MOTT MACDONALD

Development at West Kowloon Cultural District

Monthly Environmental Monitoring and Audit (EM&A) Report for October 2016

November 2016

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

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

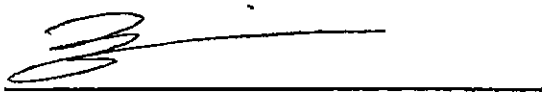
Development at West Kowloon Cultural District

Monthly Environmental Monitoring and Audit (EM&A) Report for October 2016

November 2016

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

Certified by:



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

Date 11 Nov 2016

Verified by:

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

Date 11 Nov 2016

Contents

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 October to 31 October 2016.

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, 14, 20 and 28 October 2016 for M+ Museum and 5, 12 and 26 October 2016 for Lyric Theatre Complex to confirm the implementation measures undertaken by the Contractors in the reporting month The outcomes are presented in Section 4 and the status of implementation of mitigation measures in the site is shown in **Appendix J**.

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

EPD site inspection with Contractor was conducted on 6 October 2016 at Lyric Theatre Complex. No malpractice was found and no adverse comments were received.

Record of Complaints

No environmental complaint was 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:

- Excavation
- Construction of slab

- Construction of columns & walls
- Construction of transformer room, LV switch room and water tank

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

- H-Pile Construction
- Bored Pile Construction
- Excavation and lateral support

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 (WKCDA). The construction works and EM&A programme for M+ Museum and Lyric Theatre Complex commenced on 31 October 2015 and 1 March 2016 respectively.

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

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

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

The Monthly EM&A Report is prepared in accordance with the Condition 3.4 of the Environmental Permit No. EP-453/2013/B. This Monthly EM&A Report presents the monitoring works at both the main works of M+ Museum and foundation works of Lyric Theatre Complex conducted from 1 October to 31 October 2016. The purpose of this report is to summarise the findings in the EM&A of the project over the reporting period.

1.2 Project Organisation

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

1.3 Environmental Status in the Reporting Period

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

- Excavation

- Construction of slab
- Construction of columns & walls
- Construction of pile caps

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

- H-Pile Construction
- Bored Pile Construction
- Excavation and lateral support

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
24-hour TSP monitoring	
High Volume Sampler	TE-5170 (Serial No.: 0767 and 8919)
Calibrator	TE-5025A (Orifice I.D.: 2454)
1-hour TSP monitoring	
Portable direct reading dust meter	Sibata LD-5R (Serial No.: 620402)

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^3/min. The range specified in the EM&A Manual was between 0.6-1.7 m^3/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-18 (Serial No.00360030)	Rion NC-73 (Serial No.10997142)

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 (μg/m^3)			Range (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)
			1st Result	2nd Result	3rd Result			
AM1	05-Oct-16	10:48	70	74	64	54-97	273.7	500
	11-Oct-16	10:40	54	61	56			
	17-Oct-16	10:50	78	87	97			
	22-Oct-16	8:05	54	57	55			
	27-Oct-16	10:40	59	60	55			
AM2A	05-Oct-16	11:00	84	90	75	58-97	274.2	500
	11-Oct-16	10:52	64	59	66			
	17-Oct-16	11:00	80	89	97			
	22-Oct-16	8:17	61	60	58			
	27-Oct-16	10:52	63	72	65			

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 (μg/m3)	Range (μg/m3)	Action Level (μg/m3)	Limit Level (μg/m3)
AM1	05-Oct-16	10:50	59	45-59	143.6	260
	11-Oct-16	10:42	47			
	17-Oct-16	10:48	46			
	22-Oct-16	08:00	46			
	27-Oct-16	10:42	45			
AM2A	05-Oct-16	11:04	84	54-84	151.1	260
	11-Oct-16	10:54	58			
	17-Oct-16	11:02	54			
	22-Oct-16	08:15	62			
	27-Oct-16	10:55	55			

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-Oct-16	14:00	14:30	69.0	75
11-Oct-16	14:00	14:30	69.1	
17-Oct-16	14:00	14:30	70.0	
27-Oct-16	14:00	14:30	68.7	

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, 9, 16, 23 and 30 October 2016. Additional monitoring was carried out during the restricted hours on 2, 9, 16, 23 and 30 October 2016. The measured L_{eq} (30 mins) is in the range of 68.8 – 71.5 dB(A). Construction Noise Permit for the works carried out during restricted hours was 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 14 and 28 October 2016 for M+ Museum and 12 and 26 October 2016 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, 14, 20 and 28 October 2016. The joint site inspection with IEC, ET, ER and Contractor was held on 14 October 2016. 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	Contactor's Responses / Action(s) Undertaken	Close-out (Date)
29 Sep 2016	Waste management	The contractor was reminded to remove the stagnant water at drip trays more frequently.	The contractor has removed stagnant water at drip trays.	5 Oct 2016
29 Sep 2016	Water quality	Sand was found leaking out from the sand bags near the seafront. The contractor was reminded to replace all the broken sand bags.	The contractor has replaced all sand bags near the seafront.	5 Oct 2016
29 Sep 2016	Waste management	Chemical containers and drums were found without drip trays near DCS, near wetsep no.1 and A10. Oil pipes were also found on the ground near wetsep no.1 and soil was found contaminated. The contractor was reminded to provide drip trays for all chemical containers/ drums and oil pipes, and remove the contaminated soil as chemical waste.	The contractor has removed those previously observed chemical containers without drip tray off site except the chemical drum at A10. The contractor has provided drip tray for chemical drum and oil pipes near wetsep no. 1. (Follow-up actions on 6 Oct 2016) The contractor has removed the chemical drum previously observed without drip tray off site on 14 Oct 2016.	14 Oct 2016
6 Oct 2016	Air quality	The haul road near wetsep no. 5 and stockpile at DCS and A10 was observed dry and dusty. The contractor was reminded to enhance water spraying to reduce dust impact.	The contractor has enhanced water spraying at haul road near wetsep no.5 and removed the stockpile at DCS. The stockpile at A10 was still observed dry and dusty, the contractor was reminded to enhance water spraying to reduce dust impact. (Follow-up actions on 14 Oct 2016) The contractor has enhanced water spraying for stockpile at A10 on 19 Oct 2016.	19 Oct 2016
6 Oct 2016	Air quality	The cement bags at ICP and B1 were observed not covered. The contractor was reminded to well cover them to reduce dust impact.	The contractor has well covered the cement bags at ICP and B1.	11 Oct 2016
6 Oct 2016	Waste management	The contractor was reminded to remove the refuse near wetsep no. 3 to keep better house-keeping.	The contractor has removed the refuse near wetsep no. 3.	11 Oct 2016
6 Oct 2016	Waste management	Chemical waste was observed at the hole on the ground near wetsep no.4. The contractor was reminded to remove the chemical waste.	The contractor has removed the chemical waste previously observed at the hole of the ground near wetsep no. 4.	11 Oct 2016

Inspection Date	Parameter	Observation / Recommendation	Contactor's Responses / Action(s) Undertaken	Close-out (Date)
6 Oct 2016	Waste management	The contractor was reminded to put the chemicals near gate 1 and gate 3 into the drip trays and remove the stagnant water/ mixture observed in drip tray near gate 3.	The contractor has removed the drip tray and chemicals without drip tray near gate 1 and 3.	11 Oct 2016
6 Oct 2016	Water quality	The effluent quality at ICP discharge point and wetseps at M+ was checked and found acceptable and within proper pH range. However, some suspended solids and algae was found in wetsep no. 2, 3 and 4. The contractor was reminded to carry out de-sludge/ cleaning and ensure all site runoff is properly treated before discharge.	The contractor has carried out desludging and removed algae previously observed at wetsep no. 2, 3 and 4.	14 Oct 2016
14 Oct 2016	Waste management	Improper access of chemical store was observed. The contractor was reminded to improve the access of the chemical store.	The contractor has maintained the access of the chemical waste store.	19 Oct 2016
14 Oct 2016	Air quality	The haul road at DCS was observed dry and dusty. Th contractor was reminded to enhance water spraying to reduce dust impact.	The contractor has enhanced water spraying for haul road at DCS.	19 Oct 2016
14 Oct 2016	Air quality	The cement bags at DCS was observed not properly covered and leakage of cement was found. The contractor was reminded to well cover the cement bags and remove the cement leaked out to reduce dust impact.	The contractor has well covered the cement bags at DCS and removed the leaked cement.	19 Oct 2016
14 Oct 2016	Waste management	Mixture of chemical waste was observed at drip trays of generator at DCS and drip tray at wetsep no. 6. The contractor was reminded to remove the mixture and treat it as chemical waste.	The contractor has cleaned up the drip tray at wetsep no. 6 and drip tray of generator at DCS.	20 Oct 2016
14 Oct 2016	Waste management	Oil stain was observed on the ground next to the generator near Gate 1. The contractor was reminded to remove the oil stain and dispose the contaminated soil. The contractor was also reminded to plug the drain hole of drip tray of that generator to avoid chemical leakage.	The contractor has removed the oil stain and disposed the contaminated soil previously observed near Gate 1. The contractor has plugged the drain hole of the drip tray of the generator.	19 Oct 2016
14 Oct 2016	Water quality	Effluent discharge quality at ICP discharge point and wetseps at M+ was checked and found visually clear compared to standard solution and within proper pH range.	N/A	N/A
20 Oct 2016	Waste management	Chemical containers without drip trays were found near Gate 3. The contractor was reminded to provide drip trays for those chemical containers.	The contractor has removed the chemical containers previously observed without drip trays near Gate 3 off site.	25 Oct 2016
20 Oct 2016	Water quality	Broken sand bags were found near seafront. The contractor was reminded to take appropriate measures to prevent site runoff from entering the sea and remove those broken sand bags.	The contactor has removed the broken sand bags near seafront and provided bund to prevent site runoff from entering the sea.	28 Oct 2016

Inspection Date	Parameter	Observation / Recommendation	Contactor's Responses / Action(s) Undertaken	Close-out (Date)
20 Oct 2016	Water quality	Overflow of sedimentation tank next to wetsep no. 4 was observed and the treated water quality at wetsep no. 4 was found turbid. The contractor was reminded to rectify the overflow problem and ensure proper wastewater treatment.	The contractor has rectified the overflow problem of sedimentation tank near wetsep no. 4 and enhanced wastewater treatment at wetsep no. 4. The treated water quality at wetsep no. 4 looked fine now.	25 Oct 2016
20 Oct 2016	Waste management	Improper container was used for chemicals placed in drip tray near wetsep no. 3. The contractor was reminded to rectify the overflow problem and ensure proper wastewater treatment.	The contractor has removed the chemical previously stored in improper container near wetsep no. 3.	28 Oct 2016
20 Oct 2016	Water quality	Effluent discharge quality at ICP discharge point and all wetseps at M+ was checked and found visually clear when comparing with standard solution. It was also within acceptable pH range.	N/A	N/A
28 Oct 2016	Waste management	Stagnant water/ mixture was found in the drip tray near wetsep no. 2. The contractor was reminded to remove the stagnant water in the drip tray.	Follow-up status will be provided in the next reporting month	On-going
28 Oct 2016	Water quality	Effluent quality at ICP discharge point and all wetseps at M+ was checked. They were visually clear when comparing with the standard solution except wetsep no. 6 and all were within acceptable pH range. The contractor was reminded to enhance the wastewater treatment. The pH meter at wetsep no. 2 was found not function properly and the contractor has called the supplier to replace the pH meter.	Follow-up status will be provided in the next reporting month	On-going
28 Oct 2016	Waste management	Contaminated soil was found near Gate 1. The contractor was reminded to remove the contaiminated soil and treat it as chemical waste.	Follow-up status will be provided in the next reporting month	On-going

4.1.2 Lyric Theatre Complex

Construction phase weekly site inspections were carried out on 5, 12 and 26 October 2016. The joint site inspection with IEC, ET, ER and Contractor was held on 26 October 2016. EPD site inspection with Contractor was conducted on 6 October 2016. Items including wetseps, discharge point, seafront area and chemical waste store were inspected. No non-compliance was recorded during the site inspection. 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	Contactor's Responses / Action(s) Undertaken	Close-out (Date)
28 Sep 2016	Waste management	A mixture of chemical and algae was found accumulated in the drip tray of the generator near area L01. The contractor was reminded to clear the mixture and treat as chemical waste.	The drip tray of the generator was cleared.	5 Oct 2016

Inspection Date	Parameter	Observation / Recommendation	Contactor's Responses / Action(s) Undertaken	Close-out (Date)
28 Sep 2016	Noise	The panel of the power pack near area L02 was found open. The contractor was reminded to close the panel to reduce the noise level.	The panel of the power pack was closed.	5 Oct 2016
5 Oct 2016	Water quality	Mud was accumulated on the surface of the pH sensor in wetsep no. 2. The contractor was reminded to clean the sensor regularly.	The pH sensor was cleaned.	12 Oct 2016
5 Oct 2016	Waste management	Construction materials were found placing on public road outside site entrance. The contractor was reminded to remove them or provide proper fencing to enclose them.	The construction materials near site entrance have been removed.	12 Oct 2016
5 Oct 2016	Waste management	An oil drum was found without drip tray near area L04. The contractor was reminded to provide secondary containment to chemical containers.	The chemicals have been removed.	12 Oct 2016
12 Oct 2016	Waste management	Chemicals placed near area L06 and L04 were found without drip tray. The contractor was reminded to provide drip tray to all the chemicals.	Drip trays were provided for the chemical containers.	13 Oct 2016
26 Oct 2016	Waste management	Some muddy track at the vehicular site entrance outside the site boundary was observed. The Contractor was reminded to keep this area clean at all times.	The contractor has cleaned the site entrance.	28 Oct 2016

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, 636.6 ton and 958.8 ton of inert C&D material were disposed of as public fill to Tuen Mun Area 38 and Tseung Kwan O Area 137 Public Fill respectively, while 108.2 ton of general refuse was disposed of at SENT landfill. 83.0 ton of metals, 0.4 ton of paper/cardboard packaging, 0 ton of plastic and 73.5 ton of timber were collected by recycling contractors in the reporting month. 0 ton of inert C&D materials was reused on site. 496.0 ton of inert C&D materials were reused in other projects and 12.2 ton of inert C&D materials were disposed to sorting facility. 0 ton 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, 5,017.36 ton and 8,071.58 ton of inert C&D material were disposed of as public fill to Tuen Mun Area 38 and Tseung Kwan O Area 137 respectively, while 15.2 ton of general refuse was disposed of at SENT landfill. 37.1 ton of metals, 0.2 ton of paper/cardboard packaging, 1.5 ton of plastic and 0 ton of timber were collected by recycling contractors in the reporting month. 0 ton of inert C&D materials was reused on site. 0 ton of inert C&D materials was reused in other projects. 0 ton of chemical wastes was collected by licensed contractors in the reporting period.

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		
Chemical Waste Producer Registration				
5213-217-H2913-45	05-Nov-15	--	Valid	--
Billing Account Construction Waste Disposal				
7023393	13-Oct-15	--	Account Active	--
Construction Noise Permit				
GW-RE0930-16	23-Sep-16	22-Mar-17	Cancelled on 17-Oct-16	--
GW-RE0995-16	17-Oct-16	16-Apr-17	Valid	--
Wastewater Discharge License				
WT00023633-2016	4-Mar-16	31-Mar-21	Valid	--
Notification under Air Pollution Control (Construction Dust) Regulation				
394083	7-Oct-15	--	Notified	--

4.3.2 Lyric Theatre Complex

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		
Chemical Waste Producer Registration				
5213-217-G2347-39	17-Feb-16	--	Valid	--
Billing Account Construction Waste Disposal				
7024189	25-Jan-16	--	Account Active	--
Construction Noise Permit				
GW-RE0402-16	25-Apr-16	24-Oct-16	Expired on 24-Oct-16	--
GW-RE0987-16	25-Oct-16	24-Apr-17	Valid	--
Wastewater Discharge License				
WT00023648-2016	9-Mar-16	31-Mar-21	Valid	--
Notification under Air Pollution Control (Construction Dust) Regulation				
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.
- Chemical waste in drip trays should be frequently removed.
- All chemicals should be kept proper containers and clearly labelled.
- Good housekeeping of site should be maintained.
- Maintain access to the chemical store.
- Leakage of oil/ chemical waste on ground should be removed.
- Drain hole of drip trays should be plugged to avoid chemical waste leakage.

Air Quality

- Maintain high standard of housekeeping to prevent emission of fugitive dust.
- Dusty materials stored on site should be well covered to reduce dust impact.
- Enhance water spraying for haul roads to reduce dust impact.

Water Quality

- Wetsep units should be regularly checked to ensure proper function and adequate capacity of the system to treat wastewater or runoff before discharge.
- All wastewater or site runoff must be treated in wastewater treatment facilities before discharge.
- Ensure no leakage of sand bags which act as preventive measures to prevent site runoff from entering the harbor.

4.4.2 Lyric Theatre Complex

Chemical and Waste Management

- Drip trays should be kept in good condition.
- Chemical waste in drip trays should be frequently removed and ensure no leakage of oil/ chemicals from machines.
- All chemical drums stored on site should be provided with drip trays.
- Ensure no muddy track at site entrance area.
- Construction materials should be stored within site area or enclosed with proper fencing.

Noise

- The panel of the power pack should be always closed.

Water Quality

- Wetsep units should be regularly checked 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 August 2016	14 October 2016

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 complaint was received this 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:

- Excavation
- Construction of slab
- Construction of columns & walls
- Construction of transformer room, LV switch room and water tank

7.1.2 Lyric Theatre Complex

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

- H-Pile Construction
- Bored Pile Construction
- Excavation and lateral support

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.

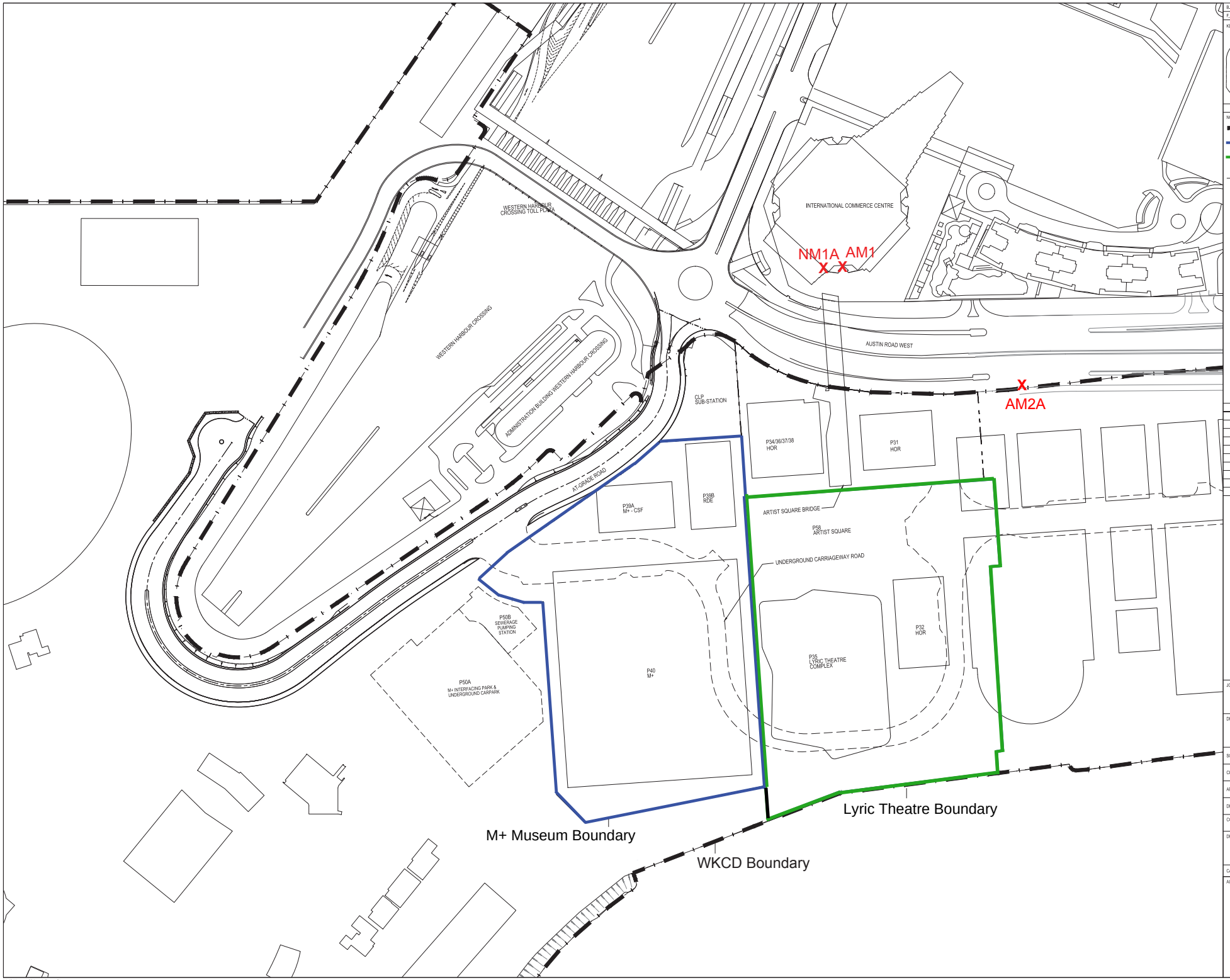
No environmental complaint and no notifications of summons or successful prosecution were received during the reporting month.

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



B.D. REF:

F.S.D. REF:

KEY PLAN

KEY PLAN

NOTES:

WKCD BOUNDARY

M+ MUSEUM BOUNDARY

LYRIC THEATRE BOUNDARY

BOUNDARY OF UNDERPASS ROAD SERVING THE PLANNED WKCD

X 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-P00-L000-0000-XXX.dwg

AUTHORITY

westKowloon 西九文化區

A1 (841mm x 594mm) Sheet Size

Appendices

A. Project Organisation

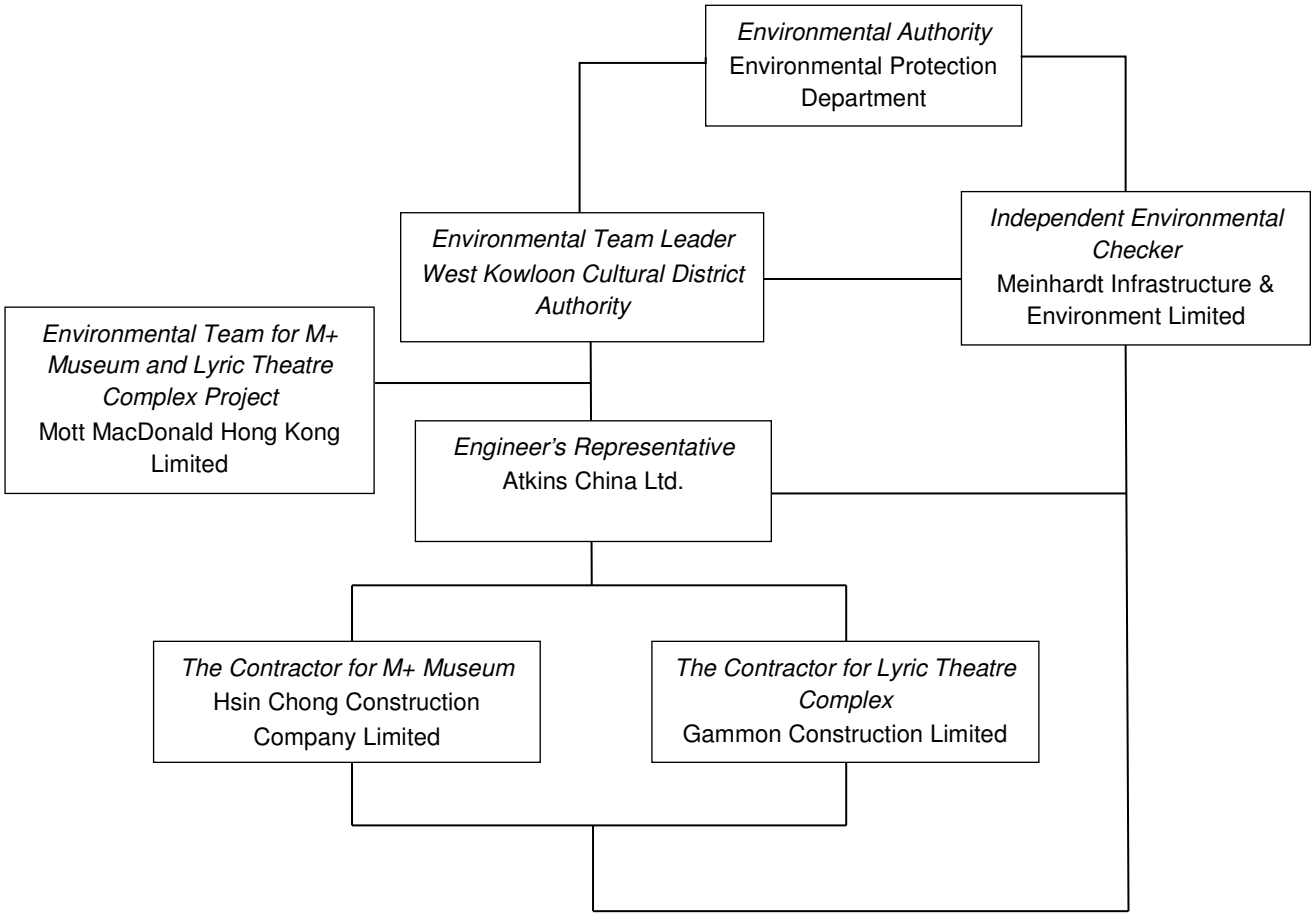


Table A-1: Contact information

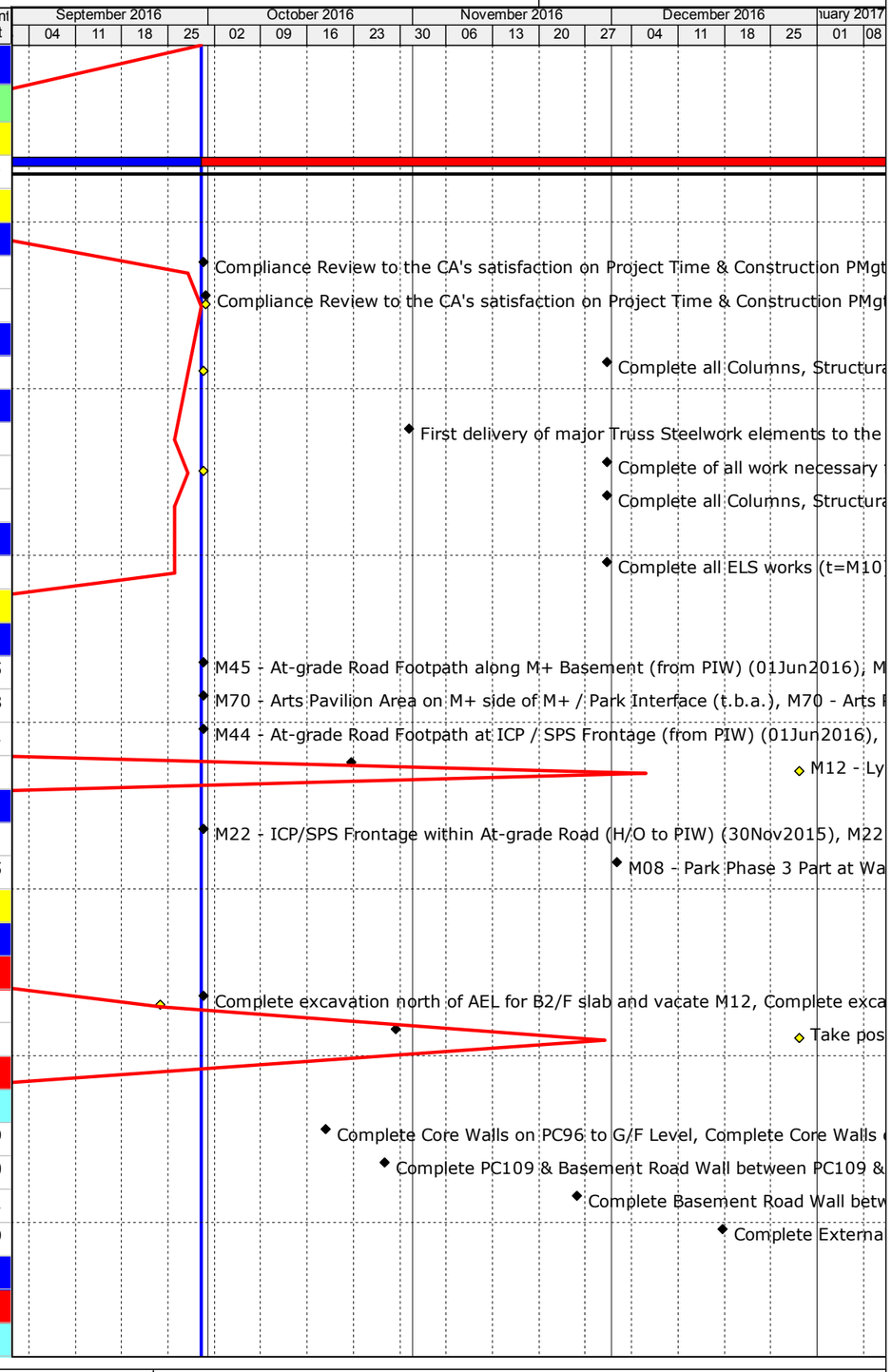
Company Name	Role	Name	Telephone
Atkins China Ltd.	Senior Resident Engineer	Mr. Alfred Lee	5401 7289
Meinhardt Infrastructure & Environment Limited	IEC	Mr. Fredrick Leong	2859 1739
Hsin Chong Construction Company Limited	Environmental Manager	Mr. Leo Chow	9266 6855
Gammon Construction Limited	Environmental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

B. Tentative Construction Programme

M+ Museum

(3MRP-12) Three Months Rolling Programme Status at 30 Sept 2016

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
3MRP Three Months Rolling Programme Update (30 Sept 016)									
Contract Key Dates & Milestones									
Contract Dates									
CP02	Contract Period (1218 days)	1216	26-Sep-15	25-Jan-19	26-Sep-15 A	19-Apr-19	30%	-84	-84
Schedule of Milesones									
Cost Centre A - Preliminaries and General Requirements									
MSA.06	Compliance Review to the CA's satisfaction on Project Time & C	0		30-Jun-16		30-Sep-16	0%	-2	6
MSA.07	Compliance Review to the CA's satisfaction on Project Time & C	0		30-Sep-16		30-Sep-16	0%	0	6
Cost Centre B - M+									
MSB.05	Complete all Columns, Structural Cores and other work necessa	0		30-Sep-16		30-Nov-16	0%	-2	27
Cost Centre C - Public Works and Tunnel Protection Works									
MSC.02	First delivery of major Truss Steelwork elements to the Site for	0		30-Jun-16		31-Oct-16	0%	-4	28
MSC.04i	Complete of all work necessary for commencement of erection	0		30-Sep-16		30-Nov-16	0%	-2	27
MSC.04ii	Complete all Columns, Structural Cores and other work necessa	0		31-Jul-16		30-Nov-16	0%	-4	27
Cost Centre D2 - Interfacing Car Park Works									
MSD2.01	Complete all ELS works (t=M10)	0		31-Jul-16		30-Nov-16	0%	-4	27
Interface Dates									
Access Date									
AD1420	M45 - At-grade Road Footpath along M+ Basement (from PIW)	0	01-Jun-16		30-Sep-16		0%	-121	225
AD1530	M70 - Arts Pavilion Area on M+ side of M+ / Park Interface (t.b	0	29-Jun-16		30-Sep-16		0%	-93	848
AD1410	M44 - At-grade Road Footpath at ICP / SPS Frontage (from PIW	0	01-Jun-16		30-Sep-16		0%	-121	341
AD1110	M12 - Lyric Interface North (2nd access) (30Nov16)	0	29-Dec-16		22-Oct-16		0%	67	34
Vacation Date									
VD1240	M22 - ICP/SPS Frontage within At-grade Road (H/O to PIW) (3(	0		30-Nov-15		30-Sep-16	0%	-304	-98
VD1070	M08 - Park Phase 3 Part at Waterfront (15Jun2016)	0		15-Jun-16		01-Dec-16	0%	-169	785
Interface Schedule (Refer to Interface Schedule - Appendix D1 20-Nov-2015)									
Lyric Theatre Complex and Extended Basement (Lyric)									
Along Interface North of AEL									
IF1020	Complete excavation north of AEL for B2/F slab and vacate M12	0		23-Sep-16		30-Sep-16	0%	-6	57
IF1060	Take possession of M12 for external wall construction	0	29-Dec-16		29-Oct-16		0%	61	28
Along Interface South of AEL									
Grid 6 & 12 Area									
IF1038	Complete Core Walls on PC96 to G/F Level	0		20-May-16		18-Oct-16	0%	-151	829
IF1036	Complete PC109 & Basement Road Wall between PC109 & 116	0		24-May-16		27-Oct-16	0%	-156	820
IF1039	Complete Basement Road Wall between PC96, 103 & 105 to G/	0		28-May-16		25-Nov-16	0%	-181	791
IF1034	Complete External Wall from B1/F to G/F Level between Grid 6	0		27-Jun-16		17-Dec-16	0%	-173	769
PIW Phase 1									
Civil & Structual Interface with PIW At-Grade Road									
M+ North West Boundary									



Baseline Milestone
Primary Baseline
Milestone
Non-Critical
Critical Bar
Actual Work

West Kowloon Cultural District Authority

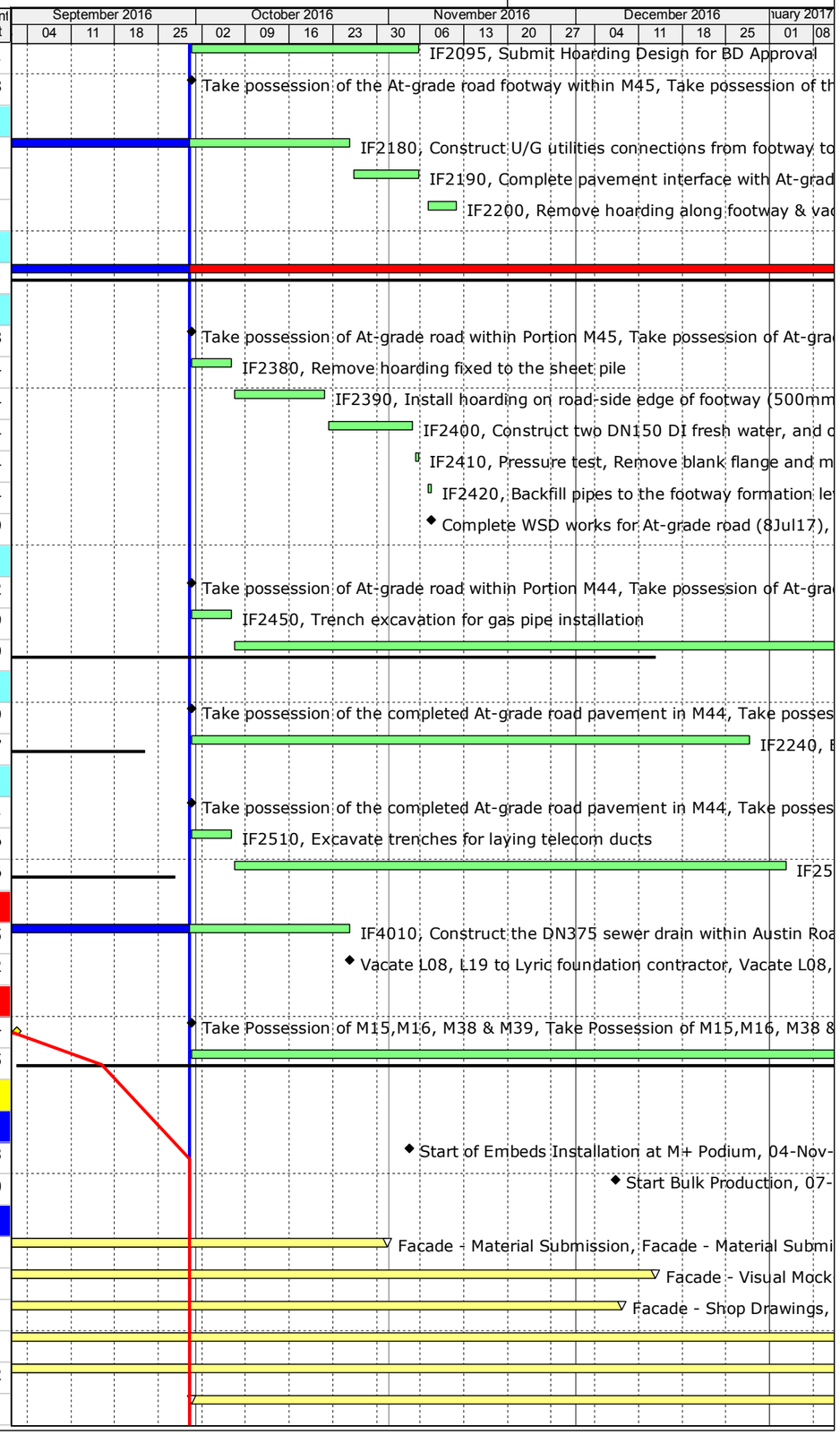
(3MRP-12) Three Months Rolling Programme Status at 30 Sept 2016

