





M+ Museum Main Works at West Kowloon Cultural District

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

March 2016



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

Certified	by:
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16

Contents

Chapter	Title Pa	ge
Executive	Summary	
1	Introduction	1
1.1	Background	_ 1
1.2	Project Organisation	
1.3	Environmental Status in the Reporting Period	_ 1
1.4	Summary of EM&A Requirements	_ '2
2	Impact Monitoring Methodology	4
2.1	Introduction	_ 4
2.2	Air Quality	_ 4
2.3	Noise	_ 7
2.4	Landscape and Visual Noise	_ 7
3	Monitoring Results	ç
3.1	Impact Monitoring	_ (
3.2	Air Quality Monitoring	
3.3	Noise Monitoring	10
3.4	Landscape and Visual Impact	. 10
4	Environmental Site Inspection	11
4.1	Site Inspection	11
4.2	Advice on the Solid and Liquid Waste Management Status	
4.3	Status of Environmental Licenses and Permits	
4.4	Recommended Mitigation Measures	_ 13
5	Report on Non-compliance, Complaints, Notification of Summons and Successful Prosecutions	14
5.1	Record on Non-compliance of Action and Limit Levels	14
5.2	Record on Environmental Complaints Received	14
5.3	Record on Notifications of Summons and Successful Prosecution	14
5.4	Review of Reasons for and Implications of Non-compliance, Complaints, Summons and Prosecutions	14
5.5	Follow-up Actions Taken	_ 14
6	Future Key Issues	15
6.1	Construction Works for the Coming Month(s)	15
6.2	Key Issues for the Coming Month	
6.3	Monitoring Schedule for the Coming Month	

Conclusions and Recommendations

M+ Museum Main Works at West Kowloon Cultural District

7.1

Conclusions

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



16

1.2	Recommendations	10
Appendic	es	
Appendix A.	Project Organisation	
Appendix B.	Tentative Construction Programme	
Appendix C.	Correspondence from The Harbourside and The Arch management offices	
Appendix D.		
Appendix E.		
Appendix F.		
Appendix G.	•	
Appendix H.		
Appendix I.	Meteorological Data Extracted from Hong Kong Observatory	
Appendix J.	Waste Flow table	
Appendix K.		
Appendix L.	Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions	
Appendix L.	Odifficiative ofatistics of Complaints, Notifications of Commons and Coccession Prosecutions	
Figures		
Figure 1	Site Layout Plan and Monitoring Stations	
Tables		
Table 1.1:	Summary of Impact EM&A Requirements	
Table 2.1:	Air Quality Monitoring Parameters, Frequency and Duration	
Table 2.2: Table 2.3:	Air Quality Monitoring Station TSP Monitoring Equipment	
Table 2.3.	Monitoring Program for Landscape and Visual Impact during Construction Phase	
Table 2.4.	Summary of 1-hour TSP monitoring results	
Table 3.1:	Summary of 24-hour TSP monitoring results	
Table 4.1:	Summary of Site Inspections and Recommendations	
Table 4.1:	Status of Environmental Submissions, Licenses and Permits	12
		_ ·-



Executive Summary

In October 2015, 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 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 commenced on 31 October 2015.

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/A (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 conducted from 1 February to 29 February 2016. Construction phase weekly site inspections were carried out on 4,11,19 and 25 February 2016 to confirm the implementation measures undertaken by the Contractor 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 K**.

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) in this reporting month. Noise monitoring was suspected as permission and access to the podium level of the identified noise sensitive receivers could not be granted. However, 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. The noise monitoring will commence in March 2016 and the monitoring results will be reported in the next reporting month.

<u>Implementation of Mitigation Measures</u>

Construction phase weekly site inspections were carried out on 4, 11, 19 and 25 February 2016 to confirm the implementation measures undertaken by the Contractor 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 K.

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

Record of Complaints

No environmental 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 scheduled to be commissioned in the coming month include:

- Pile Cap Construction
- Site formation
- Concrete pouring/ casting
- Excavation
- Formworks installation
- Slab construction
- Underground drainage works
- Beam installation

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



1 Introduction

1.1 Background

In October 2015, 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 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 commenced on 31 October 2015.

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/A (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 project (i.e. The M+ Museum Mian Works at WKCD) includes 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. Basement of the M+ museum, which is part of the WKCD integrated basement consists of the underpass road. This report focuses on main works for M+ museum.

The Monthly EM&A Report is prepared in accordance with the Condition 3.4 of the Environmental Permit No. EP-453/2013/A. This Monthly EM&A Report presents the monitoring works conducted from 1 February to 29 February 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 of the Project undertaken include:

- Pile Cap Construction
- Site formation
- Concrete pouringExcavation
- Rebar /earthing installation



- Formworks installation
- Slab construction
- Underground drainage works

The captioned project involves part of the Schedule 2 Designated Project (DP), .i.e. "an underpass more than 100m in length under the built areas" (Item A.9, Part I, Schedule 2). Currently, only excavation works was being carried out for the M+ Museum. The construction of the underpass will not commence until the excavation works reach its boundary. The schedule 2 DP has not been physically commenced.

The Construction Works Programme of the Project is provided in **Appendix B**. A layout plan of the Project is provided in **Figure 1**. Please refer to **Table 4.2** 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	AM2 - The Harbourside Tower 1	At least once every 6 days	
	1-Hour TSP	AM2 - The Harbourside Tower 1	At least 3 times every 6 days	
Noise	L_{eq} , 30 minutes	NM1- 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 revised proposal of EM&A programme with details has been submitted to EPD on 20 January 2016 for consideration and futher comments was received on 29 January 2016. The preparation of response to comments is in progress.



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. Correspondence from The Harbourside and The Arch management offices is attached in Appendix C for reference. 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 and a secure electricity supply is available there. Noise monitoring at G/F of Harbourside will not be representative and thus NM1 will be suspended until permission and access is granted by The Harbourside management office. However, 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 were confirmed for the impact monitoring and 1 noise impact monitoring station will be included for impact monitoring starting from March 2016. The noise monitoring results will be reported in the next reporting month.

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

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

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 K**.



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 F**.

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 AM2 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)			
AM2	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 G**.



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 (Serial No.: 0438320)
1-hour TSP monitoring	
Portable direct reading dust meter	Sibata LD-3B (Serial No.: 2Z6240)

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

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.</p>

Field Monitoring Procedures

- The power supply was checked to ensure the HVS works properly.
- The filter holder and the area surrounding the filter were cleaned.
- The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
- The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
- The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges.
- The shelter lid was closed and was secured with the aluminium strip.
- The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
- A new flow rate record sheet was set into the flow recorder.
- The flow rate of the HVS was checked and adjusted at around 1.3 m³/min. The range specified in the EM&A Manual was between 0.6-1.7 m³/min.
- The programmable timer was set for a sampling period of 24 hours, and the starting time, weather condition and the filter number were recorded.
- The initial elapsed time was recorded.
- At the end of sampling, the sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
- It was then placed in a clean plastic envelope and sealed.
- All monitoring information was recorded on a standard data sheet.
- Filters were sent to a Hong Kong Laboratory Accreditation Scheme (HOKLAS) accredited laboratory for analysis.

Maintenance and Calibration

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

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.

M+ Museum Main Works at West Kowloon Cultural District

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



- 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
- 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 G**.

Weather Condition

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

2.3 **Noise**

Currently, the works under the captioned project are confined in the western part of the WKCD site. Therefore, only the monitoring station NM1 was set up. However, the Harbourside management office formally rejected our proposal of setting up noise monitoring equipment on its premises at the podium level of Tower 1 (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. Since noise monitoring at G/F of Harbourside will not be representative and thus NM1 is being suspended until permission and access is granted by The Harbourside management office. However, 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 identifed. The noise monitoring will commence in March 2016 and the monitoring results will be reported in the next reporting month.

2.4 **Landscape and Visual Noise**

2.4.1 **Monitoring Program**

Table 2.4 details the monitoring program (as proposed in the WKCD EIA report) for landscape and visual impact during the construction phase.

M+ Museum Main Works at West Kowloon Cultural District

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



Table 2.4: 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 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 AM2 are summarised in **Table 3.1**. Graphical plots of the monitoring results are shown in **Appendix H**.

Table 3.1: Summary of 1-hour TSP monitoring results

			1-hour TSP (μg/m³)				Action	Limit
Monitoring Station	Monitoring Date	Start Time	1st Result	2nd Result	3rd Result	Range (µg/m³)	Level (µg/m³)	Level (µg/m³)
	02-Feb-16	10:50	56	57	60			
	05-Feb-16	8:00	51	57	64	51-114 	273.7	500
A N 4 1	11-Feb-16	10:40	76	84	79			
AM1	17-Feb-16	10:52	75	81	88			
	23-Feb-16	10:52	59	61	64			
	29-Feb-16	10:36	95	100	114			
	02-Feb-16	10:58	69	54	55			
	05-Feb-16	8:10	68	91	74			500
AMO	11-Feb-16	10:47	63	82	69	54-110 274.2	074.0	
AM2	17-Feb-16	11:02	77	83	90		2/4.2	500
	23-Feb-16	11:00	67	74	77			
	29-Feb-16	10:46	106	95	110			

3.2.2 24-hour TSP

Results of 24-hour TSP at the monitoring location AM1 and AM2 are summarised in **Table 3.2**. Graphical plots of the monitoring results are shown in **Appendix H**.

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)
	02-Feb-16	10:48	45			
AM1	05-Feb-16	08:02	43			
	11-Feb-16	10:42	50	43-50 143.	143.6	260
	17-Feb-16	10:50	47			
	23-Feb-16	10:50	50			



Monitoring Station	Monitoring Date	Start Time	Monitoring Results (µg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (µg/m³)	
	29-Feb-16	10:38	49				
	02-Feb-16	11:00	61				
	05-Feb-16	08:14	68				
AN40	11-Feb-16	10:50	71	EC 71	4F4 4	000	
AM2	17-Feb-16	11:05	67	56-71	151.1	260	
	23-Feb-16	11:03	56				
	29-Feb-16	10:50	69				

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

3.3 Noise Monitoring

The noise impact monitoring is being suspended until permission and access is granted by The Harbourside management office. However, 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. The noise monitoring will commence in March 2016 and the monitoring results will be reported in the next reporting month. Please refer to **Section 2.3** for details.

3.4 Landscape and Visual Impact

Landscape and visual impact inspections were conducted as part of the weekly site inspections on 4 and 19 February 2016 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 K**.



4 Environmental Site Inspection

4.1 Site Inspection

Construction phase weekly site inspections were carried out on 4,11,19 and 25 February 2016. The joint site inspection with IEC, ET, ER and Contractor was held on 19 February 2016. No site inspection was conducted by the EPD during the reporting month. 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 4.1**.

Table 4.1: Summary of Site Inspections and Recommendations

Inspection Date	Parameter	Observation / Recommendation	Contactor's Responses / Action(s) Undertaken	Close-out (Date)
28 Jan 2016	Water quality/ Air quality	Some of the dust supression spraying of the stockpile was found outside the boundary of M66. The contractor was reminded to ensure dust supression spraying is effective in covering the stockpile well and remove the spraying outside M66.	Dust suppression chemical was removed.	4 Feb 2016
28 Jan 2016	Waste management	Oil was observed on the ground because of overflow of drip tray under heavy rain. The contractor was reminded to remove the chemical waste in drip tray more frequently and remove the oil overflowed from the drip tray.	Oil was removed from the ground. The drip tray was cleaned up.	4 Feb 2016
4 Feb 2016	Water quality/ Air quality	The contractor was reminded to cover the stockpiles properly to reduce dust impact.	Stockpile was well covered.	11 Feb 2016
4 Feb 2016	Water quality	The contractor was reminded to remove stagnant water to prevent mosquito breeding.	All stagnant water has been removed.	19 Feb 2016
11 Feb 2016	Water quality	The contractor was reminded to take appropriate measures to prevent any stagnant water from flowing out of the site near site hoarding.	Water seepage through site hoarding has been rectified	19 Feb 2016
11 Feb 2016	Waste management	Oil stain was found on ground near the mobile generator. The contractor was reminded to remove the oil stain and prevent any leakage of oil.	Oil stain was removed and sand bags were observed in place to prevent any runoff/ oil flowing into the drainage system.	25 Feb 2016
19 Feb 2016	Waste management	The contractor was reminded to provide drip trays for chemicals placed near wetsep.	The contractor has removed chemicals which are not in use placed near wetsep.	25 Feb 2016
19 Feb 2016	Chemical management	The contractor was reminded to provide chemical labels for chemicals stored in the chemical storage area.	The contractor has provided chemical labels for chemicals stored in the chemical storage area.	25 Feb 2016
25 Feb 2016	Waste management	Oil stain was observed on the ground near the mobile generator placed near Wetsep No. 1. The contractor was reminded to	Follow-up status will be provided in the next reporting month.	On-going



Inspection Date	Parameter	Observation / Recommendation	Contactor's Responses / Action(s) Undertaken	Close-out (Date)
		remove the oil stain on ground and ensure no leakage of oil from the mobile generator.		

4.2 Advice on the Solid and Liquid Waste Management Status

The Contractor has 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.

As advised by the Contractor, 0 ton and 154.2 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 20.5 ton of general refuse was disposed of at SENT landfill. 59.8 ton of metals, 0 ton of paper/cardboard packaging, 0 ton of plastic and 0 ton of timber were collected by recycling contractors in the reporting month. 3,424.0 ton of inert C&D materials was reused on site. 4,048.0 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 the Project in the reporting month are shown in **Appendix J**.

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 4.2**.

Table 4.2: Status of Environmental Submissions, Licenses and Permits

Permit / License No.	Valid	Period		
/ Notification /				
Reference No.	From	То	Status	Remarks
Chemical Waste Produ	cer Registration			
5213-217-H2913-45	05-Nov-15		Valid	
Billing Account Constru	ction Waste Disposal			
7023393	13-Oct-15		Account Active	
Construction Noise Per	mit			
GW-RE1220-15	04-Dec-15	03-Jun-16	Valid	



Permit / License No.	Valid	Period		
/ Notification /				
Reference No.	From	То	Status	Remarks
GW-RE0105-16	12 Feb-16	04-Jul-16	Valid	This new construction noise permit was applied to replace the existing permit.
Wastewater Discharge	License			
WT00022693-2015	12-Nov-15	30-Nov-20	Valid	

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 K**. In particular, the following mitigation measures were brought to attention during the site inspections:

Chemical and Waste Management

- All chemicals store on site should be provided with drip trays.
- 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.
- Chemical labels should be provided to all chemicals stored on site.

Air Quality

- Stockpiles of cement and other construction materials should be kept covered when not being used
- Maintain high standard of housekeeping to prevent emission of fugitive dust.

Water Quality

- Silty effluent should be treated/ desilted before discharged. Untreated effluent should be prevented from entering public drain channel.
- Stagnant water in site area should be cleared.
- The capacity of the wetsep should be reviewed to avoid overflow problem.
- Dust suppression spraying for stockpile should be applied appropriately to avoid any leakage of spraying from the site.
- No leakage of site runoff from the site near site boundary should be ensured.



5 Report on Non-compliance, Complaints, Notification of Summons and Successful Prosecutions

5.1 Record on Non-compliance of Action and Limit Levels

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

5.2 Record on Environmental Complaints Received

No environmental complaint was received this month. The cumulative statistics on complaints were provided in **Appendix L**.

5.3 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 L**.

5.4 Review of Reasons for and Implications of Non-compliance, Complaints, Summons and Prosecutions

As no notifications of summons or successful prosecution were received, the associated review was not required.

5.5 Follow-up Actions Taken

As no notifications of summons or successful prosecution were received, the associated follow-up actions were not required.



6 Future Key Issues

6.1 Construction Works for the Coming Month(s)

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

- Pile Cap Construction
- Site formation
- Concrete pouring/ casting
- Excavation
- Formworks installation
- Slab construction
- Underground drainage works
- Beam installation

6.2 Key Issues for the Coming Month

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.

6.3 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 in accordance with the approved EM&A Manual has commenced since 31 October 2015. 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. The noise monitoring will commence in March 2016. Please refer to Section 2.3 for details. The tentative monitoring schedule for the coming month is shown in the **Appendix F**.



7 Conclusions and Recommendations

7.1 Conclusions

The EM&A programme as recommended in the EM&A Manual has been undertaken since the construction works commenced on 31 October 2015.

Monitoring of air quality with respect to the Project is underway. In particular, the 1-hour TSP, 24-hour TSP 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 in the reporting month. Noise monitoring was suspended as the permission and access at podium of the identified noise sensitive receiver could not be granted. However, 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. The noise monitoring will commence in March 2016 and the monitoring results will be reported in the next reporting month. No environmental complaint and no notifications of summons or successful prosecution were received during the reporting month.

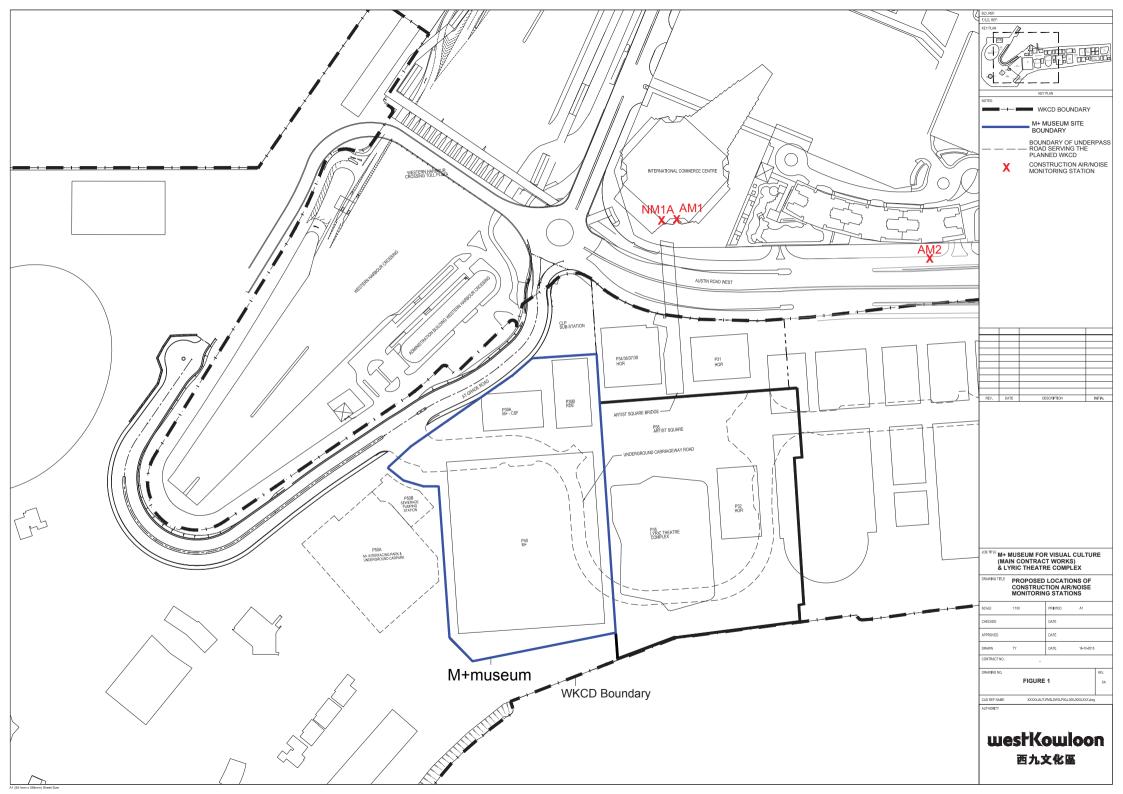
Weekly construction phase site inspections and bi-weekly landscape and visual impact inspections were conducted during the reporting month as required. It was observed that the Contractor had implemented all possible and feasible mitigation measures to mitigate the potential environmental impacts during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

7.2 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



M+ Museum Main Works at West Kowloon Cultural District

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



Appendices

Appendix A.	Project	Organis	ation
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Appendix B. Tentative Construction Programme

Appendix C. Correspondence from The Harbourside and The Arch management offices

Appendix D. Action and Limit Levels for Construction Phase

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

Appendix F. Monitoring Schedule Appendix G. Calibration Certifications

Appendix H. Graphical Plots of the Monitoring Results

Appendix I. Meteorological Data Extracted from Hong Kong Observatory

Appendix J. Waste Flow table

Appendix K. Environmental Mitigation Measures - Implementation Status

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



Appendix A. Project Organisation

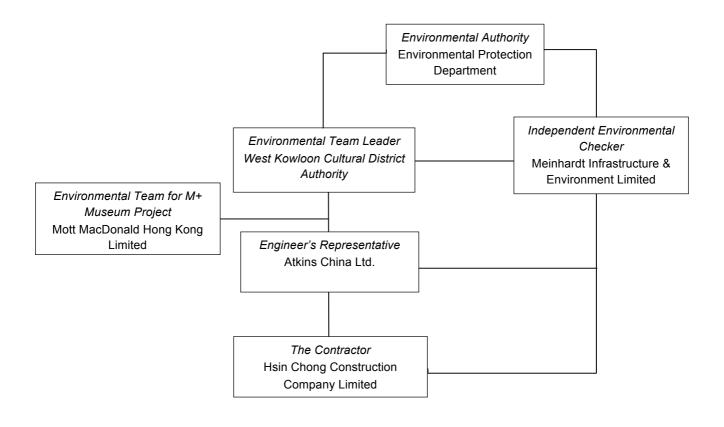


Table B-1: Contact information

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 Officer	Mr. Andy Leung	9489 0035
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



