug-17	24-Sep-17	10-Oct-17	35.71%	0%	-62																	
AB12320	Application of epoxy paint on wall	14	07-Aug-17	20-Aug-17	10-Oct-17	24-Oct-17	0%	0%	-62																	
<b>Toilets</b>																										
<b>Public Toilets &amp; Toilet Lobby (Benchmark Toilet)</b>																										
<b>Toilet Block</b>																										
AB50980	Waterproofing & water test complete	0		15-Aug-17		07-Oct-17	0%	0%	-51																	
AB50990	Protective floor screeding	2	16-Aug-17	17-Aug-17	07-Oct-17	09-Oct-17	0%	0%	-51																	
AB51000	Gypsum ceiling framework	7	18-Aug-17	24-Aug-17	09-Oct-17	16-Oct-17	0%	0%	-51																	
AB51010	Wall tiling	14	26-Aug-17	08-Sep-17	17-Oct-17	01-Nov-17	0%	0%	-51																	
AB51020	Polished concrete floor (by others)	3	09-Sep-17	11-Sep-17	01-Nov-17	04-Nov-17	0%	0%	-51																	
AB51030	Gypsum ceiling close-up	5	17-Sep-17	21-Sep-17	09-Nov-17	14-Nov-17	0%	0%	-51																	
AB51040	Taping & jointing and painting on ceiling	7	22-Sep-17	28-Sep-17	14-Nov-17	21-Nov-17	0%	0%	-51																	
AB51050	Emulsion paint to wall gypsum board (Baby Room only)	7	29-Sep-17	07-Oct-17	21-Nov-17	28-Nov-17	0%	0%	-51																	
AB51060	Cubicle partition installation	7	08-Oct-17	14-Oct-17	28-Nov-17	05-Dec-17	0%	0%	-51																	
AB51070	Terrazo countertop	5	15-Oct-17	19-Oct-17	05-Dec-17	10-Dec-17	0%	0%	-51																	
AB51080	Door & ironmongeries installation	3	20-Oct-17	22-Oct-17	10-Dec-17	13-Dec-17	0%	0%	-51																	
AB51090	Sanitary wares & fitting (by others)	5	23-Oct-17	27-Oct-17	13-Dec-17	18-Dec-17	0%	0%	-51																	
AB51100	Steel frame for vanity counter	7	19-Aug-17	25-Aug-17	10-Oct-17	17-Oct-17	0%	0%	-51																	
AB51110	MEP dropper	5	12-Sep-17	16-Sep-17	04-Nov-17	09-Nov-17	0%	0%	-51																	
<b>Toilet Lobby</b>																										
AB51130	Ceiling framework	7	19-Sep-17	25-Sep-17	11-Nov-17	18-Nov-17	0%	0%	-51																	
AB51140	Subframe & plywood furring for timber wall	6	26-Sep-17	01-Oct-17	18-Nov-17	24-Nov-17	0%	0%	-51																	
AB51150	MEP dropper	5	03-Oct-17	08-Oct-17	24-Nov-17	29-Nov-17	0%	0%	-51																	
AB51160	Smoked oak ceiling planks	4	09-Oct-17	12-Oct-17	29-Nov-17	03-Dec-17	0%	0%	-51																	
AB51170	Resilient layer application	3	13-Oct-17	15-Oct-17	03-Dec-17	06-Dec-17	0%	0%	-51																	
AB51180	2 layer plywood installation	2	16-Oct-17	17-Oct-17	06-Dec-17	08-Dec-17	0%	0%	-51																	
AB51190	Oak end-grain blockwood flooring	7	18-Oct-17	24-Oct-17	08-Dec-17	15-Dec-17	0%	0%	-51																	
AB51200	White oak timber wall plants	5	25-Oct-17	30-Oct-17	15-Dec-17	20-Dec-17	0%	0%	-51																	
AB51210	Floor screeding to receive resilient	2	17-Sep-17	18-Sep-17	09-Nov-17	11-Nov-17	0%	0%	-51																	
<b>Lobby/ Lift Lobby</b>																										
<b>LT-01,LT-02, LT-03, LT-04, LT-11 &amp; LT-12 Lift Lobby</b>																										
AB12630	MEP 1st / 2nd fix complete (high level)	0		24-Oct-17		02-Nov-17	0%	0%	-7																	
AB12640	Fire rated metal ceiling framework	21	25-Oct-17	15-Nov-17	02-Nov-17	23-Nov-17	0%	0%	-7																	
<b>B2/F - Zone D, Zone B &amp; Zone A (Sector D)</b>																										
<b>MEP Plantrooms</b>																										
<b>ELV (First Access Areas)</b>																										
<b>Builders' Works</b>																										





# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D5 Start	CMWP - R0.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August			September			October			November					
											22	23	23	24	24	25	26	27	28	29	01	02	03	04	05	06	
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15	22
<b>Builders' Work</b>																											
AB16150	Waterproofing & water test complete (by HCC/ Sunway)	0		25-Oct-17		07-Dec-17	0%	0%	-42																		
AB16160	Protective screeding	7	25-Oct-17	02-Nov-17	07-Dec-17	14-Dec-17	0%	0%	-42																		
<b>General BS Installation</b>																											
<b>Electrical System</b>																											
AB52680	MEP 1st fix - B2F Sector F	30	14-Aug-17	13-Sep-17	25-Sep-17	27-Oct-17	0%	0%	-42																		
AB52690	MEP 2nd fix - B2F Sector F	45	13-Sep-17	31-Oct-17	27-Oct-17	12-Dec-17	0%	0%	-42																		
<b>Plumbing &amp; Drainage</b>																											
AB52710	P&D 1st fix - B2F Sector F	30	14-Aug-17	13-Sep-17	25-Sep-17	27-Oct-17	0%	0%	-42																		
AB52720	P&D 2nd fix - B2F Sector F	45	13-Sep-17	31-Oct-17	27-Oct-17	12-Dec-17	0%	0%	-42																		
<b>FS System</b>																											
AB52740	FS 1st fix - B2F Sector F	30	14-Aug-17	13-Sep-17	25-Sep-17	27-Oct-17	0%	0%	-42																		
AB52750	FS 2nd fix - B2F Sector F	45	13-Sep-17	31-Oct-17	27-Oct-17	12-Dec-17	0%	0%	-42																		
<b>HVAC System</b>																											
AB52770	HVAC 1st fix - B2F Sector F	60	14-Aug-17	15-Oct-17	25-Sep-17	27-Nov-17	0%	0%	-42																		
AB52780	HVAC 2nd fix - B2F Sector F	69	15-Oct-17	24-Dec-17	27-Nov-17	07-Feb-18	0%	0%	-42																		
<b>Workshops, Storages &amp; Offices</b>																											
<b>Refuse Room, Recycling Room</b>																											
AB16320	Waterproofing works & water test	12	11-Sep-17	23-Sep-17	25-Oct-17	07-Nov-17	0%	0%	-42																		
AB16330	Protective screeding	7	23-Sep-17	30-Sep-17	07-Nov-17	14-Nov-17	0%	0%	-42																		
AB16340	Floor screeding	7	30-Sep-17	09-Oct-17	14-Nov-17	21-Nov-17	0%	0%	-42																		
AB16350	Tiling on Wall & floor	14	09-Oct-17	23-Oct-17	21-Nov-17	05-Dec-17	0%	0%	-42																		
AB16360	Application of sealer on soffit	7	23-Oct-17	31-Oct-17	05-Dec-17	12-Dec-17	0%	0%	-42																		
<b>B2/F - Zone B1U2 (Sector G)</b>																											
<b>Plantrooms</b>																											
<b>RDE Potable Water Tank</b>																											
AB14300	Waterproofing works & water test	12	26-Jun-17	08-Jul-17	03-Sep-17	14-Sep-17	100%	0%	-68																		
AB14310	Plastering work (inside tank)	10	09-Jul-17	18-Jul-17	15-Sep-17	24-Sep-17	100%	0%	-68																		
AB14320	Wall & floor tiling	14	19-Jul-17	01-Aug-17	25-Sep-17	10-Oct-17	71.43%	0%	-68																		
AB14330	Application of sealer on soffit (outside tank)	7	02-Aug-17	08-Aug-17	11-Oct-17	17-Oct-17	0%	0%	-68																		
AB14340	Cat ladder	7	09-Aug-17	15-Aug-17	18-Oct-17	24-Oct-17	0%	0%	-68																		
AB14350	Hatch cover	7	16-Aug-17	22-Aug-17	25-Oct-17	01-Nov-17	0%	0%	-68																		
<b>Heat Exchanger Room</b>																											
<b>Builders' Work</b>																											
AB14220	Concrete plinth and waterproofing works	12	07-Jun-17	18-Jun-17	15-Aug-17	26-Aug-17	100%	0%	-68																		
AB14230	Floor Screeding & wall rendering	7	19-Jun-17	25-Jun-17	27-Aug-17	02-Sep-17	100%	0%	-68																		
AB14240	Sealer on ceiling soffit & application of epoxy paint on w	14	26-Jun-17	10-Jul-17	03-Sep-17	16-Sep-17	100%	0%	-68																		
<b>BS Installation</b>																											
AB14250	Heat Exchanger Room - MEP 2nd fix	15	11-Jul-17	25-Jul-17	17-Sep-17	01-Oct-17	100%	0%	-68																		
AB14260	Install heat exchanger	30	26-Jul-17	24-Aug-17	03-Oct-17	03-Nov-17	10%	0%	-68																		
<b>Final Finishes</b>																											
AB14270	Final coat of paint on wall	3	25-Aug-17	27-Aug-17	04-Nov-17	06-Nov-17	0%	0%	-68																		
AB14280	Sealer on floor	3	28-Aug-17	30-Aug-17	07-Nov-17	09-Nov-17	0%	0%	-68																		
AB14290	Door & ironmongeries installation	3	01-Sep-17	03-Sep-17	10-Nov-17	12-Nov-17	0%	0%	-67																		
<b>ELE Room</b>																											
<b>Builders' Work</b>																											
AB14370	Sealer on ceiling soffit & application of epoxy paint on w	7	09-Aug-17	15-Aug-17	18-Oct-17	24-Oct-17	0%	0%	-68																		
<b>BS Installation</b>																											
AB14380	ELE Room - MEP 2nd fix	14	16-Aug-17	29-Aug-17	25-Oct-17	08-Nov-17	0%	0%	-68																		
AB14390	Install ELE system	30	30-Aug-17	28-Sep-17	09-Nov-17	08-Dec-17	0%	0%	-68																		
<b>Final Finishes</b>																											
AB14400	Final coat of paint on wall	3	29-Sep-17	01-Oct-17	09-Dec-17	11-Dec-17	0%	0%	-68																		
AB14410	Sealer on floor	3	03-Oct-17	06-Oct-17	12-Dec-17	14-Dec-17	0%	0%	-68																		
AB14420	Door & ironmongeries installation	3	07-Oct-17	09-Oct-17	15-Dec-17	17-Dec-17	0%	0%	-68																		
<b>Grease Trap Room</b>																											
<b>Builders' Work</b>																											
AB14430	Concrete plinth and waterproofing works	12	16-Aug-17	27-Aug-17	25-Oct-17	06-Nov-17	0%	0%	-68																		
AB14440	Floor Screeding & wall rendering	7	28-Aug-17	03-Sep-17	07-Nov-17	13-Nov-17	0%	0%	-68																		
AB14450	Sealer on ceiling soffit & application of epoxy paint on w	14	04-Sep-17	17-Sep-17	14-Nov-17	27-Nov-17	0%	0%	-68																		
<b>BS Installation</b>																											
AB14460	Grease Trap Room - MEP 2nd fix	14	18-Sep-17	01-Oct-17	28-Nov-17	11-Dec-17	0%	0%	-68																		
AB14470	Install pipes & SST tanks	30	03-Oct-17	03-Nov-17	12-Dec-17	13-Jan-18	0%	0%	-68																		
<b>CSF IR/ RW Tank &amp; Pump Room</b>																											
<b>Builders' Work</b>																											







# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D5 Start	CMWP - R0.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	Gantt Chart											
											July		August		September		October		November			
											02	09	16	23	30	06	13	20	27	03	10	17
AB53540	CLP Installation for TX Room A	90	24-Jul-17	23-Oct-17	21-Aug-17	22-Nov-17	5.56%	0%	-29		[Gantt bar: July 24 to Oct 23]											
AB53550	TX Room A Power ON	0		23-Oct-17		30-Nov-17	0%	0%	-37		[Gantt bar: Oct 23 to Nov 30]											
<b>Final Finishes</b>																						
AB16860	Final coat of paint on ceiling & wall	3	24-Oct-17	26-Oct-17	01-Dec-17	03-Dec-17	0%	0%	-37		[Gantt bar: Oct 24 to Dec 3]											
AB16870	Door & ironmongeries installation	3	27-Oct-17	30-Oct-17	07-Dec-17	09-Dec-17	0%	0%	-40		[Gantt bar: Oct 27 to Dec 9]											
<b>LV Switch Room 1 &amp; 2</b>																						
<b>Builders' Work</b>																						
AB16890	Wall rendering	9	20-May-17	28-May-17	11-May-17 A	17-Jul-17 A	100%	100%	-47		[Gantt bar: May 20 to Jul 17]											
AB16900	Wall tiling (1.5m high)	10	29-May-17	08-Jun-17	29-Jul-17	07-Aug-17	100%	0%	-59		[Gantt bar: May 29 to Aug 7]											
AB16910	Floor screeding	4	09-Jun-17	12-Jun-17	25-Jul-17 A	30-Jul-17	100%	50%	-47		[Gantt bar: Jun 9 to Jul 30]											
AB16920	Sealer on ceiling soffit & application of epoxy paint on w	6	13-Jun-17	18-Jun-17	26-Jun-17 A	19-Jul-17 A	100%	100%	-29		[Gantt bar: Jun 13 to Jul 19]											
<b>BS Installation</b>																						
AB16930	LV Switch Room 1 & 2 - MEP 2nd fix	14	19-Jun-17	03-Jul-17	29-Jul-17	11-Aug-17	100%	0%	-39		[Gantt bar: Jun 19 to Aug 11]											
AB16940	LV Switch Room 1 & 2 - Main Switch Board 1 & 2 Site Tes	8	04-Jul-17	11-Jul-17	12-Aug-17	19-Aug-17	100%	0%	-39		[Gantt bar: Jul 4 to Aug 19]											
AB53560	LV Switch Room 1 & 2 - Install Main Switch Board 1 & 2	60	12-Jul-17	09-Sep-17	20-Aug-17	20-Oct-17	28.33%	0%	-39		[Gantt bar: Jul 12 to Oct 20]											
<b>Final Finishes</b>																						
AB16950	Final coat of paint on ceiling & wall	3	10-Sep-17	12-Sep-17	21-Oct-17	23-Oct-17	0%	0%	-39		[Gantt bar: Sep 10 to Oct 23]											
<b>CBS Room</b>																						
<b>Builder's Work</b>																						
AB16970	Construct plinth	5	20-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-68		[Gantt bar: May 20 to Aug 2]											
AB16980	Wall rendering	9	25-May-17	03-Jun-17	03-Aug-17	11-Aug-17	100%	0%	-68		[Gantt bar: May 25 to Aug 11]											
AB16990	Wall tiling (1.5m high)	10	04-Jun-17	13-Jun-17	12-Aug-17	21-Aug-17	100%	0%	-68		[Gantt bar: Jun 4 to Aug 21]											
AB17000	Floor screeding	4	14-Jun-17	17-Jun-17	22-Aug-17	25-Aug-17	100%	0%	-68		[Gantt bar: Jun 14 to Aug 25]											
AB17010	Sealer on ceiling soffit & application of epoxy paint on w	6	18-Jun-17	23-Jun-17	26-Aug-17	31-Aug-17	100%	0%	-68		[Gantt bar: Jun 18 to Aug 31]											
<b>BS Installation</b>																						
AB17020	CBS Room - MEP 2nd fix	14	24-Jun-17	08-Jul-17	01-Sep-17	14-Sep-17	100%	0%	-68		[Gantt bar: Jun 24 to Sep 14]											
AB17030	CBS Room - CBS Installation & Termination	60	09-Jul-17	06-Sep-17	15-Sep-17	16-Nov-17	33.33%	0%	-68		[Gantt bar: Jul 9 to Nov 16]											
AB17035	CBS Room - T & C for CBS System	14	07-Sep-17	20-Sep-17	17-Nov-17	30-Nov-17	0%	0%	-68		[Gantt bar: Sep 7 to Nov 30]											
<b>Final Finishes</b>																						
AB17040	Final coat of paint on ceiling & wall	3	21-Sep-17	23-Sep-17	01-Dec-17	03-Dec-17	0%	0%	-68		[Gantt bar: Sep 21 to Dec 3]											
<b>Main I.T. Room</b>																						
<b>Builder's Work</b>																						
AB53570	Construct plinth	5	20-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-68		[Gantt bar: May 20 to Aug 2]											
AB53580	Wall rendering	9	25-May-17	03-Jun-17	03-Aug-17	11-Aug-17	100%	0%	-68		[Gantt bar: May 25 to Aug 11]											
AB53590	Wall tiling (1.5m high)	10	04-Jun-17	13-Jun-17	12-Aug-17	21-Aug-17	100%	0%	-68		[Gantt bar: Jun 4 to Aug 21]											
AB53600	Floor screeding	4	14-Jun-17	17-Jun-17	22-Aug-17	25-Aug-17	100%	0%	-68		[Gantt bar: Jun 14 to Aug 25]											
AB53610	Sealer on ceiling soffit & application of epoxy paint on w	6	18-Jun-17	23-Jun-17	26-Aug-17	31-Aug-17	100%	0%	-68		[Gantt bar: Jun 18 to Aug 31]											
<b>BS Installation</b>																						
AB17070	Main I.T. Room - MEP 2nd fix	14	24-Jun-17	08-Jul-17	01-Sep-17	14-Sep-17	100%	0%	-68		[Gantt bar: Jun 24 to Sep 14]											
AB17080	Main I.T. Room - MEP Final fix	14	09-Jul-17	22-Jul-17	15-Sep-17	28-Sep-17	100%	0%	-68		[Gantt bar: Jul 9 to Sep 28]											
<b>Final Finishes</b>																						
AB17090	Final coat of paint on wall	3	23-Jul-17	25-Jul-17	29-Sep-17	01-Oct-17	100%	0%	-68		[Gantt bar: Jul 23 to Oct 1]											
<b>TBE</b>																						
<b>Builder's Work</b>																						
AB53620	Construct plinth	5	20-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-68		[Gantt bar: May 20 to Aug 2]											
AB53630	Wall rendering	9	25-May-17	03-Jun-17	03-Aug-17	11-Aug-17	100%	0%	-68		[Gantt bar: May 25 to Aug 11]											
AB53640	Wall tiling (1.5m high)	10	04-Jun-17	13-Jun-17	12-Aug-17	21-Aug-17	100%	0%	-68		[Gantt bar: Jun 4 to Aug 21]											
AB53650	Floor screeding	4	14-Jun-17	17-Jun-17	22-Aug-17	25-Aug-17	100%	0%	-68		[Gantt bar: Jun 14 to Aug 25]											
AB53660	Sealer on ceiling soffit & application of epoxy paint on w	6	18-Jun-17	23-Jun-17	26-Aug-17	31-Aug-17	100%	0%	-68		[Gantt bar: Jun 18 to Aug 31]											
<b>BS Installation</b>																						
AB17130	TBE Room - MEP 2nd fix	14	24-Jun-17	08-Jul-17	01-Sep-17	14-Sep-17	100%	0%	-68		[Gantt bar: Jun 24 to Sep 14]											
AB17140	TBE Room - MEP final fix	14	09-Jul-17	22-Jul-17	15-Sep-17	28-Sep-17	100%	0%	-68		[Gantt bar: Jul 9 to Sep 28]											
<b>Final Finishes</b>																						
AB17150	Final coat of paint on wall	3	23-Jul-17	25-Jul-17	29-Sep-17	01-Oct-17	100%	0%	-68		[Gantt bar: Jul 23 to Oct 1]											
AB17160	Sealer on floor	3	26-Jul-17	28-Jul-17	03-Oct-17	06-Oct-17	100%	0%	-68		[Gantt bar: Jul 26 to Oct 6]											
<b>ELV</b>																						
<b>Builder's Work</b>																						
AB53670	Construct plinth	5	20-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-68		[Gantt bar: May 20 to Aug 2]											
AB53680	Wall rendering	9	25-May-17	03-Jun-17	03-Aug-17	11-Aug-17	100%	0%	-68		[Gantt bar: May 25 to Aug 11]											
AB53690	Wall tiling (1.5m high)	10	04-Jun-17	13-Jun-17	12-Aug-17	21-Aug-17	100%	0%	-68		[Gantt bar: Jun 4 to Aug 21]											
AB53700	Floor screeding	4	14-Jun-17	17-Jun-17	22-Aug-17	25-Aug-17	100%	0%	-68		[Gantt bar: Jun 14 to Aug 25]											
AB53710	Sealer on ceiling soffit & application of epoxy paint on w	6	18-Jun-17	23-Jun-17	26-Aug-17	31-Aug-17	100%	0%	-68		[Gantt bar: Jun 18 to Aug 31]											
<b>BS Installation</b>																						

























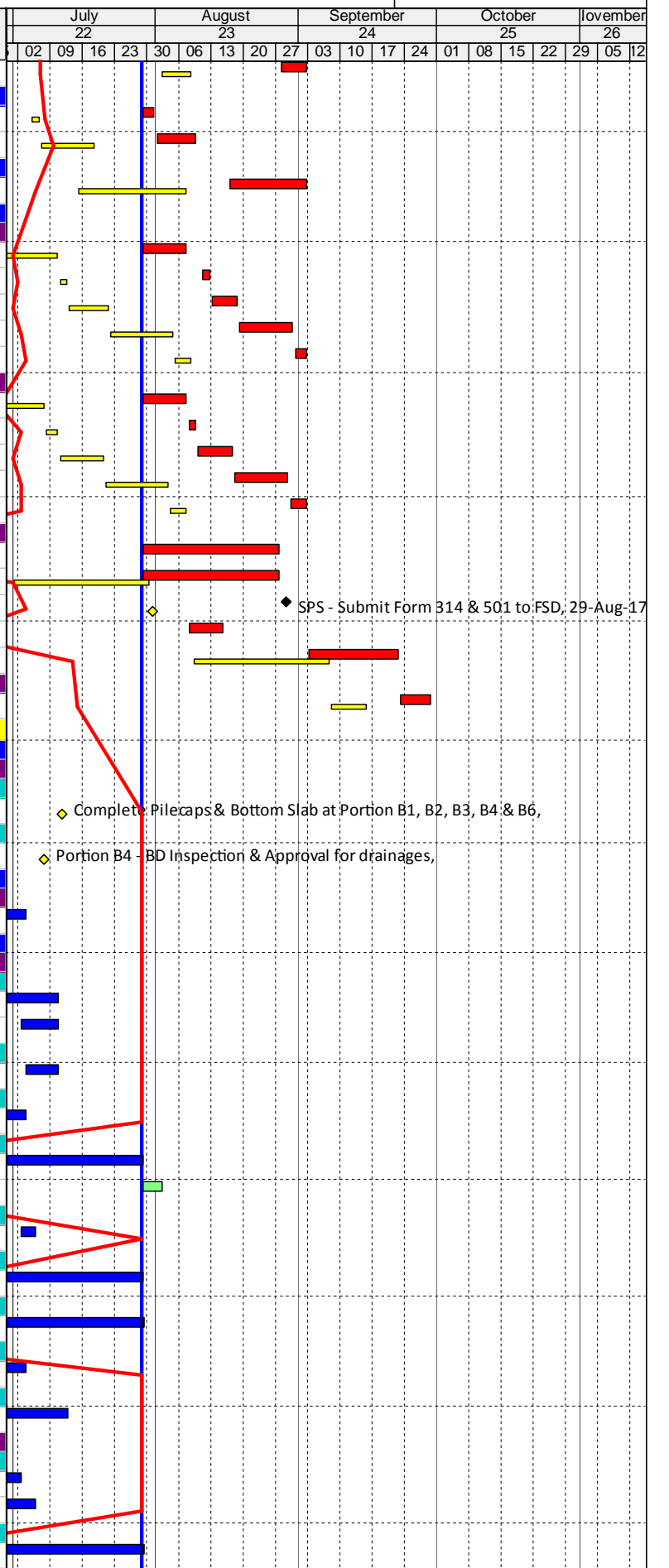
# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August		September		October		November		
											22	23	24	25	26						
											02	09	16	23	30	06	13	20	27	03	10
A55800	Door & ironmongeries installation	5	19-Jul-17	24-Jul-17	21-Aug-17	25-Aug-17	100%	0%	-28												
A56580	Davit installtion & GRP cover	5	19-Jul-17	24-Jul-17	17-Jul-17 A	01-Aug-17	100%	50%	-7												
<b>CLP Meter Cabinet Room</b>																					
<b>Builders' Work</b>																					
A31920	CLP Cabinet Room - Plastering & screeding	7	11-May-17	18-May-17	11-May-17 A	29-Jul-17	100%	90%	-60												
A31930	CLP Cabinet Room - Apply paint on ceiling & wall	3	15-May-17	17-May-17	15-May-17 A	29-Jul-17	100%	90%	-60												
A31950	CLP Cabinet Room - Sealer on floor	3	20-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-58												
<b>BS Installation</b>																					
A31960	Install CLP Electrical Meter Cabinet	7	17-May-17	24-May-17	17-May-17 A	22-Jul-17 A	100%	100%	-48												
A31980	CLP Meter Installation and T&C	21	06-Jun-17	26-Jun-17	17-Jul-17 A	25-Jul-17 A	100%	100%	-28												
A31990	CLP Permanent Power-On	0		26-Jun-17		29-Jul-17	100%	0%	-28												
A32040	Ready for Power Energization	0		26-Jun-17		25-Jul-17 A	100%	100%	-23												
<b>Final Finishes</b>																					
A31940	CLP Cabinet Room - Install doors, grated drains, & Misc.	3	27-Jun-17	29-Jun-17	29-Jul-17	01-Aug-17	100%	0%	-27												
<b>LV Switch Room</b>																					
<b>Builders' Work</b>																					
A56140	Plastering & screeding	7	04-May-17	11-May-17	04-May-17 A	29-Jul-17	100%	95%	-65	remark: 20% is screeding & final paint											
<b>BS Installation</b>																					
A32050	SPS - MEP 2nd fix	6	19-May-17	25-May-17	19-May-17 A	31-Jul-17	100%	70%	-55												
A32060	SPS - Install LV Main Distribution Board	21	26-May-17	21-Jun-17	03-Jul-17 A	29-Jul-17	100%	95%	-32												
A56550	SPS - Setup LV Main Distribution Board & SAT	6	21-Jun-17	28-Jun-17	15-Jul-17 A	29-Jul-17	100%	95%	-26												
<b>Final Finishes</b>																					
A56150	Apply paint coating on ceiling & wall	7	28-Jun-17	07-Jul-17	07-Jul-17 A	31-Jul-17	100%	80%	-20												
A56160	Apply floor sealer	3	07-Jul-17	11-Jul-17	31-Jul-17	03-Aug-17	100%	0%	-20												
A56170	Door & ironmongeries installation	5	11-Jul-17	17-Jul-17	03-Aug-17	09-Aug-17	100%	0%	-20												
<b>Fire Control Centre</b>																					
<b>Builders' Work</b>																					
A56040	Plastering & screeding	6	20-May-17	26-May-17	26-May-17 A	29-Jul-17	100%	95%	-52												
<b>BS Installation</b>																					
A56050	SPS - MEP 2nd & Final Fix for Fire Control Centre	14	27-May-17	13-Jun-17	19-Jun-17 A	01-Aug-17	100%	85%	-40												
<b>Final Finishes</b>																					
A56070	Apply sealer on floor	3	20-Jun-17	22-Jun-17	01-Aug-17	04-Aug-17	100%	0%	-35												
A56080	Door & ironmongeries installation	3	20-Jun-17	22-Jun-17	01-Aug-17	04-Aug-17	100%	0%	-35												
<b>FS Pump Room</b>																					
<b>Builders' Work</b>																					
A55990	Plastering & screeding	5	08-May-17	12-May-17	08-May-17 A	29-Jul-17	100%	95%	-64	remark: 20% is screeding & final paint											
<b>BS Installation</b>																					
A32180	SPS - MEP 2nd Fix	10	22-May-17	02-Jun-17	12-Jun-17 A	07-Aug-17	100%	20%	-55	FS Pumps were fixed in position											
A32190	SPS - Install FS Pump Set & SAT	29	03-Jun-17	07-Jul-17	12-Jun-17 A	03-Aug-17	100%	85%	-22												
<b>Final Finishes</b>																					
A56000	Apply paint coating on ceiling & wall	4	08-Jul-17	12-Jul-17	24-Jun-17 A	27-Jun-17 A	100%	100%	13												
A56010	Apply floor sealer	3	13-Jul-17	15-Jul-17	29-Jul-17	01-Aug-17	100%	0%	-14												
A56020	Door & ironmongeries installation	3	17-Jul-17	19-Jul-17	02-Aug-17	04-Aug-17	100%	0%	-14												
<b>Sprinkler Pump Room</b>																					
<b>Builders' Work</b>																					
A55940	Plastering & screeding	5	08-May-17	12-May-17	08-May-17 A	29-Jul-17	100%	95%	-64	remark: 20% is screeding & final paint											
<b>BS Installation</b>																					
A32200	SPS - MEP 2nd Fix	10	17-May-17	27-May-17	17-May-17 A	07-Aug-17	100%	20%	-59	Duration was extended due to (RFI-BSE-0028) late delivery of stainless steel											
A32210	SPS - Install Sprinkler Pump Set & SAT	30	01-Jun-17	06-Jul-17	12-Jun-17 A	01-Aug-17	100%	90%	-22	Sprinkler pumps arrived to site											
<b>Final Finishes</b>																					
A55950	Apply paint coating on ceiling & wall	4	07-Jul-17	11-Jul-17	24-Jun-17 A	27-Jun-17 A	100%	100%	12												
A55960	Apply floor sealer	3	12-Jul-17	14-Jul-17	29-Jul-17	01-Aug-17	100%	0%	-15												
A55970	Door & ironmongeries installation	3	15-Jul-17	18-Jul-17	02-Aug-17	04-Aug-17	100%	0%	-15												
<b>Fan Room</b>																					
<b>Builders' Work</b>																					
A56100	Plastering & screeding	6	02-May-17	09-May-17	02-May-17 A	29-Jul-17	100%	95%	-67	remark: 20% is screeding & final paint											
<b>BS Installation</b>																					
A56530	SPS - Install Fans (2 nos.) & Equipmnet	30	19-May-17	23-Jun-17	19-May-17 A	07-Aug-17	100%	60%	-37	Fans delivered on 21/6											
A56540	SPS - MEP 2nd & final fix	6	22-Jun-17	28-Jun-17	08-Aug-17	14-Aug-17	100%	0%	-39												
<b>Final Finishes</b>																					
A56110	Apply paint coating on ceiling & wall	4	29-Jun-17	04-Jul-17	24-Jun-17 A	27-Jun-17 A	100%	100%	6												
A56120	Apply floor sealer	3	05-Jul-17	07-Jul-17	29-Jul-17	02-Aug-17	100%	0%	-21												
A56130	Door & ironmongeries installation	3	05-Jul-17	07-Jul-17	29-Jul-17	02-Aug-17	100%	0%	-21												
<b>Pump Station Service Yard</b>																					
<b>Builders' Work</b>																					

