RAMBOLL ENVIRON

Ref.: HYDHZMBEEM00_0_5692L.17

10 August 2017

By Fax (3468 2076) and By Post

AECOM Asia Co. Ltd.
The PRE's Office
5 Ying Hei Road, Tung Chung, Lantau
Hong Kong

Attention: Mr. Malcolm Sage

Dear Sir,

Re: Agreement No. CE 48/2011 (EP)
Environmental Project Office for the
HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities, and Tuen Mun-Chek Lap Kok Link – Investigation

Contract No. HY/2014/05 – HZMB HKBCF – Remaining Ancillary Buildings and Facilities
Monthly Environmental Monitoring & Audit Report for July 2017

Reference is made to the Environmental Team's submission of Monthly Environmental Monitoring & Audit Report for July 2017 (Rev. 2) certified by the ET Leader (ET's ref.: "5140819/18.30/OC037/KC/RL" dated 10 August 2017) and provided to us via e-mail on 10 August 2017.

We are pleased to inform you that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 5.4 of the Environmental Permit No. EP-353/2009/K.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours faithfully,
For and on behalf of
Ramboll Environ Hong Kong Limited

Raymond Dai
Independent Environmental Checker

c.c.	HyD	Mr. Vico Cheung	(By Fax: 3188 6614)
	HyD	Mr. Ken Woo	(By Fax: 3188 6614)
	Atkins	Mr. Keith Chau	(By Fax: 2890 6343)
	LCWJV	Mr. Iain Hubert	(By Fax: 3621 0180)

Internal: DY, YH, ENPO Site

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Your ref.
Our ref. 5140819/18.30/OC037/KC/RL

Date: 10 August 2017

By Post and e-mail (Stephen.Tsang@lcwjv.com)

Leighton – Chun Wo Joint Venture
39/F Sun Hung Kai Centre
30 Harbour Road
Hong Kong

Attn: Mr. Stephen Tsang

Dear Mr. Tsang,

Contract No. HY/2014/05
Hong Kong – Zhuhai – Macao Bridge
Hong Kong Boundary Crossing Facilities –
Remaining Ancillary Buildings and Facilities
Certification of Monthly EM&A Report No. 17

Atkins China Limited certifies, in the capacity of Environmental Team Leader, that the Monthly EM&A Report No. 17 for July 2017 (Revision 2) conforms the requirements provided in Condition 5.4 of the Environmental Permit No. EP-353/2009/K.

Yours faithfully,
for and on behalf of
Atkins China Limited

Keith Chau
Environmental Team Leader

cc.
1. AECOM – Mr. Malcolm Sage (By Fax.: 3468 2076)
2. IEC/ENPO – Mr. Raymond Dai & Mr. Y.H. Hui (By Fax.: 3465 2899)

路政署
HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

Contract No. HY/2014/05

Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Monthly EM&A Report No. 17
(Covering the Period from 1 July 2017 to 31 July 2017)

10 August 2017

Revision 2

Main Contractor

LEIGHTON 禮頓
俊和 CHUN WO
Leighton - Chun Wo Joint Venture

Environmental Team

ATKINS

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Executive Summary

This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2014/05 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HZMB HKBCF) – Remaining Ancillary Buildings and Facilities (includes the construction works of Contract No. HY/2013/06 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Automatic Vehicle Clearance Support System and Contract No. HY/2014/04 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Gantry Type X-ray Vehicle Inspection System within Contract No. HY/2014/05 works area) (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR). Contract No. HY/2014/05 was awarded to Leighton – Chun Wo Joint Venture (construction works of Contract No. HY/2013/06 was awarded to ATAL Technologies Limited and Contract No. HY/2014/04 was awarded to Rapiscan Systems Pte Ltd within Contract No. HY/2014/05 works area) (hereafter referred to as "the Contractor") and Atkins China Limited was appointed as the Environmental Team (ET) by the Contractor.

Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area) is part of HZMB HKBCF Project which is a "Designated Project" under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap 499) and Environmental Impact Assessment (EIA) Report (Register No. AEIAR-145/2009) was prepared for the Project. The current Environmental Permit (EP) No. EP-353/2009/K for HKBCF was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. The construction works of the Contract No. HY/2014/05 commenced on 29 February 2016 while the construction works of the Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area commenced on 3 January 2017 and 13 February 2017 respectively.

Atkins China Limited has been appointed by the Contractor to implement the Environmental Monitoring & Audit (EM&A) programme for the Contract in accordance with the Updated EM&A Manual for HKBCF (Version 1.0) and will be providing environmental team services to the Contract.

This is the seventeenth monthly EM&A Report for the Contract No. HY/2014/05 which summarizes findings of the EM&A works during the reporting period from 1 to 31 July 2017 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area).

Environmental Monitoring and Audit Progress

The monthly EM&A programme was undertaken in accordance with the Updated EM&A Manual for HKBCF (Version 1.0). It should be noted that the air quality and noise monitoring works for the Contract are covered by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works and Contract No. HY/2011/03 Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF. The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 and AMS7 and noise monitoring at NMS2 and NMS3B as part of EM&A programme if these monitoring stations are no longer covered under Contract Nos. HY/2010/02 and HY/2011/03. However, this is subject to ENPO's final decision on which ET should carry out the monitoring work at these stations.

The dates of site inspection for the Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area) during the reporting period are listed below:

Environmental Site Inspection: 3, 13, 17 and 24 July 2017

Breaches of Action and Limit Levels

Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

There was no Action and Limit Level exceedance for noise recorded at NMS2 and NMS3B by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

Complaint Log

There was no complaint received in relation to the environmental impact during the reporting period.

Notifications of Summons and Successful Prosecutions

There were no notifications of summons or prosecutions received during this reporting period.

Reporting Change

There was no reporting change during the reporting period.

Future Key Issues

The future key issues to be undertaken in the upcoming month include:

For Contract No. HY/2014/05

- ABWF works (Internal Finishes) of Buildings 021, 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A2, 053, 058 and 059
- ABWF works (External Finishes) of Buildings 021, 022, 023, 025, 032, 044, 045, 050A1, 050H1, 050H2, 053, 058 and 059
- ABWF works (Roof Finishes) of Buildings 021, 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A2 and 053
- MEP installation of Buildings 021, 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A2 and 053
- Utilities and Drainage installation of Buildings 022, 023, 025, 032, 044, 045, 050H1, 050H, 050H2, 050A1, 050A2 and 053
- Installation of Lift of Buildings 023, 044, 053
- Construction of Planter Box and Ramp of Building 023
- PV Installation and Steel Canopy of Building 023
- Dog swimming pool of Building 022

For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area

- Conceal Conduit Installation at Buildings 023, 025 and 032

For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area

- Cabling Works at Buildings 058 and 059

1 Introduction

1.1 Basic Project Information

1.1.1 This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2014/05 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HZMB HKBCF) – Remaining Ancillary Buildings and Facilities (includes the construction works of Contract No. HY/2013/06 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Automatic Vehicle Clearance Support System and Contract No. HY/2014/04 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Gantry Type X-ray Vehicle Inspection System within Contract No. HY/2014/05 works area) (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR). Contract No. HY/2014/05 was awarded to Leighton – Chun Wo Joint Venture (construction works of Contract No. HY/2013/06 was awarded to ATAL Technologies Limited and Contract No. HY/2014/04 was awarded to Rapiscan Systems Pte Ltd within Contract No. HY/2014/05 works area) (hereafter referred to as "the Contractor") and Atkins China Limited was appointed as the Environmental Team (ET) by the Contractor.

1.1.2 Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area) is part of HZMB HKBCF which is a "Designated Project" under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap 499). An Environmental Impact Assessment (EIA) Report (Register No. AEIAR-145/2009) was prepared for the Project. The current Environmental Permit (EP) No. EP-353/2009/K for HKBCF was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. The construction works of the Contract No. HY/2014/05 commenced on 29 February 2016 while the construction works of the Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area commenced on 3 January 2017 and 13 February 2017 respectively. The works areas of the Contract are shown in **Appendix A**.

1.1.3 The proposed works under this Contract comprise the following:

For Contract No. HY/2014/05

(i) Construction of the following ancillary buildings and facilities including architectural and builder works, structural steel canopy, reinforced concrete frames, foundations, curtain wall facade, building services and electrical and mechanical works:

- Public Toilets at Vehicle Clearance Plaza (VCP);
- Customs and Excise Department (C&ED) Dangerous Good Store (Building 021);
- Customs Detective Dog Base Building (Building 022);
- C&ED Outbound Cargo Examination Building and Examination Platform (Building 023);
- Inbound Private Car Annexure (Building 025);
- Outbound Private Car Annexure (Building 032);
- E&M maintenance Building (Building 044);
- Highways Depot & Administration Building (Building 045);
- Outbound X-ray Building (Building 053);
- Outbound X-ray Scan Tunnel (Building 058); and
- Inbound X-ray Scan Tunnel (Building 059).

(ii) Construction of civil provisions, cable containment and power supply for the following systems:

- Automatic Vehicle Clearance Support System (AVCSS) installed by Contract No. HY/2013/06; and

- Gantry Type X-ray Vehicle Inspection System installed by Contract No. HY/2014/04.

(iii) Supply and installation of Mobile X-ray Vehicle Inspection System and other standalone equipment;

(iv) Construction of minor civil engineering works at the periphery of buildings;

(v) Construction of minor Landscape hardworks and softworks; and

(vi) Other works which are shown on Drawings or specified in the Specification or which may be ordered in accordance with the Contract.

For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area

(i) The Automatic Vehicle Clearance Support System amid to increasing traffic flow for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities;

(ii) Responsible for designs and develops a set of tailor-made computer monitoring and control systems to for daily security operation; and

(iii) The Clearance Workstations at 72 vehicle clearance kiosks, Customs and Excise's inbound and outbound traffic control centers as well as a Vehicle Tracking System.

For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area

(i) The Gantry Type X-ray Vehicle Inspection System (GXRVIS) aims to provide an integrated, innovative, efficient and effective vehicle inspection system at the inbound and outbound boundary control points of Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) for supporting the operations of Customs & Excise Department (C&ED);

(ii) Design, supply, deliver to HKBCF, installation, test and commissioning and maintenance of two sets of Gantry Type X-ray Vehicle Inspection System and all related components necessary for the complete operation of the system; and

(iii) Design, supply, install, test, commission and maintain of the Radioactive Threat Detection Systems integrated into the Gantry Type X-ray Vehicle Inspection Systems.

1.1.4 This is the seventeenth Monthly EM&A Report for the Contract No. HY/2014/05 which summarizes the findings of the EM&A programme during the reporting period from 1 to 31 July 2017. (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area).

1.2 Project Organisation

1.2.1 The project organization structure and lines of communication with respect to the on-site environmental management structure is shown in **Appendix B**. The key personnel contact names and numbers are summarized in **Table 1-1**.

Table 1-1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
For Contract No. HY/2014/05				
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Registered Architect	Malcolm Sage	3958 7330	3468 2076
Environmental Project Office / Independent Environmental Checker	Environmental Project Office Leader	Y. H. Hui	3465 2888	3465 2899

Party	Position	Name	Telephone	Fax
(Ramboll Environ Hong Kong Limited)	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
Contractor (Leighton – Chun Wo Joint Venture)	Site Agent	Albert Chan	3973 0514	3621 0180
	Environmental Officer	Stephen Tsang	3973 1806	3621 0180
Environmental Team (Atkins China Limited)	Environmental Team Leader	Keith Chau	2972 1721	2890 6343
24 hours complaint hotline	---	---	3958 7300	---
<u>For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area</u>				
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Registered Architect	Malcolm Sage	3958 7330	3468 2076
Environmental Project Office / Independent Environmental Checker (Ramboll Environ Hong Kong Limited)	Environmental Project Office Leader	Y. H. Hui	3465 2888	3465 2899
	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
Contractor (ATAL Technologies Limited)	Site Agent	Mr. Eric Yim	2565 3355	3162 5217
	Environmental Officer	Mr. W. Li	2565 3137	3162 5217
Environmental Team (Atkins China Limited)	Environmental Team Leader	Keith Chau	2972 1721	2890 6343
24 hours complaint hotline	---	---	6509 0375	---
<u>For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area</u>				
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Registered Architect	Malcolm Sage	3958 7330	3468 2076
Environmental Project Office / Independent Environmental Checker (Ramboll Environ Hong Kong Limited)	Environmental Project Office Leader	Y. H. Hui	3465 2888	3465 2899
	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
Contractor (Rapiscan Systems Pte Ltd)	Site Agent	Ringo Yau	9833 1402	2707 0816
	Environmental Officer	Clarie Tsang	6371 1362	---
Environmental Team (Atkins China Limited)	Environmental Team Leader	Keith Chau	2972 1721	2890 6343

Party	Position	Name	Telephone	Fax
24 hours complaint hotline	---	---	9833 1420	---

1.3 Construction Programme

1.3.1 A copy of the Contractor's construction programme is provided in **Appendix C**.

1.4 Construction Works Undertaken During the Reporting Period

1.4.1 A summary of the construction activities undertaken during this reporting period is shown below:

For Contract No. HY/2014/05

- Construction of RC Structure of Buildings 050A1, 050A2, 050H1 and 050H2.
- ABWF works (Internal Finishes) of Buildings 021, 022, 023, 025, 032, 044, 045, 053 and 058
- ABWF works (External Finishes) of Buildings 023, 032, 045, 053, 058 and 059
- ABWF works (Roof Finishes) of Buildings 023, 044, 050A1, 053, 058 and 059
- MEP installation of Buildings 021, 022, 023, 025, 032, 044, 045 and 053
- Utilities and Drainage installation of Buildings 021, 022, 023, 025, 032, 050A2, 050H1, 050H2, 053 and 059
- Installation of Lift of Buildings 023, 044 and 053
- PV Installation and Steel Canopy of Building 023

For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area

- Conceal Conduit Installation and Wiring at Buildings 023, 025 and 032

For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area

- Cabling Works at Buildings 058 and 059

2 Air Quality Monitoring

2.1 Monitoring Locations

2.1.1 The air quality monitoring works for the Contract are covered by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works and Contract No. HY/2011/03 Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF.

2.1.2 The ET of the Contract or another ET of the HZMB project is required to conduct air quality monitoring at AMS6 and AMS7 as part of EM&A programme if these air quality monitoring stations are no longer covered under Contract Nos. HY/2010/02 and HY/2011/03. **Figure 2.1** shows the locations of the air monitoring stations.

Table 2-1 Construction Dust Monitoring Locations

ID	Location Description
AMS 6(1)	Dragonair/CNAC (Group) Building
AMS 7(1)	Hong Kong SkyCity Marriott Hotel

Remark:
(1) The ET of this Contract should conduct impact air quality monitoring at the AMS listed in the table as part of EM&A programme according to the latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project.

2.2 Monitoring Requirements

2.2.1 The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology, monitoring schedule, meteorological information are detailed in the monthly EM&A Reports prepared for Contract Nos. HY/2010/02 and HY/2011/03.

2.2.2 The Action and Limit Levels for 1-hr TSP and 24-hr TSP are provided in **Table 2-2** and **Table 2-3**, respectively.

Table 2-2 Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level, µg/m³	Limit Level, µg/m³
AMS 6 – Dragonair / CNAC (Group) Building (HKIA)	360	500
AMS 7 - Hong Kong SkyCity Marriott Hotel	370	

Table 2-3 Action and Limit Levels for 24-hour TSP

Monitoring Station	Action Level, µg/m³	Limit Level, µg/m³
AMS 6 – Dragonair / CNAC (Group) Building (HKIA)	173	260
AMS 7 - Hong Kong SkyCity Marriott Hotel	183	

2.2.3 The event and action plan is provided in **Appendix D**.

2.2.4 If exceedance(s) at these station(s) is/are recorded by the ET of the Contract or referred by the other ET under the HZMB project to the Contract, the ET of the Contract will carry out an investigation and findings will be reported in the monthly EM&A Report.

2.3 Monitoring Results

2.3.1 The monitoring results for AMS6 and AMS7 are reported in the monthly EM&A Reports prepared for Contract Nos. HY/2011/03 and HY/2010/02, respectively.

2.3.2 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A Report prepared by Contract No. HY/2011/03.

2.3.3 There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7 recorded by the ET of Contract No. HY/2010/02 during the reporting period.

3 Noise Monitoring

3.1 Monitoring Locations

3.1.1 The noise monitoring works for the Contract are covered by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. The ET of the Contract or another ET of the HZMB project is required to conduct impact noise monitoring at NMS2 and NMS3B as part of EM&A programme if these noise monitoring stations are no longer covered under Contract No. HY/2010/02. **Figure 3.1** shows the locations of noise monitoring stations.

Table 3-1 Construction Noise Monitoring Locations

ID	Location Description
NMS2(1)	Seaview Crescent
NMS3B(1)(2)	Site Boundary of Site Office Area at Works Area WA2

Remarks:
(1) The ET of this Contract should conduct impact noise monitoring at the NMS listed in the table as part of EM&A programme according to the latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project.
(2) The Action and Limit Levels for schools will be applied for this alternative monitoring location.

3.2 Monitoring Requirements

3.2.1 The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology and monitoring schedule are detailed in the monthly EM&A Reports prepared for Contract Nos. HY/2010/02.

3.2.2 The Action and Limit Levels for construction noise are defined in **Table 3-2**.

Table 3-2 Action and Limit Level for Construction Noise

Parameter	Action Level	Limit Level
07:00 – 19:00 hours on normal weekdays	When one documented complaint is received	75 dB(A)*

Notes :
If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.
* Limit level is 70 dB(A) for schools and 65 dB(A) during school examination period.

3.2.3 The event and action plan is provided in **Appendix D**.

3.2.4 If exceedance(s) at these station(s) is/are recorded by the ET of the Contract or referred by the other ET under the HZMB project to the Contract, the ET of the Contract will carry out an investigation and findings will be reported in the monthly EM&A Report.

3.3 Monitoring Results

3.3.1 The monitoring results for NMS2 and NMS3B are reported in the monthly EM&A Reports prepared for Contract No. HY/2010/02. No noise exceedances were recorded at stations NMS2 and NMS3B by the ET of Contract No. HY/2010/02 during the reporting period.

4 Environmental Site Inspection and Audit

4.1 Site Inspection

4.1.1 Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area). During the reporting period, site inspections were carried out on 3, 13, 17 and 24 July 2017.

4.1.2 Particular observations for Contract No. HY/2014/05 and Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area during the site inspections and corrective actions undertaken by the Contractor are described in **Tables 4-1, 4-2 and 4-3**.

Table 4-1 Summary of Environmental Site Inspections for Contract No. HY/2014/05

Date of Audit	Observations	Actions Taken by Contractor / Recommendation	Date of Observations Closed
3 July 2017	1. No proper chemical labels and tray drips were provided for the chemical containers at Building 058.	1. The chemical containers at Building 058 were removed.	13 July 2017
13 July 2017	1. A stock of more than 20 bags of cement was not covered properly. 2. General refuses were observed on the ground between Buildings 022 and 058. 3. Stagnant water was accumulated at Building 023.	1. A stock of more than 20 bags of cement at Building 022 was removed. 2. General refuses on the ground between Buildings 022 and 058 were cleared. 3. Stagnant water accumulated at Building 023 was cleared.	17 July 2017
17 July 2017	1. A stock of more than 20 bags of cement was not covered properly at Building 044. 2. General refuses and empty cement bags were observed in the stagnant pool at Building 032. 3. No drip tray was provided for the chemical containers at Building 044.	1. A stock of more than 20 bags of cement at Building 044 was covered entirely. 2. General refuses and empty cement bags in the stagnant pool at Building 032 were cleared. 3. The chemical containers at Building 044 were removed.	24 July 2017
24 July 2017	1. A stock of more than 20 bags of cement outside Building 023 was not covered properly. 2. A stock of more than 20 bags of cement at Building 023 was not covered by impervious sheeting or place in an area sheltered on the top and 3 sides.	1. The Contractor was reminded to provide cover to cement bags outside Building 023. 2. The Contractor was reminded to provide cover to cement bags at Building 023.	Follow-up action undertaken by the Contractor will be inspected during the site inspection to be undertaken in August 2017.

Table 4-2 Summary of Environmental Site Inspections for Contract No. HY/2013/06 within Contract No. HY/2014/05 works area

Date of Audit	Observations	Actions Taken by Contractor / Recommendation	Date of Observations Closed
3 July 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
13 July 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
17 July 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
24 July 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.

Table 4-3 Summary of Environmental Site Inspections for Contract No. HY/2014/04 within Contract No. HY/2014/05 works area

Date of Audit	Observations	Actions Taken by Contractor / Recommendation	Date of Observations Closed
3 July 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
13 July 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
17 July 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
24 July 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.

4.1.1 The Contractor has rectified all observations as identified during environmental site inspections within this reporting month.

4.2 Advice on the Solid and Liquid Waste Management Status

4.2.1 The Contractor of Contract No. HY/2014/05 registered as a chemical waste producer. Sufficient numbers of receptacles were available for general refuse collection and sorting.

4.2.2 The Contractor of Contract No. HY/2014/05 was reminded that chemical waste should be properly treated and stored temporarily in designated chemical waste storage areas on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

4.2.3 The monthly summary of waste flow table for Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area) are detailed in **Appendix E**.

4.3 Environmental Licenses and Permits

4.3.1 The valid environmental licenses and permits for Contract No. HY/2014/05 during the reporting period (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area) are summarized in **Appendix F**.