Appendix B. Tentative Construction Programme

vity ID	Activity Name	Duration	Start	Finish	Quants	Production rates	3 4 5 6 29 06 13 20 27 03 10 17 24 31 07 14 21 28 06 13 20
M+3MRP - Re	v B (2nd Draft) DD 30 Dec 15	150	26-Sep-15 A	01-Apr-16			29 06 13 20 21 03 10 11 24 31 01 14 21 26 06 13 20
M+.10 Prelims		133	26-Sep-15 A	09-Mar-16			
M+.10.00 Key D	ates / IAS / LOC	57	30-Dec-15	09-Mar-16			
Access Date		32	31-Dec-15	11-Feb-16			
3MAD1020	Access date M05 - SPS	0	11-Feb-16				♦ Access date M05 - SPS, Access date M05 - SPS
3MAD1030 3MAD1040	Access date M06 - ICP Access date M07 - ICP	0	11-Feb-16 11-Feb-16				 ◆ Access date M06 - ICP, Access date M06 - ICP ◆ Access date M07 - ICP, Access date M07 - ICP
3MAD1040 3MAD1050	Access date M07 - ICP Access date M22 - ICP/SPS	0	11-Feb-16				◆ Access date M07 - 1CP, Access date M07 - 1CP Access date M22 - ICP/SPS, Access date M22 - ICP/SPS
3MAD1060	Access date M23 - Park Area	0	31-Dec-15				♦ Access date M23 - Park Area, Access date M23 - Park Area
3MAD1070	Access date M32 - ICP & SPS	0	11-Feb-16				◆ Access date M32 - ICP & SPS, Access date M32 - ICP & SPS
3MAD1090	Access date M23 - Park Area West of New Temp Access Road	0	31-Dec-15*				◆ Access date M23 - Park Area West of New Temp Access Road, Access date M23 - Park Area West of New Temp Access Road
Vacation Date		57	30-Dec-15	09-Mar-16			
3MVD1000	M21-M+ north west area within at-grade road, M22-ICP/SPS frontage within at-	0	30-Dec-15				M21-M+ north west area within at-grade road, M22-ICP/SPS frontage within at-grade road, (M72), M21-M+ north west area within at-grade road, M22-ICP/SI
3MVD1020 Milestone Dates	M14a, M15, M16, East boundary Lyric Interface	0 48	09-Mar-16 30-Dec-15	29-Feb-16			♦ M14a, M15, M16, East boundar
_	eliminaries & General requirements	0	30-Dec-15	30-Dec-15			
3MMSA01	Complete Construction Programme and Methodology Submission and Presenta	0	30-Dec-15				Complete Construction Programme and Methodology Submission and Presentation, Complete Construction Programme and Methodology Submission and Presentation Complete Construction Programme and Methodology Submission and Presentation Construction Programme and Methodology Submission Construction Construction Programme and Methodology Submission Construction Con
3MMSA02	Obtain approval from Contractor Admin on: Proj Man Doc's. Construction Prog.,	0	30-Dec-15				Obtain approval from Contractor Admin on: Proj Man Docs. Construction Prog., Insurance, mobilisation, etc, Obtain approval from Contractor Admin on: Proj Man Docs.
3MMSA03	Compliance Review to the Contract Administrator's satisfaction	0	30-Dec-15				 Compliance Review to the Contract Administrator's satisfaction, Compliance Review to the Contract Administrator's satisfaction
Cost Centre B - M-		0	29-Feb-16	29-Feb-16			
3MMSB11	B2 - Complete 35% of Volume of Bulk Excavation (42,000m3)	0	29-Feb-16*	29-Feb-16			l B2 - Complete 35% of Volume of Bulk Excavation
	ccommodation & Facilities	48	12-Dec-15 A	13-Feb-16			
M+ Site Offices Stage 3		48	12-Dec-15 A 12-Dec-15 A	13-Feb-16 13-Feb-16			
	te Office - Area M10 (1000m2)	48	12-Dec-15 A	13-Feb-16 13-Feb-16			
3MSO021	Start clearing and setting up of Contractor's Office at Area M10	0	30-Dec-15	.5 1 65-10			Start clearing and setting up of Contractor's Office at Area M10, Start clearing and setting up of Contractor's Office at Area M10
3MSO031	Site Construction / Setup 1000m2 / 100nr person Office with 2 Levels	48	12-Dec-15 A	13-Feb-16			Site Construction / Setup 1000m2 / 100nr person Office with 2 Levels
3MSO041	Start to Occupy	0	13-Feb-16				◆ Start to Occupy, Start to Occupy
ASIO - Area L22	& L23 (3660 m2)	27	30-Dec-15	30-Jan-16			
3MSO010	CAI - Design / Approvals	2	30-Dec-15	31-Dec-15			CAI - Design / Approvals
3MSO020	FSD / Liaise / Approvals	25	02-Jan-16	30-Jan-16			CAI - Design / Approvals FSD / Liaise / Approvals
M+.10.40 Site A		118	26-Sep-15 A	20-Feb-16			
Key Domestic S		79	26-Sep-15 A	02-Jan-16			
	contractor agreements Gartner - Facade	79 77	26-Sep-15 A 26-Sep-15 A	02-Jan-16 31-Dec-15			Gartner - Facade
3MDS.10001	Alliance - Concrete	79	26-Sep-15 A	02-Jan-16			Alliance - Concrete
3MDS.10002	Ming Tai - Formworks	77	26-Sep-15 A	30-Dec-15			Ming Tai - Formworks
3MDS.10004	Tin Wo - Rebar	77	26-Sep-15 A	30-Dec-15			Tin Wo - Rebar
3MDS.10005	Gammon Steel - Steel Truss	79	26-Sep-15 A	30-Dec-15			Gammon Steel - Steel Truss
3MDS.10006	Liebherr- Tower Crane	77	26-Sep-15 A	31-Dec-15			Liebherr- Tower Crane
3MDS.10007	Hsin Chong Aster - MEP - Drainage	77	26-Sep-15 A	30-Dec-15			Hsin Chong Aster - MEP - Drainage
3MDS.10008	Hsin Chong Aster - MEP - Earthing	77	26-Sep-15 A	30-Dec-15			Hsin Chong Aster - MEP - Earthing
	Chun Sing - ELS	77	26-Sep-15 A	30-Dec-15			Chun Sing - ELS
Design & Realiz	ation 	92	16-Oct-15 A	08-Feb-16			
Basement 3MDR.1006	Consultant/CA Review & Approval	81 11	30-Oct-15 A 05-Dec-15 A	08-Feb-16 06-Jan-16			Consultant/CA Review & Approval
3MDR.1010	Consultant/CA Review & Approval	37	28-Nov-15 A	08-Jan-16			Consultant/CA Review & Approval
3MDR.1012	Consultant/CA Review & Approval	11	08-Jan-16	22-Jan-16			Consultant/CA Review & Approval
3MDR.1013	Preparation and submission for CSID / CBWD at B1/F	60	30-Oct-15 A	08-Jan-16			Preparation and submission for CSID / CBWD at B1/F
3MDR.1014	Consultant/CA Review & Approval	11	08-Jan-16	22-Jan-16			Consultant/CA Review & Approval
3MDR.1015	Preparation and submission for BIM at LG/F	49	28-Nov-15 A	23-Jan-16			Preparation and submission for BIM at LG/F
3MDR.1016	Consultant/CA Review & Approval	11	23-Jan-16	06-Feb-16			Consultant/CA Review & Approval
3MDR.1017	Preparation and submission for CSID / CBWD at LG/F	49	28-Nov-15 A	23-Jan-16			Preparation and submission for CSID / CBWD at LG/F
3MDR.1018	Consultant/CA Review & Approval	11	23-Jan-16	06-Feb-16			Consultant/CA Review & Approval
3MDR.1019	Preparation and submission for BIM at G/F	39	12-Dec-15 A	25-Jan-16			Preparation and submission for BIM at G/F
3MDR.1020 3MDR.1021	Consultant/CAReview & Approval Preparation and submission for CSID / CBWD at LG/F	11 39	25-Jan-16	08-Feb-16			Consultant/CA Review & Approval Preparation and submission for CSID / CBWD at LG/F
3MDR.1021 3MDR.1022	Preparation and submission for CSiD / CBWD at LG/F Consultant/CA Review & Approval	11	12-Dec-15 A 25-Jan-16	25-Jan-16 08-Feb-16			Preparation and submission for CSID / CBWD at LG/F Consultant/CA Review & Approval
	k and Sewage Pumping Station (SPS)	82	16-Oct-15 A	25-Jan-16			Consultation Neview anyprova
3MDR.1023	Study of Underground utilities for ICP/SPS	82	16-Oct-15 A	25-Jan-16			Study of Underground utilities for ICP/SPS
Pre-constructio	n submission for the early works	113	02-Oct-15 A	20-Feb-16			
Method Statement	& Material Submission	99	20-Oct-15 A	20-Feb-16			
3MPS.1027	ELS - Materials submission	11	30-Dec-15	12-Jan-16			ELS - Materials submission
3MPS.1028	Consultant/CA Review & Approval	6	13-Jan-16	19-Jan-16			Consultant/CA Review & Approval
3MPS.1032	Consultant/CA Review & Approval	56	23-Oct-15 A	31-Dec-15			Consultant/CA Review & Approval
3MPS.1037	Formwork design for basement structure	60	23-Oct-15 A	05-Jan-16			Formwork design for basement structure
3MPS.1038	Consultant/CAReview & Approval	32	07-Dec-15 A	17-Jan-16			Consultant/CA Review & Approval
							Date Revision Checked Approv
	cast Bar						Page 1 of 11 O2-Dec-15 3MRP Rev B (1st Draft) Edgar / Chris Leo Harne
Milest	rone		M+	3 Mont	ths Roll	ing Programme	31-Dec-15 3MRP Rev B (2nd Draft) Den / Chris Leo Harne
							31-Dec-13 SWINT NEV D (2110 DIAIT) DEIT/ CHIIS LEO HAITE
	l l			') N // L)	$D D \sim 11$	/'/nd drotti	
						(2nd draft) or M+ Museum F	

	Activity Name	Duration	Start	Finish	Quants	Production rates	January January 3 4 20 27 03 40 17 24	5 31 07 14 21	6	20
3MPS.1040	Consultant/CA Review & Approval	47	05-Nov-15 A	03-Jan-16			29 06 13 20 27 03 10 17 24 Consultant/CA Review & Approval	31 07 14 21	28 06 13	20
3MPS.1042	Consultant/CAReview & Approval	53	26-Oct-15 A	31-Dec-15			Consultant/CA Review & Approval			
3MPS.1047	Method statement for B2 structure (M+ & DCS)	60	20-Oct-15 A	03-Jan-16			Method statement for B2 structure (M+ & DCS)			
3MPS.1048	Consultant/CAReview & Approval	11	03-Jan-16	17-Jan-16				pproval	·	
3MPS.1049	Method statement for B1 structure (M+ & DCS)	22	30-Dec-15	26-Jan-16			_ :	atement for B1 structure (M+ & DCS)		
3MPS.1050	Consultant/CA Review & Approval	11	26-Jan-16	09-Feb-16				Consultant/CA Review & Appro	oval	
3MPS.1051	Falsework design for B1 structure (M+ & DCS)	31	30-Dec-15	06-Feb-16				Falsework design for B1 structure (I	M+ & DCS)	
3MPS.1052	Consultant/CA Review & Approval	11	06-Feb-16	20-Feb-16				Consultant	/CA Review & Approval	
3MPS.1053	Method statement for setting up TC1 &TC3	45	15-Nov-15 A	09-Jan-16			Method statement for setting up TC1 &T	C3		
3MPS.1054	Consultant/CA Review & Approval	11	09-Jan-16	23-Jan-16			Consultant/CA	Review & Approval		
3MPS.1055	Method statements for Mega Trusses (sequence, falsework etc)	31	30-Dec-15	06-Feb-16				Method statements for Mega Trusse	s (sequence, falsework etc)	
3MPS.1056	Consultant/CA Review & Approval	7	06-Feb-16	14-Feb-16				Consultant/CA Review	v & Approval	
3MPS.1058	Consultant/CA Review & Approval	43	10-Nov-15 A	03-Jan-16			Consultant/CA Review & Approval			
3MPS.1059	Back propping design for Cranage for Mega Trusses	31	30-Dec-15	06-Feb-16				Back propping design for Cranage f	or Mega Trusses	
3MPS.1060	Consultant/CAReview & Approval	7	06-Feb-16	14-Feb-16				Consultant/CA Review	v & Approval	
Facade Submissio	on and Approval	36	28-Nov-15 A	12-Jan-16						
3MPS.1062	Consultant/CAReview & Approval	33	29-Nov-15 A	08-Jan-16			Consultant/CA Review & Approval			
3MPS.1063	Facade Design proposal sketches for all areas of the facade system(s)	26	28-Nov-15 A	30-Dec-15			Facade Design proposal sketches for all areas of the facad	e system(s)		
3MPS.1064	Consultant/CA Review & Approval	35	29-Nov-15 A	12-Jan-16			Consultant/CA Review & Approval			
3MPS.1066	Consultant/CAReview & Approval	35	29-Nov-15 A	11-Jan-16			Consultant/CA Review & Approval			
	Consultant/CA Review & Approval	35	29-Nov-15 A	11-Jan-16			Consultant/CA Review & Approval			
Essential submiss	sions on Programme, Health and Safety, Security, Quality etc	48	02-Nov-15 A	01-Jan-16						
HSEQ & Manag		48	02-Nov-15 A	01-Jan-16						
	Consultant/CA Review & Approval	48	02-Nov-15 A	01-Jan-16			Consultant/CA Review & Approval			
	es and site facilities	101	02-Oct-15 A	05-Feb-16						
	nent & Temporary Facilities	101	02-Oct-15 A	05-Feb-16						
	Hoarding Handover and Modification Works	30	30-Dec-15	05-Feb-16				Hoarding Handover and Modification \	Vorks	
	WSD - Apply for temporary water supply (Bachy)	87	02-Oct-15 A	18-Jan-16			WSD - Apply for tempor			
+.20 Constru	uction Works (Excavation & ELS)	87	11-Dec-15 A	01-Apr-16						
+ AEL North -	North of AEL	86	11-Dec-15 A	01-Apr-16						
tage 1 - BD		74	11-Dec-15 A	15-Mar-16						
Stage 1 - Site Forn	mation (Area A)	12	14-Dec-15 A	31-Dec-15						
	Excavate +1.8mPD to _2.30mPD for B2 Slab Formation Level (GLC'-G'/2-7') -	11	14-Dec-15 A	30-Dec-15	3096m3	2 machines @ 700m3/day	Excavate +1.8mPD to _2.30mPD for B2 Slab Formation Le			
3MSS.1005	Excavate +1.8mPD to _2.30mPD for B2 battered slope (GL B'-C'/2-4') - Portion	11	14-Dec-15 A	30-Dec-15		2 machines @ 700m3/day	Excavate +1.8mPD to _2.30mPD for B2 battered slope (GI			
3MSS.1006	Excavate +1.8mPD to _2.30mPD for B2 Slab Formation Level (GLC'-F/2-4) - I	8	18-Dec-15 A	31-Dec-15	1038m3	2 machines @ 700m3/day	Excavate +1.8mPD to _2.30mPD for B2 Slab Formation I	·		
3MSS.1007	Excavate +1.8mPD to _2.30mPD for B2 battered slope (GL I-E/6-4) - Portion	6	21-Dec-15 A	31-Dec-15	3036m3	2 machines @ 700m3/day	Excavate +1.8mPD to _2.30mPD for B2 battered slope (0	GL l'-E/6'-4) - Portion A3		
•	Construction (Area A)	39	16-Dec-15 A	03-Feb-16						
Portion A1i		6	30-Dec-15	06-Jan-16						
CPC40 (Type 07)		0	31-Dec-15	02-Jan-16						
	concrete pouring - CPC 40 (07) - Portion A1i	0	31-Dec-15	02-Jan-16	24.5m3		concrete pouring - CPC 40 (07) - Portion A1i			
CPC41 (Type 07)		6	30-Dec-15							
	Concreting for Vertical blinding - Portion A1i	1		30-Dec-15			Concreting for Vertical blinding - Portion A1i			
	Strip formwork - Portion A1i	1	31-Dec-15	31-Dec-15			🗓 Strip formwork - Portion A1i			
	Install waterproofing - Portion A1i	1	02-Jan-16	02-Jan-16			☐ Install waterproofing - Portion A1i			
	Backfill - Portion A1i	1	04-Jan-16	04-Jan-16			☐ Backfill - Portion A1i			
	Rebar Installation - CPC 41 (07) - Portion A1i	1	05-Jan-16	05-Jan-16	22.05T	5 men @ 0.9T/man/day	[] Rebar Installation - CPC 41 (07) - Portion Ali			
	concrete pouring - CPC 41 (07) - Portion A1i	1	06-Jan-16	06-Jan-16	24.5m3		Concrete pouring - CPC 41 (07) - Portion A1i			
Portion A1ii		23	16-Dec-15 A	15-Jan-16						
CPC42 (Type 07)		6	30-Dec-15	06-Jan-16						
	Concreting for Vertical blinding - Portion A1ii	1	30-Dec-15	30-Dec-15			Concreting for Vertical blinding - Portion A1ii			
	Strip formwork - Portion A1ii	1	31-Dec-15	31-Dec-15			□ Strip formwork - Portion A1ii			
	Install waterproofing - Portion A1ii	1	02-Jan-16	02-Jan-16			☐ Install waterproofing - Portion A1ii			
	Backfill - Portion A1ii	1	04-Jan-16	04-Jan-16			☐ Backfill - Portion A1ii			
	Rebar Installation - CPC 42 (07) - Portion A1ii	1	05-Jan-16	05-Jan-16	22.05T	5 men @ 0.9T/man/day	Rebar Installation - CPC 42 (07) - Portion A1ii			
	concrete pouring - CPC 42 (07) - Portion A1ii	1	06-Jan-16	06-Jan-16	24.5m3		Concrete pouring - CPC 42 (07) - Portion A1ii			
CPC43 (Type 03)		6	30-Dec-15	06-Jan-16						
	Concreting for Vertical blinding - Portion A1 ii	1	30-Dec-15	30-Dec-15			Concreting for Vertical blinding - Portion A1 ii			
	Strip formwork - Portion A1ii	1	31-Dec-15	31-Dec-15			Strip formwork - Portion A1ii			
	Install waterproofing - Portion A1ii	1	02-Jan-16	02-Jan-16			☐ Install waterproofing - Portion A1ii			
3MSS.10147	Backfill - Portion A1ii	1	04-Jan-16	04-Jan-16			☐ Backfill - Portion A1ii			
	Rebar Installation - CPC 43 (07) - Portion A1ii	1	05-Jan-16	05-Jan-16	22.05T	5 men @ 0.9T/man/day	□ Rebar Installation - CPC 43 (07) - Portion Ali			
	concrete pouring - CPC 43 (07) - Portion A1ii	1	06-Jan-16	06-Jan-16	24.5m3		Concrete pouring - CPC 43 (07) - Portion A1ii			
3MSS.1035			30-Dec-15	06-Jan-16						
3MSS.1035 CPC44 (Type 07)			30-Dec-15	30-Dec-15			Concreting for Vertical blinding - Portion A1 ii			
3MSS.1035 CPC44 (Type 07) 3MSS.10124	Concreting for Vertical blinding - Portion A1 ii	1		31-Dec-15			C Strip formwork - Portion A1ii			
3MSS.1035 CPC44 (Type 07) 3MSS.10124 3MSS.10125	Concreting for Vertical blinding - Portion A1 ii Strip formwork - Portion A1ii	1	31-Dec-15				☐ Install waterproofing - Portion A1ii			
3MSS.1035 CPC44 (Type 07) 3MSS.10124 3MSS.10125 3MSS.10126	Concreting for Vertical blinding - Portion A1 ii Strip formwork - Portion A1 ii Install waterproofing - Portion A1 ii	1	02-Jan-16	02-Jan-16			☐ Backfill - Portion A1ii			
3MSS.1035 CPC44 (Type 07) 3MSS.10124 3MSS.10125 3MSS.10126 3MSS.10127	Concreting for Vertical blinding - Portion A1 ii Strip formwork - Portion A1 ii Install waterproofing - Portion A1 ii Backfill - Portion A1 ii	1 1 1	02-Jan-16 04-Jan-16	04-Jan-16						
3MSS.1035 CPC44 (Type 07) 3MSS.10124 3MSS.10125 3MSS.10126 3MSS.10127	Concreting for Vertical blinding - Portion A1 ii Strip formwork - Portion A1 ii Install waterproofing - Portion A1 ii	1	02-Jan-16		22.05T	5 men @ 0.9T/man/day	☐ Rebar Installation - CPC 44 (07) - Portion A1ii			
3MSS.1035 CPC44 (Type 07) 3MSS.10124 3MSS.10125 3MSS.10126 3MSS.10127 3MSS.1019	Concreting for Vertical blinding - Portion A1 ii Strip formwork - Portion A1 ii Install waterproofing - Portion A1 ii Backfill - Portion A1 ii Rebar Installation - CPC 44 (07) - Portion A1 ii	1 1 1	02-Jan-16 04-Jan-16	04-Jan-16	22.05T	5 men @ 0.9T/man/day	☐ Rebar Installation - CPC 44 (07) - Portion A†ii	Date Revision	n Checked	Appro
3MSS.1035 CPC44 (Type 07) 3MSS.10124 3MSS.10125 3MSS.10126 3MSS.10127 3MSS.1019	Concreting for Vertical blinding - Portion A1 ii Strip formwork - Portion A1 ii Install waterproofing - Portion A1 ii Backfill - Portion A1 ii Rebar Installation - CPC 44 (07) - Portion A1 ii Cast Bar	1 1 1	02-Jan-16 04-Jan-16 05-Jan-16	04-Jan-16 05-Jan-16			Rebar Installation - CPC 44 (07) - Portion Alii			Appro
3MSS.1035 CPC44 (Type 07) 3MSS.10124 3MSS.10125 3MSS.10126 3MSS.10127 3MSS.1019	Concreting for Vertical blinding - Portion A1 ii Strip formwork - Portion A1 ii Install waterproofing - Portion A1 ii Backfill - Portion A1 ii Rebar Installation - CPC 44 (07) - Portion A1 ii Cast Bar	1 1 1	02-Jan-16 04-Jan-16 05-Jan-16	04-Jan-16 05-Jan-16		5 men @ 0.9T/man/day	Page 2 of 11	2-Dec-15 3MRP Rev B (1s	Draft) Edgar / Chris	Leo Har
3MSS.1035 CPC44 (Type 07) 3MSS.10124 3MSS.10125 3MSS.10126 3MSS.10127 3MSS.1019	Concreting for Vertical blinding - Portion A1 ii Strip formwork - Portion A1 ii Install waterproofing - Portion A1 ii Backfill - Portion A1 ii Rebar Installation - CPC 44 (07) - Portion A1 ii Cast Bar	1 1 1	02-Jan-16 04-Jan-16 05-Jan-16	04-Jan-16 05-Jan-16	ths Rolli	ng Programme	Page 2 of 11		Draft) Edgar / Chris	
3MSS.1035 CPC44 (Type 07) 3MSS.10124 3MSS.10125 3MSS.10126 3MSS.10127 3MSS.1019	Concreting for Vertical blinding - Portion A1 ii Strip formwork - Portion A1 ii Install waterproofing - Portion A1 ii Backfill - Portion A1 ii Rebar Installation - CPC 44 (07) - Portion A1 ii Cast Bar	1 1 1 1	02-Jan-16 04-Jan-16 05-Jan-16	04-Jan-16 05-Jan-16 3 Mon 3MR	ths Roll i P Rev B		Page 2 of 11	2-Dec-15 3MRP Rev B (1s	Draft) Edgar / Chris	Leo Har