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D5 Start	CMWP - R0.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	Timeline (Gantt Chart)															
											July 22				August 23				September 24				October 25			
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15
<b>Plastering &amp; screeding</b>																										
A55740	Plastering & screeding	10	10-May-17	20-May-17	10-May-17 A	31-Jul-17	100%	80%	-59	remark: 20% is screeding & final paint																
A55750	Channel grating & trench cover installation	7	31-May-17	07-Jun-17	01-Aug-17	08-Aug-17	100%	0%	-52																	
<b>BS Installation</b>																										
A55760	SPS - MEP 2nd Fix for Pump Station Service Yard	14	08-Jun-17	23-Jun-17	29-May-17 A	02-Aug-17	100%	75%	-33																	
<b>Final Finishes</b>																										
A56490	Install roller shutter (for security)	7	17-Jun-17	24-Jun-17	29-Jul-17	05-Aug-17	100%	0%	-35																	
A56500	Apply paint on ceiling & wall	10	26-Jun-17	07-Jul-17	19-Jun-17 A	23-Jun-17 A	100%	100%	12																	
A56510	Apply floor sealer	5	08-Jul-17	13-Jul-17	29-Jul-17	03-Aug-17	100%	0%	-18																	
A56520	Door & ironmongeries installation	3	14-Jul-17	17-Jul-17	26-Jun-17 A	01-Aug-17	100%	10%	-13																	
<b>Cleansing &amp; Flushing Water Tank Room</b>																										
<b>Builders' Work</b>																										
A56190	Plastering & screeding	6	10-May-17	16-May-17	10-May-17 A	29-Jul-17	100%	95%	-61	remark: 20% is screeding & final paint																
A56200	Install glass-fibre water tank supporting frame	6	25-May-17	01-Jun-17	29-Jul-17	05-Aug-17	100%	0%	-54																	
<b>BS Installation</b>																										
A32160	SPS - Install Pumps, Valves & Equipment	36	25-May-17	07-Jul-17	21-Jun-17 A	03-Aug-17	100%	80%	-23																	
A32170	SPS - Install Water Tank, Pipeworks & Testing	36	02-Jun-17	14-Jul-17	20-Jun-17 A	07-Aug-17	100%	70%	-19																	
<b>Final Finishes</b>																										
A56210	Apply paint coating on ceiling & wall	7	15-Jul-17	22-Jul-17	19-Jun-17 A	23-Jun-17 A	100%	100%	25																	
A56220	Apply floor sealer	3	24-Jul-17	26-Jul-17	05-Aug-17	09-Aug-17	100%	0%	-11																	
A56230	Door & ironmongeries installation	3	24-Jul-17	26-Jul-17	05-Aug-17	09-Aug-17	100%	0%	-11																	
<b>Sprinkler Tank</b>																										
A56240	Waterproofing & water test	12	08-May-17	20-May-17	08-May-17 A	11-Jul-17 A	100%	100%	-41																	
A56250	Plaster work (inside tank)	8	03-Jun-17	12-Jun-17	22-May-17 A	07-Aug-17	100%	0%	-47																	
A56270	Install Cat ladder & hatch cover	4	19-Jun-17	22-Jun-17	21-Jul-17 A	22-Aug-17 A	100%	100%	-50																	
<b>FS Tank</b>																										
A56280	Waterproofing & water test	12	10-May-17	23-May-17	10-May-17 A	11-Jul-17 A	100%	100%	-39																	
A56290	Plaster work (inside tank)	8	03-Jun-17	12-Jun-17	22-May-17 A	07-Aug-17	100%	0%	-47																	
A56310	Install Cat ladder & hatch cover	4	19-Jun-17	22-Jun-17	21-Jul-17 A	25-Jul-17 A	100%	100%	-26																	
<b>Accessible Unisex Toilet</b>																										
<b>Builders' Work</b>																										
A56340	Wall & floor tiling	6	29-May-17	05-Jun-17	19-Jun-17 A	08-Jul-17 A	100%	100%	-27																	
A56350	Gypsum/cement board ceiling framework & close-up	6	06-Jun-17	12-Jun-17	22-Jun-17 A	03-Aug-17	100%	30%	-43																	
<b>BS Installation</b>																										
A56360	SPS - MEP 2nd Fix for Accessible Unisex Toilet	14	13-Jun-17	28-Jun-17	10-Jul-17 A	03-Aug-17	100%	50%	-30																	
<b>Final Finishes</b>																										
A56370	Apply Taping joint & painting on ceiling	4	29-Jun-17	04-Jul-17	04-Aug-17	07-Aug-17	100%	0%	-29																	
A56380	Sanitary wares & fitting installation	5	05-Jul-17	10-Jul-17	08-Aug-17	10-Aug-17	100%	0%	-27																	
A56390	Door & ironmongeries installation	3	11-Jul-17	13-Jul-17	08-Aug-17	09-Aug-17	100%	0%	-23																	
A56400	Mirror installation	1	14-Jul-17	14-Jul-17	10-Aug-17	10-Aug-17	100%	0%	-23																	
<b>Corridor</b>																										
<b>Builders' Work</b>																										
A31880	Plastering & screeding	7	02-Jun-17	09-Jun-17	24-Jun-17 A	31-Jul-17	100%	85%	-42																	
A31890	Wall tiling & Install chequered plate on floor	6	10-Jun-17	16-Jun-17	31-Jul-17	07-Aug-17	100%	0%	-42																	
<b>BS Installation</b>																										
A56180	SPS - MEP 2nd Fix for Corridor	14	17-Jun-17	04-Jul-17	26-Jun-17 A	14-Aug-17	100%	5%	-34																	
<b>Final Finishes</b>																										
A31910	FRP ceiling	7	05-Jul-17	12-Jul-17	14-Aug-17	22-Aug-17	100%	0%	-34																	
A56410	Apply paint on ceiling & wall	7	13-Jul-17	20-Jul-17	23-Jun-17 A	31-Jul-17	100%	80%	-8																	
A56420	Door & ironmongeries installation	7	21-Jul-17	28-Jul-17	31-Jul-17	08-Aug-17	100%	0%	-8																	
<b>Staircase</b>																										
<b>Builders' Work</b>																										
A56430	Wall Plastering & screeding	12	12-May-17	25-May-17	12-May-17 A	01-Aug-17	100%	80%	-55																	
A56440	Install handrail / balustrade	7	26-May-17	03-Jun-17	01-Aug-17	09-Aug-17	100%	0%	-55																	
<b>BS Installation</b>																										
A56450	SPS - MEP 2nd Fix for Staircases	14	05-Jun-17	20-Jun-17	26-Jun-17 A	08-Aug-17	100%	40%	-40																	
<b>Final Finishes</b>																										
A56460	Floor tiling	6	21-Jun-17	27-Jun-17	03-Jul-17 A	17-Jul-17 A	100%	100%	-16																	
A56470	Apply paint on ceiling & wall	7	28-Jun-17	06-Jul-17	19-Jun-17 A	23-Jun-17 A	100%	100%	11																	
A56480	Install Door & ironmongeries	3	07-Jul-17	10-Jul-17	29-Jul-17	01-Aug-17	100%	0%	-19																	
<b>SPS - External Envelope</b>																										
A32220	SPS - Install GRC Architectural Louvre & Bracket	7	05-Jun-17	12-Jun-17	21-Jul-17 A	31-Jul-17	100%	75%	-41																	
A32230	SPS - Erect steel frame for perforated corrugated cladding	12	05-Jun-17	17-Jun-17	29-Jul-17	11-Aug-17	100%	0%	-46																	
A56560	SPS - Install perforated corrugated cladding	12	19-Jul-17	01-Aug-17	18-Aug-17	26-Aug-17	75%	0%	-22																	

# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August			September			October			November									
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12	
A56570	SPS - Final Fix & Facade Final Cleaning	6	02-Aug-17	08-Aug-17	28-Aug-17	02-Sep-17	0%	0%	-22																						
<b>SPS - Access Pavement</b>																															
A56590	SPS - Backfilling	2	05-Jul-17	06-Jul-17	29-Jul-17	31-Jul-17	100%	0%	-21																						
A56600	SPS - Construct SPS access pavement	10	07-Jul-17	18-Jul-17	01-Aug-17	09-Aug-17	100%	0%	-19																						
<b>SPS - Testing &amp; Commissioning</b>																															
A32240	SPS - Testing and Commissioning	20	15-Jul-17	07-Aug-17	17-Aug-17	02-Sep-17	60%	0%	-23																						
<b>SPS - Statutory Inspection</b>																															
<b>FS Water</b>																															
A32290	SPS - Submit & Approval of Form WW046 (Part 4) to WS	14	27-Jun-17	10-Jul-17	29-Jul-17	07-Aug-17	100%	0%	-28																						
A32300	SPS - Inspection and Approval by WSD	2	11-Jul-17	12-Jul-17	11-Aug-17	12-Aug-17	100%	0%	-27																						
A32305	SPS - Water Sample (2 nos.) & Report Submission	9	13-Jul-17	21-Jul-17	13-Aug-17	18-Aug-17	100%	0%	-28																						
A32310	SPS - Issuance of WW046 (Part 5) by WSD (Water Certifi	14	22-Jul-17	04-Aug-17	19-Aug-17	30-Aug-17	50%	0%	-26																						
A32320	SPS - Water Meter Connection (FS) by WSD	4	05-Aug-17	08-Aug-17	31-Aug-17	02-Sep-17	0%	0%	-25																						
<b>Potable Water / Flushing Water</b>																															
A32360	SPS - Submit & Approval of Form WW046 (Part 4) to WS	14	24-Jun-17	07-Jul-17	29-Jul-17	07-Aug-17	100%	0%	-31																						
A32370	SPS - Inspection and Approval by WSD	2	08-Jul-17	10-Jul-17	08-Aug-17	09-Aug-17	100%	0%	-26																						
A32375	SPS - Water Sample (2 nos.) & Report Submission	10	11-Jul-17	20-Jul-17	10-Aug-17	17-Aug-17	100%	0%	-28																						
A32380	SPS - Issuance of WW046 (Part 5) by WSD (Water Certifi	14	21-Jul-17	03-Aug-17	18-Aug-17	29-Aug-17	57.14%	0%	-26																						
A32390	SPS - Water Meter Connection (Plumbing) by WSD	4	04-Aug-17	07-Aug-17	30-Aug-17	02-Sep-17	0%	0%	-26																						
<b>FSD (Fire Services)</b>																															
A32392	SPS - Submission & Approval of Final Amendment Build	30	20-May-17	18-Jun-17	29-Jul-17	27-Aug-17	100%	0%	-70																						
A32394	SPS - VAC Submission to FSD & Approval	30	01-Jul-17	30-Jul-17	29-Jul-17	27-Aug-17	93.33%	0%	-28																						
A32400	SPS - Submit Form 314 & 501 to FSD	0	31-Jul-17		29-Aug-17		0%	0%	-25																						
A32405	SPS - FS direct link / FTNS available	7	21-Jun-17	28-Jun-17	08-Aug-17	15-Aug-17	100%	0%	-41																						
A32410	SPS - FSD Inspections & Obtain FS Certificate	30	09-Aug-17	07-Sep-17	03-Sep-17	22-Sep-17	0%	0%	-15																						
<b>DSD</b>																															
A32250	SPS - Handover to DSD	8	08-Sep-17	15-Sep-17	23-Sep-17	29-Sep-17	0%	0%	-14																						
<b>ICP WORKS (Interfacing Car Park)</b>																															
<b>Stage 2A</b>																															
<b>Portion B</b>																															
<b>Portion B</b>																															
A32520	Complete Pilecaps & Bottom Slab at Portion B1, B2, B3,	0		11-Jul-17		05-Jan-17 A	100%	100%	149																						
<b>Portion B4 - Pilecaps &amp; Bottom slab</b>																															
A32760	Portion B4 - BD Inspection & Approval for drainages	0		07-Jul-17		28-Dec-16 A	100%	100%	152																						
<b>Stage 2B</b>																															
<b>Install waling and Strut at +1.5mPD for Sheet Pile Type A1</b>																															
A32880	Portion B10 - Install waling and Strut @ +1.5mPD	2	01-Mar-17	02-Mar-17	01-Mar-17 A	04-Jul-17 A	100%	100%	-97																						
<b>Stage 3</b>																															
<b>B1 Slab Construction (Phase 3) - Construct B2/F to B1/F Coils, Walls &amp; B1 Slab and Remove Struts</b>																															
<b>Portion A16</b>																															
A34350	Portion A16 - Columns & Walls Construction (Deffered A	4	10-Apr-17	13-Apr-17	10-Apr-17 A	11-Jul-17 A	100%	100%	-68																						
A34360	Portion A16 - Construct B1 Slab (Deffered Area)	3	20-May-17	24-May-17	03-Jul-17 A	11-Jul-17 A	100%	100%	-39																						
<b>Portion B18</b>																															
A34410	Portion B18 - Construct B1 Slab (Deffered Area)	3	20-May-17	24-May-17	04-Jul-17 A	11-Jul-17 A	100%	100%	-39																						
<b>Portion A17</b>																															
A34440	Portion A7- Removal of Lateral Support	2	15-May-17	16-May-17	15-May-17 A	04-Jul-17 A	100%	100%	-39																						
<b>Portion B21</b>																															
A34610	Portion B21 - Columns & Walls Construction (Deffered A	3	28-Apr-17	02-May-17	28-Apr-17 A	29-Jul-17	100%	95%	-72																						
A34620	Portion B21 - Construct B1 Slab (Deffered Area)	3	20-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-58																						
<b>Portion A19</b>																															
A34720	Portion A19 - Construct B1 Slab (Deffered Area)	3	20-May-17	23-May-17	03-Jul-17 A	06-Jul-17 A	100%	100%	-35																						
<b>Portion B23</b>																															
A34750	Portion B11 - Removal of Lateral Support	2	31-May-17	01-Jun-17	31-May-17 A	29-Jul-17	100%	100%	-48																						
<b>Portion A21</b>																															
A34830	Portion A21 - Construct B1 Slab (Deffered Area)	3	11-Apr-17	13-Apr-17	11-Apr-17 A	29-Jul-17	100%	85%	-84																						
<b>Portion B24</b>																															
A34860	Portion B12 - Removal of Lateral Support	2	29-May-17	31-May-17	03-Jun-17 A	04-Jul-17 A	100%	100%	-28																						
<b>Portion B25</b>																															
A34920	Portion B13 - Removal of Lateral Support	2	07-Jun-17	08-Jun-17	26-Jun-17 A	13-Jul-17 A	100%	100%	-29																						
<b>Roof Slab (Portion A) - Construct B1/F to Roof Lvl Coils, Walls &amp; Roof Slab</b>																															
<b>Portion A23</b>																															
A34950	Portion A23 - Columns & Walls Construction	13	20-Feb-17	06-Mar-17	20-Feb-17 A	03-Jul-17 A	100%	100%	-93																						
A34960	Portion A23 - Construct Roof Slab	7	16-May-17	23-May-17	16-May-17 A	06-Jul-17 A	100%	100%	-35																						
<b>Portion A25</b>																															
A34990	Portion A25 - Columns & Walls Construction	7	10-May-17	17-May-17	10-May-17 A	29-Jul-17	100%	95%	-60																						





# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July					August			September			October		November		
											22					23			24			25		26		
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15
A35000	Portion A25 - Construct Roof Slab	4	26-May-17	31-May-17	22-May-17 A	29-Jul-17	100%	95%	-49																	
<b>Portion A26</b>																										
A35010	Portion A26 - Columns & Walls Construction	4	10-May-17	13-May-17	10-May-17 A	29-Jul-17	100%	90%	-63																	
A35020	Portion A26 - Construct Roof Slab	3	24-May-17	26-May-17	22-May-17 A	01-Aug-17	100%	30%	-54																	
<b>Roof Slab (Portion B) - Construct B1/F to Roof Lvl Cols, Walls &amp; Roof Slab</b>																										
<b>Portion B26</b>																										
A35040	Portion B26 - Construct Roof Slab	6	10-May-17	16-May-17	10-May-17 A	30-Jun-17 A	100%	100%	-37																	
<b>Portion B27</b>																										
A35060	Portion B27 - Construct Roof Slab	6	27-May-17	03-Jun-17	22-May-17 A	15-Jul-17 A	100%	100%	-34																	
<b>Portion B28</b>																										
A35070	Portion B28 - Columns & Walls Construction	6	20-May-17	26-May-17	15-May-17 A	17-Jul-17 A	100%	100%	-41																	
A35080	Portion B28 - Construct Roof Slab	5	27-May-17	02-Jun-17	22-May-17 A	19-Jul-17 A	100%	100%	-38																	
<b>Portion B29</b>																										
A35100	Portion B29 - Construct Roof Slab	4	29-May-17	02-Jun-17	03-Jun-17 A	30-Jun-17 A	100%	100%	-23																	
<b>Portion B30</b>																										
A35110	Portion B30 - Columns & Walls Construction	6	15-May-17	20-May-17	15-May-17 A	19-Jul-17 A	100%	100%	-48																	
A35120	Portion B30 - Construct Roof Slab	4	26-May-17	31-May-17	31-May-17 A	20-Jul-17 A	100%	100%	-41																	
<b>Portion B31</b>																										
A35140	Portion B31 - Construct Roof Slab	4	29-May-17	02-Jun-17	26-Jun-17 A	30-Jun-17 A	100%	100%	-23																	
<b>Portion B32</b>																										
A35150	Portion B32 - Columns & Walls Construction	6	29-May-17	05-Jun-17	31-May-17 A	17-Jul-17 A	100%	100%	-34																	
A35160	Portion B32 - Construct Roof Slab	4	06-Jun-17	09-Jun-17	07-Jun-17 A	20-Jul-17 A	100%	100%	-33																	
<b>Miscellaneous Structure Above Grd Slab / Roof Deck</b>																										
<b>Gridline 1a - 5a /Fa-Ma</b>																										
A35170	Construct Vent Ducts / Staircases / Lift Shaft on Upper Rc	16	25-May-17	13-Jun-17	22-Jun-17 A	29-Jul-17	100%	95%	-39																	
A35180	SPS and ICP - Non-Deferred Access for Backfilling Works	0		03-Jul-17		17-Aug-17	100%	0%	-33																	
A35190	Diversion of Traffic and Hoarding modification	14	04-Jul-17	19-Jul-17	17-Aug-17	02-Sep-17	100%	0%	-39																	
<b>Gridline 5a - 9a /Da-Ma</b>																										
A35200	Construct Vent Ducts & Staircases	16	22-May-17	09-Jun-17	22-Jun-17 A	01-Aug-17	100%	80%	-44																	
A35210	ICP - Completion of ICP Structure for Backfilling Works	0		09-Jun-17		01-Aug-17	100%	0%	-37																	
A35220	Diversion of Traffic and Hoarding modification	14	10-Jun-17	26-Jun-17	01-Aug-17	17-Aug-17	100%	0%	-45																	
<b>Dismantle TC 5 &amp; Infill openings</b>																										
A35230	Dismantle Tower Crane TC5	3	01-Jun-17	03-Jun-17	10-Jul-17 A	29-Jul-17	100%	50%	-47																	
A35240	Concrete In-Fill from Roof to B1/slab Openings	9	05-Jun-17	14-Jun-17	31-Jul-17	02-Aug-17	100%	0%	-41																	
<b>ICP - ABWF Works</b>																										
<b>B2 Slab Construction (Phase 1)</b>																										
<b>Portion A12 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																										
A35250	Portion A12 - Preparation Works	1	20-May-17	20-May-17	05-Jul-17 A	29-Jul-17	100%	20%	-58																	
A35260	Portion A12 - Granular Fill on Top of Pilecaps & Bottom s	3	22-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-58																	
A35270	Portion A12 - Construct B2 Slab	6	25-May-17	01-Jun-17	02-Aug-17	09-Aug-17	100%	0%	-58																	
<b>Portion A13 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																										
A35280	Portion A13 - Preparation Works	1	20-May-17	20-May-17	05-Jul-17 A	29-Jul-17	100%	20%	-58																	
A35290	Portion A13 - Granular Fill on Top of Pilecaps & Bottom s	3	22-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-58																	
A35300	Portion A13 - Construct B2 Slab	6	25-May-17	01-Jun-17	02-Aug-17	09-Aug-17	100%	0%	-58																	
<b>Portion B14 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																										
A35310	Portion B14 - Preparation Works	1	20-May-17	20-May-17	29-Jul-17	29-Jul-17	100%	0%	-58																	
A35320	Portion B14 - Granular Fill on Top of Pilecaps & Bottom s	3	22-May-17	24-May-17	31-Jul-17	02-Aug-17	100%	0%	-58																	
A35330	Portion B14 - Construct B2 Slab	6	25-May-17	01-Jun-17	03-Aug-17	09-Aug-17	100%	0%	-58																	
<b>Portion B15 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																										
A35340	Portion B15 - Preparation Works	1	02-Jun-17	02-Jun-17	10-Aug-17	10-Aug-17	100%	0%	-58																	
A35350	Portion B15 - Granular Fill on Top of Pilecaps & Bottom s	3	03-Jun-17	06-Jun-17	11-Aug-17	14-Aug-17	100%	0%	-58																	
A35360	Portion B15 - Construct B2 Slab	6	07-Jun-17	13-Jun-17	15-Aug-17	21-Aug-17	100%	0%	-58																	
<b>B2 Slab Construction (Phase 2)</b>																										
<b>Portion A14 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																										
A35370	Portion A14 - Preparation Works	1	20-May-17	20-May-17	05-Jul-17 A	29-Jul-17	100%	20%	-58																	
A35380	Portion A14 - Granular Fill on Top of Pilecaps & Bottom s	3	22-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-58																	
A35390	Portion A14 - Construct B2 Slab	6	25-May-17	01-Jun-17	02-Aug-17	09-Aug-17	100%	0%	-58																	
<b>Portion A15 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																										
A35400	Portion A15 - Preparation Works	1	20-May-17	20-May-17	27-Jun-17 A	29-Jul-17	100%	20%	-58																	
A35410	Portion A15 - Granular Fill on Top of Pilecaps & Bottom s	3	22-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-58																	
A35420	Portion A15 - Construct B2 Slab	6	25-May-17	01-Jun-17	02-Aug-17	09-Aug-17	100%	0%	-58																	
<b>Portion B16 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																										
A35430	Portion B16 - Preparation Works	1	26-May-17	26-May-17	29-Jul-17	29-Jul-17	100%	0%	-53																	
A35440	Portion B16 - Granular Fill on Top of Pilecaps & Bottom s	3	27-May-17	31-May-17	31-Jul-17	02-Aug-17	100%	0%	-53																	

◆ SPS and ICP - Non-Deferred Access for Backfilling Work

◆ ICP - Completion of ICP Structure for Backfilling Works

# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July			August			September			October			November												
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12	19	26			
A35450	Portion B16 - Construct B2 Slab	6	01-Jun-17	07-Jun-17	03-Aug-17	09-Aug-17	100%	0%	-53																										
<b>Portion B17 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35460	Portion B17 - Preparation Works	1	26-May-17	26-May-17	29-Jul-17	29-Jul-17	100%	0%	-53																										
A35470	Portion B17 - Granular Fill on Top of Pilecaps & Bottom s	3	27-May-17	31-May-17	31-Jul-17	02-Aug-17	100%	0%	-53																										
A35480	Portion B17 - Construct B2 Slab	6	01-Jun-17	07-Jun-17	03-Aug-17	09-Aug-17	100%	0%	-53																										
<b>B2 Slab Construction (Phase 3)</b>																																			
<b>Portion A16 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35490	Portion A16 - Preparation Works	1	19-Jun-17	20-Jun-17	12-Jun-17 A	29-Jul-17	100%	60%	-33																										
A35500	Portion A16 - Granular Fill on Top of Pilecaps & Bottom s	3	20-Jun-17	23-Jun-17	29-Jul-17	02-Aug-17	100%	0%	-33																										
A35510	Portion A16 - Construct B2 Slab	6	23-Jun-17	30-Jun-17	02-Aug-17	09-Aug-17	100%	0%	-33																										
<b>Portion B18 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35520	Portion B18 - Preparation Works	1	23-Jun-17	23-Jun-17	12-Jun-17 A	29-Jul-17	100%	0%	-30																										
A35530	Portion B18 - Granular Fill on Top of Pilecaps & Bottom s	3	24-Jun-17	27-Jun-17	31-Jul-17	02-Aug-17	100%	0%	-30																										
A35540	Portion B18 - Construct B2 Slab	6	28-Jun-17	05-Jul-17	03-Aug-17	09-Aug-17	100%	0%	-30																										
<b>Portion A17 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35550	Portion A17 - Preparation Works	1	06-Jun-17	06-Jun-17	06-Jul-17 A	29-Jul-17	100%	10%	-45																										
A35560	Portion A17 - Granular Fill on Top of Pilecaps & Bottom s	3	07-Jun-17	09-Jun-17	29-Jul-17	02-Aug-17	100%	0%	-45																										
A35570	Portion A17 - Construct B2 Slab	6	10-Jun-17	16-Jun-17	02-Aug-17	09-Aug-17	100%	0%	-45																										
<b>Portion B19 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35580	Portion B19 - Preparation Works	1	17-Jun-17	17-Jun-17	09-Aug-17	10-Aug-17	100%	0%	-45																										
A35590	Portion B19 - Granular Fill on Top of Pilecaps & Bottom s	3	19-Jun-17	21-Jun-17	10-Aug-17	14-Aug-17	100%	0%	-45																										
A35600	Portion B19 - Construct B2 Slab	6	22-Jun-17	28-Jun-17	14-Aug-17	21-Aug-17	100%	0%	-45																										
<b>Portion A18 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35610	Portion A18 - Preparation Works	1	29-Jun-17	29-Jun-17	21-Jun-17 A	29-Jul-17	100%	60%	-24																										
A35620	Portion A18 - Granular Fill on Top of Pilecaps & Bottom s	3	30-Jun-17	04-Jul-17	29-Jul-17	02-Aug-17	100%	0%	-24																										
A35630	Portion A18 - Construct B2 Slab	6	05-Jul-17	11-Jul-17	02-Aug-17	09-Aug-17	100%	0%	-24																										
<b>Portion B20 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35640	Portion B20 - Preparation Works	1	16-Jun-17	16-Jun-17	29-Jul-17	29-Jul-17	100%	0%	-36																										
A35650	Portion B20 - Granular Fill on Top of Pilecaps & Bottom s	3	17-Jun-17	20-Jun-17	31-Jul-17	02-Aug-17	100%	0%	-36																										
A35660	Portion B20 - Construct B2 Slab	6	21-Jun-17	27-Jun-17	03-Aug-17	09-Aug-17	100%	0%	-36																										
<b>Portion B21 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35670	Portion B21 - Preparation Works	1	12-Jul-17	12-Jul-17	26-Aug-17	28-Aug-17	100%	0%	-39																										
A35680	Portion B21 - Granular Fill on Top of Pilecaps & Bottom s	3	13-Jul-17	15-Jul-17	28-Aug-17	31-Aug-17	100%	0%	-39																										
A35690	Portion B21 - Construct B2 Slab	6	17-Jul-17	22-Jul-17	31-Aug-17	07-Sep-17	100%	0%	-39																										
<b>Portion B22 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35700	Portion B22 - Preparation Works	1	20-Jun-17	20-Jun-17	29-Jul-17	29-Jul-17	100%	0%	-33																										
A35710	Portion B22 - Granular Fill on Top of Pilecaps & Bottom s	3	21-Jun-17	23-Jun-17	31-Jul-17	02-Aug-17	100%	0%	-33																										
A35720	Portion B22 - Construct B2 Slab	6	24-Jun-17	30-Jun-17	03-Aug-17	09-Aug-17	100%	0%	-33																										
<b>Portion A19 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35730	Portion A19 - Preparation Works	1	24-Jul-17	24-Jul-17	27-Jun-17 A	29-Jul-17	100%	60%	-4																										
A35740	Portion A19 - Granular Fill on Top of Pilecaps & Bottom s	3	25-Jul-17	27-Jul-17	29-Jul-17	02-Aug-17	100%	0%	-4																										
A35750	Portion A19 - Construct B2 Slab	6	28-Jul-17	03-Aug-17	02-Aug-17	09-Aug-17	16.67%	0%	-4																										
<b>Portion B23 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35760	Portion B23 - Preparation Works	1	16-Jun-17	16-Jun-17	29-Jul-17	29-Jul-17	100%	0%	-36																										
A35770	Portion B23 - Granular Fill on Top of Pilecaps & Bottom s	3	17-Jun-17	20-Jun-17	31-Jul-17	02-Aug-17	100%	0%	-36																										
A35780	Portion B23 - Construct B2 Slab	6	21-Jun-17	27-Jun-17	03-Aug-17	09-Aug-17	100%	0%	-36																										
<b>Portion A20 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35790	Portion A20 - Preparation Works	1	20-May-17	20-May-17	27-Jun-17 A	29-Jul-17	100%	60%	-57																										
A35800	Portion A20 - Granular Fill on Top of Pilecaps & Bottom s	3	22-May-17	24-May-17	29-Jul-17	02-Aug-17	100%	0%	-57																										
A35810	Portion A20 - Construct B2 Slab	6	28-Jun-17	05-Jul-17	10-Aug-17	16-Aug-17	100%	0%	-36																										
<b>Portion A21 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35820	Portion A21 - Preparation Works	1	16-Jun-17	16-Jun-17	21-Jun-17 A	29-Jul-17	100%	60%	-35																										
A35830	Portion A21 - Granular Fill on Top of Pilecaps & Bottom s	3	17-Jun-17	20-Jun-17	29-Jul-17	02-Aug-17	100%	0%	-35																										
A35840	Portion A21 - Construct B2 Slab	6	06-Jul-17	12-Jul-17	17-Aug-17	23-Aug-17	100%	0%	-36																										
<b>Portion B24 - B2 Slab (200 thk) @ Lvl -0.05mPD</b>																																			
A35850	Portion B24 - Preparation Works	1	15-Jun-17	16-Jun-17	29-Jul-17	29-Jul-17	100%	0%	-36																										
A35860	Portion B24 - Granular Fill on Top of Pilecaps & Bottom s	3	16-Jun-17	20-Jun-17	31-Jul-17	02-Aug-17	100%	0%	-36																										
A35870	Portion B24 - Construct B2 Slab	6	20-Jun-17	27-Jun-17	03-Aug-17	09-Aug-17	100%	0%	-36																										
<b>B2/F to B1/F ABWF and Fitout Works</b>																																			
<b>Portion A (Phase 1)</b>																																			
A35880	ABWF Works - Internal Ceiling & Wall Plastering (Wet Tr	40	14-Jun-17	31-Jul-17	21-Aug-17	09-Oct-17	95%	0%	-58																										
A35890	Fitout Works - Internal Ceiling & Wall Painting	40	28-Jul-17	12-Sep-17	04-Oct-17	22-Nov-17	2.5%	0%	-58																										





# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D5 Start	CMWP - R0.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August			September			October			November	
											22	23	06	13	20	27	03	10	17	24	01	08	15
<b>Zone 1</b>																							
A36430	ICP (FS-Wet) - B2/F Building Services (1st Fix)	40	12-Oct-17	28-Nov-17	19-Dec-17	07-Feb-18	0%	0%	-58													A36430	
<b>Zone 2</b>																							
A36450	ICP (FS-Wet) - B2/F Building Services (1st Fix)	40	28-Jul-17	12-Sep-17	04-Oct-17	22-Nov-17	2.5%	0%	-58		A36450												
A36460	ICP (FS-Wet) - B2/F Building Services (2nd / Final Fix) &	60	03-Oct-17	13-Dec-17	11-Dec-17	26-Feb-18	0%	0%	-58													A36460	
<b>Fire Services (Dry)</b>																							
<b>Zone 1</b>																							
A36470	ICP (FS-Dry- B2/F Building Services (1st Fix)	40	12-Oct-17	28-Nov-17	19-Dec-17	07-Feb-18	0%	0%	-58													A36470	
<b>Zone 2</b>																							
A36490	ICP (FS-Dry) - B2/F Building Services (1st Fix)	40	28-Jul-17	12-Sep-17	04-Oct-17	22-Nov-17	2.5%	0%	-58		A36490												
A36500	ICP (FS-Dry) - B2/F Building Services (2nd / Final Fix) & T	60	03-Oct-17	13-Dec-17	11-Dec-17	26-Feb-18	0%	0%	-58													A36500	
<b>Lift Installation</b>																							
A36510	Handover of Completed Lift Shaft (Lift 1 & Lift 2)	0	07-Sep-17		31-Oct-17*		0%	0%	-44													Handov	
A36520	ICP (Lift 1 & 2) - Rail & Door Installation	10	07-Sep-17	18-Sep-17	31-Oct-17	11-Nov-17	0%	0%	-44														
A36530	ICP (Lift 1 & 2) - Machine Room Installation	12	19-Sep-17	03-Oct-17	11-Nov-17	25-Nov-17	0%	0%	-44														
A36540	ICP (Lift 1 & 2) - Pit Installation	6	04-Oct-17	11-Oct-17	25-Nov-17	02-Dec-17	0%	0%	-44														
A36550	ICP (Lift 1 & 2) - Stable Power Installation	0		11-Oct-17		02-Dec-17	0%	0%	-44														
A36560	ICP (Lift 1 & 2) - Car Installation	14	12-Oct-17	27-Oct-17	02-Dec-17	19-Dec-17	0%	0%	-44														
<b>ELV Extra Low Voltage (Site Wide)</b>																							
<b>Zone 1</b>																							
A36600	ICP (ELV) - B2/F Building Services (1st Fix)	40	12-Oct-17	28-Nov-17	19-Dec-17*	07-Feb-18	0%	0%	-58													A36600	
<b>B1/F Level</b>																							
<b>CLP Works Leading to Energization / Power-On</b>																							
<b>Electrical (B1/F) - Transformer Room (B128)</b>																							
A36650	CLP Transformer - Builders Works & BS Installation	16	10-Apr-17	02-May-17	10-Apr-17 A	05-Aug-17	100%	56.25%	-79														
A36660	Inspection for Handover to CLP	5	29-May-17	03-Jun-17	07-Aug-17	11-Aug-17	100%	0%	-58														
A36670	CLP Transformer Installation Works	90	04-Jun-17	01-Sep-17	12-Aug-17	09-Nov-17	61.11%	0%	-69														
A36680	CLP Power-On & Energization	0		21-Sep-17		09-Nov-17	0%	0%	-39														
<b>Electrical (B1/F) - LV Switch room (B126)</b>																							
A36690	LV Switch room - Builders Works & BS Installation	30	26-Jun-17	31-Jul-17	29-Jul-17	01-Sep-17	93.33%	0%	-28														
A36700	LV Switch room - Install LV Switch Board & Testing	45	01-Aug-17	21-Sep-17	02-Sep-17	26-Oct-17	0%	0%	-28		A36700												
<b>External Electrical Power and Lead-In Cable Ducts</b>																							
A36710	Construct (4x) 2.5x2.2x1.2m Electrical Draw Pits	36	01-Jun-17	13-Jul-17	01-Aug-17	12-Sep-17	100%	0%	-51														
A36720	Install 12x150dia @ 2-Layers GI Ducts	36	14-Jun-17	26-Jul-17	14-Aug-17	25-Sep-17	100%	0%	-51														
A36730	MV Cable Laying & Testing	30	10-Jul-17	12-Aug-17	07-Sep-17	14-Oct-17	56.67%	0%	-51		A36730												
A36740	MV Cable Termination and Test (by CLP)	12	14-Aug-17	26-Aug-17	14-Oct-17	30-Oct-17	0%	0%	-51			A36740											
A36750	Pre-Energization Checked & Testing	6	28-Aug-17	02-Sep-17	30-Oct-17	06-Nov-17	0%	0%	-51														
A36760	MV Syst Energized / Syst Commissioning Acceptance Tes	6	04-Sep-17	09-Sep-17	06-Nov-17	13-Nov-17	0%	0%	-51														
A36770	Power Energization Complete and Ready for Power-On	0		09-Sep-17		13-Nov-17	0%	0%	-51														
<b>Electrical (B1/F) - General Works</b>																							
A36780	ICP (Electrical) - B1/F Building Services (1st Fix)	60	07-Oct-17	16-Dec-17	21-Nov-17	01-Feb-18	0%	0%	-37													A36780	
<b>Mechanical General</b>																							
A36810	ICP (MVAC) - B1/F Building Services (1st Fix)	60	31-Aug-17	11-Nov-17	16-Oct-17	27-Dec-17	0%	0%	-37													A36810	
A36820	ICP (MVAC) - B1/F Building Services (2nd / Final Fix) & T	75	19-Oct-17	18-Jan-18	02-Dec-17	06-Mar-18	0%	0%	-37													A36820	
<b>FS Plant Rooms (FS Pump Room and Security Room)</b>																							
A36830	FS Rooms - Builders Works & BS Installation	45	26-Jun-17	17-Aug-17	25-Aug-17	19-Oct-17	62.22%	0%	-51														
A36840	FS Rooms - Install Pumps, Equipment & Cabinet	45	25-Jul-17	14-Sep-17	22-Sep-17	17-Nov-17	8.89%	0%	-51		A36840												
A36850	FS Rooms - Install Fresh / Potable Pipeworks & Testing	30	29-Aug-17	03-Oct-17	31-Oct-17	05-Dec-17	0%	0%	-51														
A36860	Install Water Meter Cabinet	12	04-Oct-17	18-Oct-17	05-Dec-17	19-Dec-17	0%	0%	-51													A36860	
<b>Fire Services (Wet)</b>																							
<b>Zone 1</b>																							
A36870	ICP (FS-Wet) - B1/F Building Services (1st Fix)	40	27-Jul-17	11-Sep-17	08-Sep-17	26-Oct-17	5%	0%	-37													A36870	
A36880	ICP (FS-Wet) - B1/F Building Services (2nd / Final Fix) &	50	08-Sep-17	08-Nov-17	24-Oct-17	21-Dec-17	0%	0%	-37														
<b>Zone 2</b>																							
A36890	ICP (FS-Wet) - B1/F Building Services (1st Fix)	50	12-Sep-17	11-Nov-17	27-Oct-17	27-Dec-17	0%	0%	-37														
A36900	ICP (FS-Wet) - B1/F Building Services (2nd / Final Fix) &	60	27-Oct-17	09-Jan-18	11-Dec-17	24-Feb-18	0%	0%	-37													A36900	
<b>Fire Services (Dry)</b>																							
<b>Zone 1</b>																							
A36910	ICP (FS-Dry) - B1/F Building Services (1st Fix)	40	27-Jul-17	11-Sep-17	08-Sep-17	26-Oct-17	5%	0%	-37													A36910	
A36920	ICP (FS-Dry) - B1/F Building Services (2nd / Final Fix) & T	50	08-Sep-17	08-Nov-17	24-Oct-17	21-Dec-17	0%	0%	-37														
<b>Zone 2</b>																							
A36930	ICP (FS-Dry) - B1/F Building Services (1st Fix)	50	12-Sep-17	11-Nov-17	27-Oct-17	27-Dec-17	0%	0%	-37														
A36940	ICP (FS-Dry) - B1/F Building Services (2nd / Final Fix) & T	60	27-Oct-17	09-Jan-18	11-Dec-17	24-Feb-18	0%	0%	-37													A36940	



# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August			September			October			November
											22	23	23		24		25		26			
											02	09	16	23	30	06	13	20	27	03	10	17
A36990	ICP - Install GRC Architectural Louvre & Bracket	40	14-Jun-17	31-Jul-17	01-Aug-17	16-Sep-17	95%	0%	-41													
A37000	ICP - GRC Facade Final Cleaning	15	01-Aug-17	17-Aug-17	16-Sep-17	06-Oct-17	0%	0%	-41													
A37010	ICP - Install Facade Louvre Screen	40	14-Jun-17	31-Jul-17	01-Aug-17	16-Sep-17	95%	0%	-41													
A37020	ICP - Facade Louvre Screen Final Cleaning	15	01-Aug-17	17-Aug-17	16-Sep-17	06-Oct-17	0%	0%	-41													
<b>ICP - Statutory Inspection</b>																						
<b>WSD (FS Water)</b>																						
A37070	ICP - Submit & Approval of Form WW046 (Part 4) to WS	14	13-Sep-17	26-Sep-17	31-Oct-17	14-Nov-17	0%	0%	-48													
A37080	ICP - Inspection and Approval by WSD for (FS Pipeworks)	7	27-Sep-17	03-Oct-17	14-Nov-17	21-Nov-17	0%	0%	-48													
A37085	ICP - Water Sample (2 nos.) & Report Submission	10	04-Oct-17	13-Oct-17	21-Nov-17	01-Dec-17	0%	0%	-48													
A37090	ICP - Issuance of WW046 (Part 5) by WSD (Water Certifi	14	14-Oct-17	27-Oct-17	01-Dec-17	15-Dec-17	0%	0%	-48													
A37100	ICP - Water Meter Connection (FS) by WSD	14	28-Oct-17	10-Nov-17	19-Dec-17	02-Jan-18	0%	0%	-52													
<b>Potable Water / Flushing Water</b>																						
A37110	ICP - Submit & Approval of Form WW046 (Part 4) to WS	14	13-Sep-17	26-Sep-17	31-Oct-17	14-Nov-17	0%	0%	-48													
A37120	ICP - Inspection and Approval by WSD	7	04-Oct-17	10-Oct-17	21-Nov-17	28-Nov-17	0%	0%	-48													
A37125	ICP - Water Sample (2 nos.) & Report Submission	10	11-Oct-17	20-Oct-17	28-Nov-17	08-Dec-17	0%	0%	-48													
A37130	ICP - Issuance of WW046 (Part 5) by WSD (Water Certifi	14	21-Oct-17	03-Nov-17	08-Dec-17	22-Dec-17	0%	0%	-48													
<b>EPD Submission and Approval</b>																						
A37150	ICP - EPD Submission and Approval for (Genset Installati	30	29-Aug-17	03-Oct-17	31-Oct-17	05-Dec-17	0%	0%	-51													
<b>External Works</b>																						
<b>SPS</b>																						
<b>SPS - G/F External Utilities &amp; Roadworks</b>																						
<b>Grd Lvl - Watermain / FS Pipes Connection (Outside SPS) to PIW</b>																						
A37240	Watermain Final Connection & Backfill	25	08-May-17	06-Jun-17	08-May-17 A	18-Aug-17	100%	30%	-62													
<b>Works Above SPS and ICP at Portion A</b>																						
A37320	Portion A - Waterproofing & Backfilling	60	07-Sep-17	18-Nov-17	07-Sep-17	18-Nov-17	0%	0%	0													
A37330	Portion A - Above Slab Utilities & Fire Hydrant	60	14-Oct-17	23-Dec-17	14-Oct-17	23-Dec-17	0%	0%	0													
<b>ICP</b>																						
<b>ICP - G/F External Utilities &amp; Roadworks</b>																						
<b>Entrance Portal from At-grade Road</b>																						
A56620	ICP - Final backfilling at Entrance Portal	2	26-Sep-17	27-Sep-17	10-Oct-17	11-Oct-17	0%	0%	-10													
A56630	ICP - Construct Entrance Carriageway	12	28-Sep-17	13-Oct-17	12-Oct-17	25-Oct-17	0%	0%	-10													
<b>Works Above ICP at Portion B</b>																						
A37470	Portion B - Waterproofing & Backfilling	30	15-Jun-17	20-Jul-17	03-Aug-17	06-Sep-17	100%	0%	-41													
A37480	Portion B - Above Slab Utilities & Fire Hydrant	30	21-Jul-17	24-Aug-17	07-Sep-17	13-Oct-17	23.33%	0%	-41													
A37490	Portion B - Final backfilling	30	25-Aug-17	28-Sep-17	14-Oct-17	18-Nov-17	0%	0%	-41													
A37500	Portion B - EVA Carriageway / Roadworks	60	09-Oct-17	18-Dec-17	27-Nov-17	07-Feb-18	0%	0%	-41													
<b>Co-ordinated External Works &amp; Utilities Services Installation</b>																						
<b>Interface Dates</b>																						
<b>Access Dates</b>																						
A24745	M14 - Lyric Interface South, GL 6-12 (2nd access)	0	20-May-17		30-Sep-17*		100%	0%	-133	2nd Access changed to 30/09/2017												
A25000	M43 - At-grade Road Footpath at ICP / SPS Entrance Port	0	20-May-17		29-Jul-17		100%	0%	-70													
A25130	M70 - Arts Pavilion Area on M+ side of M+ / Park Interf	0	01-Jun-17		29-Jul-17*		100%	0%	-58													
<b>Vacation Date</b>																						
A25250	M05 - SPS Frontage At-grade Road (25Jan19)	0		25-Sep-17		16-Oct-17	0%	0%	-21													
A25480	M26 - M+ Entrance interface with At-grade Road (Practic	0		13-Jul-17		07-Sep-17	100%	0%	-56													
A25490	M27 - New Temporary Access Road outside Park Bound	0		19-Sep-17		06-Oct-17	0%	0%	-17													
A25500	M28 - New Temporary Access Road Part in Hotel/OACF	0		19-Sep-17		06-Oct-17	0%	0%	-17													
A25520	M31 - Existing Temporary Access Road, at M+ Entrance P	0		19-May-17		29-Jul-17	100%	0%	-70													
A25600	M43 - At-grade Road Footpath at ICP / SPS Entrance Port	0		19-Sep-17		06-Oct-17	0%	0%	-17													
A25610	M44 - At-grade Road Footpath at ICP / SPS Frontage (H/C	0		09-Oct-17		16-Dec-17	0%	0%	-68													
A25640	M47 - M+ Promenade Terrace (Practical Completion)	0		25-Oct-17		15-Sep-17	0%	0%	40													
A25650	M48 - M+ Waterfront Promenade Part incl' KGO Pump C	0		25-Oct-17		15-Sep-17	0%	0%	40													
A25660	M49 - M+ Waterfront Part for Access Around ESS (H/O tr	0		25-Oct-17		15-Sep-17	0%	0%	40													
A25670	M50 - Internal Areas of SPS (for Park Opening) (25Jun2	0		15-Sep-17		29-Sep-17	0%	0%	-14													
A25680	M51 - Entrance to SPS within the ICP (H/O to Park on 2	0		19-Sep-17		06-Oct-17	0%	0%	-17													
A25730	M57 - Area Around South side of ICP (Practical Completi	0		25-Sep-17		25-Sep-17	0%	0%	0													
A25750	M59 - ICP Level B2 Roof Top (Practical Completion)	0		08-Jun-17		29-Jul-17	100%	0%	-50													
A25760	M60 - ICP Level B1 Roof Top (Practical Completion)	0		19-Jul-17		02-Sep-17	100%	0%	-45													
A25890	M76 - Interfacing Park Landscape Area between M+ Sou	0		25-Sep-17		25-Sep-17	0%	0%	0													
A25900	M77 - Interfacing Park Landscape Area South of M+ Sou	0		25-Sep-17		25-Sep-17	0%	0%	0													
<b>Interface Schedule (Appendix D1 - 16 December 2015)</b>																						
<b>Lyric Theatre Complex and Extended Basement (Lyric)</b>																						
<b>Along Interface South of AEL</b>																						



# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	Gantt Chart (Activity Dates)																				
											July		August		September		October		November												
											22	23	24	25	26	27	28	29	30	01	02	03	04	05	06	07	08	09	10	11	12
A26740	Extract Sheetpiles	3	18-Jul-17	20-Jul-17	23-Aug-17	25-Aug-17	100%	0%	-31		02	09	16	23																	
<b>Construct Cofferdam &amp; Pipe works for Lead In (CH0+102 to CH0+108)</b>																															
A26750	Drive in Sheetpiles (Cofferdam) @ 18m depth	9	24-May-17	03-Jun-17	29-Jul-17	08-Aug-17	100%	0%	-55	Delay due to RSS Instruction to defer																					
A26760	Curtain Grouting (where required)	12	05-Jun-17	17-Jun-17	09-Aug-17	22-Aug-17	100%	0%	-55	Delay due to RSS Instruction to defer																					
A26770	Dewatering	1	19-Jun-17	19-Jun-17	23-Aug-17	23-Aug-17	100%	0%	-55	Delay due to RSS Instruction to defer																					
A26780	ELS Excavation (Cofferdam)@GL +5.0mPD to +3.0mPD	3	20-Jun-17	22-Jun-17	24-Aug-17	26-Aug-17	100%	0%	-55	Delay due to RSS Instruction to defer																					
A26790	Install 1st Layer Strut & Wailing (Cofferdam) @ +3.5mPD	6	23-Jun-17	29-Jun-17	28-Aug-17	02-Sep-17	100%	0%	-55	Delay due to RSS Instruction to defer																					
A26800	ELS Excavation (Cofferdam)@+3.0mPD to +0.275mPD	3	30-Jun-17	04-Jul-17	04-Sep-17	06-Sep-17	100%	0%	-55	Delay due to RSS Instruction to defer																					
A26810	Install 2nd Layer Strut & Wailing (Cofferdam) @ +0.775r	6	05-Jul-17	11-Jul-17	07-Sep-17	13-Sep-17	100%	0%	-55	Delay due to RSS Instruction to defer																					
A26820	ELS Excavation (Cofferdam)@+0.275mPD to -2.45mPD	3	12-Jul-17	14-Jul-17	14-Sep-17	16-Sep-17	100%	0%	-55	Delay due to RSS Instruction to defer																					
A26830	Install 3rd Layer Strut & Wailing (Cofferdam) @ -1.95mF	6	15-Jul-17	21-Jul-17	18-Sep-17	23-Sep-17	100%	0%	-55	Delay due to RSS Instruction to defer																					
A26840	ELS Excavation Final (Cofferdam)@ -2.45mPD to -3.70mI	3	22-Jul-17	25-Jul-17	25-Sep-17	27-Sep-17	100%	0%	-55	Delay due to RSS Instruction to defer																					
A26850	Pipe Laying & Associated Works	4	26-Jul-17	29-Jul-17	28-Sep-17	03-Oct-17	75%	0%	-55	Delay due to RSS Instruction to defer																					
A26860	Construct 2 Nos of Bend Block	6	31-Jul-17	05-Aug-17	04-Oct-17	11-Oct-17	0%	0%	-55	Delay due to RSS Instruction to defer																					
A26870	Construct Valve Chamber	10	07-Aug-17	17-Aug-17	12-Oct-17	23-Oct-17	0%	0%	-55	Delay due to RSS Instruction to defer																					
A26880	Pressure Test	6	18-Aug-17	24-Aug-17	24-Oct-17	31-Oct-17	0%	0%	-55																						
A26890	Back Filling to 3rd Layer Strut	2	25-Aug-17	26-Aug-17	01-Nov-17	02-Nov-17	0%	0%	-55																						
A26900	Dismantle 3rd Layer Struts & Wailing	3	28-Aug-17	30-Aug-17	03-Nov-17	06-Nov-17	0%	0%	-55																						
A26910	Back Filling to 2nd Layer Strut	2	31-Aug-17	01-Sep-17	07-Nov-17	08-Nov-17	0%	0%	-55																						
A26920	Dismantle 2nd Layer Struts & Wailing	3	02-Sep-17	05-Sep-17	09-Nov-17	11-Nov-17	0%	0%	-55																						
A26930	Back Filling to 1st Layer Struts	2	06-Sep-17	07-Sep-17	13-Nov-17	14-Nov-17	0%	0%	-55																						
A26940	Dismantle 1st Layer Struts & Wailing	3	08-Sep-17	11-Sep-17	15-Nov-17	17-Nov-17	0%	0%	-55																						
A26950	Back Filling to GL	2	12-Sep-17	13-Sep-17	18-Nov-17	20-Nov-17	0%	0%	-55																						
<b>Construction at CH0+0 to CH66</b>																															
<b>Trench Excavation &amp; Pipe works CH0+32 to CH0+66</b>																															
A26960	Drive In Sheet Piles	9	21-Jul-17	31-Jul-17	20-Mar-17 A	31-Mar-17 A	77.78%	100%	97	This activity not required under new design changed																					
A26970	Trench Excavation	3	01-Aug-17	03-Aug-17	03-Jul-17 A	01-Aug-17	0%	10%	2																						
A26980	Install 1st Layer of Struts & Wailing	12	04-Aug-17	17-Aug-17	20-Mar-17 A	31-Mar-17 A	0%	100%	112	This activity not required under new design changed																					
A26990	Trench Excavation to 2nd Layer of Struts	3	18-Aug-17	21-Aug-17	20-Mar-17 A	31-Mar-17 A	0%	100%	115	This activity not required under new design change																					
A27000	Install 2nd Layer of Struts & Wailing	12	22-Aug-17	04-Sep-17	20-Mar-17 A	31-Mar-17 A	0%	100%	127	This activity not required under new design change																					
A27010	Trench Excavation to Final Level	3	05-Sep-17	07-Sep-17	29-Jul-17	01-Aug-17	0%	0%	32																						
A27020	Pipe Laying & Associated Works	6	08-Sep-17	14-Sep-17	02-Aug-17	08-Aug-17	0%	0%	32																						
A27030	Pressure Test	6	15-Sep-17	21-Sep-17	09-Aug-17	15-Aug-17	0%	0%	32																						
A27040	Back Filling	6	22-Sep-17	28-Sep-17	16-Aug-17	22-Aug-17	0%	0%	32																						
A27050	Dismantle 2nd Layer Struts & Wailing	3	29-Sep-17	03-Oct-17	23-Aug-17	25-Aug-17	0%	0%	32																						
A27060	Back Filling to 1st Layer of Struts	6	04-Oct-17	11-Oct-17	26-Aug-17	01-Sep-17	0%	0%	32																						
A27070	Dismantle 1st Layer Struts & Wailing	3	12-Oct-17	14-Oct-17	02-Sep-17	05-Sep-17	0%	0%	32																						
A27080	Back Filling to GL	6	16-Oct-17	21-Oct-17	06-Sep-17	12-Sep-17	0%	0%	32																						
A27090	Extract Sheetpiles	3	23-Oct-17	25-Oct-17	13-Sep-17	15-Sep-17	0%	0%	32																						
<b>Trench Excavation &amp; Pipe works CH0+0 to CH0+32</b>																															
A27100	Drive in Sheet Piles	9	21-Jul-17	31-Jul-17	26-Aug-17	05-Sep-17	77.78%	0%	-31	Delay due to RSS Instruction to defer																					
A27110	Trench @GL +5.0mPD to +4.0mPD	3	01-Aug-17	03-Aug-17	06-Sep-17	08-Sep-17	0%	0%	-31	Delay due to RSS Instruction to defer																					
A27120	Install 1st Layer Strut & Wailing@ +4.5mPD	12	04-Aug-17	17-Aug-17	09-Sep-17	22-Sep-17	0%	0%	-31	Delay due to RSS Instruction to defer																					
A27130	Install Legging to Opening	10	18-Aug-17	29-Aug-17	23-Sep-17	06-Oct-17	0%	0%	-31																						
A27140	Trench Excavation@+4.0mPD to +1.06mPD	3	30-Aug-17	01-Sep-17	07-Oct-17	10-Oct-17	0%	0%	-31																						
A27150	Pipe Laying & Associated Works	10	02-Sep-17	13-Sep-17	11-Oct-17	21-Oct-17	0%	0%	-31																						
A27160	Construct Bend Blocks	10	14-Sep-17	25-Sep-17	23-Oct-17	03-Nov-17	0%	0%	-31																						
A27170	Construct Wash Out Chamber	10	14-Sep-17	25-Sep-17	23-Oct-17	03-Nov-17	0%	0%	-31																						
A27180	Pressure Test	6	26-Sep-17	03-Oct-17	04-Nov-17	10-Nov-17	0%	0%	-31																						
A27190	Back Filling to 1st layer Struts	1	04-Oct-17	04-Oct-17	11-Nov-17	11-Nov-17	0%	0%	-31																						
A27200	Dismantle 1st Layer Struts & Wailing	6	06-Oct-17	12-Oct-17	13-Nov-17	18-Nov-17	0%	0%	-31																						
A27210	Back Filling to GL	1	13-Oct-17	13-Oct-17	20-Nov-17	20-Nov-17	0%	0%	-31																						
<b>DCS Box (Portion M15&amp;M16)</b>																															
A27280	Backfill	4	14-Sep-17	18-Sep-17	23-Oct-17	26-Oct-17	0%	0%	-31																						
A27290	Construct remaining wall & roof	10	04-Oct-17	16-Oct-17	11-Nov-17	22-Nov-17	0%	0%	-31																						
A27300	DCS Box complete	0		16-Oct-17		22-Nov-17	0%	0%	-31																						
<b>Construction at Grade CH0+108 to CH0+158</b>																															
A27310	Install Concrete Saddle for Pipe Support	6	14-Sep-17	20-Sep-17	21-Nov-17	27-Nov-17	0%	0%	-55																						
A27320	Pipe Laying & Associated Works	13	21-Sep-17	07-Oct-17	28-Nov-17	12-Dec-17	0%	0%	-55																						



# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D5 Start	CMWP - R0.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	Gantt Chart																		
											July 22			August 23			September 24			October 25			November 26						
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15	22	29	05
A27330	Pressure Test	6	09-Oct-17	14-Oct-17	13-Dec-17	19-Dec-17	0%	0%	-55		A27330																		
A27340	Pipe Connection to DCS	5	26-Oct-17	01-Nov-17	20-Dec-17	27-Dec-17	0%	0%	-46		A27340																		
<b>Seawater Intake Pipe Works</b>																													
<b>Construction of Seawater Intake Pipe</b>																													
A27410	Drill holes, Inject Curtain Grout & backfill	24	05-Jun-17	03-Jul-17	01-Mar-17 A	07-Mar-17 A	100%	100%	94	This activity not required under new design changed																			
A27420	Excavate from G/F (+4.5mPD) to +2.0mPD	3	08-Mar-17	10-Mar-17	08-Mar-17 A	29-Jul-17	100%	70%	-113																				
A27450	Lay DN600 Seawater Intake Pipes x2	10	05-Jun-17	15-Jun-17	22-Jun-17 A	07-Aug-17	100%	20%	-44	Delay due to excessive water inflow																			
A27460	Lay DN100 Chlorination Pipe	10	05-Jun-17	15-Jun-17	22-Jun-17 A	07-Aug-17	100%	20%	-44	Delay due to excessive water inflow																			
A27470	Lay DN28 Cleansing Pipe	10	05-Jun-17	15-Jun-17	22-Jun-17 A	07-Aug-17	100%	20%	-44	Delay due to excessive water inflow																			
A27480	Construct Thrust Blocks	10	16-Jun-17	27-Jun-17	22-Jun-17 A	07-Aug-17	100%	20%	-34	Delay due to excessive water inflow																			
A27490	Pressure Testing and Inspection	6	28-Jun-17	05-Jul-17	22-Jun-17 A	03-Aug-17	100%	20%	-25																				
A27500	Backfill to +2.0mPD	2	06-Jul-17	07-Jul-17	18-Jul-17 A	31-Jul-17	100%	20%	-20																				
A27510	Remove Underground Utilities Support & Backfill up to +	6	08-Jul-17	14-Jul-17	31-Jul-17	07-Aug-17	100%	0%	-20																				
A27520	Complete Pipeworks & Traffic Diversion	0		14-Jul-17		07-Aug-17	100%	0%	-20		Complete Pipeworks & Traffic Diversion,																		
<b>Seawater Pump Cell</b>																													
<b>BME</b>																													
A58610	Dismantle the existing unused Equipment	21	20-May-17	10-Jun-17	23-Jun-17 A	03-Aug-17	100%	75%	-52																				
A58620	Builder's work	8	11-Jun-17	18-Jun-17	03-Aug-17	11-Aug-17	100%	0%	-52																				
A58630	Delivery of DI pipe	2	26-May-17	27-May-17	29-Jul-17*	30-Jul-17	100%	0%	-62																				
A58640	Install DI pump	124	19-Jun-17	23-Oct-17	11-Aug-17	16-Dec-17	31.45%	0%	-52																				
A58650	Delivery of sea water pump	4	04-Jul-17	07-Jul-17	29-Jul-17*	01-Aug-17	100%	0%	-25																				
A58660	Install sea water pump	2	08-Jul-17	09-Jul-17	02-Aug-17	03-Aug-17	100%	0%	-25																				
A58670	Install electrical & Control	62	29-Jul-17	28-Sep-17	23-Aug-17	25-Oct-17	0%	0%	-25																				
A58680	Install Pump motor	32	19-Aug-17	19-Sep-17	13-Sep-17	16-Oct-17	0%	0%	-25																				
A58690	Hydraulic Test of DI pipe	12	24-Oct-17	05-Nov-17	16-Dec-17	30-Dec-17	0%	0%	-52																				
<b>Plumbing &amp; Drainage</b>																													
A58710	Dismantle the existing unused Equipment	9	19-Jun-17	27-Jun-17	23-Jun-17 A	26-Jul-17 A	100%	100%	-27																				
A58720	Builder's work	7	28-Jun-17	05-Jul-17	29-Jul-17	04-Aug-17	100%	0%	-30																				
A58730	Delivery of Sump Pumps	2	20-May-17	21-May-17	29-Jul-17*	30-Jul-17	100%	0%	-68																				
A58740	Install Sump Pumps	28	06-Jul-17	02-Aug-17	05-Aug-17	01-Sep-17	82.14%	0%	-30																				
<b>Demolition of CSO Office</b>																													
A27760	CSO Office relocation	0		14-Aug-17		14-Aug-17*	0%	0%	0		CSO Office relocation,																		
A27770	Demolish Existing CSO Office	36	15-Aug-17	25-Sep-17	15-Aug-17	25-Sep-17	0%	0%	0		A27770																		
<b>Sewerage</b>																													
<b>Sewerage Interface with PIW &amp; F2 Contractor</b>																													
<b>Sewerage at Austin Road West (Portion L08)</b>																													
A27790	PIW Implement TTMS & Allow Access to Manhole F1.2	0	20-May-17		29-Jul-17*		100%	0%	-58	PIW delays in TTMS Implementation	PIW Implement TTMS & Allow Access to Manhole F1.2 to HCC, 29-																		
A27800	Excavate Trial Trench for UU within Austin Road West Ar	12	20-May-17	03-Jun-17	29-Jul-17	11-Aug-17	100%	0%	-58	PIW delays in TTMS Implementation																			
A27810	Demolished Existing Planter	10	05-Jun-17	15-Jun-17	12-Aug-17	23-Aug-17	100%	0%	-58	PIW delays in TTMS Implementation																			
A27820	Excavate & Install Lateral Support	10	16-Jun-17	27-Jun-17	24-Aug-17	04-Sep-17	100%	0%	-58	PIW delays in TTMS Implementation																			
A27830	Construct M+ Terminal Manhole F1.3A	6	28-Jun-17	05-Jul-17	05-Sep-17	11-Sep-17	100%	0%	-58	PIW delays in TTMS Implementation																			
A27840	Lay down DN375 F1.3B to F1.3A to F1.2	3	06-Jul-17	08-Jul-17	12-Sep-17	14-Sep-17	100%	0%	-58	PIW delays in TTMS Implementation																			
A27850	Pressure Test	3	10-Jul-17	12-Jul-17	15-Sep-17	18-Sep-17	100%	0%	-58	PIW delays in TTMS Implementation																			
A27860	Back fill & Reinstate pavement / Reinstate Planter	9	13-Jul-17	22-Jul-17	19-Sep-17	28-Sep-17	100%	0%	-58	PIW delays in TTMS Implementation																			
A27870	HCC connect DN375 to F1.2	1	24-Jul-17	24-Jul-17	29-Sep-17	29-Sep-17	100%	0%	-58	PIW delays in TTMS Implementation	A27870																		
<b>Sewerage adjacent to CLP Station (Portion L19)</b>																													
A27920	Pressure Test	3	27-Jun-17	29-Jun-17	19-Jun-17 A	20-Jun-17 A	100%	100%	9																				
A27930	Backfill to adjacent ground level	8	30-Jun-17	10-Jul-17	20-Jun-17 A	20-Jun-17 A	100%	100%	17																				
<b>Sewerage at Portion M01, Gridline A / 3-14</b>																													
A27940	HCC grant access to Park Contractor for SM100 construct	0	25-Jul-17		30-Sep-17		100%	0%	-58		HCC grant access to Park Co																		
<b>MH F2.1B to MH F2.1A</b>																													
A27960	Completion of G/F Slab, Wall & Column at Portion A	0		19-May-17		29-Jul-17	100%	0%	-58	Late Access due to the ongoing backfilling activities in the concerned area	Completion of G/F Slab, Wall & Column at Portion A,																		
A27970	Manhole & Trench Excavation for Sewerage Pipe betwe	2	20-May-17	22-May-17	29-Jul-17	31-Jul-17	100%	0%	-58	Late Access due to the ongoing backfilling activities in the concerned area																			
A27980	Construct Manhole F2.1A	6	23-May-17	29-May-17	01-Aug-17	07-Aug-17	100%	0%	-58	Late Access due to the ongoing backfilling activities in the concerned area																			
A27990	Lay Sewerage Pipe DN300 between MH F2.1A to F2.1B	4	23-May-17	26-May-17	01-Aug-17	04-Aug-17	100%	0%	-58	Late Access due to the ongoing backfilling activities in the concerned area																			
A28000	Lay & Connect Sewerage Pipe incoming from M+ to MH	2	27-May-17	29-May-17	05-Aug-17	07-Aug-17	100%	0%	-58	Late Access due to the ongoing backfilling activities in the concerned area																			
A28010	Pressure Test	3	31-May-17	02-Jun-17	08-Aug-17	10-Aug-17	100%	0%	-58	Late Access due to the ongoing backfilling activities in the concerned area																			
A28020	Backfill to ground level	4	03-Jun-17	07-Jun-17	11-Aug-17	15-Aug-17	100%	0%	-58	Late Access due to the ongoing backfilling activities in the concerned area																			
<b>MH F2.1C to MH F2.1B</b>																													
A28030	Manhole & Trench Excavation for Sewerage Pipe betwe	2	31-May-17	01-Jun-17	08-Aug-17	09-Aug-17	100%	0%	-58	Late access (early July 2017) due to the ongoing construction activities in the																			
A28040	Construct Manhole F2.1B & F2.1C	16	02-Jun-17	20-Jun-17	10-Aug-17	28-Aug-17	100%	0%	-58	Late access (early July 2017) due to the ongoing construction activities in the																			

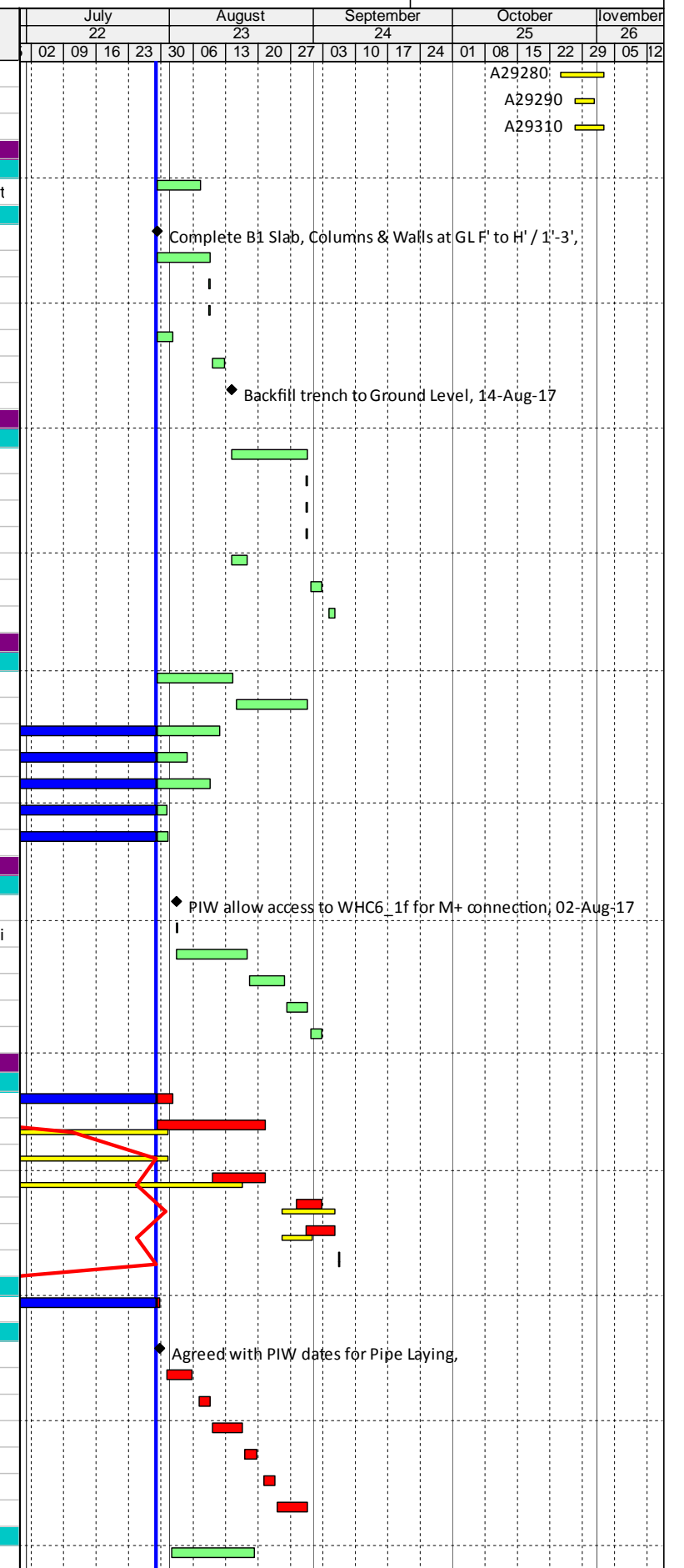






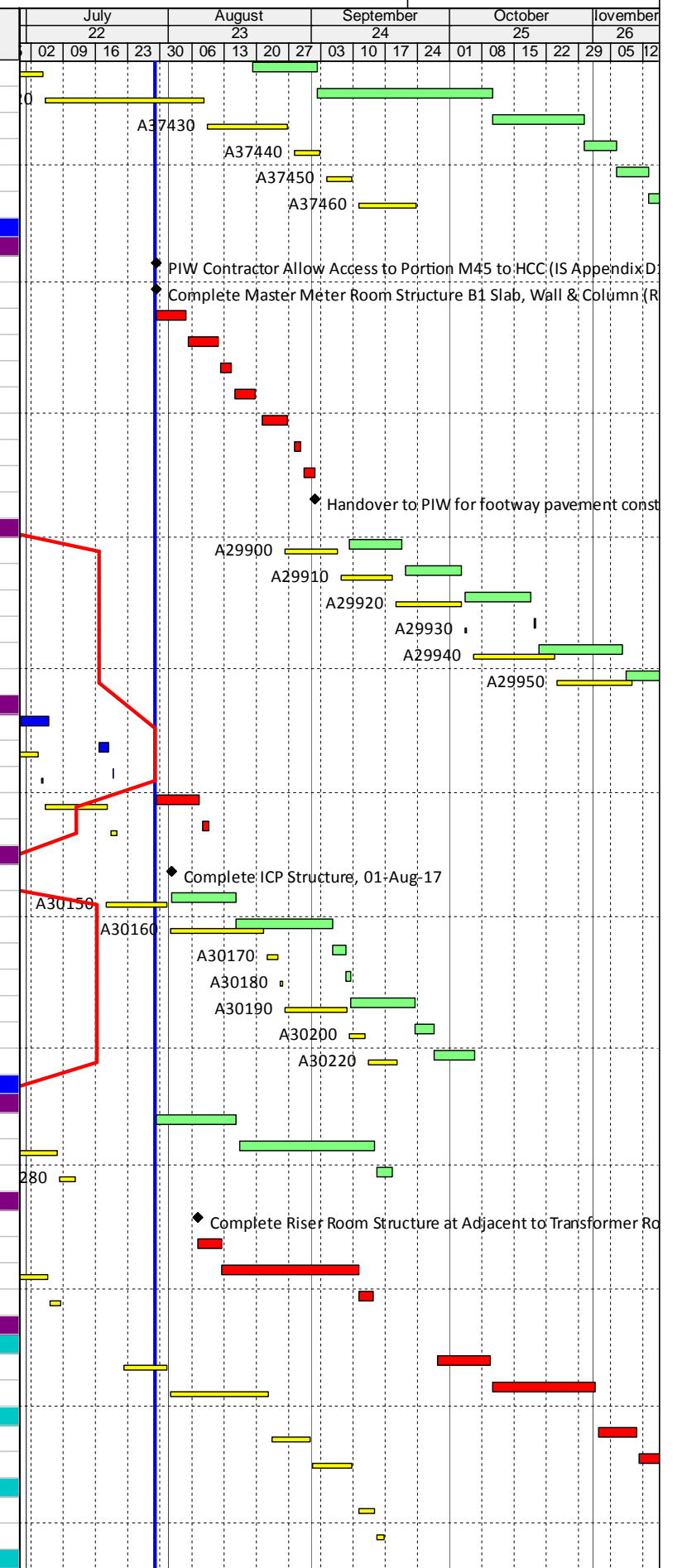
# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August			September			October			November				
											22	23	06	13	20	27	03	10	17	24	01	08	15	22	29	05
A29280	Lay suspended horizontal DN250 pipe (Approx. 105m)	8	24-Oct-17	02-Nov-17	14-Dec-17	22-Dec-17	0%	0%	-43																	
A29290	Install suspended vertical Rain Water Outlet DN150 - 6 r	3	27-Oct-17	31-Oct-17	18-Dec-17	20-Dec-17	0%	0%	-43																	
A29310	Install suspended vertical Drainage Pipe DN100 - 5 nos	5	27-Oct-17	02-Nov-17	18-Dec-17	22-Dec-17	0%	0%	-43																	
<b>Storm Drain DN600 at Portion M45</b>																										
<b>Storm Drain along Gridline D'-E'/1'-2' (MH WHC6_1c to S3.4)</b>																										
A29380	Formation and Construct MH S3.4	8	20-May-17	29-May-17	29-Jul-17	07-Aug-17	100%	0%	-58	Late access (end of April 2017) due to the ongoing construction activities in t																
<b>Storm Drain along Gridline E'-G' / 1'-2' (MH S3.4 to S3.3 to S3.2)</b>																										
A29430	Complete B1 Slab, Columns & Walls at GL F' to H' / 1'-3'	0		19-May-17		29-Jul-17	100%	0%	-58																	
A29440	Formation & Construct MH S3.3 & S3.2	10	20-May-17	01-Jun-17	29-Jul-17	09-Aug-17	100%	0%	-58																	
A29450	Connect DN250 pipe x 3Nos to MH S3.3	1	01-Jun-17	01-Jun-17	09-Aug-17	09-Aug-17	100%	0%	-58																	
A29460	Connect DN250 pipe x 2Nos to MH S3.2	1	01-Jun-17	01-Jun-17	09-Aug-17	09-Aug-17	100%	0%	-58																	
A29470	Formation & Lay DN600 pipe from S3.4 to S3.3 to S3.2 (i	3	20-May-17	23-May-17	29-Jul-17	01-Aug-17	100%	0%	-58																	
A29480	Pressure Test	3	02-Jun-17	05-Jun-17	10-Aug-17	12-Aug-17	100%	0%	-58																	
A29490	Backfill trench to Ground Level	0	06-Jun-17		14-Aug-17		100%	0%	-58																	
<b>Storm Drain DN450 at Portion M01</b>																										
<b>Storm Drain along Gridline G'-J' / 1'-2' (MH S3.2 to S3.1 to S3.1b to S3.1a)</b>																										
A29500	Formation & Construct MH S3.1, S3.1b & S3.1a	15	06-Jun-17	22-Jun-17	14-Aug-17	30-Aug-17	100%	0%	-58																	
A29510	Connect DN200 pipe to MH S3.1	1	22-Jun-17	22-Jun-17	30-Aug-17	30-Aug-17	100%	0%	-58																	
A29520	Connect DN200 pipe to MH S3.1b	1	22-Jun-17	22-Jun-17	30-Aug-17	30-Aug-17	100%	0%	-58																	
A29530	Connect DN300 & DN400 pipe to MH S3.1a	1	22-Jun-17	22-Jun-17	30-Aug-17	30-Aug-17	100%	0%	-58																	
A29540	Formation & Lay DN450 pipe from MH3.2 to S3.1a (Appi	4	06-Jun-17	09-Jun-17	14-Aug-17	17-Aug-17	100%	0%	-58																	
A29550	Pressure Test	3	23-Jun-17	26-Jun-17	31-Aug-17	02-Sep-17	100%	0%	-58																	
A29560	Backfill trench to Ground Level	2	27-Jun-17	28-Jun-17	04-Sep-17	05-Sep-17	100%	0%	-58																	
<b>Storm Drain DN375 at Portion M45</b>																										
<b>Storm Drain along Gridline A-K' / 5' (S1.1 to S1.2 to WHC6_1e)</b>																										
A29590	Excavate Trial Trench for existing Underground Utilities	14	20-May-17	06-Jun-17	29-Jul-17	14-Aug-17	100%	0%	-58																	
A29600	Install support to existing underground Utilities	14	07-Jun-17	22-Jun-17	15-Aug-17	30-Aug-17	100%	0%	-58																	
A29610	Excavate trench for DN375 and install shoring	50	03-Nov-16	03-Jan-17	03-Nov-16 A	11-Aug-17	100%	76%	-178																	
A29620	Construct Manhole S1.1 & S1.2	41	07-Nov-16	23-Dec-16	07-Nov-16 A	04-Aug-17	100%	85.37%	-178																	
A29630	Lay down DN375 pipe between WHC6_1e to S1.1 to S1.	40	12-Nov-16	30-Dec-16	12-Nov-16 A	09-Aug-17	100%	75.76%	-178																	
A29640	Pressure Test	29	16-Nov-16	19-Dec-16	16-Nov-16 A	31-Jul-17	100%	94.74%	-178																	
A29650	Backfill and reinstate pavement	24	22-Nov-16	19-Dec-16	22-Nov-16 A	31-Jul-17	100%	91.67%	-178																	
<b>Storm Drain DN150 at Portion M04</b>																										
<b>Storm Drain for MH WHC6_1f</b>																										
A29660	PIW allow access to WHC6_1f for M+ connection	0	24-May-17		02-Aug-17		100%	0%	-58																	
A29670	Fence off work area for DN150 storm drain excavation	1	24-May-17	24-May-17	02-Aug-17	02-Aug-17	100%	0%	-58	Gully construction is not possible due to the ongoing construction activities i																
A29680	Excavate Trial Trench fo existing Underground Utilities	14	24-May-17	09-Jun-17	02-Aug-17	17-Aug-17	100%	0%	-58																	
A29690	Excavate trench for DN150 and install shoring	7	10-Jun-17	17-Jun-17	18-Aug-17	25-Aug-17	100%	0%	-58																	
A29700	Lay down DN150 and connect to WHC6_1f (approx. 11m)	4	19-Jun-17	22-Jun-17	26-Aug-17	30-Aug-17	100%	0%	-58																	
A29710	Backfill and reinstate pavement	3	23-Jun-17	26-Jun-17	31-Aug-17	02-Sep-17	100%	0%	-58																	
<b>Storm Drain DN300 at Portion M44 (MH6_2a.1 to DM65)</b>																										
<b>Grd Lvl - Storm / Drainage Connection (Outside SPS)</b>																										
A37250	Sewerage - Construct 5x Manholes	60	13-Feb-17	27-Apr-17	13-Feb-17 A	01-Aug-17	100%	95%	-78	Late access due to the ongoing construction activities in the concerned area																
A37260	Sewerage - Install 450 / 300 Storm Drainage Pipes & Tes	60	20-May-17	31-Jul-17	29-Jul-17	21-Aug-17	96.67%	0%	-18																	
A37270	Sewerage - Install 2x200 dia Raising Main Pipes & Testing	60	20-May-17	31-Jul-17	11-Apr-17 A	20-Apr-17 A	96.67%	100%	84																	
A37280	Connect to Existing Storm Manholes & Backfill	45	24-Jun-17	16-Aug-17	10-Aug-17	21-Aug-17	64.44%	0%	-4																	
A37290	Completed Storm Drain + Report	10	25-Aug-17	05-Sep-17	28-Aug-17	02-Sep-17	0%	0%	2																	
A37300	Inform DSD for Inspection of Storm Drain	6	25-Aug-17	31-Aug-17	30-Aug-17	05-Sep-17	0%	0%	-4																	
A37310	DSD Inspection	1	06-Sep-17	06-Sep-17	06-Sep-17	06-Sep-17	0%	0%	0																	
<b>Adjacent SPS to Center of At Grade Road</b>																										
A29790	Backfill, Extract Sheet Piles and Reinstall Pavement	6	03-Mar-17	09-Mar-17	03-Mar-17 A	29-Jul-17	100%	83.33%	-114																	
<b>Center of At Grade Road to MH_2a.1</b>																										
A38025	Agreed with PIW dates for Pipe Laying	0		20-May-17		29-Jul-17*	100%	0%	-58																	
A38030	Excavate trial trench for existing underground utilities	6	22-May-17	27-May-17	31-Jul-17	05-Aug-17	100%	0%	-58																	
A38040	Drive In Sheet Piles	3	29-May-17	01-Jun-17	07-Aug-17	09-Aug-17	100%	0%	-58																	
A38050	Excavate to invert level and install struts	6	02-Jun-17	08-Jun-17	10-Aug-17	16-Aug-17	100%	0%	-58																	
A38060	Laydown DN300 between MH6_2a.1 to Center of at Gra	3	09-Jun-17	12-Jun-17	17-Aug-17	19-Aug-17	100%	0%	-58																	
A38070	Pressure Test	3	13-Jun-17	15-Jun-17	21-Aug-17	23-Aug-17	100%	0%	-58																	
A38080	Backfill, Extract Sheet Piles and Reinstall Pavement	6	16-Jun-17	22-Jun-17	24-Aug-17	30-Aug-17	100%	0%	-58																	
<b>Grd Lvl - External Storm Drainage Connection</b>																										
A37400	Storm drain Excavation Adjacent Main Road GL 5a-10a /	16	01-Jun-17	19-Jun-17	01-Aug-17	19-Aug-17	100%	0%	-51																	



# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

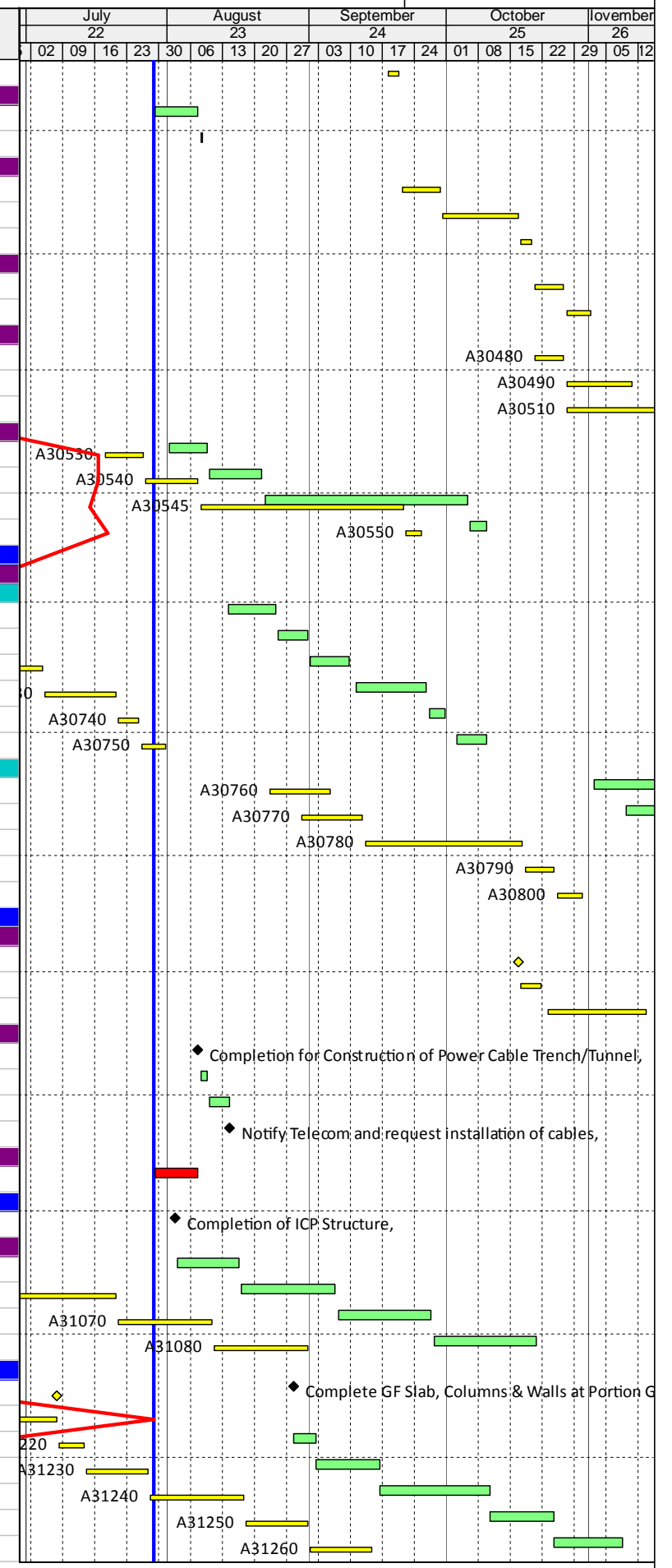
Activity ID	Activity Name	CMWP Dur.	CMWP - R.O.D5 Start	CMWP - R.O.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	July		August			September			October			November	
											02	09	16	23	30	06	13	20	27	03	10	17	24
A37410	Construct Storm Water Manholes (SMH-01 & 02)	12	20-Jun-17	04-Jul-17	19-Aug-17	02-Sep-17	100%	0%	-51														
A37420	Install Storm Drain Pipes & Testing	30	05-Jul-17	08-Aug-17	02-Sep-17	10-Oct-17	70%	0%	-51														
A37430	Connect to Existing Storm Manholes & Backfill	16	09-Aug-17	26-Aug-17	10-Oct-17	30-Oct-17	0%	0%	-51														
A37440	Completed Storm Drain + Report	6	28-Aug-17	02-Sep-17	30-Oct-17	06-Nov-17	0%	0%	-51														
A37450	Inform DSD for Inspection	6	04-Sep-17	09-Sep-17	06-Nov-17	13-Nov-17	0%	0%	-51														
A37460	DSD Inspection & Acceptance Test	12	11-Sep-17	23-Sep-17	13-Nov-17	27-Nov-17	0%	0%	-51														
<b>WSD</b>																							
<b>Water Main Works at Portion M01 (Refer to M+ MEP Programme)</b>																							
A29800	PIW Contractor Allow Access to Portion M45 to HCC (IS /	0	20-May-17		29-Jul-17*		100%	0%	-58														
A29810	Complete Master Meter Room Structure B1 Slab, Wall &	0		19-May-17		29-Jul-17*	100%	0%	-58														
A29820	Remove existing hoarding fixed to Sheet pile	6	20-May-17	26-May-17	29-Jul-17	04-Aug-17	100%	0%	-58														
A29830	Install a new hoarding with 500mm clearance from roac	6	27-May-17	03-Jun-17	05-Aug-17	11-Aug-17	100%	0%	-58														
A29840	Excavate Trench in footway to expose PIW watermains &	2	05-Jun-17	06-Jun-17	12-Aug-17	14-Aug-17	100%	0%	-58														
A29850	Lay 2Nos of DN150 DI Fresh Water Pipe & 1 No of DN10	5	07-Jun-17	12-Jun-17	15-Aug-17	19-Aug-17	100%	0%	-58														
A29860	Pressure test (By PIW Contractor)	6	13-Jun-17	19-Jun-17	21-Aug-17	26-Aug-17	100%	0%	-58														
A29870	Remove the Blank Flanges & Make Final Connection	2	20-Jun-17	21-Jun-17	28-Aug-17	29-Aug-17	100%	0%	-58														
A29880	Backfill & Reinstate to Ground Level	3	22-Jun-17	24-Jun-17	30-Aug-17	01-Sep-17*	100%	0%	-58														
A29890	Handover to PIW for footway pavement construction (IS	0		24-Jun-17		01-Sep-17*	100%	0%	-58														
<b>Water Main Works at Portion M17</b>																							
A29900	Open Cut Excavation for DN200 pipe along gridline G/13	10	26-Aug-17	06-Sep-17	09-Sep-17	20-Sep-17	0%	0%	-12														
A29910	Lay down and install DN200 pipe	10	07-Sep-17	18-Sep-17	21-Sep-17	03-Oct-17	0%	0%	-12														
A29920	Construct M+ Street Fire Hydrant & FS Pipe at gridline E-	12	19-Sep-17	03-Oct-17	04-Oct-17	18-Oct-17	0%	0%	-12														
A29930	Connect DN200 pipe to Street Fire Hydrant	1	04-Oct-17	04-Oct-17	19-Oct-17	19-Oct-17	0%	0%	-12														
A29940	Excavate Trench for DN150 pipe along gridline A-F/14	15	06-Oct-17	23-Oct-17	20-Oct-17	07-Nov-17	0%	0%	-12														
A29950	Lay down and install DN 150 pipe and connect isolation	14	24-Oct-17	09-Nov-17	08-Nov-17	23-Nov-17	0%	0%	-12														
<b>SPS External - Grd Lvl - Watermain (Outside SPS) to PIW</b>																							
A30070	Install Pipeworks (FW, CW & FS Water Main)	16	10-Jun-17	28-Jun-17	19-Jun-17 A	06-Jul-17 A	100%	100%	-5														
A30080	Pressure Test	3	29-Jun-17	03-Jul-17	17-Jul-17 A	19-Jul-17 A	100%	100%	-13														
A30090	Swabbing Test	1	04-Jul-17	04-Jul-17	20-Jul-17 A	20-Jul-17 A	100%	100%	-13														
A30110	Lab Test	12	05-Jul-17	18-Jul-17	29-Jul-17	07-Aug-17	100%	0%	-17														
A30120	Watermain Final Connection	2	19-Jul-17	20-Jul-17	08-Aug-17	09-Aug-17	100%	0%	-17														
<b>ICP External - Grd Lvl - External Watermain Connection to PIW</b>																							
A30140	Complete ICP Structure	0	10-Jun-17		01-Aug-17		100%	0%	-44														
A30150	Pipeworks Excavation at Main Road From ICP Site to PIW	12	18-Jul-17	31-Jul-17	01-Aug-17	15-Aug-17	83.33%	0%	-13														
A30160	Install Pipeworks (FW, CW & FS Water Main) (Approx.18	18	01-Aug-17	21-Aug-17	15-Aug-17	05-Sep-17	0%	0%	-13														
A30170	Pressure Test	3	22-Aug-17	24-Aug-17	05-Sep-17	08-Sep-17	0%	0%	-13														
A30180	Swabbing Test	1	25-Aug-17	25-Aug-17	08-Sep-17	09-Sep-17	0%	0%	-13														
A30190	Lab Test	12	26-Aug-17	08-Sep-17	09-Sep-17	23-Sep-17	0%	0%	-13														
A30200	Watermain Final Connection	3	09-Sep-17	12-Sep-17	23-Sep-17	27-Sep-17	0%	0%	-13														
A30220	Backfill to Ground Level	6	13-Sep-17	19-Sep-17	27-Sep-17	06-Oct-17	0%	0%	-13														
<b>Power</b>																							
<b>Power Cable 11kV at Footpath adjacent to Entrance Portal (Interface with PIW)</b>																							
A30260	Excavate trench in footway for the 11kV direct buried ca	15	20-May-17	07-Jun-17	29-Jul-17*	15-Aug-17	100%	0%	-58														
A30270	Lay Lead-in Cable (by CLP) & Inspection	30	08-Jun-17	07-Jul-17	16-Aug-17	14-Sep-17	100%	0%	-69														
A30280	Backfilling footway to adjacent ground level	3	08-Jul-17	11-Jul-17	15-Sep-17	18-Sep-17	100%	0%	-59														
<b>Power Cable 11Kv at Gridline A / 1-3</b>																							
A30290	Complete Riser Room Structure at Adjacent to Transform	0	31-May-17		07-Aug-17		100%	0%	-57														
A30300	Construct 2600mm x 1500mm cable trench & Install Cab	5	31-May-17	05-Jun-17	07-Aug-17	12-Aug-17	100%	0%	-57														
A30310	Lay Lead-in Cable (by CLP) & connect to district-wide sys	30	06-Jun-17	05-Jul-17	12-Aug-17	11-Sep-17	100%	0%	-67														
A30320	Backfilling	3	06-Jul-17	08-Jul-17	11-Sep-17	14-Sep-17	100%	0%	-57														
<b>Power Cable 11Kv at Gridline A / 3-14</b>																							
<b>Construction at Drawpit E1 to Drawpit E2</b>																							
A30330	Construct Drawpits E1 & E2	8	22-Jul-17	31-Jul-17	28-Sep-17	09-Oct-17	75%	0%	-58														
A30340	Construct Cable Tunnel from Drawpits E1 to E2 & Install	19	01-Aug-17	22-Aug-17	10-Oct-17	01-Nov-17	0%	0%	-58														
<b>Construction at Drawpit E2 to E3 to E4</b>																							
A30350	Construct Drawpit E3 & E4	8	23-Aug-17	31-Aug-17	02-Nov-17	10-Nov-17	0%	0%	-58														
A30360	Construct Cable Tunnel from Drawpits E2 to E4 & Install	8	01-Sep-17	09-Sep-17	11-Nov-17	20-Nov-17	0%	0%	-58														
<b>Construction at Drawpit E4 to E5</b>																							
A30370	Construct Drawpit E5	4	11-Sep-17	14-Sep-17	21-Nov-17	24-Nov-17	0%	0%	-58														
A30380	Construct Cable Trench & Install Cable Ducts (Approx 6m	2	15-Sep-17	16-Sep-17	25-Nov-17	27-Nov-17	0%	0%	-58														
<b>Inspection &amp; Testing</b>																							