HSIN新昌 CHONG

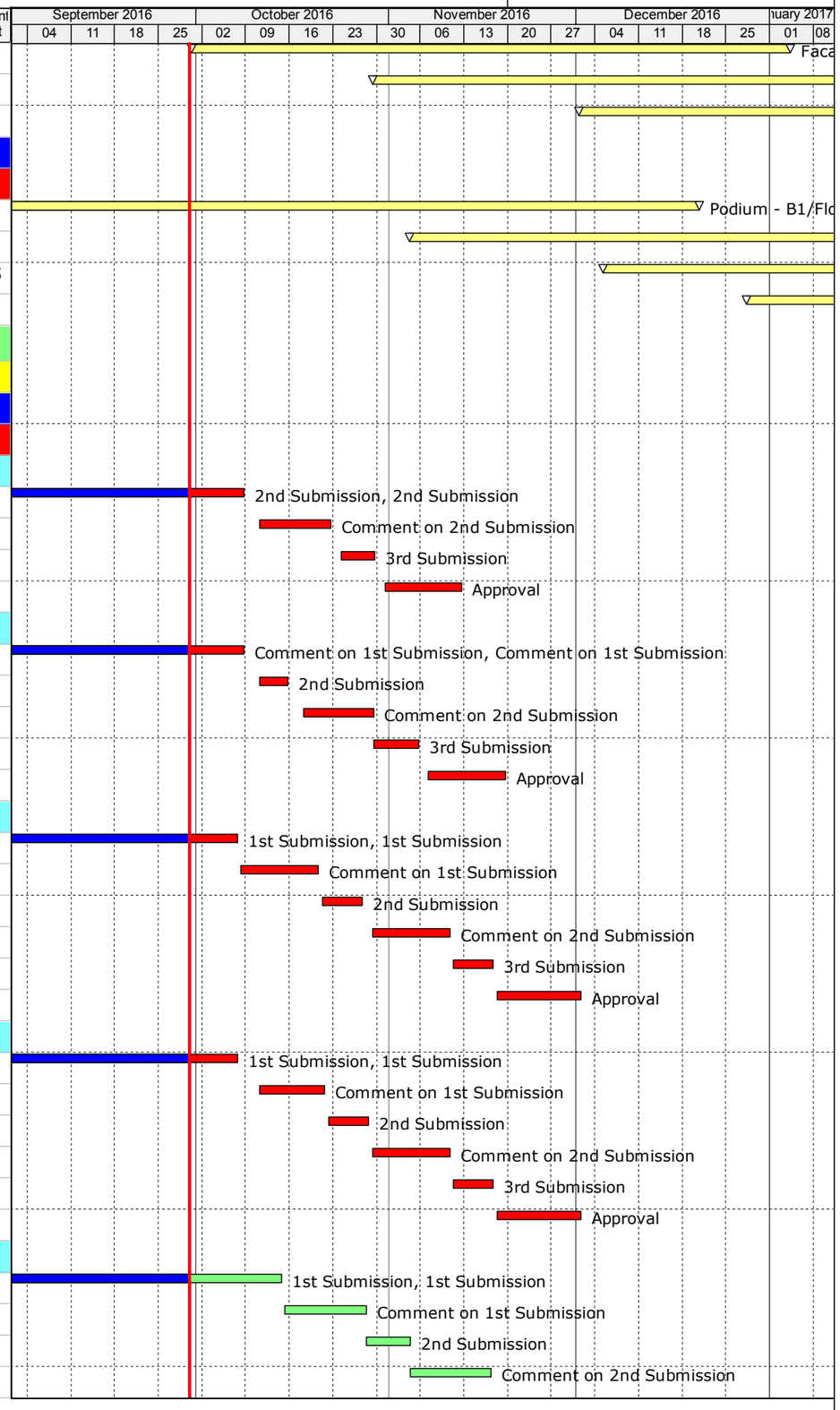
CMWP-12			
Date	Revision	Checked	Approved
06-May-16	(CMWP-07) Monthly Update Status at 30 April 2016	Jojo	Ricky Lau / Chris Chau
08-Jun-16	(CMWP-08) Monthly Update Status at 31 May 2016	Jojo	Ricky Lau / Chris Chau
14-Jul-16	(CMWP-09) Monthly Update Status at 30 June 2016	Jojo	Ricky Lau / Chris Chau
08-Aug-16	(CMWP-10) Monthly Update Status at 31 July 2016	Jojo	Ricky Lau / Chris Chau
08-Sep-16	(CMWP-11) Monthly Update Status at 31 Aug 2016	Jojo	Ricky Lau / Chris Chau

(3MRP-12) Three Months Rolling Programme Status at 30 Sept 2016

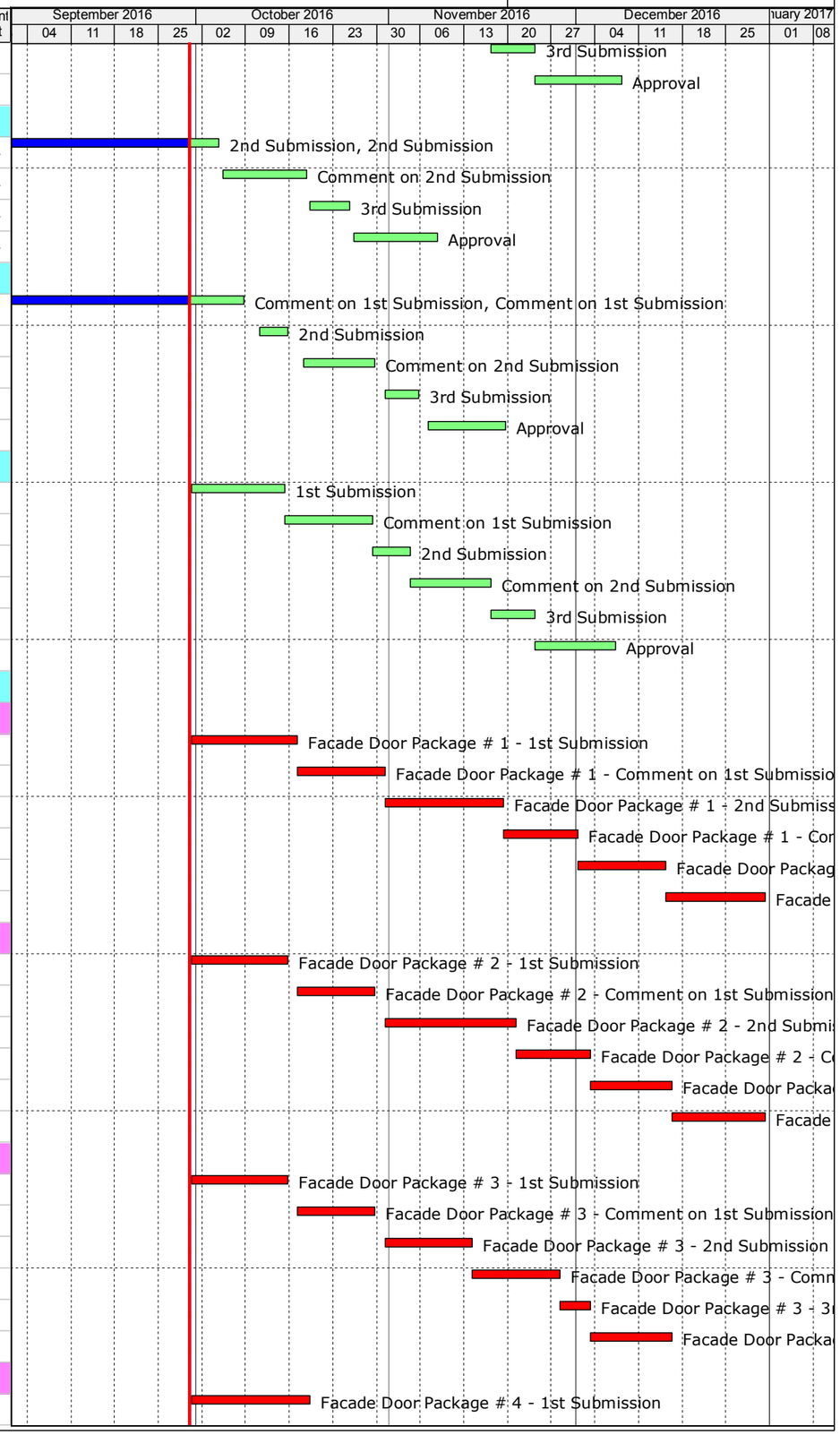
Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
IF2095	Submit Hoarding Design for BD Approval	30	01-Jun-16	30-Jun-16	30-Sep-16	05-Nov-16	0%	-105	481
IF2090	Take possession of the At-grade road footway within M45	0	01-Jun-16		30-Sep-16		0%	-121	598
Interface Car Park Utilities Works									
IF2180	Construct U/G utilities connections from footway to ICP/SPS	70	24-Mar-16	05-Jul-16	06-Jun-16 A	25-Oct-16	50%	-92	29
IF2190	Complete pavement interface with At-grade road	10	08-Jul-16	22-Jul-16	26-Oct-16	05-Nov-16	0%	-88	29
IF2200	Remove hoarding along footway & vacate footway	5	23-Jul-16	29-Jul-16	07-Nov-16	11-Nov-16	0%	-87	29
Sewage Pump Station									
IF2290	Construction of SPS Structure incl Building Services, ABWF and	361	11-Feb-16	22-Jun-17	20-May-16 A	30-Sep-17	12%	-66	-64
Water Main Interface with PIW									
IF2370	Take possession of At-grade road within Portion M45	0	01-Jun-16		30-Sep-16		0%	-121	808
IF2380	Remove hoarding fixed to the sheet pile	5	03-Jun-16	10-Jun-16	30-Sep-16	06-Oct-16	0%	-97	654
IF2390	Install hoarding on road-side edge of footway (500mm clearanc	12	11-Jun-16	27-Jun-16	07-Oct-16	21-Oct-16	0%	-95	654
IF2400	Construct two DN150 DI fresh water, and one DN100 DI salt w	12	28-Jun-16	18-Jul-16	22-Oct-16	04-Nov-16	0%	-91	654
IF2410	Pressure test, Remove blank flange and make final connections	1	19-Jul-16	19-Jul-16	05-Nov-16	05-Nov-16	0%	-91	654
IF2420	Backfill pipes to the footway formation levels	1	21-Jul-16	21-Jul-16	07-Nov-16	07-Nov-16	0%	-90	654
IF2430	Complete WSD works for At-grade road (8Jul17)	0		21-Jul-16		07-Nov-16	0%	-109	809
Towngas Interface with PIW									
IF2440	Take possession of At-grade road within Portion M44	0	01-Jun-16		30-Sep-16		0%	-121	682
IF2450	Trench excavation for gas pipe installation	5	03-Jun-16	10-Jun-16	30-Sep-16	06-Oct-16	0%	-97	549
IF2460	Construct portion of M+ & RDE building gas main (by Towngas)	130	11-Jun-16	13-Dec-16	07-Oct-16	15-Mar-17	0%	-73	549
Power Interface with PIW									
IF2230	Take possession of the completed At-grade road pavement in M	0	01-Jun-16		30-Sep-16		0%	-121	679
IF2240	Excavate trenches for laying 11kV & 132kV cable by CLP	73	03-Jun-16	22-Sep-16	30-Sep-16	28-Dec-16	0%	-79	547
Telecoms Interface with PIW									
IF2500	Take possession of the completed At-grade road pavement in M	0	01-Jun-16		30-Sep-16		0%	-121	341
IF2510	Excavate trenches for laying telecom ducts	5	03-Jun-16	10-Jun-16	30-Sep-16	06-Oct-16	0%	-97	276
IF2520	Lay ducts & leave connecting ends for PIW drawpit consstructio	72	11-Jun-16	27-Sep-16	07-Oct-16	03-Jan-17	0%	-79	276
Sewerage Interface with PIW									
IF4010	Construct the DN375 sewer drain within Austin Road West and	50	29-Dec-15	29-Feb-16	05-Dec-15 A	25-Oct-16	90%	-193	665
IF4020	Vacate L08, L19 to Lyric foundation contractor	0		29-Feb-16		25-Oct-16	0%	-239	822
Seawater Intake & Discharge Pipes Interface with PIW									
IF4100	Take Possession of M15,M16, M38 & M39	0	02-Sep-16		30-Sep-16		0%	-28	554
IF4110	Install two DN600 Seawater Intake mains, DN100 Chorinationa	120	02-Sep-16	09-Feb-17	30-Sep-16	25-Feb-17	0%	-14	445
Summary Facade Programme									
Major Key Milestone Dates									
SMS.1010	Start of Embeds Installation at M+ Podium	0			04-Nov-16		0%		813
SMS.1020	Start Bulk Production	0			07-Dec-16		0%		780
Pre-Construction, Procurements & Bulk Production									
SUM.0050	Facade - Material Submission	205			22-Oct-15 A	31-Oct-16	80%		-13
SUM.0060	Facade - Visual Mock-Up	231			27-Oct-15 A	13-Dec-16	70%		33
SUM.0020	Facade - Shop Drawings	145			05-Mar-16 A	08-Dec-16	30%		85
SUM.0030	Facade - Embed BD Submission	204			14-Mar-16 A	06-Mar-17	50%		-26
SUM.0040	Facade - BD Submission	180			05-Jun-16 A	09-Jun-17	10%		182
SUM.0080	Facade - Performance Test Mock-Up	253			30-Sep-16	09-Aug-17	0%		96



Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
SUM.0025	Facade Door - Shop Drawings	77			30-Sep-16	04-Jan-17	0%		-34
SUM.0070	Facade - Production Mock-Up	185			29-Oct-16	15-Jun-17	0%		28
SUM.0090	Facade - Bulk Production & Fabrication	361			01-Dec-16	22-Feb-18	0%		-10
M+ RC Structure									
M+ Podium									
SUM.0100	Podium - B1/Floor Slab Structure	215			15-Mar-16 A	20-Dec-16	40%		44
SUM.0110	Podium - Grd/Flr Slab Structure	291			04-Nov-16	27-Oct-17	0%		5
SUM.0120	Podium - 1st/Flr Slab Structure	276			05-Dec-16	10-Nov-17	0%		355
SUM.0130	Podium - 1M/Flr Slab Structure	222			28-Dec-16	26-Sep-17	0%		-29
Preliminaries									
Pre-Construction - Design & Procurements									
External Facade for M+ Podium (By Permasteelisa)									
Facade Shop Drawing Submission									
Podium Facade									
DS.2004.18	2nd Submission	6			30-Jul-16 A	08-Oct-16	90%		-44
DS.2004.20	Comment on 2nd Submission	11			11-Oct-16	22-Oct-16	0%		-44
DS.2004.22	3rd Submission	6			24-Oct-16	29-Oct-16	0%		-44
DS.2004.24	Approval	12			31-Oct-16	12-Nov-16	0%		-44
Glass Wall with T Mullion (Kinked & Straight B1/F & G/F),CW-01a to 03d									
DS.2004.28	Comment on 1st Submission	10			30-Jul-16 A	08-Oct-16	90%		-43
DS.2004.30	2nd Submission	5			11-Oct-16	15-Oct-16	0%		-43
DS.2004.32	Comment on 2nd Submission	10			18-Oct-16	29-Oct-16	0%		-43
DS.2004.34	3rd Submission	7			29-Oct-16	05-Nov-16	0%		-43
DS.2004.36	Approval	12			07-Nov-16	19-Nov-16	0%		-43
Glass Wall with Precast Mullion & Caremic Mullion,CW-04-05d and 07									
DS.2004.38	1st Submission	10			30-May-16 ^	07-Oct-16	70%		-30
DS.2004.40	Comment on 1st Submission	10			08-Oct-16	20-Oct-16	0%		-30
DS.2004.42	2nd Submission	6			21-Oct-16	27-Oct-16	0%		-30
DS.2004.44	Comment on 2nd Submission	11			29-Oct-16	10-Nov-16	0%		-30
DS.2004.46	3rd Submission	6			11-Nov-16	17-Nov-16	0%		-30
DS.2004.48	Approval	12			18-Nov-16	01-Dec-16	0%		-30
Podium Ceramic Concrete Tubes & with Perforated Cladding, FAC-CW-07									
DS.2004.50	1st Submission	10			27-May-16 ^	07-Oct-16	30%		-23
DS.2004.52	Comment on 1st Submission	10			11-Oct-16	21-Oct-16	0%		-23
DS.2004.54	2nd Submission	6			22-Oct-16	28-Oct-16	0%		-23
DS.2004.56	Comment on 2nd Submission	11			29-Oct-16	10-Nov-16	0%		-23
DS.2004.58	3rd Submission	6			11-Nov-16	17-Nov-16	0%		-23
DS.2004.60	Approval	12			18-Nov-16	01-Dec-16	0%		-23
Garden Gallery Ceramic Cladding & Ceiling,CE-03a,03b,03c									
DS.2004.62	1st Submission	10			17-Apr-16 A	14-Oct-16	90%		38
DS.2004.64	Comment on 1st Submission	11			15-Oct-16	28-Oct-16	0%		38
DS.2004.66	2nd Submission	6			28-Oct-16	04-Nov-16	0%		38
DS.2004.68	Comment on 2nd Submission	11			04-Nov-16	17-Nov-16	0%		38



Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.2004.70	3rd Submission	6			17-Nov-16	24-Nov-16	0%		38
DS.2004.72	Approval	12			24-Nov-16	08-Dec-16	0%		38
L3 Storefront,CW-08a,08b									
DS.2004.78	2nd Submission	5			22-Jul-16 A	04-Oct-16	70%		111
DS.2004.80	Comment on 2nd Submission	11			05-Oct-16	18-Oct-16	0%		111
DS.2004.82	3rd Submission	6			19-Oct-16	25-Oct-16	0%		111
DS.2004.84	Approval	12			26-Oct-16	08-Nov-16	0%		111
Strip Glazing at Skylight Gallery L3 & Plaza Skylight,CW10,SK-01,02									
DS.2004.88	Comment on 1st Submission	10			22-Jul-16 A	08-Oct-16	90%		45
DS.2004.90	2nd Submission	5			11-Oct-16	15-Oct-16	0%		45
DS.2004.92	Comment on 2nd Submission	11			18-Oct-16	29-Oct-16	0%		45
DS.2004.94	3rd Submission	6			31-Oct-16	05-Nov-16	0%		85
DS.2004.96	Approval	12			07-Nov-16	19-Nov-16	0%		85
Shop Drawings Metal Cladding FAC-LV-01b (Additional Scope)									
DS.2004.106	1st Submission	11			30-Sep-16*	15-Oct-16	0%		50
DS.2004.116	Comment on 1st Submission	12			15-Oct-16	29-Oct-16	0%		50
DS.2004.126	2nd Submission	5			29-Oct-16	04-Nov-16	0%		50
DS.2004.136	Comment on 2nd Submission	11			04-Nov-16	17-Nov-16	0%		50
DS.2004.146	3rd Submission	6			17-Nov-16	24-Nov-16	0%		50
DS.2004.156	Approval	11			24-Nov-16	07-Dec-16	0%		50
Facade Doors - Shop Drawings Submission (Additional Works)									
Facade Door Package # 1: Glazed Doors Bet Ceramic Concrete Mullion (Total = 53 nos)									
DS.2004.166	Facade Door Package # 1 - 1st Submission	12			30-Sep-16*	17-Oct-16	0%		-32
DS.2004.176	Facade Door Package # 1 - Comment on 1st Submission	12			17-Oct-16	31-Oct-16	0%		-32
DS.2004.186	Facade Door Package # 1 - 2nd Submission	17			31-Oct-16	19-Nov-16	0%		-32
DS.2004.196	Facade Door Package # 1 - Comment on 2nd Submission	10			19-Nov-16	01-Dec-16	0%		-32
DS.2004.206	Facade Door Package # 1 - 3rd Submission	12			01-Dec-16	15-Dec-16	0%		-32
DS.2004.216	Facade Door Package # 1 - Approval	12			15-Dec-16	31-Dec-16	0%		-32
Facade Door Package # 2: Sliding Door in L3 Storefront (Total = 4 nos automatic)									
DS.2004.226	Facade Door Package # 2 - 1st Submission	12			30-Sep-16*	15-Oct-16	0%		-32
DS.2004.236	Facade Door Package # 2 - Comment on 1st Submission	12			17-Oct-16	29-Oct-16	0%		-32
DS.2004.246	Facade Door Package # 2 - 2nd Submission	18			31-Oct-16	21-Nov-16	0%		-32
DS.2004.256	Facade Door Package # 2 - Comment on 2nd Submission	11			21-Nov-16	03-Dec-16	0%		-32
DS.2004.266	Facade Door Package # 2 - 3rd Submission	11			03-Dec-16	16-Dec-16	0%		-32
DS.2004.276	Facade Door Package # 2 - Approval	11			16-Dec-16	31-Dec-16	0%		-32
Facade Door Package # 3: Swing Door at L3 Cafe (Total = 1 no Manual)									
DS.2004.286	Facade Door Package # 3 - 1st Submission	12			30-Sep-16*	15-Oct-16	0%		-21
DS.2004.296	Facade Door Package # 3 - Comment on 1st Submission	12			17-Oct-16	29-Oct-16	0%		-21
DS.2004.306	Facade Door Package # 3 - 2nd Submission	12			31-Oct-16	14-Nov-16	0%		-21
DS.2004.316	Facade Door Package # 3 - Comment on 2nd Submission	12			14-Nov-16	28-Nov-16	0%		-21
DS.2004.326	Facade Door Package # 3 - 3rd Submission	5			28-Nov-16	03-Dec-16	0%		-21
DS.2004.336	Facade Door Package # 3 - Approval	11			03-Dec-16	16-Dec-16	0%		-21
Facade Door Package # 4: Swing Door Mounted in GW with T-Mullion (Total = 29 nos)									
DS.2004.346	Facade Door Package # 4 - 1st Submission	14			30-Sep-16*	19-Oct-16	0%		-32



Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.2004.356	Facade Door Package # 4 - omment on 1st Submission	12			19-Oct-16	02-Nov-16	0%		-32
DS.2004.366	Facade Door Package # 4 - 2nd Submission	14			02-Nov-16	18-Nov-16	0%		-32
DS.2004.376	Facade Door Package # 4 - Comment on 2nd Submission	13			18-Nov-16	03-Dec-16	0%		-32
DS.2004.386	Facade Door Package # 4 - 3rd Submission	10			03-Dec-16	15-Dec-16	0%		-32
DS.2004.396	Facade Door Package # 4 - Approval	12			15-Dec-16	31-Dec-16	0%		-32
Facade Door Package # 5: Large Double Door at B1/F Transformaer Room (Total = 1 no manual)									
DS.2004.406	Facade Door Package # 5 - 1st Submission	14			30-Sep-16*	18-Oct-16	0%		-22
DS.2004.416	Facade Door Package # 5 - Comment on 1st Submission	12			19-Oct-16	01-Nov-16	0%		-22
DS.2004.426	Facade Door Package # 5 - 2nd Submission	11			02-Nov-16	15-Nov-16	0%		-22
DS.2004.436	Facade Door Package # 5 - Comment on 2nd Submission	10			15-Nov-16	26-Nov-16	0%		-22
DS.2004.446	Facade Door Package # 5 - 3rd Submission	6			26-Nov-16	03-Dec-16	0%		-22
DS.2004.456	Facade Door Package # 5 - Approval	12			03-Dec-16	17-Dec-16	0%		-22
Facade Door Package # 6: B1/F Exit Doors (Total = 7 nos manual)									
DS.2004.466	Facade Door Package # 6 - 1st Submission	13			30-Sep-16*	18-Oct-16	0%		-22
DS.2004.476	Facade Door Package # 6 - Comment on 1st Submission	10			18-Oct-16	29-Oct-16	0%		-22
DS.2004.486	Facade Door Package # 6 - 2nd Submission	12			29-Oct-16	12-Nov-16	0%		-22
DS.2004.496	Facade Door Package # 6 - Comment on 2nd Submission	12			12-Nov-16	26-Nov-16	0%		-22
DS.2004.506	Facade Door Package # 6 - 3rd Submission	6			26-Nov-16	03-Dec-16	0%		-22
DS.2004.516	Facade Door Package # 6 - Approval	12			03-Dec-16	17-Dec-16	0%		-22
Facade Door Package # 7: Garden Gallery Door (Total = 2 nos manual)									
DS.2004.526	Facade Door Package # 7 - 1st Submission	12			30-Sep-16*	15-Oct-16	0%		-20
DS.2004.536	Facade Door Package # 7 - Comment on 1st Submission	12			17-Oct-16	29-Oct-16	0%		-20
DS.2004.546	Facade Door Package # 7 - 2nd Submission	12			31-Oct-16	14-Nov-16	0%		-20
DS.2004.556	Facade Door Package # 7 - Comment on 2nd Submission	11			14-Nov-16	26-Nov-16	0%		-20
DS.2004.566	Facade Door Package # 7 - 3rd Submission	6			26-Nov-16	03-Dec-16	0%		-20
DS.2004.576	Facade Door Package # 7 - Approval	10			03-Dec-16	15-Dec-16	0%		-20
Facade Door Package # 8: Door Loacted at Metal Claddings (Total = 20 nos manual)									
DS.2004.586	Facade Door Package # 8 - 1st Submission	11			30-Sep-16*	15-Oct-16	0%		-14
DS.2004.596	Facade Door Package # 8 - Comment on 1st Submission	12			15-Oct-16	29-Oct-16	0%		-14
DS.2004.606	Facade Door Package # 8 - 2nd Submission	6			29-Oct-16	05-Nov-16	0%		-14
DS.2004.616	Facade Door Package # 8 - Comment on 2nd Submission	11			05-Nov-16	18-Nov-16	0%		-14
DS.2004.626	Facade Door Package # 8 - 3rd Submission	6			18-Nov-16	25-Nov-16	0%		-14
DS.2004.636	Facade Door Package # 8 - Approval	11			25-Nov-16	08-Dec-16	0%		-14
Facade Door Package # 9: G/F Access Door in Ceramic Tube (Total = 8 nos)									
DS.2004.646	Facade Door Package # 9 - 1st Submission	12			30-Sep-16*	15-Oct-16	0%		-21
DS.2004.656	Facade Door Package # 9 - Comment on 1st Submission	12			17-Oct-16	31-Oct-16	0%		-21
DS.2004.666	Facade Door Package # 9 - 2nd Submission	12			31-Oct-16	14-Nov-16	0%		-21
DS.2004.676	Facade Door Package # 9 - Comment on 2nd Submission	11			14-Nov-16	26-Nov-16	0%		-21
DS.2004.686	Facade Door Package # 9 - 3rd Submission	6			26-Nov-16	03-Dec-16	0%		-21
DS.2004.696	Facade Door Package # 9 - Approval	11			03-Dec-16	16-Dec-16	0%		-21
Facade Door Package # 10: B1/F Carriageway Access Panel / Doors (Total = 24 nos)									
DS.2004.706	Facade Door Package # 10 - 1st Submission	12			30-Sep-16*	15-Oct-16	0%		-34
DS.2004.716	Facade Door Package # 10 - Comment on 1st Submission	11			17-Oct-16	29-Oct-16	0%		-34
DS.2004.726	Facade Door Package # 10 - 2nd Submission	18			29-Oct-16	19-Nov-16	0%		-34

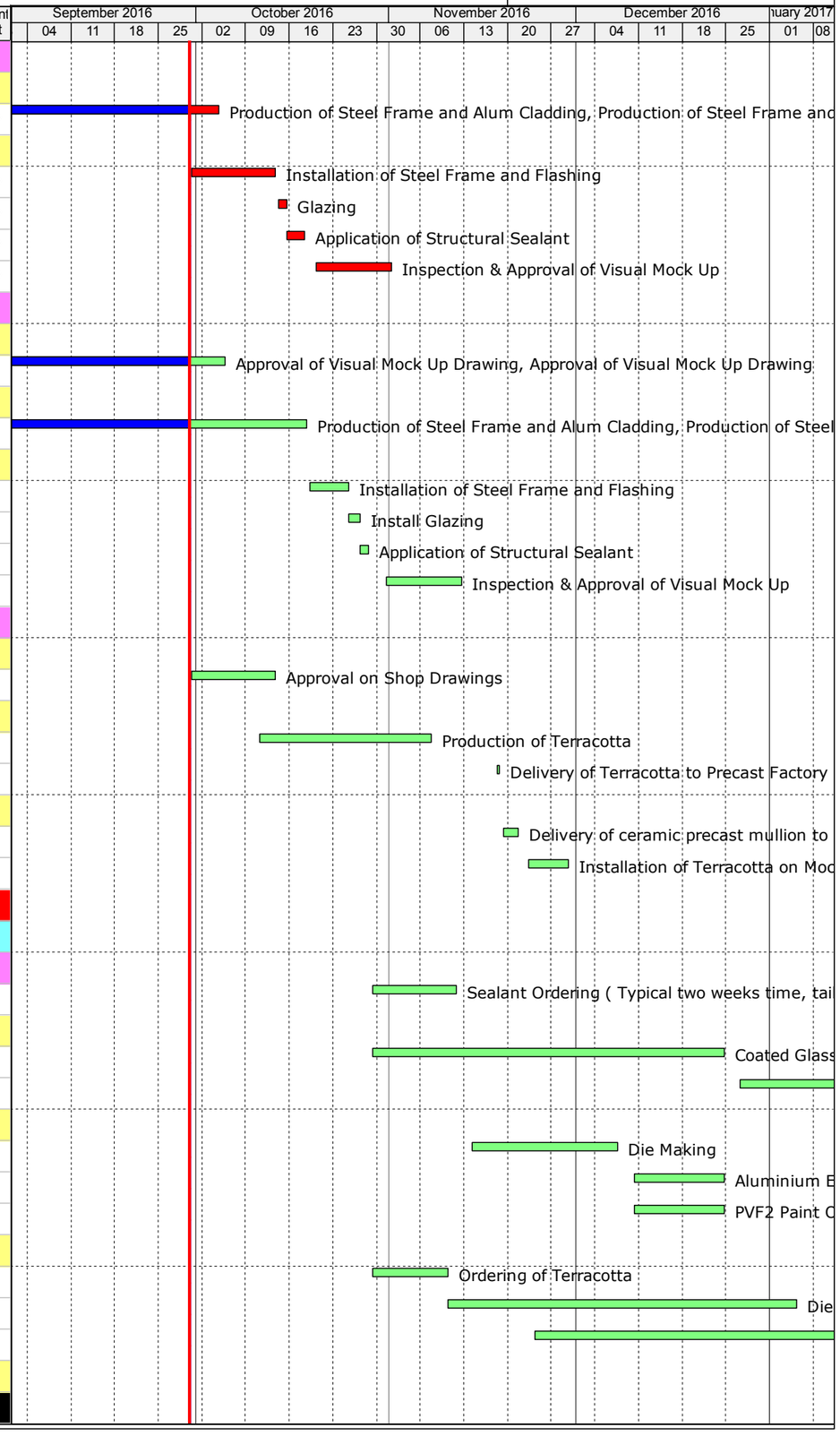
Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.2004.736	Facade Door Package # 10 - Comment on 2nd Submission	12			19-Nov-16	03-Dec-16	0%		-34
DS.2004.746	Facade Door Package # 10 - 3rd Submission	12			03-Dec-16	17-Dec-16	0%		-34
DS.2004.756	Facade Door Package # 10 - Approval	12			17-Dec-16	04-Jan-17	0%		-34
Facade Door Package # 11: CSF Bldg (Total = 2 nos)									
DS.2004.766	Facade Door Package # 11 - 1st Submission	12			30-Sep-16*	17-Oct-16	0%		-20
DS.2004.776	Facade Door Package # 11 - Comment on 1st Submission	12			17-Oct-16	31-Oct-16	0%		-20
DS.2004.786	Facade Door Package # 11 - 2nd Submission	11			31-Oct-16	12-Nov-16	0%		-20
DS.2004.796	Facade Door Package # 11 - Comment on 2nd Submission	10			12-Nov-16	24-Nov-16	0%		-20
DS.2004.806	Facade Door Package # 11 - 3rd Submission	6			24-Nov-16	01-Dec-16	0%		-20
DS.2004.816	Facade Door Package # 11 - Approval	12			01-Dec-16	15-Dec-16	0%		-20
Facade Door Package # 12: B1/F Smoke Vent Panel (Total = 1 no)									
DS.2004.826	Facade Door Package # 12 - 1st Submission	12			30-Sep-16*	17-Oct-16	0%		-22
DS.2004.836	Facade Door Package # 12 - Comment on 1st Submission	11			17-Oct-16	29-Oct-16	0%		-22
DS.2004.846	Facade Door Package # 12 - 2nd Submission	12			29-Oct-16	12-Nov-16	0%		-22
DS.2004.856	Facade Door Package # 12 - Comment on 2nd Submission	12			12-Nov-16	26-Nov-16	0%		-22
DS.2004.866	Facade Door Package # 12 - 3rd Submission	6			26-Nov-16	03-Dec-16	0%		-22
DS.2004.876	Facade Door Package # 12 - Approval	12			03-Dec-16	17-Dec-16	0%		-22
Embed BD Submission									
M+ Podium									
M+ Podium (B1/F) - Embed Submission									
DS.2005.10	BD Submission & Approval	60			16-Jul-16 A	05-Oct-16	90%		-38
DS.2005.12	Preparation of BD Consent Application	5			06-Oct-16	12-Oct-16	0%		-38
DS.2005.14	BD Consent Application	30			13-Oct-16	16-Nov-16	0%		-38
M+ Podium (G/F to 3/F) - Embed Submission									
DS.2005.24	BD Submission & Approval	60			15-Jul-16 A	05-Oct-16	90%		-1
DS.2005.26	Preparation of BD Consent Application	6			06-Oct-16	13-Oct-16	0%		-1
DS.2005.28	BD Consent Application	30			14-Oct-16	17-Nov-16	0%		-1
M+ Tower									
M+ Tower (4/F to RF/F) - Embed Submission									
DS.2006.02	1st embed BD submission to Consultants	11			30-Sep-16	14-Oct-16	0%		-26
DS.2006.04	1st embed BD submission Comments	11			15-Oct-16	27-Oct-16	0%		-26
DS.2006.06	2nd embed BD submission to Consultants	6			28-Oct-16	03-Nov-16	0%		-26
DS.2006.08	RSC Submitted to BD	3			04-Nov-16	08-Nov-16	0%		-26
DS.2006.10	BD Submission & Approval	60			08-Nov-16	20-Jan-17	0%		-26
BD Submission, Consent & Approval									
Tower Precast Unitized Facade									
DS.2016.12	1st BD Submission to Consultant	10			05-Jun-16 A	14-Oct-16	60%		-26
DS.2016.14	Comment on 1st Submission	11			15-Oct-16	27-Oct-16	0%		-26
DS.2016.16	2nd Submission	10			28-Oct-16	08-Nov-16	0%		-26
DS.2016.18	Comment on 2nd Submission	11			09-Nov-16	22-Nov-16	0%		-26
DS.2016.20	3rd Submission	10			22-Nov-16	02-Dec-16	0%		-26
DS.2016.22	Comment on 3rd Submission	12			03-Dec-16	16-Dec-16	0%		-26
DS.2016.24	RSE Submitted to BD	4			17-Dec-16	22-Dec-16	0%		-26
DS.2016.26	BD Submission & Approval	60			23-Dec-16	08-Mar-17	0%		-26