/ ID	Activity Name	Duration	Start	Finish	Quants	Production rates	December 3	January 4		February 5	March 6	
3MSS 1033	concrete pouring - CPC 44 (07) - Portion A1ii	1	06-Jan-16	06-Jan-16	24 5m3		29 06 13 20 2 :	7 03 10 17 24 © concrete pouring - CPC 44 (07) - Portion		14 21 28	06 13	20
CPC42-2 (Type 0)		21	16-Dec-15 A	13-Jan-16	24.51113			whice the pouring - CPC 44 (07) - Portion.	4.11I			
_	Excavation works for Pile - CPC 42-2 (03) - Pol		16-Dec-15 A	02-Jan-16	14.34m3	1 machine @ 190m3/day		Excavation works for Pile - CPC 42-2 (03) - Portion	i n A1ii			
	Breakdown Pile(s) - Portion A1ii	1	02-Jan-16	04-Jan-16		,		Breakdown Pile(s) - Portion A1ii				
3MSS.10162	Horizontal Blinding layer - Portion A1ii	1	04-Jan-16	05-Jan-16			-	Horizontal Blinding layer - Portion A1ii				
3MSS.10163	Formwork for Vertical blinding - Portion A1i	1	05-Jan-16	06-Jan-16			†:	☐ Formwork for Vertical blinding - Portion A1i	}			
3MSS.10164	Concreting for Vertical blinding - Portion A1 ii	1	06-Jan-16	07-Jan-16			1	☐ Concreting for Vertical blinding - Portion A				
3MSS.10165	Strip formwork - Portion A1ii	1	07-Jan-16	08-Jan-16			1	☐ Strip formwork - Portion A1ii				
	Install waterproofing - Portion A1ii	1	08-Jan-16	09-Jan-16			1	☐ Install waterproofing - Portion A1ii				
3MSS.10167	Backfill - Portion A1ii	1	09-Jan-16	11-Jan-16			1	Backfill - Portion A1ii				
3MSS.1023	Rebar Installation - CPC 42-2 (03) - Portion A1	ii 1	11-Jan-16	12-Jan-16	12.90T	5 men @ 0.9T/man/day	†	Rebar Installation - CPC 42-2 (0	3) - Portion A1ii			
3MSS.1037	concrete pouring - CPC 42-2 (03) - Portion A1ii	i 1	12-Jan-16	13-Jan-16	14.34m3	-	1	concrete pouring - CPC 42-2 (03) - Portion A1ii			
CPC49 (Type 02)		10	02-Jan-16	14-Jan-16								
	Excavation works for Pile - CPC 49 (02) - Portion	on A1ii 1	02-Jan-16	04-Jan-16	5.6m3	1 machine @ 190m3/day		Excavation works for Pile - CPC 49 (02) - Port	ion A1ii			
3MSS.10391	Breakdown Pile(s) - Portion A1ii	1	04-Jan-16	05-Jan-16				■ Breakdown Pile(s) - Portion A1ii				
3MSS.10392	Horizontal Blinding layer - Portion A1ii	1	05-Jan-16	06-Jan-16			†:	☐ Horizontal Blinding layer - Portion A1ii	}			
3MSS.10393	Formwork for Vertical blinding - Portion A1i	1	06-Jan-16	07-Jan-16			1	■ Formwork for Vertical blinding - Portion A	i			
	Concreting for Vertical blinding - Portion A1 ii	1	07-Jan-16	08-Jan-16			1	☐ Concreting for Vertical blinding - Portion	A1 ii			
	Strip formwork - Portion A1ii	1	08-Jan-16	09-Jan-16				Strip formwork - Portion A1ii				
	Install waterproofing - Portion A1ii	1	09-Jan-16	11-Jan-16			-	Install waterproofing - Portion A1ii				
	Backfill - Portion A1ii	1	11-Jan-16	12-Jan-16			<u> </u>	■ Backfill - Portion A1ii	!			
	Rebar Installation - CPC 49 (02) - Portion A1ii	1	12-Jan-16	13-Jan-16	5.04T	5 men @ 0.9T/man/day	1	Rebar Installation - CPC 49 (0	2) - Portion A1ii			
	Concrete Pouring - CPC 49 (02) - Portion A1ii		13-Jan-16	14-Jan-16			1	□ Concrete Pouring - CPC 49	1			
CPC50 (Type 02)		10	04-Jan-16	15-Jan-16					,			
	Excavation works for Pile - CPC 50 (02) - Porti		04-Jan-16	05-Jan-16	5.6m3	1 machine @ 190m3/day		■ Excavation works for Pile - CPC 50 (02) - P	crtion A1ii			
	Breakdown Pile(s) - Portion A1ii	1	05-Jan-16	06-Jan-16	0.0110	Timoriine & Toomorday	 	☐ Breakdown Pile(s) - Portion A1ii				
	Horizontal Blinding layer - Portion A1ii	1	06-Jan-16	07-Jan-16			-	☐ Horizontal Blinding layer - Portion A1ii				
	Formwork for Vertical blinding - Portion A1i	1	07-Jan-16	08-Jan-16			-	☐ Formwork for Vertical blinding - Portion	Å 1i			
	Concreting for Vertical blinding - Portion A1 ii	1	08-Jan-16	09-Jan-16			-	Concreting for Vertical blinding - Portic	1			
	· · · · · · · · · · · · · · · · · · ·						-		i All			
	Strip formwork - Portion A1ii	1	09-Jan-16	11-Jan-16				Strip formwork - Portion A1ii	i 			
	Install waterproofing - Portion A1ii	1	11-Jan-16	12-Jan-16				☐ Install waterproofing - Portion A1				
	Backfill - Portion A1ii	1	12-Jan-16	13-Jan-16		- 0.12		□ Backfill - Portion A1ii				
		1	13-Jan-16	14-Jan-16		5 men @ 0.9T/man/day		Rebar Installation - CPC 50	1			
3MSS.1061	Concrete Pouring - CPC 50 (02) - Portion A1ii		14-Jan-16	15-Jan-16	5.6m3			☐ Concrete Pouring - CPC 5	0 (02) - Portion A1ii			
Portion A2	_	13	05-Jan-16	20-Jan-16					ļ			
PC05 (Type 03)		10	05-Jan-16	16-Jan-16								
3MSS.1041	Excavation works for Pile - PC 05 (03) - Portion	n A2 1	05-Jan-16	06-Jan-16	14.34m3	1 machine @ 190m3/day		Excavation works for Pile - PC 05 (03) - P	ortion A2			
3MSS.10411	Breakdown Pile(s)- Portion A2	1	06-Jan-16	07-Jan-16				■ Breakdown Pile(s)- Portion A2				
3MSS.10412	Horizontal Blinding layer - Portion A2	1	07-Jan-16	08-Jan-16				Horizontal Blinding layer - Portion A2				
3MSS.10413	Formwork for Vertical blinding - Portion A2	1	08-Jan-16	09-Jan-16				Formwork for Vertical blinding - Portic	n A2			
3MSS.10414	Concreting for Vertical blinding - Portion A2	1	09-Jan-16	11-Jan-16				Concreting for Vertical blinding - P	ortion A2			
3MSS.10415	Strip formwork - Portion A2	1	11-Jan-16	12-Jan-16				☐ Strip formwork - Portion A2				
3MSS.10416	Install waterproofing - Portion A2	1	12-Jan-16	13-Jan-16				■ Install waterproofing - Portion	42			
3MSS.10417	Backfill - Portion A2	1	13-Jan-16	14-Jan-16				■ Backfill - Portion A2				
3MSS.1048	Rebar Installation - PC 05 (03) - Portion A2	1	14-Jan-16	15-Jan-16	12.9T	5 men @ 0.9T/man/day		☐ Rebar Installation - PC 05	(03) - Portion A2			
3MSS.1062	Concrete Pouring - PC 05 (03) - Portion A2	1	15-Jan-16	16-Jan-16	14.34m3			☐ Concrete Pouring - PC 0	(03) - Portion A2			
PC06 (Type 04)		10	06-Jan-16	18-Jan-16								
3MSS.1043	Excavation works for Pile - PC 06 (04) - Portion	n A2 1	06-Jan-16	07-Jan-16	15.68m3	1 machine @ 190m3/day		Excavation works for Pile - PC 06 (04) -	Portion A2			
3MSS.10431	Breakdown Pile(s) - Portion A2	1	07-Jan-16	08-Jan-16				■ Breakdown Pile(s) - Portion A2				
3MSS.10432	Horizontal Blinding layer - Portion A2	1	08-Jan-16	09-Jan-16			1	Horizontal Blinding layer - Portion A2				
3MSS.10433	Formwork for Vertical blinding - Portion A2	1	09-Jan-16	11-Jan-16				Formwork for Vertical blinding - Po	rtion A2	ļ		
	Concreting for Vertical blinding - Portion A2	1	11-Jan-16	12-Jan-16			1	☐ Concreting for Vertical blinding -	!			
	Strip formwork - Portion A2	1	12-Jan-16	13-Jan-16			1	☐ Strip formwork - Portion A2				
	Install waterproofing - Portion A2	1	13-Jan-16	14-Jan-16			1	☐ Install waterproofing - Portion	1A2			
3MSS.10437	· · ·	1	14-Jan-16	15-Jan-16			1	☐ Backfill - Portion A2				
	Rebar Installation - PC 06 (04) - Portion A2	1	15-Jan-16	16-Jan-16	14.11T	5 men @ 0.9T/man/day	1:	☐ Rebar Installation - PC 0	(04) - Portion A2			
	Concrete Pouring - PC 06 (04) - Portion A2	1	16-Jan-16	18-Jan-16			1	Concrete Pouring - P	11.	A2		
PC07 (Type 04)	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	10	07-Jan-16	19-Jan-16				3501617 5dring*1				
3MSS.1044	Excavation works for Pile - PC 07 (04) - Portion		07-Jan-16	08-Jan-16	15.68m3	1 machine @ 190m3/day		Excavation works for Pile - PC 07 (04)	- Portion A2			
3MSS.10441		1	07-Jan-16 08-Jan-16	09-Jan-16		aaa e roomo/day	-	■ Breakdown Pile(s) - Portion A2	. 0.0011742			
	Horizontal Blinding layer - Portion A2	1	09-Jan-16	11-Jan-16			 	Horizontal Blinding layer - Portion	i Å2			
	Formwork for Vertical blinding - Portion A2	1	11-Jan-16	12-Jan-16			- -	Formwork for Vertical blinding -	!			
	Concreting for Vertical blinding - Portion A2	1	12-Jan-16	13-Jan-16			- -	☐ Concreting for Vertical blinding	:			
	Strip formwork - Portion A2	1	12-Jan-16 13-Jan-16	13-Jan-16 14-Jan-16			-	☐ Concreting for vertical blinding ☐ Strip formwork - Portion A2	, i oruottae			
	•						-	☐ Strip formwork - Portion A2 ☐ Install waterproofing - Port	nn A2			
	Install waterproofing - Portion A2	1	14-Jan-16	15-Jan-16			 		νιι ΜΔ 	·····		
3MSS.10447			10									
	Rebar Installation - PC 07 (04) - Portion A2	1	16-Jan-16	18-Jan-16	14.11T	5 men @ 0.9T/man/day	-	!	1 1 1	!		
3MSS.1065	Concrete Pouring - PC 07 (04) - Portion A2	1	18-Jan-16	19-Jan-16	15.68m3			Concrete Pouring -	PC 07 (04) - Portion	n A2		
Eart	ecast Par								Date	Revision	Checked	Appr
	ecast Bar						Page 3 of 11		02-Dec-15	3MRP Rev B (1st Draft)	_	Leo Har
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PC08 (Type 02)	10 08-Jan-16	20-Jan-16							
3MSS.1042 Excavation works for Pile - PC 08 (02) - Portion		09-Jan-16	5.6m3	1 machine @ 190m3/day	ļ		Excavation works for Pile - PC 08 (02); - Portion A2		
3MSS.10421 Breakdown Pile(s) - Portion A2 3MSS.10422 Horizontal Blinding layer - Portion A2	1 09-Jan-16 1 11-Jan-16	11-Jan-16 12-Jan-16			-		☐ Breakdown Pile(s) - Portion A2 ☐ Horizontal Blinding layer - Portion A2		
3MSS.10423 Formwork for Vertical blinding - Portion A2	1 12-Jan-16	13-Jan-16			-		Formwork for Vertical blinding Portion A2		
3MSS.10424 Concreting for Vertical blinding - Portion A2	1 13-Jan-16	14-Jan-16					Concreting for Vertical blinding - Portion A2		
3MSS.10425 Strip formwork - Portion A2	1 14-Jan-16	15-Jan-16			-		☐ Strip formwork - Portion A2;		
3MSS.10426 Install waterproofing - Portion A2	1 15-Jan-16	16-Jan-16			†		☐ Install waterproofing - Portion A2		
3MSS.10427 Backfill - Portion A2	1 16-Jan-16	18-Jan-16					Backfill - Portion A2		
3MSS.1049 Rebar Installations - PC 08 (02) - Portion A2	1 18-Jan-16	19-Jan-16	5.04T	5 men @ 0.9T/man/day			■ Rebar Installations - PC 08 (02) - Portion A2		
3MSS.1063 Concrete Pouring - PC 08 (02) - Portion A2	1 19-Jan-16	20-Jan-16	5.6m3				☐ Concrete Pouring - PC 08 (02) - Portion A2		
Portion A3	17 09-Jan-16	29-Jan-16							
PC18 (Type 01)	10 09-Jan-16	21-Jan-16							
3MSS.1071 Excavation works for Pile - PC 18 (01) - Portion		11-Jan-16	2m3	1 machine @ 190m3/day			Excavation works for Pile - PC 18 (01) - Portion A3		
3MSS.10711 Breakdown Pile(s) - Portion A3	1 11-Jan-16	12-Jan-16 13-Jan-16					☐ Breakdown Pile(s) - Portion A3 ☐ Horizontal Blinding layer - Portion A3		
3MSS.10712 Horizontal Blinding layer - Portion A3 3MSS.10713 Formwork for Vertical blinding - Portion A3	1 12-Jan-16 1 13-Jan-16	13-Jan-16					Formwork for Vertical blinding - Portion A3		
3MSS.10714 Concreting for Vertical blinding - Portion A3	1 14-Jan-16	15-Jan-16			<u> </u>		☐ Concreting for Vertical blinding - Portion A3		
3MSS.10715 Strip formwork - Portion A3	1 15-Jan-16	16-Jan-16					☐ Strip formwork - Portion A3		
3MSS.10716 Install waterproofing - Portion A3	1 16-Jan-16	18-Jan-16			-		☐ Install waterproofing -:Portion A3		
3MSS.10717 Backfill - Portion A3	1 18-Jan-16	19-Jan-16					☐ Backfill - Portion A3		
3MSS.1079 Rebar /Earthing Installation - PC 18 (01) - Portion		20-Jan-16	1.8T		1		Rebar /Earthing Installation - PC 18 (01) - Portion A3		
3MSS.1094 Concrete Pouring - PC 18 (01) - Portion A3	1 20-Jan-16	21-Jan-16	2m3		<u> </u>		☐ Concrete Pouring - PC 18 (01) - Portion A3		
PC19 (Type 02)	10 11-Jan-16	22-Jan-16							
3MSS.1070 Excavation works for Pile - PC 19 (02) - Portion	A3 1 11-Jan-16	12-Jan-16	5.6m3	1 machine @ 190m3/day			☐ Excavation works for Pile - PC 19 (02) - Portion A3		
3MSS.10701 Breakdown Pile(s) - Portion A3	1 12-Jan-16	13-Jan-16					☐ Breakdown Pile(s) - Portion A3		
3MSS.10702 Horizontal Blinding layer - Portion A3	1 13-Jan-16	14-Jan-16					☐ Horizontal Blinding layer - Portion A3		
3MSS.10703 Formwork for Vertical blinding - Portion A3	1 14-Jan-16	15-Jan-16					☐ Formwork for Vertical blinding - Portion A3		
3MSS.10704 Concreting for Vertical blinding - Portion A3	1 15-Jan-16	16-Jan-16					Concreting for Vertical blinding - Portion A3		
3MSS.10705 Strip formwork - Portion A3	1 16-Jan-16	18-Jan-16			-		Strip formwork - Portion A3		
3MSS.10706 Install waterproofing - Portion A3 3MSS.10707 Backfill - Portion A3	1 18-Jan-16 1 19-Jan-16	19-Jan-16 20-Jan-16			-		☐ Install waterproofing - Portion A3 ☐ Backfill - Portion A3		
3MSS.1078 Rebar Installation - PC 19 (02) - Portion A3	1 20-Jan-16	21-Jan-16	5.04T		ļ		□ Rebar Installation - PC 19 (02) - Portion A3		
3MSS.1093 Concrete Pouring - PC 19 (02) - Portion A3	1 21-Jan-16	22-Jan-16					Concrete Pouring - PC 19 (02) - Portion A3		
PC20 (Type 07)	14 12-Jan-16	28-Jan-16					<u> </u>		
3MSS.1069 Excavation works for Pile - PC 20 (07) - Portion	A3 1 12-Jan-16	13-Jan-16	25m3	1 machine @ 190m3/day			■ Excavation works for Pile - PC 20 (07) - Portion A3		
3MSS.10691 Breakdown Pile(s) - Portion A3	1 13-Jan-16	14-Jan-16					☐ Breakdown Pile(s) - Portion A3		
3MSS.10692 Horizontal Blinding layer - Portion A3	1 14-Jan-16	15-Jan-16			i		☐ Horizontal Blinding layer - Portion A3		
3MSS.10693 Formwork for Vertical blinding - Portion A3	1 15-Jan-16	16-Jan-16					☐ Formwork for Vertical blinding - Portion A3		
3MSS.10694 Concreting for Vertical blinding - Portion A3	1 16-Jan-16	18-Jan-16					Concreting for Vertical blinding - Portion A3		
3MSS.10695 Strip formwork - Portion A3	1 18-Jan-16	19-Jan-16					☐ Strip formwork - Portion A3		
3MSS.10696 Install waterproofing - Portion A3	1 19-Jan-16	20-Jan-16			ļ; 		☐ Install waterproofing - Portion A3		
3MSS.10697 Backfill - Portion A3	1 20-Jan-16	21-Jan-16	00.057				■ Backfill - Portion A3		
3MSS.1077 Rebar Installation - PC 20 (07) - Portion A3 3MSS.1092 Concrete Pouring - PC 20 (07) - Portion A3	5 21-Jan-16 1 27-Jan-16	27-Jan-16 28-Jan-16			-		Rebat Installation - PC 20 (07) - Portion A3		
PC21 (Type 02)	10 12-Jan-16	23-Jan-16	251115				Concrete Pouring - PC 20 (07) - Portion A3		
3MSS.1067 Excavation works for Pile - PC 21 (02) - Portion		13-Jan-16	5.6m3	1 machine @ 190m3/day			☐ Excavation works for Pile - PC 21 (02) - Portion A3		
3MSS.10671 Breakdown Pile(s) - Portion A3	1 13-Jan-16	14-Jan-16	0.01110	Tindamio Si rosmorady	<u> </u>		☐ Breakdown Pile(s) - Portion Á3		
3MSS.10672 Horizontal Blinding layer - Portion A3	1 14-Jan-16	15-Jan-16			1		☐ Horizontal Blinding layer - Portion A3		
3MSS.10673 Formwork for Vertical blinding - Portion A3	1 15-Jan-16	16-Jan-16					☐ Formwork for Vertical blinding - Portion A3		
3MSS.10674 Concreting for Vertical blinding - Portion A3	1 16-Jan-16	18-Jan-16			1		Concreting for Vertical blinding - Portion A3		
3MSS.10675 Strip formwork - Portion A3	1 18-Jan-16	19-Jan-16			-		☐ Strip formwork - Portion A3		
3MSS.10676 Install waterproofing - Portion A3	1 19-Jan-16	20-Jan-16				1	☐ Install waterproofing - Portion A3		
3MSS.10677 Backfill - Portion A3	1 20-Jan-16	21-Jan-16					☐ Backfill - Portion A3		
3MSS.1074 Rebar /Earthing Installation - PC 21 (02) - Portion		22-Jan-16					Rebar /Earthing Installation - PC 21 (02) - Portion A3		
3MSS.1090 Concrete Pouring - PC 21 (02) - Portion A3	1 22-Jan-16	23-Jan-16	5.6m3				☐ Concrete Pouring - PC 21 (02) - Portion A3		
PC31 (Type 01)	9 13-Jan-16	23-Jan-16	0.5	4 11 0 12 111	ļ				
3MSS.1201 Excavation works for Pile - PC 31 (01) - Portion A		14-Jan-16	2m3	1 machine @ 190m3/day			☐ Excavation works for Pile - P¢ 31 (01) - Portion A3		
3MSS.12011 Breakdown Pile(s) - Portion A3 3MSS.12012 Horizontal Blinding layer - Portion A3	1 14-Jan-16 1 15-Jan-16	15-Jan-16			-		 □ Breakdown Pile(s) - Portion A3 □ Horizontal Blinding layer - Portion A3 		
3MSS.12012 Horizontal Blinding layer - Portion A3 3MSS.12013 Formwork for Vertical blinding - Portion A3	1 15-Jan-16 1 16-Jan-16	16-Jan-16 18-Jan-16			-		Formwork for Vertical blinding - Portion A3		
3MSS.12014 Concreting for Vertical blinding - Portion A3	1 16-Jan-16 1 18-Jan-16	19-Jan-16			-		Concreting for Vertical blinding - Portion A3		
3MSS.12015 Strip formwork - Portion A3	1 19-Jan-16	20-Jan-16			ļ:		Strip formwork - Portion A3		
3MSS.12016 Install waterproofing - Portion A3	1 20-Jan-16	21-Jan-16			1		☐ Install waterproofing - Portion A3		
3MSS.12017 Backfill - Portion A3	1 21-Jan-16	22-Jan-16				☐ Backfill - Portion A3			
3MSS.1202 Rebar Installation - PC 31 (01) - Portion A3	1 22-Jan-16	23-Jan-16	1.8T	5 men @ 0.9T/man/day		□ Rebar Installation - PC 31 (01) - Portion A3			
3MSS.1225 Concrete pouring - PC 31 (01) - Portion A3	1 23-Jan-16	23-Jan-16	2m3	-	1		Concrete pouring - PC 31 (01) - Portion A3		
PC32 (Type 01)	9 14-Jan-16	25-Jan-16			†				
					U.		Date Revision Checked Appro		
Forecast Bar						Page 4 of 11			
◆ Milestone M+ 3 Months Rolling Programme									
							31-Dec-15 3MRP Rev B (2nd Draft) Den / Chris Leo Har		
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3MSS.1179	Excavation works for Pile - PC 32 (01) - Portion	A3	1 14-Jai	n-16 15-Jan-1	6 2m3	1 machine @ 190m3/day	1	T:		xcavation works for Pile -			1	00 10	20 2.
3MSS.11791	Breakdown Pile(s) - Portion A3		1 15-Jai	n-16 16-Jan-1	3		1			Breakdown Pile(s) - Porti	on A3		1		
3MSS.11792	Horizontal Blinding layer - Portion A3		1 16-Jai	n-16 18-Jan-1	3		1			Horizontal Blinding lay	er - Portion A3		1		
	Formwork for Vertical blinding - Portion A3		1 18-Jai				1			■ Formwork for Vertic		3			
	Concreting for Vertical blinding - Portion A3		1 19-Jai				 			Concreting for Ver					
	Strip formwork - Portion A3						-			Strip formwork -	:	, 0	1		
										· ·	:		1		
	Install waterproofing - Portion A3		1 21-Jai				1			Install waterpr	! -				
	Backfill - Portion A3		1 22-Jai	n-16 23-Jan-1	5					Backfill - Por	1				
3MSS.1194	Rebar Installation - PC 32 (01) - Portion A3		1 23-Jai	n-16 23-Jan-1	1.8T	5 men @ 0.9T/man/day	li			Rebar Insta	lation - PC 32 (01) - P	Portion A3	į		
3MSS.1224	Concrete pouring - PC 32 (01) - Portion A3		1 23-Jai	n-16 25-Jan-1	3 2m3					Concrete	pouring - PC 32 (01)	- Portion A3			
PC33 (Type 02)			10 15-Jai	n-16 27-Jan-1	6										
3MSS.1068	Excavation works for Pile - PC 33 (02) - Portion	n A3	1 15-Jai	n-16 16-Jan-1	5 5.6m3	1 machine @ 190m3/day				Excavation works for Pile	PC 33 (02) - Portion	n A3			
3MSS.10681	Breakdown Pile(s) - Portion A3		1 16-Jai	n-16 18-Jan-1	3		1			■ Breakdown Pile(s) - F	ortion A3				
	Horizontal Blinding layer - Portion A3		1 18-Jai				-		_	■ Horizontal Blinding I	1				
	1 1						 				\$		-}		
	Formwork for Vertical blinding - Portion A3		1 19-Jai				1			Formwork for Ver	:				
	Concreting for Vertical blinding - Portion A3		1 20-Jai							-	ertical blinding - Portio	n A3			
3MSS.10685	Strip formwork - Portion A3		1 21-Jai	n-16 22-Jan-1	6					Strip formwork	- Portion A3				
3MSS.10686	Install waterproofing - Portion A3		1 22-Jai	n-16 23-Jan-1	3					Install water	roofing - Portion A3				
3MSS.10687	Backfill - Portion A3		1 23-Jai	n-16 25-Jan-1	3		1			Backfill -	ortion A3		1		
3MSS.1076	Rebar Installation - PC 33 (02) - Portion A3		1 25-Jai	n-16 26-Jan-1	5.04T	5 men @ 0.9T/man/day	<u> </u>			■ Rebar	nstallation - PC 33 (02	2) - Portion A3			
	Concrete Pouring - PC 33 (02) - Portion A3		1 26-Jai		5 5.6m3		İ				ete Pouring - PC 33 (,	1		
	Condition of the condit									2 00/10	Licit during 1 0 00 (02) 1 011011710			
PC44 (Type 02)	Everyntian works for Pile DO 11 (00) E :		12 15-Jai			1 machin - @ 400, 0/1			_	Evenuetics	DC 44 (00) D ::	. 4.2			
	Excavation works for Pile - PC 44 (02) - Portion		1 15-Jai			1 machine @ 190m3/day	1			Excavation works for Pile		1A3			
	Breakdown Pile(s) - Portion A3		1 16-Jai	n-16 18-Jan-1	3		<u> </u>			Breakdown Pile(s) - F					
3MSS.11762	Horizontal Blinding layer - Portion A3		1 18-Jai	n-16 19-Jan-1	6					Horizontal Blinding I					
3MSS.11763	Formwork for Vertical blinding - Portion A3		1 19-Jai	n-16 20-Jan-1	6					Formwork for Ver	tical blinding - Portion	A3			
3MSS.11764	Concreting for Vertical blinding - Portion A3		1 20-Jai	n-16 21-Jan-1	3		1			■ Concreting for \	; ertical blinding - Portio	n A3			
	Strip formwork - Portion A3		1 21-Jai				1			Strip formworl					
	Install waterproofing - Portion A3		1 22-Jai				1			•	proofing - Portion A3				
	Backfill - Portion A3						 			Backfill -					
							-				!	(an) = 11 an	1		
	Rebar Installation -PC 44 (02) - Portion A3		3 25-Jai		5.04T	5 men @ 0.9T/man/day	1				par Installation -PC 44				
	Concrete pouring - PC 44 (02) - Portion A3		1 28-Jai	n-16 29-Jan-1	5.6m3					■ C	oncrete pouring - PC 4	44 (02) - Portion A3			
Manhole(Type	1,25,19,38,2,14) - Portion A	2	24 07-Jai	n-16 03-Feb-1	6		<u> </u>								
Type 25			4 07-Jai	n-16 11-Jan-1	6										
3MSS.1104	Excavation (Type 25) - GL 6'7'-D'E' - Portion A1	i	1 07-Jai	n-16 07-Jan-1	5 5m3	1 machine @ 190m3/day			Excavation (Type	oe 25) - GL 6'7'-D'E' - Por	țion A1i				
3MSS.1105	Rebar Installation(Type 25) - GL 6'7'-D'E' - Port	tion A1i	1 08-Jai	n-16 08-Jan-1	3		1		Rebar Installa	ation(Type 25) - GL 6'7'-D	E' - Portion A1i				
	Formworks (Type 25) - GL 6'7'-D'E' - Portion A		1 09-Jai	n-16 09-Jan-1	3		1			(Type 25) - GL 6'7'-D'E' -	:				
	Concrete Pouring (Type 25) - GL 6'7'-D'E' - Pour		1 11-Jai				-			e Pouring (Type 25) - GL					
	Condition of State (Type 20) CE 07 DE 10								g Condict	er ourning (Type 20) GE	:				
Type 1	- (* (* 1) OLOTUDELD (* 14)					1 1: @ 100 0/1	ļ			4) OLOTIDE D	į. 5 1 2				
	Excavation (Type 1) - GL 6'7'-D'E' - Portion A1i		1 08-Jai			1 machine @ 190m3/day			•	ype 1) - GL 6'7'-D'E' - Po	!		1		
3MSS.1101	Rebar Installation (Type 1) - GL 6'7'-D'E' - Port	tion A1i	1 09-Jai	n-16 09-Jan-1	5					llation (Type 1) - GL 6'7'-					
3MSS.1102	Formworks (Type 1) - GL 6'7'-D'E' - Portion A1	i	1 11-Jai	n-16 11-Jan-1	5				1 Formwo	orks (Type 1) - GL 6'7'-D'E	- Portion A1i		į		
3MSS.1103	Concrete Pouring (Type 1) - GL 6'7'-D'E'- Portion	on A1i	1 12-Jai	n-16 12-Jan-1	3				■ Concre	ete Pouring (Type 1) - GL	6'7'-D'E'- Portion A1i				
Type 19			3 19-Jai	n-16 22-Jan-1	6								1		
3MSS.1108	Excavation (Type 19) - GL 7'-1/D-'E' - Portion A	2	1 19-Jai	n-16 20-Jan-1	5 5m3	1 machine @ 190m3/day	<u> </u>			Excavation (Type	.¦. 19) - GL 7'-1/D-'E' - P	ortion A2			
3MSS.1109	Rebar Installation (Type 19) - GL 7'-1/D-'E' - Po		1 20-Jai				İ				n (Type 19) - GL 7'-1/		1		
3MSS.1110	Formworks (Type 19) - GL 7'-1/D-'E' - Portion A		1 21-Jai								pe 19) - GL 7'-1/D-'E				
										•	Y .				
3MSS.1111	Concrete Pouring (Type 19) - GL 7'-1/D-'E' - Po		0 22-Jai				į			1 Concrete Pou	ing (Type 19) - GL 7'- ;	1/D-E - PORION AZ	į		
Туре 38			3 20-Jai				ļ				ļ				
3MSS.1112	Excavation (Type 38) - GL 1/C-'D' - Portion A2		1 20-Jai	n-16 21-Jan-1	5 5m3	1 machine @ 190m3/day	<u> </u>			Excavation (Typ	38) - GL 1/C-'D' - Po	ortion A2	1		
3MSS.1113	Rebar Installation (Type 38) - GL 1/C-'D' - Porti	on A2	1 21-Jai	n-16 22-Jan-1	6		li .			Rebar Installa	ion (Type 38) - GL 1/0	C-'D' - Portion A2			
3MSS.1114	Formworks (Type 38) - GL 1/C-'D' - Portion A2		1 22-Jai	n-16 23-Jan-1	3					Formworks	Type 38) - GL 1/C-'D'	- Portion A2			
3MSS.1115	Concrete Pouring (Type 38) - GL 1/C-'D' - Port	ion A2	0 23-Jai	n-16 23-Jan-1	3		1			I Concrete Po	uring (Type 38) - GL 1	1/C-'D' - Portion A2			
Type 2	<u> </u>		4 28-Jai	n-16 02-Feb-1	6		1								
3MSS.1116	Excavation (Type 2) - GL 2/D-'E' - Portion A3		1 28-Jai			1 machine @ 190m3/day	<u> </u>				cavation (Type 2) - G	L 2/D-'E' - Portion A3			
3MSS.1117	Rebar Installation (Type 2) - GL 2/D-'E' - Portio		1 29-Jai				 				1	pe 2) - GL 2/D-'E' - Portion A3	3		
							1				1	•	-		
3MSS.1118	Formworks (Type 2) - GL 2/D-'E' - Portion A3		1 30-Jai									2) - GL 2/D-'E' - Portion A3			
3MSS.1119	Concrete Pouring (Type 2) - GL 2/D-'E' - Portion		1 01-Fe								Concrete Pouring	g (Type 2) - GL 2/D-'E' - Porti	on A3		
Type 14			4 29-Jai				<u> </u>								
3MSS.1120	Excavation (Type 14) - GL 2-3/E'-F' - Portion A	3	1 29-Jai	n-16 30-Jan-1	5 5m3	1 machine @ 190m3/day					Excavation (Type 14)	- GL 2-3/E'-F' - Portion A3			
3MSS.1121	Rebar Installation (Type 14) - GL 2-3/E'-F' - Po	rtion A3	1 30-Jai	n-16 01-Feb-1	6]				Rebar Installation	(Type 14) - GL 2-3/E'-F' - Por	tion A3		
3MSS.1122	Formworks (Type 14) - GL 2-3/E'-F' - Portion A	3	1 01-Fe	b-16 02-Feb-1	6		1				Formworks (Type	e 14) - GL 2-3/E'-F' - Portion	Å3		
3MSS.1123	Concrete Pouring (Type 14) - GL 2-3/E'-F' - Po		1 02-Fe				1					ing (Type 14) - GL 2-3/E'-F' -	1		
Stage 1 - Site Form	* * * * * * * * * * * * * * * * * * * *		14 11-Dec												
						2 machines @ 700m2/day	<u> </u>		xcavate +1.8mPD to -2.3mP	D for B2 Slob Ecomotical	byol (CI K A 1/0 3)				
3MSS.1128	Excavate +1.8mPD to -2.3mPD for B2 Slab For	· · · · · · · · · · · · · · · · · · ·	13 11-Dec			2 machines @ 700m3/day		1			! ' '		!		
3MSS.1129	Excavate +1.8mPD to -2.3mPD for B2 battered		12 14-Dec			2 machines @ 700m3/day			Excavate +1.8mPD to -2.3m	•	1				
3MSS.1130	Excavate +1.8mPD to -2.3mPD for B2 Slab For	mation Level (GL A'-C/2-6)	10 16-Dec	-15 A 31-Dec-1	5 5825m3	2 machines @ 700m3/day			Excavate +1.8mPD to -2.3m		1				
3MSS.1131	Excavate +1.8mPD to -2.3mPD for B2 battered	slope (GL A-E/10-4)	9 17-Dec	-15 A 31-Dec-1	5 3037m3	2 machines @ 700m3/day			Excavate +1.8mPD to -2.3m	PD for B2 battered slope	(GL A-E/10-4)		<u> </u>		
											Doto	Doursian-	=	Chadrad	Annraire
Fore	cast Bar						Page 5 o	f 11			Date	Revision		Checked	Approved
♦ Miles	tone			NA. 2 NA.	ntha D-	lling Dragrams	9				02-Dec-15	3MRP Rev B (1st D	raft) E	dgar / Chris	Leo Harnett
→ IVIIICS				IVI+ 3 IVIO	ntris KO	Iling Programme					31-Dec-15	3MRP Rev B (2nd I	Draft) Γ	en / Chris	Leo Harnett
				31/1	RD Day	B (2nd draft)						, , ,	-'	-	1
						,					<u> </u>		\longrightarrow		+
			Main	Works Co	ontract f	for M+ Museum P	roiect								1
			-				•					1			