# Three Months Rolling Programme (3MRP) - Mth 22 - 31 July 2017

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D5 Start	CMWP - R0.D5 Finish	Actual / Forecast Start	Actual / Forecast Finish	Planned B/L % Complete	Actual % Complete	Finish Variance (+/-d)	Comments / Mitigating Measures	Gantt Chart																					
											July 22			August 23			September 24			October 25			November 26									
											02	09	16	23	30	06	13	20	27	03	10	17	24	01	08	15	22	29	05	12		
A30390	Test & Inspection	3	18-Sep-17	20-Sep-17	28-Nov-17	30-Nov-17	0%	0%	-58																							
<b>Power Cable 11Kv at Gridline A-C / 14</b>																																
A30400	Construct Cable Trench & Install Cable Ducts (Approx 43)	8	20-May-17	29-May-17	29-Jul-17*	07-Aug-17	100%	0%	-58																							
A30410	Tests & inspection	1	31-May-17	31-May-17	08-Aug-17	08-Aug-17	100%	0%	-58																							
<b>Power Cable 11kv at Gridline C-M / 14</b>																																
A30420	Construct Drawpits E6 & E7	8	21-Sep-17	29-Sep-17	01-Dec-17	09-Dec-17	0%	0%	-58																							
A30430	Construct Cable Trench / Tunnel & Install Cable Ducts (A)	12	30-Sep-17	16-Oct-17	11-Dec-17	23-Dec-17	0%	0%	-58																							
A30440	Tests & inspection	3	17-Oct-17	19-Oct-17	27-Dec-17	29-Dec-17	0%	0%	-58																							
<b>Power Cable 11Kv at Gridline 13-14 / M</b>																																
A30450	Construct Draw pit E8	6	20-Oct-17	26-Oct-17	30-Dec-17	06-Jan-18	0%	0%	-58																							
A30460	Construct Cable Trench / Tunnel & Install Cable Ducts (A)	4	27-Oct-17	01-Nov-17	08-Jan-18	11-Jan-18	0%	0%	-58																							
<b>LV Power from DCS to M+ Seawater Pump Cells</b>																																
A30480	Excavate trench & Install Shoring from DCS to M+ Seawa	6	20-Oct-17	26-Oct-17	30-Dec-17	06-Jan-18	0%	0%	-58																							
A30490	Construct Cable Trench & Lay 4Nos of DN150 & 5Nos of	12	27-Oct-17	10-Nov-17	08-Jan-18	20-Jan-18	0%	0%	-58																							
A30510	Construct 6 Nos of Drawpit	18	27-Oct-17	17-Nov-17	08-Jan-18	27-Jan-18	0%	0%	-58																							
<b>ICP External Power Cable Trench For CLP Lead In</b>																																
A30530	Construct 2 Nos of Drawpit at the ICP Entrance	8	18-Jul-17	26-Jul-17	01-Aug-17	09-Aug-17	100%	0%	-12																							
A30540	Install 10x200 Dia. GI Duct In 2 Layers & 1x100Dia Duct v	10	27-Jul-17	07-Aug-17	10-Aug-17	21-Aug-17	20%	0%	-12																							
A30545	Lay power Lead-in for ICP & Inspection (by CLP)	45	08-Aug-17	21-Sep-17	22-Aug-17	05-Oct-17	0%	0%	-14																							
A30550	Backfill to Ground Level	3	22-Sep-17	25-Sep-17	06-Oct-17	09-Oct-17	0%	0%	-10																							
<b>Gas</b>																																
<b>Gas Main at Portion M01</b>																																
<b>Gas Main RDE connection along Gridline E' - I' / 1'</b>																																
A30700	Trench for Underground Utilities	10	06-Jun-17	16-Jun-17	14-Aug-17	24-Aug-17	100%	0%	-58																							
A30710	Install support for existing Underground Utilities	6	17-Jun-17	23-Jun-17	25-Aug-17	31-Aug-17	100%	0%	-58																							
A30720	Excavate Trench for Main Gas 100mm and install shoring	8	24-Jun-17	04-Jul-17	01-Sep-17	09-Sep-17	100%	0%	-58																							
A30730	Lay down Main Gas 100mm (by Towngas Specialist Cont	14	05-Jul-17	20-Jul-17	11-Sep-17	26-Sep-17	100%	0%	-58																							
A30740	Backfill Trench to Ground Level	4	21-Jul-17	25-Jul-17	27-Sep-17	30-Sep-17	100%	0%	-58																							
A30750	Testing and Inspection	5	26-Jul-17	31-Jul-17	03-Oct-17	09-Oct-17	60%	0%	-58																							
<b>Gas Main M+ along Gridline 2-9/A</b>																																
A30760	Excavate Trench for Main Gas and install shoring	12	23-Aug-17	05-Sep-17	02-Nov-17	15-Nov-17	0%	0%	-58																							
A30770	Construct and Lay down 350x350mm concrete pipe ben	12	30-Aug-17	12-Sep-17	09-Nov-17	22-Nov-17	0%	0%	-58																							
A30780	Lay down and install DN100 gas main (by Towngas Speci	28	13-Sep-17	17-Oct-17	23-Nov-17	27-Dec-17	0%	0%	-58																							
A30790	Backfill trench at M+ to adjacent level	6	18-Oct-17	24-Oct-17	28-Dec-17	04-Jan-18	0%	0%	-58																							
A30800	Testing and Inspection	4	25-Oct-17	30-Oct-17	05-Jan-18	09-Jan-18	0%	0%	-58																							
<b>Telecom/ICT/FTNS</b>																																
<b>Telecom @ Gridline C-M/14</b>																																
A30810	Completion for Construction of Power Cable Trench/Tun	0		16-Oct-17		23-Dec-17	0%	0%	-58																							
A30820	Lay 28Nos of DN100 Ducting @ A-C/14 (Approx. 100m)	5	17-Oct-17	21-Oct-17	27-Dec-17	02-Jan-18	0%	0%	-58																							
A30830	Construct 5# 28 DN100 FTNS drawpit @ gridline C-M/14	18	23-Oct-17	13-Nov-17	03-Jan-18	23-Jan-18	0%	0%	-58																							
<b>Telecom @ Gridline A-C/14</b>																																
A30850	Completion for Construction of Power Cable Trench/Tun	0		29-May-17		07-Aug-17	100%	0%	-58																							
A30860	Lay 28Nos of DN100 Ducting @ A-C/14 (Approx. 30m)	2	31-May-17	01-Jun-17	08-Aug-17	09-Aug-17	100%	0%	-58																							
A30870	Construct 1# 28 DN100 FTNS drawpit @ gridline A-C/14	4	02-Jun-17	06-Jun-17	10-Aug-17	14-Aug-17	100%	0%	-58																							
A30880	Notify Telecom and request installation of cables	0		06-Jun-17		14-Aug-17	100%	0%	-58																							
<b>SPS FTNS Lead In</b>																																
A32075	Installation of FTNS Cables (by Telecom)	8	12-Jun-17	20-Jun-17	29-Jul-17	07-Aug-17	100%	0%	-40																							
<b>Backfilling and EVA</b>																																
A31040	Completion of ICP Structure	0		14-Jun-17		02-Aug-17	100%	0%	-41																							
<b>Backfilling</b>																																
A31050	Backfilling to +6.50mPD	12	15-Jun-17	28-Jun-17	03-Aug-17	16-Aug-17	100%	0%	-41																							
A31060	Backfilling to +8.50mPD	18	29-Jun-17	20-Jul-17	17-Aug-17	06-Sep-17	100%	0%	-41																							
A31070	Backfilling to +10.50mPD	18	21-Jul-17	10-Aug-17	07-Sep-17	27-Sep-17	38.89%	0%	-41																							
A31080	Backfilling to +12.70mPD	18	11-Aug-17	31-Aug-17	28-Sep-17	20-Oct-17	0%	0%	-41																							
<b>Fuel Tank</b>																																
A31190	Complete GF Slab, Columns & Walls at Portion GFT6	0		07-Jul-17		28-Aug-17	100%	0%	-44																							
A31210	RSS Review & Approve Method Statement for Fuel Tank	12	23-Jun-17	07-Jul-17	09-May-17 A	11-May-17 A	100%	100%	48																							
A31220	Remove Hoarding fixed to sheetpile at Portion M04	5	08-Jul-17	13-Jul-17	28-Aug-17	02-Sep-17	100%	0%	-44																							
A31230	Install Hoarding on road-side edge of footway (500mm r	12	14-Jul-17	27-Jul-17	02-Sep-17	16-Sep-17	100%	0%	-44																							
A31240	Cut down sheet pile to underside of footway pavement	18	28-Jul-17	17-Aug-17	16-Sep-17	10-Oct-17	5.56%	0%	-44																							
A31250	Excavate to Base Slab & Wall of Fuel Tank	12	18-Aug-17	31-Aug-17	10-Oct-17	24-Oct-17	0%	0%	-44																							
A31260	Construct Bottom Level of Fuel Oil Storage Tank	12	01-Sep-17	14-Sep-17	24-Oct-17	08-Nov-17	0%	0%	-44																							







# **Lyric Theatre Complex**



Activity ID	Activity Name	Durn. (Days)	Programme Rev A Start	Programme Rev A Finish	Current / Actual Start	Current / Actual Finish	Physical % Complete	Finish Variance	Float (Days)	2016												2017												2018	
										Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
										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
<b>BA14 and Testing at Area 6 if Option is Exercised</b>																																			
LT.0113	Submission of BA14	3	03-Feb-17	07-Feb-17	29-May-17 A	02-Jun-17 A	100%	-92																											
LT.0114	BD's Selection of Test Piles	28	07-Feb-17	07-Mar-17	03-Jun-17 A	06-Jul-17 A	100%	-121																											
LT.0115	Concrete Coring Test and Submit Reports	15	07-Mar-17	24-Mar-17	03-Jul-17 A	03-Aug-17	90%	-106	-30																										
LT.3110	BD's Acknowledgement	45	24-Mar-17	08-May-17	04-Aug-17	17-Sep-17	0%	-133	-36																										
<b>Excavation and Lateral Support</b>																																			
<b>Pipe Pile in Areas 1 to 5</b>																																			
LT.0120	Pre-grouting Works at Seawall Area; Portions M15, M16, L01 and L16	40	05-Mar-16	26-Apr-16	05-Mar-16 A	08-Apr-16 A	100%	16																											
LT.0121	Pre-grouting Works at Portions L05, L07, M14b and M12	101	23-Apr-16	23-Aug-16	18-Apr-16 A	26-Jul-16 A	100%	25																											
LT.0122	Pipe Pile and Grout Curtain; Portions L04, L05, L14, L24, M14 and M14b (PP 441 nos and CPP 3 nos.	215	21-May-16	08-Feb-17	12-Mar-16 A	07-Mar-17 A	100%	-22																											
LT.3030	Clutched Pipe Pile and Grout Curtain; Portions M14a, L16 and L01 (CPP 82 nos.)	89	25-Jun-16	12-Oct-16	07-Jul-16 A	06-Oct-16 A	100%	4																											
LT.3840	Plugging & Removal of Abandoned CRGO Cooling Main and Installation of Pipe Piles and Grout Curtai	26			02-May-17 A	02-Jun-17 A	100%																												
<b>Sheet Pile in Area 6</b>																																			
LT.0124	Sheet Piles Installation in Portion L06; 1,472m2	32	21-Jun-16	28-Jul-16	07-Jun-16 A	25-Jul-16 A	100%	4																											
LT.2945	Sheet Piles Installation in Portions L07 and M12; 1,640m2	35	29-Jul-16	07-Sep-16	04-Jul-16 A	27-Sep-16 A	100%	-16																											
LT.2950	Instrument Installation for Instrumental Sheet Pile	15	28-May-16	15-Jun-16	21-May-16 A	31-May-16 A	100%	13																											
LT.2955	Drive Instrumental Sheet Pile and Report Submission	10	08-Jun-16	20-Jun-16	01-Jun-16 A	16-Jun-16 A	100%	4																											
LT.3720	Additional Sheet Piles Installation in Portions L06 and L07 and Grout Curtain at Corner Piles; 501m2	20			10-Feb-17 A	10-Mar-17 A	100%																												
<b>Contract Administrator's Instruction No. 8</b>																																			
LT.3050	Pre-grouting Works adjacent Seawall Portion L03	21	17-Sep-16	13-Oct-16	16-Aug-16 A	28-Oct-16 A	100%	-12																											
LT.3060	Pipe Pile and Grout Curtain; Portion L02 (PP 21nos.) + Lower Portion L14 (PP 2 nos.)	20	13-Sep-16	07-Oct-16	06-Dec-16 A	04-Jan-17 A	100%	-71																											
LT.3070	Clutched Pipe Pile and Grout Curtain; Portion L03 (CPP 104 nos. and PP 4 nos)	125	14-Oct-16	15-Mar-17	07-Oct-16 A	07-Mar-17 A	100%	8																											
<b>BA14</b>																																			
LT.0126	Submission of BA14 for Stage 1 ELS Sheet Piling Works at Area 6 (PMC Withdrawn Submission)	2	08-Sep-16	09-Sep-16	08-Oct-16 A	05-Nov-16 A	100%	-45																											
LT.0127	BD's Acknowledgement (BA14 Submission Withdrawn)	14	09-Sep-16	23-Sep-16	06-Nov-16 A	03-Dec-16 A	100%	-70																											
LT.0128	Submission of BA14 for Stage 1 ELS Piling Works at Area 1 to 5	2	16-Mar-17	17-Mar-17	20-Mar-17 A	02-Jun-17 A	100%	-58																											
LT.0129	BD's Acknowledgement	28	17-Mar-17	31-Mar-17	03-Jun-17 A	10-Jul-17 A	100%	-100																											
LT.3723	Submission of BA14 for Stage 1 ELS Sheet Piling Works at Area 6 including CAI No. 019	6			11-Mar-17 A	22-Mar-17 A	100%																												
LT.3725	BD's Acknowledgement of Sheet Pile Completion	45			23-Mar-17 A	25-Apr-17 A	100%																												
<b>Pumping Test</b>																																			
LT.0130	Carry Out Phase 2 Pumping Test in Area 1 to Area 5 and Submission to BD	20			06-Aug-17	25-Aug-17	0%		-13																										
LT.0131	Install Area 1 to Area 5 Pumping Test Instrumentation & Wells (15 DW + 30 OW) and Submission of In	22	13-Jun-17	08-Jul-17	11-Feb-17 A	13-Jul-17 A	100%	-3																											
LT.0132	Carry Out Phase 1 Pumping Test in Area 1 to Area 5	20	09-Jul-17	28-Jul-17	13-Jul-17 A	01-Aug-17	80%	-4	-13																										
LT.0133	Obtain BD's Acknowledgement of Area 1 to 5 Pumping Test Results	45	29-Jul-17	11-Sep-17	26-Aug-17	09-Oct-17	0%	-28	4																										
LT.0134	Install Area 6 Pumping Test Instrumentation & Wells (3 PW + 6 OW) and Submission of Initial Reading;	21	07-Dec-16	04-Jan-17	20-Mar-17 A	12-May-17 A	100%	-100																											
LT.0135	Carry Out Pumping Test in Area 6 and submission to BD	16	11-Jan-17	26-Jan-17	12-May-17 A	13-Jun-17 A	100%	-138																											
LT.0136	Obtain BD's Acknowledgement of Area 6 Pumping Test Results	45	26-Jan-17	12-Mar-17	14-Jun-17 A	31-Jul-17	84%	-142	74																										
<b>Option Stage 2 ELS and Excavation Works at Area 6</b>																																			
LT.0138	Bulk Excavation and Installation of Struts	102	25-Apr-17	26-Aug-17	19-Jul-17 A	14-Nov-17	2%	-66	-66																										
LT.0139	Trim Pile Head and Clearance	27	26-Aug-17	27-Sep-17	15-Nov-17	15-Dec-17	0%	-66	-53																										
LT.3075	Submission of BA8 and BA10 for Bulk Excavation Works	35	14-Mar-17	18-Apr-17	05-Jun-17 A	26-Jul-17 A	100%	-99																											
LT.3080	Installation of King Posts and Temporary Platform	22	18-Apr-17	16-May-17	06-Apr-17 A	12-Apr-17 A	100%	24																											
<b>BA14 for Option Stage 2 ELS and Excavation Works at Area 6</b>																																			
LT.0141	Submission of BA14 for Stage 2 ELS and Excavation Works at Area 6	2	26-Aug-17	29-Aug-17	15-Nov-17	16-Nov-17	0%	-66	-66																										
LT.0142	BD's Acknowledgement	45	28-Aug-17	12-Oct-17	17-Nov-17	31-Dec-17	0%	-81	-80																										

- Secondary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone

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



Date	Revision	Checked	Approved
28-Jul-17	For Information	R.L.	K.K.

## **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 <sup>3</sup> )	Limit Level (mg/m <sup>3</sup> )
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 <sup>3</sup> )	Limit Level (µg/m <sup>3</sup> )
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
<b>Action Level</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform IEC and WKCD A;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice;</li> <li>2. Amend working methods if appropriate.</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC and WKCD A;</li> <li>3. Advise the WKCD A on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings;</li> <li>5. Increase monitoring frequency to daily;</li> <li>6. Discuss with IEC and Contractor on remedial actions required;</li> <li>7. If exceedance continues, arrange meeting with IEC and WKCD A;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>5. Monitor the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial to WKCD A within three working days of notification;</li> <li>2. Implement the agreed proposals;</li> <li>3. Amend proposal if appropriate.</li> </ol>
<b>Limit Level</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform WKCD A, Contractor and EPD;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCD A informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the WKCD A on the effectiveness of the proposed remedial measures;</li> <li>5. Monitor the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend proposal if appropriate.</li> </ol>

**Event****Action**

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2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"><li>1. Notify IEC, WKCDA, Contractor and EPD;</li><li>2. Identify source;</li><li>3. Repeat measurement to confirm findings;</li><li>4. Increase monitoring frequency to daily;</li><li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li><li>6. Arrange meeting with IEC and WKCDA to discuss the remedial actions to be taken;</li><li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCDA informed of the results;</li><li>8. If exceedance stops, cease additional monitoring.</li></ol>	<ol style="list-style-type: none"><li>1. Check monitoring data submitted by ET;</li><li>2. Check Contractor's working method;</li><li>3. Discuss amongst WKCDA, ET, and Contractor on the potential remedial actions;</li><li>4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the WKCDA accordingly;</li><li>5. Monitor the implementation of remedial measures.</li></ol>	<ol style="list-style-type: none"><li>1. Confirm receipt of notification of failure in writing;</li><li>2. Notify Contractor;</li><li>3. In consolidation with the IEC, agree on the remedial measures to be implemented;</li><li>4. Ensure remedial measures properly implemented;</li><li>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.</li></ol>	<ol style="list-style-type: none"><li>1. Take immediate action to avoid further exceedance;</li><li>2. Submit proposals for remedial actions to IEC within three working days of notification;</li><li>3. Implement the agreed proposals;</li><li>4. Resubmit proposals if problem still not under control;</li><li>5. Stop the relevant portion of works as determined by the WKCDA until the exceedance is abated.</li></ol>
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## 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"> <li>1. Notify WKCD, IEC and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IEC, WKCD and Contractor;</li> <li>4. Discuss with the IEC and Contractor on remedial measures required;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the investigation results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the WKCD accordingly;</li> <li>3. Advise the WKCD on the effectiveness of the proposed remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC and WKCD;</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Inform IEC, WKCD, Contractor and EPD;</li> <li>2. Repeat measurements to confirm findings;</li> <li>3. Increase monitoring frequency;</li> <li>4. Identify source and investigate the cause of exceedance;</li> <li>5. Carry out analysis of Contractor's working procedures;</li> <li>6. Discuss with the IEC, Contractor and WKCD on remedial measures required;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCD informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst WKCD, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the WKCD accordingly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures;</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC and WKCD within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Submit further proposal if problem still not under control;</li> <li>5. Stop the relevant portion of works as instructed by the WKCD until the exceedance is abated.</li> </ol>

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



## E. Monitoring Schedule

# JULY 2017

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

# AUGUST 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		<b>1</b>	<b>2</b> AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	<b>3</b>	<b>4</b>	<b>5</b>
<b>6</b>	<b>7</b>	<b>8</b> AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b>13</b>	<b>14</b> AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b> AM1, AM2A - 24hrTSP, 1hr TSP x3	<b>19</b>
<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b> AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	<b>25</b>	<b>26</b>
<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b> AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	<b>31</b>		
		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 : 12/06/2017

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) : 1007  
 Ta(K) : 303

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1   18 holes	9.8	3.095	1.503	54	53.39
2   13 holes	7.8	2.761	1.342	48	47.46
3   10 holes	5.6	2.340	1.140	38	37.57
4   7 holes	3.8	1.927	0.942	30	29.66
5   5 holes	2.0	1.398	0.688	20	19.78

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): 41.883                      Intercept(b): -9.467                      Correlation Coefficient(r): 0.9991

Checked by:   
 Magnum Fan

Date: 16/06/2017



High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM2A (Harbourside)  
 Calibrated by : K.T.Ho  
 Date : 12/06/2017

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) : 1007  
 Ta(K) : 303

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1   18 holes	12.0	3.425	1.661	58	57.35
2   13 holes	9.0	2.966	1.441	50	49.44
3   10 holes	7.0	2.616	1.273	42	41.53
4   7 holes	4.4	2.074	1.013	32	31.64
5   5 holes	2.4	1.532	0.752	22	21.75

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): 39.568      Intercept(b): -8.240      Correlation Coefficient(r): 0.9994

Checked by:   
 Magnum Fan

Date: 16/06/2017



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: December 21, 2016

Equipment Name	:	Digital Dust Indicator, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	276020
Sensitivity	:	0.001 mg/m <sup>3</sup>
Sensitivity Adjustment	:	787CPM
Scale Setting	:	December 16, 2016

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

Sincerely

**SIBATA SCIENTIFIC TECHNOLOGY LTD.**

*Shintaro Okamura*

Shintaro Okamura

Overseas Sales Division

# TEST CERTIFICATE

Report No. 16-1879-1.  
**SIBATA SCIENTIFIC TECHNOLOGY LTD.**  
 DATE 19/ December /2016

**CUSTOMER : INNOTECH INSTRUMENTATION CO.LTD.**



APPROVE BY 	VERIFIED BY 	ISSUED BY 
----------------	-----------------	---------------

PRODUCT NAME	: Digital Dust Indicator
MODEL NUMBER	: LD-3B
SERIAL NUMBER	: 276020
CALIBRATION DATE	: 16- December -2016

Testing Category	Judging Standard	Judgment		
		Reading of Master	Reading of this Instrument	Correction
Function Test	Switch, Display, Wiring will normally function	OK		
Sensitivity Calibration	Count is $\pm 2\%$ accurate to the master by the standard calibration particle	799 CPM	795 CPM	-0.5 %
Dust Concentration Measuring	Count is $\pm 10\%$ accurate to the master under the 3 different concentration.	2053 CPM	1979 CPM	-3.6 %
		978 CPM	957 CPM	-2.1 %
Reproducibility	The difference between maximum and minimum value of sensitivity adjustment scale setting must be 5.0 % or less of maximum value. (The results of measurement of sensitivity adjustment in 5 times are within this range.)	516 CPM	507 CPM	-1.7 %
		OK		
Synthetic Judgment		Good		
		Reference Value(S)		
		787 CPM		
		Test atmosphere		
		Temperature	Humidity	
		23 °C	45 %	




**REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION**

REPORT NO. : HK1710039  
 PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER  
 DATE OF ISSUE : 17/01/2017  
 CUSTOMER : Envirotech Services Company  
 ADDRESS : Rm. 113, 1/F., MY LOFT, 9 HOI WING ROAD, TUEN MUN, N.T.

REPORT NO. : HK1710039  
 PROJECT ITEM NO. : HK1710039-01  
**PERFORMANCE CHECK / CALIBRATED EQUIPMENT**  
 TYPE : Digital Dust Indicator  
 MANUFACTURER : SIBATA  
 MODEL NO. : LD-3B  
 SERIAL NO. : 276020  
 EQUIPMENT NO. : ---  
 RECEIPT DATE : 11/01/2017  
 PERFORMANCE CHECK / CALIBRATION DATE : 12/01/2017

**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 :

Issue Date:

17/01/2017

\_\_\_\_\_  
 Wong Po Yan Pauline  
 (Testing Engineer)




**REPORT OF PERFORMANCE CHECK / CALIBRATION**

PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER  
 DATE OF ISSUE : 17/01/2017  
 REPORT NO. : HK1710039

**PERFORMANCE CHECK / CALIBRATED EQUIPMENT**

TYPE : Digital Dust Indicator  
 MANUFACTURER : SIBATA  
 MODEL NO. : LD-3B  
 SERIAL NO. : 276020  
 EQUIPMENT NO. : ---  
 SENSITIVITY ADJUSTMENT : ---  
 PERFORMANCE CHECK / CALIBRATION DATE : 12/01/2017

**STANDARD EQUIPMENT**

TYPE : HIGH VOLUME AIR SAMPLER  
 MANUFACTURER : TISCH  
 MODEL NO. : TE-5170  
 EQUIPMENT REF NO. : PTL\_HV002  
 LAST CALIBRATION DATE : 23/11/2016

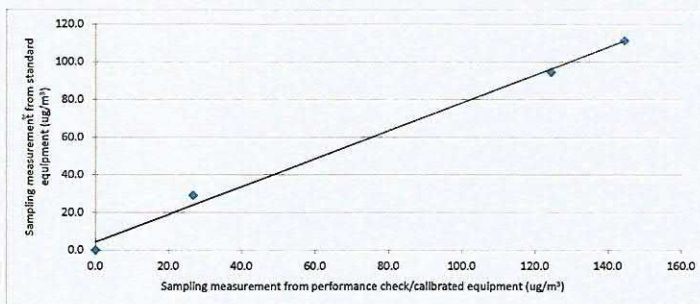
**EQUIPMENT PERFORMANCE CHECK / CALIBRATION RESULTS:**

Sensitivity Adjustment Scale Setting (Before Performance check / Calibration): 787 CPM  
 Sensitivity Adjustment Scale Setting (After Performance check / Calibration): 787 CPM

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m <sup>3</sup> (Standard equipment) (Y - Axis)	Total Count <sup>2</sup> (Performance Check / Calibrated equipment)	Concentration in Count/Minute <sup>3</sup> (Performance Check / Calibrated equipment) (X - Axis)
Zero Check <sup>1</sup>	12/01/2017,10:00:00 AM	19	1016	0	0	0
1	12/01/2017,11:10:00 AM	19	1016	95	7462	124
2	12/01/2017,2:30:00 PM	19	1016	111	8670	145
3	12/01/2017,3:34:00 PM	19	1016	29	1600	27

**Linear Regression of Y on X**

Slope (K- factor) : 0.7  
 Correlation Coefficient : 0.9972  
 Validity of Performance Check / Calibration Record : 12/01/2018



- 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: MA Ching Him, Jackey Signature: [Signature] Date: 12/01/2017

Checked by: Wong Po Yan, Pauline Signature: [Signature] Date: 17/01/2017

## CALIBRATION CERTIFICATE

Date: December 21, 2016

Equipment Name	:	Digital Dust Indicator, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	2Z6240
Sensitivity	:	0.001 mg/m <sup>3</sup>
Sensitivity Adjustment	:	565CPM
Scale Setting	:	December 16, 2016

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

Sincerely

**SIBATA SCIENTIFIC TECHNOLOGY LTD.**

Shintaro Okamura

Shintaro Okamura

Overseas Sales Division



# TEST CERTIFICATE

Report No. 16-1879-2

CUSTOMER : INNOTECH INSTRUMENTATION CO.LTD.