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
Podium Precast Unitized Facade									
DS.2016.32	1st BD Submission to Consultant	9			30-Sep-16*	12-Oct-16	0%		27
DS.2016.34	Comment on 1st Submission	12			13-Oct-16	26-Oct-16	0%		27
DS.2016.36	2nd Submission	9			27-Oct-16	05-Nov-16	0%		27
DS.2016.38	Comment on 2nd Submission	11			07-Nov-16	18-Nov-16	0%		27
DS.2016.40	3rd Submission	11			19-Nov-16	01-Dec-16	0%		27
DS.2016.42	Comment on 3rd Submission	11			02-Dec-16	14-Dec-16	0%		27
DS.2016.44	RSE Submitted to BD	3			15-Dec-16	19-Dec-16	0%		27
DS.2016.46	BD Submission & Approval	60			19-Dec-16	06-Mar-17	0%		27
Glass Wall with T Mullion (Kinked & Straight B1/F & G/F),CW-01a-03d									
DS.2016.52	1st BD Submission to Consultant	10			14-Nov-16	24-Nov-16	0%		21
DS.2016.54	Comment on 1st Submission	11			25-Nov-16	08-Dec-16	0%		21
DS.2016.56	2nd Submission	10			08-Dec-16	20-Dec-16	0%		21
DS.2016.58	Comment on 2nd Submission	12			20-Dec-16	06-Jan-17	0%		21
Glass Wall with Precast Mullion & Ceramic Mullion,CW-04 to 05d and 07									
DS.2016.72	1st BD Submission to Consultant	10			30-Sep-16*	13-Oct-16	0%		47
DS.2016.74	Comment on 1st Submission	11			14-Oct-16	27-Oct-16	0%		47
DS.2016.76	2nd Submission	11			28-Oct-16	09-Nov-16	0%		47
DS.2016.78	Comment on 2nd Submission	12			10-Nov-16	23-Nov-16	0%		47
DS.2016.80	3rd Submission	9			24-Nov-16	03-Dec-16	0%		47
DS.2016.82	Comment on 3rd Submission	11			05-Dec-16	16-Dec-16	0%		47
DS.2016.84	RSE Submitted to BD	3			17-Dec-16	20-Dec-16	0%		47
DS.2016.86	BD Submission & Approval	60			22-Dec-16	07-Mar-17	0%		47
Podium Ceramic Concrete Tubes & with Perforated Cladding,CE01a,01b,02a									
DS.2016.092	1st BD Submission to Consultant	9			11-Nov-16*	22-Nov-16	0%		29
DS.2016.094	Comment on 1st Submission	12			22-Nov-16	06-Dec-16	0%		29
DS.2016.096	2nd Submission	10			06-Dec-16	17-Dec-16	0%		29
DS.2016.098	Comment on 2nd Submission	12			17-Dec-16	04-Jan-17	0%		29
Garden Gallery Ceramic Cladding & Ceiling,CE-3a,3b,3c									
DS.2016.112	1st BD Submission to Consultant	9			17-Nov-16*	28-Nov-16	0%		108
DS.2016.114	Comment on 1st Submission	11			28-Nov-16	10-Dec-16	0%		108
DS.2016.116	2nd Submission	11			10-Dec-16	24-Dec-16	0%		108
DS.2016.118	Comment on 2nd Submission	11			24-Dec-16	09-Jan-17	0%		108
L3 Storefront,CW-08a,08b									
DS.2016.132	1st BD Submission to Consultant	10			05-Oct-16	17-Oct-16	0%		217
DS.2016.134	Comment on 1st Submission	12			17-Oct-16	31-Oct-16	0%		217
DS.2016.136	2nd Submission	10			31-Oct-16	11-Nov-16	0%		217
DS.2016.138	Comment on 2nd Submission	11			11-Nov-16	24-Nov-16	0%		217
DS.2016.140	3rd Submission	10			24-Nov-16	06-Dec-16	0%		217
DS.2016.142	Comment on 3rd Submission	12			06-Dec-16	20-Dec-16	0%		217
DS.2016.144	RSE Submitted to BD	3			20-Dec-16	24-Dec-16	0%		217
DS.2016.146	BD Submission & Approval	60			24-Dec-16	10-Mar-17	0%		217
Strip Glazing at Skylight Gallery L3 & Plaza Skylight,CW-10,SK-01,02									
DS.2016.152	1st BD Submission to Consultant	10			01-Nov-16*	11-Nov-16	0%		156

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.2016.154	Comment on 1st Submission	12			12-Nov-16	25-Nov-16	0%		156
DS.2016.156	2nd Submission	10			25-Nov-16	07-Dec-16	0%		156
DS.2016.158	Comment on 2nd Submission	11			08-Dec-16	22-Dec-16	0%		156
DS.2016.160	3rd Submission	10			22-Dec-16	05-Jan-17	0%		156
Material Submission & Approval									
Material Sample Submission									
DS.2018.28	Facade Door - Glass sample submission	36			06-Dec-16	20-Jan-17	0%		-34
DS.2018.38	Facade Door - Steel Frame & Ironmogery sample submission	36			06-Dec-16	20-Jan-17	0%		-34
Material Approval									
DS.2020.10	Lighting Submission , conduits , trucking , wiring , junction box	11			20-Dec-15 A	31-Oct-16	80%		23
DS.2020.14	Low-e Glass Samples	208			21-Dec-15 A	31-Oct-16	90%		-13
DS.2020.16	Reflective Glass (Glass Wall With T- Mullion)	208			21-Dec-15 A	31-Oct-16	90%		-16
DS.2020.12	Approval for Terracotta Colour	11			27-Dec-15 A	31-Oct-16	80%		-16
Visual Mock Up									
Tower Facade Panel Visual Mock Up									
Terracotta									
DS.2021.22	Production of Precast Panel & Delivery to site	37			23-Aug-16 A	08-Oct-16	90%		-22
Installation									
DS.2021.24	Handover of Working Area	0			11-Oct-16		0%		-22
DS.2021.26	Installation on Mock Up	2			11-Oct-16	12-Oct-16	0%		-22
DS.2021.28	Glazing and Sealant application	3			13-Oct-16	15-Oct-16	0%		-22
DS.2021.30	Inspection & Approval of Visual Mock Up	11			17-Oct-16	28-Oct-16	0%		-22
Concrete Shell Mock Up									
Podium Facade Panel Visual Mock Up									
Terracotta									
DS.2021.52	Production & delivery of Terracotta to Precast Factory	12			23-Mar-16 A	08-Oct-16	90%		-29
DS.2021.54	Production of Precast Panel & Delivery	40			11-Oct-16	25-Nov-16	0%		-29
Installation									
DS.2021.56	Handover of Working Area	0			26-Nov-16		0%		-29
DS.2021.58	Installation on Mock Up	4			26-Nov-16	30-Nov-16	0%		-29
DS.2021.59	Inspection & Approval of Visual Mock Up	11			01-Dec-16	13-Dec-16	0%		-29
Ground Floor Ceramic Cladding , Glass Wall with Ceramic Mullion & Concrete Mullion									
Visual Mock Up Drawing Submission									
DS.2021.77	Drawing Approval	13			30-Sep-16	17-Oct-16	0%		-10
Ordering & Production of Concrete Shell Mock Up Material									
DS.2021.78	Coated Glass producion	60			02-Mar-16 A	15-Oct-16	90%		-1
Terracotta									
DS.2021.88	Production & delivery of Terracotta to Precast Factory	12			24-Mar-16 A	08-Oct-16	90%		-34
DS.2021.90	Production of Precast Panel & Delivery	30			11-Oct-16	14-Nov-16	0%		-34
Installation									
DS.2021.94	Installation on Frame	8			15-Nov-16	23-Nov-16	0%		-34
DS.2021.96	Glazing & Sealant Application	2			24-Nov-16	25-Nov-16	0%		-34
DS.2021.97	Inspection & Approval of Visual Mock Up	10			25-Nov-16	07-Dec-16	0%		-34
Hybrid Mock Up									

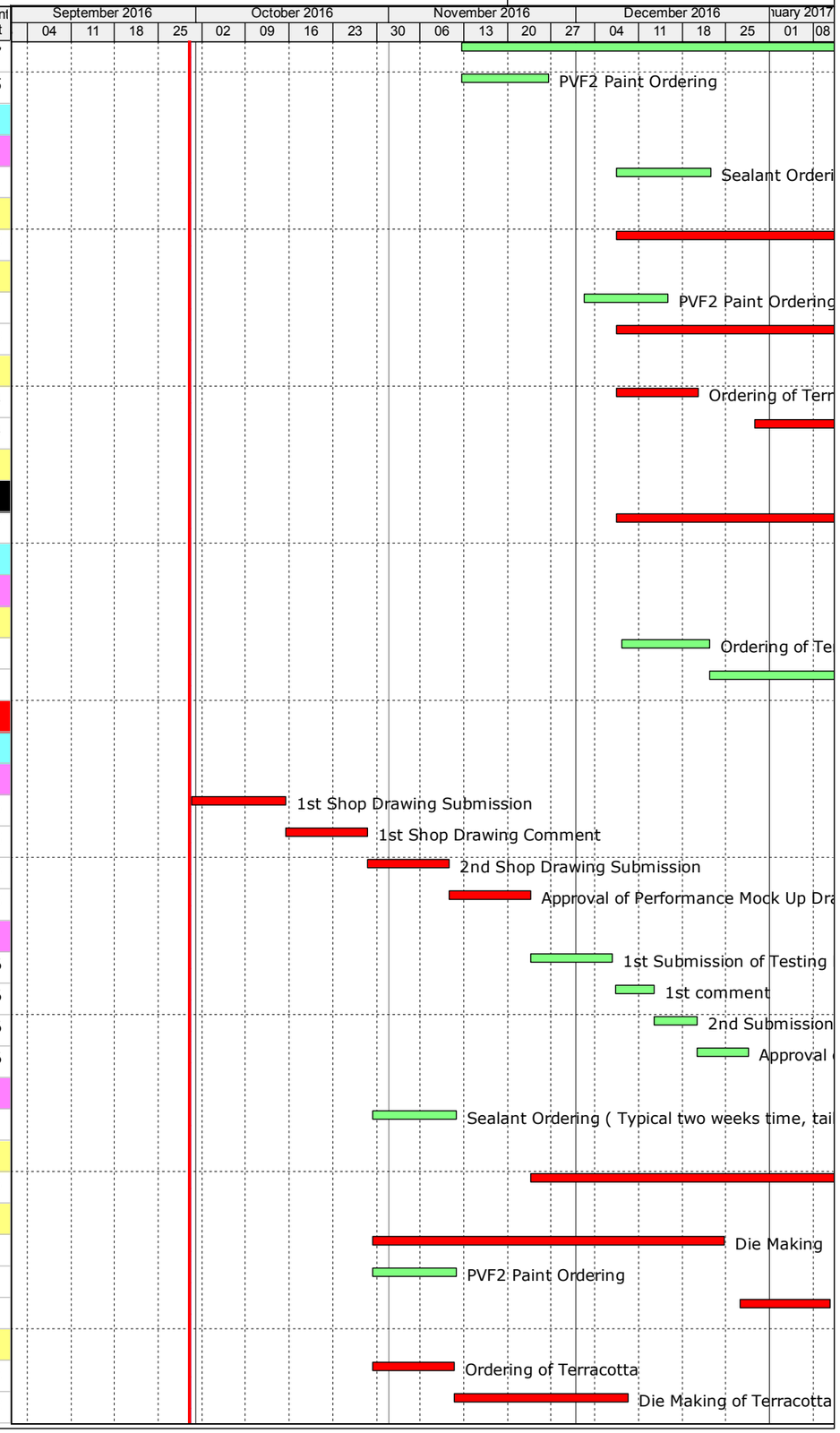
(3MRP-12) Three Months Rolling Programme Status at 30 Sept 2016

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
Glass Wall with T-Mullion,CW-02a,02b									
Ordering & Production of Hybrid Mock Up Mateial									
DS.2021.118	Production of Steel Frame and Alum Cladding	30			02-Mar-16 A	04-Oct-16	90%		-26
Installation of Mock Up Sample									
DS.2021.124	Installation of Steel Frame and Flashing	10			30-Sep-16	13-Oct-16	0%		-26
DS.2021.126	Glazing	2			14-Oct-16	15-Oct-16	0%		-26
DS.2021.128	Application of Structural Sealant	2			15-Oct-16	18-Oct-16	0%		-26
DS.2021.98	Inspection & Approval of Visual Mock Up	10			20-Oct-16	01-Nov-16	0%		-26
L3 Storefront,CW-08									
Shopdrawing Submission									
DS.2021.146	Approval of Visual Mock Up Drawing	13			11-May-16 A	05-Oct-16	90%		66
Ordering & Production of Hybrid Mock Up Mateial									
DS.2021.152	Production of Steel Frame and Alum Cladding	36			04-Mar-16 A	18-Oct-16	80%		51
Installation of Mock Up Sample									
DS.2021.158	Installation of Steel Frame and Flashing	6			19-Oct-16	25-Oct-16	0%		51
DS.2021.160	Install Glazing	2			25-Oct-16	27-Oct-16	0%		51
DS.2021.162	Application of Structural Sealant	2			27-Oct-16	28-Oct-16	0%		51
DS.2021.163	Inspection & Approval of Visual Mock Up	11			31-Oct-16	12-Nov-16	0%		51
Garden Galley Visual Mock Up,ce-03a,03c									
Visual Mock Up Drawing Submission									
DS.2021.172	Approval on Shop Drawings	10			30-Sep-16*	13-Oct-16	0%		45
Terracotta									
DS.2021.176	Production of Terracotta	24			11-Oct-16	07-Nov-16	0%		45
DS.2021.178	Delivery of Terracotta to Precast Factory	1			18-Nov-16	18-Nov-16	0%		45
Installation									
DS.2021.187	Delivery of ceramic precast mullion to site	2			19-Nov-16	21-Nov-16	0%		45
DS.2021.188	Installation of Terracotta on Mock-up	6			23-Nov-16	29-Nov-16	0%		45
Production Mock Up									
Tower Precast Facade Panels w/ Percast Concrete , Terracotta, lighting & Curtain Wall									
Tower Facade - Ordering & Production of Material									
DS.2022.4	Sealant Ordering (Typical two weeks time, tailor made need th	12			29-Oct-16*	11-Nov-16	0%		90
Tower Facade - Glass Production & Fabrication									
DS.2022.6	Coated Glass Production	48			29-Oct-16*	24-Dec-16	0%		30
DS.2022.8	Fabrication of Insulated Glass Panel	13			27-Dec-16	11-Jan-17	0%		30
Tower Facade - Curtain Wall glazed panel production and Fabricatioin									
DS.2022.12	Die Making	21			14-Nov-16*	07-Dec-16	0%		33
DS.2022.16	Aluminium Extrusion Production	12			10-Dec-16	24-Dec-16	0%		33
DS.2022.14	PVF2 Paint Ordering	12			10-Dec-16	24-Dec-16	0%		33
Tower Facade - Terracotta									
DS.2022.22	Ordering of Terracotta	10			29-Oct-16	10-Nov-16	0%		56
DS.2022.24	Die Making of Terracotta	45			10-Nov-16	05-Jan-17	0%		56
DS.2022.26	Productioin & delivery of Terracotta Mockup Sample	45			24-Nov-16	19-Jan-17	0%		56
Tower Facade - Precast Concrete Facade									
Tower Facade - Precast Facade Die Making									

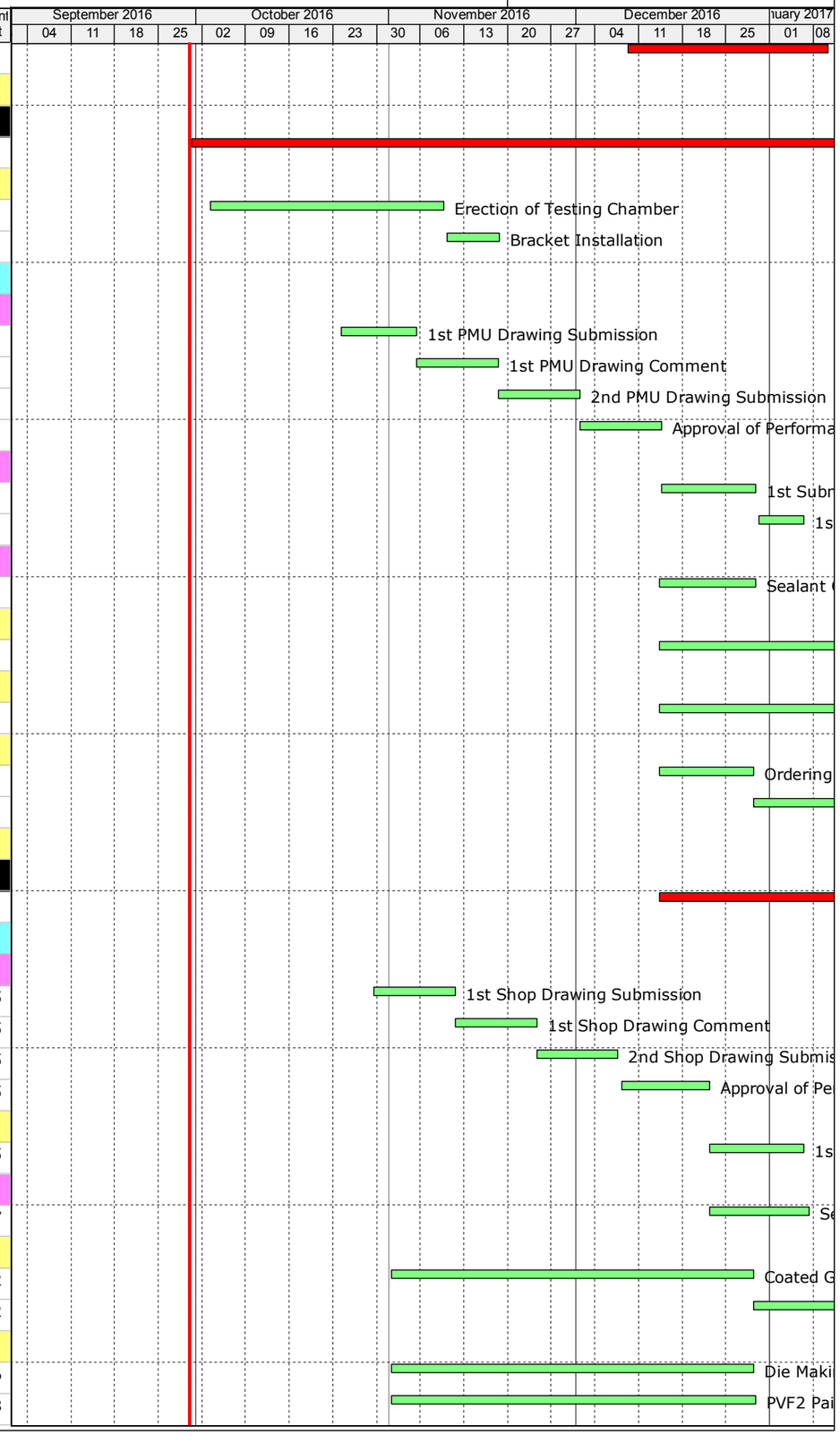


Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.2022.28	Tower Facade Precast Concrete Mould Making	45			29-Oct-16	20-Dec-16	0%		34
DS.2022.30	Concreting of Precast Concrete	18			22-Dec-16	13-Jan-17	0%		34
Podium Precast Facade Panel w/ Percast Concrete , Terracotta & Curtain Wall									
Podium Facade - Ordering & Production of Material									
Podium Facade - Glass Production & Fabrication									
DS.2022.42	Sealant Ordering (Typical two weeks time, tailor made need th	12			14-Dec-16*	29-Dec-16	0%		24
DS.2022.44	Coated Glass Production	48			14-Dec-16	14-Feb-17	0%		-24
Podium Facade - Curtain Wall glazed panel production and Fabricatioin									
DS.2022.48	Die Making	48			14-Dec-16	14-Feb-17	0%		-29
DS.2022.46	PVF2 Paint Ordering	12			14-Dec-16	29-Dec-16	0%		19
Podium Facade - Terracotta									
DS.2022.58	Ordering of Terracotta	10			14-Nov-16	24-Nov-16	0%		-44
DS.2022.60	Die Making of Terracotta	45			25-Nov-16	19-Jan-17	0%		-44
Podium Facade - Precast Concrete Facade									
Podium Facade - Percast Facade Die Making									
DS.2022.64	Percast Concrete Mould Making	45			14-Dec-16	10-Feb-17	0%		-12
Kinked Glass Wall with T Mullion and reflective Glass at B1,CW-02b									
Kinked Glass Wall with T Mullion - Ordering & Production of Material									
Kinked Glass Wall with T Mullion - Glass Production & Fabrication									
DS.2022.78	Coated Glass Production	48			01-Nov-16	29-Dec-16	0%		-21
DS.2022.76	Sealant Ordering (Typical two weeks time, tailor made need th	12			21-Nov-16*	03-Dec-16	0%		10
DS.2022.80	Fabrication of Insulated Glass Panel	12			29-Dec-16	13-Jan-17	0%		-21
Kinked Glass Wall with T Mullion - Curtain Wall glazed panel production and Fabricatioin									
DS.2022.86	Order of Paint	24			01-Nov-16	29-Nov-16	0%		10
DS.2022.84	PVF2 Paint Ordering	12			01-Nov-16	15-Nov-16	0%		22
DS.2022.82	Die Making	48			21-Nov-16	18-Jan-17	0%		-43
DS.2022.90	Fabrication of T Steel Mullions	17			29-Nov-16	17-Dec-16	0%		10
DS.2022.93	Painting of Steel Mullion	6			19-Dec-16	27-Dec-16	0%		10
Glass Wall with Percast Concrete Mullion,CW-07									
Glass Wall with PC Mullion - Ordering & Production of Material									
Glass Production & Fabrication									
DS.2022.104	Sealant Ordering (Typical two weeks time, tailor made need th	12			07-Dec-16*	22-Dec-16	0%		124
DS.2022.106	Coated Glass Production	48			07-Dec-16*	08-Feb-17	0%		76
Glass Wall glazed panel production and Fabricatioin									
DS.2022.112	Die Making	48			07-Dec-16*	08-Feb-17	0%		71
DS.2022.110	PVF2 Paint Ordering	12			07-Dec-16*	22-Dec-16	0%		119
Precast Concrete Mullion									
DS.2022.120	Production Precast Concrete Moulding	24			07-Dec-16*	07-Jan-17	0%		91
L3 Storefront,CW-08									
L3 Storefront - Ordering & Production of Material									
Glass Production & Fabrication									
DS.2022.130	Sealant Ordering (Typical two weeks time, tailor made need th	12			12-Nov-16	26-Nov-16	0%		161
DS.2022.132	Coated Glass Production	48			12-Nov-16	11-Jan-17	0%		113
Glass Wall glazed panel production and Fabricatioin									

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.2022.138	Die Making	48			12-Nov-16	11-Jan-17	0%		107
DS.2022.136	PVF2 Paint Ordering	12			12-Nov-16	26-Nov-16	0%		155
G/F Facade - Precast Concrete Tubes , Ceramic Rows Rainscreen Cladding, Ceramic Precast Mull									
G/F Facade - Ordering & Production of Material									
DS.2022.152	Sealant Ordering (Typical two weeks time, tailor made need th	12			07-Dec-16*	22-Dec-16	0%		24
G/F Facade - Glass Production & Fabrication									
DS.2022.154	Coated Glass producion	48			07-Dec-16	08-Feb-17	0%		-13
G/F Facade - Curtain Wall glazed panel production and Fabricatioin									
DS.2022.158	PVF2 Paint Ordering	12			02-Dec-16	15-Dec-16	0%		34
DS.2022.160	Die Making	48			07-Dec-16	08-Feb-17	0%		-18
G/F Facade - Terracotta									
DS.2022.168	Ordering of Terracotta	11			07-Dec-16*	20-Dec-16	0%		-34
DS.2022.170	Die Making of Terracotta	49			29-Dec-16	01-Mar-17	0%		-34
G/F Facade - Precast Concrete Facade									
G/F Facade - Precast Facade Die Making									
DS.2022.1[illegible]	Percast Concrete Mould Making	50			07-Dec-16*	10-Feb-17	0%		-27
Garden Gallery,CE-03a,03c									
Garden Gallery - Ordering & Production of Material									
Garden Gallery - Terracotta									
DS.2022.186	Ordering of Terracotta	11			08-Dec-16	22-Dec-16	0%		38
DS.2022.188	Die Making of Terracotta	36			22-Dec-16	08-Feb-17	0%		38
Performance Testing Mock Up									
Tower Precast Facade Panels w/ Precast Concrete , Terracotta, lighting & Curtain Wall									
Tower Facade - Drawing Submission									
DS.2026.2	1st Shop Drawing Submission	11			30-Sep-16	15-Oct-16	0%		-15
DS.2026.4	1st Shop Drawing Comment	11			15-Oct-16	28-Oct-16	0%		-15
DS.2026.6	2nd Shop Drawing Submission	11			28-Oct-16	10-Nov-16	0%		-15
DS.2026.8	Approval of Performance Mock Up Drawing	11			10-Nov-16	23-Nov-16	0%		-15
Tower Facade - Submission of Testing Proposal									
DS.2026.10	1st Submission of Testing Proposal	11			23-Nov-16	06-Dec-16	0%		276
DS.2026.12	1st comment	6			07-Dec-16	13-Dec-16	0%		276
DS.2026.14	2nd Submission of Testing Proposal	6			13-Dec-16	20-Dec-16	0%		276
DS.2026.16	Approval of Testing Proposal	6			20-Dec-16	28-Dec-16	0%		276
Tower Facade - Ordering & Production of Material									
DS.2026.18	Sealant Ordering (Typical two weeks time, tailor made need th	12			29-Oct-16	11-Nov-16	0%		66
Tower Facade - Glass Production & Fabrication									
DS.2026.26	Coated Glass Production	48			23-Nov-16	21-Jan-17	0%		-15
Tower Facade - Curtain Wall glazed panel production and Fabricatioin									
DS.2026.22	Die Making	48			29-Oct-16	24-Dec-16	0%		2
DS.2026.24	PVF2 Paint Ordering	12			29-Oct-16*	11-Nov-16	0%		50
DS.2026.28	Aluminium Extrusion Production	12			27-Dec-16	10-Jan-17	0%		2
Tower Facade - Terracotta									
DS.2026.36	Ordering of Terracotta	11			29-Oct-16	11-Nov-16	0%		-22
DS.2026.38	Die Making of Terracotta	24			11-Nov-16	09-Dec-16	0%		-22

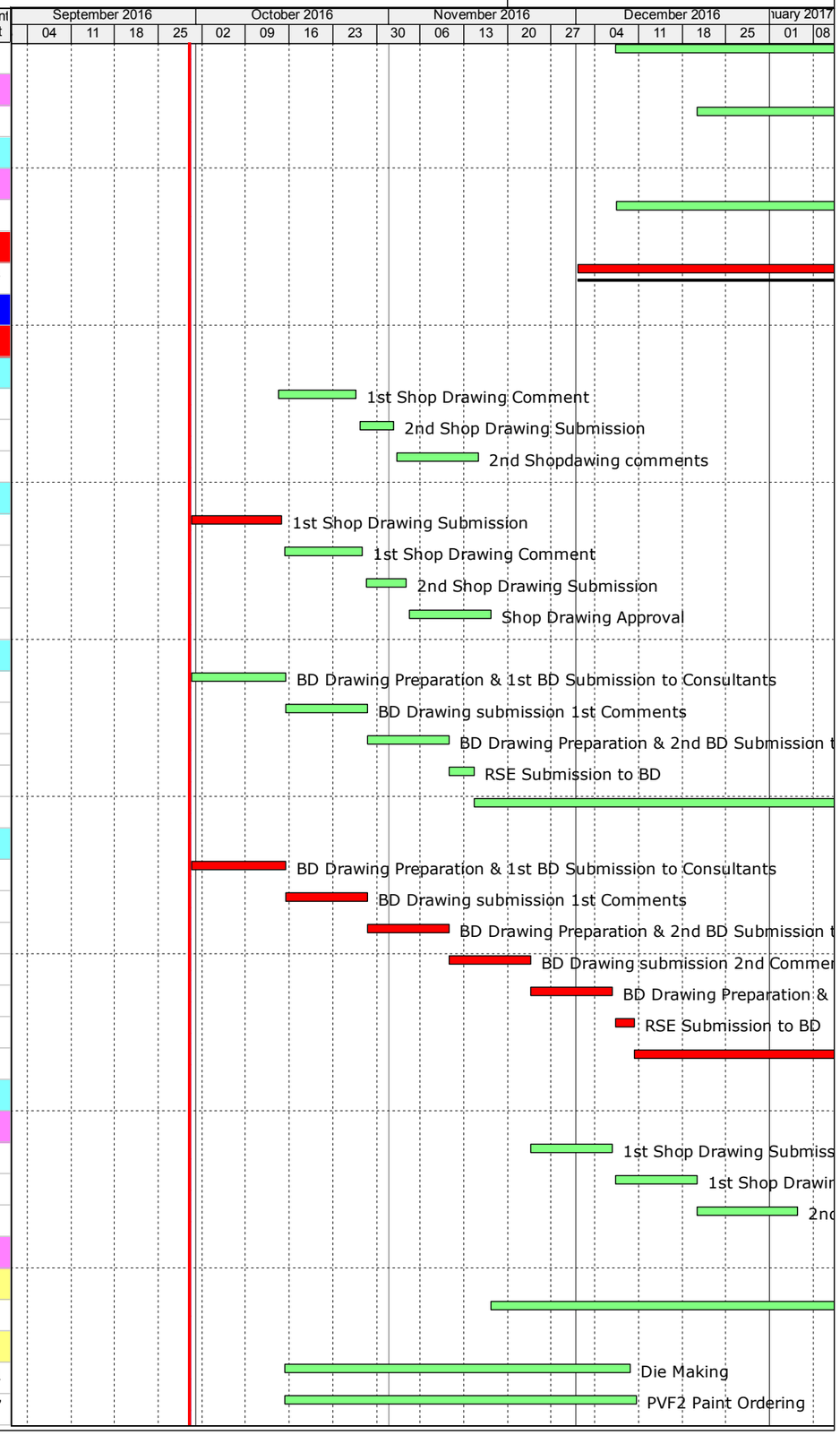


Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.2026.40	Productioin & delivery of Terracotta Mockup Sample	24			09-Dec-16	10-Jan-17	0%		-22
Tower Facade - Precast Concrete Facade									
Tower Facade - Precast Facade Die Making									
DS.2026.42	Percast Concrete Mould Making	96			30-Sep-16	25-Jan-17	0%		-36
Tower Facade - Installation									
DS.2026.50	Erection of Testing Chamber	32			03-Oct-16*	09-Nov-16	0%		66
DS.2026.52	Bracket Installation	8			10-Nov-16	18-Nov-16	0%		66
Podium Facade Wall Performance Testing									
Podium Facade - Drawing Submission									
DS.2026.58	1st PMU Drawing Submission	11			24-Oct-16	05-Nov-16	0%		36
DS.2026.60	1st PMU Drawing Comment	11			05-Nov-16	18-Nov-16	0%		36
DS.2026.62	2nd PMU Drawing Submission	11			18-Nov-16	01-Dec-16	0%		36
DS.2026.64	Approval of Performance Mock Up Drawing	11			01-Dec-16	14-Dec-16	0%		44
Podium Facade - Submission of Testing Proposal									
DS.2026.66	1st Submission of Testing Proposal	11			14-Dec-16	29-Dec-16	0%		44
DS.2026.68	1st comment	6			30-Dec-16	06-Jan-17	0%		44
Podium Facade - Ordering & Production of Material									
DS.2026.74	Sealant Ordering (Typical two weeks time, tailor made need th	12			14-Dec-16	29-Dec-16	0%		79
Podium Facade - Glass Production & Fabrication									
DS.2026.76	Coated Glass Producion	48			14-Dec-16	14-Feb-17	0%		67
Podium Facade - Curtain Wall glazed panel production and Fabricatioin									
DS.2026.80	Die Making	48			14-Dec-16	14-Feb-17	0%		25
Podium Facade - Terracotta									
DS.2026.90	Ordering of Terracotta	11			14-Dec-16	29-Dec-16	0%		26
DS.2026.92	Die Making of Terracotta	36			29-Dec-16	14-Feb-17	0%		26
Podium Facade - Precast Concrete Facade									
Podium Facade - Precast Facade Die Making									
DS.2026.1(	Percast Concrete Mould Making	96			14-Dec-16	12-Apr-17	0%		-11
Kinked Glass Wall with T Mullion and Reflective Glass at B1,CW-02b									
Kinked Glass Wall - Drawing Submission									
DS.2026.122	1st Shop Drawing Submission	11			29-Oct-16*	11-Nov-16	0%		125
DS.2026.124	1st Shop Drawing Comment	11			11-Nov-16	24-Nov-16	0%		125
DS.2026.126	2nd Shop Drawing Submission	11			24-Nov-16	07-Dec-16	0%		125
DS.2026.128	Approval of Performance Mock Up Drawing	11			08-Dec-16	22-Dec-16	0%		125
Kinked Glass Wall - Submission of Testing Proposal									
DS.2026.130	1st Submission of Testing Proposal	11			22-Dec-16	06-Jan-17	0%		125
Kinked Glass Wall - Ordering & Production of Material									
DS.2026.138	Sealant Ordering (Typical two weeks time, tailor made need th	12			22-Dec-16	07-Jan-17	0%		147
Kinked Glass Wall - Glass Production & Fabrication									
DS.2026.140	Coated Glass Production	48			01-Nov-16*	29-Dec-16	0%		142
DS.2026.142	Fabrication of Insulated Glass Panel	12			29-Dec-16	13-Jan-17	0%		142
Kinked Glass Wall - Curtain Wall glazed panel production and Fabricatioin									
DS.2026.146	Die Making	48			01-Nov-16	29-Dec-16	0%		136
DS.2026.144	PVF2 Paint Ordering	49			01-Nov-16	29-Dec-16	0%		148

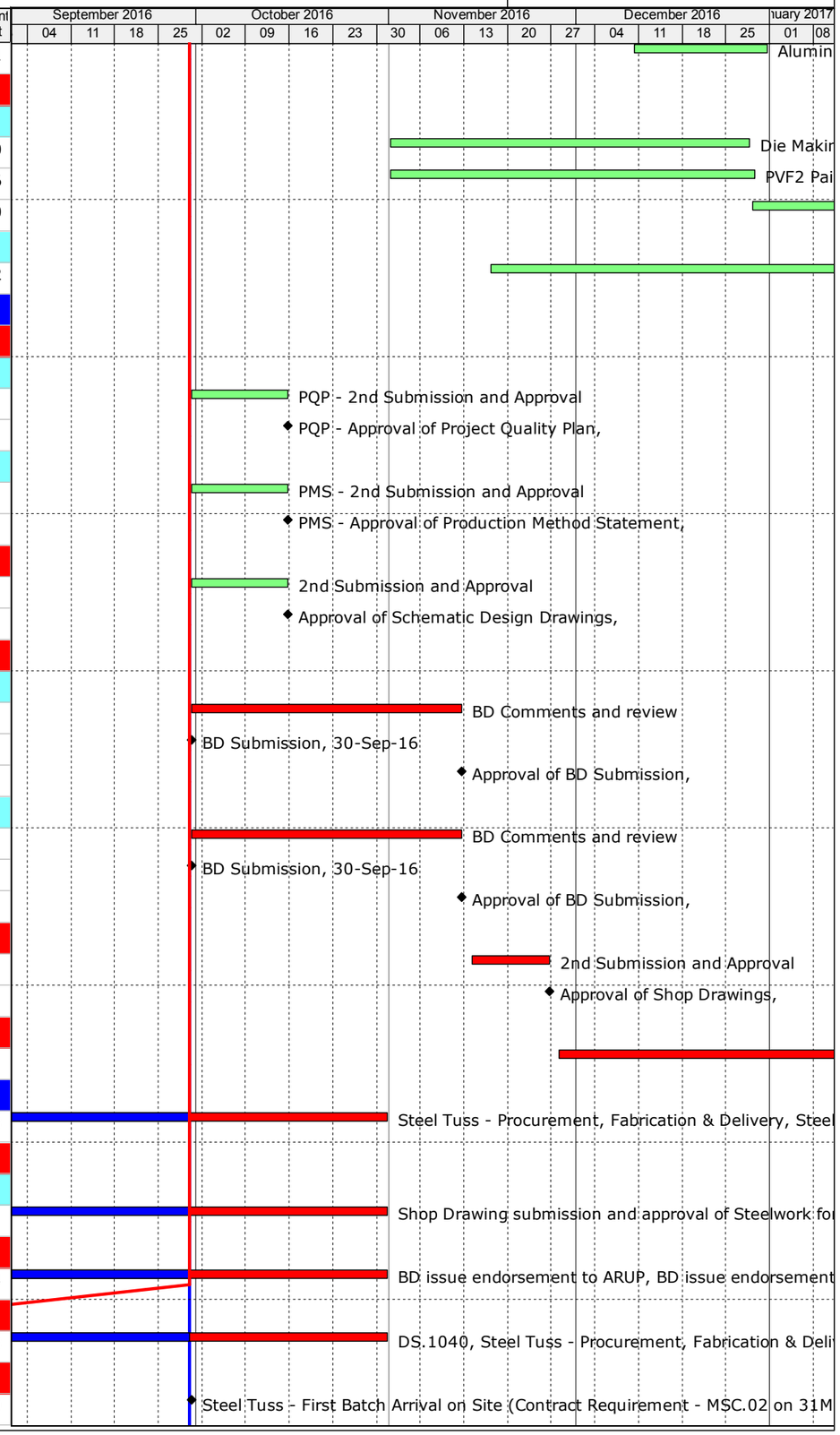


Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.2026.148	Aluminium Extrusion Production	12			29-Dec-16	13-Jan-17	0%		136
Kinked Glass Wall - T Steel Mullion Production									
DS.2026.154	Order of Paint	24			01-Nov-16	29-Nov-16	0%		198
DS.2026.156	Painting of Steel Mullion	4			29-Nov-16	03-Dec-16	0%		198
Kinked Glass Wall - Installation									
DS.2026.160	Installation on Mock Up	11			03-Dec-16	16-Dec-16	0%		198
Glass Wall with Ceramic Precast Mullions at ground Flr Main Enterance,CW-04									
Glass Wall with PC Mullions - Drawing Submission									
DS.2026.168	1st Shop Drawing Submission	11			26-Oct-16	08-Nov-16	0%		134
DS.2026.170	1st Shop Drawing Comment	11			08-Nov-16	21-Nov-16	0%		134
DS.2026.172	2nd Shop Drawing Submission	11			21-Nov-16	03-Dec-16	0%		134
DS.2026.174	Approval of Performance Mock Up Drawing	11			03-Dec-16	16-Dec-16	0%		134
Glass Wall with PC Mullions - Glass Production & Fabrication									
DS.2026.176	Coated Glass Producion	72			07-Dec-16	08-Mar-17	0%		70
Glass Wall with PC Mullions - Glazed Panel production and Fabricatioin									
DS.2026.180	Die Making	36			07-Dec-16	21-Jan-17	0%		77
DS.2026.182	Aluminium Extrusion Production	24			22-Dec-16*	21-Jan-17	0%		77
Glass Wall with PC Mullions - Precast Concrete Facade									
Glass Wall with PC Mullions - Precast Facade Die Making									
DS.2026.188	Percast Concrete Mould Making	24			07-Dec-16	07-Jan-17	0%		95
Vertical Glass Wall at Skylight Gallery,CW-10									
Vertical Glass Wall @ Gallery - Drawing Submission									
DS.2026.204	1st Shop Drawing Submission	11			31-Oct-16	11-Nov-16	0%		45
DS.2026.206	1st Shop Drawing Comment	11			12-Nov-16	25-Nov-16	0%		45
DS.2026.208	2nd Shop Drawing Submission	11			26-Nov-16	09-Dec-16	0%		45
DS.2026.210	Approval of Performance Mock Up Drawing	11			10-Dec-16	24-Dec-16	0%		45
Vertical Glass Wall @ Gallery - Alum Frame									
DS.2026.212	Die Making	38			17-Oct-16*	29-Nov-16	0%		90
DS.2026.214	Aluminium Extrusion Production	25			24-Dec-16	25-Jan-17	0%		45
3/F Plaza Skylight & Terrace,SK-01									
DS.2026.224	Glass Production & Fabrication	24			17-Oct-16	12-Nov-16	0%		215
3/F Plaza Skylight - Drawing Submission									
DS.2026.228	1st Shop Drawing Submission	11			17-Oct-16	29-Oct-16	0%		136
DS.2026.230	1st Shop Drawing Comment	11			29-Oct-16	11-Nov-16	0%		136
DS.2026.232	2nd Shop Drawing Submission	11			11-Nov-16	24-Nov-16	0%		136
DS.2026.234	Approval of Performance Mock Up Drawing	11			24-Nov-16	07-Dec-16	0%		136
3/F Plaza Skylight - Alum Frame									
DS.2026.236	Die Making	36			07-Dec-16	21-Jan-17	0%		136
DS.2026.238	Aluminium Extrusion Production	24			22-Dec-16	21-Jan-17	0%		136
Bulk Production and Fabricaton									
Tower Glazed Precast Facade Panels									
Tower Glazed - Glass Production & Fabrication									
DS.2208.14	Coated Glass Production	97			01-Dec-16*	30-Mar-17	0%		132
Tower Glazed - Curtain Wall glazed panel production and Fabricatioin									