4.3.2 The Contractors of Contract No. HY/2013/06 and Contract No. HY/2014/04 were advised to register as a chemical waste producer when chemical waste will be expected to generate for the foreseeable future from the operations (For Registration as Waste Producer Pursuant to Waste Disposal (Chemical Waste) (General) Regulation).

4.4 Implementation Status of Environmental Mitigation Measures

4.4.1 In response to the site audit findings, the Contractors carried out corrective actions.

4.4.2 The Contractor conducts watering on all exposed soil within the Contract site and associated works areas 8 times per day when construction activities are being undertaken.

4.4.3 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in **Appendix G**. Most of the necessary mitigation measures were implemented properly.

4.5 Summary of Exceedance of the Environmental Quality Performance Limit

4.5.1 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.

4.5.2 There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

4.5.3 There was no Action and Limit Level exceedance for noise recorded at NMS2 and NMS3B by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

4.6 Summary of Complaints, Notification of Summons and Successful Prosecution

4.6.1 There was no complaint received in relation to the environmental impact during the reporting period. The details of cumulative statistics of Environmental Complaints are provided in **Appendix H**.

4.6.2 Statistics on environmental complaints, notifications of summons and successful prosecutions are summarized in **Appendix H**.

5 Future Key Issues

5.1 Construction Programme for the Coming Months

5.1.1 As informed by the Contractor, the major construction activities for August 2017 are summarized in **Table 5-1**.

Table 5-1 Construction Activities for August 2017

Site Area	Description of Activities
For Contract No. HY/2014/05	
Buildings 021, 022, 023, 025, 032, 044, 045, 050A2, 050H1, 050H2, 053, 058 and 059	ABWF works (Internal Finishes)
Buildings 021, 022, 023, 025, 032, 044, 045, 050A1, 050H1, 050H2, 050A1, 053, 058 and 059	ABWF works (External Finishes)
Buildings 021, 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A1, 050A2, 053, 058 and 059	ABWF works (Roof Finishes)
Buildings 021, 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A2 and 053	MEP installation
Buildings 022, 023, 025, 032, 044, 045, 050A1, 050A2, 050H1, 050H2 and 053	Utilities and Drainage installation
Building 023	Construction of Planter Box and Ramp
Building 023	PV Installation and Steel Canopy
Buildings 023, 044 and 053	Installation of Lift of Building
Building 022	Dog swimming pool of Building
For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area	
Buildings 023, 025 and 032	Conceal Conduit Installation
For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area	
Buildings 058 and 059	Cabling Works

5.2 Environmental Site Inspection Schedule for the Coming Month

5.2.1 The tentative schedule for weekly site inspections for August 2017 is provided in **Appendix I**.

6 Conclusions

6.1 Conclusions

6.1.1 The construction works of the Contract No. HY/2014/05 commenced on 29 February 2016. while the construction works of the Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area commenced on 3 January 2017 and 13 February 2017 respectively. The seventeenth Monthly EM&A Report for Contract No. HY/2014/05 summarizes findings of the EM&A works during the reporting period from 1 to 31 July 2017 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area).

6.1.2 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A Report prepared by Contract No. HY/2011/03.

6.1.3 There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

6.1.4 There was no Action and Limit Level exceedance for noise recorded at NMS2 and NMS3B by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

6.1.5 Environmental site inspections were carried out on 3, 13, 17 and 24 July 2017 for the Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area). Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site inspections.

6.1.6 There was no complaint received in relation to the environmental impact during the reporting period.

6.1.7 No notification of summons and successful prosecution was received during the reporting period.

FIGURES

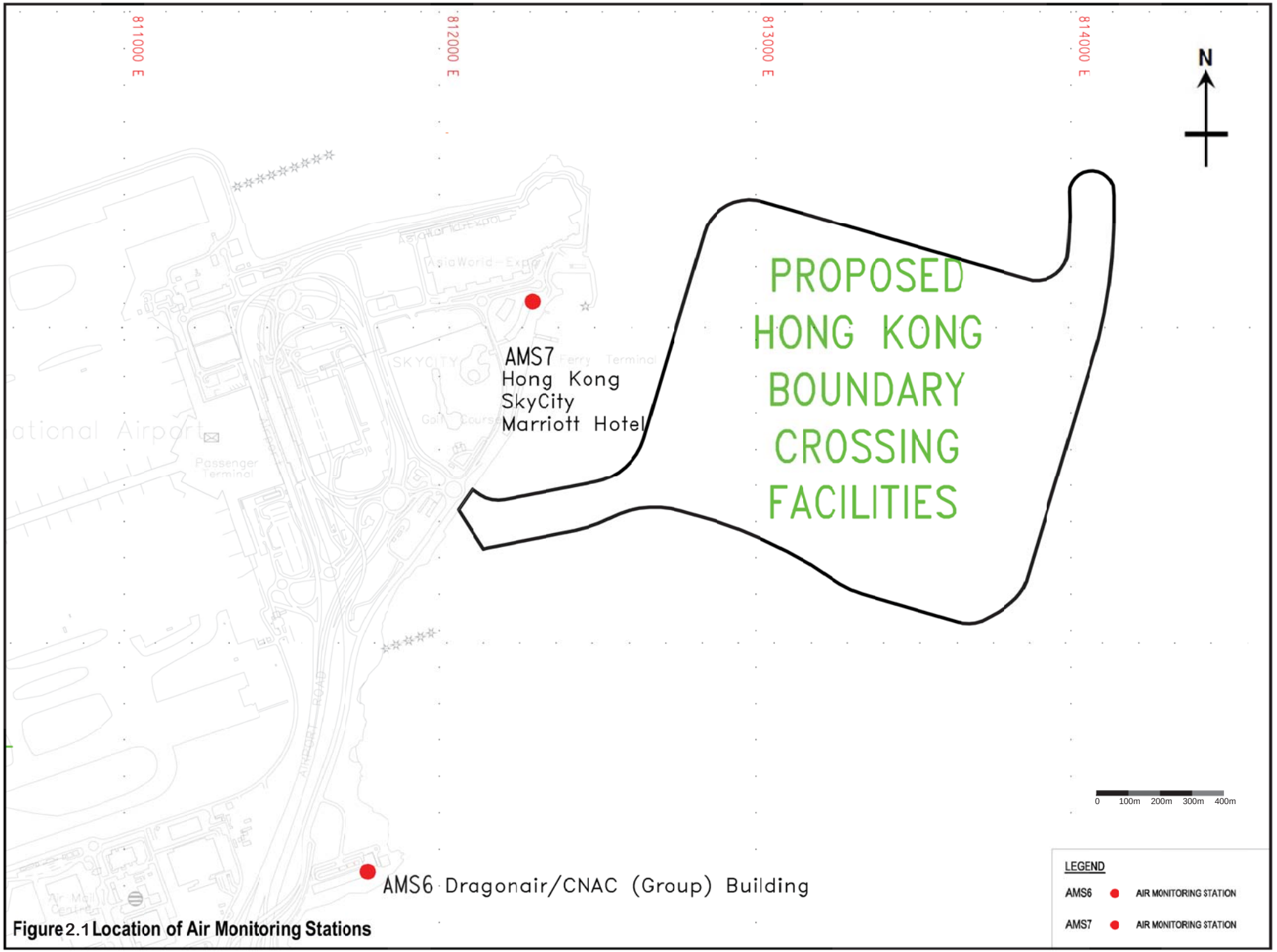


Figure 2.1 Location of Air Monitoring Stations

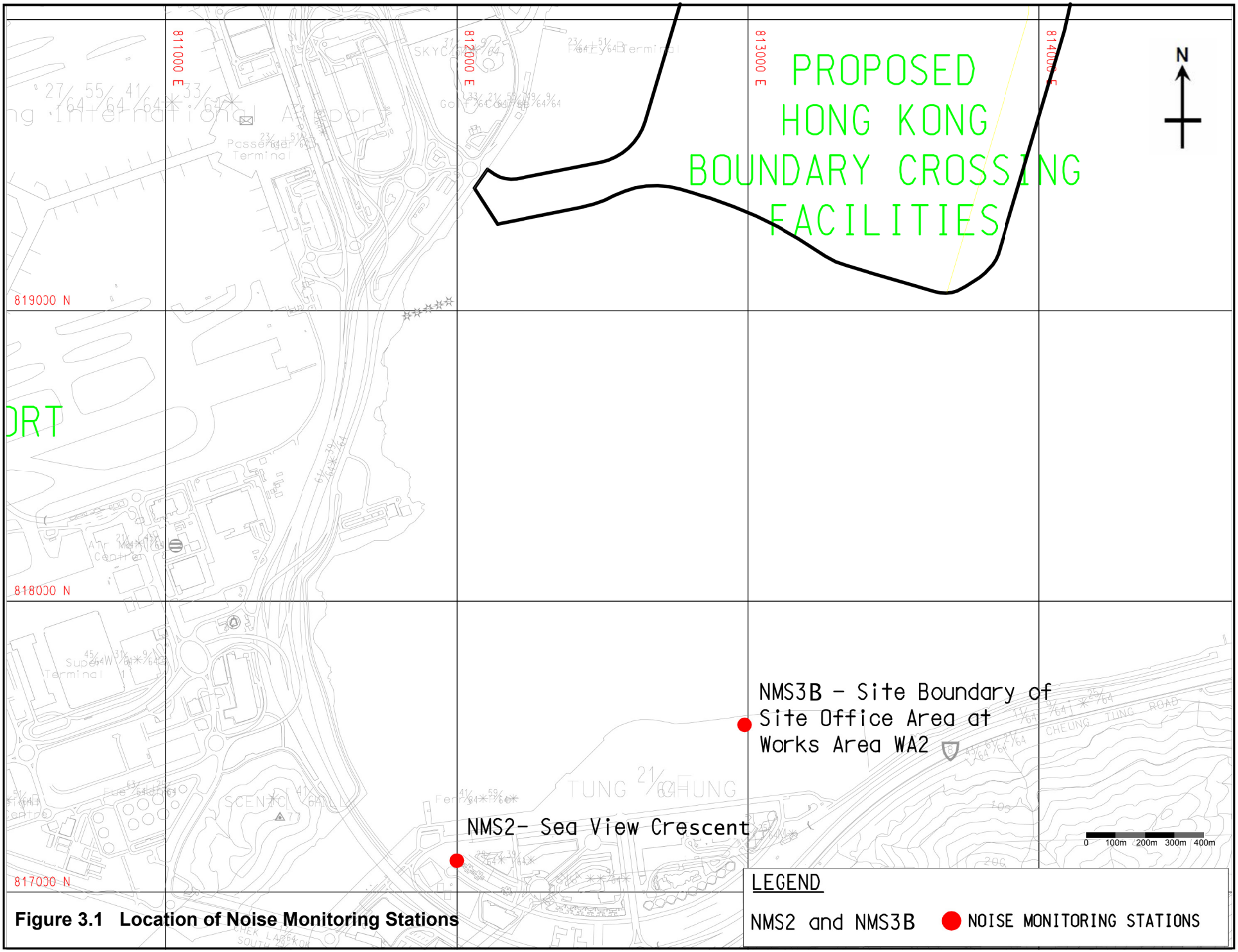
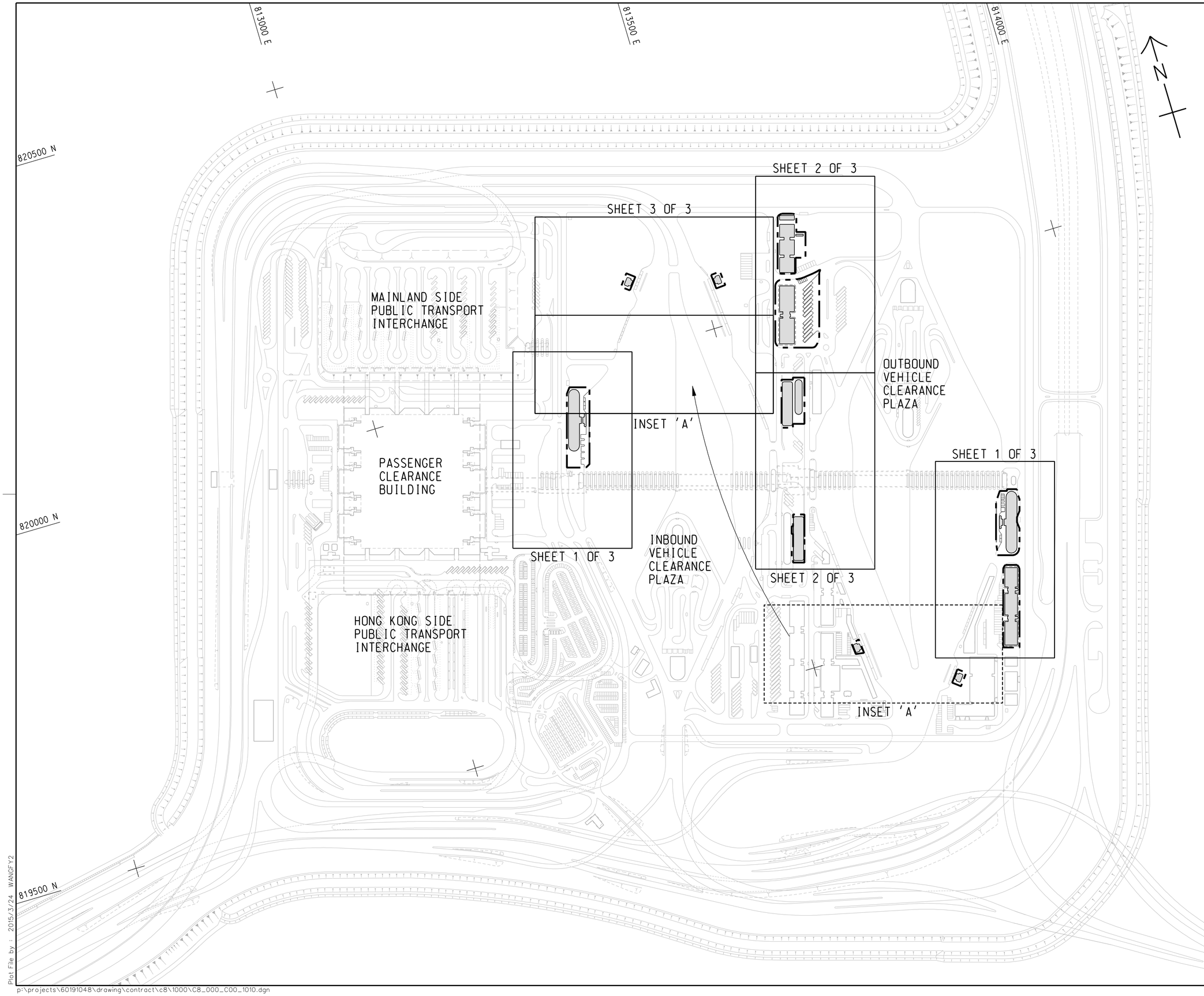


Figure 3.1 Location of Noise Monitoring Stations

APPENDIX A

Location of Works Areas



REV. 修訂	DESCRIPTION 內容摘要	D.G.	P.I. CHECKED 審核	DATE 日期
-	TENDER DRAWING	BWCW	SCI	MAR.15

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HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- REMAINING ANCILLARY BUILDINGS AND FACILITIES

KEY PLAN

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

DRG.NO. 圖紙編號 60191048/C8/000/C00/1010

DESIGNED BY 設計 BWCW	CONTRACT NO. 合約編號 HY/2014/05	P. Dir. APPROVED 批准人 TKH	
DRAWN BY 繪圖 WSY	STATUS 階段		
SCALE 比例 A1 1 : 2500			
DIMENSIONS ARE IN 尺寸單位 METRES	© COPYRIGHT RESERVED 版 權 所 有		

Plot File by : 2015/3/24 WANGFY2

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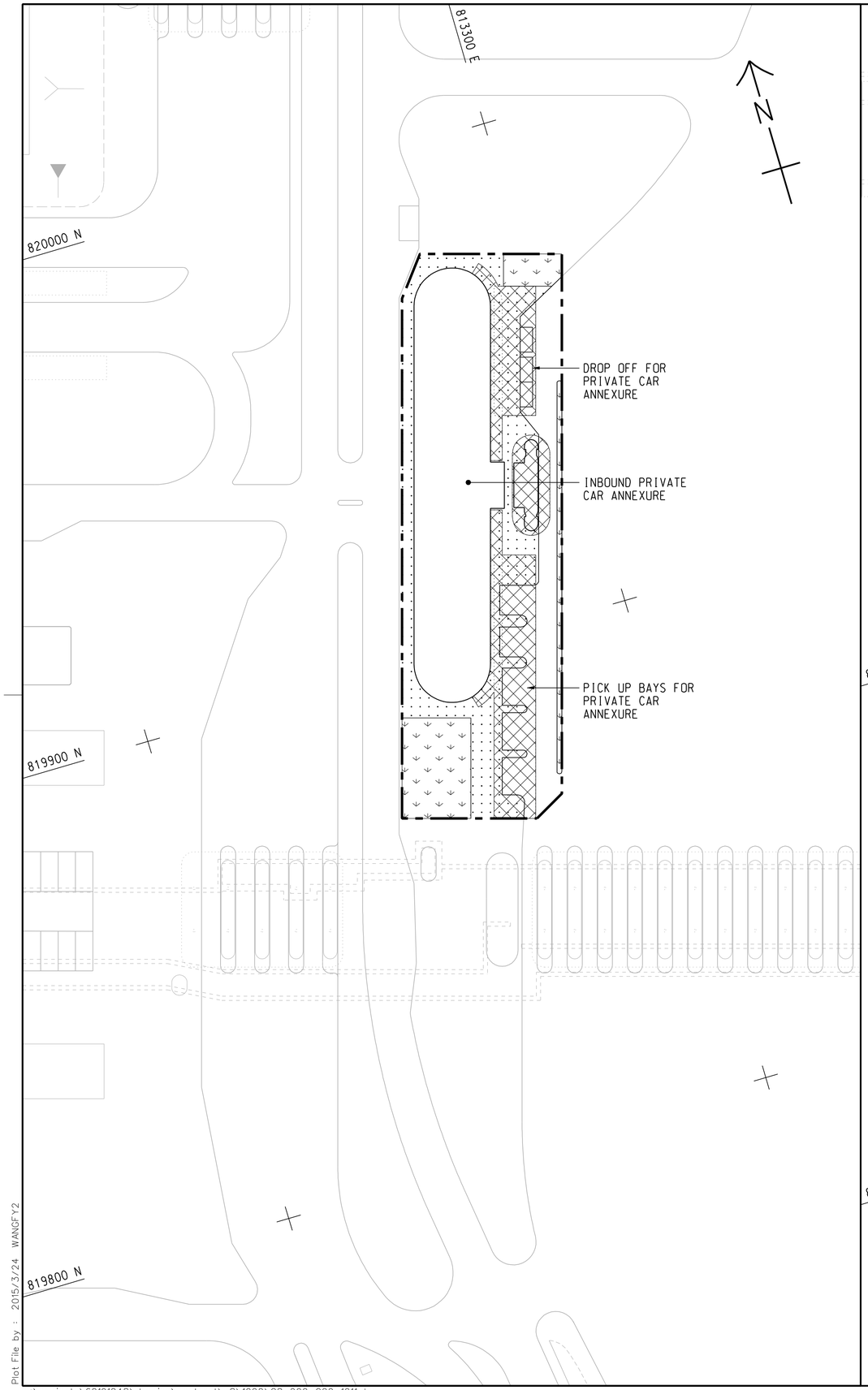

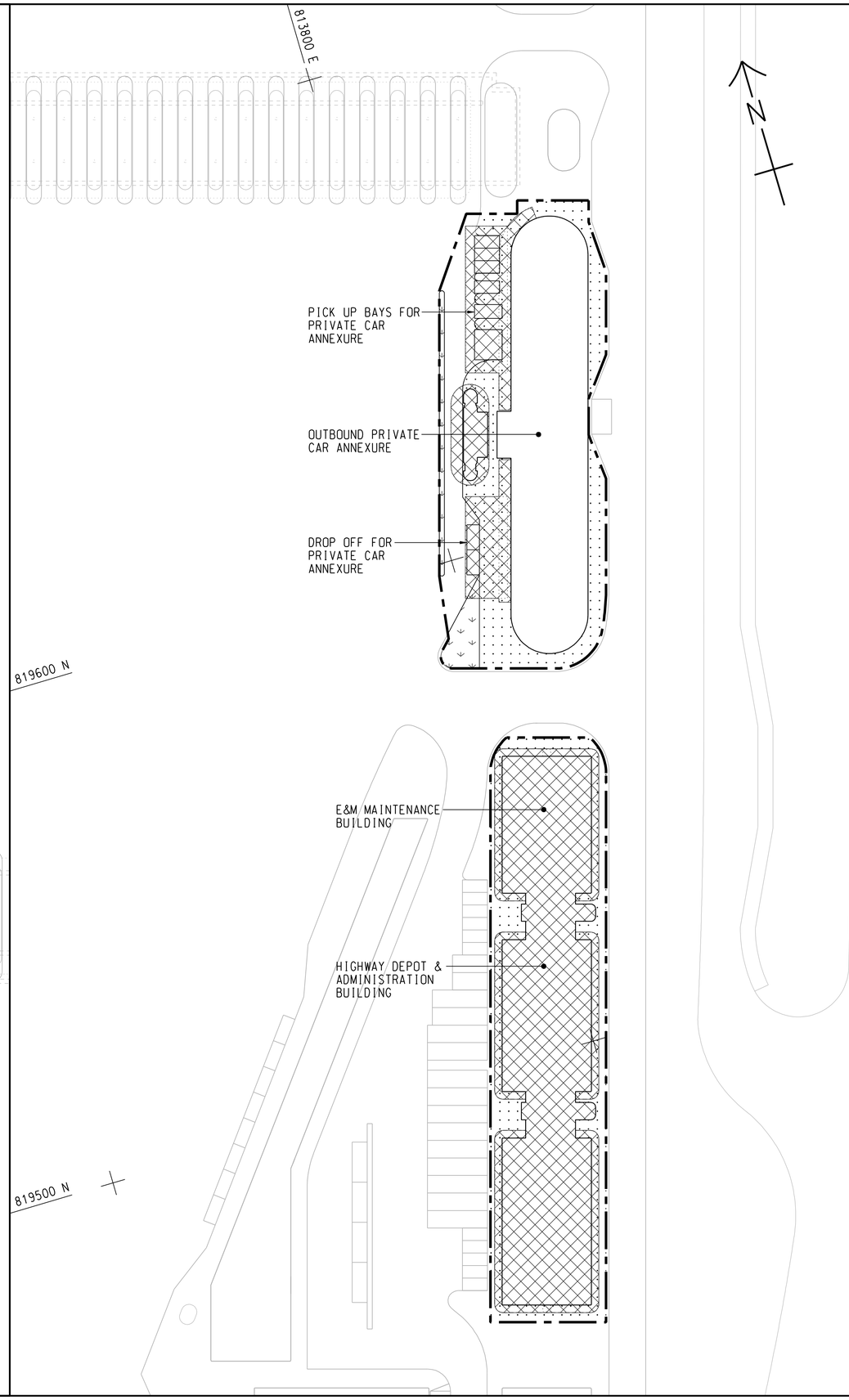

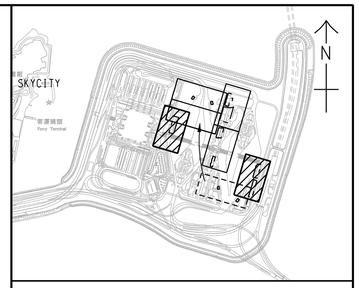

KEY PLAN
SCALE 1 : 20000

NOTE:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60191048/C8/000/C00/1012 AND 1013.