**SIBATA SCIENTIFIC TECHNOLOGY LTD.**

DATE 19/ December /2016

APPROVE BY 	VERIFIED BY 	ISSUED BY 
---	--	--

PRODUCT NAME	: Digital Dust Indicator
MODEL NUMBER	: LD-3B
SERIAL NUMBER	: 2Z6240
CALIBRATION DATE	: 16-- December --2016

Testing Category	Judging Standard	Judgment			Inspection chart
		Reading of Master	Reading of this Instrument	Correction	
Function Test	Switch, Display, Wiring will normally function	OK			Reference Value(S)  565 CPM  Test atmosphere Temperature Humidity 23 °C 45 %
Sensitivity Calibration	Count is $\pm 2\%$ accurate to the master by the standard calibration particle	798 CPM	796 CPM	-0.3 %	
Dust Concentration Measuring	Count is $\pm 10\%$ accurate to the master under the 3 different concentration.	2053 CPM	1989 CPM	-3.1 %	
Reproducibility	The difference between maximum and minimum value of sensitivity adjustment scale setting must be 5.0 % or less of maximum value. (The results of measurement of sensitivity adjustment in 5 times are within this range.)	978 CPM	966 CPM	-1.2 %	
Synthetic Judgment		516 CPM	515 CPM	-0.2 %	
					OK
					Good


**REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION**

REPORT NO. : HK1710040  
 PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER  
 DATE OF ISSUE : 17/01/2017

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

REPORT NO. : HK1710040  
 PROJECT ITEM NO. : HK1710040-01  
**PERFORMANCE CHECK / CALIBRATED EQUIPMENT**  
 TYPE : Digital Dust Indicator  
 MANUFACTURER : SIBATA  
 MODEL NO. : LD-3B  
 SERIAL NO. : 2Z6240  
 EQUIPMENT NO. : ---  
 RECEIPT DATE : 11/01/2017  
 PERFORMANCE CHECK / CALIBRATION DATE : 12/01/2017

**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 :

Issue Date: 17/01/2017

Wong Po Yan Pauline  
 (Testing Engineer)





**REPORT OF PERFORMANCE CHECK / CALIBRATION**

PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER  
 DATE OF ISSUE : 17/01/2017  
 REPORT NO. : HK1710040

**PERFORMANCE CHECK / CALIBRATED EQUIPMENT**

TYPE : Digital Dust Indicator  
 MANUFACTURER : SIBATA  
 MODEL NO. : LD-3B  
 SERIAL NO. : 2Z6240  
 EQUIPMENT NO. : ---  
 SENSITIVITY ADJUSTMENT : ---  
 PERFORMANCE CHECK / CALIBRATION DATE : 12/01/2017

**STANDARD EQUIPMENT**

TYPE : HIGH VOLUME AIR SAMPLER  
 MANUFACTURER : TISCH  
 MODEL NO. : TE-5170  
 EQUIPMENT REF NO. : PTL\_HV002  
 LAST CALIBRATION DATE : 23/11/2016

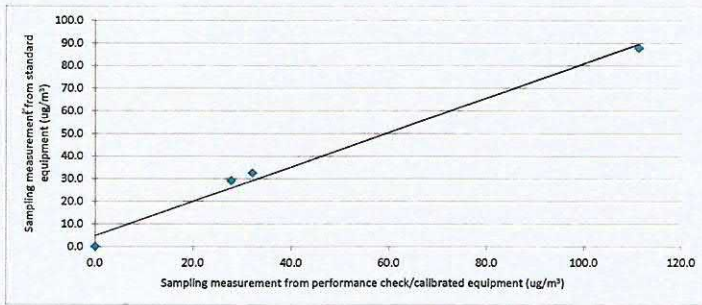
**EQUIPMENT PERFORMANCE CHECK / CALIBRATION RESULTS:**

Sensitivity Adjustment Scale Setting (Before Performance check / Calibration): 565 CPM  
 Sensitivity Adjustment Scale Setting (After Performance check / Calibration): 565 CPM

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m <sup>3</sup> (Standard equipment) (Y - Axis)	Total Count <sup>2</sup> (Performance Check / Calibrated equipment)	Concentration in Count/Minute <sup>3</sup> (Performance Check / Calibrated equipment) (X - Axis)
Zero Check <sup>1</sup>	12/01/2017,10:00:00 AM	19	1016	0	0	0
1	12/01/2017,12:15:00 PM	19	1016	88	6680	111
2	12/01/2017,1:25:00 PM	19	1016	33	1924	32
3	12/01/2017,3:34:00 PM	19	1016	29	1664	28

**Linear Regression of Y on X**

Slope (K- factor) : 0.8  
 Correlation Coefficient : 0.9940  
 Validity of Performance Check / Calibration Record : 12/01/2018



- 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: MA Ching Him, Jackey Signature: \_\_\_\_\_ Date: 12/01/2017

Checked by: Wong Po Yan, Pauline Signature: Wong Po Yan Date: 17/01/2017





# Certificate of Calibration 校正證書

Certificate No. : C173613  
證書編號

ITEM TESTED / 送檢項目 ( Job No. / 序引編號 : IC17-1398 )      Date of Receipt / 收件日期 : 21 June 2017  
Description / 儀器名稱 : Sound Level Meter  
Manufacturer / 製造商 : Rion  
Model No. / 型號 : NL-52  
Serial No. / 編號 : 00131627  
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

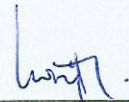
DATE OF TEST / 測試日期 : 4 July 2017


## 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 : 4 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。局部複印本證書需先獲本實驗所書面批准。



# Certificate of Calibration

## 校正證書

Certificate No. : C173613

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 6.1.1.2 to 6.3.2.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
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 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L <sub>A</sub>	A	Fast	94.00	1	* 92.8	± 1.1

\* Out of IEC 61672 Class 1 Spec.

##### 6.1.1.2 After Adjustment

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L <sub>A</sub>	A	Fast	94.00	1	94.0	± 1.1

### 6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L <sub>A</sub>	A	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 61672 Class 1 Spec. : ± 0.6 dB per 10 dB step and ± 1.1 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。局部複印本證書請先獲本實驗室書面批准。



# Certificate of Calibration

## 校正證書

Certificate No. : C173613

證書編號

### 6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L <sub>A</sub>	A	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.3

### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L <sub>A</sub>	A	Fast	94.00	63 Hz	67.7	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.5
					250 Hz	85.3	-8.6 ± 1.4
					500 Hz	90.7	-3.2 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.6
					4 kHz	95.0	+1.0 ± 1.6
					8 kHz	92.9	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.6	-4.3 (+3.0 ; -6.0)

#### 6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L <sub>C</sub>	C	Fast	94.00	63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.5
					250 Hz	94.0	0.0 ± 1.4
					500 Hz	94.0	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.6
					4 kHz	93.2	-0.8 ± 1.6
					8 kHz	91.0	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.6	-6.2 (+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.

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# Certificate of Calibration

## 校正證書

Certificate No. : C173613  
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 04870

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	63 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)

- 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.

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Sun Creation Engineering Limited - Calibration & Testing Laboratory

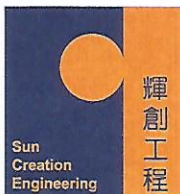
c/o 4 E, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

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: calllab@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

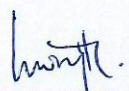
DATE OF TEST / 測試日期 : 17 March 2017


## 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

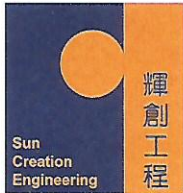
Certified By :   
核證 : K C Lee  
Project Engineer

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.

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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.

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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

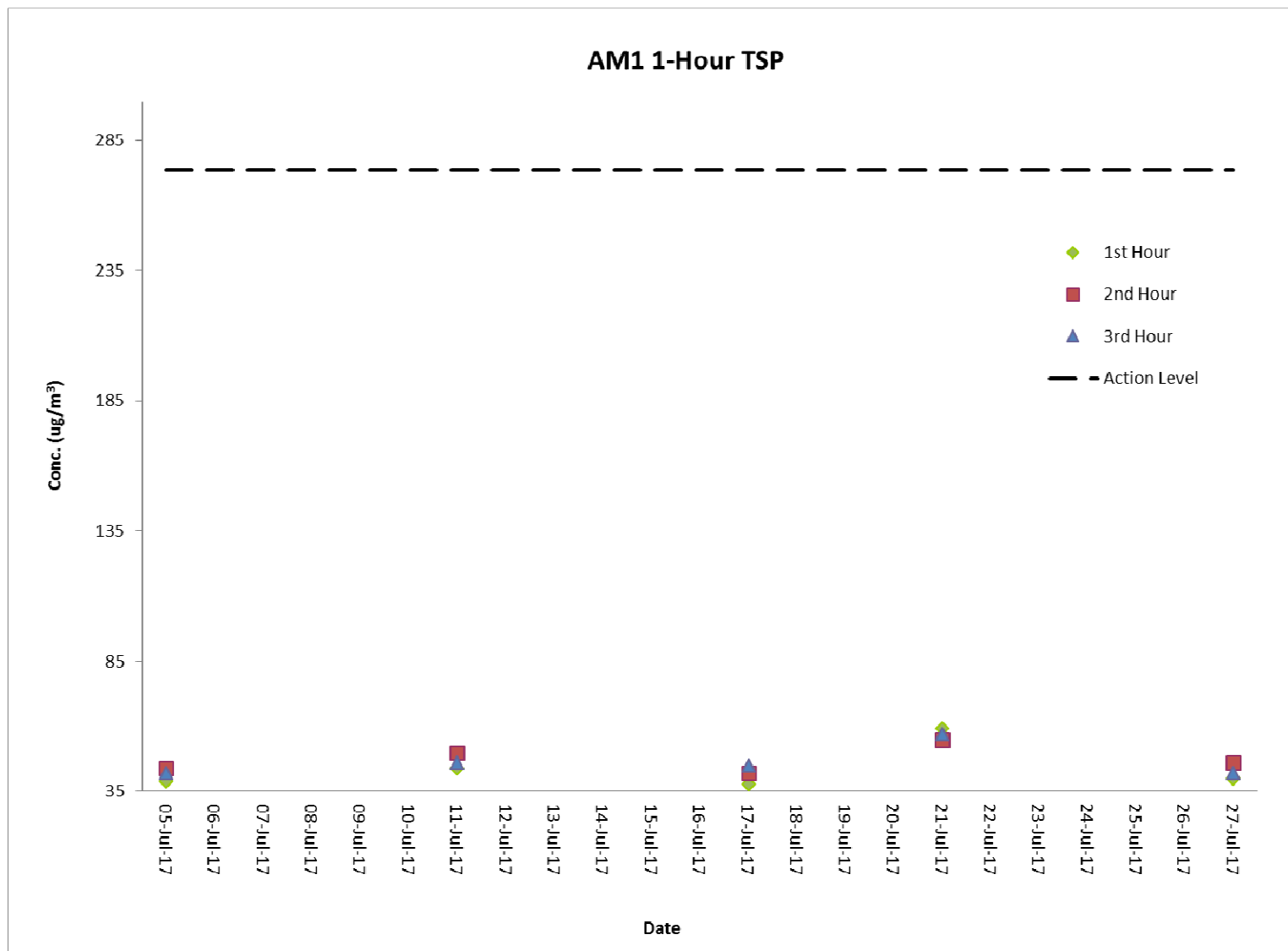
Website/網址: www.suncreation.com

## 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 ( $\mu\text{g}/\text{m}^3$ )
			1 <sup>st</sup> Hour	2 <sup>nd</sup> Hour	3 <sup>rd</sup> Hour		
05-Jul-17	Fine	10:40 - 16:00	39	44	42	273.7	500
11-Jul-17	Sunny	10:40 - 16:00	44	50	46	273.7	500
17-Jul-17	Cloudy	10:40 - 16:00	38	42	45	273.7	500
21-Jul-17	Sunny	14:02 - 17:02	59	55	57	273.7	500
27-Jul-17	Cloudy	10:40 - 16:00	40	46	42	273.7	500

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

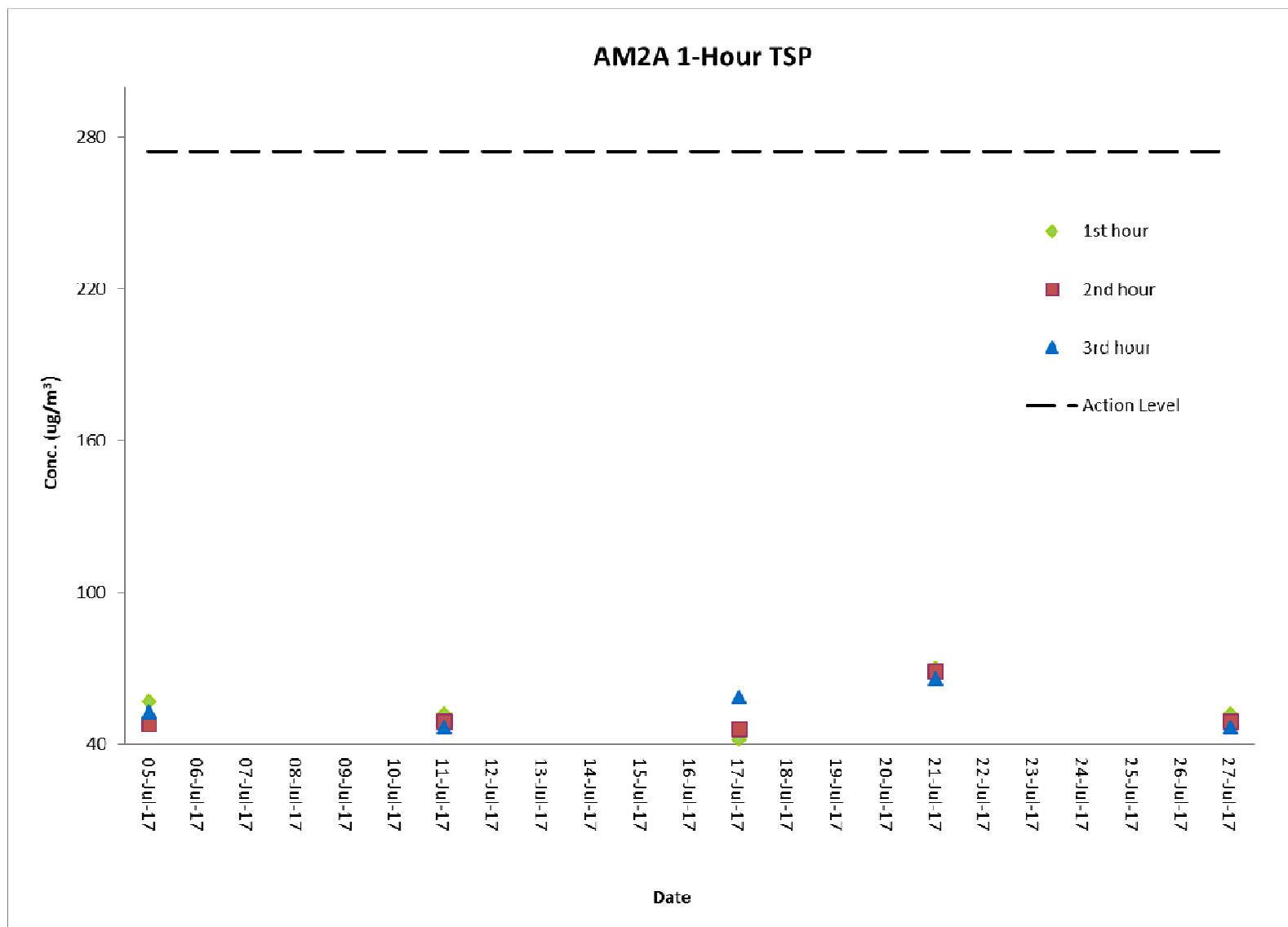




**Air Quality Monitoring Result at Station AM2A (1-hour TSP)**

Date	Weather Condition	Time	Conc. ( $\mu\text{g}/\text{m}^3$ )			Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
			1 <sup>st</sup> Hour	2 <sup>nd</sup> Hour	3 <sup>rd</sup> Hour		
05-Jul-17	Fine	10:52 - 16:10	57	48	53	274.2	500
11-Jul-17	Sunny	10:52 - 16:10	52	49	47	274.2	500
17-Jul-17	Cloudy	10:54 - 16:10	42	46	59	274.2	500
21-Jul-17	Sunny	14:14 - 17:14	70	69	66	274.2	500
27-Jul-17	Cloudy	10:54 - 16:10	52	49	47	274.2	500

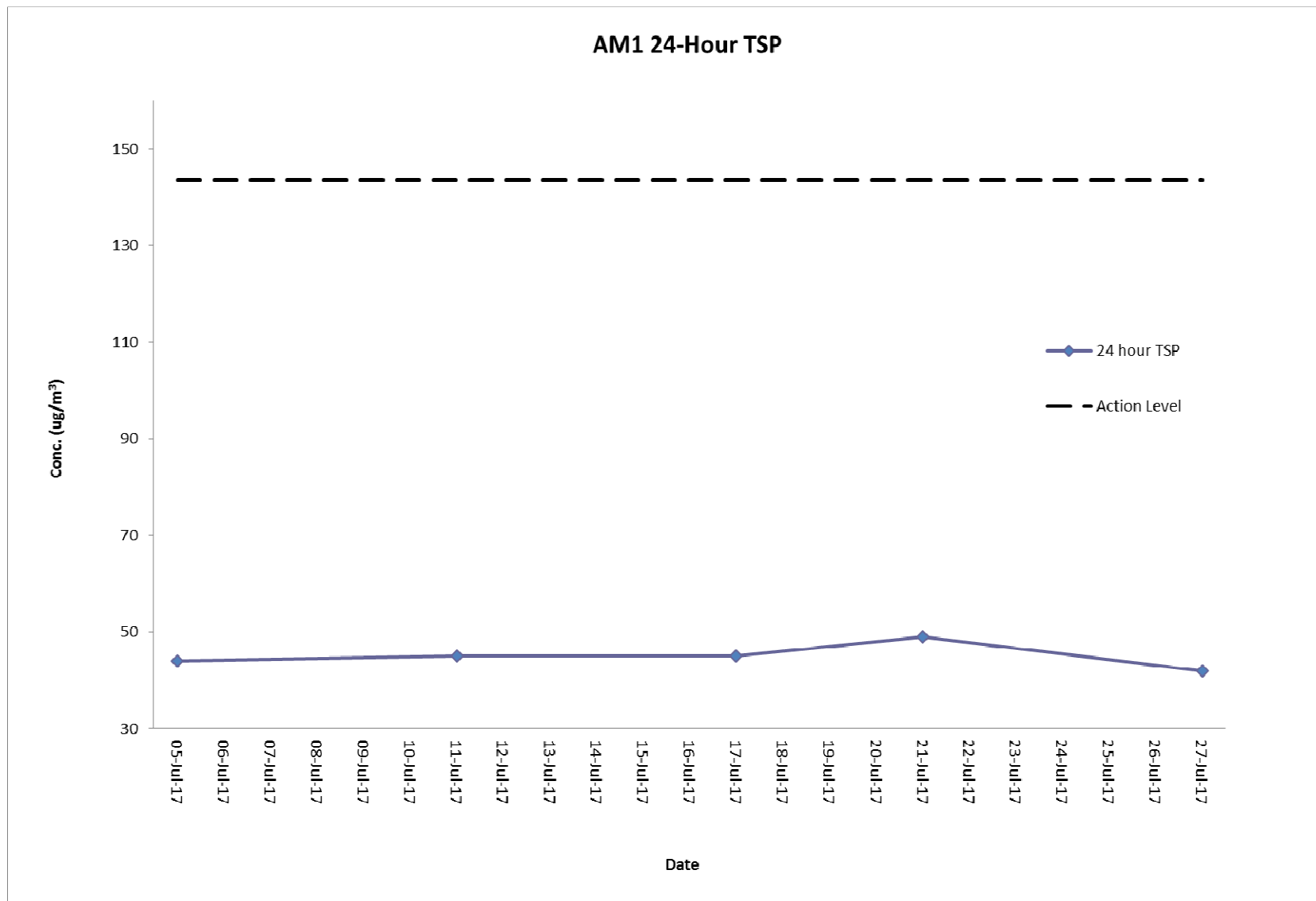
Graphical Presentation of Air Quality Monitoring Result at Station AM2A (1-hour TSP)



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

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			Conc. (µg/m <sup>3</sup> )	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Jul-17	10:38	06-Jul-17	10:38	2.6677	2.746	21264.38	21288.38	24	1.23	1.23	1.23	44	Fine	143.6	260
11-Jul-17	10:38	12-Jul-17	10:38	2.6195	2.699	21288.38	21312.38	24	1.23	1.23	1.23	45	Sunny	143.6	260
17-Jul-17	10:42	18-Jul-17	10:42	2.6209	2.7001	21312.38	21336.38	24	1.23	1.23	1.23	45	Cloudy	143.6	260
21-Jul-17	14:00	22-Jul-17	14:00	2.6297	2.7172	21336.38	21360.38	24	1.23	1.23	1.23	49	Sunny	143.6	260
27-Jul-17	10:42	28-Jul-17	10:42	2.6499	2.7244	21360.38	21384.38	24	1.23	1.23	1.23	42	Cloudy	143.6	260

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

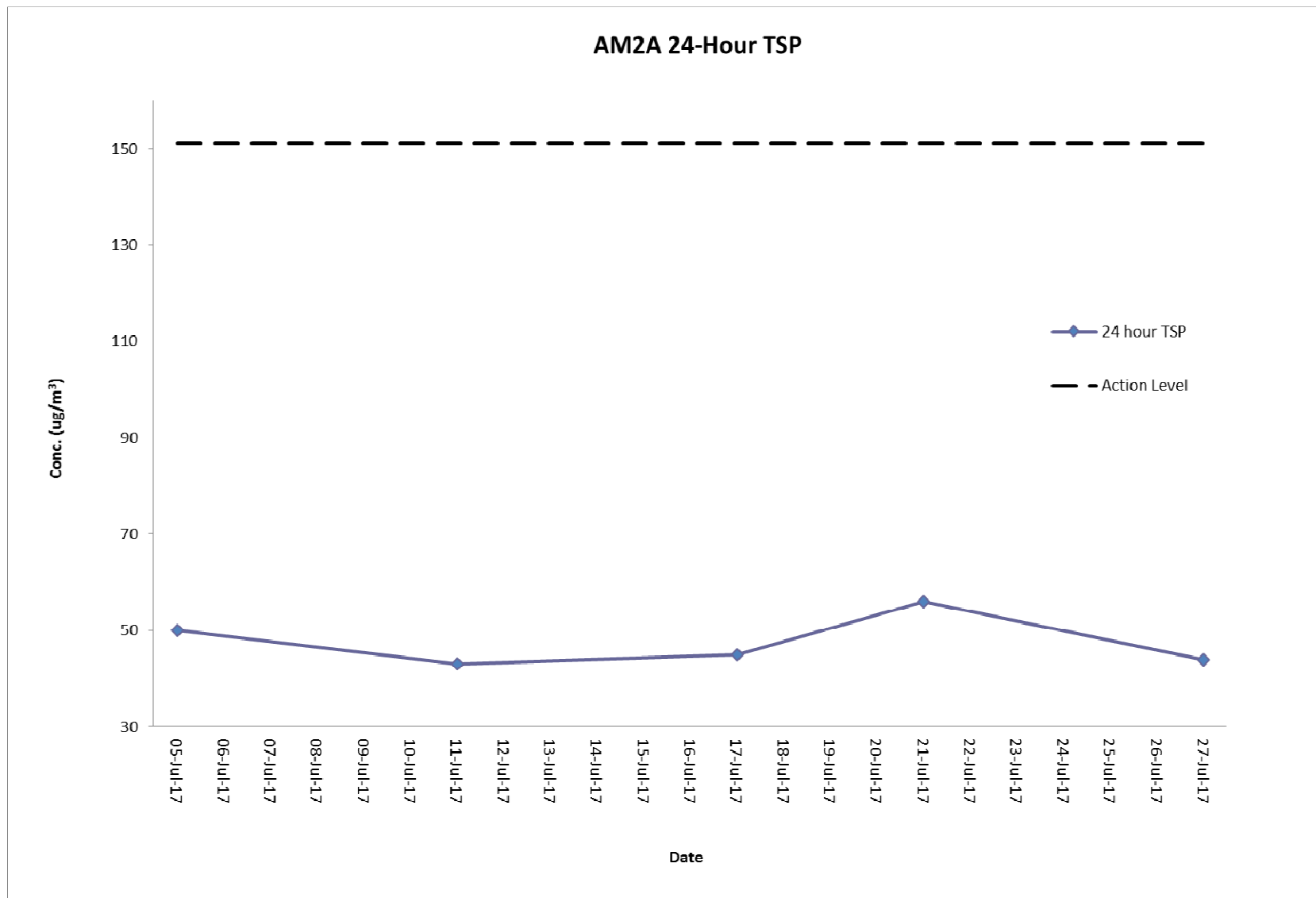




**Air Quality Monitoring Result at Station AM2A (24-hour TSP)**

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			Conc. (µg/m <sup>3</sup> )	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Jul-17	10:50	06-Jul-17	10:50	2.6500	2.7410	16919.59	16943.59	24	1.27	1.27	1.27	50	Fine	151.1	260
11-Jul-17	10:50	12-Jul-17	10:50	2.6410	2.7197	16943.59	16967.59	24	1.27	1.27	1.27	43	Sunny	151.1	260
17-Jul-17	10:52	18-Jul-17	10:52	2.6192	2.7010	16967.59	16991.59	24	1.27	1.27	1.27	45	Cloudy	151.1	260
21-Jul-17	14:12	22-Jul-17	14:12	2.6199	2.7218	16991.59	17015.59	24	1.27	1.27	1.27	56	Sunny	151.1	260
27-Jul-17	10:52	28-Jul-17	10:52	2.6309	2.7110	17015.59	17039.59	24	1.27	1.27	1.27	44	Cloudy	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 L <sub>10</sub> dB(A)	Measured L <sub>90</sub> dB(A)	L <sub>eq</sub> (30 min.) dB(A)
05-Jul-17	14:00	67.0	63.1	68
05-Jul-17	14:05	66.7	62.7	
05-Jul-17	14:10	66.4	62.0	
05-Jul-17	14:15	67.4	63.2	
05-Jul-17	14:20	68.0	64.1	
05-Jul-17	14:25	67.9	63.9	
11-Jul-17	14:00	66.0	62.1	68
11-Jul-17	14:05	67.1	63.0	
11-Jul-17	14:10	68.2	64.4	
11-Jul-17	14:15	66.7	62.7	
11-Jul-17	14:20	66.5	62.6	
11-Jul-17	14:25	67.0	63.1	
17-Jul-17	14:00	67.9	62.7	69
17-Jul-17	14:05	68.0	63.0	
17-Jul-17	14:10	67.9	62.9	
17-Jul-17	14:15	68.7	63.7	
17-Jul-17	14:20	68.5	63.9	
17-Jul-17	14:25	67.9	62.8	
27-Jul-17	14:00	67.9	62.1	69
27-Jul-17	14:05	68.0	63.0	
27-Jul-17	14:10	67.0	62.4	
27-Jul-17	14:15	67.4	62.7	
27-Jul-17	14:20	67.8	62.2	
27-Jul-17	14:25	68.0	62.7	

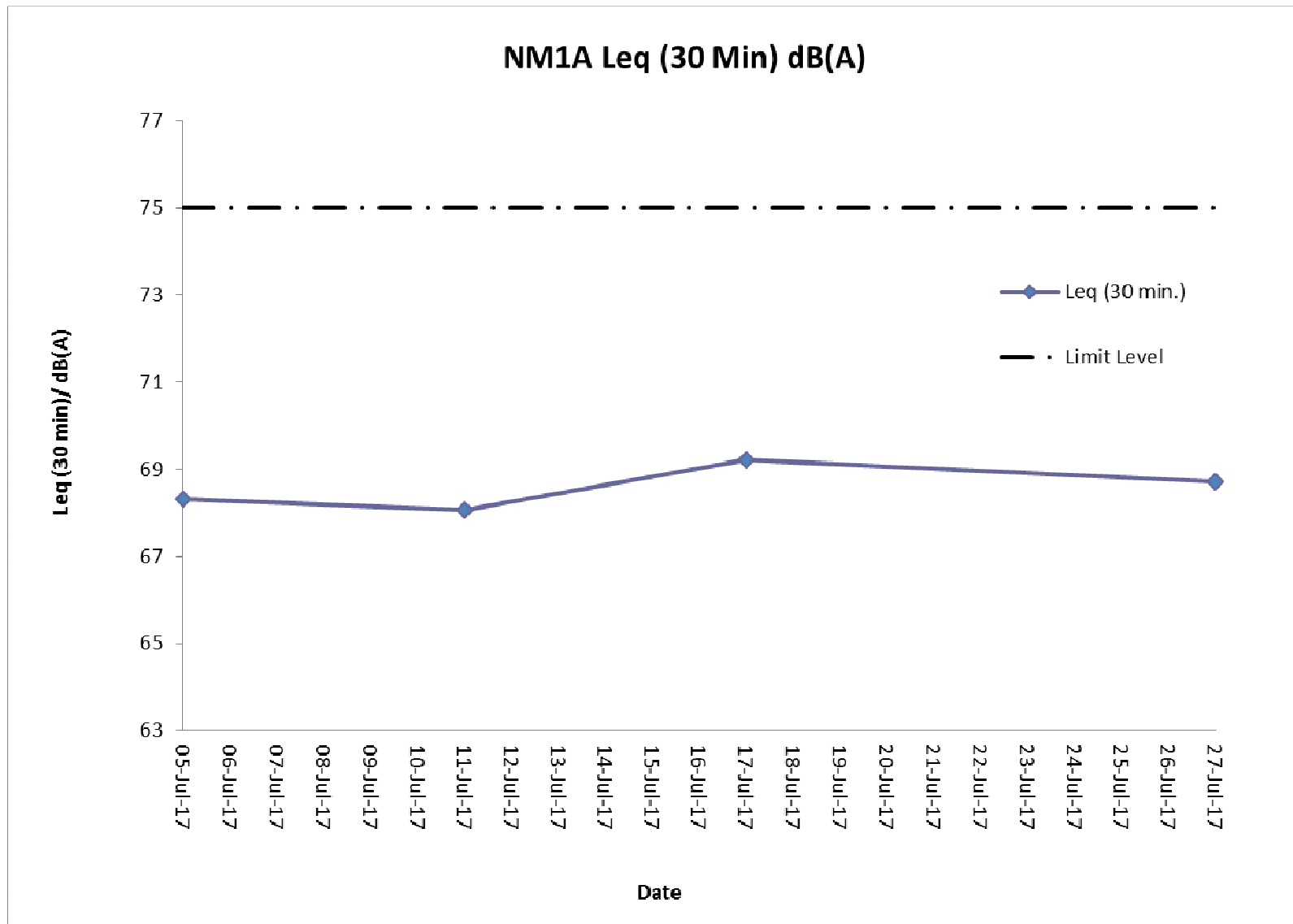
**Remarks:**

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



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

Graphical Presentation Noise Monitoring Result at Station NM1A

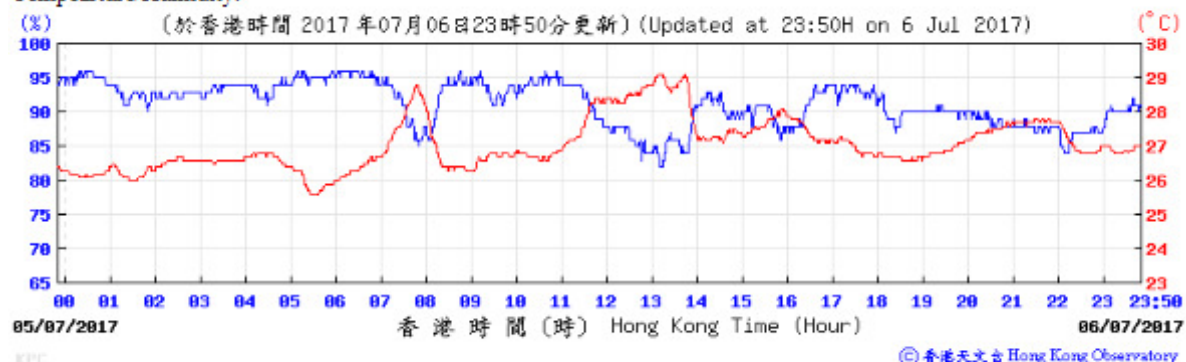




## **H. Meteorological Data Extracted from Hong Kong Observatory**

Extract of Meteorological Observations for King's Park Automatic Weather Station, July 2017