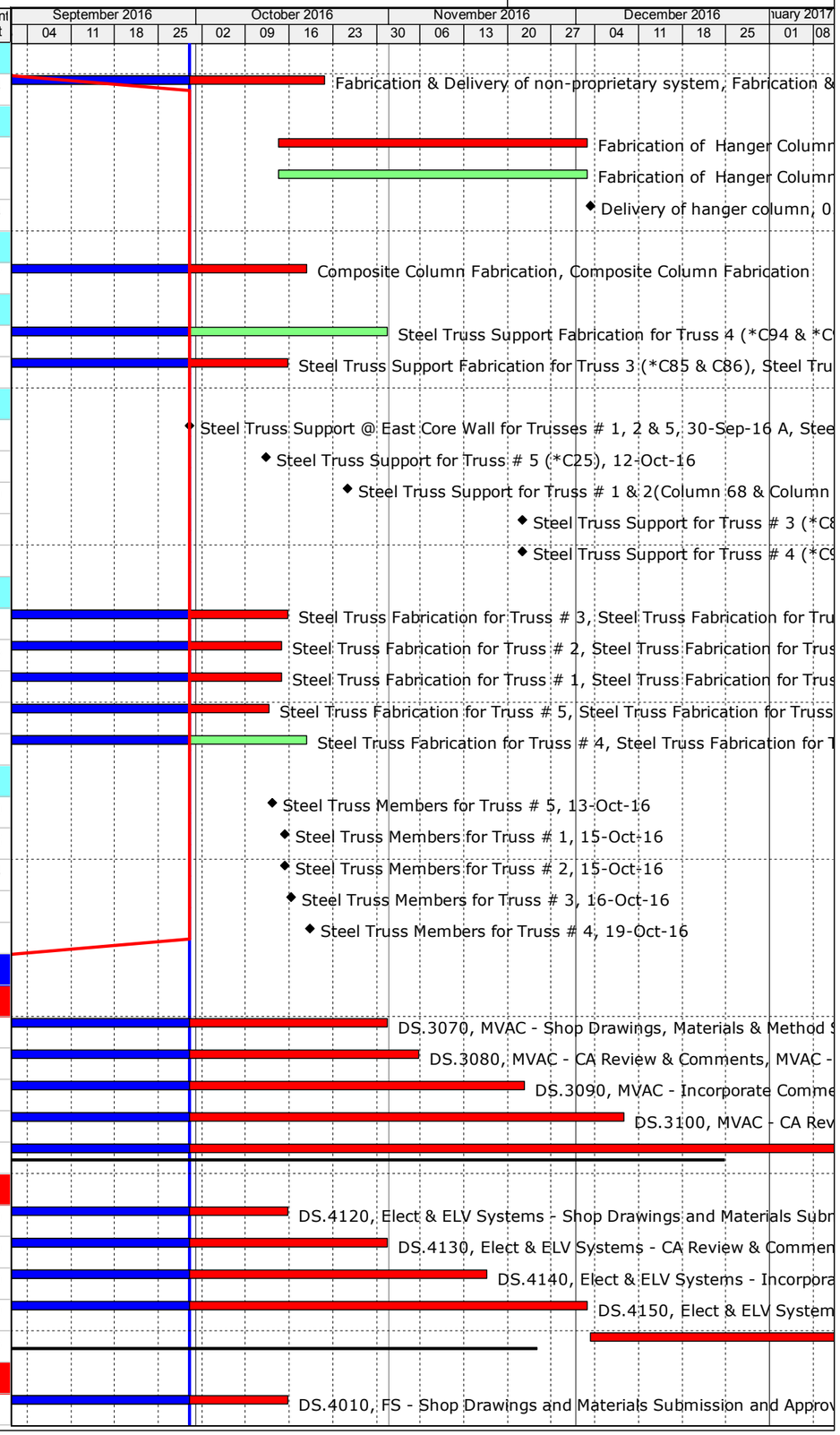
Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.2208.16	Die Making	47			07-Dec-16*	06-Feb-17	0%		50
Tower Glazed - Tarracotta Production									
DS.2208.10	Die Making	47			20-Dec-16*	18-Feb-17	0%		29
Ceramic Concrete Tubes at G/F (Internal & External),CE-01a,01b,02a									
Terracotta Production									
DS.2258.116	Die Making	92			07-Dec-16*	31-Mar-17	0%		19
Bulk Production, Assembly & Delivery to Site									
DS.2208	Terracotta Production & Fabrication	270	01-Dec-16	27-Aug-17	01-Dec-16*	27-Aug-17	0%	0	-34
(By Permasteelisa) External Facade for CSF Bldg									
CSF Glass Wall (South Ele. 6/F-7/F,North Ele.6/F-8/F,South Ele. G/F)									
CSF Glass Wall Shopdawing Submission & Approval									
DS.2260.12	1st Shop Drawing Comment	11			14-Oct-16	26-Oct-16	0%		91
DS.2260.14	2nd Shop Drawing Submission	5			27-Oct-16	01-Nov-16	0%		91
DS.2260.16	2nd Shopdawing comments	11			02-Nov-16	15-Nov-16	0%		91
CSF Louvre - FAC-LV-03 (Additional Works)									
DS.2260.18	1st Shop Drawing Submission	11			30-Sep-16	14-Oct-16	0%		-3
DS.2260.20	1st Shop Drawing Comment	11			15-Oct-16	27-Oct-16	0%		89
DS.2260.21	2nd Shop Drawing Submission	6			28-Oct-16	03-Nov-16	0%		89
DS.2260.22	Shop Drawing Approval	11			04-Nov-16	17-Nov-16	0%		89
CSF Embed BD Submission & Approval									
DS.2260.24	BD Drawing Preparation & 1st BD Submission to Consultants	11			30-Sep-16*	15-Oct-16	0%		20
DS.2260.26	BD Drawing submission 1st Comments	11			15-Oct-16	28-Oct-16	0%		20
DS.2260.28	BD Drawing Preparation & 2nd BD Submission to Consultants	11			28-Oct-16	10-Nov-16	0%		20
DS.2260.30	RSE Submission to BD	3			10-Nov-16	14-Nov-16	0%		20
DS.2260.32	BD Submission & Approval	48			14-Nov-16	12-Jan-17	0%		20
CSF Glass Wall BD Submission & Approval									
DS.2260.38	BD Drawing Preparation & 1st BD Submission to Consultants	11			30-Sep-16	15-Oct-16	0%		-3
DS.2260.40	BD Drawing submission 1st Comments	11			15-Oct-16	28-Oct-16	0%		-3
DS.2260.42	BD Drawing Preparation & 2nd BD Submission to Consultants	11			28-Oct-16	10-Nov-16	0%		-3
DS.2260.44	BD Drawing submission 2nd Comments	11			10-Nov-16	23-Nov-16	0%		-3
DS.2260.46	BD Drawing Preparation & 3rd BD Submission to Consultants	11			23-Nov-16	06-Dec-16	0%		-3
DS.2260.48	RSE Submission to BD	3			07-Dec-16	10-Dec-16	0%		-3
DS.2260.50	BD Submission & Approval	48			10-Dec-16	11-Feb-17	0%		-3
CSF Glass Wall Performance Testing									
Drawing Submission									
DS.2260.58	1st Shop Drawing Submission	11			23-Nov-16	06-Dec-16	0%		86
DS.2260.60	1st Shop Drawing Comment	11			07-Dec-16	20-Dec-16	0%		86
DS.2260.62	2nd Shop Drawing Submission	11			20-Dec-16	05-Jan-17	0%		86
Ordering & Production of Material									
Glass Production & Fabrication									
DS.2260.66	Coated Glass Production	48			17-Nov-16*	16-Jan-17	0%		89
Curtain Wall glazed panel production and Fabricatioin									
DS.2260.70	Die Making	48			15-Oct-16*	09-Dec-16	0%		111
DS.2260.72	PVF2 Paint Ordering	49			15-Oct-16*	10-Dec-16	0%		127



Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.2260.74	Aluminium Extrusion Production	17			10-Dec-16	31-Dec-16	0%		111
Bulk Ordering & Production of Material									
Curtain Wall glazed panel production and Fabricatioin									
DS.2260.92	Die Making	48			01-Nov-16*	28-Dec-16	0%		140
DS.2260.94	PVF2 Paint Ordering	49			01-Nov-16	29-Dec-16	0%		156
DS.2260.96	Aluminium Extrusion Production	17			29-Dec-16	18-Jan-17	0%		140
Glass Production & Fabrication									
DS.2260.102	Coated Glass Production	48			17-Nov-16*	16-Jan-17	0%		132
(Redland) Precast Facade for M+ Podium & CSF Bldg									
(Redland) General Submission									
(Redland) Project Quality Plan									
DS.3240	PQP - 2nd Submission and Approval	12			30-Sep-16	15-Oct-16	0%		16
DS.3250	PQP - Approval of Project Quality Plan	0				15-Oct-16	0%		19
(Redland) Production Method Statement									
DS.3290	PMS - 2nd Submission and Approval	12			30-Sep-16	15-Oct-16	0%		16
DS.3300	PMS - Approval of Production Method Statement	0				15-Oct-16	0%		19
(Redland) Drawing Submission and Approval									
DS.3340	2nd Submission and Approval	12			30-Sep-16	15-Oct-16	0%		16
DS.3350	Approval of Schematic Design Drawings	0				15-Oct-16	0%		19
(Redland) BD Submission and Approval									
(Redland) BD Submission									
DS.3420	BD Comments and review	36			30-Sep-16	12-Nov-16	0%		-8
DS.3410	BD Submission	0			30-Sep-16		0%		-9
DS.3430	Approval of BD Submission	0				12-Nov-16	0%		-9
(Redland) Fixing Layout for ARUP's Onward Submission to BD									
DS.3450	BD Comments and review	36			30-Sep-16	12-Nov-16	0%		-8
DS.3440	BD Submission	0			30-Sep-16		0%		-9
DS.3460	Approval of BD Submission	0				12-Nov-16	0%		-9
(Redland) Shop Drawings									
DS.3500	2nd Submission and Approval	12			14-Nov-16	26-Nov-16	0%		-8
DS.3510	Approval of Shop Drawings	0				26-Nov-16	0%		-9
(Redland) Bulk Production, Fabrication and Delivery									
DS.3520	Procurements of Materials	90			28-Nov-16	18-Mar-17	0%		-8
Structural Steel Trusses									
DS.1130	Steel Tuss - Procurement, Fabrication & Delivery	150			29-Jan-16 A	31-Oct-16	75%		-33
Design, Shop Dwgs, Materials, Method Statement & Welding)									
Shop Drawings									
DS.1030.41	Shop Drawing submission and approval of Steelwork for Shear I	117			21-Dec-15 A	31-Oct-16	80%		-21
Statutory Approval Status e.g. (BD & MTRC Approval)-1									
DS.7060b11	BD issue endorsement to ARUP	14			26-Aug-16 A	31-Oct-16	90%		-34
Materials Procurements									
DS.1040	Steel Tuss - Procurement, Fabrication & Delivery	150	14-Feb-16	12-Jul-16	01-Oct-15 A	31-Oct-16	80%	-91	-33
Fabrication & Delivery To Site									
DS.1050	Steel Tuss - First Batch Arrival on Site (Contract Requirement -	0	01-Jun-16		30-Sep-16		0%	-121	-39

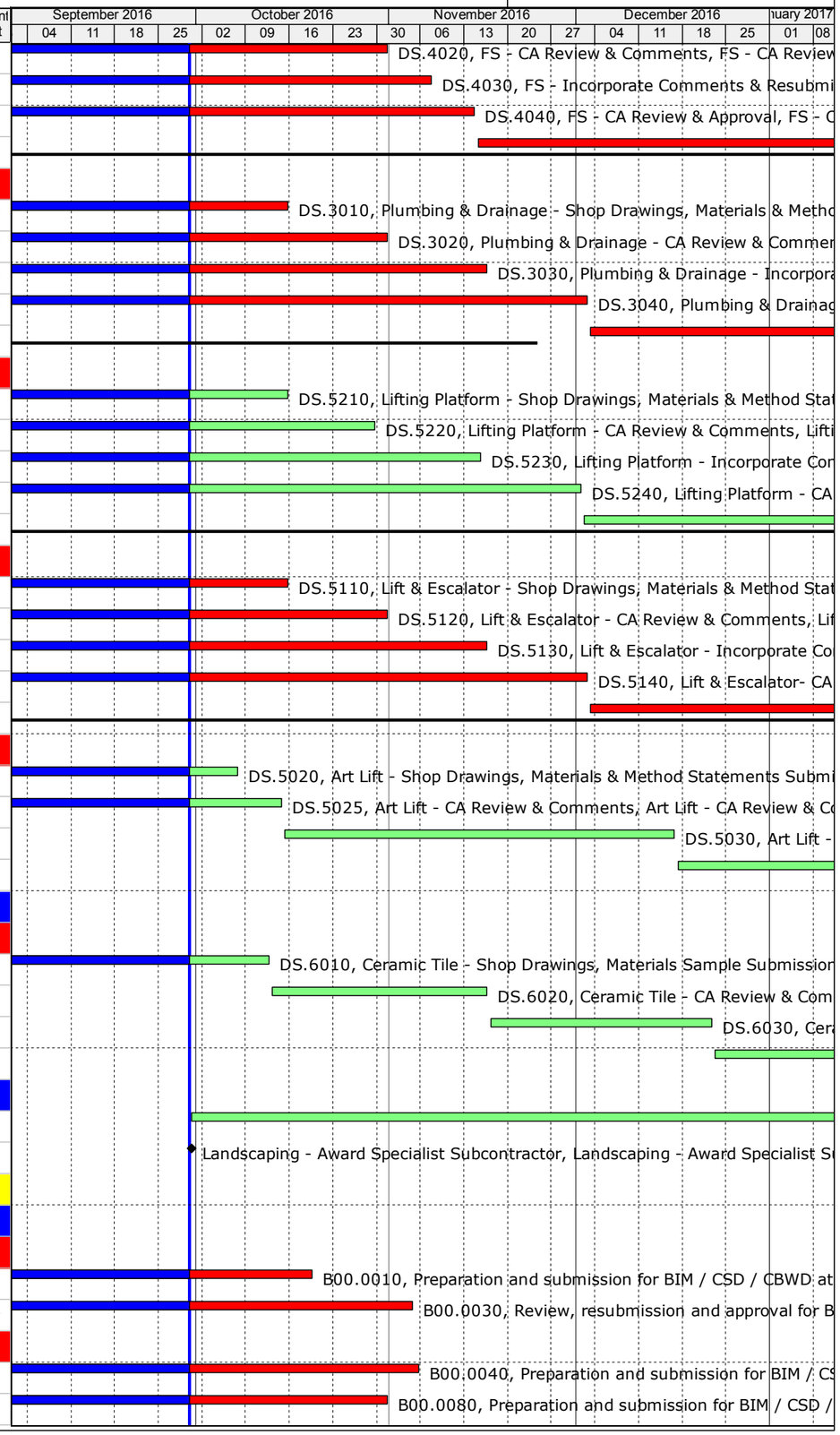


Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
Temporary Support System for Trusses - Proprietary & Non Proprietary System									
DS.1040.68	Fabrication & Delivery of non-proprietary system	50			11-Jun-16 A	21-Oct-16	20%		-44
Hanger Column									
DS.1040.85	Fabrication of Hanger Column Suspended from RC	43			14-Oct-16	02-Dec-16	0%		-21
DS.1040.80	Fabrication of Hanger Column Suspended from mega Truss	43			14-Oct-16	02-Dec-16	0%		22
DS.1040.86	Delivery of hanger column	0			03-Dec-16		0%		-24
Composite Column									
DS.1040.91	Composite Column Fabrication	34			02-Jan-16 A	18-Oct-16	96%		-47
Steel Truss Support Fabrication									
DS.1090	Steel Truss Support Fabrication for Truss 4 (*C94 & *C96)	21			19-Aug-16 A	31-Oct-16	56%		13
DS.1056	Steel Truss Support Fabrication for Truss 3 (*C85 & C86)	21			19-Aug-16 A	15-Oct-16	66%		-5
Steel Truss Support Delivery to Site									
DS.1050.10	Steel Truss Support @ East Core Wall for Trusses # 1, 2 & 5	0			30-Sep-16 A		100%		
DS.1130.10	Steel Truss Support for Truss # 5 (*C25)	0			12-Oct-16		0%		28
DS.1055.10	Steel Truss Support for Truss # 1 & 2(Column 68 & Column 71)	0			25-Oct-16		0%		-50
DS.1090.10	Steel Truss Support for Truss # 3 (*C85 & C86)	0			22-Nov-16		0%		-6
DS.1110.10	Steel Truss Support for Truss # 4 (*C94 & *C96)	0			22-Nov-16		0%		-6
Steel Truss Members Fabrication									
DS.1080	Steel Truss Fabrication for Truss # 3	69			23-Apr-16 A	15-Oct-16	73%		-31
DS.1070	Steel Truss Fabrication for Truss # 2	69			23-Apr-16 A	14-Oct-16	97%		-26
DS.1060.1	Steel Truss Fabrication for Truss # 1	69			23-Apr-16 A	14-Oct-16	97%		-53
DS.1120	Steel Truss Fabrication for Truss # 5	69			23-Apr-16 A	12-Oct-16	92%		-31
DS.1100	Steel Truss Fabrication for Truss # 4	69			09-May-16 A	18-Oct-16	51%		34
Steel Truss Members Delivery to Site									
DS.1140.10	Steel Truss Members for Truss # 5	0			13-Oct-16		0%		-40
DS.1070.10	Steel Truss Members for Truss # 1	0			15-Oct-16		0%		-65
DS.1080.10	Steel Truss Members for Truss # 2	0			15-Oct-16		0%		-34
DS.1100.10	Steel Truss Members for Truss # 3	0			16-Oct-16		0%		30
DS.1120.10	Steel Truss Members for Truss # 4	0			19-Oct-16		0%		39
Building Services									
MVAC									
DS.3070	MVAC - Shop Drawings, Materials & Method Statements Submis	120	01-Dec-15	29-Mar-16	01-Dec-15 A	31-Oct-16	48%	-176	-2
DS.3080	MVAC - CA Review & Comments	30	30-Mar-16	28-Apr-16	01-Apr-16 A	05-Nov-16	37%	-156	-2
DS.3090	MVAC - Incorporate Comments & Resubmit	30	29-Apr-16	28-May-16	15-Apr-16 A	22-Nov-16	20%	-146	-2
DS.3100	MVAC - CA Review & Approval	30	29-May-16	27-Jun-16	02-May-16 A	08-Dec-16	17%	-136	-2
DS.3110	MVAC - Procurement and Delivery	180	28-Jun-16	24-Dec-16	01-Sep-16 A	31-Mar-17	5%	-97	-2
Electrical and ELV Systems									
DS.4120	Elect & ELV Systems - Shop Drawings and Materials Submissior	120	01-Dec-15	29-Mar-16	01-Dec-15 A	15-Oct-16	37%	-163	-29
DS.4130	Elect & ELV Systems - CA Review & Comments	30	30-Mar-16	28-Apr-16	01-Apr-16 A	31-Oct-16	27%	-151	-29
DS.4140	Elect & ELV Systems - Incorporate Comments & Resubmit	30	29-Apr-16	28-May-16	15-Apr-16 A	16-Nov-16	15%	-141	-29
DS.4150	Elect & ELV Systems - CA Review & Approval	30	29-May-16	27-Jun-16	16-May-16 A	02-Dec-16	13%	-131	-29
DS.4160	Elect & ELV Systems - Procurement and Delivery	150	28-Jun-16	24-Nov-16	03-Dec-16	01-May-17	0%	-158	-33
Fire Services									
DS.4010	FS - Shop Drawings and Materials Submission and Approval	120	01-Dec-15	29-Mar-16	01-Dec-15 A	15-Oct-16	90%	-163	-6



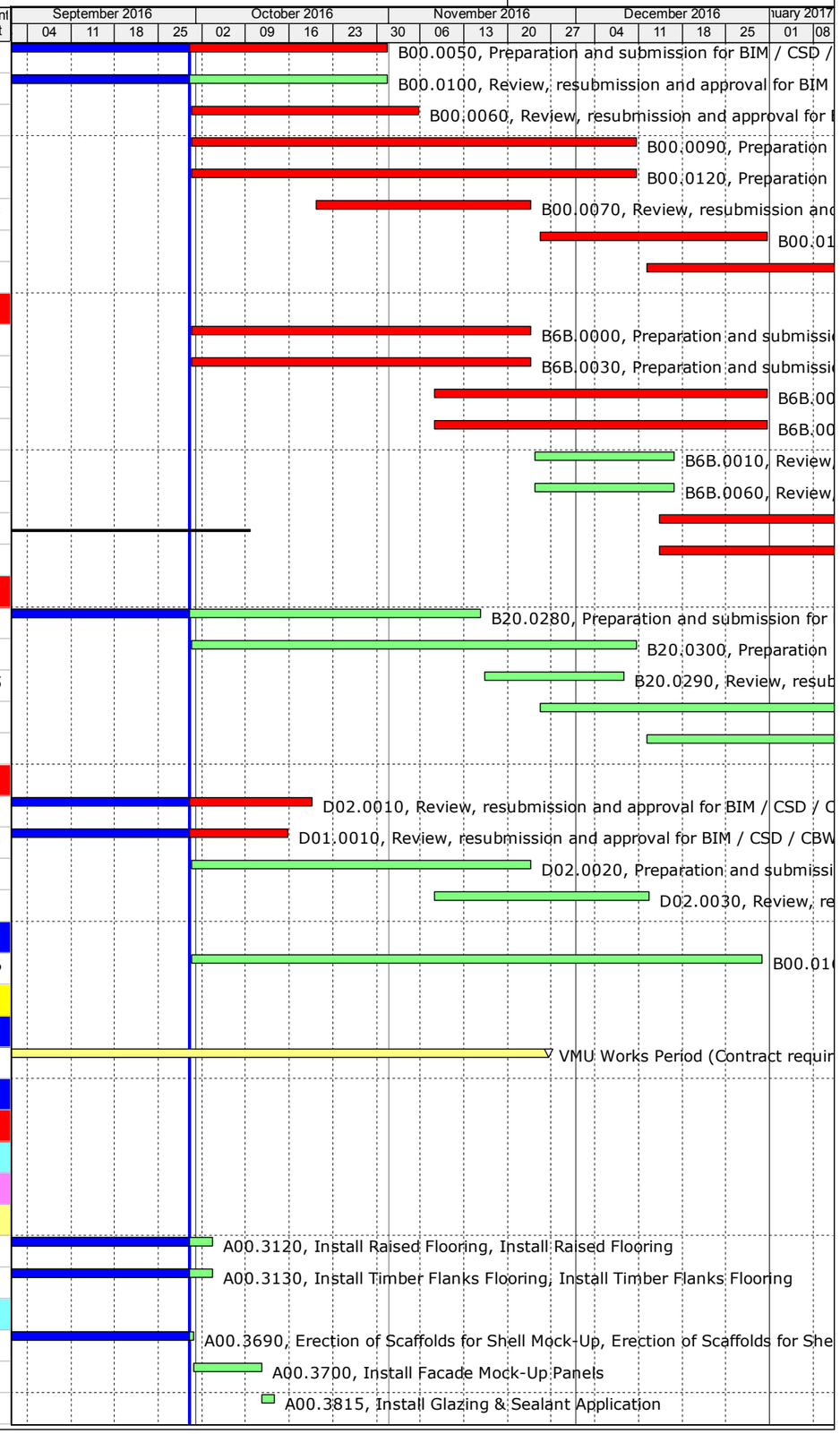
(3MRP-12) Three Months Rolling Programme Status at 30 Sept 2016

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
DS.4020	FS - CA Review & Comments	30	30-Mar-16	28-Apr-16	15-Apr-16 A	31-Oct-16	85%	-151	-13
DS.4030	FS - Incorporate Comments & Resubmit	30	29-Apr-16	28-May-16	22-Apr-16 A	07-Nov-16	80%	-133	-13
DS.4040	FS - CA Review & Approval	30	29-May-16	27-Jun-16	16-May-16 ^	14-Nov-16	75%	-115	-13
DS.4050	FS - Procurement and Delivery	150	28-Jun-16	13-Jan-17	15-Nov-16	13-Apr-17	0%	-90	-15
Plumbing and Drainage									
DS.3010	Plumbing & Drainage - Shop Drawings, Materials & Method Stat	90	31-Dec-15	29-Mar-16	30-Dec-15 A	15-Oct-16	90%	-163	-29
DS.3020	Plumbing & Drainage - CA Review & Comments	30	30-Mar-16	28-Apr-16	01-Apr-16 A	31-Oct-16	85%	-151	-29
DS.3030	Plumbing & Drainage - Incorporate Comments & Resubmit	30	29-Apr-16	28-May-16	14-Apr-16 A	16-Nov-16	80%	-141	-29
DS.3040	Plumbing & Drainage - CA Review & Approval	30	29-May-16	27-Jun-16	02-May-16 ^	02-Dec-16	75%	-131	-29
DS.3050	Plumbing & Drainage - Procurement and Delivery	150	28-Jun-16	24-Nov-16	03-Dec-16	01-May-17	0%	-158	-33
Mechanical and Lifting Platform									
DS.5210	Lifting Platform - Shop Drawings, Materials & Method Statemen	90	01-Dec-15	28-Feb-16	01-Dec-15 A	15-Oct-16	30%	-186	11
DS.5220	Lifting Platform - CA Review & Comments	30	29-Feb-16	29-Mar-16	15-Apr-16 A	29-Oct-16	20%	-175	11
DS.5230	Lifting Platform - Incorporate Comments & Resubmit	30	30-Mar-16	28-Apr-16	30-Apr-16 A	15-Nov-16	15%	-164	11
DS.5240	Lifting Platform - CA Review & Approval	30	29-Apr-16	28-May-16	16-May-16 ^	01-Dec-16	10%	-154	11
DS.5250	Lifting Platform - Procurement and Delivery	300	29-May-16	24-Mar-17	02-Dec-16	27-Sep-17	0%	-187	13
Lifts and Escalator									
DS.5110	Lift & Escalator - Shop Drawings, Materials & Method Statemen	90	01-Dec-15	28-Feb-16	01-Dec-15 A	15-Oct-16	55%	-186	-33
DS.5120	Lift & Escalator - CA Review & Comments	30	29-Feb-16	29-Mar-16	15-Apr-16 A	31-Oct-16	29%	-176	-33
DS.5130	Lift & Escalator - Incorporate Comments & Resubmit	30	30-Mar-16	28-Apr-16	30-Apr-16 A	16-Nov-16	26%	-165	-33
DS.5140	Lift & Escalator- CA Review & Approval	30	29-Apr-16	28-May-16	16-May-16 ^	02-Dec-16	10%	-155	-33
DS.5150	Lift & Escalator - Procurement and Delivery	300	29-May-16	24-Mar-17	03-Dec-16	28-Sep-17	0%	-188	-38
Art Lift (LT-11 & LT-13)									
DS.5020	Art Lift - Shop Drawings, Materials & Method Statements Subm	90	01-Dec-15	28-Feb-16	01-Dec-15 A	07-Oct-16	50%	-180	5
DS.5025	Art Lift - CA Review & Comments	30	29-Feb-16	29-Mar-16	15-Apr-16 A	14-Oct-16	50%	-162	5
DS.5030	Art Lift - Incorporate Comments & Resubmit	54	30-Mar-16	28-Apr-16	15-Oct-16	16-Dec-16	0%	-191	5
DS.5040	Art Lift - CA Review & Approval	30	29-Apr-16	28-May-16	17-Dec-16	24-Jan-17	0%	-197	5
ABWF and Fitout									
Ceramic Tile									
DS.6010	Ceramic Tile - Shop Drawings, Materials Sample Submission	90	30-Nov-15	27-Feb-16	30-Nov-15 A	12-Oct-16	90%	-183	39
DS.6020	Ceramic Tile - CA Review & Comments	30	28-Feb-16	28-Mar-16	13-Oct-16	16-Nov-16	0%	-191	39
DS.6030	Ceramic Tile - Incorporate Comments & Resubmit	30	29-Mar-16	27-Apr-16	17-Nov-16	22-Dec-16	0%	-196	39
DS.6040	Ceramic Tile - CA Review & Approval	30	28-Apr-16	27-May-16	23-Dec-16	01-Feb-17	0%	-202	39
Soft and Hard Landscaping									
DS.7010	Landscaping - Shop Drawings, Materials & Method Statements	90	18-Apr-16	16-Jul-16	30-Sep-16	18-Jan-17	0%	-153	58
DS.7000	Landscaping - Award Specialist Subcontractor	0	18-Apr-16		30-Sep-16		0%	-165	70
Design Detailing / Buildability Co-ordination									
Spatial Coordination for BIM / CSD / CBWD									
Basement									
B00.0010	Preparation and submission for BIM / CSD / CBWD at B1/F (Tea	60	01-Oct-15	29-Nov-15	01-Oct-15 A	19-Oct-16	85%	-260	-23
B00.0030	Review, resubmission and approval for BIM / CSD / CBWD at B1	30	30-Nov-15	29-Dec-15	30-Nov-15 A	04-Nov-16	20%	-251	-14
M+ Podium									
B00.0040	Preparation and submission for BIM / CSD / CBWD at G/F (Tear	60	30-Nov-15	28-Jan-16	30-Nov-15 A	05-Nov-16	70%	-227	-25
B00.0080	Preparation and submission for BIM / CSD / CBWD at 1M/F (Tea	60	29-Jan-16	28-Mar-16	30-Jul-16 A	31-Oct-16	80%	-177	-25



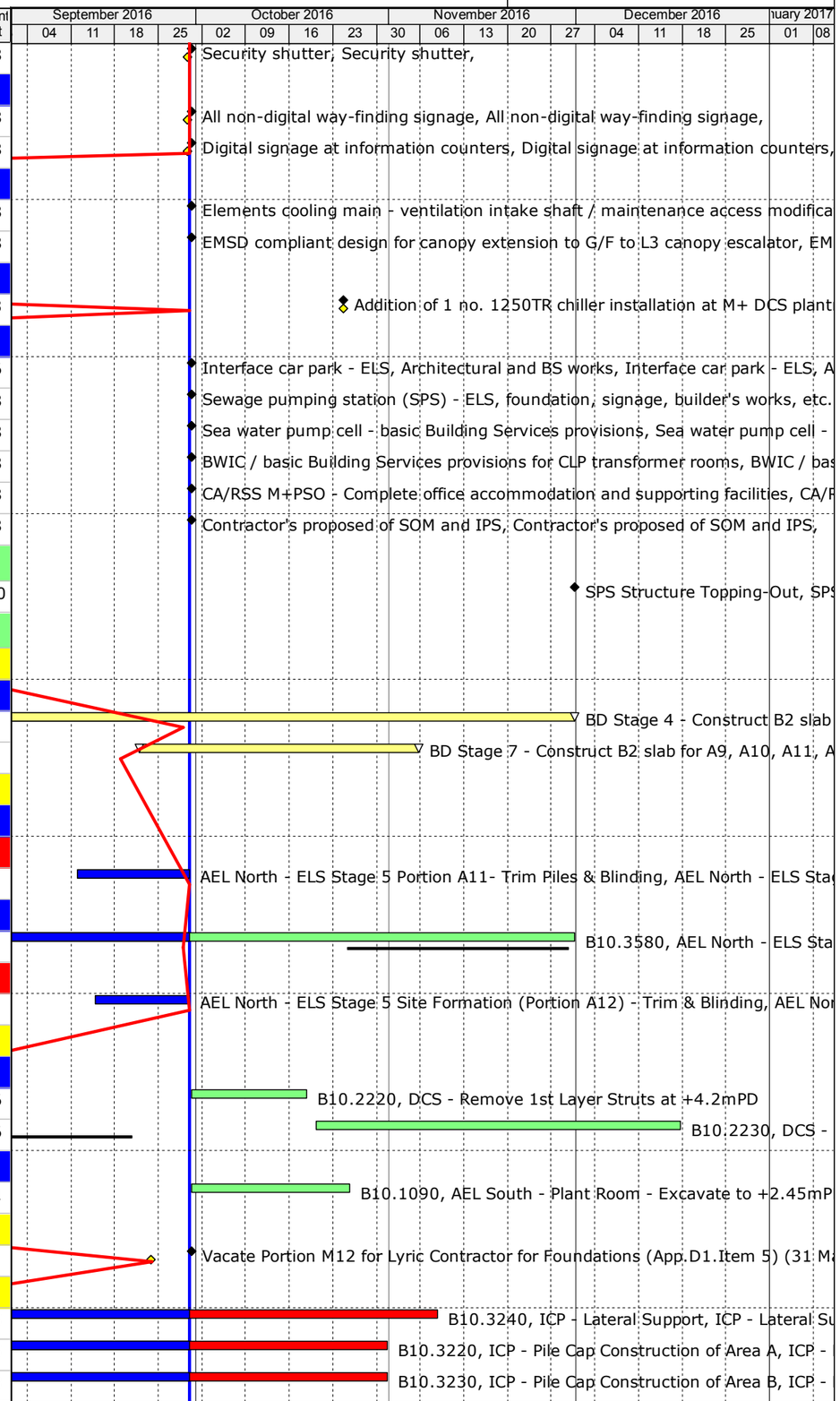
(3MRP-12) Three Months Rolling Programme Status at 30 Sept 2016