LEGEND:

- SITE BOUNDARY
- FOOTPATH (DETAILS REFER TO LANDSCAPE DETAIL DRAWINGS)
- CANOPY
- PLANTING AREA

REV. 修訂	DESCRIPTION 內容摘要	B.C.	P.C. CHECKED 覆核	DATE 日期
-	TENDER DRAWING	BWCW	SCT	MAR.15

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HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- REMAINING ANCILLARY BUILDINGS AND FACILITIES

GENERAL LAYOUT PLAN

SHEET 1 OF 3

AECOM
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DRG.NO. 圖紙編號 60191048/C8/000/C00/1011

DESIGNED BY 設計	BWCW	CONTRACT NO. 合約編號	HY/2014/05
DRAWN BY 繪圖	WSY	P. Dir. APPROVED 批准人	TKH
SCALE 比例	A1 1 : 500	STATUS 階段	
DIMENSIONS ARE IN 尺寸單位	METRES		

Plot File by : 2015/3/24 WANGFY2

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813700 E

819900 N

820100 N

C&ED DANGEROUS GOOD STORE

DOG SWIMMING POOL & OUTDOOR AREA

CUSTOMS DETECTIVE DOG BASE BUILDING

820000 N

C&ED OUTBOUND CARGO EXAMINATION BUILDING AND EXAMINATION PLATFORM

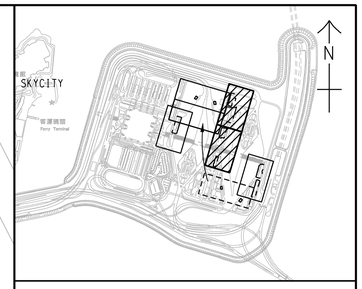
819800 N

819700 N

OUTBOUND X-RAY BUILDING

OUTBOUND X-RAY SCAN BUILDING

INBOUND X-RAY SCAN BUILDING



KEY PLAN

SCALE 1 : 20000

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60191048/C8/000/C00/1011.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60191048/C8/000/C00/1011 AND 1013.

REV. 修訂	DESCRIPTION 內容摘要	D.E.	P.E. CHECKED 查核	DATE 日期
-	TENDER DRAWING	BWCW	SCI	MAR.15

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HONG KONG BOUNDARY CROSSING FACILITIES
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GENERAL LAYOUT PLAN

SHEET 2 OF 3

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DRG.NO. 圖紙編號 60191048/C8/000/C00/1012

DESIGNED BY 設計	BWCW	CONTRACT NO. 合約編號	HY/2014/05
DRAWN BY 繪圖	WSY	P. Dir. APPROVED 批准人	TKH
SCALE 比例	A1 1 : 500	STATUS 狀態	
DIMENSIONS ARE IN 尺寸單位	METRES		

Plot File by : 2015/3/24 WANGFY2

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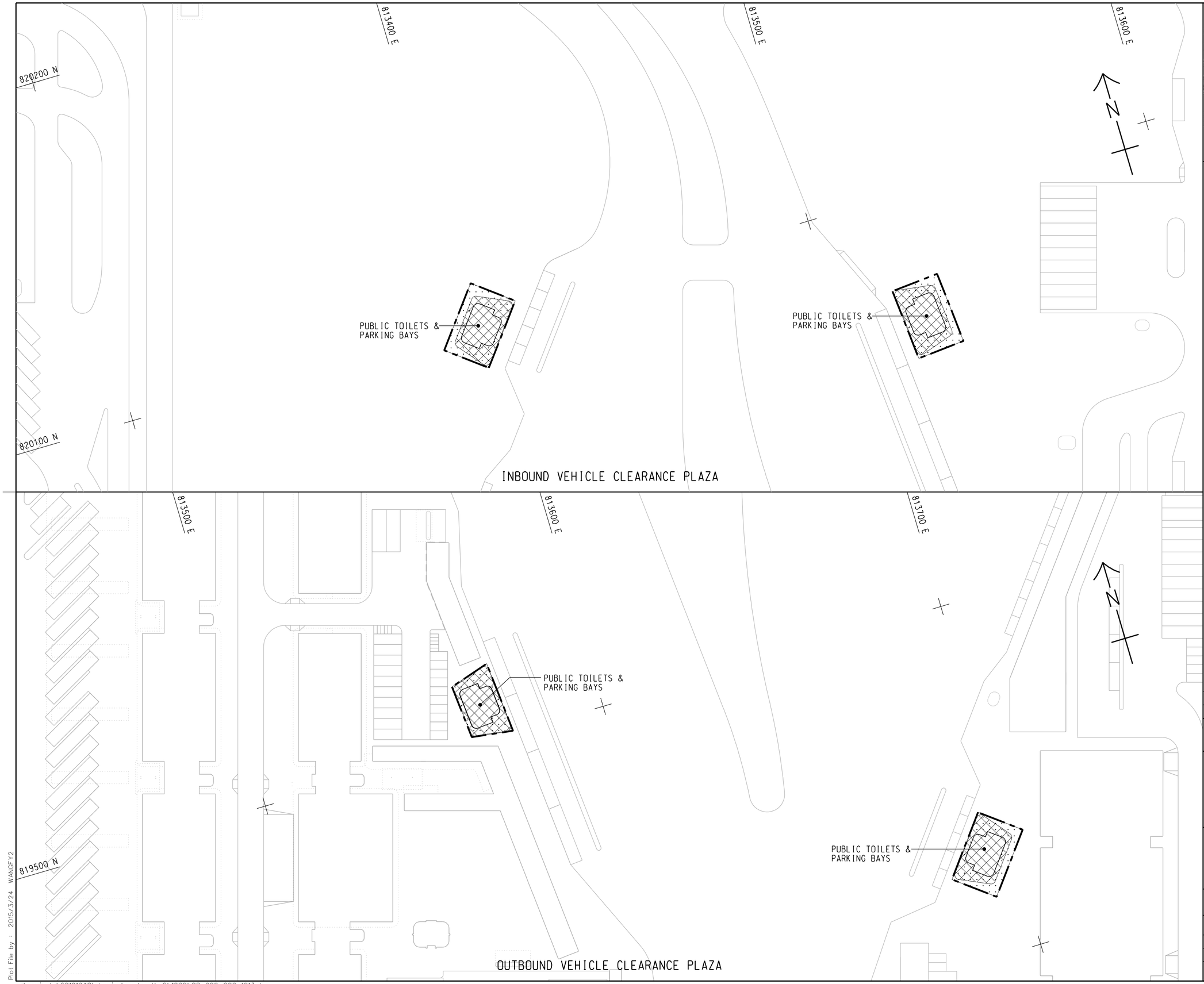

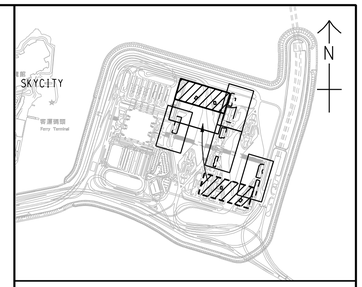

KEY PLAN
SCALE 1 : 20000

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60191048/C8/000/C00/1011.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60191048/C8/000/C00/1011 AND 1012.

REV. 修訂	DESCRIPTION 內容摘要	D.C.	P.C. CHECKED 審核	DATE 日期
-	TENDER DRAWING	BWCW	SCI	MAR.15

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GENERAL LAYOUT PLAN

SHEET 3 OF 3

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DRG.NO. 圖紙編號 60191048/C8/000/C00/1013

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DRAWN BY 繪圖	WSY	STATUS 階段			
SCALE 比例	A1 1 : 500				
DIMENSIONS ARE IN 尺寸單位	METRES				

Plot File by : 2015/3/24 WANGFY2

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SETTING OUT POINT		
POINT	EASTING	NORTHING
301	817467.265	819162.683
302	817314.741	819069.828
303	817327.338	819049.295
304	817440.865	819117.811
305	817340.825	819027.314
306	817387.350	819023.403
307	817387.861	819043.396
308	817466.133	819091.047
309	817469.783	819087.181
310	817513.449	819113.764
311	817347.717	819016.082
312	817450.595	819032.307
313	817445.369	819013.157
314	817531.154	819001.065
315	817533.345	818991.306
316	817620.269	819000.620
317	817495.827	819059.596
318	817522.110	819075.388
319	817566.404	819028.472
320	817568.507	819008.526
321	817569.551	818998.621

817200 E

817400 E

817600 E

819200 N

819000 N

NORTH LANTAU HIGHWAY

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2011/03

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2011/09

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2013/02

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2013/01

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2013/03

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2014/05

10m WIDE COMMON ACCESS TO BE MAINTAINED BY CONTRACT NO. HY/2010/02

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2010/02

10m WIDE COMMON ACCESS TO BE CONSTRUCTED AND INITIALLY MAINTAINED BY CONTRACT NO. HY/2013/01. UPON COMMENCEMENT OF CONTRACT NO. HY/2013/03. THE MAINTENANCE RESPONSIBILITY SHALL BE TRANSFERRED FROM CONTRACT NO. HY/2013/01 TO CONTRACT NO. HY/2013/03.

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2013/04

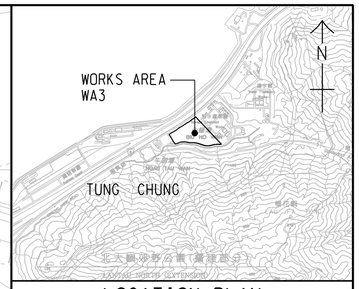
10m WIDE ACCESS TO BE CONSTRUCTED AND INITIALLY MAINTAINED BY CONTRACT NO. HY/2013/01. UPON COMMENCEMENT OF CONTRACT No. HY/2013/03, THE MAINTENANCE RESPONSIBILITY SHALL BE TRANSFERRED FROM CONTRACT No. HY/2013/01 TO CONTRACT No. HY/2013/03.

10m WIDE ACCESS TO BE CONSTRUCTED AND MAINTAINED BY CONTRACT No. HY/2013/03.

301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321

小濠灣污水處理廠 Siu Ho Wan Sewage Treatment Works

N



LOCATION PLAN
SCALE 1 : 25000

NOTES:

1. COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
2. DIMENSIONS ARE IN MILLIMETER AND CHAINAGE ARE IN METRES UNLESS OTHERWISE SHOWN.

LEGEND:

- WORKS AREA BOUNDARY
- PORTION 3.1
- PORTION 3.2
- PORTION 3.3
- PORTION 3.4
- PORTION 3.5
- PORTION 3.6
- PORTION 3.7
- PORTION 3.8
- PORTION 3.9
- PORTION 3.10
- NON-BUILDING AREA 8200m² (WHOLE)

REV. 修訂	DESCRIPTION 內容摘要	D.E. P.E. CHECKED 查核	DATE 日期
-	TENDER DRAWING	BWCW SCI	MAR.15

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- REMAINING ANCILLARY BUILDINGS AND FACILITIES

WORKS AREA WA3

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DRG.NO. 圖紙編號 60191048/C8/000/C00/1051

DESIGNED BY 設計 BWCW	CONTRACT NO. 合約編號 HY/2014/05	P. Dir. APPROVED 批准人 TKH
DRAWN BY 繪圖 WSY	STATUS 階段	
SCALE 比例 A1 1 : 1000		
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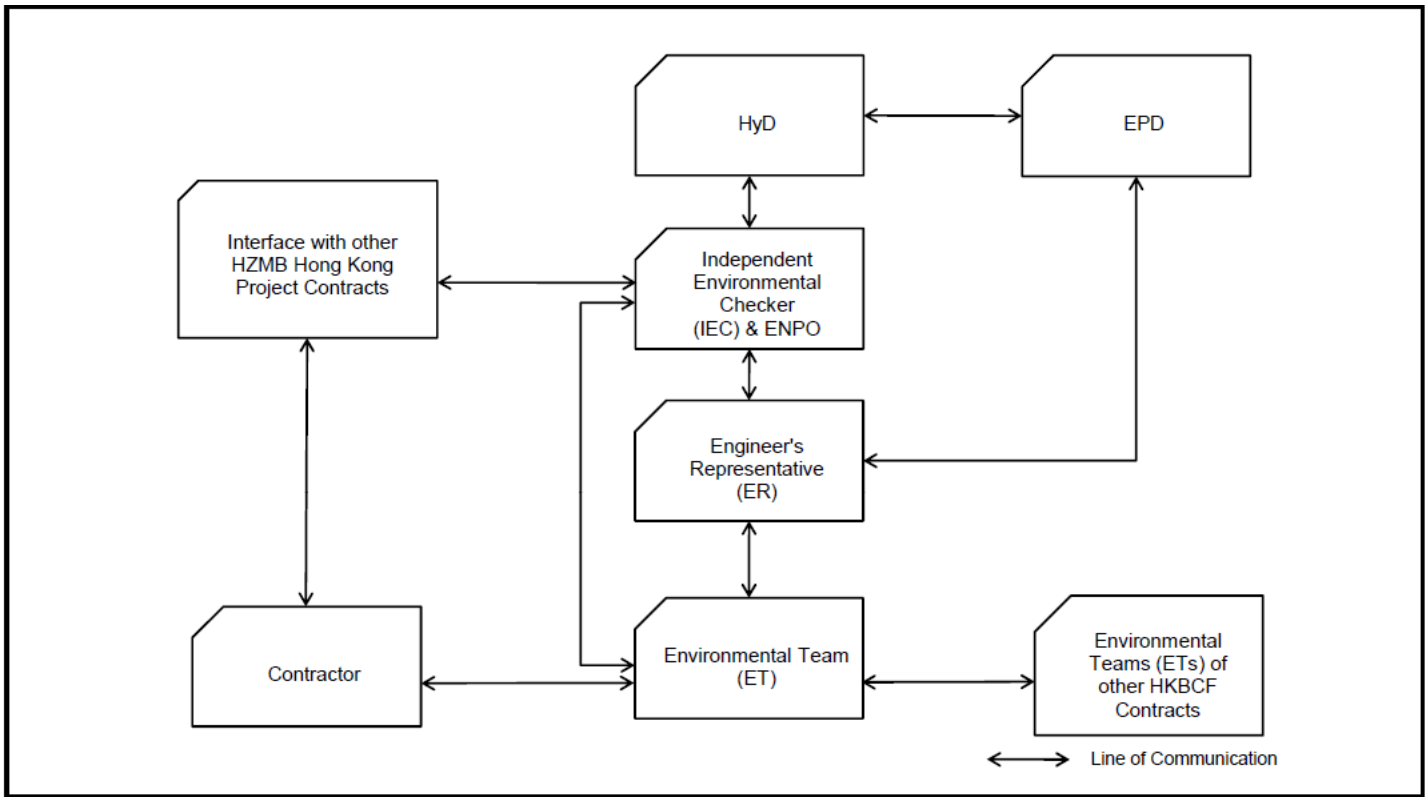
APPENDIX B

Project Organization for Environmental Works

Project Organisation for Environmental Works

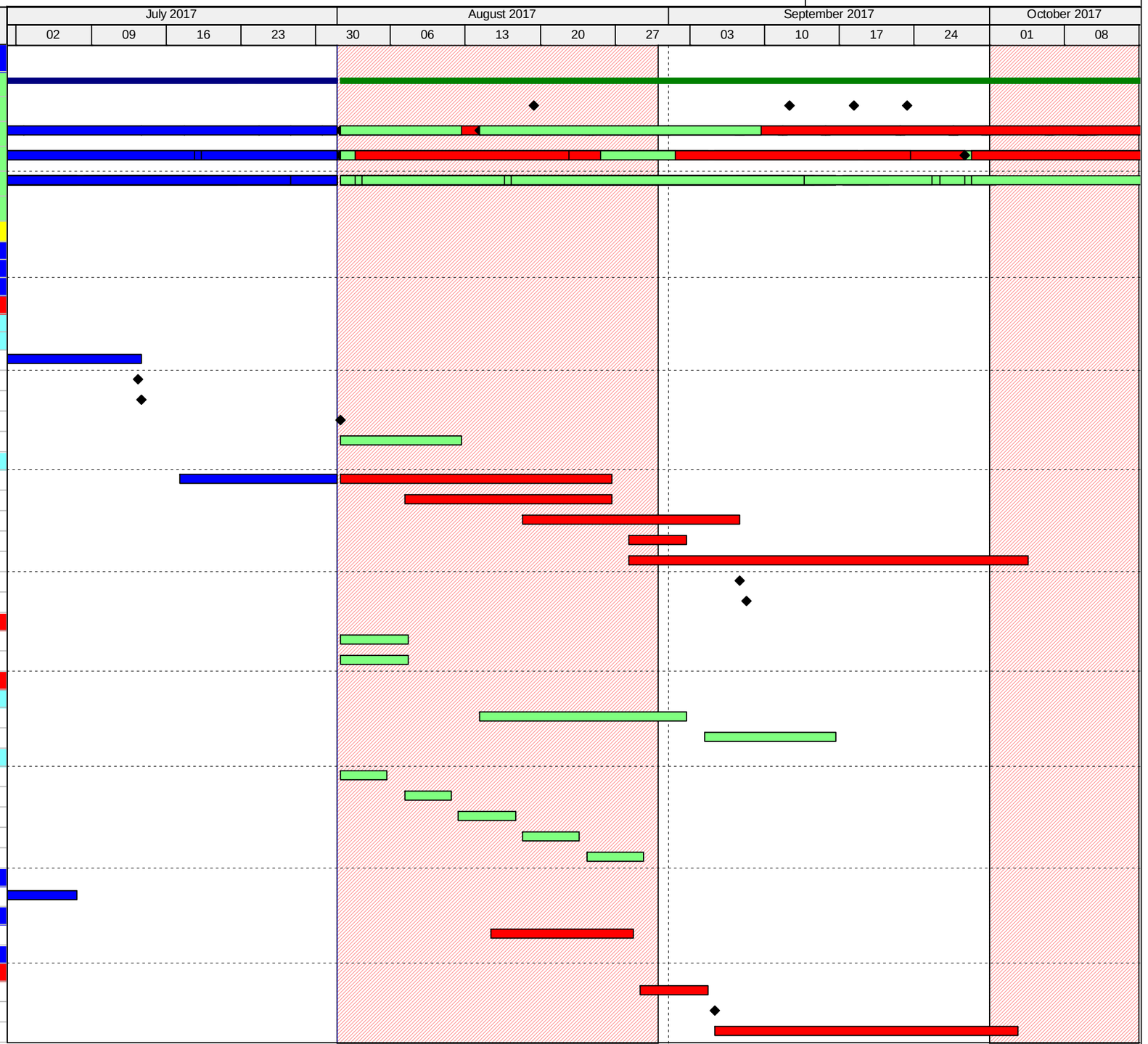


APPENDIX C

Construction Programme

Contract No. HY/2014/05 - Remaining Ancillary Building and Facilities

Activity ID	Activity Name
RAB6- Target Basement Programme Statused 01 June 2017	
PROGRAMME SUMMARY	
Fire Service Inspection Schedule Summary	
GENERAL/PRELIMINARIES	
DESIGN AND ENGINEERING	
PROCUREMENT, MANUFACTURING & DELIVERIES	
CONSTRUCTION	
Building 021 - C&ED Dangerous Goods Store	
Raft	
Structure	
ABWF/E&M	
Internal Finishes	
Degree 1	
Degree 2	
RAB-21-0290	021 - E&M 2nd Fix
RAB-21-0420	021 - Access to C3 for Equipment Installation
RAB-KD4B10	KD4B - Projected achievement of Stage 4B of the Works
RAB-21-0410	021 - Power On
RAB-21-0450	021 - Louver & Door Frame
Degree 3	
RAB-21-0330	021 - MEP Final Fix
RAB-21-0460	021 - Floor Painting
RAB-21-0340	021 - Snagging and Remedials (Bldg. Internal)
RAB-21-0430	021 - Door Panel & Ironmongery
RAB-21-0520	021 - MEP Balance of Works
RAB-21-0345	KD4C - Projected achievement of Stage 4C of the Works
RAB-KD4C10	021 - End Users and MoM handover inspection
Roof Finishes	
RAB-21-0270	021 - Install Railing 50m
RAB-21-0280	021 - Install Cat Ladder and Roof Hatch
External Finishes	
Facade	
RAB-21-0190	021 - Install External Louvers /Windows/Doors
RAB-21-0320	021 - Snagging and Remedials (External)
At Grade	
RAB-21-380	021 - Prepare Sub Grade
RAB-21-370	021 - Laying Geo Textile
RAB-21-390	021 - Lay Granular Sub-Base
RAB-21-400	021 - Laying Course
RAB-21-360	021 - Concrete Block Paving
Utilities and Drainage	
RAB-21-7300	021 - Utiltites and Common Telecom Ducting
Testing & Commissioning	
RAB-TC21-1000	021 - T&C (HVAC, FS, P&D, OTHERS)
Statutory Submissions & Approvals (Day 670 Completion)	
BBEO	
RAB-BEE-0100	021 - Registered Energy Assessor Inspection & Certification
RAB-BEE-0110	021 - Submit REA Certification to EDMS
RAB-BEE-0120	021 - EDMS Issue of Cert of Compliance Registration (COCR)