y ID	Activity Name	Duration	Start	Finish	Quants	Production rates	December January February March 3 4 5 6
Stage 1 - Pile Con	Construction (Area B)	44	29-Dec-15 A	23-Feb-16			29 06 13 20 27 03 10 17 24 31 07 14 21 28 06 13 20
Portion B1	Construction (Area b)	27	31-Dec-15	02-Feb-16			
PC72 (Type S1)		27	31-Dec-15	02-Feb-16			
	Horizontal Blinding layer - Portion B1	1	31-Dec-15	02-Jan-16			Horizontal Blinding layer - Portion B1
	Formwork for Vertical blinding - Portion B1	1	02-Jan-16	04-Jan-16			Formwork for Vertical blinding - Portion B1
	Concreting for Vertical blinding - Portion B1	1	04-Jan-16	05-Jan-16			☐ Concreting for Vertical blinding - Portion B1
	Strip formwork - Portion B1	1	05-Jan-16	06-Jan-16			□ Strip formwork - Portion B1
	Install waterproofing - Portion B1	1	06-Jan-16	07-Jan-16			☐ Install waterproofing - Portion B1
	Backfill - Portion B1	1	07-Jan-16	07-Jan-16			■ Backfill - Portion B1
	Rebar Installation - PC 72 - 33% (s1) - Portion B1			01-Feb-16	241T	10 men @ 0.9T/man/day	Rebar Installation - PC 72 - 33% (s1) - Portion B1
	·	20	08-Jan-16 01-Feb-16	02-Feb-16		10 men @ 0.91/man/day	
	concrete pouring - PC 72 - 33% (s1) - Portion B1	1			380m3		□ concrete pouring - PC 72 - 33% (s1) - Portion B1
Portion B2		21	29-Dec-15 A	22-Jan-16			
PC59 (Type 02)	Execution words for Pile PC 50 (00) Posting PO	13	29-Dec-15 A	13-Jan-16	5.00	4	
	Excavation works for Pile - PC 59 (02) - Portion B2	4	29-Dec-15 A	02-Jan-16	5.6m3	1 machine @ 190m3/day	Excavation works for Pile - PC 59 (02) - Portion B2
	Breakdown Pile(s) - Portion B2	4	30-Dec-15 A	04-Jan-16			Breakdown Pile(s) - Portion B2
	Horizontal Blinding layer - Portion B2	1	04-Jan-16	05-Jan-16			☐ Horizontal Blinding layer - Portion B2
	Formwork for Vertical blinding - Portion B2	1	05-Jan-16	06-Jan-16			Formwork for Vertical blinding - Portion B2
	Concreting for Vertical blinding - Portion B2	1	06-Jan-16	07-Jan-16			□ Concreting for Vertical blinding - Portion B2
	Strip formwork - Portion B2	1	07-Jan-16	08-Jan-16			☐ Strip formwork - Portion B2
3MSS.11356	Install waterproofing - Portion B2	1	08-Jan-16	09-Jan-16			☐ Install waterproofing - Portion B2
	Backfill - Portion B2	1	09-Jan-16	11-Jan-16			Backfill - Portion B2
	Rebar /Earthing Installation -PC 59 (02) - Portion B2	1	11-Jan-16	12-Jan-16	5.04T		☐ Rebar /Earthing Installation -PC 59 (02) - Portion B2
	concrete pouring - PC 59 (02) - Portion B2	1	12-Jan-16	13-Jan-16	5.6m3		□ concrete pouring - PC 59 (02); - Portion B2
PC60 (Type 02)		13	29-Dec-15 A	14-Jan-16			
	Excavation works for Pile - PC 60 (02) - Portion B2	5	29-Dec-15 A	04-Jan-16	5.6m3	1 machine @ 190m3/day	Excavation works for Pile - PC 60 (02) - Portion B2
3MSS.11531	Breakdown Pile(s) - Portion B2	5	29-Dec-15 A	05-Jan-16			Breakdown Pile(s) - Portion B2
3MSS.11532	Horizontal Blinding layer - Portion B2	1	05-Jan-16	06-Jan-16			☐ Horizontal Blinding layer - Portion B2
3MSS.11533	Formwork for Vertical blinding - Portion B2	1	06-Jan-16	07-Jan-16			☐ Formwork for Vertical blinding - Portion B2
3MSS.11534	Concreting for Vertical blinding - Portion B2	1	07-Jan-16	08-Jan-16			☐ Concreting for Vertical blinding - Portion B2
3MSS.11535	Strip formwork - Portion B2	1	08-Jan-16	09-Jan-16			☐ Strip formwork - Portion B2
3MSS.11536	Install waterproofing - Portion B2	1	09-Jan-16	11-Jan-16			Install waterproofing - Portion B2
3MSS.11537	Backfill - Portion B2	1	11-Jan-16	12-Jan-16			□ Backfill - Portion B2
3MSS.1157	Rebar Installation - PC 60 (02) - Portion B2	1	12-Jan-16	13-Jan-16	5.04T	5 men @ 0.9T/man/day	□ Rebar Installation - PC 60 (02) : Portion B2
3MSS.1165	concrete pouring - PC 60 (02) - Portion B2	1	13-Jan-16	14-Jan-16	5.6m3		□ concrete pouring - PC 60 (02) - Portion B2
PC61 (Type 02)		14	29-Dec-15 A	14-Jan-16			
	Excavation works for Pile - PC 61 (02) - Portion B2	5	29-Dec-15 A	05-Jan-16	5.6m3	1 machine @ 190m3/day	Excavation works for Pile - PC 61 (02) - Portion B2
3MSS.11701	Breakdown Pile(s) - Portion B2	1	05-Jan-16	06-Jan-16			☐ Breakdown Pile(s) - Portion B2
	Horizontal Blinding layer - Portion B2	1	06-Jan-16	07-Jan-16			☐ Horizontal Blinding layer - Portion B2
	Formwork for Vertical blinding - Portion B2	1	07-Jan-16	08-Jan-16			☐ Formwork for Vertical blinding - Portion B2
	Concreting for Vertical blinding - Portion B2	1	08-Jan-16	09-Jan-16			Concreting for Vertical blinding - Portion B2
	Strip formwork - Portion B2	1	09-Jan-16	11-Jan-16			Strip formwork - Portion B2
	Install waterproofing - Portion B2	1	11-Jan-16	12-Jan-16			□ Install waterproofing - Portion B2
	Backfill - Portion B2	1	12-Jan-16	13-Jan-16			☐ Backfill - Portion B2
	Rebar Installation - PC 61 (02) - Portion B2	1	13-Jan-16	13-Jan-16	5.04T	5 men @ 0.9T/man/day	Rebar Installation - PC 61 (02): - Portion B2
	· /	1				5 men & 0.91/man/day	
	Concrete pouring - PC 61 (02) - Portion B2		14-Jan-16	14-Jan-16	5.0113		Concrete pouring - PC 61 (02) - Portion B2
PC62 (Type 02)	Excavation works for Pile - PC 62 (02) - Portion B2	9	05-Jan-16	15-Jan-16	5.00	1 machine @ 190m3/day	
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1	05-Jan-16	05-Jan-16	5.6m3	i macrine @ 190ms/day	Excavation works for Pile - PC 62 (02) - Portion B2
	· · · · · · · · · · · · · · · · · · ·	1	06-Jan-16	06-Jan-16			Breakdown Pile(s) - Portion B2
	Horizontal Blinding layer - Portion B2	1	07-Jan-16	07-Jan-16			Horizontal Blinding layer - Portion B2 Foreward for Visital Minds and Position B2
	Formwork for Vertical blinding - Portion B2	1	08-Jan-16	08-Jan-16			☐ Formwork for Vertical blinding - Portion B2
	Concreting for Vertical blinding - Portion B2	1	09-Jan-16	09-Jan-16			Concreting for Vertical blinding - Portion B2
	Strip formwork - Portion B2	1	11-Jan-16	11-Jan-16			I Strip formwork - Portion B2
	Install waterproofing - Portion B2	1	12-Jan-16	12-Jan-16			☐ Install waterproofing - Portion B2
	Backfill - Portion B2	1	13-Jan-16	13-Jan-16			Backfill - Portion B2
	Rebar Installation - PC 62 (02) - Portion B2	1	14-Jan-16	14-Jan-16		5 men @ 0.9T/man/day	■ Rebar Installation - PC 62 (02) - Portion B2
3MSS.1214	Concrete pouring - PC 62 (02) - Portion B2	1	14-Jan-16	15-Jan-16	5.6m3		□ Concrete pouring - PC 62 (02) - Portion B2
PC50 (Type 02)		12	06-Jan-16	19-Jan-16			
3MSS.1136	Excavation works for Pile - PC 50 (02) - Portion B2	3	06-Jan-16	08-Jan-16	5.6m3	1 machine @ 190m3/day	Excavation works for Pile - PC 50 (02) - Portion B2
3MSS.11361	Breakdown Pile(s) - Portion B2	1	09-Jan-16	09-Jan-16			Breakdown Pile(s) - Portion B2
3MSS.11362	Horizontal Blinding layer - Portion B2	1	11-Jan-16	11-Jan-16			Horizontal Blinding layer - Portion B2
3MSS.11363	Formwork for Vertical blinding - Portion B2	1	12-Jan-16	12-Jan-16			☐ Formwork for Vertical blinding - Portion B2
3MSS.11364	Concreting for Vertical blinding - Portion B2	1	13-Jan-16	13-Jan-16			Concreting for Vertical blinding - Portion B2
	Strip formwork - Portion B2	1	14-Jan-16	14-Jan-16			Strip formwork - Portion B2
	Install waterproofing - Portion B2	1	15-Jan-16	15-Jan-16			☐ Install waterproofing - Portion B2
	Backfill - Portion B2	1	16-Jan-16	16-Jan-16			Backfill - Portion B2
	Rebar /Earthing Installation - PC 50 (02) - Portion B2	1	18-Jan-16	18-Jan-16	5.04T		Rebar /Earthing Installation - PC 50 (02) - Portion B2
	concrete pouring - PC 50 (02) - Portion B2	1	19-Jan-16	19-Jan-16			Concrete pouring - PC 50 (02) - Portion B2
		10	09-Jan-16	20-Jan-16			
		10	30 Jan 10				
PC51 (Type 02)							Page 6 of 11 Date Revision Checked Approx
PC51 (Type 02)	cast Bar						
PC51 (Type 02) Forec	cast Bar						02-Dec-15 3MRP Rev B (1st Draft) Edgar / Chris Leo Harn
PC51 (Type 02)			M+	- 3 Mon	ths Rol	ling Programme	02-Dec-15 3MRP Rev B (1st Draft) Edgar / Chris Leo Harne
PC51 (Type 02) Forec			M+				02-Dec-15 3MRP Rev B (1st Draft) Edgar / Chris Leo Harne 31-Dec-15 3MRP Rev B (2nd Draft) Den / Chris Leo Harne
PC51 (Type 02) Forec				3MR	P Rev I	ling Programme 3 (2nd draft) or M+ Museum P	31-Dec-15 3MRP Rev B (1st Draft) Edgar / Chris Leo Harn