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
B00.0050	Preparation and submission for BIM / CSD / CBWD at 1/F (Tear	60	30-Nov-15	28-Jan-16	15-Aug-16 A	31-Oct-16	20%	-222	-23
B00.0100	Review, resubmission and approval for BIM / CSD / CBWD at 1I	30	29-Mar-16	27-Apr-16	15-Aug-16 A	31-Oct-16	20%	-152	24
B00.0060	Review, resubmission and approval for BIM / CSD / CBWD at G/	30	29-Jan-16	27-Feb-16	30-Sep-16	05-Nov-16	0%	-204	-25
B00.0090	Preparation and submission for BIM / CSD / CBWD at 2/F (Tear	60	29-Jan-16	28-Mar-16	30-Sep-16	10-Dec-16	0%	-212	-23
B00.0120	Preparation and submission for BIM / CSD / CBWD at 3/F (Tear	60	29-Mar-16	27-May-16	30-Sep-16	10-Dec-16	0%	-163	-25
B00.0070	Review, resubmission and approval for BIM / CSD / CBWD at 1/	30	29-Jan-16	27-Feb-16	20-Oct-16	23-Nov-16	0%	-219	-14
B00.0110	Review, resubmission and approval for BIM / CSD / CBWD at 2/	30	29-Mar-16	27-Apr-16	25-Nov-16	31-Dec-16	0%	-203	-23
B00.0130	Review, resubmission and approval for BIM / CSD / CBWD at 3/	30	28-May-16	26-Jun-16	12-Dec-16	18-Jan-17	0%	-169	-19
M+ Tower									
B6B.0000	Preparation and submission for BIM / CSD / CBWD at 4/F (Tear	45	29-Mar-16	12-May-16	30-Sep-16	23-Nov-16	0%	-160	-2
B6B.0030	Preparation and submission for BIM / CSD / CBWD at 5/F (Tear	45	28-May-16	11-Jul-16	30-Sep-16	23-Nov-16	0%	-112	-25
B6B.0070	Preparation and submission for BIM / CSD / CBWD at 6/F (Tear	45	12-Jul-16	25-Aug-16	08-Nov-16	31-Dec-16	0%	-105	-25
B6B.0020	Preparation and submission for BIM / CSD / CBWD at 10/F (Tea	45	13-May-16	26-Jun-16	08-Nov-16	31-Dec-16	0%	-155	-2
B6B.0010	Review, resubmission and approval for BIM / CSD / CBWD at 4/	20	13-May-16	01-Jun-16	24-Nov-16	16-Dec-16	0%	-164	39
B6B.0060	Review, resubmission and approval for BIM / CSD / CBWD at 5/	20	12-Jul-16	31-Jul-16	24-Nov-16	16-Dec-16	0%	-116	51
B6B.0110	Preparation and submission for BIM / CSD / CBWD at 7/F (Tear	45	26-Aug-16	09-Oct-16	14-Dec-16	10-Feb-17	0%	-100	-25
B6B.0050	Preparation and submission for BIM / CSD / CBWD at 11/F (Tea	45	27-Jun-16	10-Aug-16	14-Dec-16	10-Feb-17	0%	-149	-2
CSF Block									
B20.0280	Preparation and submission for BIM / CSD / CBWD at G/F (Tear	45	13-Feb-16	28-Mar-16	15-Aug-16 A	15-Nov-16	10%	-190	14
B20.0300	Preparation and submission for BIM / CSD / CBWD at 1-5/F (Te	60	29-Mar-16	27-May-16	30-Sep-16	10-Dec-16	0%	-163	14
B20.0290	Review, resubmission and approval for BIM / CSD / CBWD at G/	20	29-Mar-16	17-Apr-16	16-Nov-16	08-Dec-16	0%	-194	105
B20.0320	Preparation and submission for BIM / CSD / CBWD at 6/F (Tear	45	28-May-16	11-Jul-16	25-Nov-16	19-Jan-17	0%	-158	14
B20.0310	Review, resubmission and approval for BIM / CSD / CBWD at 1	30	28-May-16	26-Jun-16	12-Dec-16	18-Jan-17	0%	-169	73
Interfacing Car Park and Sewage Pumping Station (SPS)									
D02.0010	Review, resubmission and approval for BIM / CSD / CBWD at IC	15	15-Nov-15	29-Nov-15	16-Jun-16 A	19-Oct-16	50%	-260	-62
D01.0010	Review, resubmission and approval for BIM / CSD / CBWD at SI	15	13-Feb-16	27-Feb-16	16-Jun-16 A	15-Oct-16	50%	-186	-44
D02.0020	Preparation and submission for BIM / CSD / CBWD at ICP G/F (	45	15-Nov-15	29-Dec-15	30-Sep-16	23-Nov-16	0%	-267	95
D02.0030	Review, resubmission and approval for BIM / CSD / CBWD at IC	30	30-Dec-15	28-Jan-16	08-Nov-16	12-Dec-16	0%	-258	95
4D Time Management (1st Draft)									
B00.0160	Facade works	75	14-Jan-16	28-Mar-16	30-Sep-16	30-Dec-16	0%	-227	216
Visual Mock-Up (VMU)									
VMU Preliminary									
A00.3610	VMU Works Period (Contract requirement of 200 calendar days	169	01-Oct-15	17-Apr-16	01-Oct-15 A	26-Nov-16	80%	-184	73
VMU Construction									
Step 2.0 - Existing Concrete Shell									
VMU ABWF & Finishes									
VMU Gallery & B1 Plaza Space									
VMU Floor									
A00.3120	Install Raised Flooring	8	15-Jan-16	23-Jan-16	17-May-16	03-Oct-16	90%	-203	97
A00.3130	Install Timber Flanks Flooring	6	07-Mar-16	12-Mar-16	20-Jun-16 A	03-Oct-16	90%	-164	95
VMU Facade Works									
A00.3690	Erection of Scaffolds for Shell Mock-Up	4	16-Feb-16	19-Feb-16	18-Jul-16 A	30-Sep-16	50%	-182	73
A00.3700	Install Facade Mock-Up Panels	7	20-Feb-16	27-Feb-16	30-Sep-16	11-Oct-16	0%	-182	73
A00.3815	Install Glazing & Sealant Application	2	29-Feb-16	01-Mar-16	11-Oct-16	13-Oct-16	0%	-182	73

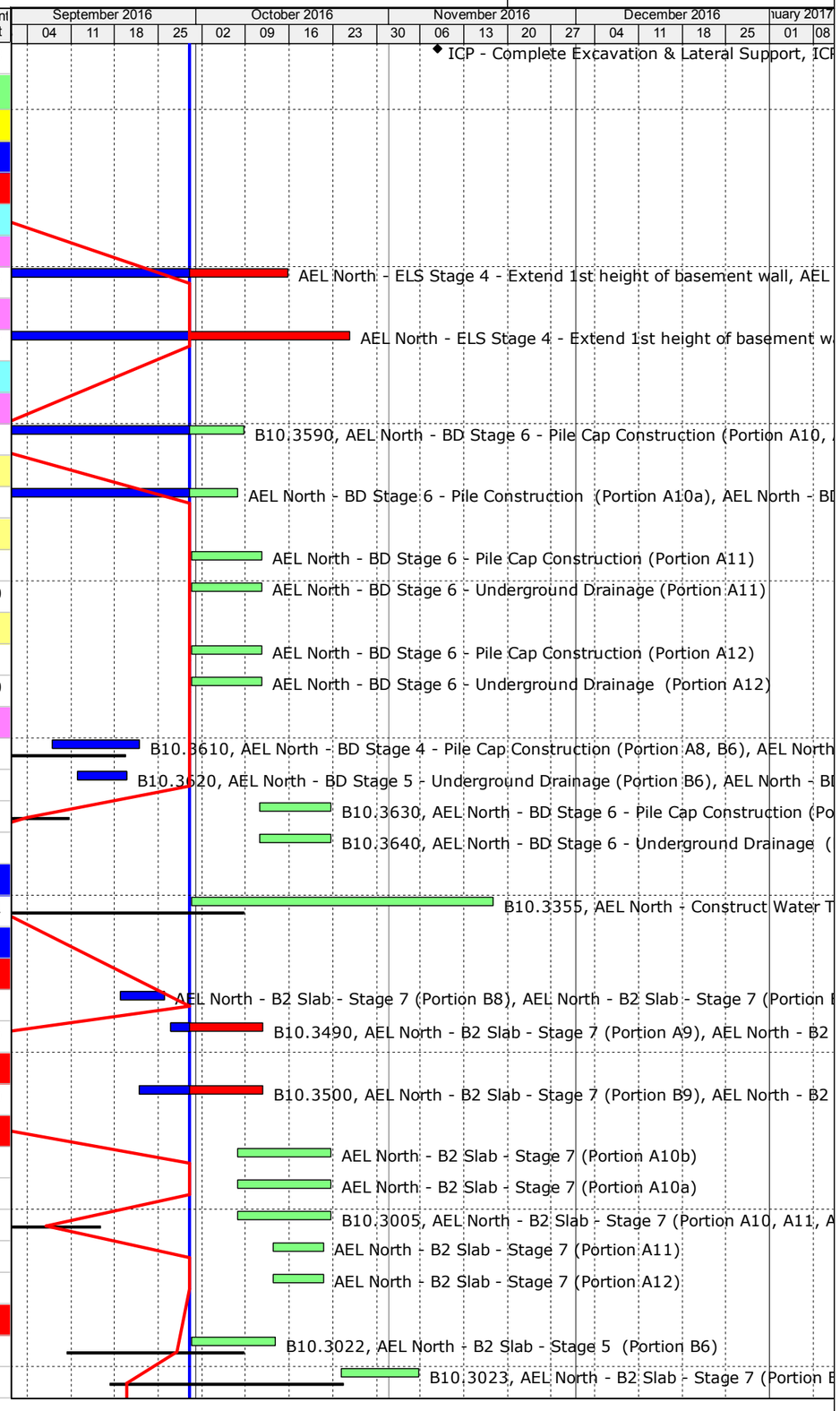


Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
A00.3825	Install Glazing & Sealant Application	14	02-Mar-16	17-Mar-16	13-Oct-16	29-Oct-16	0%	-182	73
VMU Step 2.1 - Hybrid Shell Mock-Up									
VMU ABWF & Finishes									
A00.3350	Hybrid Mock Up - Install Panel Doors (2-nos)	5	22-Feb-16	26-Feb-16	04-Jun-16 A	03-Oct-16	90%	-177	89
VMU External Facade									
A00.3805	Hybrid Mock Up - Inspection and Approval of Visual Mock-up	14	15-Feb-16	01-Mar-16	30-Sep-16	18-Oct-16	0%	-186	83
VMU MEP Testing and Commissioning									
A00.3485	VMU - Building Services Testing and Commissioning	6	07-Mar-16	17-Mar-16	01-Sep-16 A	11-Oct-16	50%	-166	89
VMU Statutory Submission & Inspection									
VMU WSD (FS Pipeworks)									
A00.3910	VMU - Inspection and Approval by WSD	1	03-Mar-16	03-Mar-16	30-Sep-16	30-Sep-16	0%	-171	90
A00.3920	VMU - Tie-In Connection to Existing Dog House	2	04-Mar-16	05-Mar-16	03-Oct-16	04-Oct-16	0%	-171	90
VMU EMSD (Electrical)									
A00.3930	VMU - Prepare & Submit Form WR1 to EMSD (For records only)	6	18-Mar-16	24-Mar-16	12-Oct-16	18-Oct-16	0%	-166	95
VMU FSD (Fire Service)									
A00.3490	VMU - Form 314 & 501 Submission	0	18-Mar-16		29-Oct-16		0%	-226	89
A00.3500	VMU - FSD's Inspection & Fire Certificate Issuance	12	18-Mar-16	01-Apr-16	29-Oct-16	12-Nov-16	0%	-184	73
VMU BD (OP)									
A00.3510	VMU - Submission of BA14	0	02-Apr-16		12-Nov-16		0%	-225	93
A00.3520	VMU - BD Inspection	12	02-Apr-16	17-Apr-16	12-Nov-16	26-Nov-16	0%	-184	73
A00.3530	VMU - M+ OP	0		17-Apr-16		26-Nov-16	0%	-223	93
Last Date for Exercising Provisional Sum & Optional Items (Refer Annex B to Preamble) (To be revised									
Conservation & Storage Facility (CSF)									
Storage - Fitting-out Works									
PA1.4	Photo studio (2/F) - x-ray protection enhancement	0		29-Sep-16		30-Sep-16	0%	0	848
Conseration Laboratory - Furniture and Fixtures									
PA6.5	Fixed furniture in pantry	0		29-Sep-16		30-Sep-16	0%	0	848
Conseration Laboratory - Laboratory Equipment									
PA7.1	Exhaust trucks-overhead mounted fume extraction arms	0		29-Sep-16		30-Sep-16	0%	0	848
PA7.2	Fume hood cabinet	0		29-Sep-16		30-Sep-16	0%	0	848
PA7.3	Exhaust wall (size 5m (L) x 3m (H)	0		29-Sep-16		30-Sep-16	0%	0	848
PA7.5	Wet shower area free standing enclosure	0		29-Sep-16		30-Sep-16	0%	0	848
PA7.7	Stainless steel laboratory sink	0		29-Sep-16		30-Sep-16	0%	0	848
Museum									
Juke Box Installation									
PE3.2	Equipment system and machinery for "Juke Box" installation	0		29-Sep-16		30-Sep-16	0%	0	848
Items Related to Museum Operations									
PE4.6	People counting system - module enhancement to CCTV system	0		29-Sep-16		30-Sep-16	0%	0	848
Back of House including Museum Workshop and Art Handling									
Workshop									
PH4.3	Exhaust wall	0		29-Sep-16		30-Sep-16	0%	0	848
L1 and B1 Museum Shop including Espresso Bar									
Fitting-out Works									
PJ2.2	Architectural lightings	0		29-Sep-16		30-Sep-16	0%	0	848

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
PJ2.3	Security shutter	0		29-Sep-16		30-Sep-16	0%	0	848
Signage									
PM2	All non-digital way-finding signage	0		29-Sep-16		30-Sep-16	0%	0	848
PM3	Digital signage at information counters	0		29-Sep-16		30-Sep-16	0%	0	848
External Works / Hard & Soft Landscape									
PN2	Elements cooling main - ventilation intake shaft / maintenance	0	26-Sep-15		30-Sep-16		0%	-370	848
PN4	EMSD compliant design for canopy extension to G/F to L3 cano	0		29-Dec-15		30-Sep-16	0%	-275	848
MEP-General Issues									
PO6	Addition of 1 no. 1250TR chiller installation at M+ DCS plantroc	0		24-Oct-16		24-Oct-16	0%	0	823
Other Provisional Sums / Options for M+ Main Works Contract									
PP2.2	Interface car park - ELS, Architectural and BS works	0		28-Jan-16		30-Sep-16	0%	-245	706
PP3.2	Sewage pumping station (SPS) - ELS, foundation, signage, buil	0		28-Jan-16		30-Sep-16	0%	-245	848
PP4	Sea water pump cell - basic Building Services provisions	0		26-Sep-15		30-Sep-16	0%	-369	848
PP5	BWIC / basic Building Services provisions for CLP transformer rc	0		26-Sep-15		30-Sep-16	0%	-370	848
PP6	CA/RSS M+PSO - Complete office accommodation and supporti	0		26-Sep-15		30-Sep-16	0%	-370	848
PP7	Contractor's proposed of SOM and IPS	0		26-Sep-15		30-Sep-16	0%	-370	848
Construction Milestones (Internal Reference)									
CM0150	SPS Structure Topping-Out	0		26-Aug-16		30-Nov-16	0%	-96	-100
Excavation & ELS									
BD Milestones & BD Stages LOE									
Portion M01									
B10.3390	BD Stage 4 - Construct B2 slab for A5, B5 & Site formation for /	0	19-Mar-16	29-Nov-16	14-Jul-16 A	30-Nov-16	50%	-1	19
B10.3420	BD Stage 7 - Construct B2 slab for A9, A10, A11, A12, B7, B8,	25	03-Jun-16	24-Oct-16	22-Sep-16 A	05-Nov-16	0%	-11	5
AEL North									
Portion A6, A7, A10, A11									
Portion A11									
B10.2250	AEL North - ELS Stage 5 Portion A11- Trim Piles & Blinding	5			12-Sep-16 A	30-Sep-16 A	100%		
Portion A8, B6, A12, B7									
B10.3580	AEL North - ELS Stage 5 Site Formation (Portion A12, B7)	30	25-Oct-16	29-Nov-16	15-Aug-16 A	30-Nov-16	10%	-1	19
Portion A12									
B10.3930	AEL North - ELS Stage 5 Site Formation (Portion A12) - Trim &	5			15-Sep-16 A	30-Sep-16 A	100%		
AEL South									
DCS									
B10.2220	DCS - Remove 1st Layer Struts at +4.2mPD	11	20-Jun-16	05-Jul-16	30-Sep-16	18-Oct-16	0%	-67	436
B10.2230	DCS - Backfilling and Install Access Hatch and Misc. Works	50	08-Jul-16	20-Sep-16	20-Oct-16	17-Dec-16	0%	-67	436
AEL South except DCS									
B10.1090	AEL South - Plant Room - Excavate to +2.45mPD for Plant Roo	16	20-Apr-16	12-May-16	30-Sep-16	25-Oct-16	0%	-107	111
AEL North East of Portion A10 (for Area M12 h/o)									
C10.0390	Vacate Portion M12 for Lyric Contractor for Foundations (App.D	0		23-Sep-16		30-Sep-16	0%	-6	57
ICP									
B10.3240	ICP - Lateral Support	50	10-May-16	26-Jul-16	30-May-16	08-Nov-16	15%	-70	-65
B10.3220	ICP - Pile Cap Construction of Area A	25	10-May-16	17-Jun-16	16-Jul-16 A	31-Oct-16	70%	-88	-65
B10.3230	ICP - Pile Cap Construction of Area B	25	18-Jun-16	26-Jul-16	27-Aug-16 A	31-Oct-16	10%	-63	-58

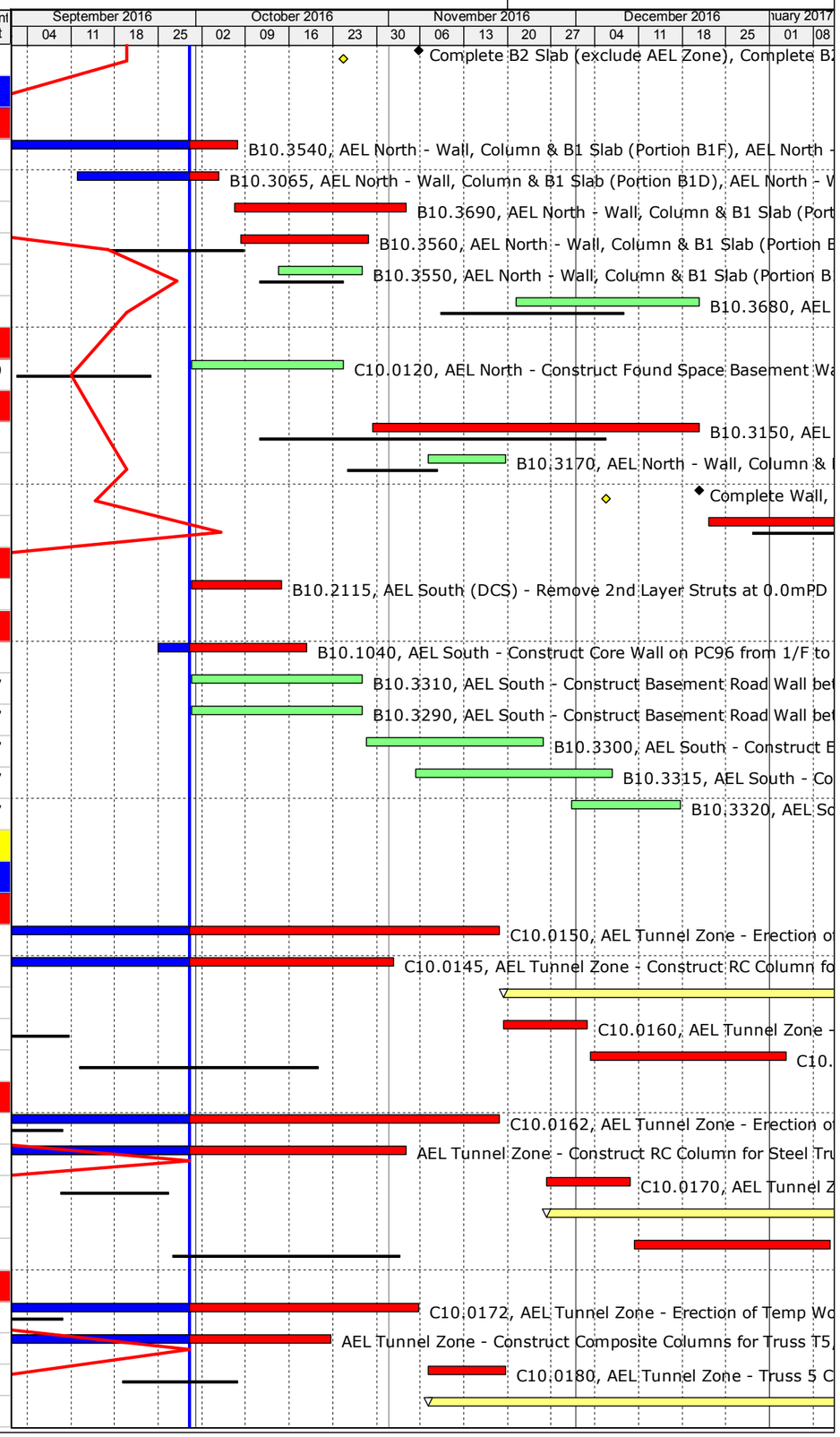


Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
B10.3250	ICP - Complete Excavation & Lateral Support	0		26-Jul-16		08-Nov-16	0%	-105	-98
Structures									
Basement Structures / Sub-Structure									
Pilecaps									
AEL North									
Stage 3 - Pilecap (A4,A5,B4,B5)									
Pilecap (A4 & A5)									
B10.2060p	AEL North - ELS Stage 4 - Extend 1st height of basement wall	10			28-Jul-16 A	15-Oct-16	30%		-35
Pilecap (B4 & B5)									
B10.2070m	AEL North - ELS Stage 4 - Extend 1st height of basement wall	12			08-Aug-16 A	25-Oct-16	10%		-37
Stage 4 to 7: ELS & Excavation (A6, A7, A8, A9, A10, A11, A12 & B6, B7, B8, B9)									
Pilecaps - Portion (A10a, A10b, A11 & A12)									
B10.3590	AEL North - BD Stage 6 - Pile Cap Construction (Portion A10, A	24	28-Jun-16	13-Aug-16	01-Jul-16 A	08-Oct-16	30%	-36	5
Pile Cap Portion A10a									
B10.3790	AEL North - BD Stage 6 - Pile Construction (Portion A10a)	5			20-Aug-16 A	07-Oct-16	70%		5
Pile Cap Portion A11									
B10.3710	AEL North - BD Stage 6 - Pile Cap Construction (Portion A11)	6			30-Sep-16	11-Oct-16	0%		7
B10.3720	AEL North - BD Stage 6 - Underground Drainage (Portion A11)	6			30-Sep-16	11-Oct-16	0%		610
Pile Cap Portion A12									
B10.3730	AEL North - BD Stage 6 - Pile Cap Construction (Portion A12)	6			30-Sep-16	11-Oct-16	0%		7
B10.3740	AEL North - BD Stage 6 - Underground Drainage (Portion A12)	6			30-Sep-16	11-Oct-16	0%		610
Pilecaps - Portion B6 & B7									
B10.3610	AEL North - BD Stage 4 - Pile Cap Construction (Portion A8, B6)	30	06-Aug-16	19-Sep-16	08-Sep-16 A	22-Sep-16 A	100%	-1	
B10.3620	AEL North - BD Stage 5 - Underground Drainage (Portion B6)	12	08-Aug-16	23-Aug-16	12-Sep-16 A	20-Sep-16 A	100%	-17	
B10.3630	AEL North - BD Stage 6 - Pile Cap Construction (Portion B7)	9	06-Aug-16	10-Sep-16	11-Oct-16	22-Oct-16	0%	-26	5
B10.3640	AEL North - BD Stage 6 - Underground Drainage (Portion B7)	9	06-Aug-16	16-Aug-16	11-Oct-16	22-Oct-16	0%	-43	11
RC Structure for Water Tank									
B10.3355	AEL North - Construct Water Tank Part 2 (West of Portion B1)	35	16-Aug-16	08-Oct-16	30-Sep-16	17-Nov-16	0%	-30	581
B2/F Slabs									
B2 Slab - Portion (B8 & A9)									
B10.3530	AEL North - B2 Slab - Stage 7 (Portion B8)	9			19-Sep-16 A	26-Sep-16 A	100%		
B10.3490	AEL North - B2 Slab - Stage 7 (Portion A9)	11	06-Jun-16	15-Aug-16	27-Sep-16 A	11-Oct-16	0%	-36	-35
B2 Slab - Portion (B9)									
B10.3500	AEL North - B2 Slab - Stage 7 (Portion B9)	9	03-Jun-16	15-Jul-16	22-Sep-16 A	11-Oct-16	0%	-56	-30
B2 Slab - Portion (A10a, A10b, A11 & A12)									
B10.3035	AEL North - B2 Slab - Stage 7 (Portion A10b)	10			07-Oct-16	22-Oct-16*	0%		5
B10.3045	AEL North - B2 Slab - Stage 7 (Portion A10a)	10			07-Oct-16	22-Oct-16	0%		28
B10.3005	AEL North - B2 Slab - Stage 7 (Portion A10, A11, A12)	10	18-Jul-16	15-Sep-16	07-Oct-16	22-Oct-16	0%	-23	28
B10.3075	AEL North - B2 Slab - Stage 7 (Portion A11)	6			13-Oct-16	21-Oct-16*	0%		7
B10.3085	AEL North - B2 Slab - Stage 7 (Portion A12)	6			13-Oct-16	21-Oct-16*	0%		7
B2 Slab - Portion (B6 & B7)									
B10.3022	AEL North - B2 Slab - Stage 5 (Portion B6)	7	10-Sep-16	08-Oct-16	30-Sep-16	13-Oct-16	0%	-2	2
B10.3023	AEL North - B2 Slab - Stage 7 (Portion B7)	11	17-Sep-16	24-Oct-16	24-Oct-16	05-Nov-16	0%	-10	5



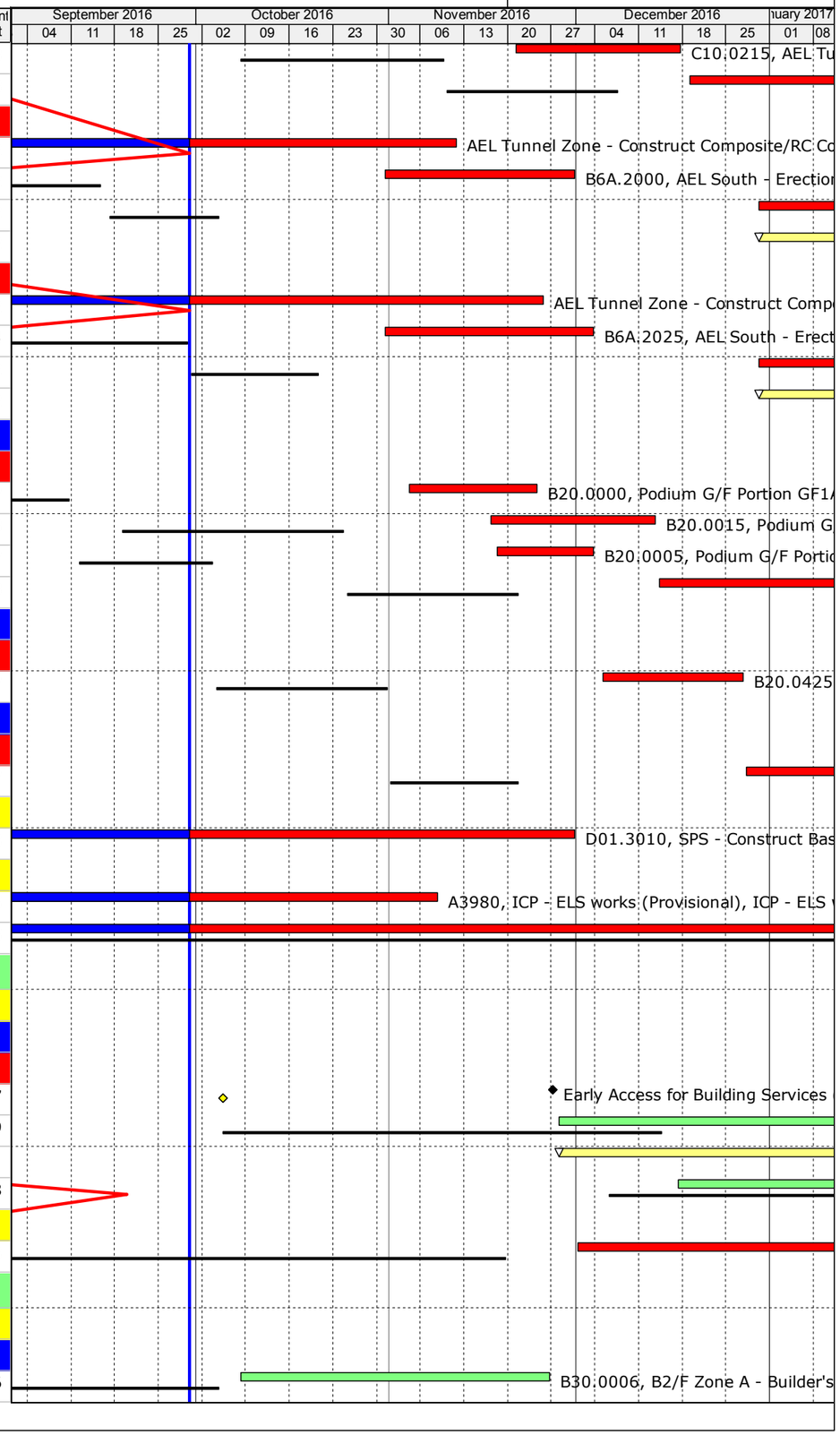
(3MRP-12) Three Months Rolling Programme Status at 30 Sept 2016

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
B10.3024	Complete B2 Slab (exclude AEL Zone)	0		24-Oct-16		05-Nov-16	0%	-10	5
B1/F Slab - Walls, Columns & B1/F Slabs									
AEL North - B1/F Slab other than AEL Zone									
B10.3540	AEL North - Wall, Column & B1 Slab (Portion B1F)	20	31-May-16	30-Jun-16	01-Jul-16 A	07-Oct-16	80%	-63	-33
B10.3065	AEL North - Wall, Column & B1 Slab (Portion B1D)	19	11-Apr-16	03-May-16	12-Sep-16 A	04-Oct-16	84%	-99	-10
B10.3690	AEL North - Wall, Column & B1 Slab (Portion B1R)	20	18-Jul-16	15-Aug-16	07-Oct-16	03-Nov-16	0%	-53	-30
B10.3560	AEL North - Wall, Column & B1 Slab (Portion B1G) (Portion A6,	14	17-Sep-16	08-Oct-16	08-Oct-16	28-Oct-16	0%	-13	-33
B10.3550	AEL North - Wall, Column & B1 Slab (Portion B1J) (Portion B6)	10	11-Oct-16	24-Oct-16	14-Oct-16	27-Oct-16	0%	-2	2
B10.3680	AEL North - Wall, Column & B1 Slab (Portion B1L) (Access Ram	26	09-Nov-16	08-Dec-16	21-Nov-16	20-Dec-16	0%	-10	44
AEL North - B1/F Slab for Truss T1, T2 & T5 Erection									
C10.0120	AEL North - Construct Found Space Basement Wall and Cols to	15	02-Sep-16	23-Sep-16	30-Sep-16	24-Oct-16	0%	-19	569
AEL North - B1/F Slab for CSF & RDE (North of GL 1)									
B10.3150	AEL North - Wall, Column & B1 Slab (Portion B1H) (Portion A10	45	11-Oct-16	05-Dec-16	29-Oct-16	20-Dec-16	0%	-13	-33
B10.3170	AEL North - Wall, Column & B1 Slab (Portion B1K) (Portion A12	12	25-Oct-16	08-Nov-16	07-Nov-16	19-Nov-16	0%	-10	5
B10.3260	Complete Wall, Column & B1 Slab (exclude AEL Zone & East of	0		05-Dec-16		20-Dec-16	0%	-15	-25
C10.0385	AEL North - External Wall & B1 Slab GL 1'-7'/J' within M12 (Del	16	29-Dec-16	17-Jan-17	22-Dec-16	11-Jan-17	0%	5	-21
AEL South - B1/F Slab for DCS to facilitateTruss Erection									
B10.2115	AEL South (DCS) - Remove 2nd Layer Struts at 0.0mPD of DCS	8	29-Apr-16	12-May-16	30-Sep-16	14-Oct-16	0%	-99	-15
AEL South - RC Structures Prior to Area M14 H/O									
B10.1040	AEL South - Construct Core Wall on PC96 from 1/F to 1M/F Lev	5	01-Apr-16	20-May-16	25-Sep-16 A	18-Oct-16	0%	-97	-37
B10.3310	AEL South - Construct Basement Road Wall between PC 109 &	17	29-Apr-16	24-May-16	30-Sep-16	27-Oct-16	0%	-100	137
B10.3290	AEL South - Construct Basement Road Wall between PC 96 & P	17	21-Apr-16	14-Jun-16	30-Sep-16	27-Oct-16	0%	-87	137
B10.3300	AEL South - Construct External Wall between PC 96 & PC105 to	25	21-Apr-16	28-May-16	28-Oct-16	25-Nov-16	0%	-122	137
B10.3315	AEL South - Construct Walls, Column & Staircases to G/F Level	27	29-Apr-16	13-Jun-16	05-Nov-16	06-Dec-16	0%	-122	137
B10.3320	AEL South - Construct G/F slab between PC 105, 109 & 116	16	03-Jun-16	27-Jun-16	30-Nov-16	17-Dec-16	0%	-122	137
Podium Super-Structures									
Trusses									
AEL Tunnel Zone -Trusses 1									
C10.0150	AEL Tunnel Zone - Erection of Temp Working Platform and Fals	50	25-Jun-16	24-Aug-16	12-Jul-16 A	18-Nov-16	30%	-71	-68
C10.0145	AEL Tunnel Zone - Construct RC Column for Steel Trusses T1	21	08-Jun-16	20-Jul-16	22-Aug-16 A	01-Nov-16	40%	-86	-68
C10.0155	AEL Tunnel Zone - Truss 1 Construction Summary	117	25-Aug-16	27-Jan-17	19-Nov-16	12-Apr-17	0%	-60	-66
C10.0160	AEL Tunnel Zone - Truss 1 Concreting of 1st pour of bottom ch	12	25-Aug-16	10-Sep-16	19-Nov-16	02-Dec-16	0%	-68	-68
C10.0185	AEL Tunnel Zone - Truss 1 install bottom steel plates	24	12-Sep-16	20-Oct-16	03-Dec-16	03-Jan-17	0%	-61	-66
AEL Tunnel Zone -Trusses 2									
C10.0162	AEL Tunnel Zone - Erection of Temp Working Platform and Fals	50	13-Jul-16	09-Sep-16	12-Jul-16 A	18-Nov-16	20%	-57	-56
C10.0161	AEL Tunnel Zone - Construct RC Column for Steel Trusses T2	22			22-Aug-16 A	03-Nov-16	20%		-53
C10.0170	AEL Tunnel Zone - Truss 2 Concreting of 1st pour of bottom ch	12	09-Sep-16	26-Sep-16	26-Nov-16	09-Dec-16	0%	-62	-68
C10.0165	AEL Tunnel Zone - Truss 2 Construction Summary	125	09-Sep-16	21-Feb-17	26-Nov-16	04-May-17	0%	-56	-68
C10.0198	AEL Tunnel Zone - Truss 2 install bottom steel plates	24	27-Sep-16	02-Nov-16	10-Dec-16	10-Jan-17	0%	-56	-68
AEL Tunnel Zone -Trusses 5									
C10.0172	AEL Tunnel Zone - Erection of Temp Working Platform and Fals	50	13-Jul-16	09-Sep-16	12-Jul-16 A	05-Nov-16	40%	-46	-63
C10.0168	AEL Tunnel Zone - Construct Composite Columns for Truss T5	26			23-Jul-16 A	22-Oct-16	40%		-63
C10.0180	AEL Tunnel Zone - Truss 5 Concreting of 1st pour of bottom ch	12	19-Sep-16	07-Oct-16	07-Nov-16	19-Nov-16	0%	-36	-63
C10.0175	AEL Tunnel Zone - Truss 5 Construction Summary	105	19-Sep-16	04-Feb-17	07-Nov-16	15-Mar-17	0%	-33	-48