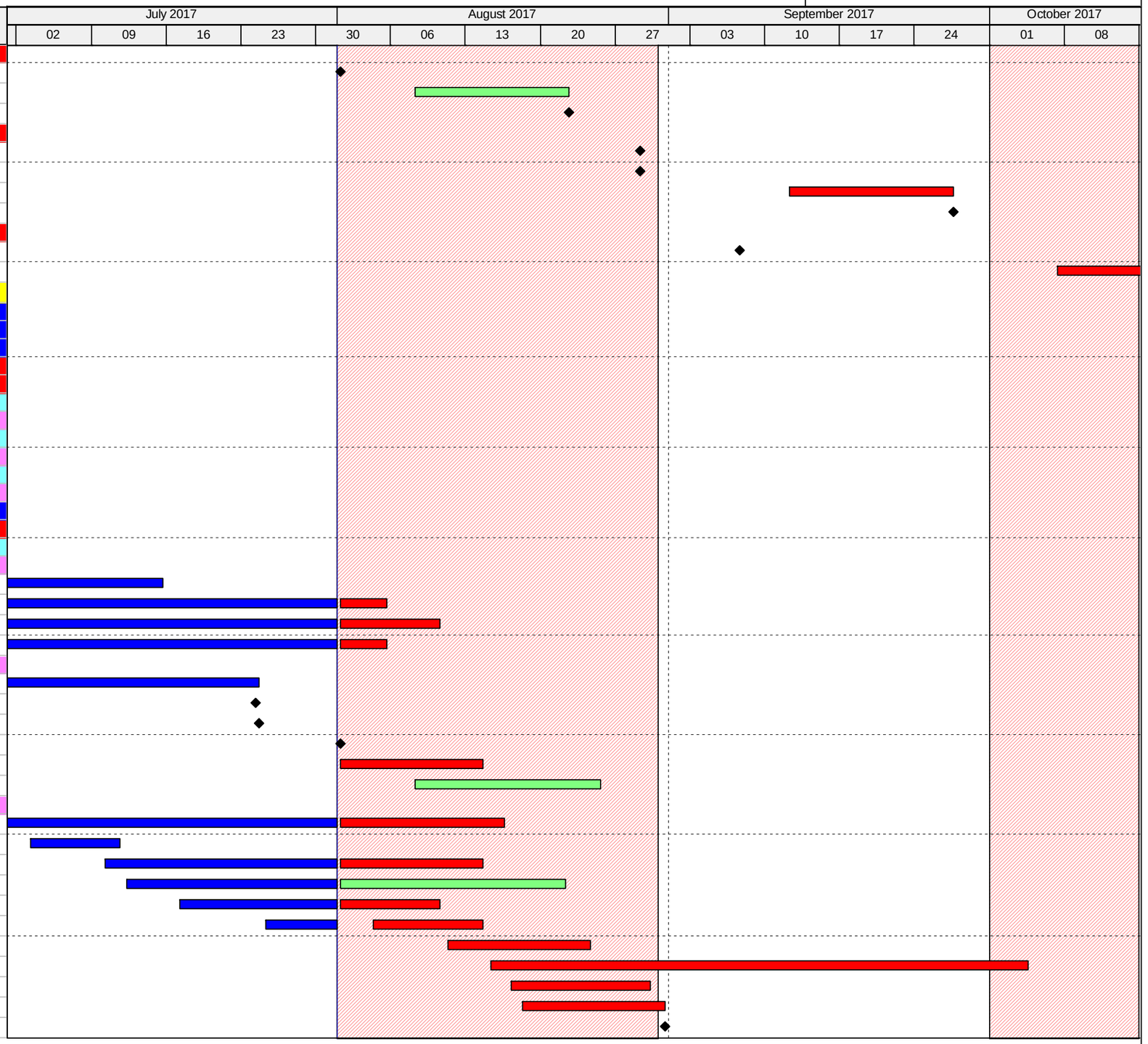
Remaining Level of Effort | Actual Work | Critical Remaining ...
Actual Level of Effort | Remaining Work | Finish Constraint

3-Month Rolling Programme Update, 01 Aug. 2017

RAB6

Date	Revision	Checked	Approved
01-Aug-17	3-Month Rolling Programme, 01 Aug-17 Update	SGJ	

Activity ID	Activity Name
	Dangerous Goods Licence
RAB-21-0300	021 - Submit License Applications
RAB-21-0350	021 - DG Licence Inspection & Processing
RAB-21-0360	021 - Issue DG Licence
	Fire Servives Department (VAC)
RAB-FSD-810	021 - Submit Form 314 to FSD
RAB-FSD-820	021 - Submit Form 501 to FSD
RAB-FSD-300	021 - FSD Inspection Period
RAB-FSD-310	021 - Fire Certificate Obtained (Form 172) Handover
	Engineer (AECOM)
RAB-21-2190	021 - Submit As-Built Drawings to the Engineer
RAB-21-2200	021 - Engineer Inspection Period
	Building 022 - Customs Detective Dog Base Building
	Excavation
	Raft Foundations
	Structure
	Walls & Columns
	Roof Slab
	North Structure
	Cure and Strip
	Middle Structure
	Cure and Strip
	South Structure
	Cure and Strip
	ABWF/E&M
	Internal Finishes
	North
	Degree 1
RAB-22-8205	022 - Blockwork Walls & Partition
RAB-22-8215	022 - Plastering/Rendering
RAB-22-8665	022 - Screeding
RAB-22-8285	022 - Undercoat
	Degree 2
RAB-22-0895	022 - MEP 2nd Fix
RAB-22-0905	022 - Access for C3 Equipment Installation at ELV & MDP***
RAB-22-0860	022 - ABWF and MEP works to Degree 2 (KD5B)
RAB-22-0910	022 - Power On
RAB-22-0855	022 - Frame for Wall Panel & Cladding
RAB-22-0885	022 - Door Frame & Louvers
	Degree 3
RAB-22-8255	022 - Ceiling Finish Compl.
RAB-22-8535	022 - Floor Tiling
RAB-22-0865	022- Ceiling Frame
RAB-22-8365	022 - Floor Finish Other Than Act. No. RAB-22-8535
RAB-22-8395	022 - Wall Tiling & Painting
RAB-22-8275	022 - MEP Final Fix
RAB-22-8245	022 - Glazing
RAB-22-0870	022 - MEP Balance of Works
RAB-22-8295	022 - Snagging and Remedials (Bldg. Internal)
RAB-22-8265	022 - Door Panel & Ironmongery
RAB-22-0980	022 - End Users and MOM Handover Inspection



Remaining Level of Effort | Actual Work | Critical Remaining ...
Actual Level of Effort | Remaining Work | Finish Constraint

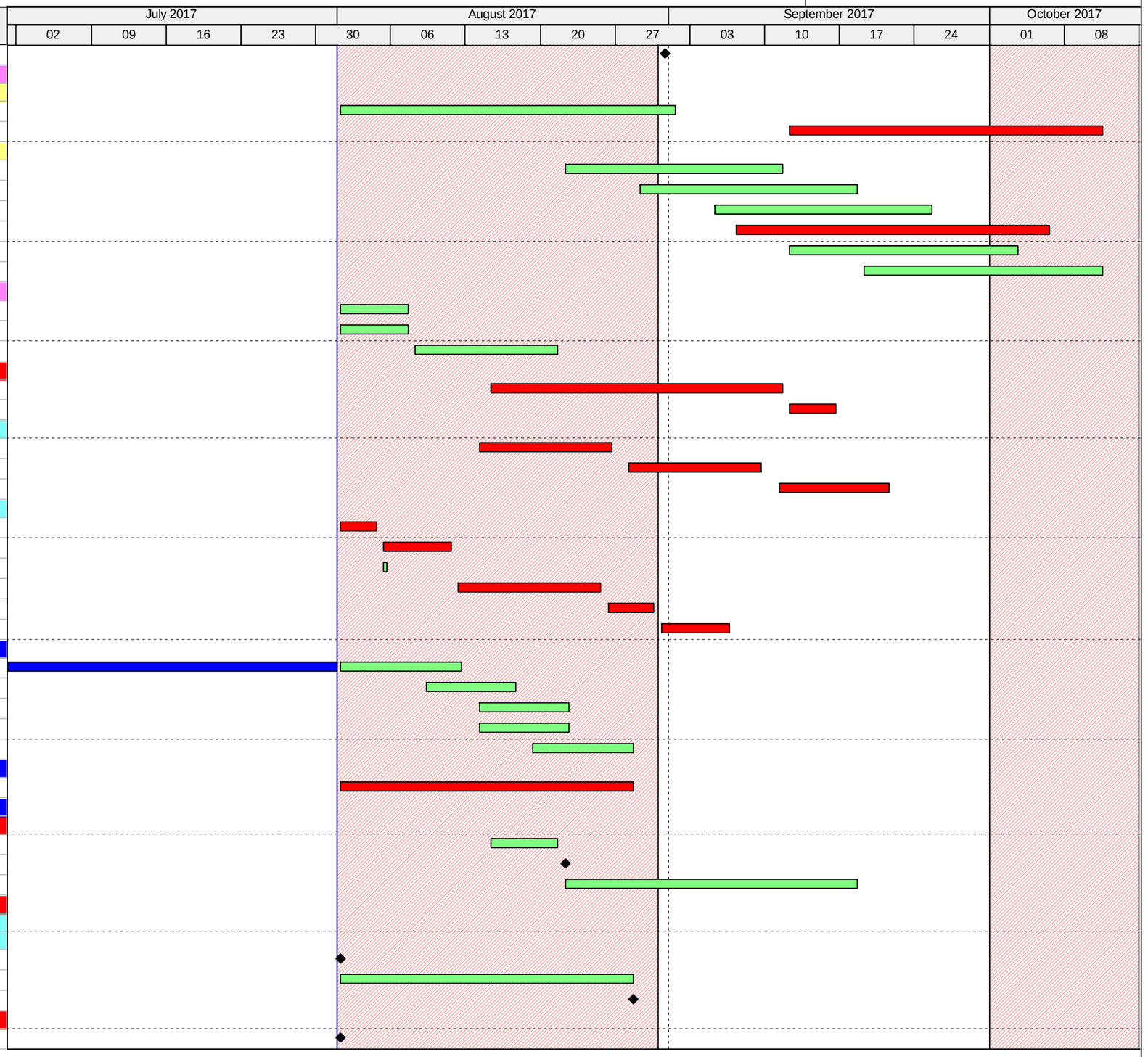
3-Month Rolling Programme Update, 01 Aug. 2017

RAB6

Date	Revision	Checked	Approved
01-Aug-17	3-Month Rolling Programme, 01 Aug-17 Update	SGJ	

Contract No. HY/2014/05 - Remaining Ancillary Building and Facilities

Activity ID	Activity Name
RAB-22-0950	022 - ABWF and MEP works to Degree 3 (KD5C)
External Finishes	
Facade	
RAB-22-0470	022 - External Painting, Tiling & Cladding
RAB-22-0710	Snag Listing - Bldg. External & External Works
At Grade	
RAB-22-2100	022 - Prepare Sub Grade
RAB-22-2110	022 - Laying Geo Textile
RAB-22-2120	022 - Lay Granular Sub-Base
RAB-22-2170	022 - Landscaping for Outdoor Excise Lawn
RAB-22-2130	022 - Laying Course
RAB-22-2140	022 - Concrete Block Paving
Roof Finishes - North	
RAB-22-0530	022 - Install Railing
RAB-22-0540	022 - Install Cat Ladder and Roof Hatch
RAB-22-0720	022 - Make good external surfaces
Specialist Installations	
RAB-22-0990	022 - Kennels Installation (42No)
RAB-22-0550	022 - Small Glass Canopy South Entrance
Window Wall	
RAB-22-7030	022 - Install Primary Steelwork for Window Wall
RAB-22-7040	022 - Install Secondary Steelwork for Window Wall
RAB-22-7050	022 - Glazing to Window Wall
Dog Swimming Pool	
RAB-22-0480	022 - Waterproofing
RAB-22-0600	022 - Tiling to Dog Swimming Pool
RAB-22-0490	022 - Backfill to ground level at Dog Swimming Pool
RAB-22-0640	022 - Plumbing and filtration systems
RAB-22-0630	022 - Metalworks and Railings
RAB-22-0700	022 - Snagging and Remedials - Dog Pool
Utilities and Drainage	
RAB-22-8095	022 - Construct Permanent Drainage and Manholes
RAB-22-8135	022 - Install FS Water main
RAB-22-8115	022 - Install Flushing Water Mains
RAB-22-8105	022 - Install Fresh Water Mains
RAB-22-8125	022 - Utiltites and Common Telecom Ducting
Testing & Commissioning	
RAB-TC22-1000	022 - T&C (HVAC, FS, P&D, OTHERS)
Statutory Submissions & Approvals (Day 670 Completion)	
BBEO	
RAB-BEE-120	022 - Registered Energy Assessor Inspection & Certification
RAB-BEE-130	022 - Submit REA Certification to EDMS
RAB-BEE-140	022 - EDMS Issue of Cert of Compliance Registration (COCR)
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-804	022 - Submit WWO 46 Pt. IV
RAB-WSD-254	022 - WSD's Processing/Inspection/Meter Connection
RAB-WSD-264	022 - Permanent Water ON/WSD Issue WWO 46 Part V Cert & Wa
Fire Servives Department (VAC)	
RAB-FSD-850	022 - Submit Form 314



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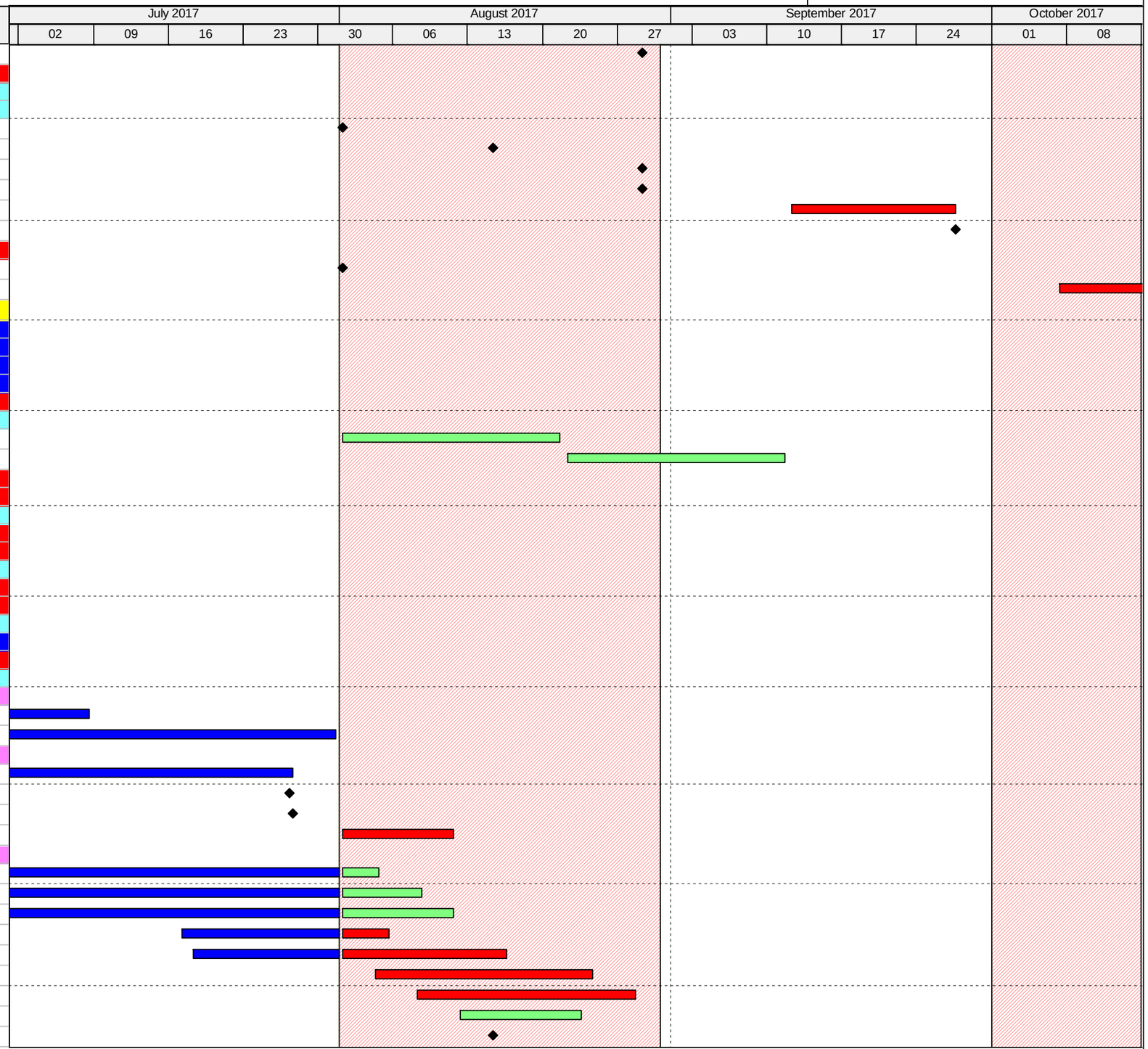
Activity ID	Activity Name
RAB-FSD-860	022 - Submit Form 501
Fire Services Water (FS)	
Commencement	
Completion	
RAB-FSD-895	022 - Submit WWO 46 Pt. IV, FS
RAB-FSD-984	022 - Submit WWO 46 Pt. V, FS
RAB-FSD-320	022 - Submit Form 501, FS
RAB-FSD-994	022 - Submit Form 314
RAB-FSD-330	022 - FSD Inspection Period, FS
RAB-FSD-590	022 - Issuance of FS 172, FS CertIficate of Compliance, FS
Engineer (AECOM)	
RAB-22-2220	022 - Submit Building 022 As Built Drawings to Engineer
RAB-22-2230	022 - Engineer Inspection Period
Building 023 - C&ED Outbound Cargo Examination Building and Examination Pl	
Excavation	
Raft Foundations - Inspection Platform	
Raft Foundations - Main Building	
Structure	
Ground Floor	
Planters	
RAB-23-6140	023 - Construct North Planter Box and Ramp
RAB-23-6230	023 - Construct South Planter Box and Ramp
Supporting Walls and Columns to +12.85mPD	
First Floor	
Cure and Strip	
Supporting Walls and Columns to +17.1mPD	
Roof	
Cure and Strip	
Supporting Walls and Columns to +19.1mPD	
Lift Doghouse	
Cure and Strip	
ABWF/E&M	
Internal Finishes	
Ground Floor	
Degree 1	
RAB-23-5430	023 - Plastering & Undercoat, G/F
023 -23-5430	023 - Screeding, G/F
Degree 2	
RAB-23-5860	023 - MEP 2nd Fix, G/F
RAB-23-5670	023 - Access to C3, C6 & C7 For Equip. Installation***, G/F
RAB-23-5790	023 - ABWF and MEP works to Degree 2 for others (KD3B) G/F
RAB-23-5610	023 - Frame for Wall Panel & Cladding + Louver, G/F
Degree 3	
RAB-23-6320	023 - Ceiling Paint Finish, G/F
RAB-23-5930	023 - Wall Finish - Paint & Tile, G/F
RAB-23-6220	023 - Floor Finish Other Than Carpet, G/F
RAB-23-6380	023 - MEP Final Fix, G/F
RAB-23-5760	023 - Ceiling Frame, G/F
RAB-23-5660	023 - Door Frame/Panel & Ironmongery, G/F
RAB-23-6410	023 - Ceiling Plaster Board, G/F
RAB-23-6080	023 - Glazing, G/F
RAB-23-6190	023 - Access to End Users, KD3C' - C3, C6 & C7