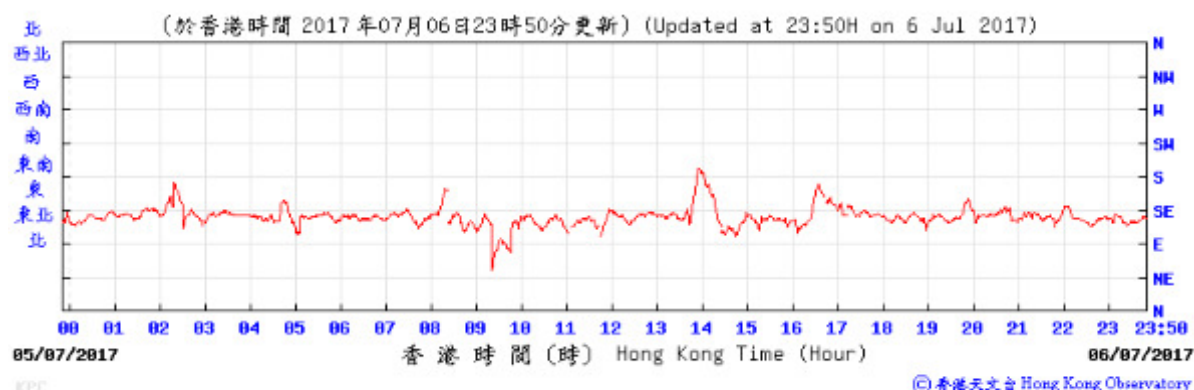
Temperature/Humidity:



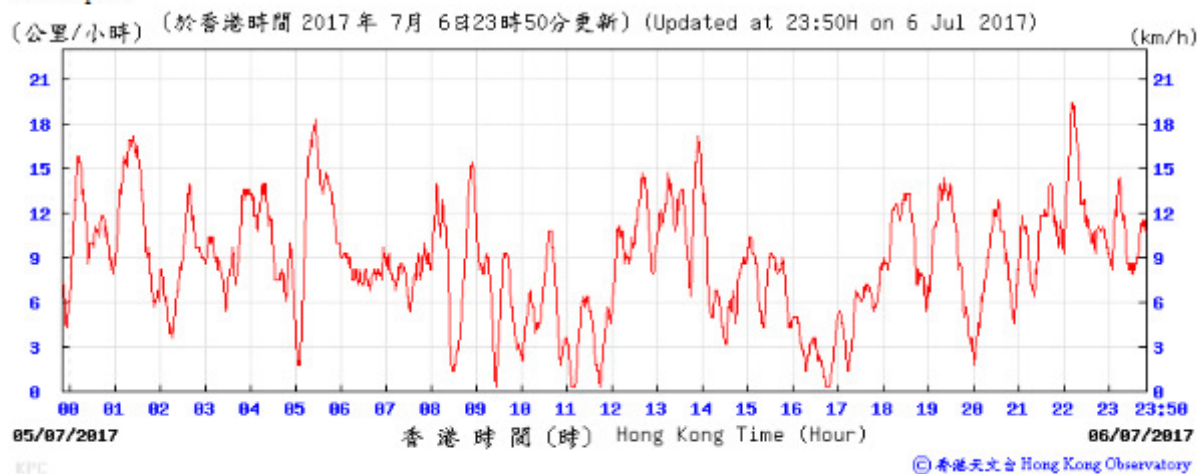
Pressure:



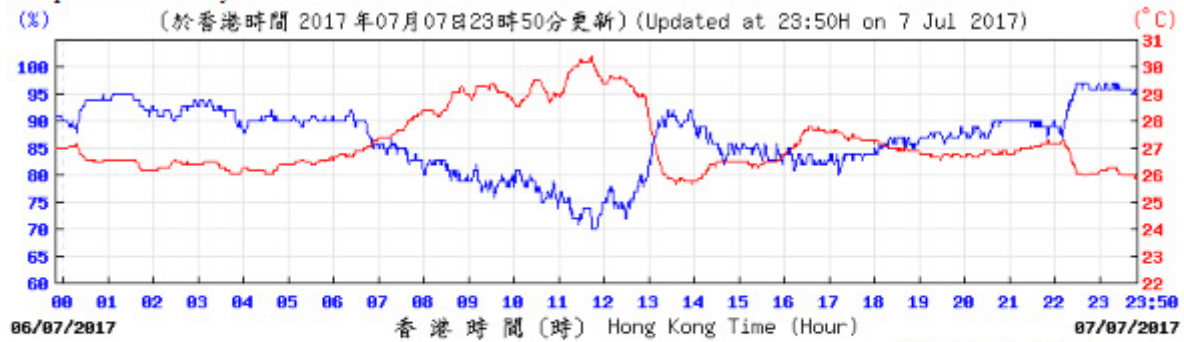
Wind Direction:



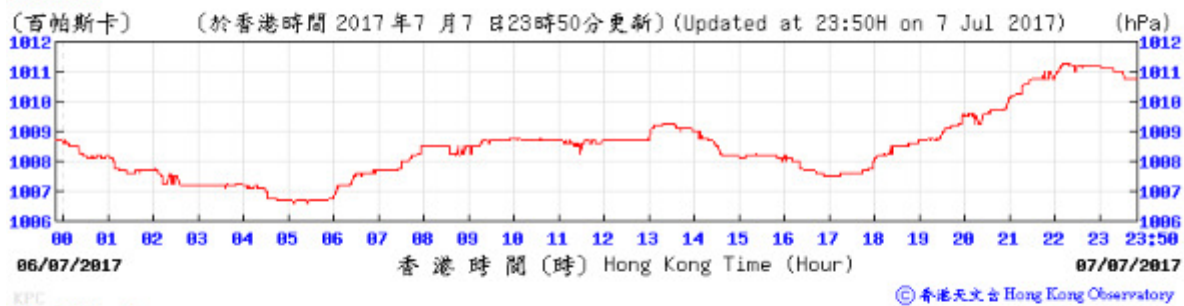
Wind Speed:



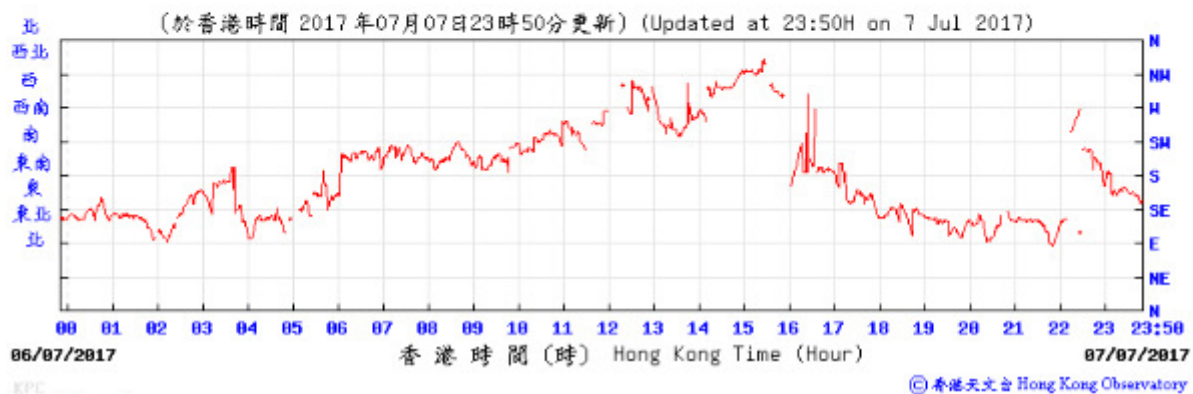
Temperature/Humidity:



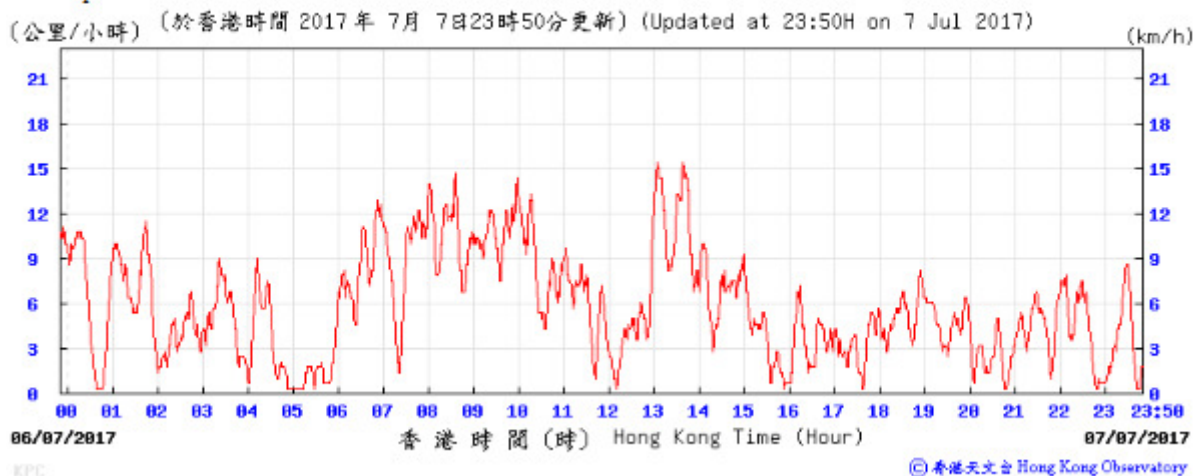
Pressure:



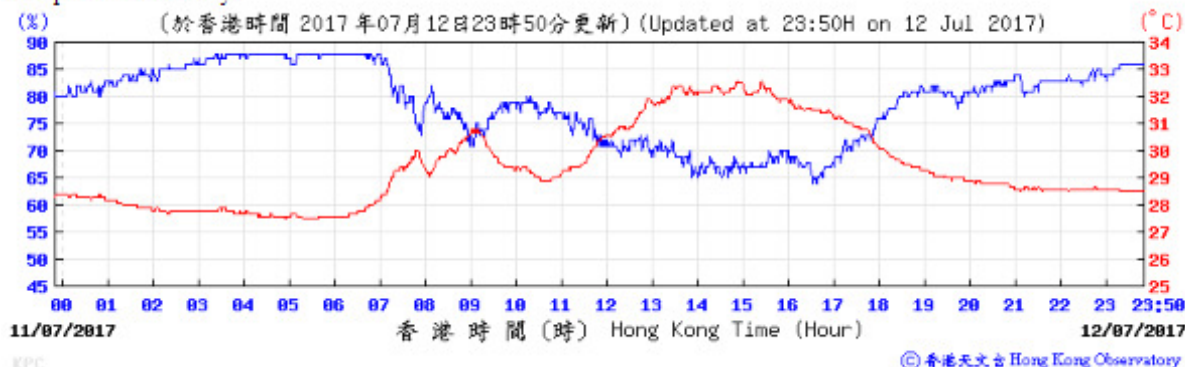
Wind Direction:



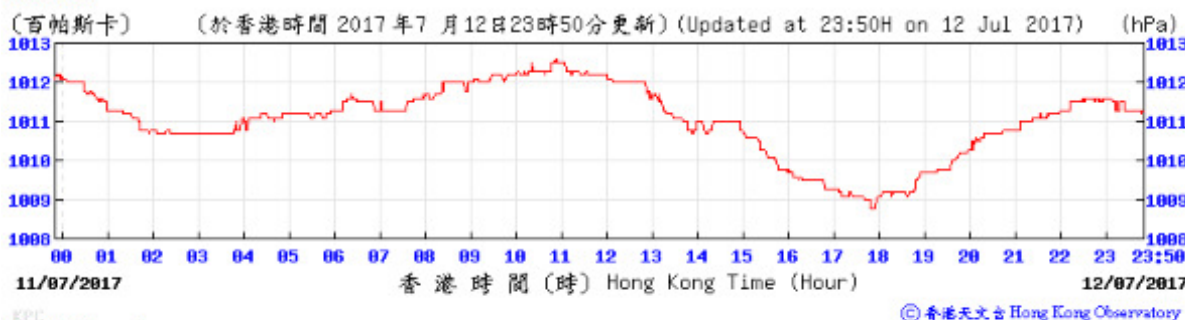
Wind Speed:



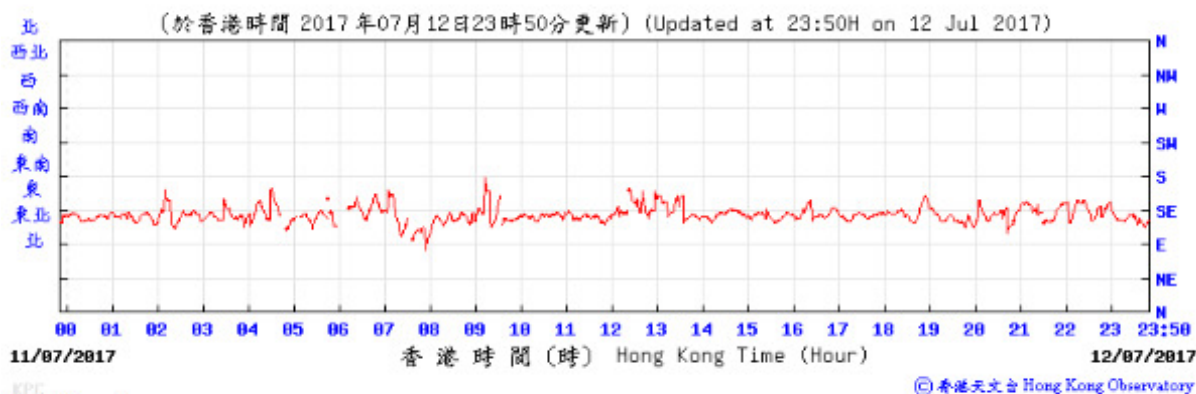
Temperature/Humidity:



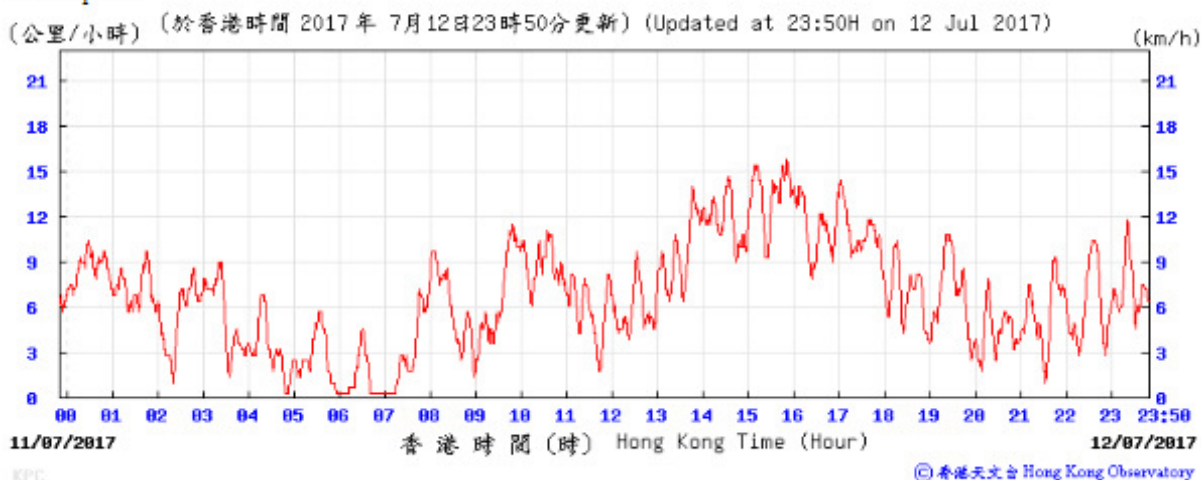
Pressure:



Wind Direction:



Wind Speed:

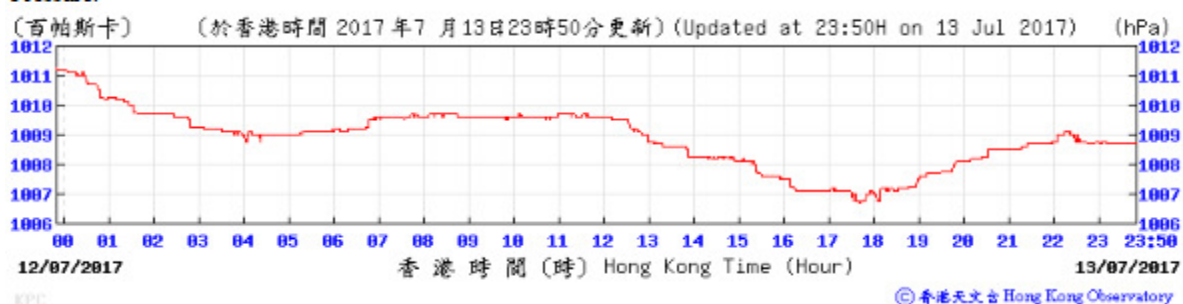




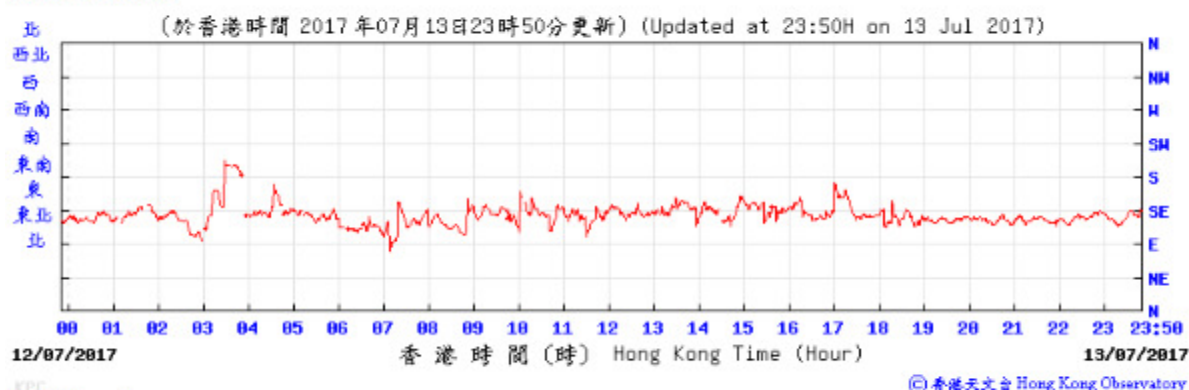
Temperature/Humidity:



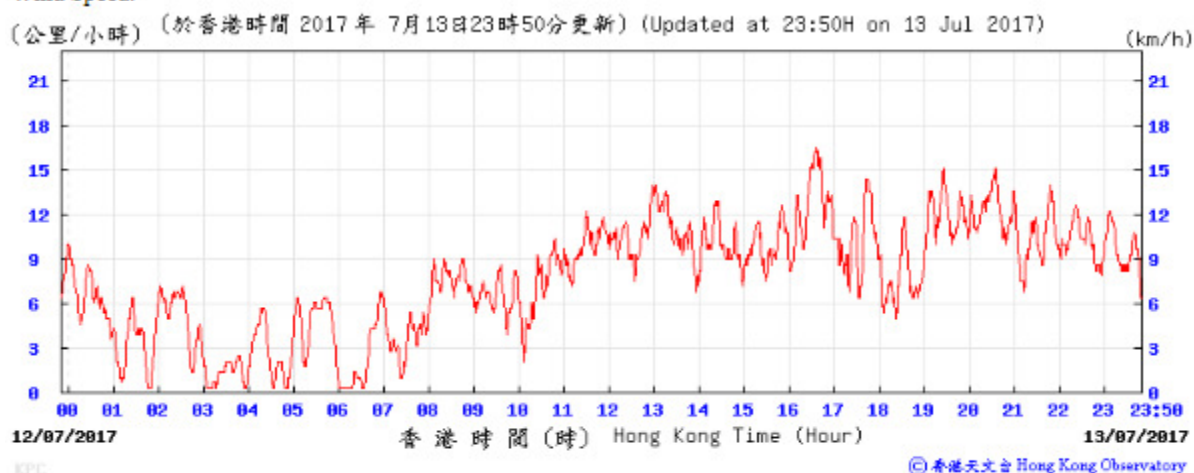
Pressure:



Wind Direction:

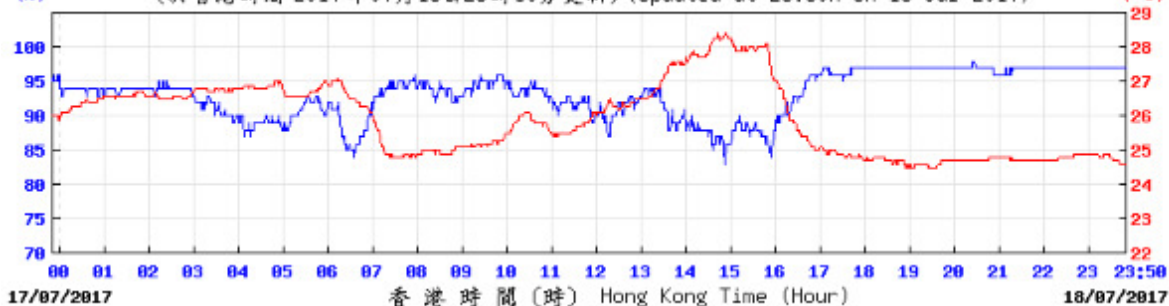


Wind Speed:



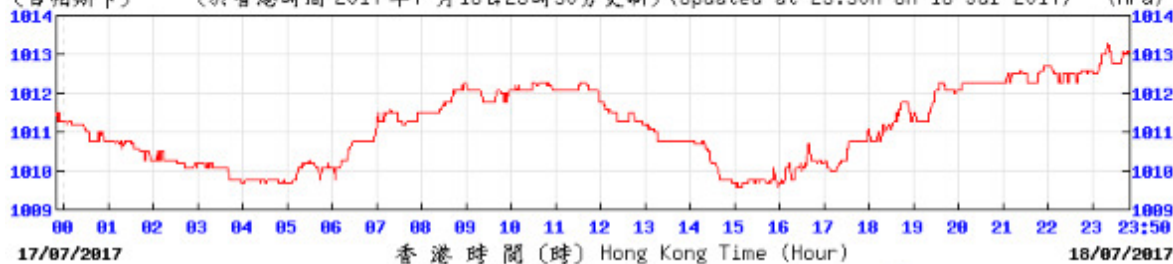
Temperature/Humidity:

(%) (於香港時間 2017年07月18日23時50分更新) (Updated at 23:50H on 18 Jul 2017) (°C)



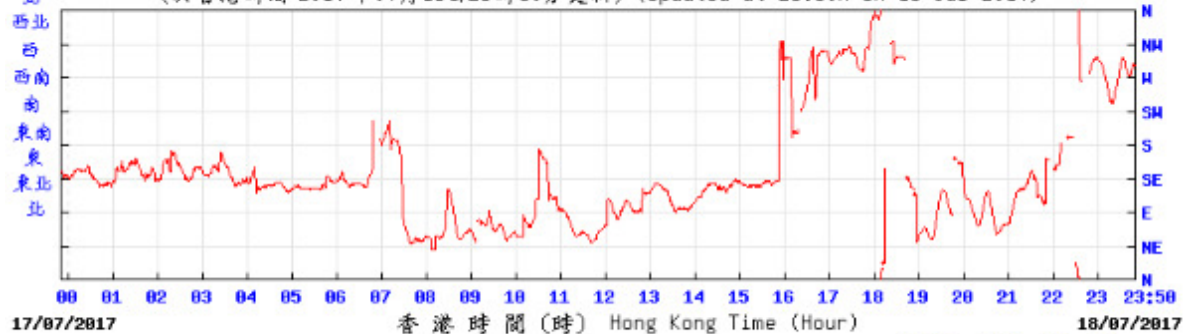
Pressure:

(百帕斯卡) (於香港時間 2017年7月18日23時50分更新) (Updated at 23:50H on 18 Jul 2017) (hPa)



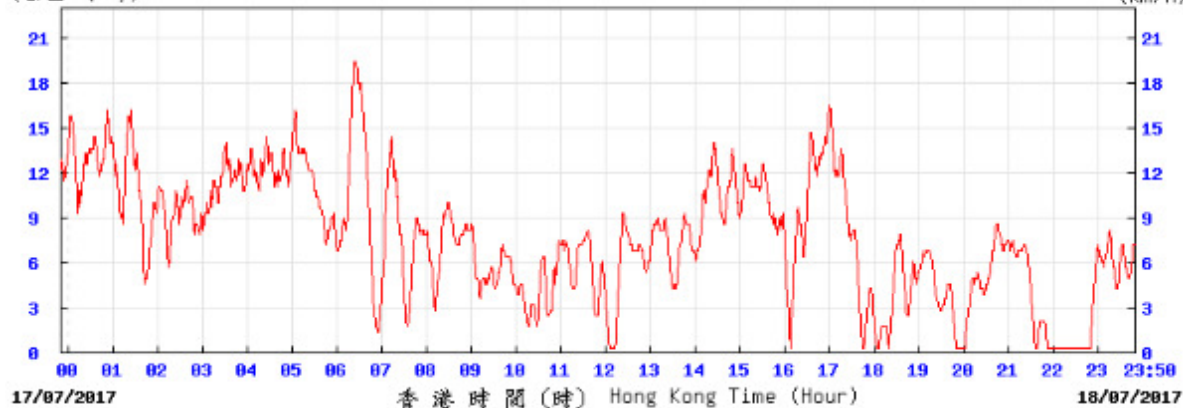
Wind Direction:

(於香港時間 2017年07月18日23時50分更新) (Updated at 23:50H on 18 Jul 2017)

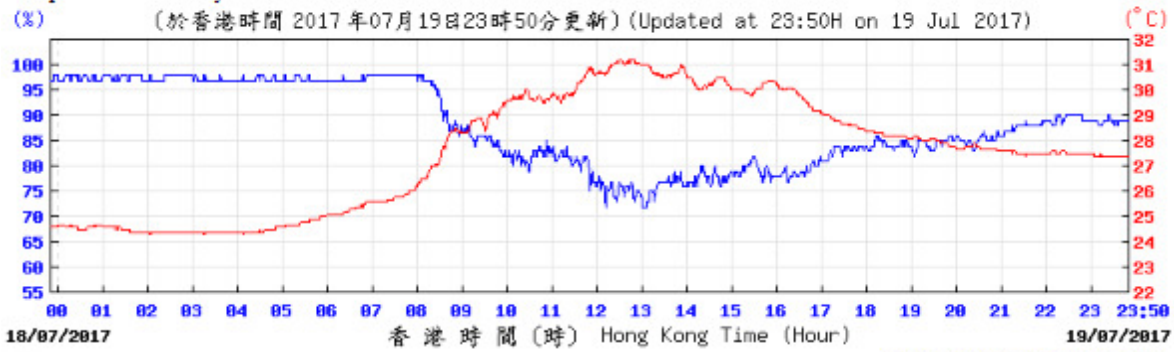


Wind Speed:

(公里/小時) (於香港時間 2017年7月18日23時50分更新) (Updated at 23:50H on 18 Jul 2017) (km/h)

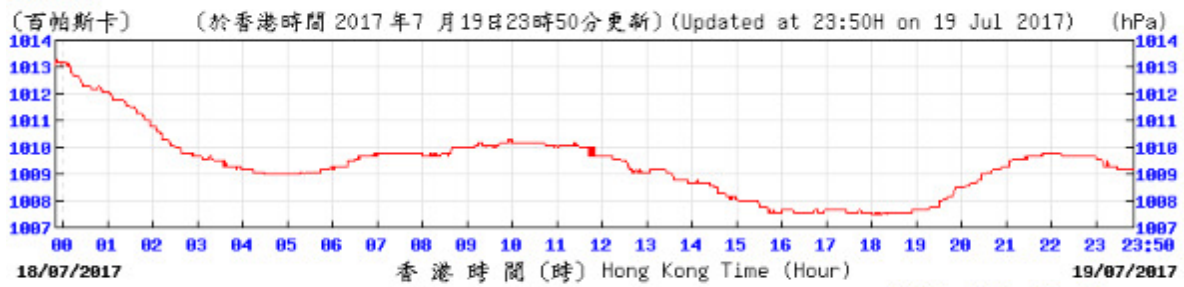


Temperature/Humidity:



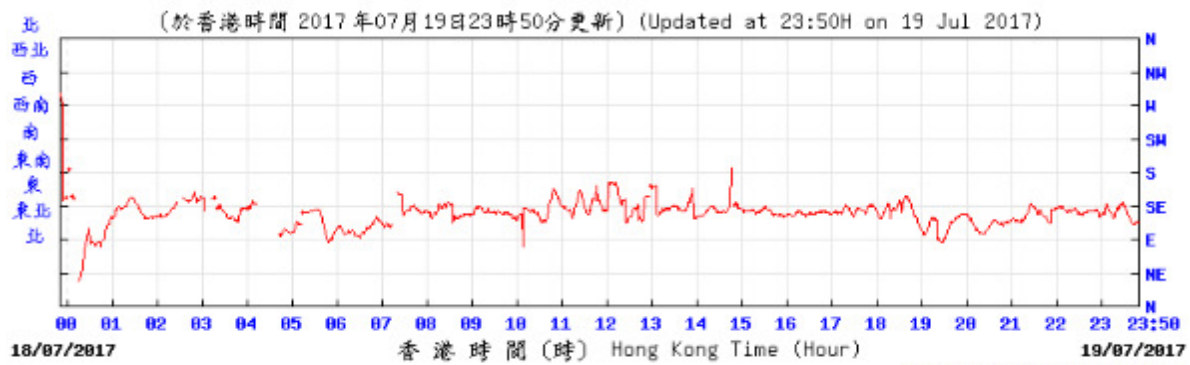
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Pressure:



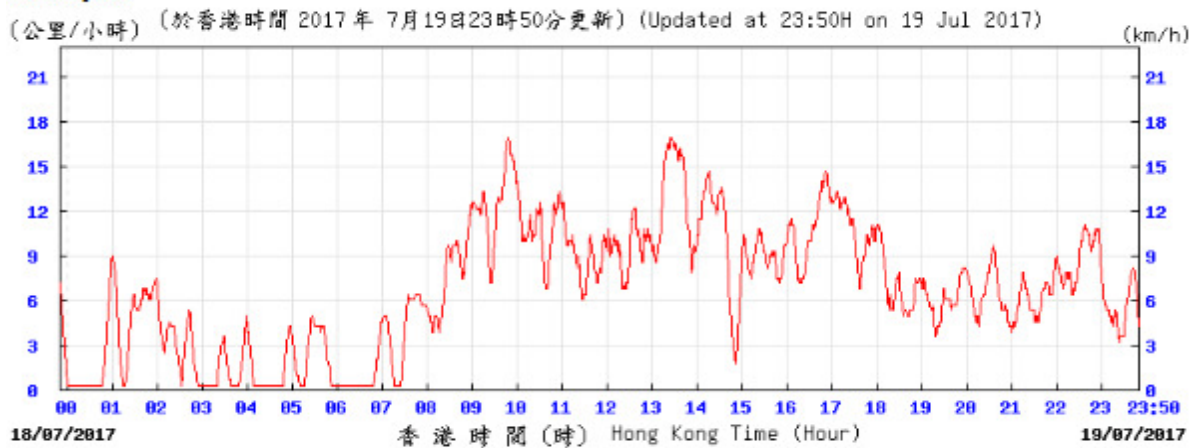
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Wind Direction:



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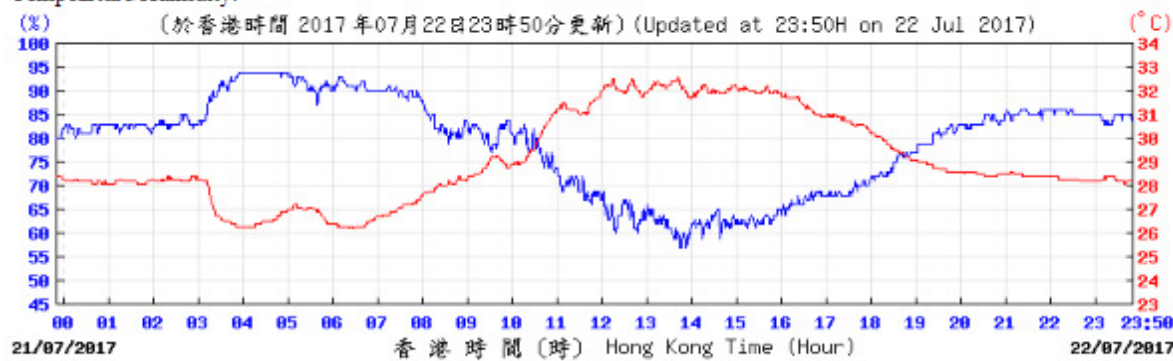
Wind Speed:



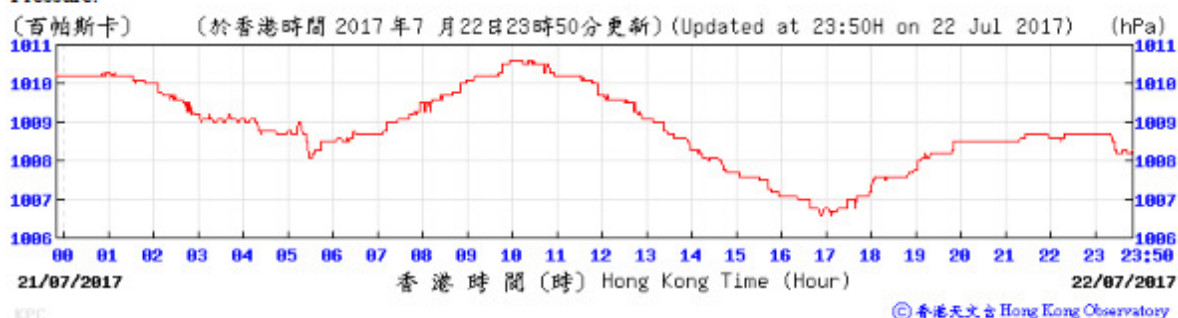
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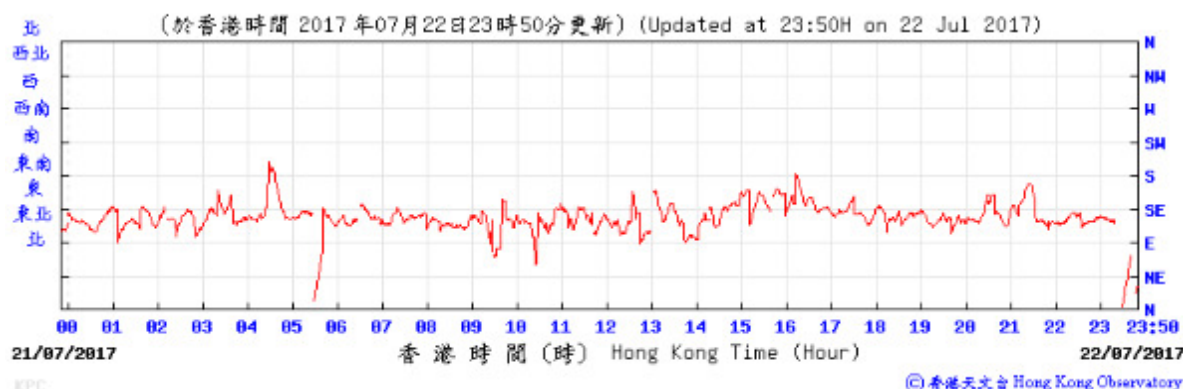
Temperature/Humidity:



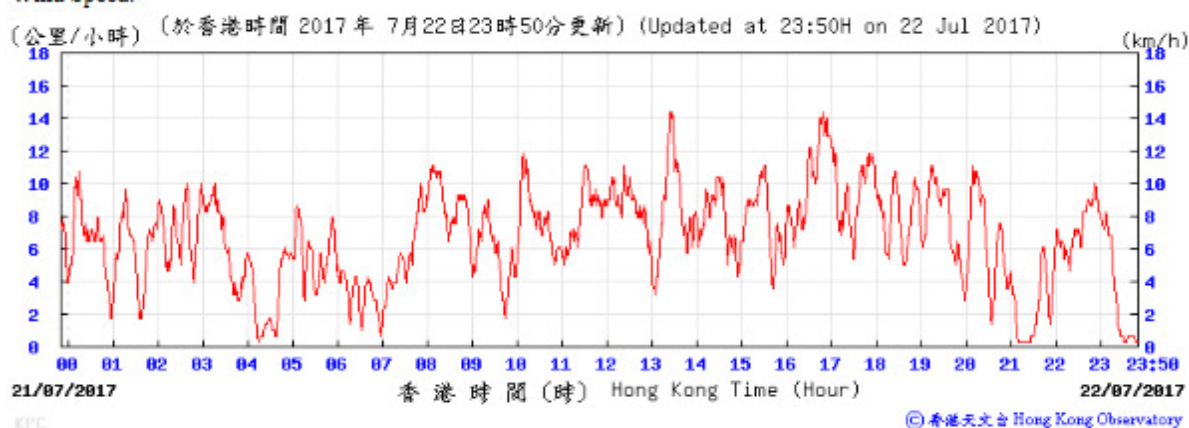
Pressure:



Wind Direction:

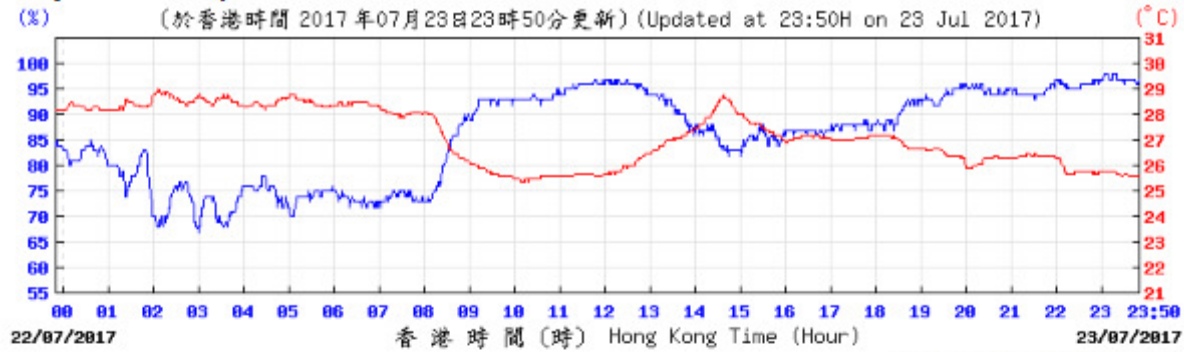


Wind Speed:

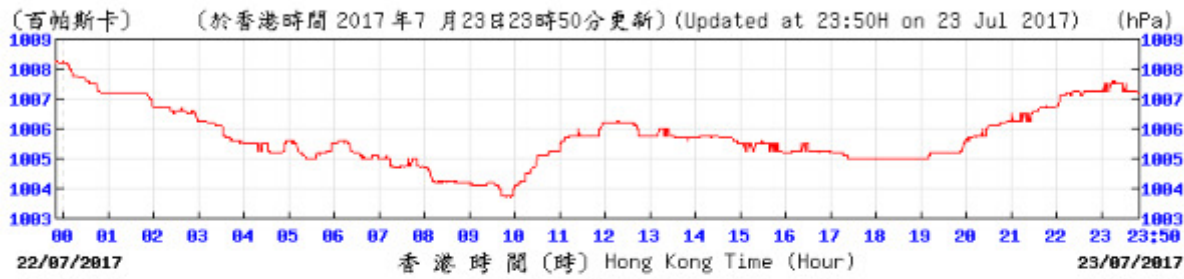




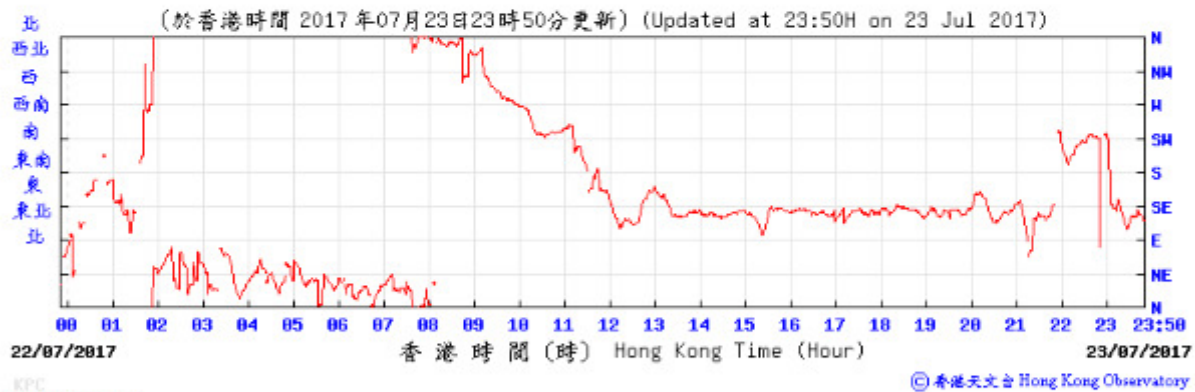
Temperature/Humidity:



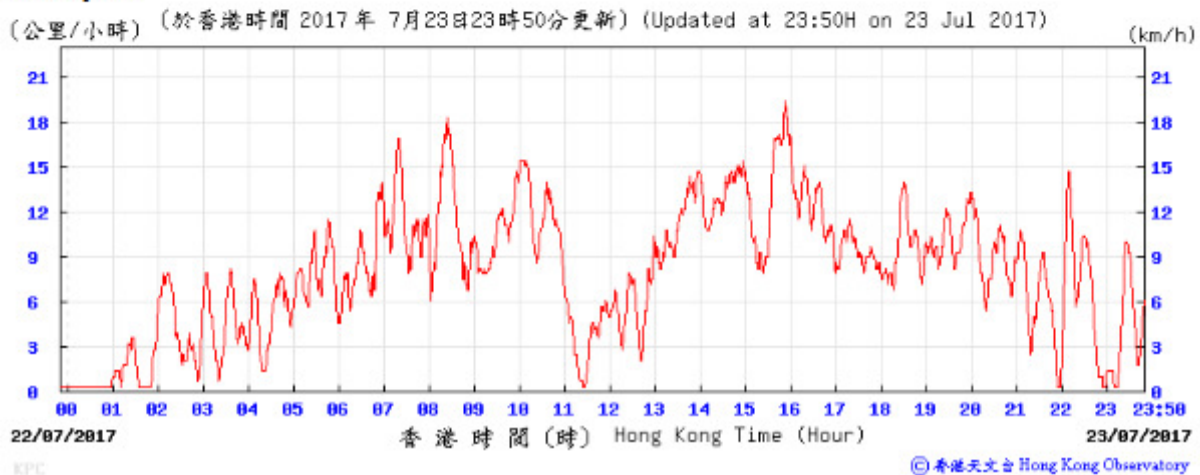
Pressure:



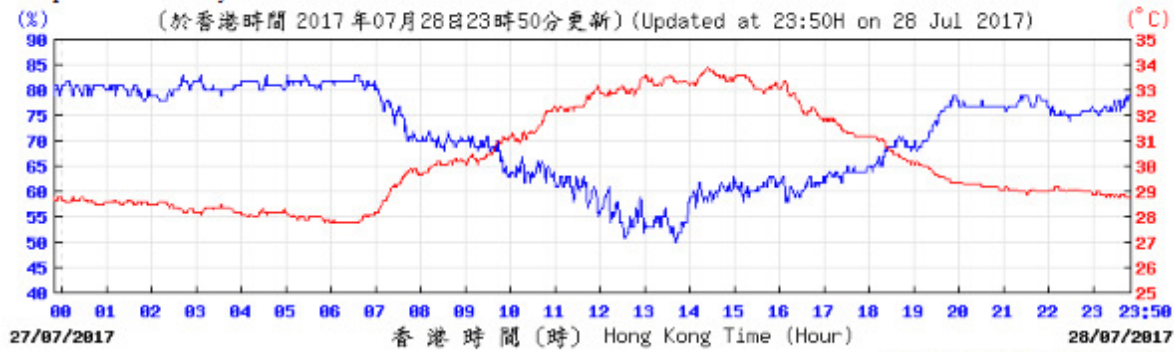
Wind Direction:



Wind Speed:

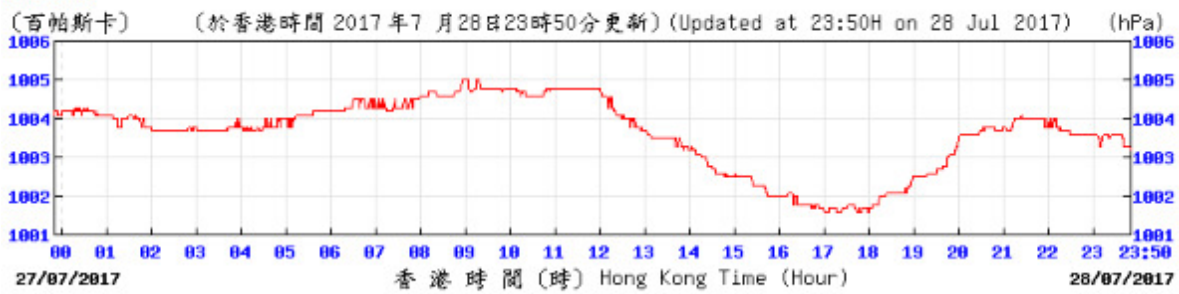


Temperature Humidity:



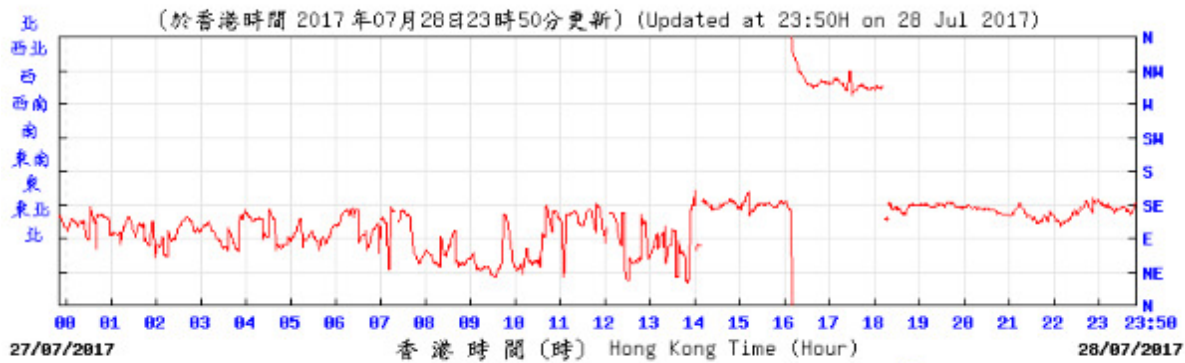
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Pressure:



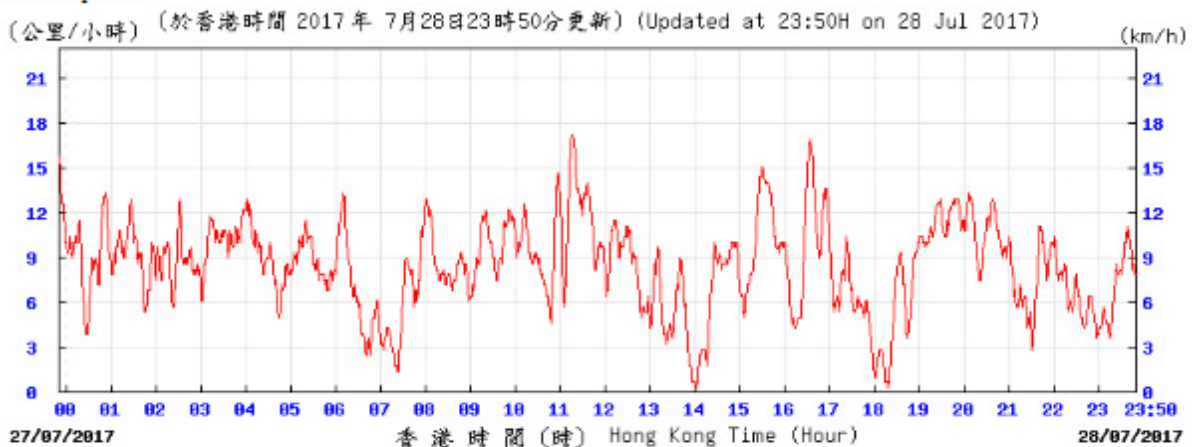
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Wind Direction:



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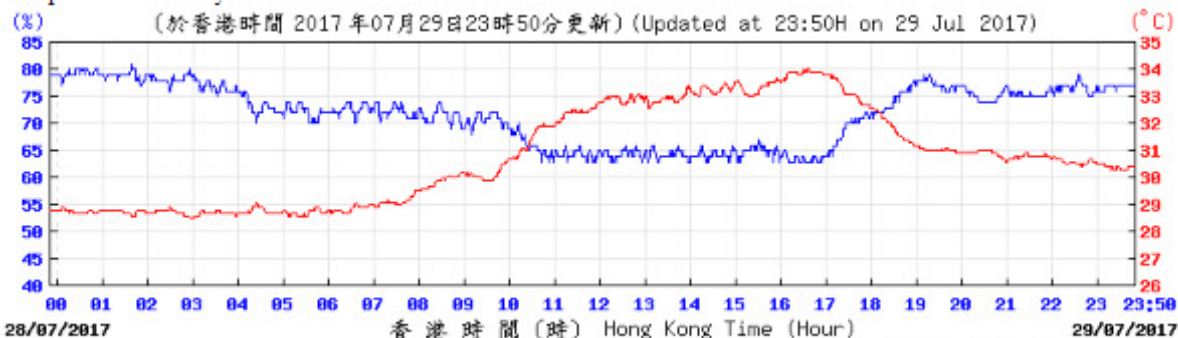
Wind Speed:



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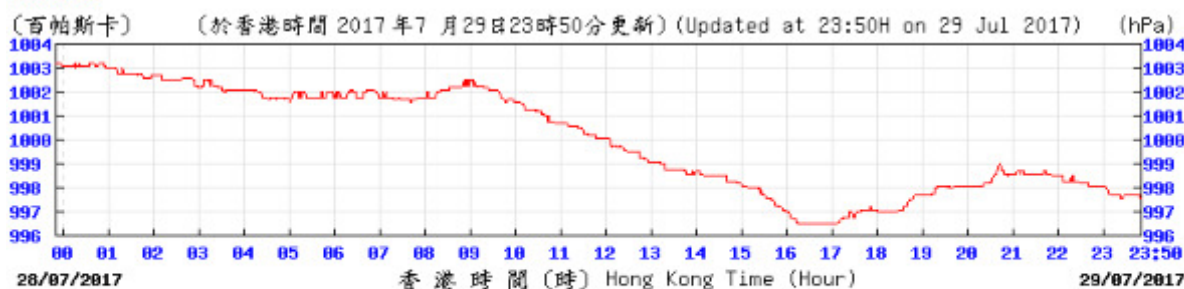
KPC

Temperature/Humidity:



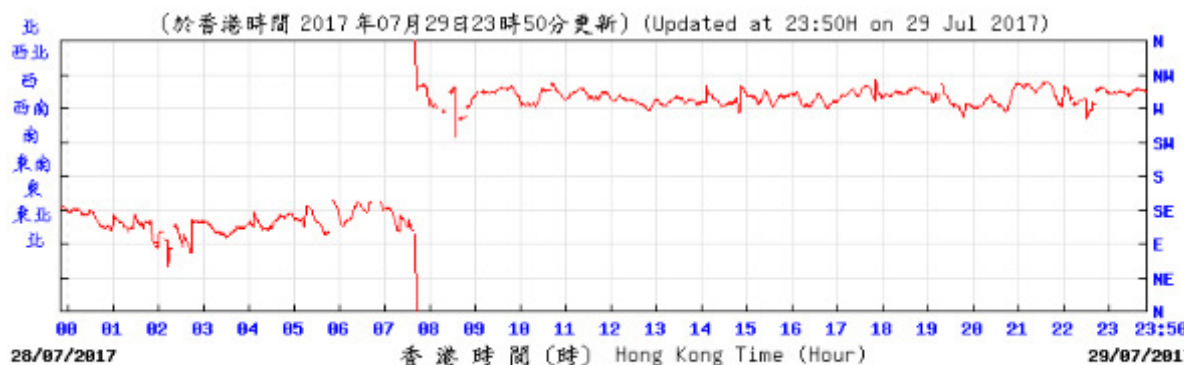
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Pressure:



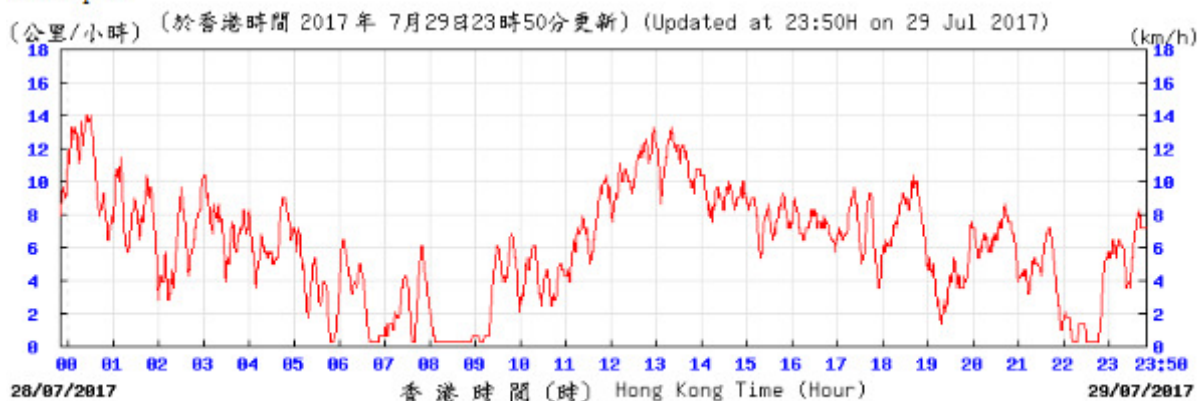
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Wind Direction:



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Wind Speed:



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# 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)	
<b>2015</b>														
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	
<b>2016</b>														
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	
<b>2017</b>														
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	
July	1762.0	0.0	0.0	0.0	1466.6	295.4	0.0	28.4*	0.8	0.0	475.0	0.0	164.2	
Sub-total (2017)	7632.0	0.0	0.0	3168.0	3489.9	974.1	0.0	646.7	4.9	0.0	1532.0	0.0	813.9	
Total	218025.9	0.0	25232.0	140485.4	51168.1	1140.4	0.0	1564.1	7.2	0.0	1932.1	1.2	1809.3	

Note:

\*Since some metal generation amounts are still outstanding at the time of this report submission, the actual total amount of metals generated in July 2017 will be updated in the next reporting month.

-95.71 ton, 227.55 ton and 1,143.3 ton 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)
<b>2016</b>													
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	37.1	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	334.7	0.4	1.5	0.0	7.6	191.6
<b>2017</b>													
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
Sub-total (2017)	39143.5	0.0	0.0	1244.0	37894.2	5.3	0.0	152.4	0.3	0.0	0.0	2.7	65.5
Total	150282.3	0.0	0.0	1244.0	149033.0	5.3	0.0	487.2	0.7	1.5	0.0	10.3	257.1

Note:  
 -2111.17 and 503.81 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
<b>Air Quality Impact (Construction)</b>			
2.1 & 10.3.1	<p><b>General Dust Control Measures</b></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>	Obs	Obs
2.1 & 10.3.1	<p><b>Best Practice For Dust Control</b></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"> <li>• 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.</li> </ul> <p><i>Disturbed Parts of the Roads</i></p> <ul style="list-style-type: none"> <li>• Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or</li> <li>• Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.</li> </ul> <p><i>Exposed Earth</i></p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> <p><i>Loading, Unloading or Transfer of Dusty Materials</i></p> <ul style="list-style-type: none"> <li>• All dusty materials should be sprayed with water immediately prior to any loading or transfer operation</li> </ul>	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"> <li>Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides.</li> </ul>	✓	✓
	<ul style="list-style-type: none"> <li>Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped.</li> </ul>	✓	✓
	<i>Transport of Dusty Materials</i>		
	<ul style="list-style-type: none"> <li>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.</li> </ul>	✓	✓
	<i>Wheel washing</i>		
	<ul style="list-style-type: none"> <li>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.</li> </ul>	Obs	✓
	<i>Use of vehicles</i>		
	<ul style="list-style-type: none"> <li>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.</li> </ul>	✓	✓
	<ul style="list-style-type: none"> <li>Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.</li> </ul>	✓	✓
	<ul style="list-style-type: none"> <li>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.</li> </ul>	✓	✓
	<i>Site hoarding</i>		
	<ul style="list-style-type: none"> <li>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.</li> </ul>	✓	✓
2.1 & 10.3.1	<p><b>Best Practicable Means for Cement Works (Concrete Batching Plant)</b></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"> <li>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</li> </ul>	✓	✓
	Emission Limits		
	<ul style="list-style-type: none"> <li>All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist or smoke</li> </ul>	✓	✓
	Engineering Design/Technical Requirements		
	<ul style="list-style-type: none"> <li>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</li> </ul>	✓	✓
-	<p><b>Non-Road Mobile Machinery (NRMM):</b></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
<b>Noise Impact (Construction)</b>			
3.1 & 10.4.1	<p><b>Good Site Practice</b></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"> <li>only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works;</li> <li>machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum;</li> <li>plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs;</li> <li>mobile plant should be sited as far away from NSRs as possible; and</li> <li>material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>	✓	✓
3.1 & 10.4.1	<p><b>Adoption of Quieter PME</b></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 <b>Table 4.26</b> 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	<b>Use of Movable Noise Barriers</b> 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.	✓	✓
3.1 & 10.4.1	<b>Use of Noise Enclosure/ Acoustic Shed</b> 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	<b>Use of Noise Insulating Fabric</b> 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	<b>Scheduling of Construction Works outside School Examination Periods</b> 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
<b>Water Quality Impact (Construction)</b>			
4.1 & 10.5.1	<b>Construction site runoff and drainage</b> 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"> <li>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;</li> <li>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.</li> <li>All drainage facilities and erosion and sediment control structures should be regularly inspected and</li> </ul>	Obs	✓
		✓	✓
		Obs	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"> <li>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.</li> </ul>	✓	✓
	<ul style="list-style-type: none"> <li>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.</li> </ul>	✓	✓
	<ul style="list-style-type: none"> <li>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.</li> </ul>	✓	✓
	<ul style="list-style-type: none"> <li>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.</li> </ul>	✓	✓
	<ul style="list-style-type: none"> <li>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.</li> </ul>	Obs	✓
	<ul style="list-style-type: none"> <li>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.</li> </ul>	N/A	N/A
	<b>Barging facilities and activities</b>		
	Recommendations for good site practices during operation of the proposed barging point include:		
	<ul style="list-style-type: none"> <li>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;</li> </ul>	N/A	N/A
	<ul style="list-style-type: none"> <li>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</li> </ul>	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"> <li>All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and</li> <li>Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.</li> </ul>	N/A	N/A
		N/A	N/A
4.1 & 10.5.1	<b>Sewage effluent from construction workforce</b> 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.	✓	✓
4.1 & 10.5.1	<b>General construction activities</b> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>	✓	✓
		Obs	✓
<b>Waste Management Implications (Construction)</b>			
6.1 & 10.7.1	<b>Good Site Practices</b> Recommendations for good site practices during the construction activities include:		
	<ul style="list-style-type: none"> <li>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</li> <li>Training of site personnel in proper waste management and chemical handling procedures</li> <li>Provision of sufficient waste disposal points and regular collection of waste</li> <li>Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers</li> <li>Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads</li> <li>Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&amp;D materials is not anticipated</li> </ul>	✓	✓
		✓	✓
		✓	✓
		✓	✓
		✓	✓
		✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
6.1 & 10.7.1	<b>Waste Reduction Measures</b>		
	Recommendations to achieve waste reduction include:		
	• 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	<b>Inert and Non-inert C&amp;D Materials</b>		
	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.	✓	✓
	• 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.	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
6.1 & 10.7.1	<p><b>Chemical Waste</b></p> <ul style="list-style-type: none"> <li>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 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.</li> <li>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.</li> </ul>	Obs	✓
6.1 & 10.7.1	<p><b>General Refuse</b></p> <p>General refuse should be stored in enclosed bins or compaction units separated from inert C&amp;D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&amp;D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	✓	✓
<b>Land Contamination (Construction)</b>			
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"> <li>To minimize the chance for construction workers to come into contact with any contaminated materials, bulk earth-moving excavation equipment should be employed;</li> <li>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;</li> <li>Stockpiling of contaminated excavated materials on site should be avoided as far as possible;</li> </ul>	N/A	N/A
		N/A	N/A
		N/A	N/A



EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	<ul style="list-style-type: none"> <li>The use of contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out;</li> <li>Vehicles containing any contaminated excavated materials should be suitably covered to reduce dust emissions and/or release of contaminated wastewater;</li> <li>Truck bodies and tailgates should be sealed to stop any discharge;</li> <li>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;</li> <li>Speed control for trucks carrying contaminated materials should be exercised;</li> <li>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</li> <li>Maintain records of waste generation and disposal quantities and disposal arrangements.</li> </ul>	N/A	N/A
<b>Ecological Impact (Construction)</b>			
No mitigation measure is required.			
<b>Landscape and Visual Impact (Construction)</b>			
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
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

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
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
Table 9.1 (CM9)	Minimize the structure of marine facilities to built on the seabed and foreshore in order to minimize the affected extent to the waterbody	N/A	N/A
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 foundation works) to the end of the reporting month and are summarized 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 Foundation Works**

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