Activity Name	Duration S	tart Fi	nish Quants	Production rates	December 3	January 4		February 5	March 6	
					29 06 13 20 27	03 10 17 24		14 21 28	06 13	20
3MSS.1155 Excavation works for Pile - PC 51 (02) - Portion			an-16 5.6m3	1 machine @ 190m3/day		Excavation works for Pile - PC 51 (02) - Portion B2			
3MSS.11551 Breakdown Pile(s) - Portion B2			an-16			Breakdown Pile(s) - Portion B2				
3MSS.11552 Horizontal Blinding layer - Portion B2			an-16		ļ .	☐ Horizontal Blinding layer - Portio	.;			
3MSS.11553 Formwork for Vertical blinding - Portion B2			an-16			Formwork for Vertical blinding	1			
3MSS.11554 Concreting for Vertical blinding - Portion B2			an-16			Concreting for Vertical blindin	£			
3MSS.11555 Strip formwork - Portion B2			an-16			Strip formwork - Portion B	1			
3MSS.11556 Install waterproofing - Portion B2			an-16			☐ Install waterproofing - Po	rtion B2			
3MSS.11557 Backfill - Portion B2			an-16			Backfill - Portion B2	ļ			
3MSS.1159 Rebar Installation - PC 51 (02) - Portion B2			an-16 5.04T	5 men @ 0.9T/man/day		Rebar Installation -	1	!		
3MSS.1167 concrete pouring - PC 51 (02) - Portion B2			an-16 5.6m3			concrete pouring -	-;PC 51 (02) - Portion :	n B2		
PC52 (Type 02)			an-16							
3MSS.1172 Excavation works for Pile - PC 52 (02) - Portion			an-16 5.6m3	1 machine @ 190m3/day		Excavation works for Pile - PC 52	(02) - Portion B2			
3MSS.11721 Breakdown Pile(s) - Portion B2			an-16			☐ Breakdown Pile(s) - Portion B2	ļ <u></u>			
3MSS.11722 Horizontal Blinding layer - Portion B2			an-16			Horizontal Blinding layer - Port	1			
3MSS.11723 Formwork for Vertical blinding - Portion B2			an-16			Formwork for Vertical blinding	7			
3MSS.11724 Concreting for Vertical blinding - Portion B2			an-16		[Concreting for Vertical blind	1			
3MSS.11725 Strip formwork - Portion B2			an-16			Strip formwork - Portion I	1			
3MSS.11726 Install waterproofing - Portion B2			an-16			Install waterproofing -	.j			
3MSS.11727 Backfill - Portion B2			an-16			☐ Backfill - Portion B2	1			
3MSS.1187 Rebar Installation - PC 52 (02) - Portion B2			an-16 5.04T	5 men @ 0.9T/man/day		Rebar Installation	1	1		
3MSS.1217 Concrete pouring - PC 52 (02) - Portion B2	1 20-J		an-16 5.6m3]	☐ Concrete pourin	g - PC 52 (02) - Port	tion B2		
PC53 (Type 02)			an-16		<u> </u>					
3MSS.1171 Excavation works for Pile - PC 53 (02) - Portion	B2 1 11-J	Jan-16 12-J	an-16 5.6m3	1 machine @ 190m3/day		■ Excavation works for Pile - PC 5				
3MSS.11711 Breakdown Pile(s) - Portion B2	1 12-J	Jan-16 13-J	an-16			☐ Breakdown Pile(s) - Portion B2				
3MSS.11712 Horizontal Blinding layer - Portion B2	1 13-J	Jan-16 14-J	an-16			☐ Horizontal Blinding layer - Po	ttion B2			
3MSS.11713 Formwork for Vertical blinding - Portion B2	1 14-J	Jan-16 15-J	an-16			■ Formwork for Vertical blind	ing - Portion B2			
3MSS.11714 Concreting for Vertical blinding - Portion B2	1 15-J	Jan-16 16-J	an-16]	Concreting for Vertical blin	nding - Portion B2			
3MSS.11715 Strip formwork - Portion B2	1 16-J	Jan-16 18-J	an-16			Strip formwork - Porti	on B2			
3MSS.11716 Install waterproofing - Portion B2	1 18-J	Jan-16 19-J	an-16			☐ Install waterproofing	- Portion B2			
3MSS.11717 Backfill - Portion B2	1 19-J	Jan-16 20-J	an-16			■ Backfill - Portion B	2			
3MSS.1186 Rebar Installation - PC 53 (02) - Portion B2	1 20-J	Jan-16 21-J	an-16 5.04T	5 men @ 0.9T/man/day		Rebar Installatio	n - PC 53 (02) - Port	tion B2		
3MSS.1216 Concrete pouring - PC 53 (02) - Portion B2	1 21-J	Jan-16 21-J	an-16 5.6m3			Concrete pourir	ig - PC 53 (02) - Por	rtion B2		
PC54 (Type 02)	9 12-J	Jan-16 22-J	an-16							
3MSS.1173 Excavation works for Pile - PC 54 (02) - Portion	B2 1 12-J	Jan-16 13-J	an-16 5.6m3	1 machine @ 190m3/day	 	■ Excavation works for Pile - PC	54 (02) - Portion B2			
3MSS.11731 Breakdown Pile(s) - Portion B2	1 13-J	Jan-16 14-J	an-16			☐ Breakdown Pile(s) - Portion B	2			
3MSS.11732 Horizontal Blinding layer - Portion B2	1 14-J	Jan-16 15-J	an-16			☐ Horizontal Blinding layer - F	ortion B2			
3MSS.11733 Formwork for Vertical blinding - Portion B2	1 15-J	Jan-16 16-J	an-16			☐ Formwork for Vertical blin	ding - Portion B2			
3MSS.11734 Concreting for Vertical blinding - Portion B2	1 16-J	Jan-16 18-J	an-16			Concreting for Vertica	blinding - Portion B2	2		
3MSS.11735 Strip formwork - Portion B2	1 18-J	Jan-16 19-J	an-16		<u> </u>	☐ Strip formwork - Po	rtion B2			
3MSS.11736 Install waterproofing - Portion B2	1 19-J	Jan-16 20-J	an-16			☐ Install waterproofii	rig - Portion B2			
3MSS.11737 Backfill - Portion B2	1 20-J	Jan-16 21-J	an-16			■ Backfill - Portion	B2			
3MSS.1188 Rebar Installation -PC 54 (02) - Portion B2	1 21-J	Jan-16 21-J	an-16 5.04T	5 men @ 0.9T/man/day		Rebar Installatio	; on -PC 54 (02) - Port	tion B2		
3MSS.1218 Concrete pouring - PC 54 (02) - Portion B2	1 22-J		an-16 5.6m3	•			ring - PC 54 (02) - Pc	<u> </u>		
Portion B3	33 12-J	Jan-16 23-F	eb-16		<u> </u>	- 				
PC39 (Type 02)	12 12-J	Jan-16 26-J	an-16							
3MSS.1134 Excavation works for Pile - PC 39 (02) - Portio	B3 3 12-J	Jan-16 15-J	an-16 5.6m3	1 machine @ 190m3/day		Excavation works for Pile -	PC 39 (02) - Portio	n B3		
3MSS.11341 Breakdown Pile(s) - Portion B3	1 15-J	Jan-16 16-J	an-16	•		☐ Breakdown Pile(s) - Porti	on B3			
3MSS.11342 Horizontal Blinding layer - Portion B3			an-16			Horizontal Blinding lay	1			
3MSS.11343 Formwork for Vertical blinding - Portion B3			an-16			☐ Formwork for Vertic		33		
3MSS.11344 Concreting for Vertical blinding - Portion B3			an-16			☐ Concreting for Ver				
3MSS.11345 Strip formwork - Portion B3			an-16			Strip formwork -	1			
3MSS.11346 Install waterproofing - Portion B3			an-16			1	ofing - Portion B3			
3MSS.11347 Backfill - Portion B3			an-16			☐ Backfill - Port	1			
3MSS.1139 Rebar /Earthing Installation - PC 39 (02) - Port			an-16 5.04T		 			PC 39 (02) - Portion B3		
3MSS.1149 concrete pouring - PC 39 (02) - Portion B3			an-16 5.041 an-16 5.6m3			1	artning installation - F			
						concret	., рошину - PO 39 (С 	DEJ - I UTUUTI DO		
PC40 (Type 07) 2MSS 4154 Executation works for Bild. PC 40 (07) Portion			an-16 24 5m2	1 machine @ 100=-0/d=		Evenuation works for DV 100	40 (07) Po-ti DO	,		
3MSS.1154 Excavation works for Pile - PC 40 (07) - Portion			an-16 24.5m3	1 machine @ 190m3/day		Excavation works for Pile - PC	1 1			
3MSS.11541 Breakdown Pile(s) - Portion B3			an-16			☐ Breakdown Pile(s) - Portion				
3MSS.11542 Horizontal Blinding layer - Portion B3			an-16			Horizontal Blinding layer - I	1			
3MSS.11543 Formwork for Vertical blinding - Portion B3			an-16			Formwork for Vertical blin	1			
3MSS.11544 Concreting for Vertical blinding - Portion B3			an-16			Concreting for Vertica	1	3		
3MSS.11545 Strip formwork - Portion B3			an-16			Strip formwork - Po	1			
3MSS.11546 Install waterproofing - Portion B3			an-16			☐ Install waterproof	.;	<u> </u>		
3MSS.11547 Backfill - Portion B3			an-16			Backfill - Portion	1			
3MSS.1158 Rebar Installation - PC 40 (07) - Portion B3			an-16 22.05T	5 men @ 0.9T/man/day		1	bar Installation - PC 4			
3MSS.1166 concrete pouring - PC 40 (07) - Portion B3	1 29-J	Jan-16 29-J	an-16 24.5m3			II co	ncrete pouring - PC	40 (07) - Portion B3		
PC41 (Type 02)			an-16							
3MSS.1174 Excavation works for Pile - PC 41 (02) - Portion	B3 3 12-J	Jan-16 15-J	an-16 5.6m3	1 machine @ 190m3/day		Excavation works for Pile -	PC 41 (02) - Portion	B3		
Foregot Par							Date	Revision	Checked	Appr
Forecast Bar					Page 7 of 11		02-Dec-15	3MRP Rev B (1st Draft)	Edgar / Chris	Leo Ha
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							31-Dec-15	3MRP Rev B (2nd Draft)	Den / Chris	Leo Ha
		3	MKP Rev l	B (2nd draft)						
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	Activity Name	Durat	tion	Start	Finish	Quants	Production rates	December 3	January February March 4 5 6
3MSS.11741	Breakdown Pile(s) - Portion B3	1		15-Jan-16	16-Jan-16			29 06 13 20 27	03 10 17 24 31 07 14 21 28 06 13 2 Breakdown Pile(s) - Portion B3
	Horizontal Blinding layer - Portion B3	1		16-Jan-16	18-Jan-16			-	Horizontal Blinding layer - Portion B3
	Formwork for Vertical blinding - Portion B3	1		18-Jan-16	19-Jan-16				Formwork for Vertical blinding - Portion B3
	Concreting for Vertical blinding - Portion B3	1		19-Jan-16	20-Jan-16			-	Concreting for Vertical blinding - Portion B3
	Strip formwork - Portion B3	1		20-Jan-16	21-Jan-16			-	Strip formwork - Portion B3
	Install waterproofing - Portion B3	1		21-Jan-16	22-Jan-16			 	
	· · ·							-	☐ Install waterproofing - Portion B3
	Backfill - Portion B3	1		22-Jan-16	23-Jan-16			<u> </u>	□ Backfill - Portion B3
	Rebar Installation - PC 41 (02) - Portion B3	3		23-Jan-16	27-Jan-16		5 men @ 0.9T/man/day		Rebar Installation - PC 41 (02) - Portion B3
	Concrete pouring - PC 41 (02) - Portion B3	1		27-Jan-16	28-Jan-16	5.6m3			Concrete pouring - PC 41 (02) - Portion B3
PC42 (Type 07)		16		15-Jan-16	03-Feb-16				
	Excavation works for Pile - PC 42 (07) - Portion B3	3		15-Jan-16	19-Jan-16	24.5m3	1 machine @ 190m3/day		Excavation works for Pile - PC 42 (07) - Portion B3
3MSS.11751	Breakdown Pile(s) - Portion B3	1		19-Jan-16	20-Jan-16				☐ Breakdown Pile(s):- Portion B3
3MSS.11752	Horizontal Blinding layer - Portion B3	1		20-Jan-16	21-Jan-16				☐ Horizontal Blinding layer - Portion B3
3MSS.11753	Formwork for Vertical blinding - Portion B3	1		21-Jan-16	22-Jan-16				Formwork for Vertical blinding - Portion B3
3MSS.11754	Concreting for Vertical blinding - Portion B3	1		22-Jan-16	23-Jan-16				 Concreting fqr Vertical blinding - Portion B3
3MSS.11755	Strip formwork - Portion B3	1		23-Jan-16	25-Jan-16				Strip formwork - Portion B3
3MSS.11756	Install waterproofing - Portion B3	1		25-Jan-16	26-Jan-16				Install waterproofing - Portion B3
3MSS.11757	Backfill - Portion B3	1		26-Jan-16	27-Jan-16			1	☐ Backfill - Portion B3
3MSS.1190	Rebar Installation - PC 42 (07) - Portion B3	5		27-Jan-16	02-Feb-16	22.05T	5 men @ 0.9T/man/day	1	Rebar Installation - PC 42 (07) - Portion B3
3MSS.1220	Concrete pouring - PC 42 (07) - Portion B3	1		02-Feb-16	03-Feb-16	25m3		1	☐ Concrete pouring - PC 42 (07) - Portion B3
PC43 (Type 02)		14		15-Jan-16	01-Feb-16				
	Excavation works for Pile - PC 43 (02) - Portion B3	3		15-Jan-16	19-Jan-16	5.6m3	1 machine @ 190m3/day		Excavation works for Pile - PC 43 (02) - Portion B3
	Breakdown Pile(s) - Portion B3	1		19-Jan-16	20-Jan-16			1	☐ Breakdown Pile(s);- Portion B3
	**							-	
	Horizontal Blinding layer - Portion B3	1		20-Jan-16	21-Jan-16			-	Horizontal Blinding layer - Portion B3
	Formwork for Vertical blinding - Portion B3	1		21-Jan-16	22-Jan-16			<u> </u>	Formwork for Vertical blinding - Portion B3
	Concreting for Vertical blinding - Portion B3	1		22-Jan-16	23-Jan-16			<u> </u>	Concreting for Vertical blinding - Portion B3
	Strip formwork - Portion B3	1		23-Jan-16	25-Jan-16				Strip formwork - Portion B3
	Install waterproofing - Portion B3	1		25-Jan-16	26-Jan-16				☐ Install waterproofing - Portion B3
3MSS.11777	Backfill - Portion B3	1		26-Jan-16	27-Jan-16				☐ Backfill - Portion B3
3MSS.1192	Rebar Installation - PC 43 (02) - Portion B3	3		27-Jan-16	30-Jan-16	5.04T	5 men @ 0.9T/man/day		Rebar Installation - PC 43 (02) - Portion B3
3MSS.1222	Concrete pouring - PC 43 (02) - Portion B3	1		30-Jan-16	01-Feb-16	5.6m3			Concrete pouring - PC 43 (02) - Portion B3
PC30 (Type S5)		30)	15-Jan-16	23-Feb-16				
3MSS.1178	Excavation works for Pile - PC 30 (S5) - Portion B3	3		15-Jan-16	19-Jan-16	142m3	1 machine @ 190m3/day		Excavation works for Pile - PC 30 (S5) - Portion B3
3MSS.11781	Breakdown Pile(s) - Portion B3	1		19-Jan-16	20-Jan-16]	☐ Breakdown Pile(s);- Portion B3
3MSS.11782	Horizontal Blinding layer - Portion B3	1		20-Jan-16	21-Jan-16			1	☐ Horizontal Blinding layer - Portion B3
3MSS.11783	Formwork for Vertical blinding - Portion B3	1		21-Jan-16	22-Jan-16			†:	☐ Formwork for Vertical blinding - Portion B3
3MSS.11784	Concreting for Vertical blinding - Portion B3	1		22-Jan-16	23-Jan-16				□ Concreting for Vertical blinding - Portion B3
	Strip formwork - Portion B3	1		23-Jan-16	25-Jan-16			-	Strip formwork - Portion B3
	Install waterproofing - Portion B3	1		25-Jan-16	26-Jan-16			-	☐ Install waterproofing - Portion B3
000 00	· · ·			20 0011 10	20 000			1:	The state of the s
3MSS 11787	Rackfill - Portion R3	1		26- Jan-16	27- lan-16			1:	Rackfill - Portion R3
	Backfill - Portion B3 Rehar /Farthing Installation - PC 30 (S5) - Portion B3	1		26-Jan-16	27-Jan-16	128 55T			Backfill - Portion B3
3MSS.1193	Rebar /Earthing Installation - PC 30 (S5) - Portion B3	18	3	27-Jan-16	20-Feb-16				Rebar /Earthing Installation - PC 30 (S5) - Portion B3
3MSS.1193 3MSS.1223			3 :	27-Jan-16 20-Feb-16	20-Feb-16 23-Feb-16				
3MSS.1193 3MSS.1223 PC15 (Type 01)	Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3	18 2 9	3	27-Jan-16 20-Feb-16 19-Jan-16	20-Feb-16 23-Feb-16 29-Jan-16	142m3	1 machine @ 190m3/day		Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3
3MSS.1193 3MSS.1223 <i>PC15 (Type 01)</i> 3MSS.1182	Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3	18 2 9 1	3	27-Jan-16 20-Feb-16 19-Jan-16	20-Feb-16 23-Feb-16 29-Jan-16 20-Jan-16		1 machine @ 190m3/day		Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete: pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3
3MSS.1193 3MSS.1223 PC15 (Type 01) 3MSS.1182 3MSS.11821	Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3	18 2 9 1 1	3	27-Jan-16 20-Feb-16 19-Jan-16 19-Jan-16 20-Jan-16	20-Feb-16 23-Feb-16 29-Jan-16 20-Jan-16 21-Jan-16	142m3	1 machine @ 190m3/day		Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile (s) - Portion B3
3MSS.1193 3MSS.1223 PC15 (Type 01) 3MSS.1182 3MSS.11821 3MSS.11822	Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3	18 2 9 1 1	3	27-Jan-16 20-Feb-16 19-Jan-16 19-Jan-16 20-Jan-16 21-Jan-16	20-Feb-16 23-Feb-16 29-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16	142m3	1 machine @ 190m3/day		Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete: pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3
3MSS.1193 3MSS.1223 PC15 (Type 01) 3MSS.1182 3MSS.11821 3MSS.11822 3MSS.11822	Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3 Formwork for Vertical blinding - Portion B3	18 2 9 1 1 1 1	3	27-Jan-16 20-Feb-16 19-Jan-16 19-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16	20-Feb-16 23-Feb-16 29-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16 23-Jan-16	142m3	1 machine @ 190m3/day		Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete: pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3 Formwork for Vertical blinding - Portion B3
3MSS.1193 3MSS.1223 PC15 (Type 01) 3MSS.1182 3MSS.11821 3MSS.11822 3MSS.11822 3MSS.11823 3MSS.11824	Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3 Formwork for Vertical blinding - Portion B3 Concreting for Vertical blinding - Portion B3	18 2 9 1 1 1 1	3	27-Jan-16 20-Feb-16 19-Jan-16 19-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16 23-Jan-16	20-Feb-16 23-Feb-16 29-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16 23-Jan-16	142m3	1 machine @ 190m3/day		Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete: pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3 Formwork for Vertical blinding - Portion B3 Concreting for Vertical blinding - Portion B3
3MSS.1193 3MSS.1223 PC15 (Type 01) 3MSS.1182 3MSS.11821 3MSS.11822 3MSS.11823 3MSS.11824 3MSS.11824	Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3 Formwork for Vertical blinding - Portion B3 Concreting for Vertical blinding - Portion B3 Strip formwork - Portion B3	18 2 9 1 1 1 1 1 1	3	27-Jan-16 20-Feb-16 19-Jan-16 19-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16 23-Jan-16 25-Jan-16	20-Feb-16 23-Feb-16 29-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16 23-Jan-16 25-Jan-16	142m3	1 machine @ 190m3/day		Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3 Formwork for Vertical blinding - Portion B3 Concreting for Vertical blinding - Portion B3 Strip formwork - Portion B3
3MSS.1193 3MSS.1223 PC15 (Type 01) 3MSS.1182 3MSS.11821 3MSS.11822 3MSS.11823 3MSS.11824 3MSS.11824 3MSS.11825 3MSS.11825	Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3 Formwork for Vertical blinding - Portion B3 Concreting for Vertical blinding - Portion B3 Strip formwork - Portion B3 Install waterproofing - Portion B3	18 2 9 1 1 1 1	3	27-Jan-16 20-Feb-16 19-Jan-16 19-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16 23-Jan-16 25-Jan-16 26-Jan-16	20-Feb-16 23-Feb-16 29-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16 23-Jan-16 25-Jan-16 26-Jan-16 27-Jan-16	142m3	1 machine @ 190m3/day		Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete: pouring - PC 30 (S5) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3 Formwork for Vertical blinding - Portion B3 Concreting for Vertical blinding - Portion B3 Strip formwork - Portion B3 Install waterproofing - Portion B3
3MSS.1193 3MSS.1223 PC15 (Type 01) 3MSS.11821 3MSS.11821 3MSS.11822 3MSS.11823 3MSS.11824 3MSS.11825 3MSS.11826 3MSS.11826	Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete pouring - PC 30 (S5) - Portion B3 Excavation works for Pile - PC 15 (01) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3 Formwork for Vertical blinding - Portion B3 Concreting for Vertical blinding - Portion B3 Strip formwork - Portion B3 Install waterproofing - Portion B3 Backfill - Portion B3	18 2 9 1 1 1 1 1 1	3	27-Jan-16 20-Feb-16 19-Jan-16 19-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16 23-Jan-16 25-Jan-16	20-Feb-16 23-Feb-16 29-Jan-16 20-Jan-16 21-Jan-16 22-Jan-16 23-Jan-16 25-Jan-16 26-Jan-16 27-Jan-16 28-Jan-16	142m3 2m3			Rebar /Earthing Installation - PC 30 (S5) - Portion B3 Concrete: pouring - PC 30 (S5) - Portion B3 Breakdown Pile(s) - Portion B3 Horizontal Blinding layer - Portion B3 Formwork for Vertical blinding - Portion B3 Concreting for Vertical blinding - Portion B3 Strip formwork - Portion B3 Install waterproofing - Portion B3
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'	Activity Name	Duration	Start	Finish	Quants	Production rates	December 3	January February March
							29 06 13 20 27	03 10 17 24 31 07 14 21 28 06 13 20
	Formwork for Vertical blinding - Portion B3	1	25-Jan-16	25-Jan-16			_	☐ Formwork for Vertical blinding - Portion B3
	Concreting for Vertical blinding - Portion B3	1	26-Jan-16	26-Jan-16				Concreting for Vertical blinding - Portion B3
	Strip formwork - Portion B3	1	27-Jan-16	27-Jan-16			_	Strip formwork - Portion B3
	Install waterproofing - Portion B3	1	28-Jan-16	28-Jan-16			_	□ Install waterproofing - Portion B3
	Backfill - Portion B3	1	29-Jan-16	29-Jan-16			_	Backfill - Portion B3
	Rebar Installation - PC 17 (01) - Portion B3	1	30-Jan-16	30-Jan-16		-do-	<u> </u>	Rebar Installation - PC 17 (01) - Portion B3
	Concrete Pouring - PC 17 (01) - Portion B3	1	01-Feb-16	01-Feb-16	2m3	-do-		© Concrete Pouring - PC 17 (01) - Portion B3
	12,8,40,1,11) - Portion B	12	20-Jan-16	03-Feb-16				
Type 8		4	21-Jan-16	25-Jan-16				
	Excavation (Type 8) - GL 6-7/B-C - Portion B1	1	21-Jan-16	21-Jan-16	5m3	1 machine @ 190m3/day	4	© Excavation (Type 8) - GL 6-7/B-C - Portion B1
	Rebar Installation (Type 8) - GL 6-7/B-C - Portion B1	1	22-Jan-16	22-Jan-16			.	Rebar Installation (Type 8) - GL 6-7/B-C - Portion B1
	Formworks (Type 8) - GL 6-7/B-C - Portion B1	1	23-Jan-16	23-Jan-16				Formworks (Type 8) - GL 6-7/B-C - Portion B1
3MSS.1307	Concrete Pouring (Type 8) - GL 6-7/B-C - Portion B1	1	25-Jan-16	25-Jan-16				Concrete Pouring (Type 8) - GL 6-7/B-C - Portion B1
Type 40		3	22-Jan-16	26-Jan-16				
	Excavation (Type 40) - GL 6-7/C-D - Portion B1	1	22-Jan-16	22-Jan-16	5m3	1 machine @ 190m3/day	.	Excavation (Type 40) - GL 6-7/C-D - Portion B1
	Rebar Installation (Type 40) - GL 6-7/C-D - Portion B1	1	23-Jan-16	23-Jan-16			.	Rebar Installation (Type 40) - GL 6-7/C-D - Portion B1
	Formworks (Type 40) - GL 6-7/C-D - Portion B1	1	25-Jan-16	25-Jan-16				Formworks (Type 40) - GL 6-7/C-D - Portion B1
3MSS.1311	Concrete Pouring (Type 40) - GL 6-7/C-D - Portion B1	0	26-Jan-16	26-Jan-16			_	I Concrete Pouring (Type 40) - GL 6-7/C-D - Portion B1
Type 12		4	20-Jan-16	23-Jan-16				
	Excavation (Type 12) - GL 5/A-B - Portion B2	1	20-Jan-16	20-Jan-16	5m3	1 machine @ 190m3/day	_	Excavation (Type 12) - GL 5/A-B - Portion B2
	Rebar Installation (Type 12) - GL 5/A-B - Portion B2	1	21-Jan-16	21-Jan-16			_	Rebar Installation (Type 12) - GL 5/A-B - Portion B2
	Formworks (Type 12) - GL 5/A-B - Portion B2	1	22-Jan-16	22-Jan-16				Formworks (Type 12) - GL 5/A-B - Portion B2
3MSS.1303	Concrete Pouring (Type 12) - GL 5/A-B - Portion B2	1	23-Jan-16	23-Jan-16			1	Concrete Pouring (Type 12) - GL 5/A-B - Portion B2
Type 1		3	28-Jan-16	01-Feb-16				
	Excavation (Type 1) - GL 4-5/C-D - Portion B2	1	28-Jan-16	29-Jan-16	5m3	1 machine @ 190m3/day	_	Excavation (Type 1) - GL 4-5/C-D - Portion B2
3MSS.1313	Rebar Installation (Type 1) - GL 4-5/C-D - Portion B2	1	29-Jan-16	30-Jan-16			_[Rebar Installation (Type 1) - GL 4-5/C-D - Portion B2
3MSS.1314	Formworks (Type 1) - GL 4-5/C-D - Portion B2	1	30-Jan-16	01-Feb-16				Formworks (Type 1) - GL 4-5/C-D - Portion B2
3MSS.1315	Concrete Pouring (Type 1) - GL 4-5/C-D - Portion B2	0	01-Feb-16	01-Feb-16				Concrete Pouring (Type 1) - GL 4-5/C-D - Portion B2
Type 11		4	29-Jan-16	03-Feb-16				
3MSS.1316	Excavation (Type 11) - GL 5-6/D - Portion B2	1	29-Jan-16	30-Jan-16	5m3	1 machine @ 190m3/day		Excavation (Type 11) - GL 5-6/D - Portion B2
3MSS.1317	Rebar Installation (Type 11) - GL5-6/D - Portion B2	1	30-Jan-16	01-Feb-16				Rebar Installation (Type 11) - GL 5-6/D - Portion B2
3MSS.1318	Formworks (Type 11) - GL 5-6/D - Portion B2	1	01-Feb-16	02-Feb-16				☐ Formworks (Type 11) - GL5-6/D - Portion B2
3MSS.1319	Concrete Pouring (Type 11) - GL 5-6/D - Portion B2	1	02-Feb-16	03-Feb-16				☐ Concrete Pouring (Type 11) - GL 5-6/D - Portion B2
ft / Escalator Pit		12	13-Jan-16	27-Jan-16				
Escalator Pit (G	L 4-5/B'-C')	7	13-Jan-16	21-Jan-16				
3MSS.1324	Excavation - Portion B2	2	13-Jan-16	15-Jan-16	5m3	1 machine @ 190m3/day	T .	Excavation - Portion B2
3MSS.1325	Rebar Installation - Portion B2	2	15-Jan-16	18-Jan-16			1	Rebar Installation - Portion B2
3MSS.1326	Formworks - Portion B2	2	18-Jan-16	20-Jan-16				Formworks - Portion B2
3MSS.1327	Concrete Pouring - Portion B2	1	20-Jan-16	21-Jan-16			1	☐ Concrete Pouring - Portion B2
ift Pit (GL 3-4/I	B'-C')	7	19-Jan-16	27-Jan-16				
3MSS.1320	Excavation- Portion B3	2	19-Jan-16	21-Jan-16	5m3	1 machine @ 190m3/day	-	Excavation- Portion B3
3MSS.1321	Rebar Installation - Portion B3	2	21-Jan-16	23-Jan-16			1	Rebar Installation - Portion B3
3MSS.1322	Formworks - Portion B3	2	23-Jan-16	26-Jan-16			†:	Formworks - Portion B3
3MSS.1323	Concrete Pouring - Portion B3	1	26-Jan-16	27-Jan-16			1	□ Concrete Pouring - Portion B3
age 1 - Undergro	und Drainage	37	09-Jan-16	25-Feb-16				
MSS.1328	Installation of Underground Drainage below B2 Slab - Portion A1i & A1ii (2 Nr ol	5	09-Jan-16	15-Jan-16	2 Nr			Installation of Underground Drainage below B2 Slab - Portion A1i & A1ii (2 Nr of M/H)
MSS.1329	Preparation of Formworks & Cast underground pipes - Portion A1i & A1ii	2	15-Jan-16	18-Jan-16				Preparation of Formworks & Cast underground pipes - Portion A1i & A1ii
MSS.1330	Installation of Underground Drainage below B2 Slab - Portion A2 (2 Nr of M/H)	5	14-Jan-16	20-Jan-16	1 Nr		- 	Installation of Underground Drainage below B2 Slab - Portion A2 (2 Nr, of M/H)
MSS.1331	Preparation of Formworks & Cast underground pipes - Portion A2	2	20-Jan-16	22-Jan-16			-	Preparation of Formworks & Cast underground pipes - Portion A2
MSS.1332	Installation of Underground Drainage below B2 Slab - Portion A3 (2 Nr of M/H)	5	23-Jan-16	29-Jan-16	1 Nr		-	Installation of Underground Drainage below B2 Slab - Portion A3 (2 Nr of M/H)
MSS.1333	Preparation of Formworks & Cast underground pipes - Portion A3	2	29-Jan-16	01-Feb-16	1		-	Preparation of Formworks & Cast underground pipes - Portion A3
BMSS.1334	Installation of Underground Drainage below B2 Slab - Portion B1 (1 Nr of M/H)	5	27-Jan-16	02-Feb-16	1 Nr		-	Installation of Underground Drainage below B2 Slab - Portion B1 (1 Nr of M/H)
MSS.1335	Preparation of Formworks & Cast underground pipes - Portion B1	2	02-Feb-16	04-Feb-16				Preparation of Formworks & Cast underground pipes - Portion B1
MSS.1336	Installation of Underground Drainage below B2 Slab - Portion B2 (3 Nr of M/H)	5	26-Jan-16	01-Feb-16	1 Nr		-	Installation of Underground Drainage below B2 Ślab - Portion B2 (3 Nr of M/H)
MSS.1337	Preparation of Formworks & Cast underground pipes - Portion B2	2	01-Feb-16	03-Feb-16	1.131		-	Preparation of Formworks & Cast underground pipes - Portion B2
BMSS.1338	Installation of Underground Drainage below B2 Slab - Portion B3 (1 Nr of M/H)	5	17-Feb-16	23-Feb-16	3 Nr		-	Installation of Political Installation of Underground Drainage below B2 Slab -
BMSS.1339	Preparation of Formworks & Cast underground pipes - Portion B3	2	23-Feb-16	25-Feb-16 25-Feb-16	0141		-	Preparation of Formworks & Cast underground pig
		62	30-Dec-15	15-Mar-16				riepąration or rominworks a cast underground pię
MSS.1341	Design submission and approval						.	Design submission and approval
	Design submission and approval Mobilization & progurement	21	30-Dec-15	23-Jan-16 02-Mar-16			-	Design submission and approval Mobilization & progurement
BMSS.1342 BMSS.1343	Mobilization & procurement Blinding and Water profing	30	25-Jan-16 03-Mar-16	02-Mar-16 05-Mar-16			-	Mobilization & procurement Blinding and Waterproofing
	Blinding and Waterproofing Rehar Installation - Tower Cranes no 1 Rase Casting	2					-	Blinding and waterproofing Rebar Installation - Tow
MSS.1344	Rebar Installation - Tower Cranes no 1 Base Casting	5	05-Mar-16	11-Mar-16			<u> </u>	
MSS.1345	Formworks Installation - Tower Cranes no 1 Base Casting	2	11-Mar-16	14-Mar-16			-∥	Formworks Installa
MSS.1346	Concrete Casting	1	14-Mar-16	15-Mar-16			.	□ Concrete Castin
age 2 - BD	Construction	58	18-Jan-16	01-Apr-16				
age 2 - B2F Slab		36	18-Jan-16	03-Mar-16	4400	@ 40m2/d	.	People and Dall Darting Add
BMSS.13461	Backfill and Roll - Portion A1i	1	18-Jan-16	19-Jan-16	113m3	@ 40m3/day per gang	<u> </u>	■ Backfill and Roll - Portion A1i
BMSS.13462	Waterproofing works - Portion A1i	1	19-Jan-16	20-Jan-16	/50m2	@300m2/day per gang	_[.	■ Waterproofing works - Portion A1i
Forec	ast Bar						Page 9 of 11	Date Revision Checked App
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◆ Milestone			M+	. 3 Mon	tns Rol	ling Programme		31-Dec-15 3MRP Rev B (2nd Draft) Den / Chris Leo Ha
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▼ WillC30				SIND	PRAVE	3 (2nd draft)		
▼ IVIIICSU						3 (2nd draft) or M+ Museum P		