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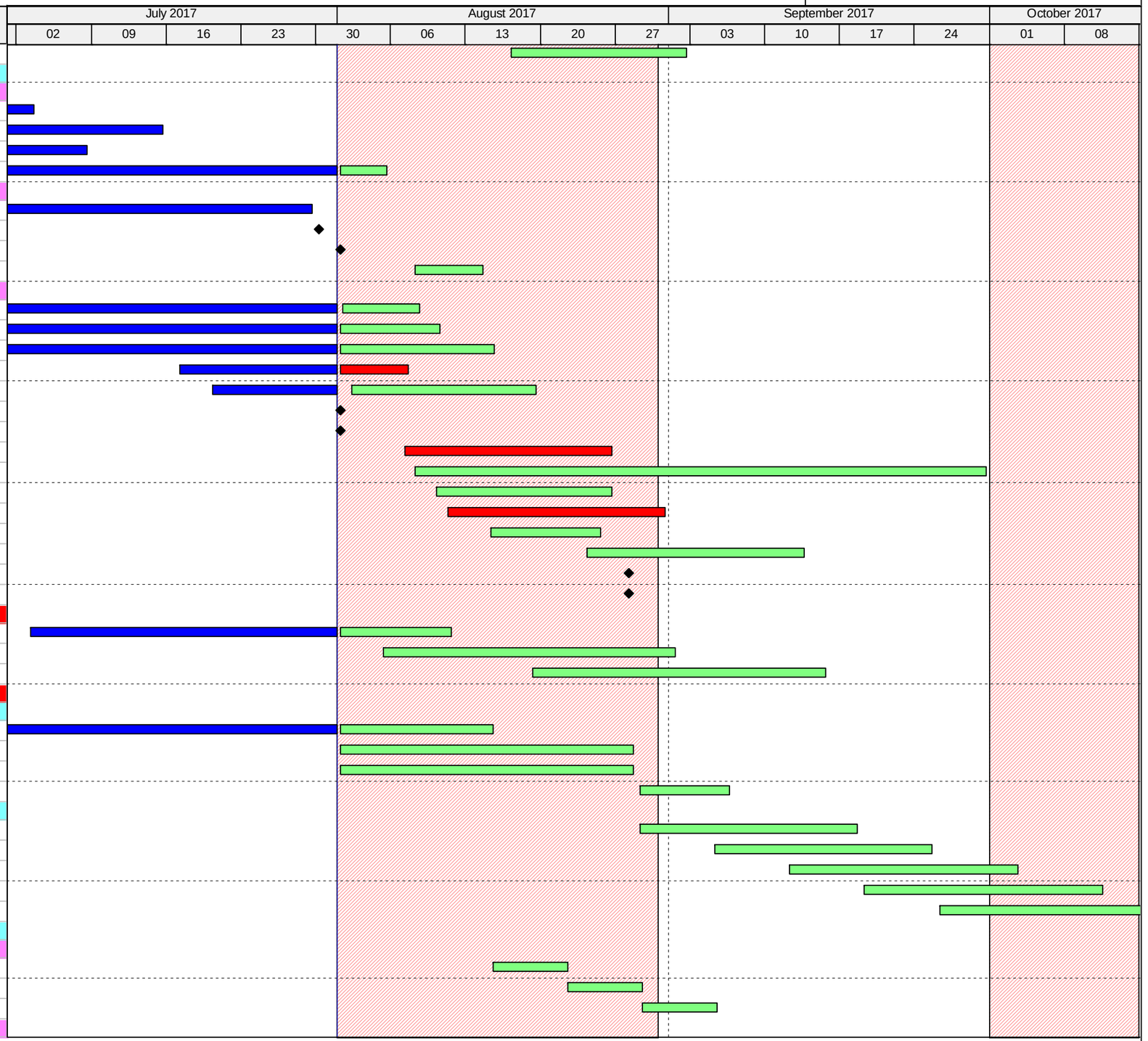
Activity ID	Activity Name
RAB-23-6180	023 - Floor Carpet Finish, G/F
First Floor	
Degree 1	
RAB-23-8055	023 - Construct Blockwork Walls, G/F - 1/F North (932m³), 1/F
RAB-23-8065	023 - Plastering & Undercoat, 1/F
RAB-23-8075	023 - MEP 1st Fix, 1/F
RAB-23-8215	023 - Screeding, 1/F
Degree 2	
RAB-23-8125	023 - MEP 2nd Fix, 1/F
RAB-23-8115	023 - Access for C3 for Equip. Instln***, 1/F, KD3D Target to Achieve
RAB-23-8235	023 - Power On
RAB-23-8085	023 - Frame for Wall Panel & Cladding + Louver, 1/F
Degree 3	
RAB-23-8135	023 - Ceiling Paint Finish, 1/F
RAB-23-8175	023 - Wall Finish - Paint & Tile, 1/F
RAB-23-8205	023 - Floor Finish Other Than Carpet, 1/F
RAB-23-8165	023 - MEP Final Fix, 1/F
RAB-23-8105	023 - Ceiling Frame, 1/F
RAB-23-5970	023 - ABWF and MEP works to Degree 3 (KD3E)
RAB-23-8275	023 - Early Handover Rooms Ready to End Users
RAB-23-8155	023 - Door Panel/Ironmongery & Glass Baluster, 1/F
RAB-23-8265	023 - MEP Balance of Works
RAB-23-8195	023 - Floor Carpet Finish, 1/F
RAB-23-8185	023 - Ceiling Plaster Board, 1/F
RAB-23-8145	023 - Glazing, 1/F
RAB-23-2290	023 - Snag Listing & Remedial Works - Building Internal
RAB-23-8225	023 - Handover Rooms Ready to End Users***, KD3C Target to Ach
RAB-23-8255	023 - ABWF and MEP works to Degree 3 - Remaining Area- 1/F
Roof Level Dog House	
RAB-23-6150	023 - ABWF and MEP works to Degree 1 R/F
RAB-23-6280	023 - ABWF and MEP works to Degree 2 R/F
RAB-23-6340	023 - ABWF and MEP works to Degree 3 R/F
External Finishes	
Facade	
RAB-23-5560	023 - External Render
RAB-23-5590	023 - External Tiling
RAB-23-5650	023 - External Painting
RAB-23-5990	023 - Dismantle Scaffolding
At Grade	
RAB-23-5740	023 - Prepare Sub Grade
RAB-23-5820	023 - Laying Geo Textile
RAB-23-5910	023 - Lay Granular Sub-Base
RAB-23-5940	023 - Laying Course
RAB-23-6050	023 - Concrete Block Paving
Window Wall	
East	
RAB-23-6810	023 - Install Primary Steelwork for Window Wall - E
RAB-23-6820	023 - Install Secondary Steelwork for Window Wall - E
RAB-23-6830	023 - Glazing to Window Wall - E
West	



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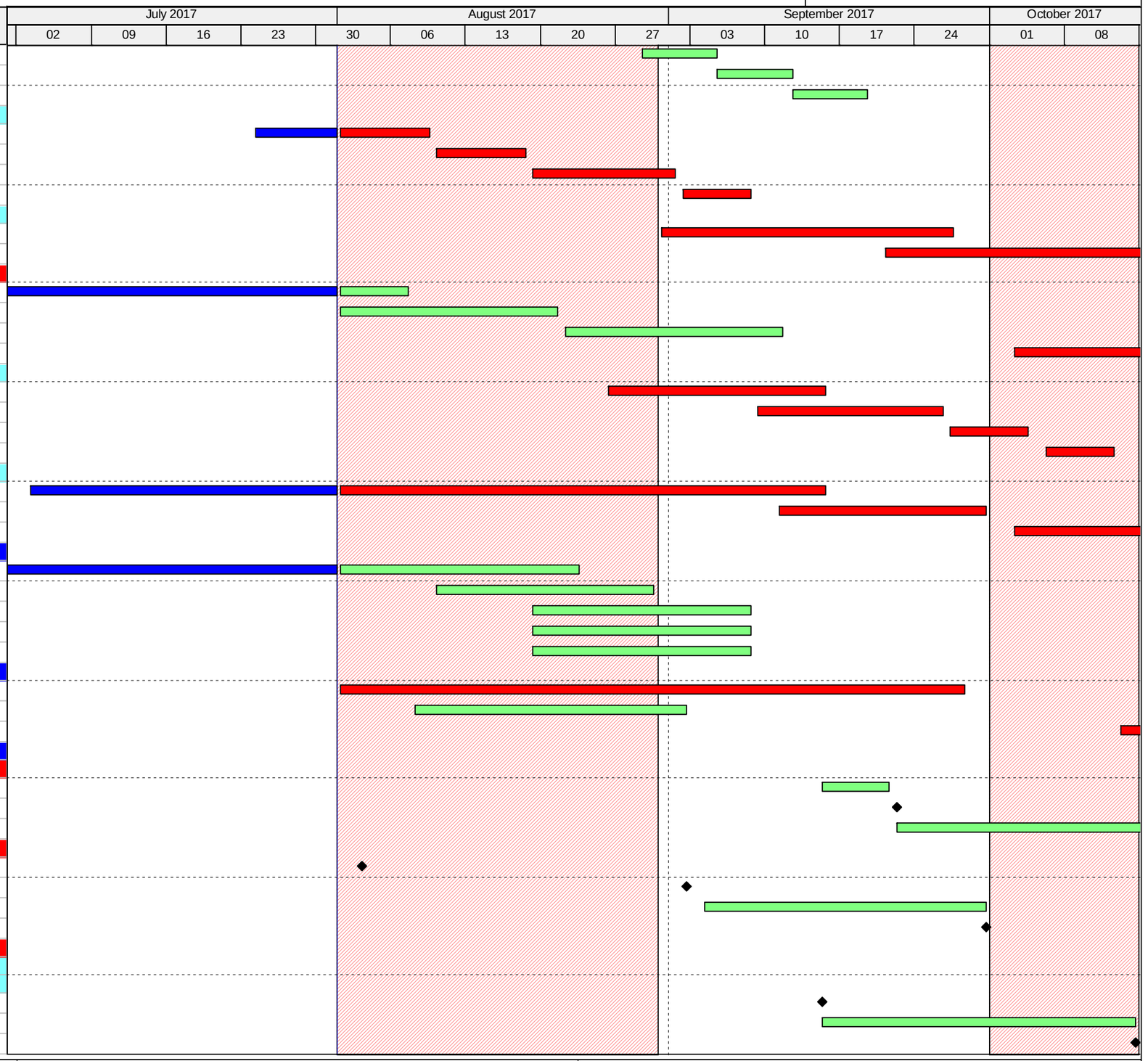
Activity ID	Activity Name
RAB-23-6840	023 - Install Primary Steelwork for Window Wall - W
RAB-23-6850	023 - Install Secondary Steelwork for Window Wall - W
RAB-23-6860	023 - Glazing to Window Wall - W
Roof Finishes	
RAB-23-5550	023 - Waterproof membrane
RAB-23-5620	023 - Top Screed
RAB-23-5640	023 - Roof Tiling
RAB-23-5920	023 - Install Railing
Green Roof	
RAB-23-5720	023 - Install green Roof Irrigation Systems
RAB-23-5900	023 - Complete Green Roofing Works
Specialist Installations	
RAB-23-6270	023 - Install Lift (1 nos)
RAB-23-6010	023 - Installation of Roller Shutter Header Boxes (x 3)
RAB-23-6250	023 - Installation of Roller Shutter Curtain (x3)
RAB-23-7310	023 - Install Glazed to Steel Canopy
PV Installation	
RAB-23-6350	023 - Install Supporting Frame and PV panel
RAB-23-6360	023 - Cable containment and grid cable wiring
RAB-23-6390	023 - Sub-array junction box installation & Connection
RAB-23-6400	023 - DC cable wiring from PV panel to EL room
Steel Canopy	
RAB-23-6240	023 - Install Secondary Steelwork
RAB-23-6290	023 - Install Metal Cladding Panels
RAB-23-6310	023 - Install Misc Metalworks
Utilities and Drainage	
RAB-23-7975	023 - Construct Permanent Drainage, Manholes & Draw Pits
RAB-23-7985	023 - Utiltites and Common Telecom Ducting
RAB-23-7995	023 - Install Flushing Water Mains
RAB-23-8005	023 - Install Fresh Water Mains
RAB-23-8015	023 - Install FS Water Mains
Testing & Commissioning	
RAB-TC23-1000	023 - T&C (HVAC, FS, P&D, OTHERS)
RAB-TC23-1010	023 - T&C (Lift)
RAB-TC23-1015	023 - PV Self-test with Engineer
Statutory Submissions & Approvals (Day 610 Completion)	
BBEO	
RAB-BEE-150	023 - Registered Energy Assessor Inspection & Certification
RAB-BEE-160	023 - Submit REA Certification to EDMS
RAB-BEE-170	023 - EDMS Issue of Cert of Compliance Registration (COCR)
EMSD - Building 023 Lift Inspection	
RAB-FSD-170	023 - Submit EMSD Form 3 (Commencement of Lift Installation)
RAB-FSD-180	023 - Submit EMSD Form 5 (Completion of Lift Installation)
RAB-FSD-190	023 - EMSD Lift Inspection
RAB-FSD-106	023 - EMSD Lift Certificate Issued - Building 023
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-774	023 - Submit WWO 46 Pt. IV for Building 023
RAB-WSD-107	023 - WSD Inspection/Meter Connection
RAB-WSD-109	023 - Permanent Water ON/WSD Issue WWO 46 Part V - Water Ce



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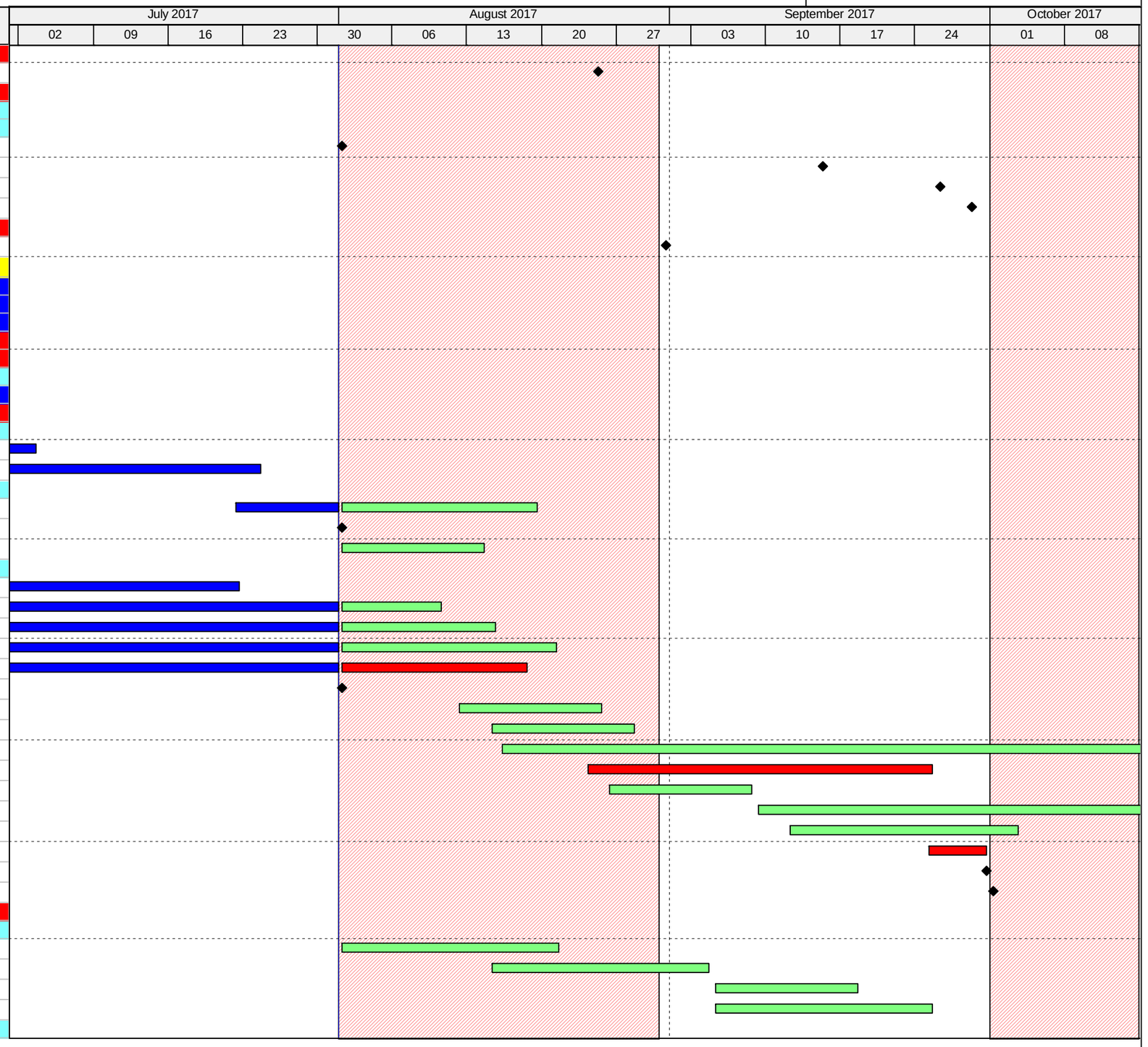
Activity ID	Activity Name
Fire Servives Department (VAC)	
RAB-FSD-900	023 - Submit Form 501
Fire Services Department (FSD)	
Commencement	
Completion	
RAB-FSD-108	023 - Submit WWO 46 Pt. IV for Building 023
RAB-FSD-112	023 -Issue WWO 46 Part V
RAB-FSD-138	023 - Submit Form 314
RAB-FSD-122	023 - Submit Form 501
Engineer (AECOM)	
RAB-23-2250	023 - Submit Building 023 As Built Drawings to Engineer
Building 025 - Inbound Private Car Annexure	
Excavation	
Raft Foundations	
Structure	
Walls & Columns	
Roof Slab	
Cure and Strip	
ABWF/E&M INTERNAL FINISHES	
INTERNAL FINISHING WORKS	
Degree 1	
RAB-25-7490	025 - Floor Screed
RAB-25-7390	025 - Plastering & Under Coat
Degree 2	
RAB-25-7570	025 - Raised Floor Pedestal
RAB-25-7350	025 - Power On Available
RAB-25-7450	025 - Frame for Wall Panel & Cladding
Degree 3	
RAB-25-7470	025 - Ceiling Painting & Ceiling Sub-Frame
RAB-25-7620	025 - Ceiling Panel
RAB-25-7460	025 - MEP Final Fix
RAB-25-7480	025 - Floor Tiling
RAB-25-7610	025 - Wall Tiling
RAB-25-7630	025 - Early Handover Rooms Ready to End Users***, Target to Achie
RAB-25-7580	025 - Floor Painting
RAB-25-7440	025 - Door Frame/Wall Panel
RAB-25-7550	025 - MEP Balance of Works
RAB-25-7600	025 - Wall Paint Finish Coat
RAB-25-7520	025 - Glazing
RAB-25-7510	025 - Plaster Board
RAB-25-7370	025 - Snagging and Remedials
RAB-25-7590	025 - Floor Carpet
RAB-25-7375	KD6C - Projected achievement of Stage 6C of the Works
RAB-KD6C10	025 - End Users and MoM handover inspection
External Finishes	
Facade	
RAB-25-0450	025 - External Painting
RAB-25-0360	025 - Install External Louvers /Windows/Doors
RAB-25-0570	025 - Dismantle Scaffolding
RAB-25-0580	025 - Make good external surfaces
At Grade	