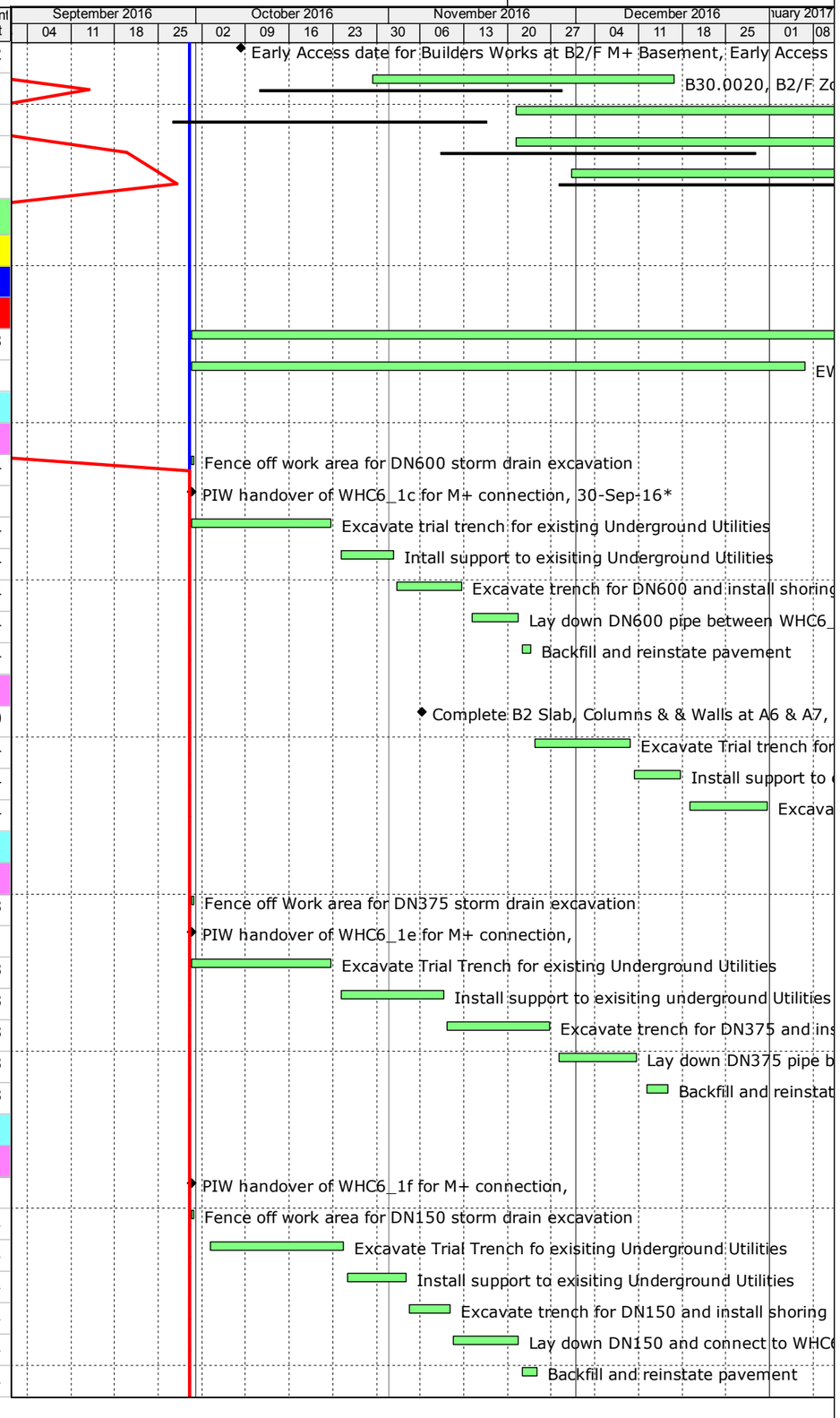


(3MRP-12) Three Months Rolling Programme Status at 30 Sept 2016

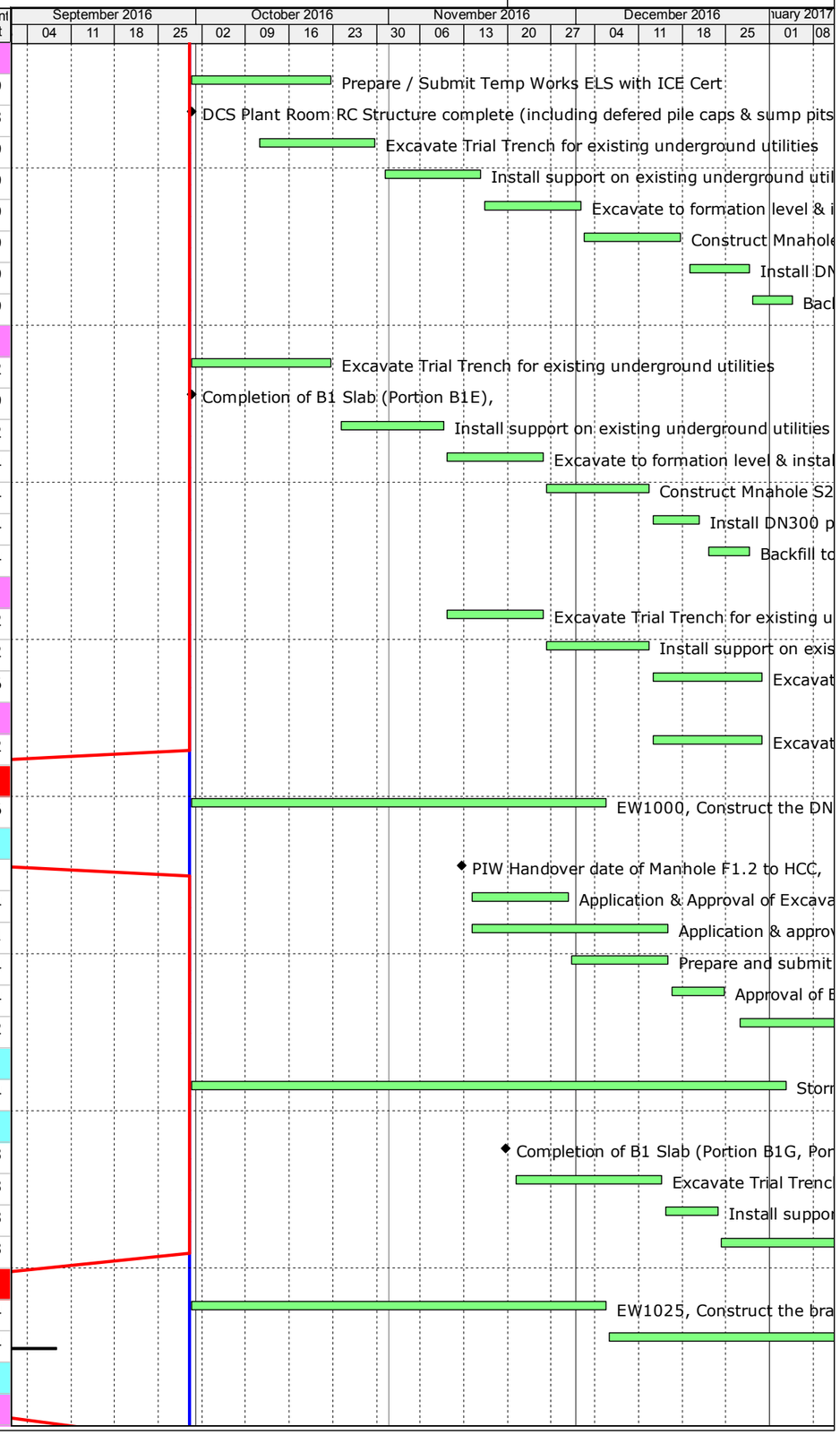
Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
C10.0215	AEL Tunnel Zone - Truss 5 install bottom steel plates	24	08-Oct-16	09-Nov-16	21-Nov-16	17-Dec-16	0%	-33	-48
C10.0220	AEL Tunnel Zone - Truss 5 install temp. platform, top nodes & i	24	10-Nov-16	07-Dec-16	19-Dec-16	18-Jan-17	0%	-33	-48
AEL South - Trusses 3									
B6A.1999	AEL Tunnel Zone - Construct Composite/RC Columns for Truss	20			08-Aug-16 A	11-Nov-16	20%		-42
B6A.2000	AEL South - Erection of Temp Working Platform and Falsework	27	20-Jul-16	15-Sep-16	31-Oct-16*	30-Nov-16	0%	-62	-42
B6A.2030	AEL South - Truss 3 Concreting of 1st pour of bottom chord (75	12	17-Sep-16	04-Oct-16	30-Dec-16	13-Jan-17	0%	-83	-42
B6A.2020	AEL South - Truss 3 Construction Summary	135	17-Sep-16	21-Mar-17	30-Dec-16	16-Jun-17	0%	-69	-42
AEL South - Trusses 4									
B6A.2024	AEL Tunnel Zone - Construct Composite Columns for Truss T4	21			08-Aug-16 A	25-Nov-16	30%		-32
B6A.2025	AEL South - Erection of Temp Working Platform and Falsework	30	02-Aug-16	29-Sep-16	31-Oct-16	03-Dec-16	0%	-54	-34
B6A.2040	AEL South - Truss 4 Concreting of 1st pour of bottom chord (75	12	30-Sep-16	20-Oct-16	30-Dec-16	13-Jan-17	0%	-70	-42
B6A.2035	AEL South - Truss 4 Construction Summary	105	30-Sep-16	14-Feb-17	30-Dec-16	12-May-17	0%	-69	-42
G/F Slabs - Walls, Columns & G/F Slab									
AEL North									
B20.0000	Podium G/F Portion GF1A - Wall, Column & G/F slab (GL 8-10/	18	16-Aug-16	10-Sep-16	04-Nov-16	24-Nov-16	0%	-61	-37
B20.0015	Podium G/F Portion GF1 - Wall, Column & G/F slab (GL 4-7/A-[	23	19-Sep-16	24-Oct-16	17-Nov-16	13-Dec-16	0%	-43	-38
B20.0005	Podium G/F Portion GF1 Tower Footprint - Wall, Column & Stru	14	12-Sep-16	03-Oct-16	18-Nov-16	03-Dec-16	0%	-52	-37
B20.0050	Podium G/F Portion GF2 - Wall, Column & G/F slab (GL 1-4/A-[	23	25-Oct-16	21-Nov-16	14-Dec-16	12-Jan-17	0%	-42	-38
1/F Slabs - Walls, Columns & 1/F Slab									
AEL North									
B20.0425	Podium 1/F Tower Footprint (Block A) - Core Wall, Column & 1/	18	04-Oct-16	31-Oct-16	05-Dec-16	27-Dec-16	0%	-47	-37
1M/F Slabs - Walls, Columns & 1M/F Structure									
M+ Tower FootPrint									
B20.0010	Podium 1M/F Tower Footprint (Block A) - Core Walls, Column &	18	01-Nov-16	21-Nov-16	28-Dec-16	18-Jan-17	0%	-47	-37
SPS Structures (include Excavation)									
D01.3010	SPS - Construct Basement Structure	100	27-Apr-16	26-Aug-16	25-Jul-16 A	30-Nov-16	12%	-79	-83
ICP Structures (include Excavation)									
A3980	ICP - ELS works (Provisional)	110	22-Feb-16	26-Jul-16	20-May-16	08-Nov-16	30%	-70	-65
A4490	ICP - Structure works	244	28-Jul-16	24-Jun-17	25-Jul-16 A	03-Oct-17	12%	-65	-65
Building Services									
M+ Basement Building Service									
B2/F MEP									
First Fix									
B40.8985	Early Access for Building Services (1st Fix)	0	05-Oct-16		27-Nov-16		0%	-53	177
B40.8990	B2/F - Building Services - Zone A - 1st Fix	60	05-Oct-16	14-Dec-16	28-Nov-16	11-Feb-17	0%	-45	139
B40.8995	B2/F - Building Services - 1st Fix - Summary	261	05-Oct-16	24-Jul-17	28-Nov-16	16-Oct-17	0%	-70	-51
B40.9030	B2/F - Building Services - Zone C - 1st Fix	40	06-Dec-16	24-Jan-17	17-Dec-16	08-Feb-17	0%	-10	128
SPS MEP									
D01.3020	SPS - Installation of Sewage/Drainage Pipes and Manholes	70	27-Aug-16	19-Nov-16	01-Dec-16	27-Feb-17	0%	-79	-83
ABWF									
M+ Basement ABWF									
B2/F ABWF									
B30.0006	B2/F Zone A - Builder's Work	42	15-Aug-16	04-Oct-16	08-Oct-16	26-Nov-16	0%	-45	106



Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
B30.0004	Early Access date for Builders Works at B2/F M+ Basement	0	15-Aug-16		08-Oct-16		0%	-54	132
B30.0020	B2/F Zone C - Builder's Work	42	11-Oct-16	28-Nov-16	29-Oct-16	16-Dec-16	0%	-16	73
B30.0040	B2/F Zone E - Builder's Work	42	27-Sep-16	16-Nov-16	21-Nov-16	11-Jan-17	0%	-45	89
B30.0050	B2/F Zone F - Builder's Work	42	09-Nov-16	29-Dec-16	21-Nov-16	11-Jan-17	0%	-10	77
B30.0010	B2/F Zone B - Builder's Work	42	28-Nov-16	18-Jan-17	30-Nov-16	20-Jan-17	0%	-2	81
External Works									
M+ External Works									
Utilities									
Drainage									
EW1045	Construct M+ manholes S1.1, S3.2, S3.3, S3.4 (terminal)	91	10-Dec-15	09-Mar-16	30-Sep-16	25-Jan-17	0%	-231	463
EW1010	Construct the DN375 and DN600 strom drains within the At-gr	75	10-Dec-15	14-Mar-16	30-Sep-16	06-Jan-17	0%	-211	32
Storm Drain DN600 at Portion M45									
Storm Drain along Gridline D'-E'/1'-2'									
EW1700	Fence off work area for DN600 storm drain excavation	1			30-Sep-16	30-Sep-16	0%		244
EW1695	PIW handover of WHC6_1c for M+ connection	0			30-Sep-16*		0%		-92
EW1705	Excavate trial trench for existing Underground Utilities	14			30-Sep-16	22-Oct-16	0%		244
EW1708	Intall support to exisiting Underground Utilities	7			24-Oct-16	01-Nov-16	0%		244
EW1710	Excavate trench for DN600 and install shoring	10			02-Nov-16	12-Nov-16	0%		244
EW1730	Lay down DN600 pipe between WHC6_1c & MHS3.4	7			14-Nov-16	21-Nov-16	0%		244
EW1740	Backfill and reinstate pavement	2			22-Nov-16	23-Nov-16*	0%		244
Storm Drain along Gridline E'-G' / 1'-2'									
EW1765	Complete B2 Slab, Columns & & Walls at A6 & A7	0			06-Nov-16*		0%		360
EW1755	Excavate Trial trench for exisitng Underground Utilities	14			24-Nov-16	09-Dec-16	0%		244
EW1758	Install support to existing Underground Utilities	7			10-Dec-16	17-Dec-16	0%		244
EW1760	Excavate trench for DN600 at gridline E'-G' / 1' and install shor	10			19-Dec-16	31-Dec-16	0%		244
Storm Drain DN375 at Portion M45									
Storm Drain along Gridline A-K' / 5'									
EW6110	Fence off Work area for DN375 storm drain excavation	1			30-Sep-16	30-Sep-16	0%		303
EW1640	PIW handover of WHC6_1e for M+ connection	0				30-Sep-16*	0%		-59
EW1615	Excavate Trial Trench for existing Underground Utilities	14			30-Sep-16	22-Oct-16	0%		303
EW1618	Install support to exisiting underground Utilities	14			24-Oct-16	09-Nov-16	0%		303
EW6120	Excavate trench for DN375 and install shoring	15			10-Nov-16	26-Nov-16	0%		303
EW6140	Lay down DN375 pipe between WHC6_1e	12			28-Nov-16	10-Dec-16	0%		303
EW6150	Backfill and reinstate pavement	4			12-Dec-16	15-Dec-16*	0%		303
Storm Drain DN150 at Portion M45									
Storm Drain along Gridline A / 5' - 6'									
EW1900	PIW handover of WHC6_1f for M+ connection	0				30-Sep-16*	0%		-50
EW1910	Fence off work area for DN150 storm drain excavation	1			30-Sep-16	30-Sep-16	0%		321
EW1915	Excavate Trial Trench fo exisiting Underground Utilities	14			03-Oct-16	24-Oct-16	0%		321
EW1930	Install support to exisiting Underground Utilities	8			25-Oct-16	03-Nov-16	0%		321
EW1920	Excavate trench for DN150 and install shoring	6			04-Nov-16	10-Nov-16	0%		321
EW1940	Lay down DN150 and connect to WHC6_1f	9			11-Nov-16	21-Nov-16	0%		321
EW1950	Backfill and reinstate pavement	3			22-Nov-16	24-Nov-16*	0%		321

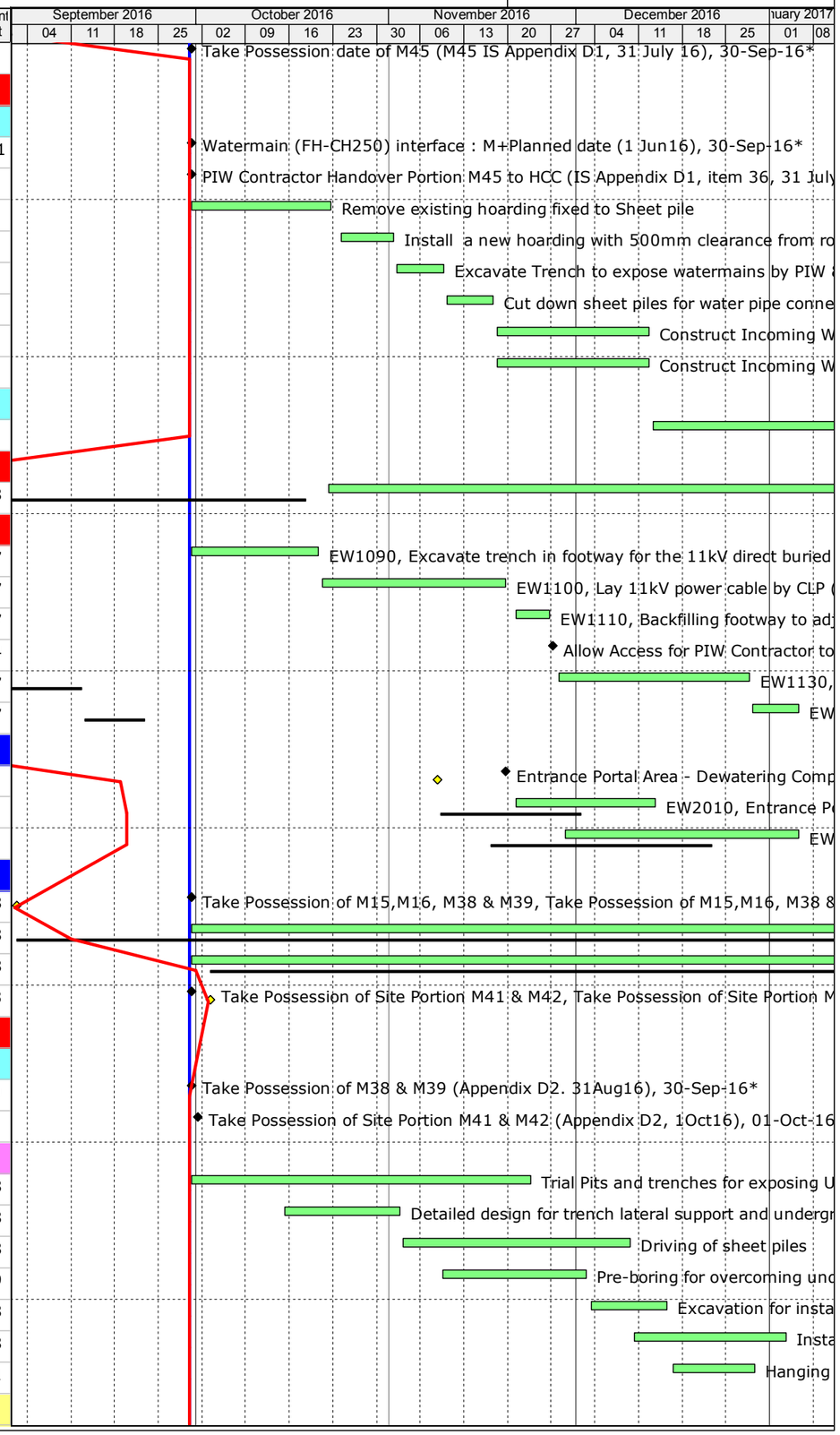


Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
Storm Drain DN300 along Gridline G-M/14									
EW1955	Prepare / Submit Temp Works ELS with ICE Cert	14			30-Sep-16	22-Oct-16	0%		289
EW1945	DCS Plant Room RC Structure complete (including defered pile (	0				30-Sep-16	0%		403
EW1960	Excavate Trial Trench for existing underground utilities	14			11-Oct-16	29-Oct-16	0%		289
EW1970	Install support on existing underground utilities	14			31-Oct-16	15-Nov-16	0%		289
EW1980	Excavate to formation level & install laterla support	14			16-Nov-16	01-Dec-16	0%		289
EW1990	Construct Mnahole S2.12 & S2.13	14			02-Dec-16	17-Dec-16	0%		289
EW2040	Install DN300 pipe and connect to Manholes S2.12 & S2.13	7			19-Dec-16	28-Dec-16	0%		289
EW2050	Backfill to existing ground level	5			29-Dec-16	04-Jan-17*	0%		289
Strom Drain DN600 along Gridline B-G/14									
EW8610	Excavate Trial Trench for existing underground utilities	14			30-Sep-16	22-Oct-16	0%		182
EW8605	Completion of B1 Slab (Portion B1E)	0				30-Sep-16	0%		239
EW8620	Install support on existing underground utilities	14			24-Oct-16	09-Nov-16	0%		182
EW8630	Excavate to formation level & install laterla support	14			10-Nov-16	25-Nov-16	0%		294
EW8640	Construct Mnahole S2.12 & S2.13	14			26-Nov-16	12-Dec-16	0%		294
EW8650	Install DN300 pipe and connect to Manholes S2.12 & S2.13	7			13-Dec-16	20-Dec-16	0%		294
EW8660	Backfill to existing ground level	5			22-Dec-16	28-Dec-16*	0%		294
Storm Drain DN750 along Gridline A-B/14									
EW8670	Excavate Trial Trench for existing underground utilities	14			10-Nov-16	25-Nov-16	0%		182
EW8680	Install support on existing underground utilities	14			26-Nov-16	12-Dec-16	0%		182
EW8690	Excavate to formation level & install laterla support	14			13-Dec-16	30-Dec-16	0%		266
Storm Drain DN700 along Gridline A/3-11									
EW8760	Excavate Trial Trench for existing underground utilities	14			13-Dec-16	30-Dec-16	0%		182
Sewage									
EW1000	Construct the DN375 sewer drain within Austin Road West and	50	29-Dec-15	29-Feb-16	30-Sep-16	05-Dec-16	0%	-198	566
Sewage at Austin Road (Portion L09)									
EW1340	PIW Handover date of Manhole F1.2 to HCC	0				12-Nov-16*	0%		0
EW1230	Application & Approval of Excavation Permit (HyD) for works alc	14			14-Nov-16	29-Nov-16	0%		264
EW1215	Application & approval of TTMS	28			14-Nov-16	15-Dec-16	0%		271
EW1270	Prepare and submit design of ELS within Austin Road	14			30-Nov-16	15-Dec-16	0%		264
EW1280	Approval of ELS design	7			16-Dec-16	24-Dec-16	0%		264
EW1290	Excavate Trial Trench for UU within Austin Road Area	21			27-Dec-16	20-Jan-17	0%		232
Sewage adjacent to CLP Station (Portion L19)									
EW6060	Storm and Sewer drain last manhole connection	72			30-Sep-16	03-Jan-17	0%		544
Sewage DN300 at Portion M01, Gridline A / 3-14									
EW1355	Completion of B1 Slab (Portion B1G, Portion A6, A7)	0				19-Nov-16	0%		293
EW1356	Excavate Trial Trench for existing Underground Utilities	21			21-Nov-16	14-Dec-16	0%		213
EW1358	Install support to existing Underground Utilities	7			15-Dec-16	23-Dec-16	0%		213
EW1360	Excavate Trench and install shoring	21			24-Dec-16	19-Jan-17	0%		213
Gas									
EW1025	Construct the branch gas main for M+	50	01-Jun-16	20-Jul-16	30-Sep-16	05-Dec-16	0%	-98	444
EW1030	Construct the branch gas main for RDE building	50	21-Jul-16	08-Sep-16	06-Dec-16	08-Feb-17	0%	-114	444
Gas Main at Portion M45									
Gas Main along Gridline E' - I' / 1'									

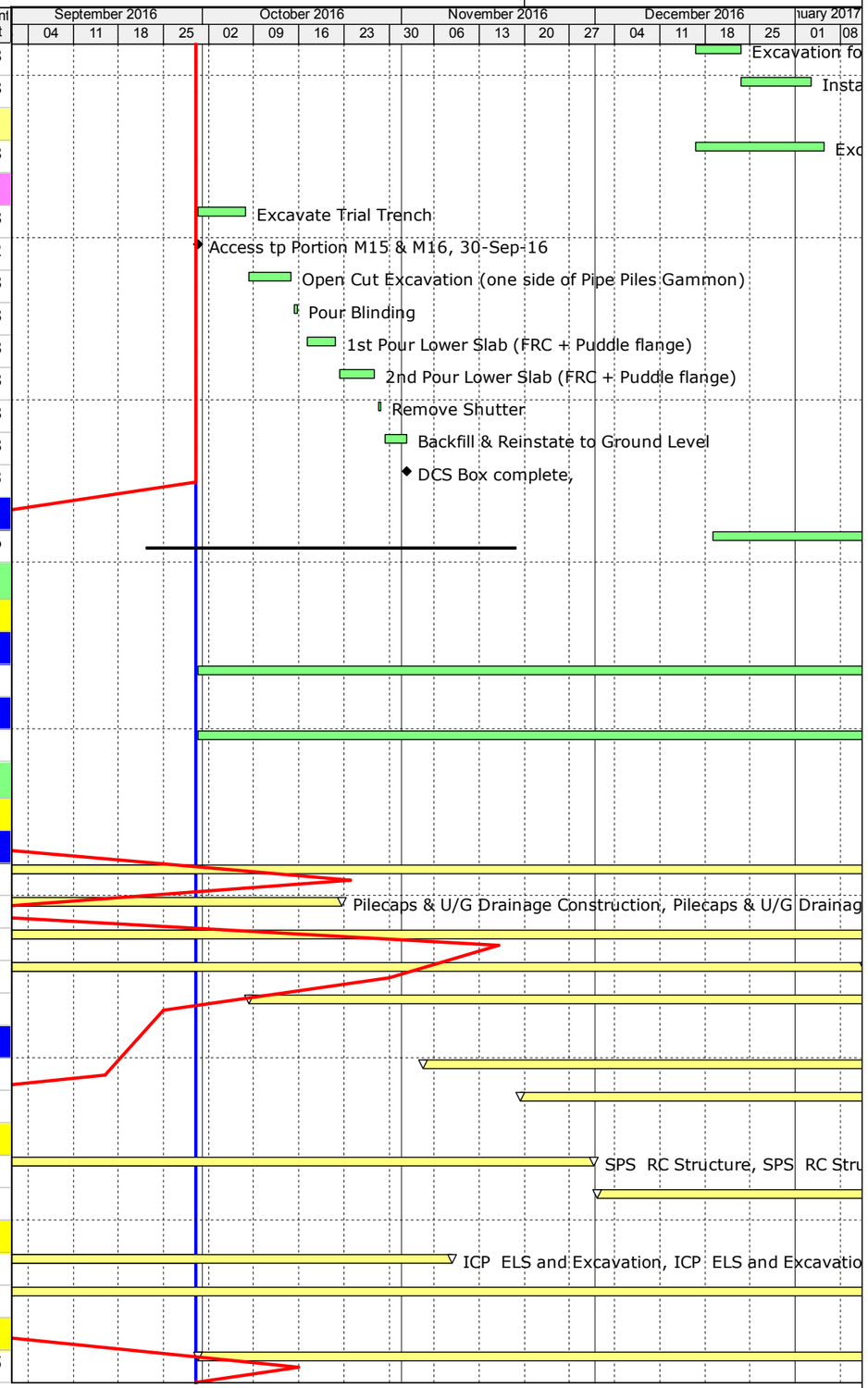


(3MRP-12) Three Months Rolling Programme Status at 30 Sept 2016

Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
EW1035	Take Possession date of M45 (M45 IS Appendix D1, 31 July 16)	0			30-Sep-16*		0%		-61
WSD									
Water Main Works at Portion M45									
EW1147	Watermain (FH-CH250) interface : M+Planned date (1 Jun16)	0			30-Sep-16*		0%		-121
EW1150	PIW Contractor Handover Portion M45 to HCC (IS Appendix D1,	0			30-Sep-16*		0%		-61
EW1160	Remove existing hoarding fixed to Sheet pile	14			30-Sep-16	22-Oct-16	0%		34
EW1170	Install a new hoarding with 500mm clearance from roadside	7			24-Oct-16	01-Nov-16	0%		34
EW1180	Excavate Trench to expose watermains by PIW & install shoring	7			02-Nov-16	09-Nov-16	0%		34
EW1190	Cut down sheet piles for water pipe connections	7			10-Nov-16	17-Nov-16	0%		34
EW1510	Construct Incoming Water Mains (1- DN100 salt water)	21			18-Nov-16	12-Dec-16*	0%		34
EW1500	Construct Incoming Water Mains (2- DN150 Fresh Water)	21			18-Nov-16	12-Dec-16*	0%		34
Water Main Works at Portion M01									
EW6090	Construct the incoming water mains (two DN150 fresh water, a	90			13-Dec-16	03-Apr-17	0%		34
Telecom									
EW1080	Lay Telecom FTNS duct and complete pits connection	72	27-Jun-16	18-Oct-16	22-Oct-16	18-Jan-17	0%	-74	248
CLP									
EW1090	Excavate trench in footway for the 11kV direct buried cables	12	02-Jun-16	18-Jun-16	30-Sep-16	20-Oct-16	0%	-79	477
EW1100	Lay 11kV power cable by CLP (by others)	25	20-Jun-16	28-Jul-16	21-Oct-16	19-Nov-16	0%	-79	477
EW1110	Backfilling footway to adjacent ground level	6	29-Jul-16	06-Aug-16	21-Nov-16	26-Nov-16	0%	-79	477
EW1120	Allow Access for PIW Contractor to carry out works for 132kV ca	0	07-Aug-16		27-Nov-16		0%	-112	664
EW1130	Lay 132kV cable by CLP (by others)	25	08-Aug-16	12-Sep-16	28-Nov-16	28-Dec-16	0%	-79	477
EW1140	Backfilling footway to adjacent ground level	6	13-Sep-16	22-Sep-16	29-Dec-16	05-Jan-17	0%	-79	477
Entrance Portal Area									
EW2000	Entrance Portal Area - Dewatering Complete	0		08-Nov-16		19-Nov-16	0%	-11	26
EW2010	Entrance Portal Area - Excavation	20	09-Nov-16	01-Dec-16	21-Nov-16	13-Dec-16	0%	-10	22
EW2020	Entrance Portal Area - Construct Entrance Portal Area to B1 Str	30	17-Nov-16	22-Dec-16	29-Nov-16	05-Jan-17	0%	-10	22
Sea Water Drainage Pipe									
EW3000	Take Possession of M15,M16, M38 & M39	0	02-Sep-16		30-Sep-16		0%	-28	538
EW3010	Install Seawater Discharge Pipes in Portions M15, M16, M38 &	120	02-Sep-16	09-Feb-17	30-Sep-16	03-Mar-17	0%	-19	398
EW3040	Install Seawater Discharge Pipes in Portions M41 & M42	130	03-Oct-16	16-Mar-17	30-Sep-16	15-Mar-17	0%	1	438
EW3030	Take Possession of Site Portion M41 & M42	0	03-Oct-16		30-Sep-16		0%	3	593
Sea Water Drainage Pipe									
Seawater Intake and Outfall Pipeworks									
EW8960	Take Possession of M38 & M39 (Appendix D2. 31Aug16)	0			30-Sep-16*		0%		-30
EW8980	Take Possession of Site Portion M41 & M42 (Appendix D2, 1Oct	0			01-Oct-16*		0%		0
Seawater outfall pipeworks underground section Ch0 - 108 (starting from Ch108)									
EW3080	Trial Pits and trenches for exposing Underground Utilities	40			30-Sep-16	23-Nov-16	0%		158
EW3090	Detailed design for trench lateral support and underground utili	14			15-Oct-16	02-Nov-16	0%		158
EW3100	Driving of sheet piles	32			03-Nov-16	09-Dec-16	0%		158
EW3110	Pre-boring for overcoming underground obstructions	20			09-Nov-16	02-Dec-16	0%		159
EW3120	Excavation for installing 1st layer of walings and struts	10			03-Dec-16	15-Dec-16	0%		158
EW3130	Installing 1st layer of walings and struts	18			10-Dec-16	03-Jan-17	0%		158
EW3140	Hanging and supporting of existing underground KGO and othe	9			16-Dec-16	29-Dec-16	0%		161
Ch105 to 108, for future connections by Lyric (trench fromation -3.6mPD)									



Activity ID	Activity Name	Ori. Dur.	BaseLine Start	BaseLine Finish	Forecast / Actual Start	Forcast / Actual Finish	% Compl.	Finish Variance	Current Float
EW3200	Excavation for installing 2nd layer of walings and struts	5			16-Dec-16	23-Dec-16	0%		158
EW3210	Installing 2nd layer of walings and struts	7			23-Dec-16	03-Jan-17	0%		158
CH5 to 40 (trench formation +0.9mPD), Ch40 to 105 (trench formation+1.8mPD),									
EW3280	Excavation to bottom of trench	14			16-Dec-16	05-Jan-17	0%		178
DCS Box									
EW9010	Excavate Trial Trench	4			30-Sep-16	07-Oct-16	0%		288
EW9000	Access tp Portion M15 & M16	0			30-Sep-16		0%		402
EW9020	Open Cut Excavation (one side of Pipe Piles Gammon)	4			08-Oct-16	14-Oct-16	0%		288
EW9030	Pour Blinding	1			15-Oct-16	15-Oct-16	0%		288
EW9170	1st Pour Lower Slab (FRC + Puddle flange)	4			17-Oct-16	21-Oct-16	0%		288
EW9180	2nd Pour Lower Slab (FRC + Puddle flange)	4			22-Oct-16	27-Oct-16	0%		288
EW9190	Remove Shutter	1			28-Oct-16	28-Oct-16	0%		288
EW9200	Backfill & Reinstate to Ground Level	3			29-Oct-16	01-Nov-16	0%		288
EW9210	DCS Box complete	0				01-Nov-16	0%		393
Intaking Chiller Mains									
B10.1100	Intake Chiller Mains - Install Grout Curtain along Sheet Piles	42	22-Sep-16	18-Nov-16	19-Dec-16	11-Feb-17	0%	-67	436
Statutory Inspections & Occupation Permit (OP)									
M+ Museum - Statutory Inspection & Approval									
M+ Museum - WSD (FS Pipeworks) Inspection & Approval									
SH4200	FS - Submit Form WW046 (Part 1 & 2) and Approval by WSD (S	90	02-Feb-16	01-May-16	30-Sep-16*	18-Jan-17	0%	-214	77
M+ Museum - WSD (Plumbing) Inspection & Approval									
SH4260	Plumbing - Submit Form WW046 (Part 1 & 2) to WSD (Subject	90	02-Feb-16	01-May-16	30-Sep-16*	18-Jan-17	0%	-214	77
Summary Programme									
M+									
Foundation & Basement									
SM1010	Excavation & ELS Works	310	02-Nov-15	07-Mar-17	02-Nov-15 A	07-Feb-17	66%	24	13
SM1020	Pilecaps & U/G Drainage Construction	110	09-Nov-15	30-Aug-16	04-Jan-16 A	22-Oct-16	86%	-43	12
SM1030	B2/F to B1/F Structure	321	17-Dec-15	24-Jun-17	25-Jan-16 A	28-Apr-17	48%	47	-52
SM1040	B1/F to LG/F Structure	92	19-Mar-16	18-Feb-17	15-Mar-16 A	11-Jan-17	7%	30	-21
SM1110	Basement ABWF Works	366	15-Aug-16	27-Dec-17	08-Oct-16	03-Jan-18	0%	-5	-3
Podium									
SM1060	G/F Slab & RC Structure to 3/F	317	16-Aug-16	11-Nov-17	04-Nov-16	28-Nov-17	0%	-14	16
SM1050	Trusses Construction	138	25-Aug-16	21-Feb-17	19-Nov-16	12-May-17	0%	-63	-42
SPS									
SM1470	SPS RC Structure	100	27-Apr-16	26-Aug-16	25-Jul-16 A	30-Nov-16	1%	-79	-83
SM1480	SPS Building Services Works	140	27-Aug-16	16-Feb-17	01-Dec-16	26-May-17	0%	-79	-83
ICP									
SM1415	ICP ELS and Excavation	137	22-Feb-16	26-Jul-16	20-May-16	08-Nov-16	32%	-87	-81
SM1420	ICP RC Structure	244	28-Jul-16	24-Jun-17	25-Jul-16 A	03-Oct-17	5%	-83	-83
External Works									
SM1400	M+ External Works	314	10-Dec-15	10-Nov-17	30-Sep-16	21-Oct-17	0%	16	235