Acti	tivity Name	Duration	Start	Finish	Quants	Production rates	December January February March 3 4 5 6 29 06 13 20 27 03 10 17 24 31 07 14 21 28 06 13 20
MSS.13463 Lay	y Rebar for B2 Slab - Portion A1i	9	20-Jan-16	30-Jan-16	610T	30men @ 0.9ton/m/day	29 06 13 20 27 03 10 17 24 31 07 14 21 28 06 13 20 Lay Rebar for B2 Slab - Portion A1i
	rmworks for B2 Slab - Portion A1i	1	30-Jan-16	01-Feb-16	85m2	<u> </u>	Formworks for B2 Slab - Portion A1i
MSS.13465 Cor	oncrete Pouring - Portion A1i	1	01-Feb-16	02-Feb-16	488m3		☐ Concrete Pouring - Portion A1i
	ickfill and Roll - Portion A1ii	2	19-Jan-16	21-Jan-16	113m3	@ 40m3/day per gang	■ Backfill and Roll † Portion A1ii
	aterproofing works - Portion A1ii	2	21-Jan-16	23-Jan-16	750m2	@300m2/day per gang	☐ Water proofing works - Portion A1ii
MSS.1349 Lay	y Rebar for B2 Slab - Portion A1ii	14	23-Jan-16	12-Feb-16	610T	30men @ 0.9ton/m/day	Lay Rebar for B2 Slab - Portion A1ii
MSS.1350 For	rmworks for B2 Slab - Portion A1ii	2	12-Feb-16	15-Feb-16	85m2		Formworks for B2 Slab Portion A1ii
MSS.1351 Cor	oncrete Pouring - Portion A1ii	1	15-Feb-16	15-Feb-16	488m3		Concrete Pouring - Pontion A1ii
MSS.1352 Bac	ckfill and Roll - Portion A2	2	02-Feb-16	04-Feb-16	84m3	@ 40m3/day per gang	Backfill and Roll - Portion A2
MSS.1353 Wat	aterproofing works - Portion A2	2	04-Feb-16	06-Feb-16	750m2	@300m2/day per gang	☐ Waterproofing works - Portion A2
MSS.1354 Lay	y Rebar for B2 Slab - Portion A2	17	06-Feb-16	01-Mar-16	454T	30men @ 0.9ton/m/day	Lay Rebar for B2 Slab - Portion A2
MSS.1355 For	rmworks for B2 Slab - Portion A2	1	01-Mar-16	02-Mar-16	64m2		☐ Formworks for B2 Slab - Portion A2
MSS.1356 Cor	oncrete Pouring - Portion A2	1	02-Mar-16	03-Mar-16	363m3		☐ Concrete Pouring - Portion A2
MSS.1357 Bac	ckfill and Roll - Portion A3	1	06-Feb-16	11-Feb-16	28m3	@ 40m3/day per gang	Backfill and Roll - Portion A3
MSS.1358 Wat	aterproofing works - Portion A3	1	11-Feb-16	12-Feb-16	750m2	@300m2/day per gang	☐ Water proofing works - Portion A3
MSS.1359 Lay	y Rebar for B2 Slab - Portion A3	6	12-Feb-16	19-Feb-16	152T	30men @ 0.9ton/m/day	Lay Rebar for B2 Slab - Portion A3
MSS.1360 For	rmworks for B2 Slab - Portion A3	1	19-Feb-16	20-Feb-16	36m2		☐ Formworks for B2 Slab - Portion A3
MSS.1361 Cor	oncrete Pouring - Portion A3	1	20-Feb-16	22-Feb-16	122m3		Concrete Pouring - Portion A3
MSS.1362 Bac	ckfill and Roll - Portion B1	2	26-Jan-16	27-Jan-16	95m3	@ 40m3/day per gang	☐ Backfill and Roll - Portion B1
MSS.1363 Wat	aterproofing works - Portion B1	2	28-Jan-16	29-Jan-16	750m2	@300m2/day per gang	☐ Waterproofing works - Portion B1
MSS.1364 Lay	y Rebar for B2 Slab - Portion B1	19	30-Jan-16	24-Feb-16	512T	30men @ 0.9ton/m/day	Lay Rebar for B2 Slab - Portion B1
MSS.1365 For	rmworks for B2 Slab - Portion B1	2	25-Feb-16	26-Feb-16	95m2		☐ Formworks for B2 Slab - Portion B1
MSS.1366 Cor	oncrete Pouring - Portion B1	1	26-Feb-16	27-Feb-16	410m3		☐ Concrete Pouring - Portion B1
MSS.1367 Bac	ckfill and Roll - Portion B2	2	03-Feb-16	05-Feb-16	77m3	@ 40m3/day per gang	☐ Backfill and Roll - Portion B2
MSS.1368 Wat	aterproofing works - Portion B2	2	05-Feb-16	11-Feb-16	750m2	@300m2/day per gang	Waterproofing works - Portion 82
	y Rebar for B2 Slab - Portion B2	15	11-Feb-16	29-Feb-16	414T	30men @ 0.9ton/m/day	Lay Rebar for B2 Slab - Portion B2
	rmworks for B2 Slab - Portion B2	2	29-Feb-16	01-Mar-16	79m2		Formworks for B2 Slab - Portion B2
	oncrete Pouring - PortionB2	1	02-Mar-16	02-Mar-16	332m3		Concrete Pouring - PortionB2
	ckfill and Roll - Portion B3	4	18-Feb-16	23-Feb-16	158m3	@ 40m3/day per gang	Backfill and Roll - Portion B3
	aterproofing works - Portion B3	4	23-Feb-16	27-Feb-16	750m2	@300m2/day per gang	Waterproofing works - Portion B3
age 2 - Lateral Suppoi		31	22-Feb-16	01-Apr-16			
Valling Beam - Port		19	22-Feb-16	15-Mar-16	1005 5	4 11 0 25 11	
	cavate up for 1st level of Walling beam	6	22-Feb-16	29-Feb-16	1226m3	1 machines @ 350m3/day	Excavate up for 1st level of Walling beam
	alling Beam Installation for lateral Support (Nr 18 to 21)	4	29-Feb-16	04-Mar-16			Waling Beam Installation for lateral S
	alling Beam Installation for lateral Support (Nr 18 to 21 2n d layer		10-Mar-16	15-Mar-16			Waling Beam Ins
Vithin Portion A4/A5	NO.	21	04-Mar-16	01-Apr-16			
Strut # 18	toral Cumpart Installation Company 4 (42)	15	04-Mar-16	22-Mar-16			
	teral Support Installation Support 1 #18 - Portion A4/A5	5	04-Mar-16	10-Mar-16	000	4	Lateral Support Installation
	cavation under Support 1 #18 - Portion A4/A5	1	10-Mar-16	11-Mar-16	80m3	1 machine @ 190m3/day	☐ Excavation under Suppo
	teral Support Installation Support 2 #18 - Portion A4/A5	5	15-Mar-16	21-Mar-16	1202	1 machin - @ 400 0/1	Lateral
044# 40	cavation under Support 2 #18 - Portion A4/A5	1	21-Mar-16	22-Mar-16	1∠Um3	1 machine @ 190m3/day	□ Exca
Strut # 19	toral Cumpart Installation Current 4 #40 D. C. A 4/A5	16	04-Mar-16	23-Mār-16			
	teral Support Installation Support 1 #19 - Portion A4/A5	5	04-Mar-16	10-Mar-16	90~2	1 machin - @ 400 0/1	Lateral Support Installation
	cavation under Support 1 #19 - Portion A4/A5	1 -	11-Mar-16	12-Mar-16	80m3	1 machine @ 190m3/day	□ Excavation under Supp
	teral Support Installation Support 2 #19 - Portion A4/A5	5	15-Mar-16	21-Mar-16	120~2	1 machine @ 1000/	Latera
	cavation under Support 2 #19 - Portion A4/A5	1 15	22-Mar-16	23-Mar-16	12UM3	1 machine @ 190m3/day	□ Ex
Strut # 20	toral Support Installation Support 4 #90 Parties A #/A5	15	07-Mar-16	24-Mar-16			
	teral Support Installation Support 1 #20 - Portion A4/A5 cavation under Suppor 1 #20 - Portion A4/A5	5	07-Mar-16 12-Mar-16	12-Mar-16 14-Mar-16	80m2	1 machine @ 100~2/day	Lateral Support Installa
	**	1 5			OUIIO	1 machine @ 190m3/day	Excavation under S
	teral Support Installation Support 2 #20 - Portion A4/A5	5	17-Mar-16	23-Mar-16	120~2	1 machine @ 1000/	La De la Companya de
	cavation under Support 2 #20 - Portion A4/A5	1 19	23-Mar-16 07-Mar-16	24-Mar-16	12UM3	1 machine @ 190m3/day	
Strut # 21 3MSS.1449 Late	taral Support Installation Support 1 #21 Postion A4/A5			01-Apr-16			Lateral Comment Institute
	teral Support Installation Support 1 #21 - Portion A4/A5 cavation under Suppor 1 #21 - Portion A4/A5	5	07-Mar-16 14-Mar-16	12-Mar-16 15-Mar-16	80m2	1 machine @ 100m2/	Lateral Support Installa
	cavation under Suppor 1 #21 - Portion A4/A5 teral Support Installation Support 2 #21 - Portion A4/A5	1 5	14-Mar-16 23-Mar-16	15-Mar-16 01-Apr-16	80m3	1 machine @ 190m3/day	■ Excavation under
	Coran Support Installation Support 2 #21 - PORIONA4/AS	8	23-Mar-16	01-Apr-16			
F Group 1		Ω	19-Mar-16	01-Apr-16			
1/F Beam & SLAB		0	19-Mar-16	01-Apr-16 01-Apr-16			
	/F Slab - Rebar Installation	8	19-Mar-16	01-Apr-16 01-Apr-16			
AEL South	,. Sas Nova maanaduli	76	22-Dec-15 A	30-Mar-16			
St Pile Cap (Core	wall)	76	22-Dec-15 A	30-Mar-16			
	eakout Existing Concrete & I-beam	17	22-Dec-15 A	14-Jan-16			Breakout Existing Concrete & I-beam
	emove brickwork	17	15-Jan-16	30-Jan-16			Remove brickwork
	rvey & Inspection	0	.5 oan-10	30-Jan-16			Survey & Inspection
	owances for making good on defects	7	01-Feb-16	11-Feb-16			
	cavation To Formation Lvl +2.45mPD	2	12-Feb-16	13-Feb-16			☐ Excavation To Formation Lt/l +2.45mPD
	e Trimming	10	12-Feb-16 13-Feb-16	25-Feb-16			□ Excavation to Formation Lin +2.49mPD Pile Trimming
	nding layer and 400mm thickness	10	25-Feb-16	26-Feb-16			☐ Blinding layer and 400mm thickness
DIII1		1	20-1 60-10	20-100-10			□ Dimping layer and 400 IIII tilloxitess
Forecast	t Bar						Page 10 of 11 Date Revision Checked App
				0.14	(l P. ''	U D	02-Dec-15 3MRP Rev B (1st Draft) Edgar / Chris Leo Ha
	◆ Milestone			3 Mon	tns Rol	ling Programme	31-Dec-15 3MRP Rev B (2nd Draft) Den / Chris Leo Ha
						•	
							OT BOOTO SOUNT TOO BY LETT OF THE BOOT OF
		-		3MR	P Rev E	3 (2nd draft) or M+ Museum F	