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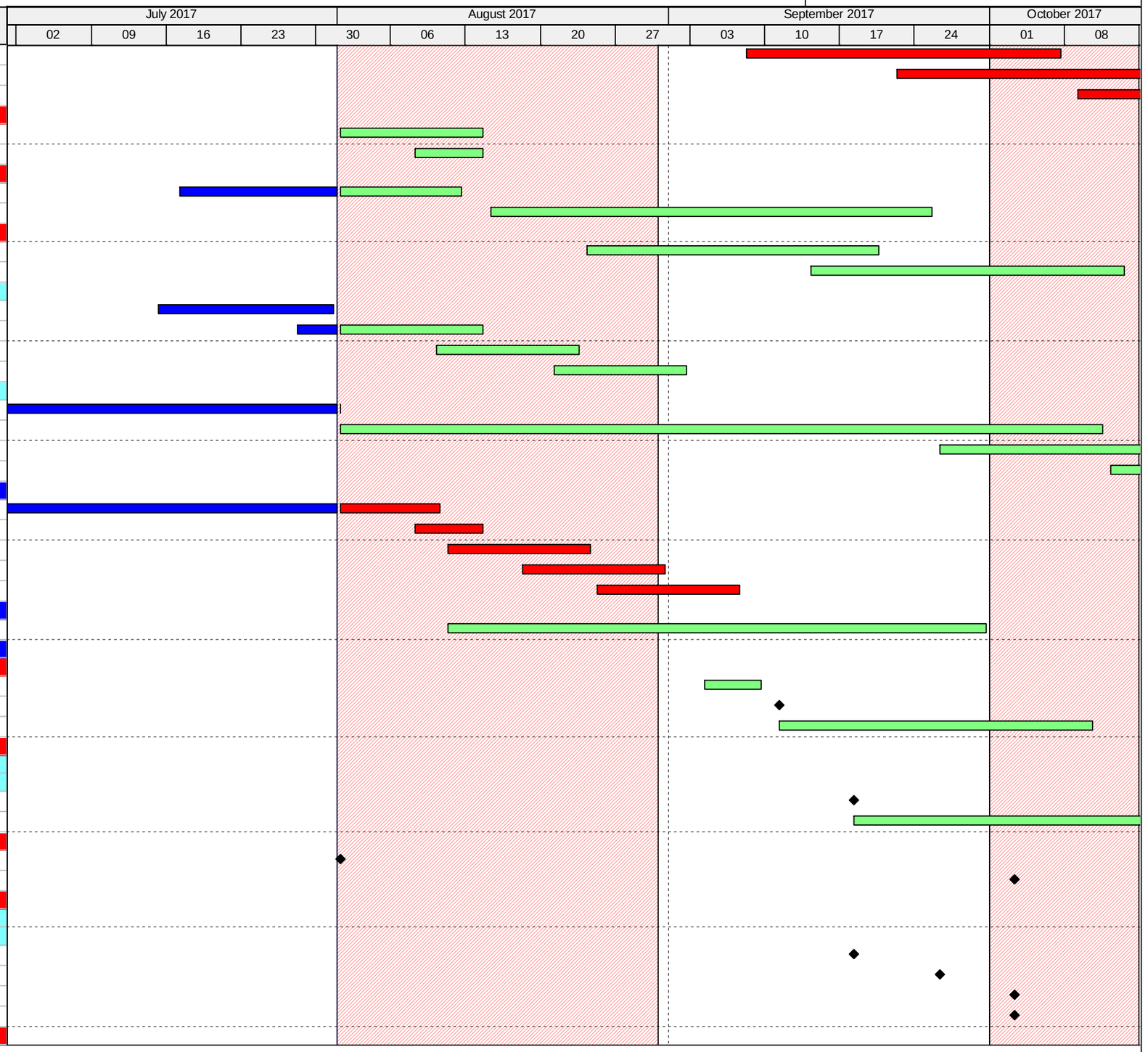
Contract No. HY/2014/05 - Remaining Ancillary Building and Facilities

Activity ID	Activity Name
RAB-25-6400	025 - Prepare Sub Grade
RAB-25-6390	025 - Laying Geo Textile
RAB-25-6410	025 - Lay Granular Sub-Base
Roof Finishes	
RAB-25-0550	025 - Install Railing (222m)
RAB-25-0540	025 - Install Cat Ladders and Roof Hatch
Green Roof	
RAB-25-0700	025 - Install Green Roof Irrigation Systems
RAB-25-0710	025 - Complete Green Roof Works
Specialist Installations	
RAB-25-610	025 - Construct Immigration Counters x 3
RAB-25-620	025 - Construct Health Department Screening Station x 1
Glazed Canopy	
RAB-25-0480	025 - Install Steel Support Columns (14 No)
RAB-25-0490	025 - Install Primary Steelwork
RAB-25-0500	025 - Install Secondary Steelwork
RAB-25-0520	025 - Install Glazed Panels
IMMD Kiosk	
RAB-25-0320	025 - Construct Kiosk Roof Structure
RAB-25-0380	025 - Internal ABWF and MEP of IMMD Kiosk
RAB-25-0350	025 - External Finishes to IMMD Kiosk
RAB-25-0430	025 - Erect Kiosk Canopy @ +10.17mPD
Utilities and Drainage	
RAB-25-7250	025 - Construct Permanent Drainage, Manholes & Draw Pits
RAB-25-7260	025 - Utiltites and Common Telecom Ducting
RAB-25-7290	025 - Install FS Water Main
RAB-25-7280	025 - Install Fresh Water Mains
RAB-25-7270	025 - Install Flushing Water Mains
Testing & Commissioning	
RAB-TC25-1000	025 - T&C (HVAC, FS, P&D, OTHERS)
Statutory Submissions & Approvals (Day 670 Completion)	
BBEO	
RAB-BEE-180	025 - Registered Energy Assessor Inspection & Certification
RAB-BEE-190	025 - Submit REA Certification to EDMS
RAB-BEE-200	025 - EDMS Issue of Cert of Compliance Registration (COCR)
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-744	025 - Submit WWO 46 Pt. IV
RAB-WSD-374	025 - WSD Inspection/Meter Connection
Fire Servives Department (VAC)	
RAB-FSD-930	025 - Submit Form 314, VAC
RAB-FSD-940	025 - Submit Form 501, VAC
Fire Service Water (FS)	
Commencement	
Completion	
RAB-FSD-350	025 - Submit WWO 46 Pt. IV, FS
RAB-FSD-570	025 - Submit WWO 46 Pt. V, FS
RAB-FSD-730	025 - Submit Form 501, FS
RAB-FSD-790	025 - Submit Form 314, FS
Engineer (AECOM)	



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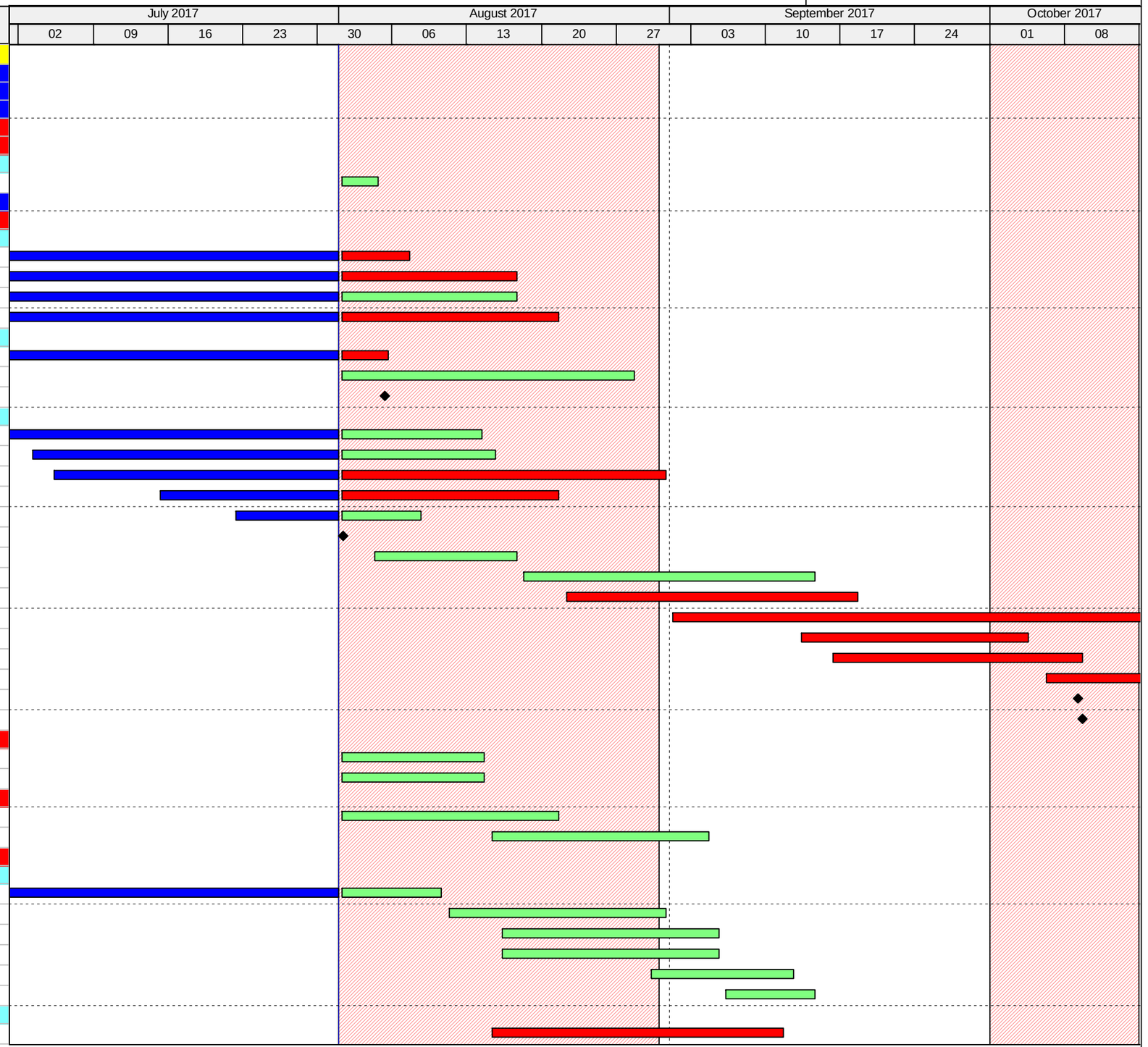
Activity ID	Activity Name
	Building 032 - Outbound Private Car Annexure
	Excavation
	Raft Foundations
	Structure
	Walls & Columns
	Roof Slab
	Cure and Strip
RAB-32-0690	032 - Cure and Strip False/Formwork, Water Tank
	ABWF/E&M
	Internal Finishes
	Degree 1
RAB-32-0460	032 - Construct Blockwork Walls (2170m²)
RAB-32-0720	032 - Plastering & Undercoat
RAB-32-0700	032 - Floor Screed
RAB-32-0510	032 - MEP 1st Fix
	Degree 2
RAB-32-0560	032 - MEP 2nd Fix
RAB-32-0760	032 - Door & Windor Frame + Louver
RAB-32-0660	032 - Power On
	Degree 3
RAB-32-0830	032 - Wall Painting
RAB-32-0770	032 - Floor Tiling & Floor Finishes
RAB-32-0590	032 - MEP Final Fix
RAB-32-0750	032 - Ceiling Frame
RAB-32-0745	032 - Raised Floor
RAB-32-0850	032 - Early Handover Rooms Ready to End Users***
RAB-32-0790	032 - Glazing
RAB-32-0880	032 - Wall Tiling
RAB-32-0870	032 - Ceiling Panel
RAB-32-0740	032 - MEP Balance of Work
RAB-32-0860	032 - Floor Painting & Remaining Floor Tiling
RAB-32-0800	032 - Door Panel & Ironmongery
RAB-32-0680	32 - Snagging and Remedials
RAB-32-0670	032 - End Users and MoM handover inspection
RAB-KD7C10	KD7C - Projected achievement of Stage 7C of the Works
	Roof Finishes
RAB-32-0550	032 - Install Railing
RAB-32-0540	032 - Install Cat Ladders and Roof Hatch
	Green Roof
RAB-32-0620	032 - Install Green Roof Irrigation Systems
RAB-32-0650	032 - Complete Green Roof Works
	External Finishes
	Facade
RAB-32-0400	032 - External Render
RAB-32-0450	032 - External Painting
RAB-32-0360	032 - Install External Louvers /Windows/Doors
RAB-32-0420	032 - External Tiling
RAB-32-0580	032 - Make good external surfaces
RAB-32-0570	032 - Dismantle Scaffolding
	At Grade
RAB-32-6460	032 - Prepare Sub Grade



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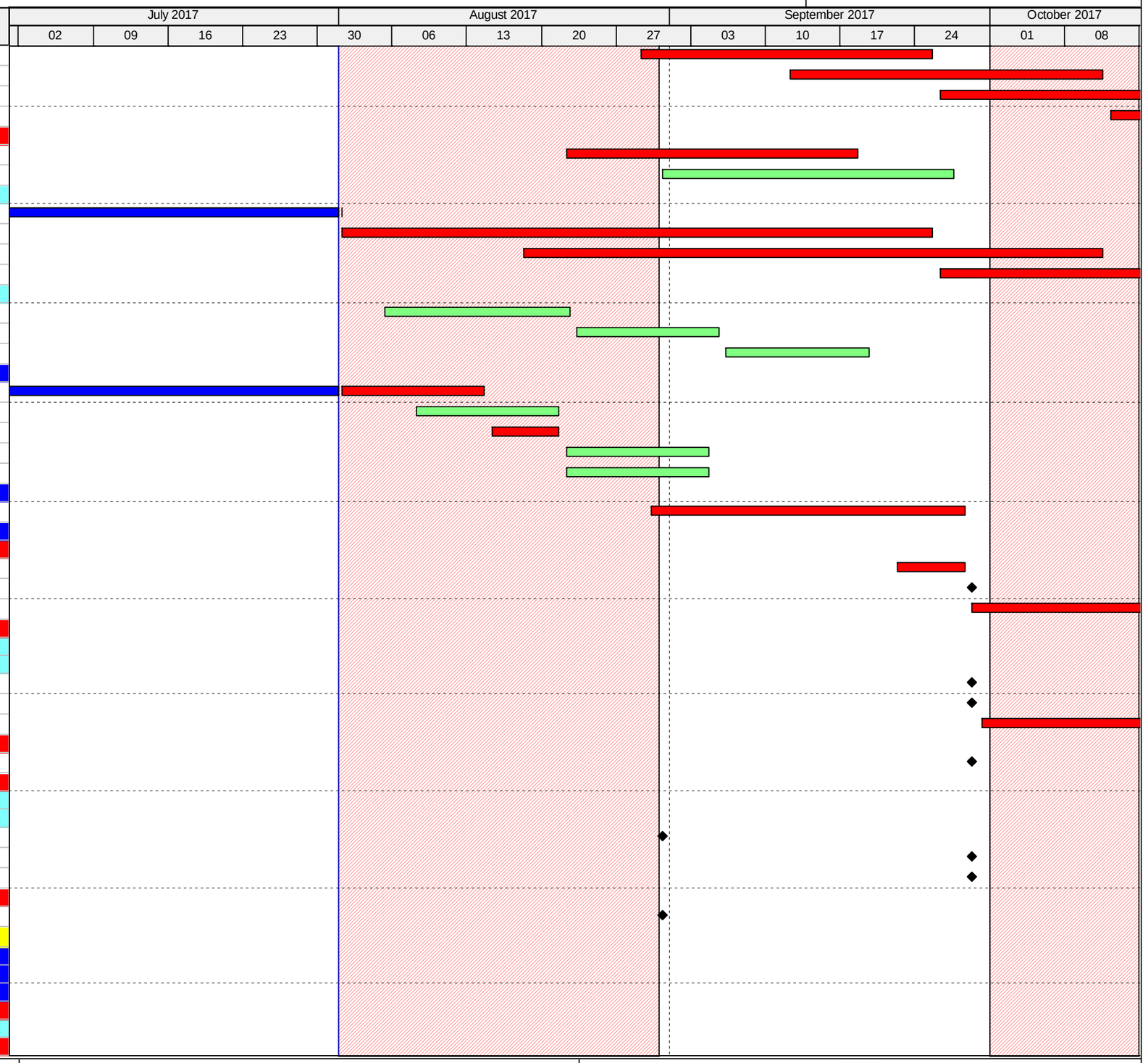
Activity ID	Activity Name
RAB-32-6450	032 - Laying Geo Textile
RAB-32-6470	032 - Lay Granular Sub-Base
RAB-32-6480	032 - Laying Course
RAB-32-6440	032 - Concrete Block Paving
Specialist Installations	
RAB-32-630	032 - Construct Immigration Counters x 3
RAB-32-640	032 - Construct Health Department Screening Station X 1
IMMD Kiosk	
RAB-32-0320	032 - Construct Kiosk Roof Structure
RAB-32-0380	032 - Internal ABWF and MEP of IMMD Kiosk
RAB-32-0350	032 - External Finishes to IMMD Kiosk
RAB-32-0430	032 - Erect Kiosk Canopy @ +10.17mPD
Glazed Canopy	
RAB-32-0480	032 - Install Steel Support Columns (14 No)
RAB-32-0490	032 - Install Primary Steelwork
RAB-32-0500	032 - Install Secondary Steelwork
Utilities and Drainage	
RAB-32-7290	032 - Construct Permanent Drainage and Manholes (Approx 150m)
RAB-32-7330	032 - Install FS Water Main
RAB-32-7300	032 - Utiltites and Common Telecom Ducting
RAB-32-7310	032 - Install Flushing Water Mains
RAB-32-7320	032 - Install Fresh Water Mains
Testing & Commissioning	
RAB-TC32-1000	032 - T&C (HVAC, FS, P&D, OTHERS)
Statutory Submissions & Approvals (Day 670 Completion)	
BBEO	
RAB-BEE-210	032 - Registered Energy Assessor Inspection & Certification
RAB-BEE-220	032 - Submit REA Certification to EDMS
RAB-BEE-230	032 - EDMS Issue of Cert of Compliance Registration (COCR)
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-714	032 - Submit WWO 46 Pt. IV
RAB-WSD-354	032 - WSD Issue WWO 46 Part V - Completion Cert of Plumbing & '
RAB-WSD-344	032 - WSD Inspection/Meter Connection
Fire Servives Department (HVAC)	
RAB-FSD-970	032 - Submit Form 501, HVAC
Fire Water Service (FS)	
Commencement	
Completion	
RAB-FSD-380	032 - Submit WWO 46 Pt. IV, FS
RAB-FSD-580	032 - Submit Form 501, FS
RAB-FSD-800	032 - Submit Form 314, FS
Engineer (AECOM)	
RAB-32-7250	032 - Submit Building 032 As Built Drawings to Engineer
Building 044 - E&M Maintenance Building	
Excavation	
Raft	
Structure	
Walls & Columns	
Ground to First Floor	
First Floor	



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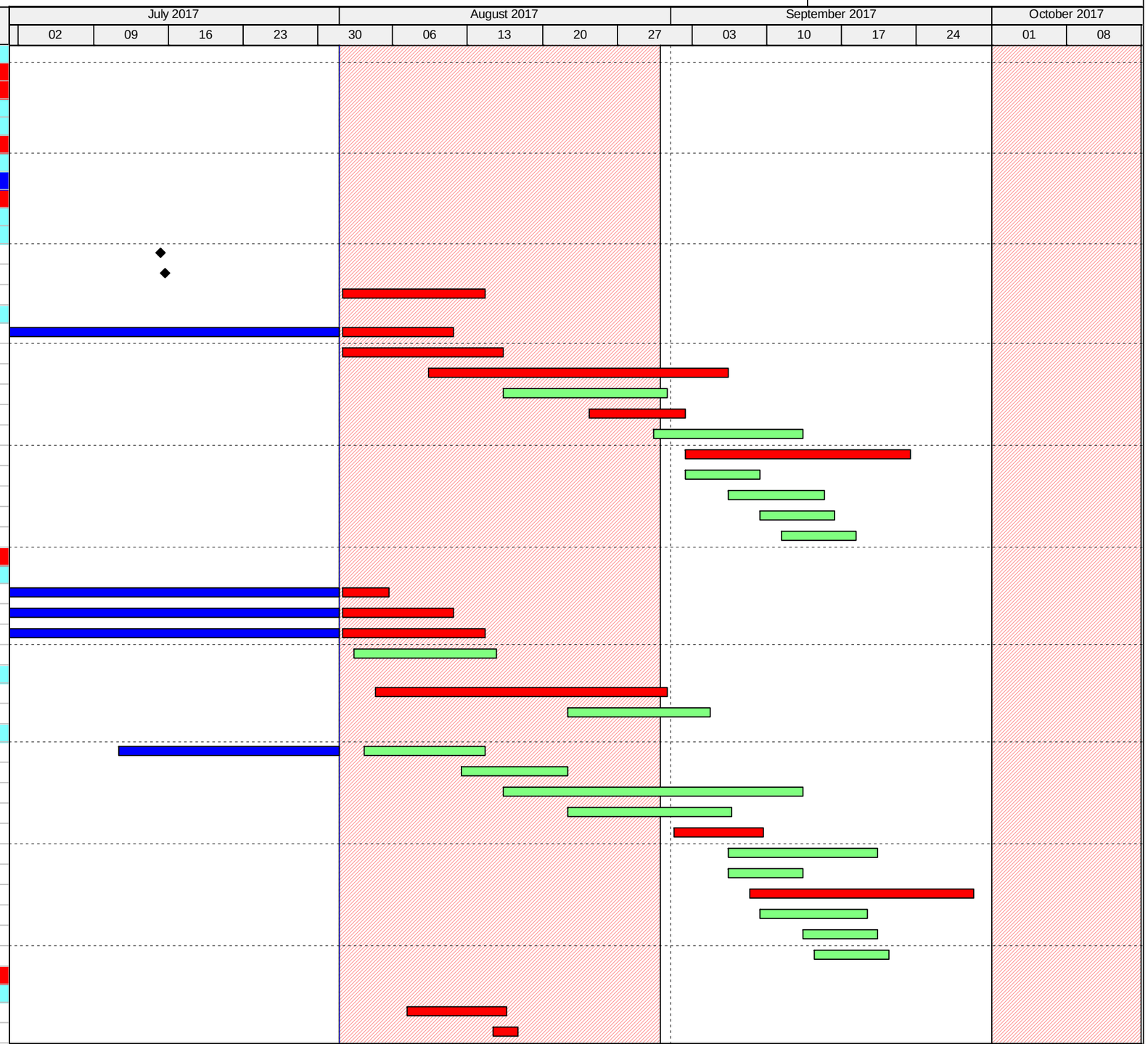
Activity ID	Activity Name
	Cure and Strip
	First Floor to Second Floor
	Second Floor
	Cure and Strip
	Second Floor to Roof
	Roof Level
	Cure and Strip
	ABWF/E&M
	Ground Floor
	Degree 1
	Degree 2
RAB-44-0770	044 - C3 Access for Equipment Installation
RAB-44-0780	044 - 044 - Projeted achievement of Stage 8B of the Works - G/F
RAB-44-0760	044 - Door & Windor Frame + Louver - G/F
	Degree 3
RAB-44-9285	044 - Wall Finish, Paint & Tile - G/F
RAB-44-9255	044 - Ceiling Paint - G/F
RAB-44-9235	044 - Ceiling Panel Frame - G/F
RAB-44-9265	044 - Floor Tilie Finish - G/F
RAB-44-9185	044 - MEP Final Fix - G/F
RAB-44-9345	044 - Ceiling Panel - G/F
RAB-44-9295	044 - Door Panel & Ironmongery - G/F
RAB-44-9245	044 - Ceiling Plaster Board Frame
RAB-44-9275	044 - Glazing - G/F
RAB-44-9395	044 - Ceiling Plaster Board
RAB-44-9355	044 - Floor Paint Finish - G/F
	First Floor
	Degree 1
RAB-44-9315	044 - Construct Blockwork Walls - 1/F
RAB-44-9305	044 - MEP 1st Fix - 1/F
RAB-44-9335	044 - Plastering & Undercoat - 1/F
RAB-44-9325	044 - Screed - 1/F
	Degree 2
RAB-44-9365	044 - MEP 2nd Fix - 1/F
RAB-44-9455	044 - Door & Windor Frame + Louver - 1/F
	Degree 3
RAB-44-9555	044 - Wall Finish, Paint & Tile - 1/F
RAB-44-9465	044 - Ceiling Paint Finish - 1/F
RAB-44-9385	044 - Ceiling Panel Frame - 1/F
RAB-44-9565	044 - Floor Tile Finish - 1/F
RAB-44-9375	044 - MEP Final Fix - 1/F
RAB-44-9495	044 - Ceiling Panel - 1/F
RAB-44-9695	044 - Ceiling Plaster Board Frame - 1/F
RAB-44-9505	044 - Door Panel & Ironmongery - 1/F
RAB-44-9485	044 - Glazing - 1/F
RAB-44-9705	044 - Ceiling Plaster Board
RAB-44-9475	044 - Floor Paint Finish - 1/F
	Second Floor
	Degree 1
RAB-44-9525	044 - Construct Blockwork Walls - 2/F
RAB-44-9755	044 - C3 & C8 Conduit Installation*** - 2/F