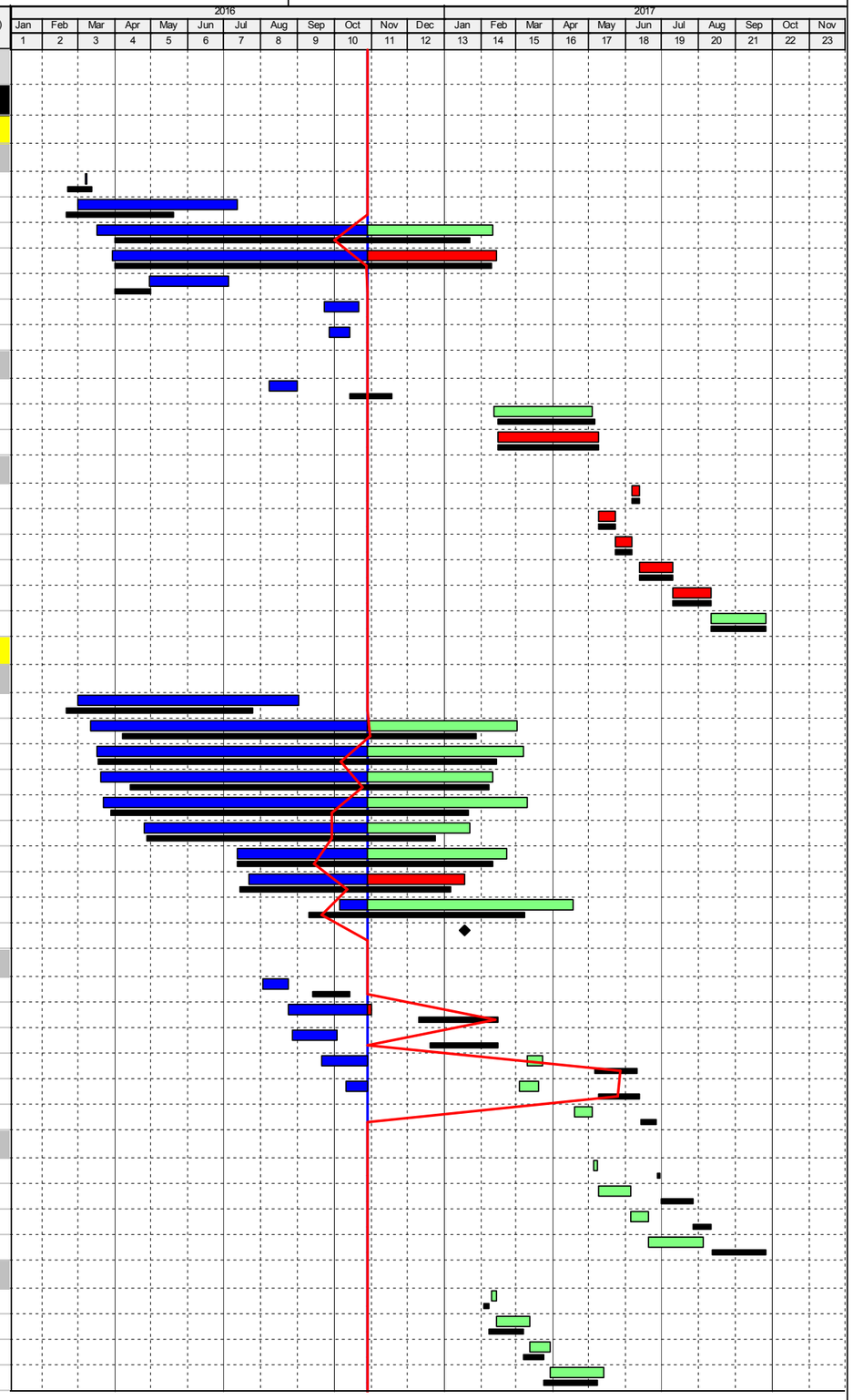


Lyric Theatre Complex

CONTRACT NO: CC/2015/3A/014

SUMMARY PROGRAMME PROGRESS AS OF 28-OCT-2016

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)
F2 Foundation Works for Lyric Theatre Complex									
Summary for Major Works									
Pre-bored H-Pile									
Pre-bored H-Pile Construction									
LT.0087	Trial Pile and Obtain BD's Acknowledgement	18	22-Feb-16	12-Mar-16	08-Mar-16 A	09-Mar-16 A	100%	4	
LT.0088	Predrilling, Excluding Portions L02 and L03; 56 nos.	71	20-Feb-16	20-May-16	01-Mar-16 A	13-Jul-16 A	100%	-43	
LT.0089	Pre-bored H-Pile Construction; Rig 1, 121 nos	243	01-Apr-16	21-Jan-17	17-Mar-16 A	10-Feb-17	62%	-14	5
LT.2225	Pre-bored H-Pile Construction; Rig 2, 101 nos	255	01-Apr-16	08-Feb-17	30-Mar-16 A	13-Feb-17	67%	-4	1
LT.2226	Pre-bored H-Pile Construction; Rig 3, 25 nos	25	01-Apr-16	30-Apr-16	30-Apr-16 A	05-Jul-16 A	100%	-51	
LT.3315	Pre-bored H-Pile Construction; Rig 3, 8 nos	24			23-Sep-16 A	22-Oct-16 A	100%		
LT.3340	Pre-bored H-Pile Construction; Rig 4, 6 nos	13			27-Sep-16 A	14-Oct-16 A	100%		
Contract Administrator's Instruction No. 8									
LT.3010	Predrilling in Portions L02 and L03; 14 nos.	30	14-Oct-16	17-Nov-16	08-Aug-16 A	01-Sep-16 A	100%	64	
LT.3015	Pre-bored H-Pile Construction; Rig 1, 31 nos	65	14-Feb-17	06-May-17	11-Feb-17	04-May-17	0%	2	5
LT.3020	Pre-bored H-Pile Construction; Rig 2, 32 nos	67	14-Feb-17	09-May-17	14-Feb-17	09-May-17	0%	0	1
BA14 and Testing									
LT.0094	Submission of BA14	6	06-Jun-17	12-Jun-17	06-Jun-17	12-Jun-17	0%	0	1
LT.0095	CA's Selection of Proof Drilling Locations	14	09-May-17	23-May-17	09-May-17	23-May-17	0%	0	1
LT.0096	Proof Drilling	14	23-May-17	06-Jun-17	23-May-17	06-Jun-17	0%	0	1
LT.0097	BD's Selection of Test Piles	28	12-Jun-17	10-Jul-17	12-Jun-17	10-Jul-17	0%	0	1
LT.0098	Load Testing and Submit Reports	32	10-Jul-17	11-Aug-17	10-Jul-17	11-Aug-17	0%	0	1
LT.0099	BD's Acknowledgement	45	11-Aug-17	25-Sep-17	11-Aug-17	25-Sep-17	0%	0	18
Bored Pile									
Bored Pile Construction									
LT.0102	Predrilling, Excluding Portions L02 and L03; 145 nos.	125	20-Feb-16	25-Jul-16	02-Mar-16 A	02-Sep-16 A	100%	-33	
LT.0103	Bored Pile Construction; RCD Rig 1, 29 nos.	244	07-Apr-16	27-Jan-17	12-Mar-16 A	02-Mar-17	70%	-26	66
LT.1895	Bored Pile Construction; RCD Rig 2, 26 nos.	268	18-Mar-16	13-Feb-17	17-Mar-16 A	07-Mar-17	61%	-19	65
LT.1905	Bored Pile Construction; RCD Rig 3, 23 nos.	243	14-Apr-16	06-Feb-17	21-Mar-16 A	10-Feb-17	65%	-4	86
LT.1915	Bored Pile Construction; RCD Rig 4, 22 nos.	245	29-Mar-16	20-Jan-17	23-Mar-16 A	10-Mar-17	62%	-39	62
LT.1925	Bored Pile Construction; RCD Rig 5, 22 nos.	200	28-Apr-16	24-Dec-16	26-Apr-16 A	21-Jan-17	64%	-21	100
LT.1935	Bored Pile Construction; RCD Rig 6, 10 nos.	175	12-Jul-16	10-Feb-17	13-Jul-16 A	21-Feb-17	30%	-9	77
LT.1945	Bored Pile Construction; RCD Rig 7, 13 nos.	146	14-Jul-16	06-Jan-17	22-Jul-16 A	17-Jan-17	51%	-9	-4
LT.2215	Sonic Logging and Interface Coring Test; Excluding Portions L02 and L03	145	10-Sep-16	08-Mar-17	06-Oct-16 A	18-Apr-17	6%	-31	45
LT.3260	Completion of Bored Pile Construction in Area 6	0				17-Jan-17	0%		-4
Contract Administrator's Instruction No. 8									
LT.2891	Predrilling in Portions L02 and L03; 11 nos.	24	13-Sep-16	13-Oct-16	03-Aug-16 A	24-Aug-16 A	100%	41	
LT.2895	Bored Pile Construction; RCD Rig 4, 4 nos.	51	10-Dec-16	14-Feb-17	24-Aug-16 A	01-Nov-16	97%	84	-4
LT.2905	Bored Pile Construction; RCD Rig 1, 3 nos.	43	20-Dec-16	14-Feb-17	27-Aug-16 A	04-Oct-16 A	100%	108	
LT.2915	Bored Pile Construction; RCD Rig 4, 2 nos.	30	06-May-17	10-Jun-17	21-Sep-16 A	23-Mar-17	62%	61	63
LT.2925	Bored Pile Construction; RCD Rig 1, 2 nos.	29	09-May-17	12-Jun-17	11-Oct-16 A	20-Mar-17	48%	65	66
LT.2935	Sonic Logging and Interface Coring Test; Portions L02 and L03	12	13-Jun-17	26-Jun-17	19-Apr-17	04-May-17	0%	44	45
BA14 and Testing									
LT.0108	Submission of BA14	3	27-Jun-17	29-Jun-17	05-May-17	08-May-17	0%	44	45
LT.0109	BD's Selection of Test Piles	28	30-Jun-17	27-Jul-17	09-May-17	05-Jun-17	0%	52	53
LT.0110	Concrete Coring Test and Submit Reports	13	27-Jul-17	11-Aug-17	05-Jun-17	20-Jun-17	0%	44	45
LT.0111	BD's Acknowledgement	45	12-Aug-17	25-Sep-17	20-Jun-17	04-Aug-17	0%	52	70
BA14 and Testing at Area 6 if Option is Exercised									
LT.0113	Submission of BA14	3	03-Feb-17	07-Feb-17	09-Feb-17	13-Feb-17	0%	-5	19
LT.0114	BD's Selection of Test Piles	28	07-Feb-17	07-Mar-17	13-Feb-17	13-Mar-17	0%	-6	22
LT.0115	Concrete Coring Test and Submit Reports	15	07-Mar-17	24-Mar-17	13-Mar-17	30-Mar-17	0%	-5	19
LT.3110	BD's Acknowledgement	45	24-Mar-17	08-May-17	30-Mar-17	14-May-17	0%	-6	91



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
SUMAMRY PROGRAMME BASED ON
CONSTRUCTION WORKS PROGRAMME - REV. "A"

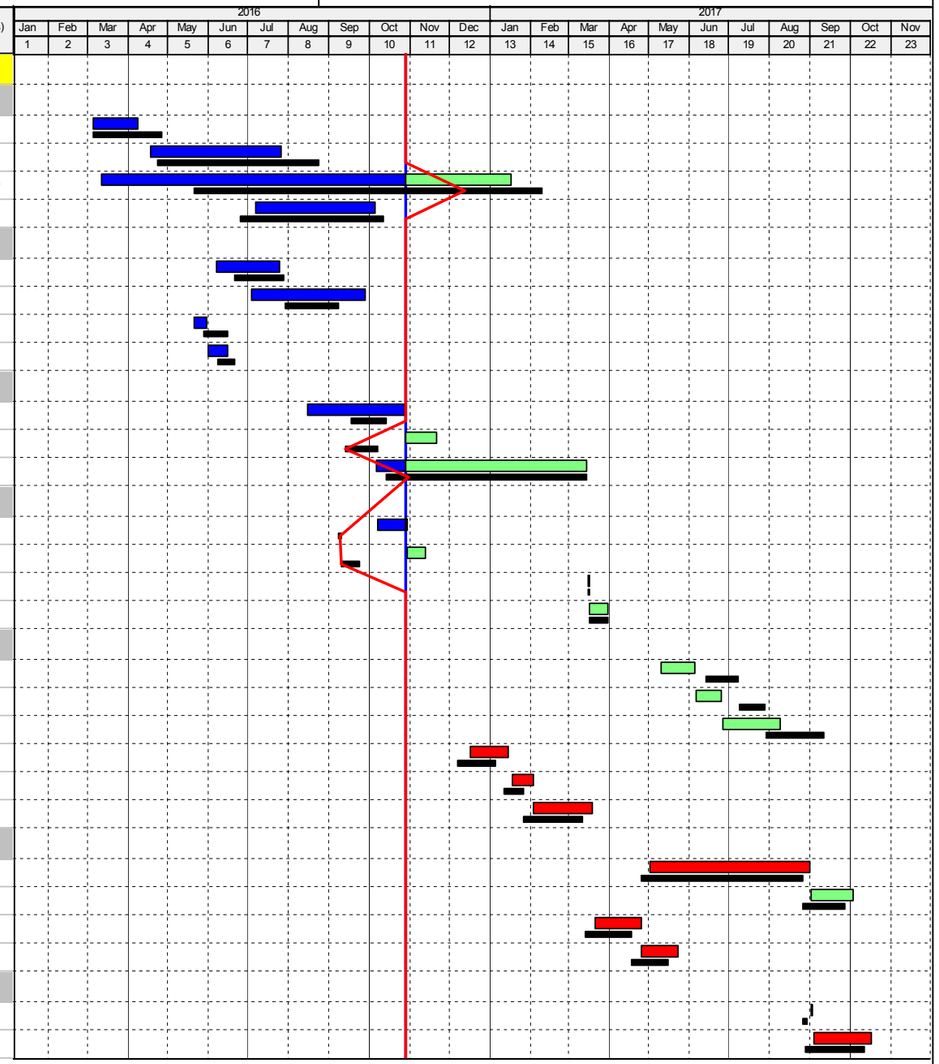
Gammon

Date	Revision	Checked	Approved
28-Oct-16	For Information	R.L.	A.W.

CONTRACT NO: CC/2015/3A/014

SUMMARY PROGRAMME PROGRESS AS OF 28-OCT-2016

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)
Excavation and Lateral Support									
Pipe Pile in Areas 1 to 5									
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 443 nos and CPP 3 nos	215	21-May-16	08-Feb-17	12-Mar-16 A	16-Jan-17	78%	17	136
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	
Sheet Pile in Area 6									
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	
Contract Administrator's Instruction No. 8									
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.)	20	13-Sep-16	07-Oct-16	29-Oct-16	21-Nov-16	0%	-37	181
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	15-Mar-17	11%	0	89
BA14									
LT.0126	Submission of BA14 for Stage 1 ELS Sheet Piling Works at Area 6	2	08-Sep-16	09-Sep-16	08-Oct-16 A	29-Oct-16	90%	-40	-16
LT.0127	BD's Acknowledgement	14	09-Sep-16	23-Sep-16	30-Oct-16	12-Nov-16	0%	-50	61
LT.0128	Submission of BA14 for Stage 1 ELS Piling Works at Area 1 to 5	2	16-Mar-17	17-Mar-17	16-Mar-17	17-Mar-17	0%	0	89
LT.0129	BD's Acknowledgement	14	17-Mar-17	31-Mar-17	17-Mar-17	31-Mar-17	0%	0	114
Pumping Test									
LT.0131	Install Area 1 to Area 5 Pumping Test Instrumentation & Wells (16 PW + 32 OW) and Submission of I	22	13-Jun-17	08-Jul-17	10-May-17	05-Jun-17	0%	28	40
LT.0132	Carry Out Pumping Test in Area 1 to Area 5 and Submission to BD	20	09-Jul-17	28-Jul-17	06-Jun-17	25-Jun-17	0%	33	48
LT.0133	Obtain BD's Acknowledgement of Area 1 to 5 Pumping Test Results	45	29-Jul-17	11-Sep-17	26-Jun-17	09-Aug-17	0%	33	65
LT.0134	Install Area 6 Pumping Test Instrumentation & Wells (3 PW + 6 OW) and Submission of Initial Readin	21	07-Dec-16	04-Jan-17	17-Dec-16	14-Jan-17	0%	-8	-1
LT.0135	Carry Out Pumping Test in Area 6 and submission to BD	16	11-Jan-17	26-Jan-17	17-Jan-17	02-Feb-17	0%	-8	-5
LT.0136	Obtain BD's Acknowledgement of Area 6 Pumping Test Results	45	26-Jan-17	12-Mar-17	02-Feb-17	19-Mar-17	0%	-8	-5
Option Stage 2 ELS and Excavation Works at Area 6									
LT.0138	Bulk Excavation and Installation of Struts	102	25-Apr-17	26-Aug-17	02-May-17	31-Aug-17	0%	-5	-4
LT.0139	Trim Pile Head and Clearance	27	26-Aug-17	27-Sep-17	01-Sep-17	03-Oct-17	0%	-5	8
LT.3075	Submission of BA8 and BA10 for Bulk Excavation Works	35	14-Mar-17	18-Apr-17	21-Mar-17	25-Apr-17	0%	-8	-5
LT.3080	Installation of Temporary Platform	22	18-Apr-17	16-May-17	26-Apr-17	23-May-17	0%	-7	-4
BA14 for Option Stage 2 ELS and Excavation Works at Area 6									
LT.0141	Submission of BA14 for Stage 2 ELS and Excavation Works at Area 6	2	26-Aug-17	29-Aug-17	01-Sep-17	02-Sep-17	0%	-5	-4
LT.0142	BD's Acknowledgement	45	28-Aug-17	12-Oct-17	03-Sep-17	17-Oct-17	0%	-6	-4



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
SUMAMRY PROGRAMME BASED ON
CONSTRUCTION WORKS PROGRAMME - REV. "A"

Gammon

Date	Revision	Checked	Approved
28-Oct-16	For Information	R.L.	A.W.

C. Action and Limit Levels for Construction Phase

Air Quality

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

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

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

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

Monitoring Station	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
AM1	143.6	260
AM2A	151.1	260

Noise

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

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

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

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

Air Quality

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

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

Event	Action			
	ET	IEC	WKCDA	Contractor
Action Level				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and WKCDA; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and WKCDA; 3. Advise the WKCDA on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and WKCDA; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Monitor the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to WKCDA within three working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
Limit Level				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform WKCDA, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCDA informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the WKCDA on the effectiveness of the proposed remedial measures; 5. Monitor the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.

Event	Action			
2. Exceedance for two or more consecutive samples	1. Notify IEC, WKCDA, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and WKCDA to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCDA informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst WKCDA, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the WKCDA accordingly; 5. Monitor the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the WKCDA until the exceedance is abated.

Construction Noise

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

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

Event	Action			
	ET	IEC	WKCDA	Contractor
Action Level	1. Notify WKCDA, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, WKCDA and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the WKCDA accordingly; 3. Advise the WKCDA on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures.	1. Submit noise mitigation proposals to IEC and WKCDA; 2. Implement noise mitigation proposals.
Limit Level	1. Inform IEC, WKCDA, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and WKCDA on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCDA informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst WKCDA, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the WKCDA accordingly.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and WKCDA within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the WKCDA until the exceedance is abated.

Landscape and Visual Impact

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

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

Event	Action			
	ET	IEC	WKCDA	Contractor
Design Check	1. Design check to make sure the design complies with all the proposed mitigation measures in the EIA report; 2. Prepare and submit report.	1. Check report submitted by ET; 2. Recommend remedial design if necessary.	1. Undertake remedial design if necessary.	-
Non-conformity on one occasion	1. Identify source of non-conformity; 2. Report to IEC and WKCDA; 3. Discuss remedial actions with IEC, WKCDA and Contractor; 4. Monitor remedial actions until rectification has been completed.	1. Check and verify source of non-conformity; 2. Discuss remedial actions with ET and Contractor; 3. Advise WKCDA on effectiveness of proposed remedial actions; 4. Check implementation of remedial actions.	1. Notify Contractor; 2. Ensure remedial actions are properly implemented.	1. Amend working method as necessary; 2. Rectify damage and undertake necessary replacement and remedial actions.
Repeated non-conformity	1. Identify source of non-conformity; 2. Report to IEC and WKCDA; 3. Increase monitoring frequency; 4. Discuss remedial actions with IEC, WKCDA and Contractor; 5. Monitor remedial actions until rectification has been completed; 6. If non-conformity rectified, reduce monitoring frequency back to normal.	1. Check and verify source of non-conformity; 2. Check Contractor's working method; 3. Discuss remedial actions with ET and Contractor; 4. Advise WKCDA on effectiveness of proposed remedial actions; 5. Supervise implementation of remedial actions.	1. Notify Contractor; 2. Ensure remedial actions are properly implemented.	1. Amend working method as necessary; 2. Rectify damage and undertake necessary replacement and remedial actions.

E. Monitoring Schedule

OCTOBER 2016

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	22 AM1, AM2A - 24hrTSP, 1hr TSP x3*
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) *1 hr and 24hr TSP impact monitoring was originally scheduled on 21/10/2016. Due to typhoon signal no. 8 was hoisted on 21/10/2016, the 1 hr and 24hr TSP impact monitoring was rescheduled to 22/10/2016.				

NOVEMBER 2016

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	**2** AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	**3**	**4**	**5**
6	**7**	**8** AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	**9**	**10**	**11**	**12**
13	**14** AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	**15**	**16**	**17**	**18** AM1, AM2A - 24hrTSP, 1hr TSP x3	**19**
20	**21**	**22**	**23**	**24** AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	**25**	**26**
27	**28**	**29**	**30** AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring			
		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	:	16/08/2016

Sampler

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

Calibration Orfice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	14 Mar 2016
Slope (m)	:	2.09532
Intercept (b)	:	-0.03812
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1008
Ta(K)	:	303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	10.2	3.160	1.534	60	59.36
2	13 holes	8.4	2.867	1.395	53	52.43
3	10 holes	6.2	2.463	1.203	44	43.54
4	7 holes	4.4	2.075	1.018	36	35.61
5	5 holes	2.6	1.595	0.790	26	25.72

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

Sampler Calibration Relationship

Slope(m):45.015 Intercept(b): -10.155 Correlation Coefficient(r): 0.9996

Checked by: _____ Date: 23/08/2016

Magnum Fan

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	AM1(ICC)
Calibrated by	:	K.T.Ho
Date	:	16/10/2016

Sampler

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

Calibration Orfice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	14 Mar 2016
Slope (m)	:	2.09532
Intercept (b)	:	-0.03812
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1013
Ta(K)	:	301

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	10.2	3.178	1.543	60	59.70
2	13 holes	8.4	2.884	1.403	52	51.74
3	10 holes	6.2	2.478	1.210	44	43.78
4	7 holes	4.4	2.087	1.024	34	33.83
5	5 holes	2.6	1.604	0.795	22	21.89

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

Sampler Calibration Relationship

Slope(m):49.892 Intercept(b): -17.425 Correlation Coefficient(r): 0.9991

Checked by: _____ Date: 23/10/2016

Magnum Fan

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	AM2A (Harbourside)
Calibrated by	:	K.T.Ho
Date	:	16/08/2016

Sampler

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

Calibration Orfice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	14 Mar 2016
Slope (m)	:	2.10326
Intercept (b)	:	-0.06696
Correlation Coefficient(r)	:	0.99989

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1008
Ta(K)	:	303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.2	3.455	1.675	60	59.36
2	13 holes	9.2	3.001	1.458	52	51.44
3	10 holes	7.2	2.654	1.294	44	43.53
4	7 holes	4.6	2.122	1.041	34	33.64
5	5 holes	2.6	1.595	0.790	24	23.74

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

Sampler Calibration Relationship

Slope(m):40.647 Intercept(b):-8.533 Correlation Coefficient(r): 0.9994

Checked by: Date: 23/08/2016

Magnum Fan

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	AM2A (Harbourside)
Calibrated by	:	K.T.Ho
Date	:	16/10/2016

Sampler

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

Calibration Orfice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	14 Mar 2016
Slope (m)	:	2.10326
Intercept (b)	:	-0.06696
Correlation Coefficient(r)	:	0.99989

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1013
Ta(K)	:	301

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.2	3.475	1.684	60	59.70
2	13 holes	9.2	3.018	1.467	51	50.75
3	10 holes	7.2	2.670	1.301	44	43.78
4	7 holes	4.6	2.134	1.046	34	33.83
5	5 holes	2.6	1.604	0.794	24	23.880

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

Sampler Calibration Relationship

Slope(m):40.221 Intercept(b):-8.238 Correlation Coefficient(r): 0.9999

Checked by: _____ Date: 23/10/2016
Magnum Fan

TISCH Environmental

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

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 14, 2016 Rootsmeter S/N 0438320 Ta (K) - 295
Operator Tisch Orifice I.D. - 2454 Pa (mm) - 745.49

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4020	3.2	2.00
2	NA	NA	1.00	1.0060	6.4	4.00
3	NA	NA	1.00	0.9010	7.9	5.00
4	NA	NA	1.00	0.8590	8.8	5.50
5	NA	NA	1.00	0.7090	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)
0.9866	0.7037	1.4078
0.9824	0.9765	1.9909
0.9803	1.0880	2.2259
0.9792	1.1399	2.3345
0.9738	1.3735	2.8155

Qstd slope (m) = 2.10326
intercept (b) = -0.06696
coefficient (r) = 0.99989

y axis = SQRT[H2O(Pa/760)(298/Ta)]

Va	(x axis) Qa	(y axis)
0.9957	0.7102	0.8896
0.9914	0.9855	1.2581
0.9893	1.0980	1.4066
0.9882	1.1504	1.4753
0.9828	1.3862	1.7792

Qa slope (m) = 1.31703
intercept (b) = -0.04232
coefficient (r) = 0.99989

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}

SIBATA

SIBATA SCIENTIFIC TECHNOLOGY LTD.
1-1-62, Nakane, Soka, Saitama, 340-0005 Japan
TEL : 048-933-1582 FAX : 048-933-1591

CALIBRATION CERTIFICATE

Date: February 17, 2016

Equipment Name	:	Digital Dust Indicator, Model LD-5R
Code No.	:	080000-72
Quantity	:	1 unit
Serial No.	:	620402
Sensitivity	:	0.001 mg/m3
Sensitivity Adjustment	:	783CPM
Scale Setting	:	February 8, 2016

We hereby certify that the avobe mentioned instrment has been calibrated satisfactory.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.

Shintaro Okamura

Shintaro Okamura
Overseas Sales Division

PILOT TESTING

REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

REPORT NO.	: HK1610285
PROJECT NAME	: PERFORMANCE CHECK / CALIBRATION OF DUST METER
DATE OF ISSUE	: 15/6/2016
CUSTOMER	: ENVIROTECH SERVICES COMPANY
ADDRESS	: RM. 113, 1/F, MY LOFT, 9 HOI WING ROAD, TUEN MUN, N.T.

REPORT NO.	: HK1610285
PROJECT ITEM NO.	: HK1610285-01
PERFORMANCE CHECK / CALIBRATED EQUIPMENT	
TYPE	: LASER DUST MONITOR
MANUFACTURER	: SIBATA
MODEL NO.	: LD-5R
SERIAL NO.	: 620402
EQUIPMENT NO.	: ---
RECEIPT DATE	: 3/6/2016
PERFORMANCE CHECK / CALIBRATION DATE	: 7/6/2016

PERFORMANCE CHECK / CALIBRATION Information

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

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

Approved Signatory : Wong Po Yan Pauline (Testing Engineer)

Issue Date: 15/6/2016

REPORT OF PERFORMANCE CHECK / CALIBRATION

PROJECT NAME	:	PERFORMANCE CHECK / CALIBRATION OF DUST METER
DATE OF ISSUE	:	15/6/2016
REPORT NO.	:	HK1610285

PERFORMANCE CHECK / CALIBRATED EQUIPMENT

TYPE	:	LASER DUST MONITOR
MANUFACTURER	:	SIBATA
MODEL NO.	:	LD-5R
SERIAL NO.	:	620402
EQUIPMENT NO.	:	---
SENSITIVITIY ADJUSTMENT SETTING	:	783 CPM
PERFORMANCE CHECK / CALIBRATION DATE	:	7/6/2016

STANDARD EQUIPMENT

	:	
TYPE	:	HIGH VOLUME AIR SAMPLER
MANUFACTURER	:	TISCH
MODEL NO.	:	TE-5170
EQUIPMENT REF NO.	:	PTL_HV002
LAST CALIBRATION DATE	:	30/5/2016

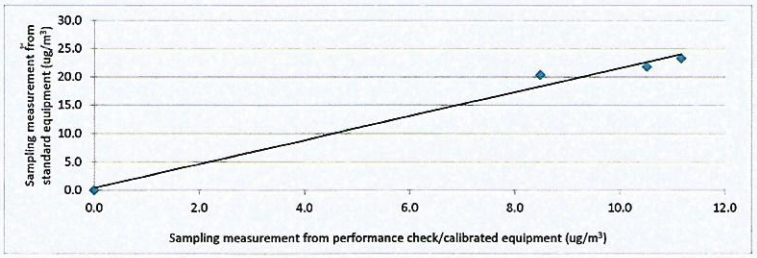
EQUIPMENT PERFORMANCE CHECK / CALIBRATION RESULTS:

Sensitivity Adjustment Scale Setting (Before Performance check / Calibration): 783 CPM
Sensitivity Adjustment Scale Setting (After Performance check / Calibration): 783 CPM

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m^3 (Standard equipment) (Y - Axis)	Total Count^2 (Performance Check / Calibrated equipment)	Concentration in Count/Minute ^{3} (Performance Check / Calibrated equipment) (X - Axis)
Zero Check[1]	7/6/2016, 08:00	28.1	1008	0.0	0	0.0
1	7/6/2016, 09:10 - 10:10	28.1	1008	21.8	631	10.5
2	7/6/2016, 12:59 - 13:59	28.1	1008	23.3	670	11.2
3	7/6/2016, 14:17 - 15:17	28.1	1008	20.4	509	8.5

Linear Regression of Y on X

Slope (K- factor)	:	2.1
Correlation Coefficient	:	0.9924
Validity of Performance Check / Calibration Record	:	7/6/2017



Notes : 1. Zero check conducted as per CAL003 SOP and manufacturer's manual as appropriate.
2. Total Count was measured by laser dust monitor.
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: Kong Wing Yan, Emily Signature: Date: 7/6/2016

Checked by: Wong Po Yan, Pauline Signature: Date: 15/6/2016

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. : C164166
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC16-1465) Date of Receipt / 收件日期 : 20 July 2016

Description / 儀器名稱	:	Precision Integrating Sound Level Meter
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-18
Serial No. / 編號	:	00360030
Supplied By / 委託者	:	Envirotech Services Co. Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun, New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 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 : 29 July 2016

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 簽發日期 : 1 August 2016

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 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C164166
證書編號

1. 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.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C160077
CL281	Multifunction Acoustic Calibrator	PA160023

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	94.4	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
60 - 120	LA	A	Fast	94.00	1	94.4 (Ref.)
				104.00		104.4
				114.00		114.4

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

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	94.4	Ref.
			Slow			94.4	± 0.1

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 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C164166
證書編號

6.2.2 Tone Burst Signal (2 kHz)

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

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 110	LA	A	Fast	94.00	31.5 Hz	54.7	-39.4 ± 1.5
					63 Hz	68.0	-26.2 ± 1.5
					125 Hz	78.0	-16.1 ± 1.0
					250 Hz	85.6	-8.6 ± 1.0
					500 Hz	91.1	-3.2 ± 1.0
					1 kHz	94.4	Ref.
					2 kHz	95.7	+1.2 ± 1.0
					4 kHz	95.5	+1.0 ± 1.0
					8 kHz	93.3	-1.1 (+1.5 ; -3.0)
					12.5 kHz	90.1	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 110	LC	C	Fast	94.00	31.5 Hz	91.3	-3.0 ± 1.5
					63 Hz	93.5	-0.8 ± 1.5
					125 Hz	94.2	-0.2 ± 1.0
					250 Hz	94.4	0.0 ± 1.0
					500 Hz	94.5	0.0 ± 1.0
					1 kHz	94.4	Ref.
					2 kHz	94.3	-0.2 ± 1.0
					4 kHz	93.6	-0.8 ± 1.0
					8 kHz	91.4	-3.0 (+1.5 ; -3.0)
					12.5 kHz	88.1	-6.2 (+3.0 ; -6.0)

Certificate of Calibration
校正證書

Certificate No. : C164166
證書編號

6.4 Time Averaging

UUT Setting				Applied Value					UUT	IEC 60804
Range (dB)	Mode	Frequency Weighting	Integrating Time	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
50 - 110	LAeq	A	10 sec.	4	1	1/10	110	100	100.1	± 0.5
						$1/10^2$		90	89.9	± 0.5
			60 sec.			$1/10^3$		80	79.6	± 1.0
			5 min.			$1/10^4$		70	69.7	± 1.0

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

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

- Uncertainties of Applied Value :

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

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

Note :
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.

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 – 校正及檢測實驗所
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

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. : C163248
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC16-1307) Date of Receipt / 收件日期 : 10 June 2016

Description / 儀器名稱 : Sound Level Calibrator
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-73
Serial No. / 編號 : 10997142
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 : 15 June 2016

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 簽發日期 : 17 June 2016

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 – 校正及檢測實驗所
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

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. : C163248
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C153519
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

4. Test procedure : MA100N.

5. 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	93.7	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.985	1 kHz ± 2 %	± 1

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

Note :
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.