activity ID	Activity Name	Duration	Start	Finish Quants	Production rates	December	January	February	March
						29 06 13 20 2	7 03 10 17	24 31 07 14 21	28 06 13 20 27
3MSS.S0027	Temporary Support (Shear Plate)	3	26-Feb-16	01-Mar-16			:		Temporary Support (Shear Plate)
3MSS.S0028	Bottom Rebar	15	01-Mar-16	18-Mar-16					Bottom Rebar
3MSS.S0029	Install 3 Nr Shear Plates	7	18-Mar-16	30-Mar-16					
DCS Structure		55	31-Dec-15	09-Mar-16					
3MSS.D001	Excavate from +5.50mPD (Existing Level) to +4.85mPD	4	31-Dec-15	06-Jan-16 427m3	1 machine @ 190m3/day		Excavate from +5.50mPD (Exist	ting Level) to +4.85mPD	
3MSS.D002	Excavate from +4.85mPD to +3.70mPD	4	06-Jan-16	11-Jan-16 756m3	1 machine @ 190m3/day		Excavate from +4.85ml		
3MSS.D003	Install 1st Layer Struts at +4.2mPD	13	11-Jan-16	26-Jan-16				Install 1st Layer Struts at +4.2mPD	
3MSS.D004	Excavate from +3.5 to -0.50mPD	15	25-Jan-16	15-Feb-16 2764m3	1 machine @ 190m3/day			Excavate from +3.5 to	-0.50mPD
3MSS.D005	Install 2nd Layer Struts at 0.0mPD (w/ preloading)	13	15-Feb-16	01-Mar-16					Install 2nd Layer Struts at 0.0mPD (w/ preloading)
3MSS.D006	Excavate to -0.5mPD to -2.5mPD	7	01-Mar-16	09-Mar-16 1316m3	1 machine @ 190m3/day				Excavate to -0.5mPD to -2.5mPD
Tower Crane N	lo 3	47	30-Dec-15	26-Feb-16					
3MSS.T002	Position Sign-off for T C3	1	30-Dec-15	30-Dec-15		1	Position Sign-off for TC3		
3MSS.T003	Design submission and approval of TC base	10	05-Jan-16	15-Jan-16			Design submiss	sion and approval of TC base	
3MSS.T004	Mobilization & procurement	15	16-Jan-16	02-Feb-16				Mobilization & procurement	
3MSS.T006	Excavate ro reduce level +2.45mPD	2	16-Jan-16	18-Jan-16 464m3	350m3/day		Excavate	ro reduce level +2.45mPD	
3MSS.T007	Excavate battered slope	3	19-Jan-16	21-Jan-16 510m3	350m3/day		Exca	avate battered slope	
3MSS.T008	Excavation for TC3 Base	3	22-Jan-16	25-Jan-16 6m3	1 machine @ 190m3/day			Excavation for TC3 Base	
3MSS.T009	Rebar Installation for TC3 Base	3	26-Jan-16	28-Jan-16				Rebar Installation for TC3 Base	
3MSS.T010	Formworks Installation for TC3 Base	1	29-Jan-16	29-Jan-16				Formworks Installation for TC3 Base	
3MSS.T011	Concrete Pouring & Curing for TC3 Base	7	30-Jan-16	06-Feb-16				Concrete Pouring & Curing for TC3	Base
3MSS.T012	Erection of Tower Crane No 3	14	11-Feb-16	26-Feb-16					rection of Tower Crane No 3
AEL & ECM		25	11-Jan-16	12-Feb-16					
3MSS.AEL0010	HCC issue Method Statements for Protection of AEL & ECM	0	11-Jan-16				 HCC issue Method State 	tements for Protection of AEL & ECM, HCC issue Method Star	ements for Protection of AEL & ECM
3MSS.AEL0012	Approval & Consents For Method Statements	20	11-Jan-16	03-Feb-16				Approval & Consents For Method Statemer	ts.
3MSS.AEL020	Protection of AEL & ECM	5	03-Feb-16	12-Feb-16				Protection of AEL & ECM	
M+.30 ICP		51	18-Jan-16	19-Mar-16					
Excavation Wo	rks	51	18-Jan-16	19-Mar-16					
3MICP.1000	Apply for Approval and consents for Excavation (Stage 2A Excavation)	28	18-Jan-16	22-Feb-16				Apply for	Approval and consents for Excavation (Stage 2A Excava
3MICP.1001	Obtain MJV/RSS Pump test Results (Bachy)	0		25-Jan-16			•	Obtain MJV/RSS Pump test Results (Bachy), Obtain MJV/R	S\$ Pump test Results (Bachy)
3MICP.1002	Submit Dewatering Proposal	15	25-Jan-16	15-Feb-16			ı	Submit Dewatering Pr	oposal
3MICP.1010	Site Possession	0	11-Feb-16*			 		♦ Site Possession, Site Possess	ioh
3MICP.1012	Obtain Consents for Excavation to Commence	0	22-Feb-16					◆ Obtain C	onsents for Excavation to Commence, Obtain Consents to
3MICP.1020	Survey Existing Sheet Pile	5	11-Feb-16	16-Feb-16				Survey Existing She	et Pile
3MICP.1030	Install 6Nr Pump Wells / Monitoring points 12Nr	6	15-Feb-16	20-Feb-16 6nr Pumps / 12r				Install 6Nr P	urnp Wells / Monitoring points 12Nr
3MICP.1040	Excavate Central portion Max 30 deg open cut +3.6mPD to -1.65mPD (5.275m)	24	22-Feb-16	19-Mar-16 16.877m3	2nr excavators @700m3/d				Excavate Central p

Page 11 of 11

Forecast Bar

M+ 3 Months Rolling Programme

3MRP Rev B (2nd draft)

Main Works Contract for M+ Museum Project

Date	Revision	Checked	Approved
02-Dec-15	3MRP Rev B (1st Draft)	Edgar / Chris	Leo Harnett
31-Dec-15	3MRP Rev B (2nd Draft)	Den / Chris	Leo Harnett

M+ Museum Main Works at West Kowloon Cultural District

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



Appendix C. Correspondence from The Harbourside and The Arch management offices

MTR Corporation Limited 香港鐵路有限公司

www.mtr.com.hk



Your ref:

JEP/EC/TK/bw/T363512/22/0/L0002

Our ref:

HBS/I1.3/2015/1243

Date:

10 November 2015

Mott MacDonald Hong Kong Limited

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

Attention: Mr. Eric Ching

By Post & Fax 2827 1823

Dear Mr. Ching,

Re: West Kowloon Cultural District

M+ Museum for Visual Culture (Main Contract Works)

Environmental Team Consultancy Services

Setting Up of Construction Air and Noise Monitoring Station

We refer to your letter dated 2 November 2015 regarding the setting up of construction air and noise monitoring station for West Kowloon Cultural District works.

According to the previous practice which advised by the representatives of owners of The Harbourside, we are not able to facilitate the related system setting up for air and noise monitoring at The Harbourside.

Should you have any enquiries, please feel free to contact me at 3122-7500.

Yours sincerely,

Deon Chui

Property Manager

/BOH



Ref: ARC-R1.2-2015-1033

23 November 2015

Mr. Eric Ching
Mott MacDonald Hong Kong Limited
20/F, AIA Kowloon Tower,
Landmark East, 100 How Ming Street,
Kwun Tong, Kowloon,
Hong Kong

Dear Mr. Ching,

Re: West Kowloon Cultural District
M+ Museum for Visual Culture (Main Contract Works)
Environmental Team Consultancy Services
Setting Up of Construction Noise Monitoring Station

We refer to your letter dated 2 November 2015 and the phone conversation with our Mr. Tony Ng on 13 November 2015 regarding the set up of construction noise monitoring station for West Kowloon Cultural District works.

We regret that the construction noise monitoring station is not allowed to set up in the area of The Arch.

Should you have any enquiries, please feel free to contact our Assistant Property Manager Mr. Tony Ng on 3516 3111.

Yours sincerely,

Kevin Chan Property Manager The Arch

KEC/TON/

M+ Museum Main Works at West Kowloon Cultural District Monthly Environmental Monitoring and Audit (EM&A) Report for February 2016



Appendix D. 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 D-1: Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level (μg/m3)	Limit Level (µg/m3)
AM1	273.7	500
AM2	274.2	500

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

Monitoring Station	Action Level (μg/m3)	Limit Level (μg/m3)
AM1	143.6	260
AM2	151.1	260

<u>Noise</u>

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

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

Time Period & Monitoring Locations	Action Level	Limit Level
NM1		
0700-1900 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)

M+ Museum Main Works at West Kowloon Cultural District

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



Appendix E. 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 E-1: Event and Action Plan for Air Quality

Table L-1. EVel	nt and Action Plan for Air (Action	Quality		
	Action			
Event	ET	IEC	WKCDA	Contractor
Action Level				
1. Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC and WKCDA; Repeat measurement to confirm finding; Increase monitoring frequency to daily. 	 Check monitoring data submitted by ET; Check Contractor's working method. 	1. Notify Contractor	 Rectify any unacceptable practice; 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	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the WKCDA on the effectiveness of the proposed remedial measures; Monitor the implementation of 	Confirm receipt of notification of failure in writing; Notify Contractor; Ensure remedial measures properly implemented.	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Amend proposal if appropriate.

	Action			
Event	ET	IEC	WKCDA	Contractor
	actions and keep IEC, EPD and WKCDA informed of the results.	remedial measures.		
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 E-2: Event and Action Plan for Construction Noise

Table E-2.	Event and Action Flam of Construction Noise								
	Action								
Event	ET Leader	IEC	WKCDA	Contractor					
Action Level	 Notify WKCDA, IEC and Contractor; Carry out investigation; Report the results of investigation to the IEC, WKCDA and Contractor; Discuss with the IEC and Contractor on remedial measures required; Increase monitoring frequency to check mitigation effectiveness. 	Review the investigation results submitted by the ET; Review the proposed remedial measures by the Contractor and advise the WKCDA accordingly; Advise the WKCDA on the effectiveness of the proposed remedial measures.	 Confirm receipt of notification of failure in writing; Notify Contractor; In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; Supervise the implementation of remedial measures. 	1. Submit noise mitigation proposals to IEC and WKCDA; 2. Implement noise mitigation proposals.					
Limit Level	 Inform IEC, WKCDA, Contractor and EPD; Repeat measurements to confirm findings; Increase monitoring frequency; Identify source and investigate the cause of exceedance; Carry out analysis of Contractor's working procedures; Discuss with the IEC, Contractor and WKCDA on remedial measures required; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCDA informed of the results; 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 E-3: Event and Action Plan for Landscape and Visual Impact

	Action			
Event	ET Leader	IEC	WKCDA	Contractor
Design Check	Design check to make sure the design complies with all the proposed mitigation measures in the EIA report; Prepare and submit report.	 Check report submitted by ET; Recommend remedial design if necessary. 	Undertake remedial design if necessary.	-
Non- conformity on one occasion	 Identify source of non-conformity; Report to IEC and WKCDA; Discuss remedial actions with IEC, WKCDA and Contractor; Monitor remedial actions until rectification has been completed. 	 Check and verify source of non-conformity; Discuss remedial actions with ET and Contractor; Advise WKCDA on effectiveness of proposed remedial actions; Check implementation of remedial actions. 	Notify Contractor; Ensure remedial actions are properly implemented.	 Amend working method as necessary; 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.	Notify Contractor; Ensure remedial actions are properly implemented.	Amend working method as necessary; Rectify damage and undertake necessary replacement and remedial actions.

M+ Museum Main Works at West Kowloon Cultural District Monthly Environmental Monitoring and Audit (EM&A) Report for February 2016



Appendix F. Monitoring Schedule

FEBRUARY 2016

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 AM1, AM2 - 24hrTSP, 1hr TSP x3	3	4	5 AM1, AM2 - 24hrTSP, 1hr TSP x3	6
7	8	9	10	11 AM1, AM2 - 24hrTSP, 1hr TSP x3	12	13
14	15	16	17 AM1, AM2 - 24hrTSP, 1hr TSP x3	18	19	20
21	22	23 AM1, AM2 - 24hrTSP, 1hr TSP x3	24	25	26	27
28	29 AM1, AM2 - 24hrTSP, 1hr TSP x3					
			er 1 e Harbourside Tower 1) is bein ed at the International Comme			

MARCH 2016

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5 AM1, AM2 - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring
6	7	8	9	10	11 AM1, AM2 - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	12
13	14	15	16	17 AM1, AM2 - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	18	19
20	21	22	23 AM1, AM2 - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	24	25	26
27	28	29 AM1, AM2 - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	30	31		
		Notes: AM1 - International Commerc AM2 - The Harbourside Towe NM1A - International Comme	r1			

M+ Museum Main Works at West Kowloon Cultural District Monthly Environmental Monitoring and Audit (EM&A) Report for February 2016



Appendix G. Calibration Certifications

 Location
 : AM1(ICC)

 Calibrated by
 : K.T.Ho

 Date
 : 16/12/2015

Sampler

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

Calibration Orfice and Standard Calibration Relationship

 Serial Number
 : 2454

 Service Date
 : 14 Mar 2015

 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) : 1026 Ta(K) : 288

Resistance Plate dH		dH [green liquid]	Z	X=Qstd	IC	Y
		(inch water)	(cubic meter/min)		(chart)	(corrected)
1	18 holes	10.0	3.237	1.563	58	59.38
2	13 holes	8.2	2.931	1.417	51	52.21
3	10 holes	6.0	2.508	1.215	42	43.00
4	7 holes	4.2	2.098	1.019	34	34.81
5	5 holes	2.4	1.586	0.775	22	22.52

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

Sampler Calibration Relationship

Slope(m):46.178 Intercept(b): -12.939 Correlation Coefficient(r): 0.9996

Checked by: Date: 21/12/2015

Magnum Fan

 Location
 : AM1(ICC)

 Calibrated by
 : K.T.Ho

 Date
 : 16/02/2016

Sampler

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

Calibration Orfice and Standard Calibration Relationship

 Serial Number
 : 2454

 Service Date
 : 14 Mar 2015

 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) : 1024 Ta(K) : 286

Resistance Plate dH		dH [green liquid]	Z	X=Qstd	IC	Y
		(inch water)	(cubic meter/min)		(chart)	(corrected)
1	18 holes	11.8	3.525	1.701	56	57.47
2	13 holes	9.6	3.180	1.536	50	51.31
3	10 holes	6.8	2.676	1.295	42	43.10
4	7 holes	4.6	2.201	1.069	35	35.92
5	5 holes	2.9	1.748	0.852	28	28.74

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

Sampler Calibration Relationship

Slope(m):33.634 Intercept(b): -0.098 Correlation Coefficient(r): 0.9996

Checked by: Date: 25/02/2016

Magnum Fan

Location : AM2 (Harbourside)

Calibrated by : K.T.Ho
Date : 16/12/2015

Sampler

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

Calibration Orfice and Standard Calibration Relationship

 Serial Number
 : 2454

 Service Date
 : 14 Mar 2015

 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) : 1026 Ta(K) : 288

Resistance Plate		dH [green liquid]	Z	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)	(chart)	(corrected)
1	18 holes	12.0	3.546	1.711	58	59.38
2	13 holes	9.0	3.071	1.484	50	51.19
3	10 holes	7.0	2.709	1.311	43	44.02
4	7 holes	4.4	2.147	1.043	34	34.81
5	5 holes	2.4	1.599	0.775	24	24.57

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): <u>37.152</u>	Intercept(b):-4.194	Correlation Coefficient(r): <u>0.9997</u>
Checked by:		Date: <u>21/12/2015</u>
Magn	um Fan	

Location : AM2 (Harbourside)

Calibrated by : K.T.Ho
Date : 16/02/2016

Sampler

 Model
 :
 TE-5170

 Serial Number
 :
 S/N 8919

Calibration Orfice and Standard Calibration Relationship

 Serial Number
 : 2454

 Service Date
 : 14 Mar 2015

 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) : 1024 Ta(K) : 286

Resistance Plate		dH [green liquid]	Z	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)	(chart)	(corrected)
1	18 holes	12.4	3.614	1.743	62	63.63
2	13 holes	9.4	3.147	1.520	54	55.42
3	10 holes	7.2	2.754	1.332	48	49.26
4	7 holes	4.4	2.153	1.046	38	39.00
5	5 holes	2.6	1.655	0.808	28	28.74

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

Sampler Calibration Relationship

Magnum Fan

Slope(m):36.825	Intercept(b):-0.286	Correlation Coefficient(r): <u>0.9990</u>
Checked by:		Date: <u>25/02/2016</u>



SIBATA SCIENTIFIC TECHNOLOGY LTD.

1-1-62, Nakane, Soka, Saitama, 340-0005 Japan

TEL: 048-933-1582 FAX: 048-933-1591

CALIBRATION CERTIFICATE

Date: May 28, 2015

Equipment Name : Digital Dust Indicator, Model LD-3B

Code No. : 080000-42

Quantity : 1 unit

Serial No. : 2Z6240

Sensitivity : 0.001 mg/m3

Sensitivity Adjustment : 570CPM

Scale Setting : May 25, 2015

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

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.

Kentaro Togo

Overseas Sales Division

TEST CERTIFICATE

CUSTOMER: INNOTECH INSTRUMENTATION COLITD.

SERIAL NUMBER CALIBRATION DATE

25-May-2015

2Z6240LD-3B Digital Dust

Indicator

MODEL NUMBER PRODUCT NAME

Report No. 15-0798

SIBATA SCIENTIFIC TECHNOLOGY LTD. DATE 26/May /2015

APPROVE DY | VERIFIED BY | ISSUED BY



Synt	compare (The m	scale set differenc	Stability The max		Measuring the 3 diff	Dust Concentration Count is		Calibration standard	Sensitivity Count is	Function Test Switch, 1	Testing Category
Synthetic Judgment	compared with the maximum value. (The measurement is repeated three times for one minute.)	scale setting value of the machine and the difference with minimum value are within 5%	The maximum value of the sensitivity adjustment		the 3 different concentration.	Count is $\pm 10\%$ accurate to the master under		standard calibration particle	Count is ±2% accurate to the master by the	Switch, Display, Wiring will nomally function	Judging Standard
				535 CPM	1020 CPM	2079 CPM	813 CPM	Master	Reading of		
Good	OK			524 CPM	994 CPM	1998 CPM	814 CPM	Instrument	Reading of this	OK	Judgment
				-2.1 %	2.5 %	-3.9 %	+0.1 %		Correction		
I		23 °C	Temperature	Test atmosphere	0.0	K70	(c) antre Agrical articles	Deference	Inspecti		I
		45 %	Humidity	nosphere	CT WI	K70 CDM	(C) antre 8	$V_{\alpha} \ln_{\alpha}(\alpha)$	Inspection chart		22

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:

Laser Dust monitor

Manufacturer:

Sibata LD-3B

Serial No.

2Z6240

Equipment Ref:

Nil

Job Order

HK1520162

Standard Equipment:

Standard Equipment:

Higher Volume Sampler

Location & Location ID:

AUES office (calibration room)

Equipment Ref:

HVS 018

Last Calibration Date:

13 May 2015

Equipment Verification Results:

Testing Date:

22 & 23 June 2015

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m ³ (Standard Equipment)		
2hr18min	12:45 ~ 15:03	27.9	1003.2	0.010	1171	8.5
2hr25min	15:08 ~ 17:33	27.9	1003.2	0.023	2290	15.7
2hr43min	9:45 ~ 12:28	27.3	1003.9	0.014	1908	11.7

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration)

569 (CPM) 574 (CPM)

Linear Regression of Y or X

Slope (K-factor):

0.0014

Correlation Coefficient

0.9863

Date of Issue

24 June 2015

Remarks:

- 1. Strong Correlation (R>0.8)
- Factor 0.0014 should be apply for TSP monitoring

*If R<0.5, repair or re-verification is required for the equipment

0.025 0.02 0.015 0.01 y = 0.0014x - 0.0008 $R^2 - 0.9728$ 0.005 10 20

Operator: Donald Kwok

Signature:

24 June 2015

Ben Tam

Signature:

Date:



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 - Ma Operator		Rootsmeter Orifice I.D	-,)438320 2454	Ta (K) - Pa (mm) -	292 756.92
PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1 2 3 4 5	NA NA NA NA NA	NA NA NA NA	1.00 1.00 1.00 1.00	1.4460 1.0300 0.9180 0.8780 0.7240	3.2 6.4 7.9 8.7 12.6	2.00 4.00 5.00 5.50 8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0121 1.0078 1.0057 1.0047 0.9994	0.6999 0.9785 1.0955 1.1443 1.3805	1.4258 2.0163 2.2543 2.3644 2.8515		0.9958 0.9916 0.9895 0.9885 0.9833	0.6886 0.9627 1.0779 1.1258 1.3582	0.8784 1.2422 1.3888 1.4566 1.7568
Qstd slo intercep coeffici v axis =	t (b) = ent (r) =	2.09532 -0.03812 0.99994 	 	Qa slor intercer coeffici	ot (b) =	1.31205 -0.02349 0.99994

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 = $1/m\{ [SQRT H2O(Ta/Pa)] - b\}$

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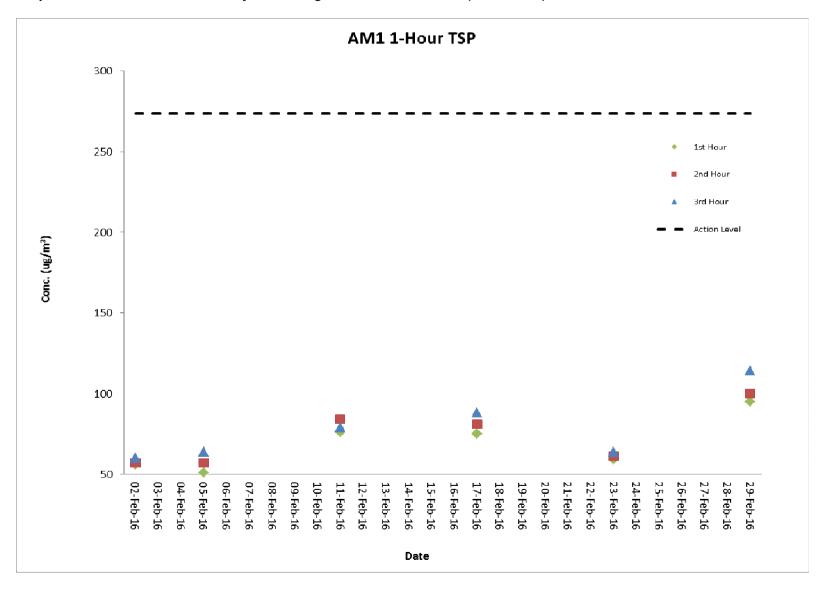