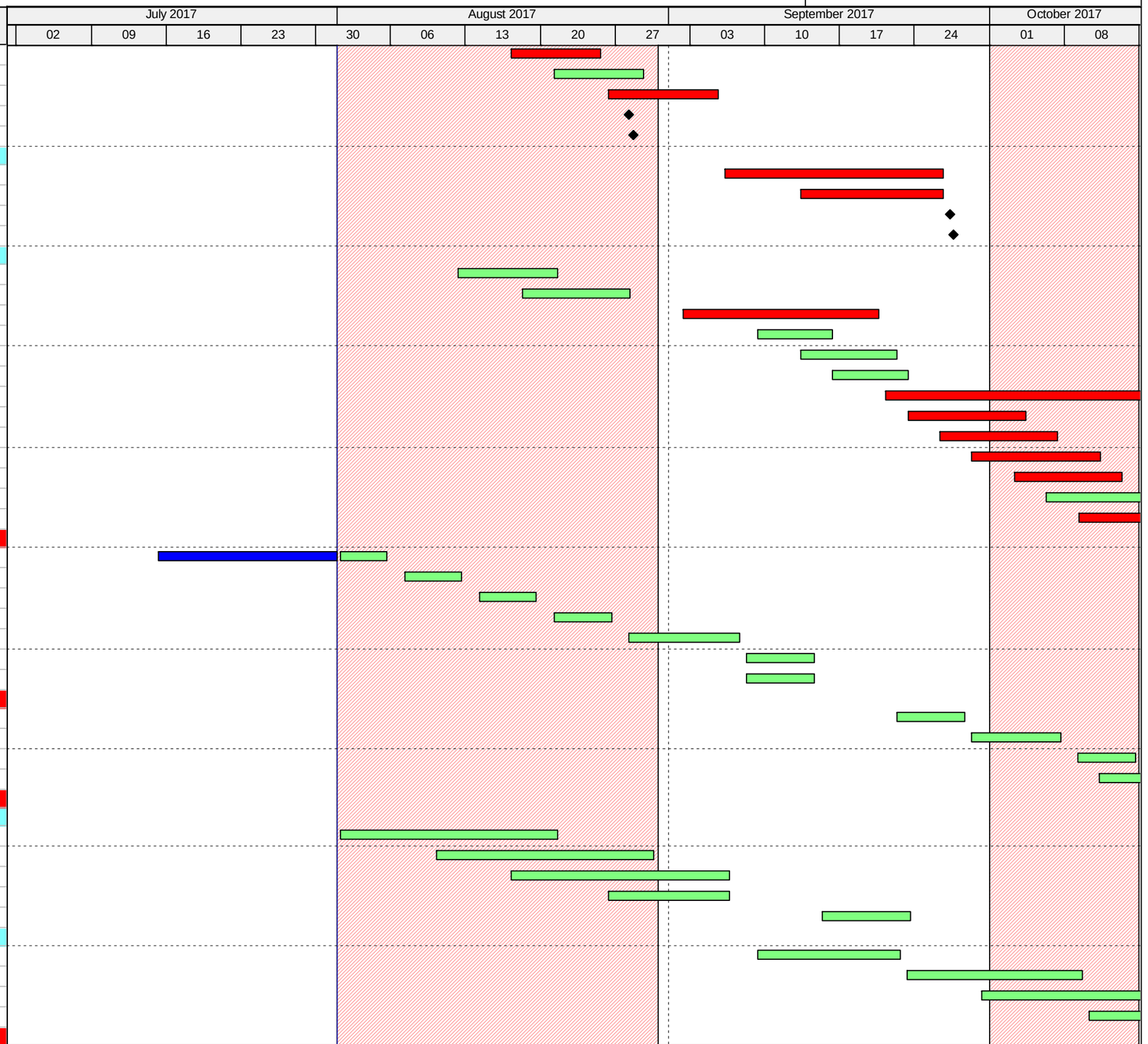


Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining ...
Finish Constraint

3-Month Rolling Programme Update, 01 Aug. 2017

RAB6			
Date	Revision	Checked	Approved
01-Aug-17	3-Month Rolling Programme, 01 Aug-17 Update	SGJ	

Activity ID	Activity Name
RAB-44-9545	044 - Plastering & Undercoat - 2/F
RAB-44-9535	044 - Screed - 2/F
RAB-44-9515	044 - MEP 1st Fix - 2/F
RAB-44-9765	044 - C3 Access for Cabling Works*** - 2/F
RAB-KD8A20	044 - Projeted achievement of Stage 8A of the Works - 2/F
Degree 2	
RAB-44-9575	044 - MEP 2nd Fix - 2/F
RAB-44-9665	044 - Door & Windor Frame + Louver - 2/F
RAB-44-9605	044 - Power On - 2/F
RAB-44-0610	KD8B - Projected achievement of Stage 8B of the Works - 2/F
Degree 3	
RAB-44-9595	044 - Wall Finish, Paint & Tile - 2/F
RAB-44-9635	044 - Ceiling Paint Finish - 2/F
RAB-44-9585	044 - MEP Final Fix - 2/F
RAB-44-9725	044 - Ceiling Plaster Board Frame - 2/F
RAB-44-9675	044 - Glazing - 2/F
RAB-44-9735	044 - Ceiling Plaster Board
RAB-44-9795	044 - MEP Balance of Works
RAB-44-9715	044 - Door Panel & Ironmongery - 2/F
RAB-44-9685	044 - Floor Tile Finish & Floor Finish to Early handover Rooms - 2/F
RAB-44-9645	044 - Ceiling Panel Frame - 2/F
RAB-44-9745	044 - Ceiling Panel - 2/F
RAB-44-9625	044 - Snagging and Remedials
RAB-44-9655	044 - Floor Finish Other Than Early Handover at 1/F
Roof Finishes	
RAB-44-0420	044 - Leveling screed - (242m²)
RAB-44-0450	044 - Waterproof membrane - (242m²)
RAB-44-1150	044 - Insulation Board - (242m²)
RAB-44-0480	044 - Top Screed - (242m²)
RAB-44-0520	044 - Install Roof Tiles - (242m²)
RAB-44-0540	044 - Install Railing
RAB-44-0550	044 - Install Cat Ladder and Roof Hatch
Green Roof	
RAB-44-0350	044 - Leveling screed - (242m²)
RAB-44-0360	044 - Waterproof membrane - (242m²)
RAB-44-0390	044 - Top Screed - (242m²)
RAB-44-0400	044 - Install green Roof Irrigation Systems
External Finishes	
Facade	
RAB-44-0430	044 - Install External Louvers /Windows/Doors
RAB-44-0470	044 - External Render
RAB-44-0530	044 - External Painting
RAB-44-0490	044 - External Tiling
RAB-44-0570	044 - Dismantle Scaffolding (To modify the existing scaffold)
At Grade	
RAB-44-6520	044 - Prepare Sub Grade
RAB-44-6510	044 - Laying Geo Textile
RAB-44-6530	044 - Lay Granular Sub-Base
RAB-44-6540	044 - Laying Course
Specialist Installations	



Remaining Level of Effort | Actual Work | Critical Remaining ...
Actual Level of Effort | Remaining Work | Finish Constraint

3-Month Rolling Programme Update, 01 Aug. 2017

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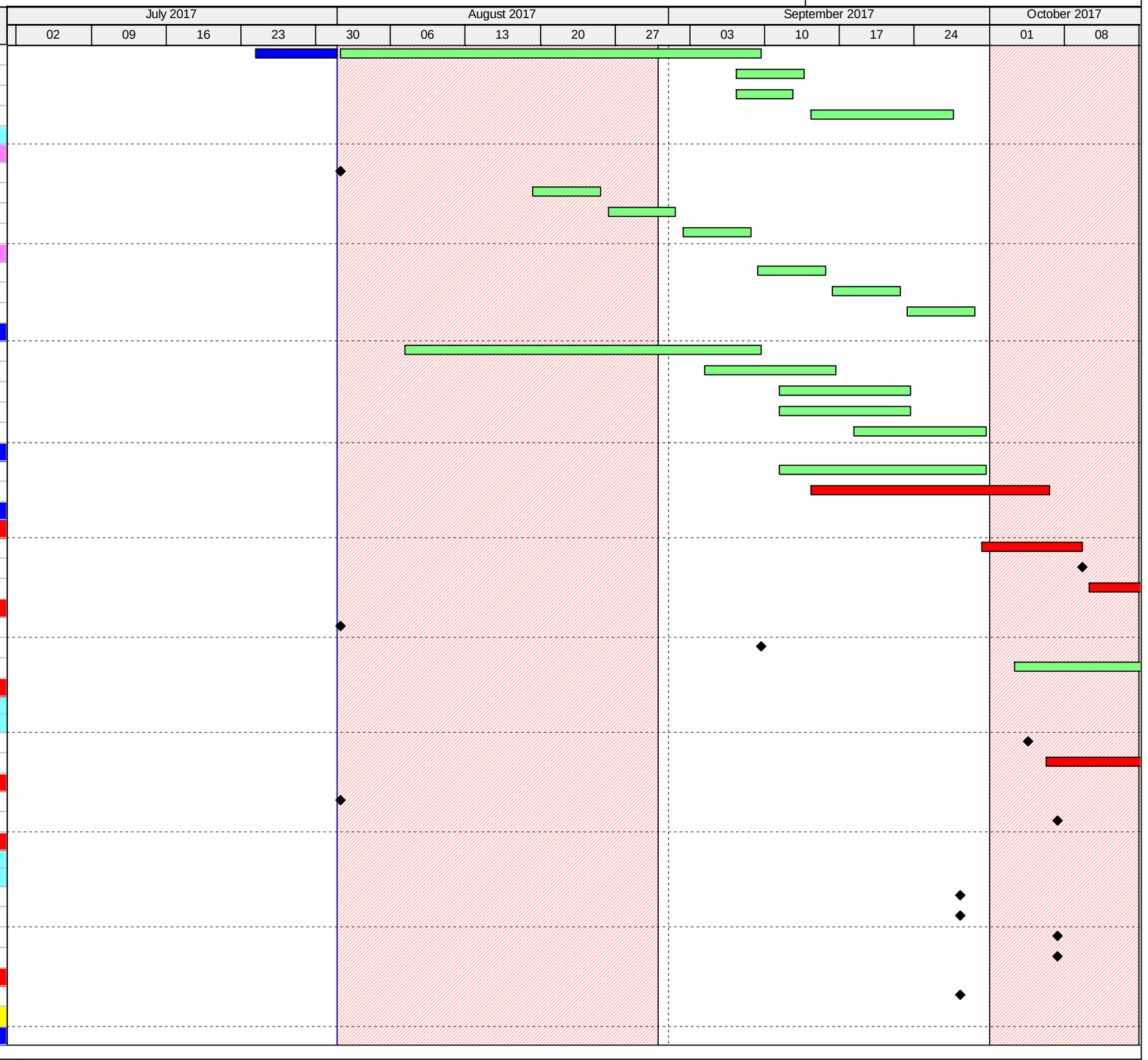
Activity ID	Activity Name
RAB-44-0600	044 - Install Lift (1 nos)
RAB-44-1100	044 - Installation of Roller Shutter Header Box
RAB-44-2250	044 - Small Glass Canopy North Elevation
RAB-44-1090	044 - Installation of Roller Shutter Steel Curtain
Curtain Wall	
East	
RAB-44-6870	044 - Complete Formwork Stripping to Roof Level
RAB-44-6880	044 - Install Primary Steelwork for Window Wall - East
RAB-44-6890	044 - Install Secondary Steelwork for Window Wall - East
RAB-44-6900	044 - Glazing to Window Wall - East
West	
RAB-44-6920	044 - Install Primary Steelwork for Window Wall - West
RAB-44-6930	044 - Install Secondary Steelwork for Window Wall - West
RAB-44-6940	044 - Glazing to Window Wall - West
Utilities and Drainage	
RAB-44-7895	044 - Construct Permanent Drainage and Manholes (Approx 100m)
RAB-44-7935	044 - Install FS Water Main
RAB-44-7915	044 - Install Flushing Water Mains
RAB-44-7925	044 - Install Fresh Water Mains
RAB-44-7905	044 - Utiltites and Common Telecom Ducting
Testing & Commissioning	
RAB-TC44-1010	044 - T&C, Lift
RAB-TC44-1000	044 - T&C (HVAC, FS, P&D, OTHERS)
Statutory Submissions & Approvals	
BBEO	
RAB-BEE-240	044 - Registered Energy Assessor Inspection & Certification
RAB-BEE-250	044 - Submit REA Certification to EDMS
RAB-BEE-260	044 - EDMS Issue of Cert of Compliance Registration (COCR)
EMSD - Building 044 Lift Inspection	
RAB-FSD-200	044 - Submit EMSD Form 3 (Commencement of Lift Installation)
RAB-FSD-210	044 - Submit EMSD Form 5 (Completion of Lift Installation)
RAB-FSD-220	044 - EMSD Lift Inspection
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-684	044 - Submit WWO 46 Pt. IV
RAB-WSD-314	044 WSD Inspection/Meter Connection
Fire Servives Department (HVAC)	
RAB-FSD-1020	044 - Submit Form 314 to FSD, HVAC
RAB-FSD-1040	044 - Submit Form 501 to FSD, HVAC
Fire Water Services (FS)	
Commencement	
Completion	
RAB-FSD-116	044 - Submit WWO 46 Pt. IV, FS
RAB-FSD-120	044 WSD Issue WWO Part V
RAB-FSD-128	044 - Submit Form 501, FS
RAB-FSD-126	044 - Submit Form 314 to FSD, FS
Engineer (AECOM)	
RAB-44-7280	044 - Submit Building 044 As Built Drawings to Engineer
Building 045 - Highways Depot & Administration Building	
Raft Foundation	



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Actual Level of Effort | Remaining Work | Finish Constraint

3-Month Rolling Programme Update, 01 Aug. 2017

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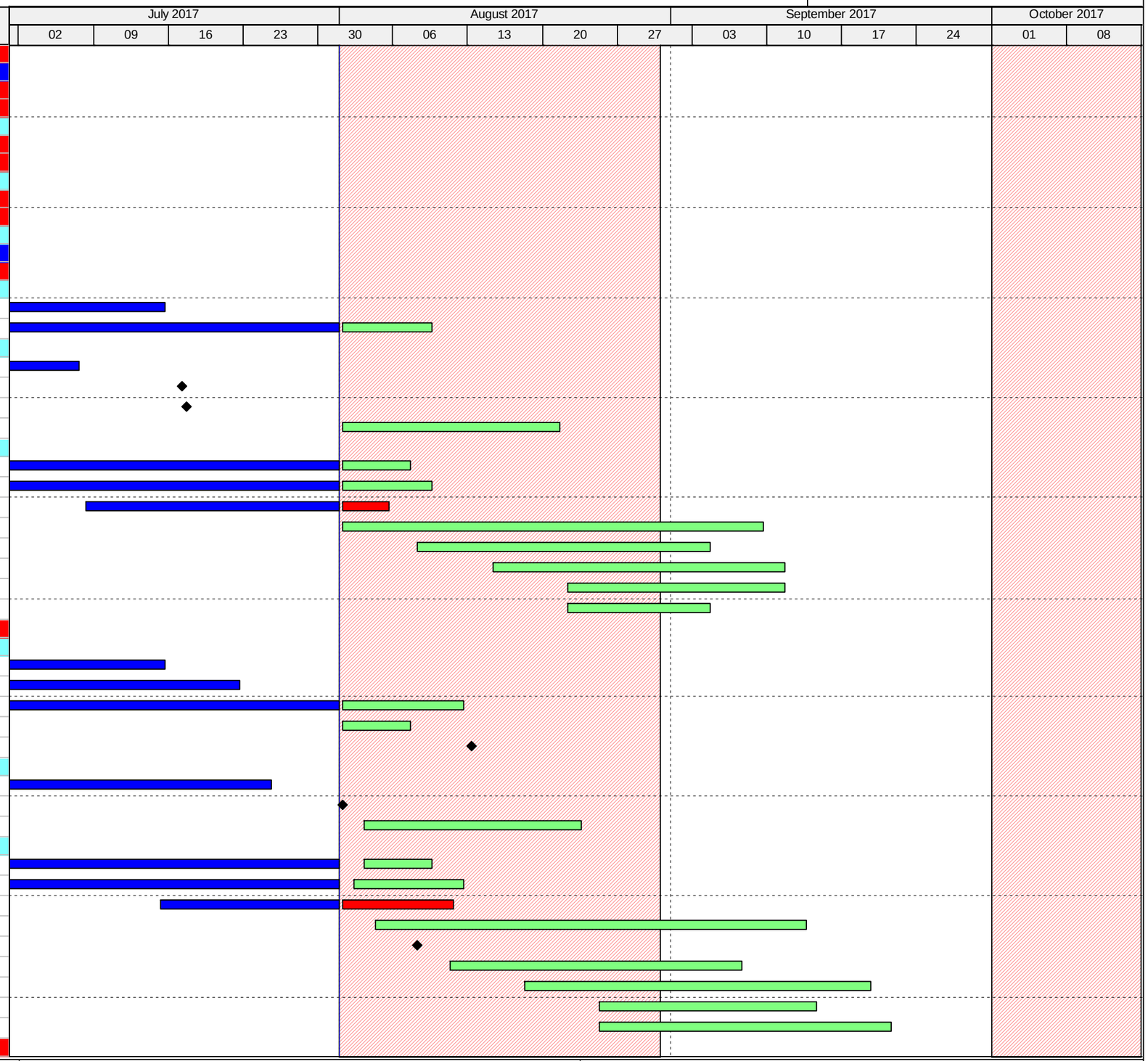
Activity ID	Activity Name
	Diesel Fuel Chamber
	Structure G/F to R/F
	G/F to 1/F Walls & Columns
	1/F Slab
	Cure and Strip
	1/F to 2/F Walls & Columns
	2/F Slab
	Cure and Strip
	2/f to R/F Walls & Columns
	Roof Level Slab
	Cure and Strip
	ABWF/E&M
	Ground Floor, South - G/F
	Degree 1, G/F
RAB-45-9775	045 - Plastering & Undercoat - G/F
RAB-45-9765	045 - Screed - G/F
	Degree 2, G/F
RAB-45-9805	045 - MEP 2nd Fix - G/F
RAB-45-9905	045 - Access for C3 to Install Equipment
RAB-45-10075	045 - Projeted achievement of Stage 8B of the Works - G/F
RAB-45-9895	045 - Door & Windor Frame + Louver - G/F
	Degree 3, G/F
RAB-45-10005	045 - Ceiling Paint - G/F
RAB-45-9935	045 - Wall Finish, Paint & Tile - G/F
RAB-45-9815	045 - MEP Final Fix - G/F
RAB-45-9915	045 - Floor Finish (Paint & Tile) - G/F
RAB-45-10035	045 - Ceiling Plaster Board Frame & Ceiling Panel Frame - G/F
RAB-45-9925	045 - Glazing - G/F
RAB-45-9945	045 - Door Panel & Ironmongery - G/F
RAB-45-10055	045 - Ceiling Plaster Board & Ceiling Panel- G/F
	First Floor, 1/F
	Degree 1, 1/F
RAB-45-9965	045 - Construct Blockwork Walls - 1/F
RAB-45-9985	045 - Plastering & Undercoat - 1/F
RAB-45-9975	045 - Screed - 1/F
RAB-45-9995	045 - C3, C6 & C8 Conduit Installation, 1/F***
RAB-45-10045	045 - Access for C3 Cabling Works, 1/F***
	Degree 2, 1/F
RAB-45-10015	045 - MEP 2nd Fix - 1/F
RAB-45-10065	045 - Access to C3 Equipment Instalaltion***
RAB-45-10105	045 - Door & Windor Frame + Louver - 1/F
	Degree 3, 1/F
RAB-45-10175	045 - Ceiling Paint - 1/F
RAB-45-10145	045 - Wall Finish, Paint & Tile - 1/F
RAB-45-10025	045 - MEP Final Fix - 1/F
RAB-45-10125	045 - Floor Finish (Paint & Tile) - 1/F
RAB-45-10275	045 - Handover to End users***
RAB-45-10205	045 - Ceiling Plaster Board Frame Ceiling Panel Frame- 1/F
RAB-45-10285	045 - Glazing - 1/F
RAB-45-10155	045 - Door Panel & Ironmongery - 1/F
RAB-45-10245	045 - Ceiling Plaster Board & Ceiling Panel - 1/F
	Second Floor, 2/F