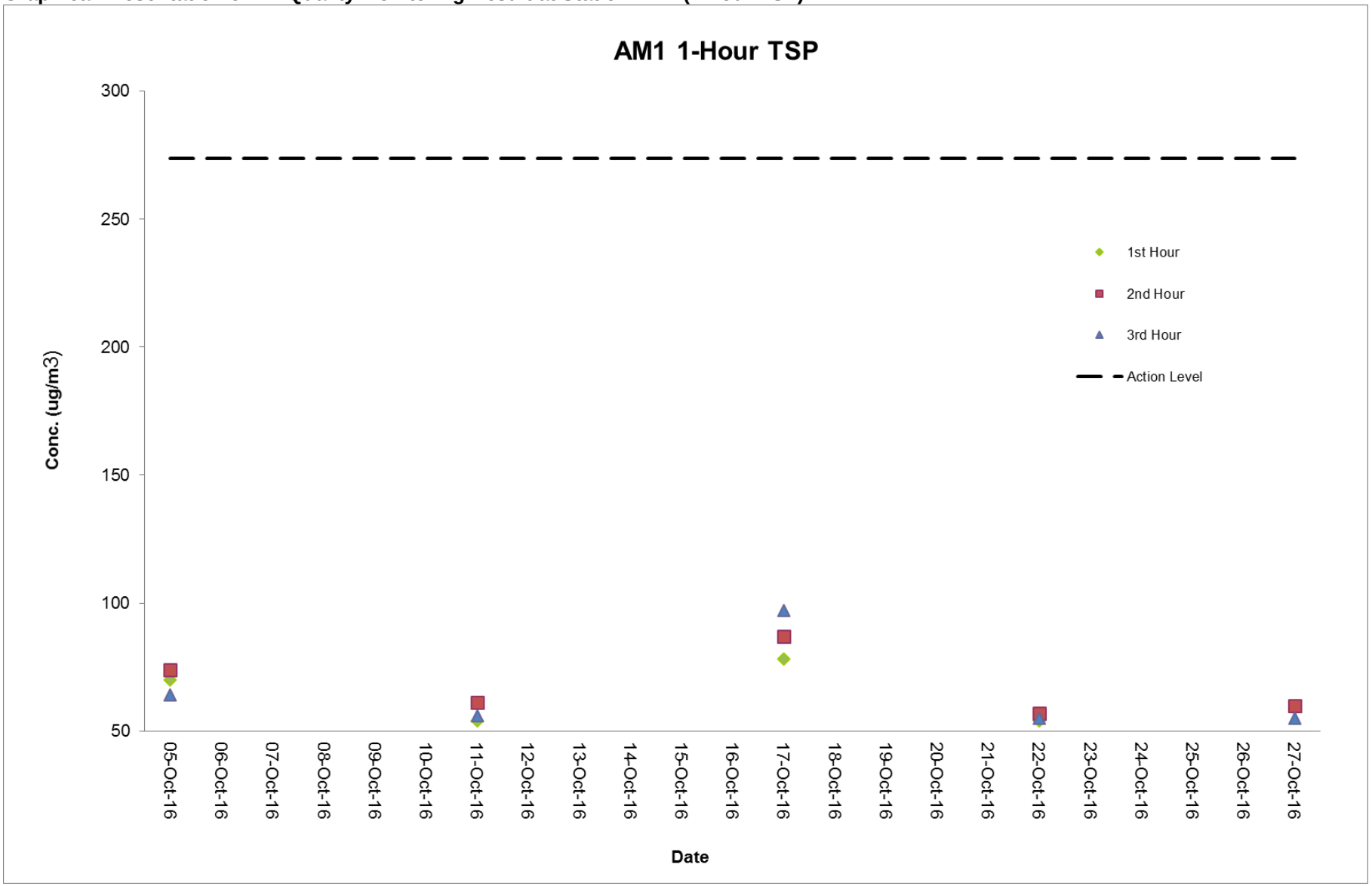
Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

G. Graphical Plots of the Monitoring Results

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

Date	Weather Condition	Time	Conc. (μg/m^3)			Action Level (μg/m^3)	Limit Level (μg/m^3)
			1st Hour	2nd Hour	3rd Hour		
05-Oct-16	Cloudy	10:48 - 16:00	70	74	64	273.7	500
11-Oct-16	Cloudy	10:40 - 16:00	54	61	56	273.7	500
17-Oct-16	Cloudy	10:50 - 16:00	78	87	97	273.7	500
22-Oct-16	Cloudy	8:05 - 11:05	54	57	55	273.7	500
27-Oct-16	Sunny	10:40 - 16:00	59	60	55	273.7	500

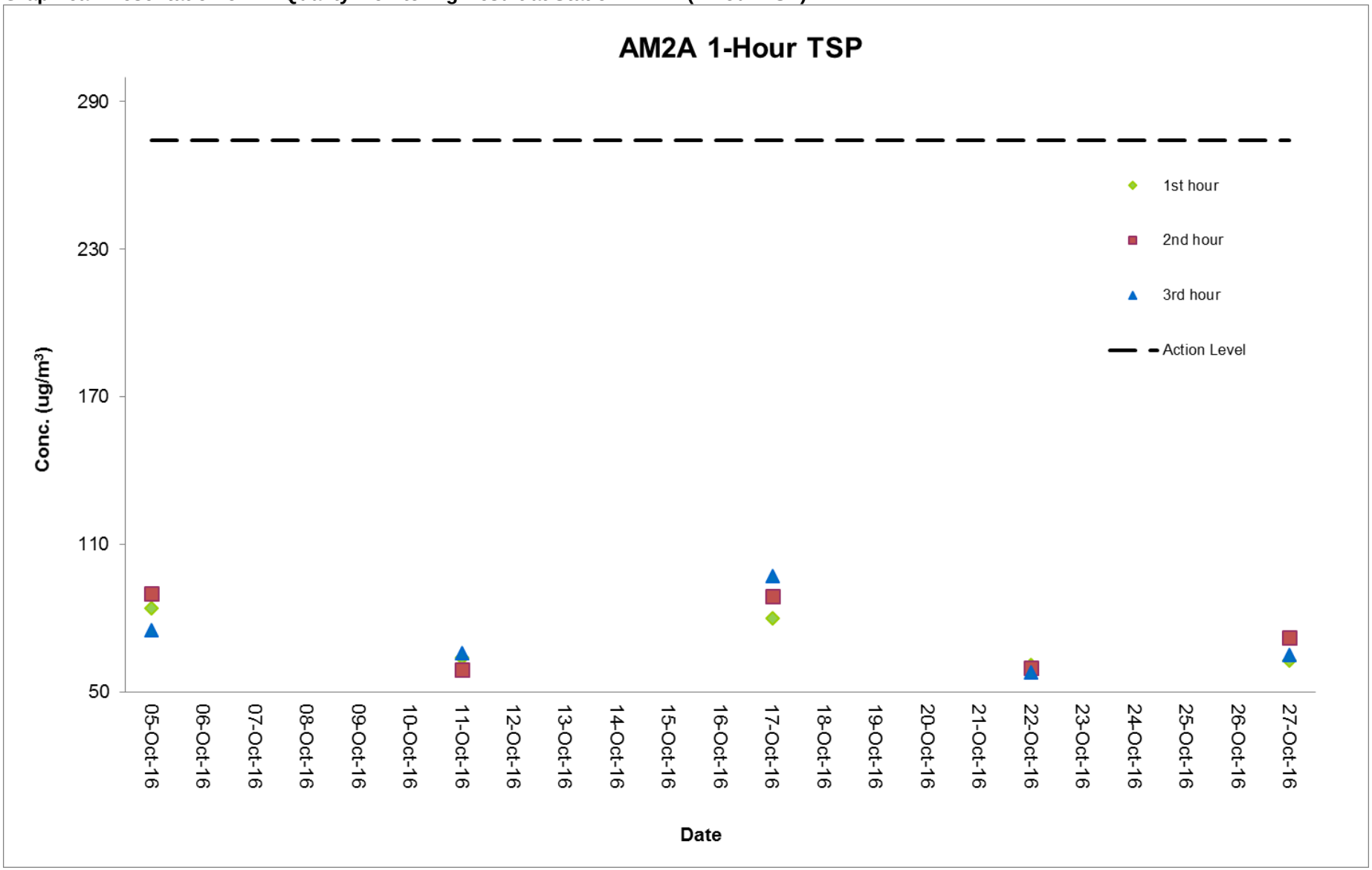
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (1-hour TSP)



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

Date	Weather Condition	Time	Conc. (μg/m^3)			Action Level (μg/m^3)	Limit Level (μg/m^3)
			1st Hour	2nd Hour	3rd Hour		
05-Oct-16	Cloudy	11:00 - 16:10	84	90	75	274.2	500
11-Oct-16	Cloudy	10:52 - 16:10	64	59	66	274.2	500
17-Oct-16	Cloudy	11:00 - 16:10	80	89	97	274.2	500
22-Oct-16	Cloudy	8:17 - 11:17	61	60	58	274.2	500
27-Oct-16	Sunny	10:52 - 16:10	63	72	65	274.2	500

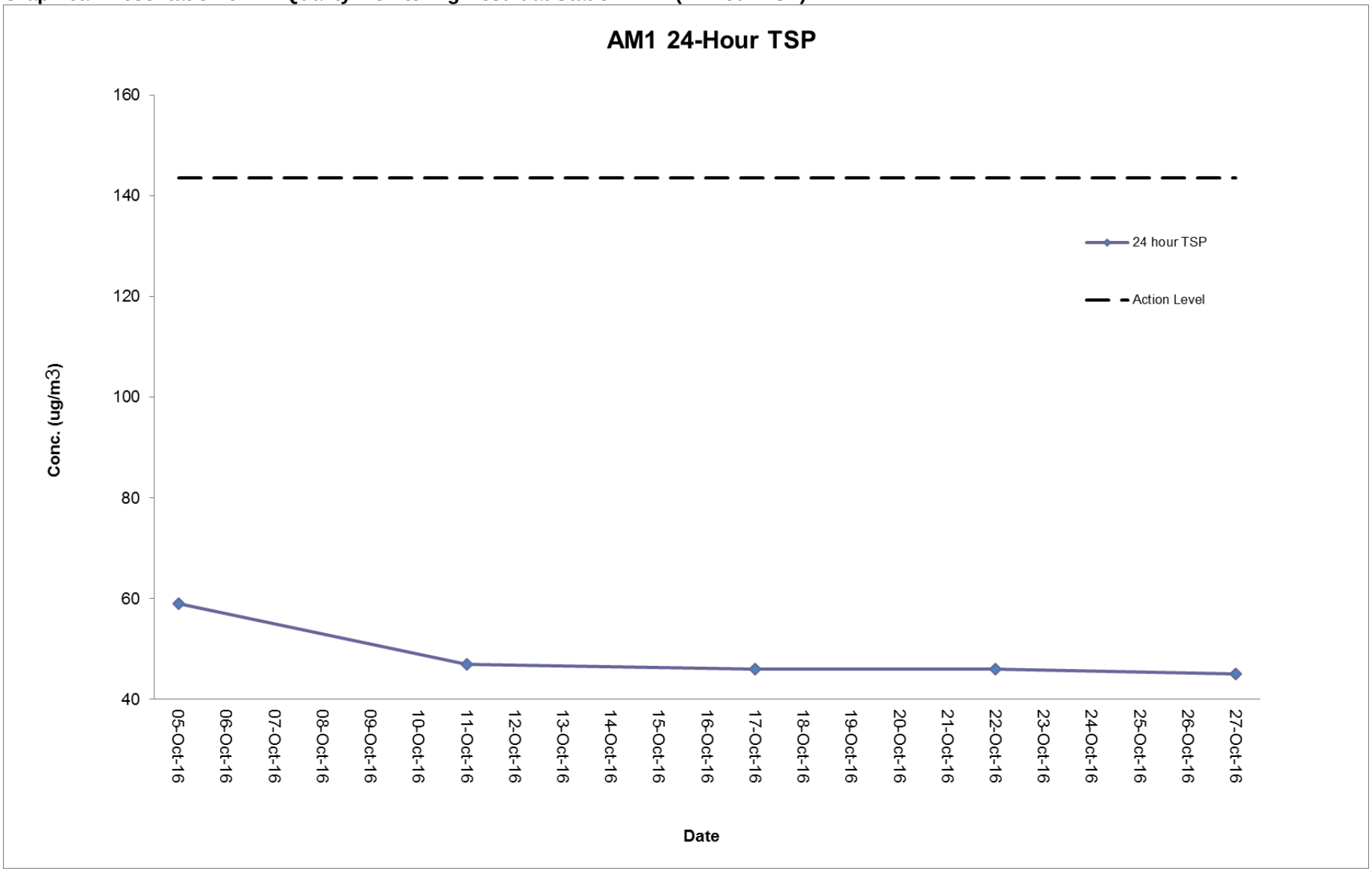
Graphical Presentation of Air Quality Monitoring Result at Station AM2A (1-hour TSP)



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

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m^3/min)			Conc. (µg/m^3)	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Oct-16	10:50	06-Oct-16	10:50	2.807	2.909	20088.38	20112.38	24	1.2	1.2	1.2	59	Cloudy	143.6	260
11-Oct-16	10:42	12-Oct-16	10:42	2.7923	2.8742	20112.38	20136.38	24	1.2	1.2	1.2	47	Cloudy	143.6	260
17-Oct-16	10:48	18-Oct-16	10:48	2.81	2.8911	20136.38	20160.38	24	1.23	1.23	1.23	46	Cloudy	143.6	260
22-Oct-16	08:00	23-Oct-16	08:00	2.809	2.89	20160.38	20184.38	24	1.23	1.23	1.23	46	Cloudy	143.6	260
27-Oct-16	10:42	28-Oct-16	10:42	2.7974	2.8779	20184.38	20208.38	24	1.23	1.23	1.23	45	Sunny	143.6	260

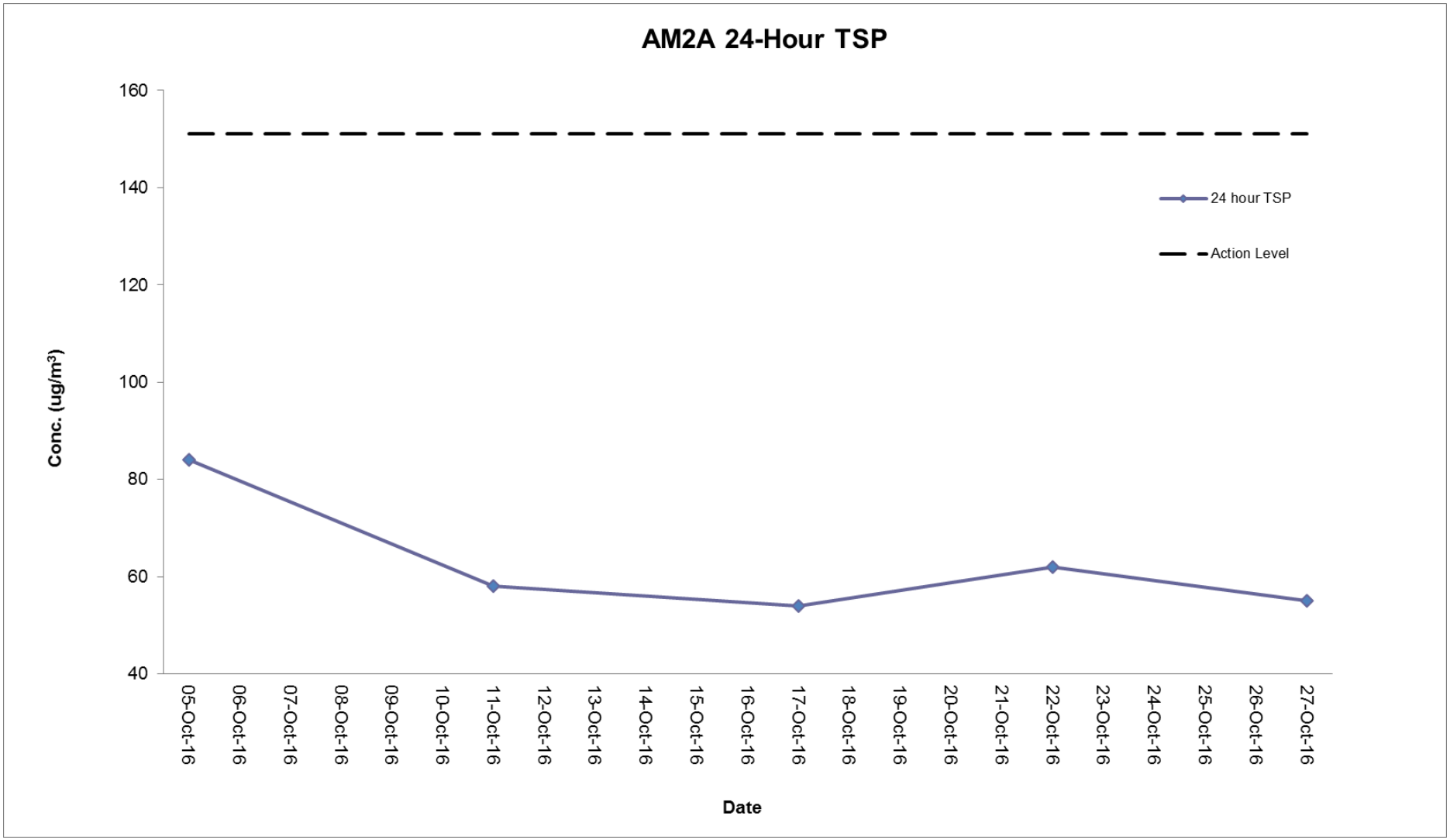
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (24-hour TSP)



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

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m^3/min)			Conc. (µg/m^3)	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Oct-16	11:03	06-Oct-16	11:03	2.7953	2.9444	15743.59	15767.59	24	1.24	1.24	1.24	84	Cloudy	151.1	260
11-Oct-16	10:54	12-Oct-16	10:54	2.7973	2.9000	15767.59	15791.59	24	1.24	1.24	1.24	58	Cloudy	151.1	260
17-Oct-16	11:02	18-Oct-16	11:02	2.8177	2.9152	15791.59	15815.59	24	1.25	1.25	1.25	54	Cloudy	151.1	260
22-Oct-16	08:15	23-Oct-16	08:15	2.7951	2.9068	15815.59	15839.59	24	1.25	1.25	1.25	62	Cloudy	151.1	260
27-Oct-16	10:55	28-Oct-16	10:55	2.805	2.9039	15839.59	15863.59	24	1.25	1.25	1.25	55	Sunny	151.1	260

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



Noise Monitoring Result at Station NM1A

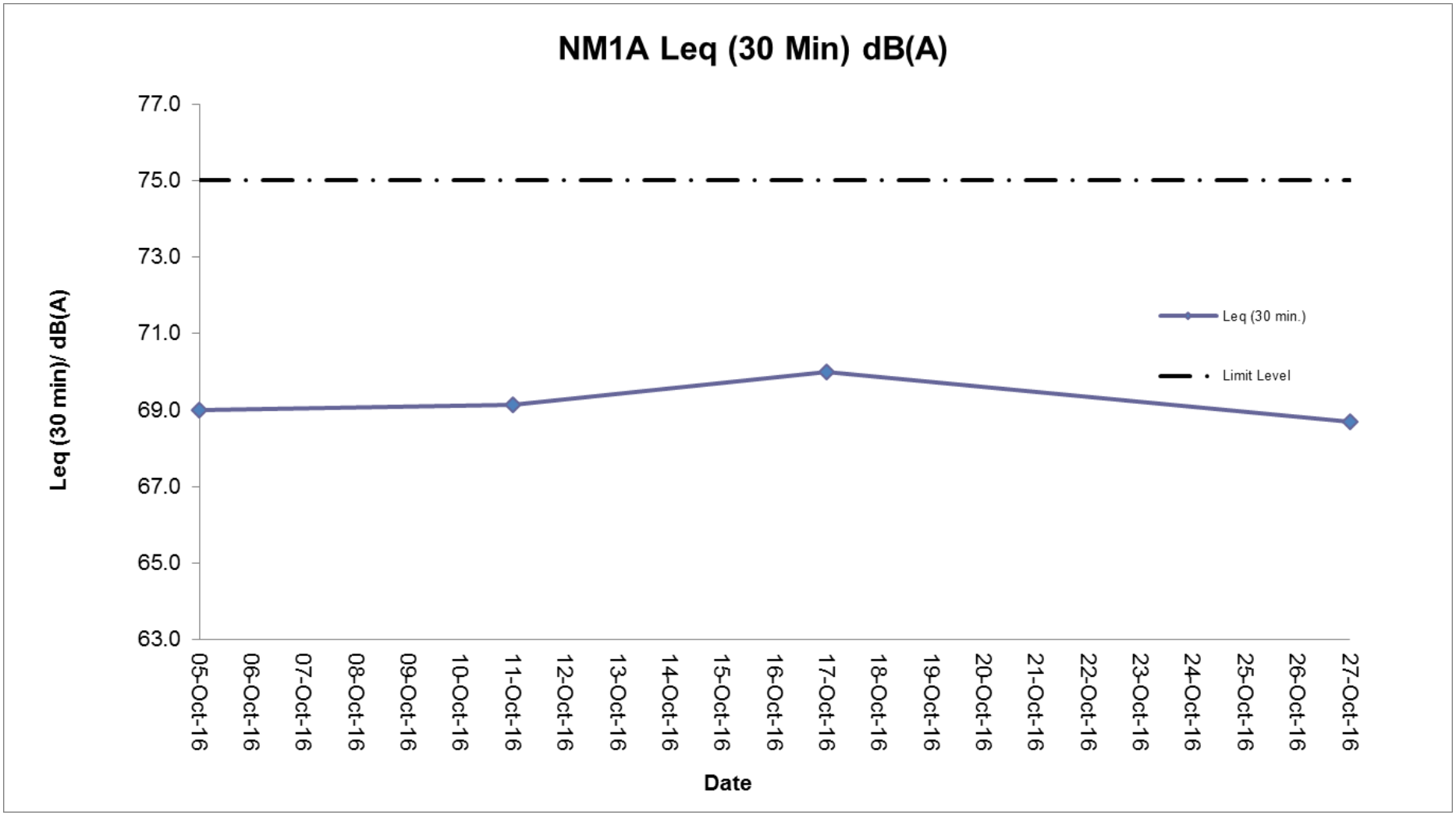
Date	Time	Measured L_{10} dB(A)	Measured L_{90} dB(A)	L_{eq} (30 min.) dB(A)
05-Oct-16	14:00	68.3	63.7	69.0
05-Oct-16	14:05	67.9	63.2	
05-Oct-16	14:10	68.4	63.8	
05-Oct-16	14:15	68.8	63.9	
05-Oct-16	14:20	67.5	63.4	
05-Oct-16	14:25	67.7	63.0	
11-Oct-16	14:00	67.0	63.3	69.1
11-Oct-16	14:05	68.4	64.1	
11-Oct-16	14:10	69.0	65.0	
11-Oct-16	14:15	68.4	64.4	
11-Oct-16	14:20	67.9	63.9	
11-Oct-16	14:25	68.0	64.0	
17-Oct-16	14:00	68.9	64.1	70.0
17-Oct-16	14:05	67.7	63.2	
17-Oct-16	14:10	69.0	64.1	
17-Oct-16	14:15	69.7	64.7	
17-Oct-16	14:20	68.2	64.5	
17-Oct-16	14:25	69.4	65.0	
27-Oct-16	14:00	68.0	64.0	68.7
27-Oct-16	14:05	67.9	63.7	
27-Oct-16	14:10	68.4	64.2	
27-Oct-16	14:15	67.0	62.8	
27-Oct-16	14:20	67.4	63.4	
27-Oct-16	14:25	67.9	63.7	

Remarks:

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

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

Graphical Presentation Noise Monitoring Result at Station NM1A



H. Meteorological Data Extracted from Hong Kong Observatory

EXTRACT OF METEOROLOGICAL OBSERVATIONS FOR HONG KONG, OCTOBER 2016 (Table 1)

Date October	Mean Pressure (hPa)	Air Temperature			Mean Dew Point Temperature (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)
		Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)				
1	1009.9	29.4	26.6	24.0	24.6	89	75	95.5
2	1009.0	29.8	27.6	26.2	24.3	82	76	Trace
3	1007.8	28.3	27.5	26.6	24.1	82	84	0.2
4	1008.1	29.5	27.5	26.5	24.4	83	60	-
5	1008.9	31.9	28.6	26.9	24.3	78	68	Trace
6	1009.1	32.4	28.5	25.9	23.5	75	57	16.7
7	1007.1	29.3	27.7	25.5	23.5	79	86	17.3
8	1006.8	29.9	28.1	27.0	22.4	71	88	Trace
9	1008.9	28.8	26.5	24.9	20.4	69	86	-
10	1010.2	28.1	25.3	23.5	19.4	70	74	-
11	1010.7	26.8	24.5	22.0	20.6	79	88	0.1
12	1012.5	25.8	24.6	23.0	21.6	84	88	0.9
13	1013.5	29.3	26.0	24.2	21.6	77	72	Trace
14	1013.2	29.9	26.7	25.0	21.9	76	70	Trace
15	1012.6	30.3	27.2	24.6	21.6	72	63	-
16	1010.9	30.8	28.0	25.9	22.1	71	62	-
17	1009.1	28.8	26.6	24.1	22.9	81	89	16.7
18	1008.1	25.5	24.8	23.9	24.2	96	91	178.7
19	1008.7	25.9	25.1	24.4	24.6	96	94	223.4
20	1004.6	29.5	27.3	24.7	23.8	82	82	-
21	997.1	28.0	26.1	24.4	23.6	86	96	72.5
22	1007.8	29.4	27.5	26.1	24.4	84	77	1.9
23	1010.0	29.1	27.1	25.8	24.9	88	68	-
24	1011.3	29.1	27.3	26.1	25.2	88	74	Trace
25	1013.3	29.8	27.3	26.1	24.8	87	65	Trace
26	1015.6	30.0	27.1	25.7	24.2	84	47	-
27	1016.0	30.9	27.5	25.4	23.5	79	41	-
28	1014.9	31.5	28.2	26.3	23.3	75	54	-
29	1017.2	29.0	26.7	24.3	22.7	79	70	0.5
30	1019.8	26.6	24.4	22.9	19.4	74	85	-
31	1019.1	28.7	25.5	23.1	19.7	70	66	-
Mean/Total	1010.7	29.1	26.8	25.0	22.9	80	74	624.4
Normal*	1014.1	27.8	25.5	23.7	20.2	73	58	100.9
Station	Hong Kong Observatory							

EXTRACT OF METEOROLOGICAL OBSERVATIONS FOR HONG KONG, OCTOBER 2016 (Table 2)

Date October	Number of hours of Reduced Visibility# (hours)	Total Bright Sunshine (hours)	Daily Global Solar Radiation (MJ/m^2)	Total Evaporation (mm)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
1	12	5.8	16.05	0.6	090	16.2
2	9	3.0	11.57	4.2	060	17.8
3	0	1.2	8.37	2.0	050	28.5
4	0	4.9	9.68	1.9	050	17.5
5	0	5.7	16.61	4.4	070	18.7
6	0	8.9	18.76	6.8	010	19.3
7	0	3.8	11.82	3.1	010	23.6
8	0	2.1	10.54	3.7	360	35.2
9	0	4.7	15.92	6.1	010	33.0
10	0	6.8	16.51	3.5	020	28.0
11	0	0.7	9.51	3.2	010	29.8
12	0	0.1	4.70	1.3	060	39.7
13	0	6.5	17.41	4.7	080	39.5
14	0	9.0	19.58	3.9	080	34.6
15	0	7.0	15.64	4.5	050	20.3
16	0	7.8	15.66	5.0	020	20.3
17	0	2.2	7.73	N.A.	070	43.5
18	0	-	2.07	N.A.	090	57.5
19	0	0.1	2.27	N.A.	100	36.0
20	7	7.4	14.48	1.9	010	15.8
21	0	-	0.80	N.A.	220	60.8
22	0	5.0	12.47	0.5	220	18.2
23	0	2.8	10.47	2.1	100	6.0
24	0	4.1	12.90	1.9	120	13.8
25	0	9.2	20.00	4.2	090	16.5
26	0	8.5	17.55	3.2	070	17.1
27	0	9.8	19.82	4.6	060	11.1
28	0	10.3	20.33	3.3	020	8.6
29	0	3.7	11.38	5.3	080	31.5
30	0	3.6	12.46	4.1	020	32.3
31	0	7.9	17.24	5.2	070	24.0
Mean/Total	28	152.6	12.91	95.2&	070	26.3
Normal*	142.8§	193.9	14.05	123.9	080	27.4
Station	Hong Kong International Airport	King's Park			Waglan Island^	

The minimum pressure recorded at the Hong Kong Observatory was 990.7 hectopascals at 1132 HKT on 21 October.

The maximum air temperature recorded at the Hong Kong Observatory was 32.4 degrees C at 1326 HKT on 6 October.

The minimum air temperature recorded at the Hong Kong Observatory was 22.0 degrees C at 0543 HKT on 11 October.

The maximum gust peak speed recorded at Waglan Island was 115 kilometres per hour from 280 degrees at 1235 HKT on 21 October.

The maximum 1-minute mean rainfall rate recorded at King's Park was 173 millimetres per hour at 1503 HKT on 18 October.
Reduced visibility refers to visibility below 8 kilometres when there is no fog, mist or precipitation.
- The visibility readings at the Hong Kong International Airport are based on hourly observations by professional meteorological observers in 2004 and before, and average readings over the 10-minute period before the clock hour of the visibility meter near the middle of the south runway from 2005 onwards. The change of the data source in 2005 is an improvement of the visibility assessment using instrumented observations following the international trend.
- Before 10 October 2007, the number of hours of reduced visibility at the Hong Kong International Airport in 2005 and thereafter displayed in this web page was based on hourly visibility observations by professional meteorological observers. Since 10 October 2007, the data have been revised using the average visibility readings over the 10-minute period before the clock hour, as recorded by the visibility meter near the middle of the south runway.
^ In case the data are not available from Waglan Island, observations of Cheung Chau or other nearby weather stations will be incorporated in computing the Prevailing Wind Direction and Mean Wind Speed.
* 1981-2010 Climatlogical Normal, unless otherwise specified
§ 1997-2015 Mean value
& Data incomplete

Remarks:

Graphical presentations for wind speed and wind direction from the nearest HKO’s weather station were not available.

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 Facilty	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
2015													
Nov	46607.4	0.0	0.0	8240.0	38367.4	0.0	0.0	76.2	0.0	0.0	0.0	0.0	67.6
Dec	29652.9	0.0	0.0	29621.4	31.5	0.0	0.0	26.3	0.0	0.0	0.0	1.0	66.0
Sub-total (2015)	76260.3	0.0	0.0	37861.4	38398.9	0.0	0.0	102.5	0.0	0.0	0.0	1.0	133.6
2016													
Jan	21077.4	0.0	6352.0	14576.0	149.4	0.0	0.0	18.8	0.0	0.0	0.0	0.0	23.2
Feb	7626.2	0.0	3424.0	4048.0	154.2	0.0	0.0	59.8	0.0	0.0	0.0	0.0	20.5
Mar	10442.5	0.0	1600.0	7888.0	954.5	0.0	0.0	29.7	0.0	0.0	0.0	0.0	46.3
Apr	30413.2	0.0	6352.0	23408.0	653.2	0.0	0.0	25.8	0.1	0.0	27.8	0.0	34.5
May	24083.5	0.0	112.0	23216.0	755.5	0.0	0.0	61.5	0.4	0.0	33.6	0.0	62.3
Jun	7880.1	0.0	4736.0	2384.0	760.1	0.0	0.0	106.6	0.1	0.0	14.6	0.0	52.8
Jul	5893.1	0.0	2656.0	2240.0	997.1	0.0	0.0	77.6	0.0	0.0	33.6	0.0	83.1
Aug	13709.6	0.0	0.0	12432.0	1277.6	0.0	0.0	111.3	0.3	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													
Dec													
Sub-total (2016)	129931.1	0.0	25232.0	96336.0	8297.0	66.1	0.0	678.2	1.2	0.0	267.1	0.2	643.7
Total	206191.4	0.0	25232.0	134197.4	46695.9	66.1	0.0	780.7	1.2	0.0	267.1	1.2	777.3

Note:
-636.6 ton and 958.8 ton of inert C&D material were disposed of as public fill to 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 Facilty	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
2016													
Mar	2702.1	0.0	0.0	0.0	2702.1	0.0	0.0	4.5	0.1	0.0	0.0	0.0	30.6
Apr	8631.5	0.0	0.0	0.0	8631.5	0.0	0.0	16.0	0.0	0.0	0.0	0.0	19.2
May	12487.8	0.0	0.0	0.0	12487.8	0.0	0.0	34.0	0.0	0.0	0.0	0.7	60.5
Jun	8600.8	0.0	0.0	0.0	8600.8	0.0	0.0	31.4	0.2	0.0	0.0	0.5	13.5
Jul	12624.2	0.0	0.0	0.0	12624.2	0.0	0.0	19.6	0.0	0.0	0.0	2.0	9.9
Aug	14419.9	0.0	0.0	0.0	14419.9	0.0	0.0	43.9	0.0	0.0	0.0	0.0	11.1
Sep	13671.3	0.0	0.0	0.0	13671.3	0.0	0.0	59.8	0.0	0.0	0.0	1.6	12.4
Oct	13088.9	0.0	0.0	0.0	13088.9	0.0	0.0	37.1	0.2	1.5	0.0	0.0	15.2
Nov	0.0												
Dec	0.0												
Sub-total (2016)	86226.5	0.0	0.0	0.0	86226.5	0.0	0.0	246.1	0.4	1.5	0.0	4.9	172.4
2017													
Jan	0.0												
Feb	0.0												
Mar	0.0												
Apr	0.0												
May	0.0												
Jun	0.0												
Sub-total (2017)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	86226.5	0.0	0.0	0.0	86226.5	0.0	0.0	246.1	0.4	1.5	0.0	4.9	172.4

Note:
-5017.36 ton and 8071.58 ton of inert C&D material were disposed of as public fill to Tuen Mun Area 38 and Tseung Kwan O Area 137 respectively in the reporting month.

J. Environmental Mitigation Measures – Implementation Status

Table J-1: Environmental Mitigation Measures Implementation Status

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
Air Quality Impact (Construction)			
2.1 & 10.3.1	**General Dust Control Measures** Frequent water spraying for active construction areas (12 times a day or once every one hour), including Heavy construction activities such as construction of buildings or roads, drilling, ground excavation, cut and fill operations (i.e., earth moving)	Obs	✓
2.1 & 10.3.1	**Best Practice For Dust Control** The relevant best practices for dust control as stipulated in the Air Pollution Control (construction Dust) Regulation should be adopted to further reduce the construction dust impacts from the Project. These best practices include:		
	Good Site Management		
	• 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.	Obs	✓
	Disturbed Parts of the Roads		
	• Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or	✓	✓
	• Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.	✓	✓
	Exposed Earth		
	• 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.	N/A	N/A
	Loading, Unloading or Transfer of Dusty Materials		
	• All dusty materials should be sprayed with water immediately prior to any loading or transfer operation	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	so as to keep the dusty material wet.		
	Debris Handling		
	• Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides.	✓	✓
	• Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped.	✓	✓
	Transport of Dusty Materials	✓	✓
	• 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.		
	Wheel washing	✓	✓
	• 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.		
	Use of vehicles		
	• The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site.	✓	✓
	• Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.	✓	✓
	• Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.	✓	✓
	Site hoarding		
	• Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.	✓	✓
2.1 & 10.3.1	**Best Practicable Means for Cement Works (Concrete Batching Plant)** 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: Exhaust from Dust Arrestment Plant		

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	• Wherever possible the final discharge point from particulate matter arrestment plant, where is not necessary to achieve dispersion from residual pollutants, should be at low level to minimise the effect on the local community in the case of abnormal emissions and to facilitate maintenance and inspection	✓	✓
	Emission Limits		
	• All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist or smoke	✓	✓
	Engineering Design/Technical Requirements		
	• 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	✓	✓
-	**Non-Road Mobile Machinery (NRMM):**		
	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.	✓	✓
Noise Impact (Construction)			
3.1 & 10.4.1	**Good Site Practice** 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:	✓	✓
	• only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works;	✓	✓
	• machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum;	✓	✓
	• plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs;	✓	✓
	• mobile plant should be sited as far away from NSRs as possible; and	✓	✓
	• material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities.	✓	✓
3.1 & 10.4.1	**Adoption of Quieter PME** The recommended quieter PME adopted in the assessment were taken from the EPD's QPME Inventory and "*Sound Power Levels of Other Commonly Used PME*" are presented in **Table 4.26** in the EIA report. It should be noted that the silenced PME selected for assessment can be found in Hong Kong.	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
3.1 & 10.4.1	**Use of Movable Noise Barriers** Movable noise barriers can be very effective in screening noise from particular items of plant when constructing the Project. Noise barriers located along the active works area close to the noise generating component of a PME could produce at least 10 dB(A) screening for stationary plant and 5 dB(A) for mobile plant provided the direct line of sight between the PME and the NSRs is blocked.	✓	✓
3.1 & 10.4.1	**Use of Noise Enclosure/ Acoustic Shed** The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the EIAO Guidance Note No.9/2010.	N/A	N/A
3.1 & 10.4.1	**Use of Noise Insulating Fabric** Noise insulating fabric can also be adopted for certain PME (e.g. drill rig, pilling machine etc). The fabric should be lapped such that there are no openings or gaps on the joints. According to the approved Tsim Sha Tsui Station Northern Subway EIA report (AEIAR-127/2008), a noise reduction of 10 dB(A) can be achieved for the PME lapped with the noise insulating fabric.	✓	✓
3.1 & 10.4.1	**Scheduling of Construction Works outside School Examination Periods** During construction phase, the contractor should liaise with the educational institutions (including NSRs LCS and CRGPS) to obtain the examination schedule and avoid the noisy construction activities during school examination periods.	N/A	N/A
Water Quality Impact (Construction)			
4.1 & 10.5.1	**Construction site runoff and drainage** The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and sensitive uses of the coastal area, and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts:		
	• 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;	Obs	✓
	• Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the WKCDA's Contractor prior to the commencement of construction.	✓	✓
	• All drainage facilities and erosion and sediment control structures should be regularly inspected and	Obs	Rem

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.		
	• Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities.	✓	✓
	• All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.	✓	✓
	• Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	✓	✓
	• 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.	✓	✓
	• 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.	✓	✓
	• Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.	N/A	N/A
	Barging facilities and activities		
	Recommendations for good site practices during operation of the proposed barging point include:		
	• All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;	N/A	N/A
	• Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	materials or polluted water during loading or transportation; • All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and	N/A	N/A
	• Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.	N/A	N/A
4.1 & 10.5.1	**Sewage effluent from construction workforce** Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	✓	✓
4.1 & 10.5.1	**General construction activities** • 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.	Obs	✓
	• Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.	Obs	Obs
Waste Management Implications (Construction)			
6.1 & 10.7.1	**Good Site Practices** Recommendations for good site practices during the construction activities include:		
	• Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site	✓	✓
	• Training of site personnel in proper waste management and chemical handling procedures	✓	✓
	• Provision of sufficient waste disposal points and regular collection of waste	Obs	✓
	• Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers	✓	✓
	• Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads	✓	Obs
	• Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&D materials is not anticipated	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
6.1 & 10.7.1	**Waste Reduction Measures** 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	✓	Obs
	• Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste	✓	✓
6.1 & 10.7.1	**Inert and Non-inert C&D Materials** 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	**Chemical Waste**		
	• 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.	Obs/ Rem	Obs
	• 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.	✓	✓
6.1 & 10.7.1	**General Refuse**		
	General refuse should be stored in enclosed bins or compaction units separated from inert C&D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	✓	✓
Land Contamination (Construction)			
7.1 & 10.8.1	The potential for land contamination issues at the TST Fire Station due to its future relocation will be confirmed by site investigation after land acquisition. Where necessary, mitigation measures for minimising potential exposure to contaminated materials (if any) or remediation measures will be identified. If contaminated land is identified (e.g., during decommissioning of fuel oil storage tanks) after the commencement of works, mitigation measures are proposed in order to minimise the potentially adverse effects on the health and safety of construction workers and impacts arising from the disposal of potentially contaminated materials.		
	The following measures are proposed for excavation and transportation of contaminated material:		
	• To minimize the chance for construction workers to come into contact with any contaminated materials, bulk earth-moving excavation equipment should be employed;	N/A	N/A
	• Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when interacting directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site;	N/A	N/A
	• Stockpiling of contaminated excavated materials on site should be avoided as far as possible;	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	• The use of contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out;	N/A	N/A
	• Vehicles containing any contaminated excavated materials should be suitably covered to reduce dust emissions and/or release of contaminated wastewater;	N/A	N/A
	• Truck bodies and tailgates should be sealed to stop any discharge;	N/A	N/A
	• 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;	N/A	N/A
	• Speed control for trucks carrying contaminated materials should be exercised;	N/A	N/A
	• 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	N/A	N/A
	• Maintain records of waste generation and disposal quantities and disposal arrangements.	N/A	N/A
Ecological Impact (Construction)			
	No mitigation measure is required.		
Landscape and Visual Impact (Construction)			
Table 9.1 & 10.8 (CM1)	Trees should be retained in situ on site as far as possible. Should tree removal be unavoidable due to construction impacts, trees will be transplanted or felled with reference to the stated criteria in the Tree Removal Applications to be submitted to relevant government departments for approval in accordance to ETWB TCW No. 29/2004 and 3/2006.	✓	N/A
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	0	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	2	0	0