Appendix H. Graphical Plots of the Monitoring Results

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

			C	Conc. (μg/m	³)	Action	Limit		
Date	Weather Condition	Time	1 st Hour	2 nd Hour	3 rd Hour	Level (μg/m³)	Level (μg/m³)	Min	Max
02-Feb-16	Cloudy	10:50 - 16:00	56	57	60	273.7	500		
05-Feb-16	Sunny	8:00 - 11:00	51	57	64	273.7	500		
11-Feb-16	Fine	10:40 - 16:00	76	84	79	273.7	500	51	114
17-Feb-16	Cloudy	10:52 - 16:00	75	81	88	273.7	500	51	114
23-Feb-16	Cloudy	10:52 - 16:00	59	61	64	273.7	500		
29-Feb-16	Sunny	10:36 - 16:00	95	100	114	273.7	500		

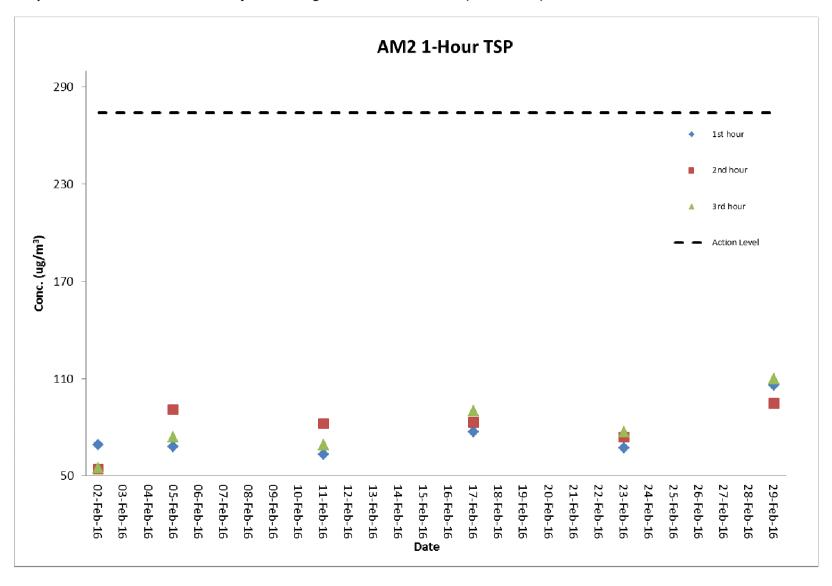
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (1-hour TSP)



Air Quality Monitoring Result at Station AM2 (1-hour TSP)

			C	Conc. (μg/m	³)	Action	Limit		
Date	Weather Condition	Time	1 st Hour	2 nd Hour	3 rd Hour	Level (μg/m³)	Level (μg/m³)	Min	Max
02-Feb-16	Cloudy	10:58 - 16:10	69	54	55	274.2	500		IVIGA
05-Feb-16	Sunny	8:10 - 11:10	68	91	74	274.2	500		
11-Feb-16	Fine	10:47 - 16:10	63	82	69	274.2	500	54	110
17-Feb-16	Cloudy	11:02 - 16:10	77	83	90	274.2	500	54	110
23-Feb-16	Cloudy	11:00 - 16:10	67	74	77	274.2	500		
29-Feb-16	Sunny	10:46 - 16:10	106	95	110	274.2	500		

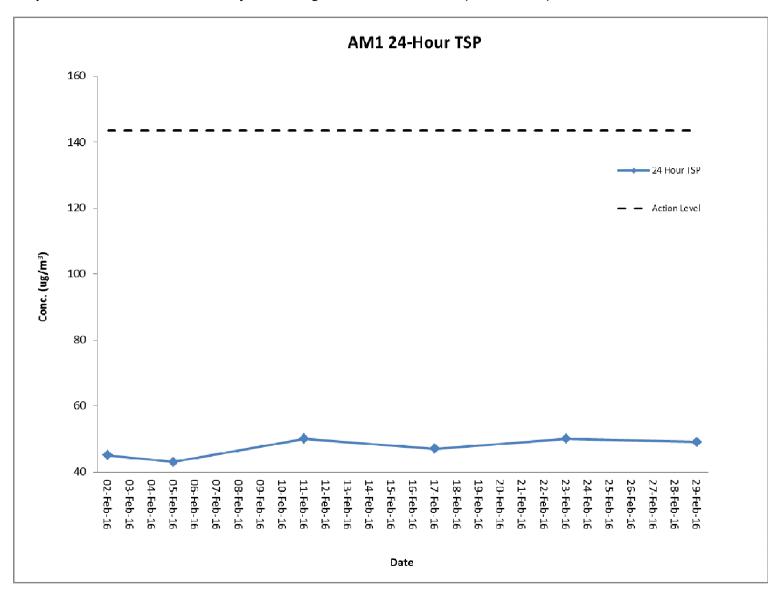
Graphical Presentation of Air Quality Monitoring Result at Station AM2 (1-hour TSP)



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

Star	rt	Finis	sh	Filter W	eight (g)	Elapsed Time Reading		Sampling	Flov	Flow Rate (m³/min)			Weather	Action	Limit
Date	Time	Date	Time	Initial	Final	Initial	Final	Time (hrs)	Initial	Final	Average	(μg/m³)	Condition	Level	Level
02-Feb-16	10:48	03-Feb-16	10:48	2.7543	2.8337	19032.38	19056.38	24	1.23	1.23	1.23	45	Cloudy	143.6	260
05-Feb-16	08:02	06-Feb-16	08:02	2.7683	2.844	19056.38	19080.38	24	1.23	1.23	1.23	43	Sunny	143.6	260
11-Feb-16	10:42	12-Feb-16	10:42	2.7511	2.8399	19080.38	19104.38	24	1.23	1.23	1.23	50	Fine	143.6	260
17-Feb-16	10:50	18-Feb-16	10:50	2.8561	2.9401	19104.38	19128.38	24	1.25	1.25	1.25	47	Cloudy	143.6	260
23-Feb-16	10:50	24-Feb-16	10:50	2.8215	2.9119	19128.38	19152.38	24	1.25	1.25	1.25	50	Cloudy	143.6	260
29-Feb-16	10:38	01-Mar-16	10:38	2.789	2.877	19152.38	19176.38	24	1.25	1.25	1.25	49	Sunny	143.6	260

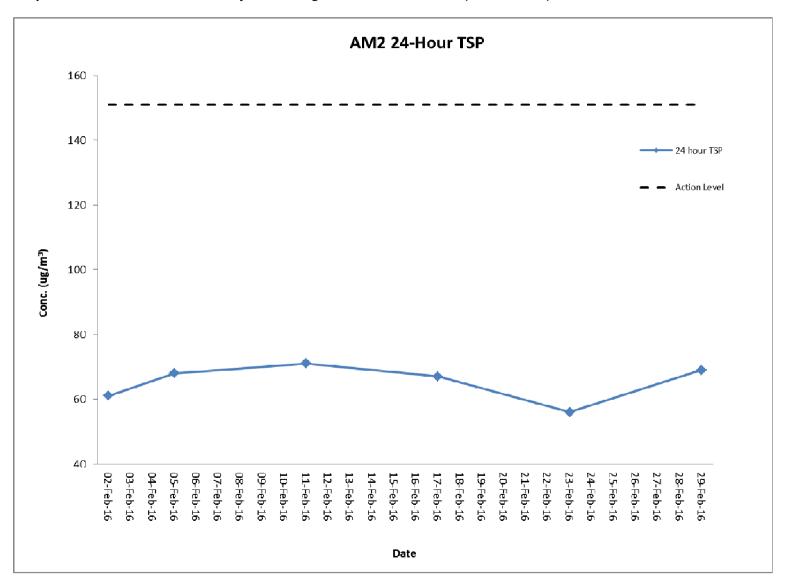
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (24-hour TSP)



Air Quality Monitoring Result at Station AM2 (24-hour TSP)

Star	rt	Finis	sh	Filter W	eight (g)	Elapsed Time Reading		Sampling	Flow Rate (m³/min)			Conc.	Weather	Action	Limit
Date	Time	Date	Time	Initial	Final	Initial	Final	Time (hrs)	Initial	Final	Average	(μg/m³)	Condition	Level	Level
02-Feb-16	11:00	03-Feb-16	11:00	2.7676	2.8771	14735.59	14759.59	24	1.24	1.24	1.24	61	Cloudy	151.1	260
05-Feb-16	08:14	06-Feb-16	08:14	2.757	2.8779	14759.59	14783.59	24	1.24	1.24	1.24	68	Sunny	151.1	260
11-Feb-16	10:50	12-Feb-16	10:50	2.7554	2.8827	14783.59	14807.59	24	1.24	1.24	1.24	71	Fine	151.1	260
17-Feb-16	11:05	18-Feb-16	11:05	2.8375	2.9532	14807.59	14831.59	24	1.2	1.2	1.2	67	Cloudy	151.1	260
23-Feb-16	11:03	24-Feb-16	11:03	2.8233	2.92	14831.59	14855.59	24	1.2	1.2	1.2	56	Cloudy	151.1	260
29-Feb-16	10:50	01-Mar-16	10:50	2.7852	2.9038	14855.59	14879.59	24	1.2	1.2	1.2	69	Sunny	151.1	260

Graphical Presentation of Air Quality Monitoring Result at Station AM2 (24-hour TSP)

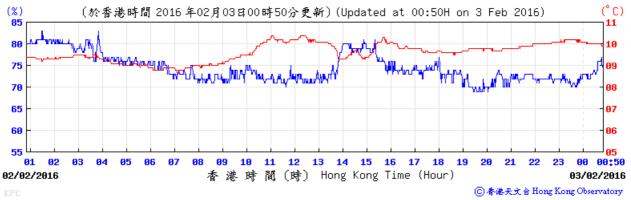


M+ Museum Main Works at West Kowloon Cultural District Monthly Environmental Monitoring and Audit (EM&A) Report for February 2016



Appendix I. Meteorological Data Extracted from Hong Kong Observatory

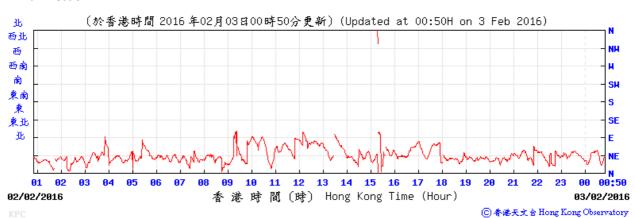
Table I-1: Extract of Meteorological Observations for King's Park Automatic Weather Station, February 2016

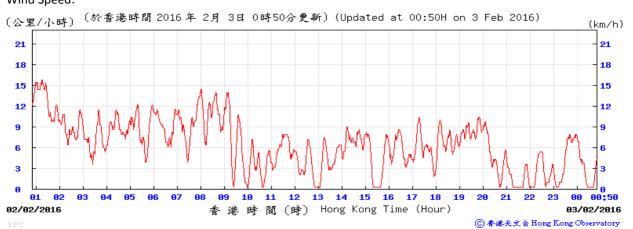


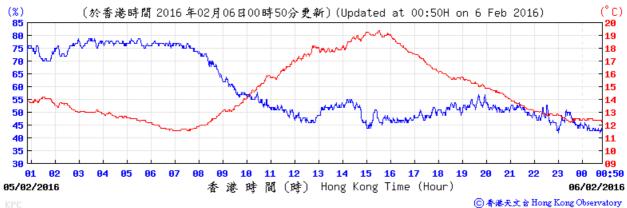
Pressure:



Wind Direction:



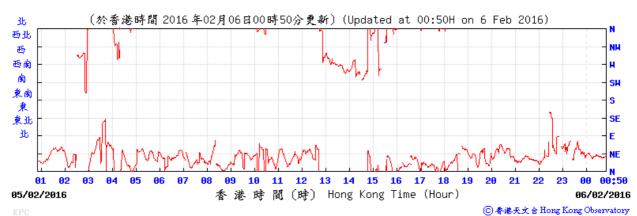


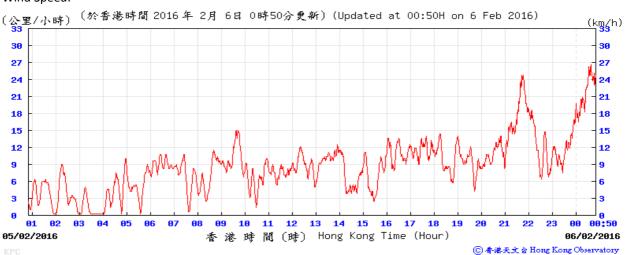


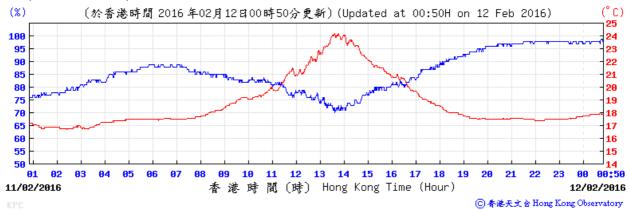
Pressure:



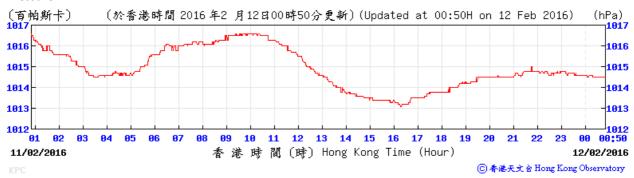
Wind Direction:



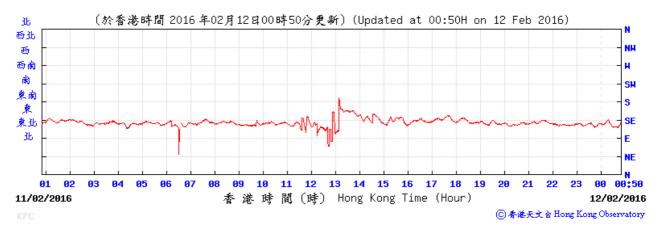




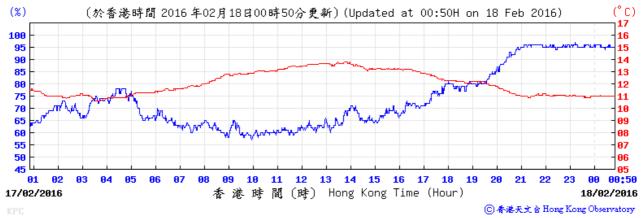
Pressure:



Wind Direction:





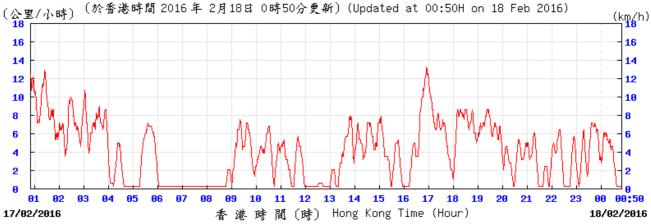


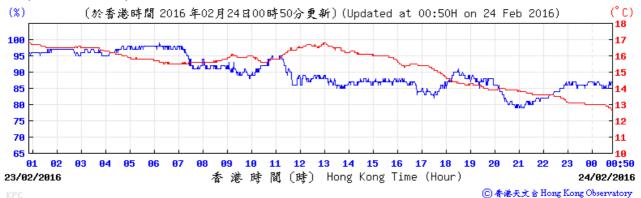
Pressure:



Wind Direction:



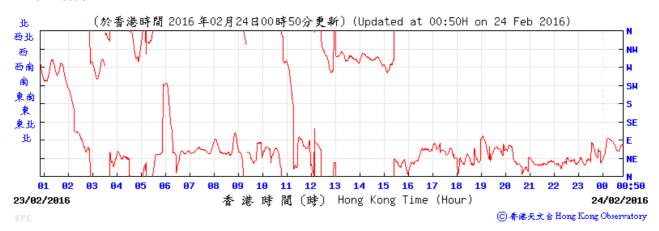


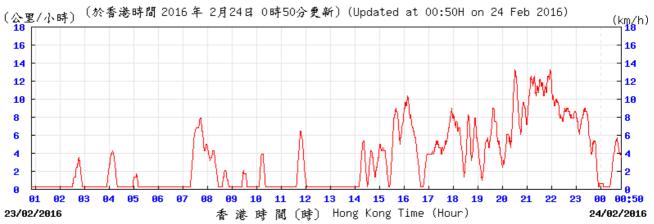


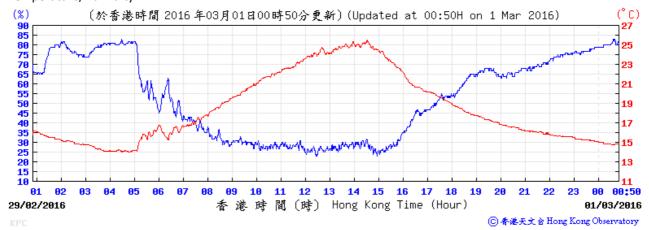
Pressure:



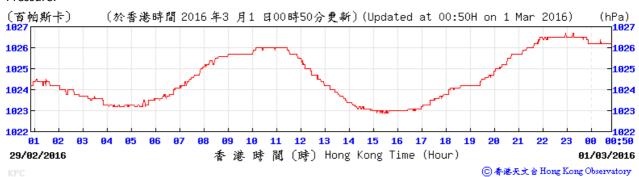
Wind Direction:







Pressure:



Wind Direction:





M+ Museum Main Works at West Kowloon Cultural District Monthly Environmental Monitoring and Audit (EM&A) Report for February 2016



Appendix J. Waste Flow table

Table J-1: Monthly Waste Flow Table

	,	Actual Quantities of Inert C&D Materials Generated Monthly				Actual Quantities of C&D Wastes Generated Monthly							
Month	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 kg)	(in ton)	(in ton)	(in to)	(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 (2014)	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													
Apr													
May													
Jun													
Jul													
Aug													
Sep													
Oct													
Nov													
Dec													
Sub-total (2015)	28703.6	0.0	9776.0	18624.0	303.6	0.0	0.0	78.6	0.0	0.0	0.0	0.0	43.7
Total	104963.9	0.0	9776.0	56485.4	38702.5	0.0	0.0	181.1	0.0	0.0	0.0	1.0	177.3

Note:

⁻⁰ ton and 154.2 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.

⁻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.

M+ Museum Main Works at West Kowloon Cultural District

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



Appendix K. Environmental Mitigation Measures – Implementation Status

Table K-1: Environmental Mitigation Measures Implementation Status

EM&A Ref.	Recommendation Measures	Implementation Stage			
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)	✓			
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 byproducts 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/ Rem			
	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			
	Loading, Unloading or Transfer of Dusty Materials				

EM9 A D-6		Implementation Stage
EM&A Ref.	 Recommendation Measures All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. 	√ v
	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	
	■ Wherever possible the final discharge point from particulate matter arrestment plant, where is not	✓

EM&A Ref.	Recommendation Measures	Implementation Stage
	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	√
Noise Impac	(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
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.	√

EM&A Ref.	Recommendation Measures	Implementation Stage
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
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
Water Qualit	y 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/ Rem
	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 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 	Y

EM&A Ref.	Recommendation Measures	Implementation Stage
	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. 	Obs/ Rem ✓
	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.	V
	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
	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
	 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 materials or polluted water during loading or transportation; 	N/A
	 All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of 	N/A

4.1 & 10.5.1 S i	present on the water within the site. 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. 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.	Implementation Stage N/A ✓ Obs/ Rem
4.1 & 10.5.1 Single And Annual	Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site. 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. 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.	✓
4.1 & 10.5.1 Single And Annual	present on the water within the site. 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. 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.	✓
4.1 & 10.5.1 G	Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where elecessary 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. 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.	
4.1 & 10.5.1 G	Recessary 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. Reneral 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.	
	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/ Rem
•	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/ Rem
	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
Waste Managen	ment Implications (Construction)	
6.1 & 10.7.1 G	Good Site Practices	
R	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	, ✓
•	Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers	· ✓
•	Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads	✓
•	Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&D materials is not anticipated	✓
6.1 & 10.7.1 W	Vaste Reduction Measures	

EM&A Ref.	Recommendation Measures	Implementation Stage
	Recommendations to achieve waste reduction include:	
	 Sort inert C&D material to recover any recyclable portions such as metals 	✓
	 Segregation and storage of different types of waste in different containers or skips to enhance reuse or recycling of materials and their proper disposal 	✓
	 Encourage collection of recyclable waste such as waste paper and aluminium cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force 	√
	 Proper site practices to minimise the potential for damage or contamination of inert C&D materials 	✓
	 Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste 	*
6.1 & 10.7.1	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.	~
6.1 & 10.7.1	Chemical Waste	

EM&A Ref.	Recommendation Measures	Implementation Stage
	■ 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
	Potential environmental impacts arising from the handling activities (including storage, collection, transportation and disposal of chemical waste) are expected to be minimal with the implementation of appropriate mitigation measures as recommended.	Obs
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 Contar	nination (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
	 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
	Stockpiling of contaminated excavated materials on site should be avoided as far as possible;	N/A
	■ The use of contaminated soil for landscaping purpose should be avoided unless pre-treatment was	

EM&A Ref.	Recommendation Measures	Implementation Stage
	carried out;	N/A
	 Vehicles containing any contaminated excavated materials should be suitably covered to reduce dust 	
	emissions and/or release of contaminated wastewater; Truck bodies and tailgates should be sealed to stop any discharge;	N/A
	 Only licensed waste haulers should be used to collect and transport contaminated material to 	N/A
	treatment/disposal site and should be equipped with tracking system to avoid fly tipping;	N/A
	 Speed control for trucks carrying contaminated materials should be exercised; 	N1/A
	Observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap	N/A
	354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and	N/A
	 Maintain records of waste generation and disposal quantities and disposal arrangements. 	
		N/A
Ecological li	mpact (Construction)	
	No mitigation measure is required.	
Landscape a	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
Table 9.1 & 10.8 (CM3)	Buffer trees for screening purposes to soften the hard architectural and engineering structures and facilities.	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
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
Table 9.1 &	Sensitive streetscape design should be incorporated along all new roads and streets.	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage
10.8 (CM6)		
Table 9.1 & 10.8 (CM7)	Structure, ornamental planting shall be provided along amenity strips to enhance the landscape quality.	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
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
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
Table 9.2 & 10.9 (MCP3)	Adoption of light colour for the temporary ventilation shafts for the basement during the transition period.	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 - Not Applicable

✓ - Implemented

Obs - Observed

Rem - Reminder

M+ Museum Main Works at West Kowloon Cultural District

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



Appendix L. 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) to the end of the reporting month and are summarized in the **Table L-1** below.

Table L-1: Statistics for complaints, notifications of summons and successful prosecutions

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	1	0	0	