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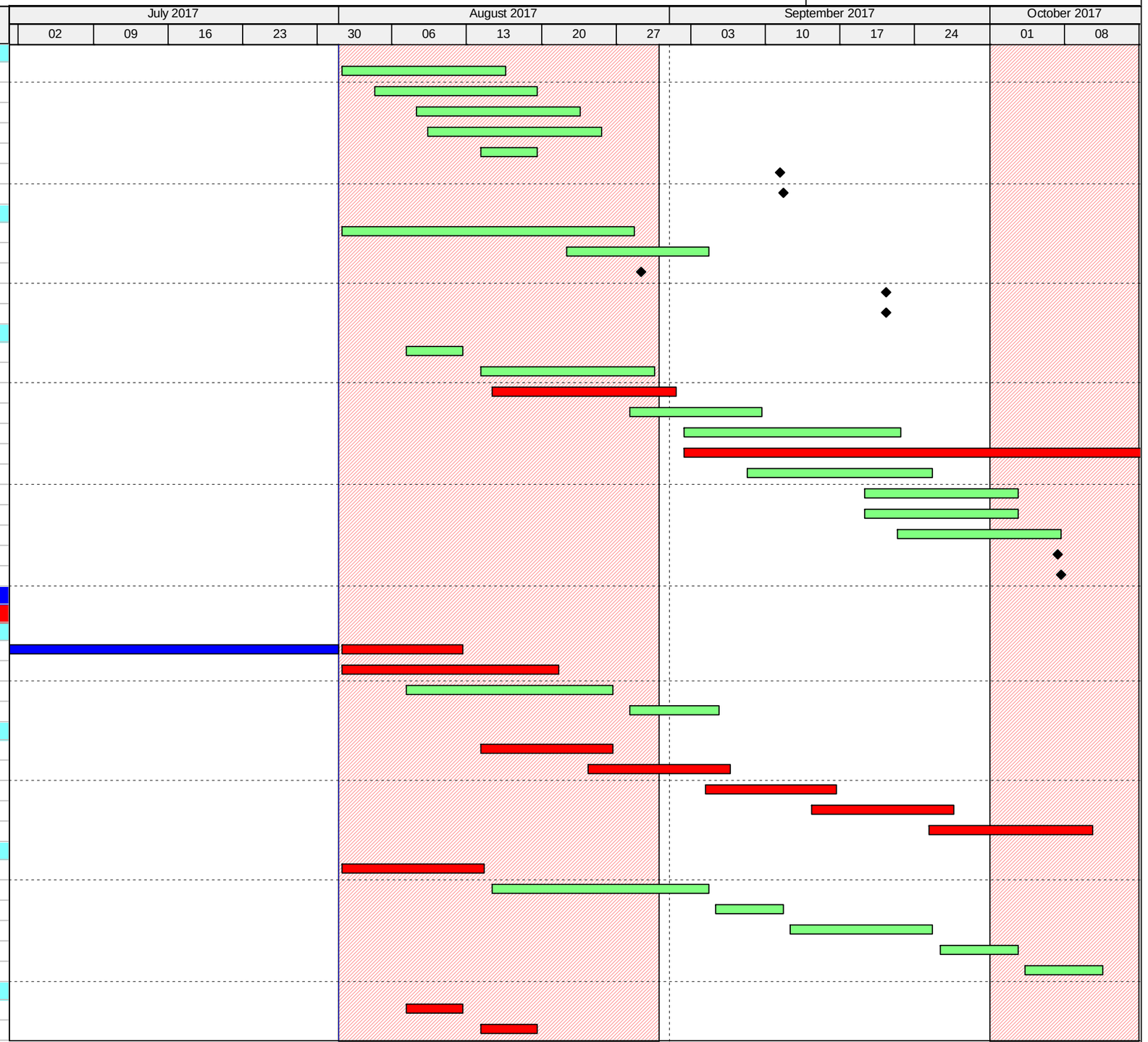
Activity ID	Activity Name
Degree 1, 2/F	
RAB-45-0810	045 - Construct Blockwork Walls - 2/F
RAB-45-10195	045 - Plastering & Undercoat - 2/F
RAB-45-10185	045 - Screed - 2/F
RAB-45-10165	045 - MEP 1st Fix - 2/F
RAB-45-0830	045 - Access to C3, C6 & C8 Conduit Installation, 2/F***
RAB-45-0840	045 - Access for C3 Cabling Works, 2/F***
RAB-45-0900	045 - Projeted achievement of Stage 8A of the Works - 2/F
Degree 2, 2/F	
RAB-45-10225	045 - MEP 2nd Fix - 2/F
RAB-45-10315	045 - Door & Windor Frame + Louver - 2/F
RAB-45-10255	045 - Power On - 2/F
RAB-45-0950	KD8B - Projected achievement of Stage 8B of the Works - 2/F, 045
RAB-45-10295	045 - Access for C3 Equip. Installation, 2/F***
Degree 3, 2/F	
RAB-45-10395	045 - Ceiling Paint - 2/F
RAB-45-10355	045 - Wall Finish, Paint & Tile - 2/F
RAB-45-10235	045 - MEP Final Fix - 2/F
RAB-45-10375	045 - Ceiling Plaster Board Frame & Ceiling Panel Frame - 2/F
RAB-45-10335	045 - Floor Finish (Paint & Tile) - 2/F
RAB-45-10305	045 - MEP Balance of Works
RAB-45-10345	045 - Glazing - 2/F
RAB-45-10365	045 - Door Panel & Ironmongery - 2/F
RAB-45-10385	045 - Ceiling Plaster Board & Ceiling Panel - 2/F
RAB-45-0980	045 - Snagging and Remedials - 2/F
RAB-45-10265	045 - End Users and MoM handover inspection
RAB-45-0970	KD8C - Projected achievement of Stage 8C of the Works - 2/F, 045
External Finishes	
Bldg. External Finishes	
Facade	
RAB-45-0630	045 - External Render
RAB-45-0620	045 - Install External Louvers /Windows/Doors
RAB-45-0690	045 - External Painting
RAB-45-0720	045 - Dismantle Scaffolding
At Grade	
RAB-45-6580	045 - Prepare Sub Grade
RAB-45-6570	045 - Laying Geo Textile
RAB-45-6590	045 - Lay Granular Sub-Base
RAB-45-6600	045 - Laying Course
RAB-45-6560	045 - Concrete Block Paving
Roof Finishes -	
RAB-45-0820	045 - Leveling screed
RAB-45-0860	045 - Waterproof membrane
RAB-45-0880	045 - Top Screed
RAB-45-0910	045 - Install Roof Tiles
RAB-45-0920	045 - Install Railing
RAB-45-0930	045 - Install Cat Ladder and Roof Hatch
Green Roof - Noth Side, 2/F Level	
RAB-45-0600	045 - Leveling screed
RAB-45-0650	045 - Waterproof membrane



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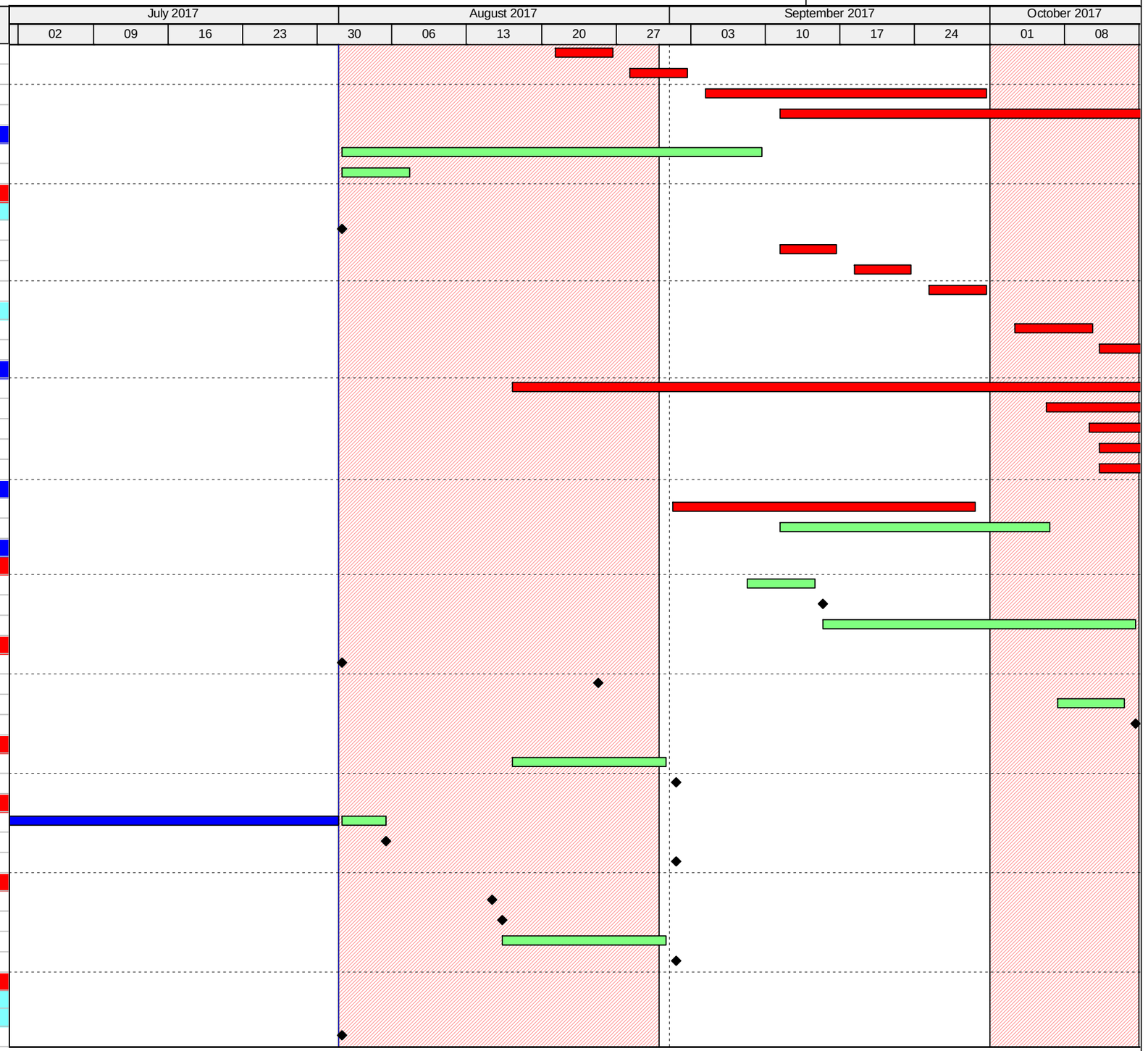
Activity ID	Activity Name
RAB-45-1210	045 - Insulation Board
RAB-45-0670	045 - Top Screed
RAB-45-0680	045 - Install green Roof Irrigation Systems
RAB-45-0740	045 - Complete Green Roofing Works
Specialist Installations	
RAB-45-0590	045 - Install Lift (1 nos)
RAB-45-1125	045 - Install Genset and swtich board G/F
Window Wall	
East	
RAB-45-6950	045 - Complete Formwork Stripping to Roof Level
RAB-45-6960	045 - Install Primary Steelwork for Window Wall
RAB-45-6970	045 - Install Secondary Steelwork for Window Wall
RAB-45-6980	045 - Glazing to Window Wall
West	
RAB-45-6990	045 - Install Primary Steelwork for Window Wall
RAB-45-7000	045 - Install Secondary Steelwork for Window Wall
Utilities and Drainage	
RAB-45-7935	045 - Construct Permanent Drainage and Manholes (Approx 180m)
RAB-45-7945	045 - Utiltites and Common Telecom Ducting
RAB-45-7955	045 - Install Flushing Water Mains
RAB-45-7965	045 - Install Fresh Water Mains
RAB-45-7975	045 - Install FS Water Main
Testing & Commissioning	
RAB-TC45-1020	045 - T&C (HVAC, FS, P&D, OTHERS)
RAB-TC45-1030	045 - T&C, Lift
Statutory Submissions & Approvals (Day 670 Completion)	
BBEO	
RAB-BEE-270	045 - Registered Energy Assessor Inspection & Certification
RAB-BEE-280	045 - Submit REA Certification to EDMS
RAB-BEE-290	045 - EDMS Issue of Cert of Compliance Registration (COCR)
EMSD - Building 045 Lift Inspection	
RAB-FSD-230	045 - Submit EMSD Form 3 (Commencement of Lift Installation)
RAB-FSD-240	045 - Submit EMSD Form 5 (Completion of Lift Installation)
RAB-FSD-250	045 - EMSD Lift Inspection
RAB-FSD-130	045 - EMSD Lift Certificate Issued - Building 045
Fuel Tank - DG License	
RAB-FSD-660	045 - FSD Inspection & Approval
RAB-FSD-680	045 - FSD Issue License
Generator Set - EPD Permit	
RAB-EPD-0120	045 - EPD Issue Permit
RAB-EPD-0130	045 - Submission Form 501to EPD
RAB-EPD-0140	045 - EPD Approval
Generator Set - DG Licence	
RAB-FSD-690	045- Genset Ready for DG Inspection
RAB-FSD-700	045 - Notify FSD for DG Inspection
RAB-FSD-710	045 - FSD (Vent) /FS Inspection/Process License
RAB-FSD-720	045 - DG Licence Issued
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-654	045 - Submit WWO 46 Pt. IV



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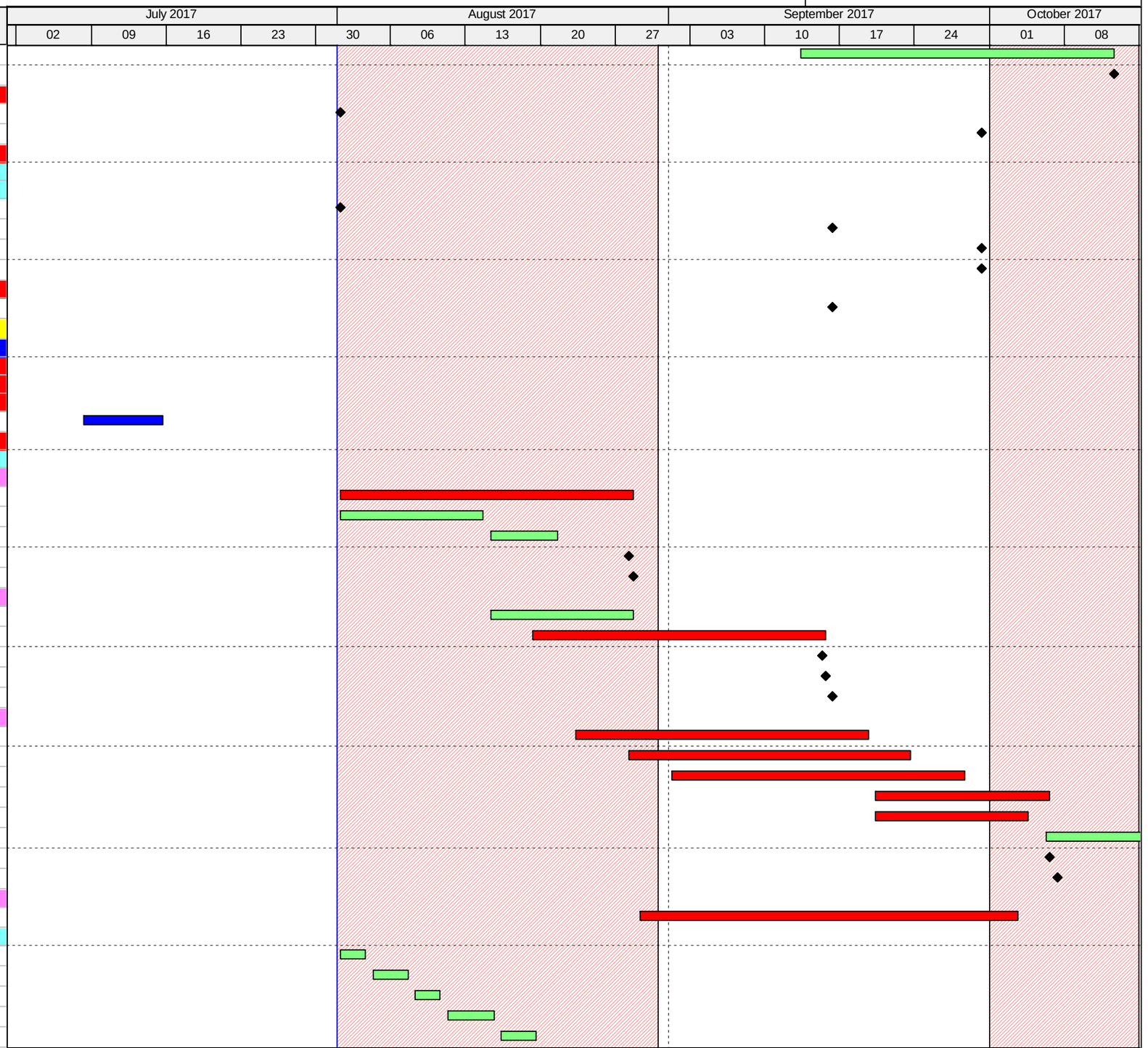
Activity ID	Activity Name
RAB-WSD-284	045 - WSD's Processing/Inspection/Meter Connection
RAB-WSD-294	045 - WSD Issue WWO 046 Part V, Plumbing Instl'n Cert & Connect
HVAC	
RAB-FSD-990	045 - Submit Form 314
RAB-FSD-1000	045 - Submit Form 501
FSD	
Commencement	
Completion	
RAB-FSD-440	045 - Submit WWO 46 Pt. I V - FS
RAB-FSD-600	045 - Submit WWO 46 Pt. V - FS
RAB-FSD-630	045 - Submit Form 501 - FS
RAB-FSD-830	045 - Submit Form 314 - FS
Engineer (AECOM)	
RAB-45-7310	045 - Submit Building 045 As Built Drawings to Engineer
Building 050 - Public Toilets Type 2	
Public Toilet (Portion H1)	
Excavation	
Raft	
Structure	
RAB-50-1080	050 H1 - Cure and Strip False/Formwork
ABWF/E&M	
Internal Finishes	
Degree 1	
RAB-50-1170	050 H1 - MEP 1st Fix
RAB-50-1340	050 H1 - Plastering & Undercoat
RAB-50-1320	050 H1 - Screeding
RAB-KD9A40	050 H1 - Access for C3 Cabling Works
RAB-KD9A10	KD9A - Projected achievement of Stage 9A of the Works
Degree 2	
RAB-50-1360	050 H1 - Louver / Door Frame
RAB-50-1270	050 H1 - MEP 2nd Fix
RAB-50-1380	050 H1 - Access for C3 Equip. Installation
RAB-KD9B10	KD9B - Projected achievement of Stage 9B of the Works
RAB-50-1300	050 H1 - Power On
Degree 3	
RAB-50-1310	050 H1 - Ceiling Frame
RAB-50-1350	050 H1 - Wall Finish
RAB-50-1370	050 H1 - Ceiling & Floor Finish
RAB-50-1280	050 H1 - MEP Final Fix
RAB-50-1390	050 H1 - Door panel & Ironmongery
RAB-50-1290	050 H1 - Snagging and Remedials
RAB-KD9C10	KD9C - Projected achievement of Stage 9C of the Works
RAB-50-7460	050 H1 - End Users and MoM handover inspection
Specialist installation	
RAB-50-1240	050 H1 - Installation of Sanitaryware and Fixtures
Roof Finishes	
RAB-50-1130	050 H1 - Leveling screed - 140m²
RAB-50-1140	050 H1 - Waterproof membrane - 140m²
RAB-50-1160	050 H1 - Top Screed - 140m²
RAB-50-1180	050 H1 - Install Roof Tiles - 140m²
RAB-50-1200	050 H1 - Install Railing - 49m



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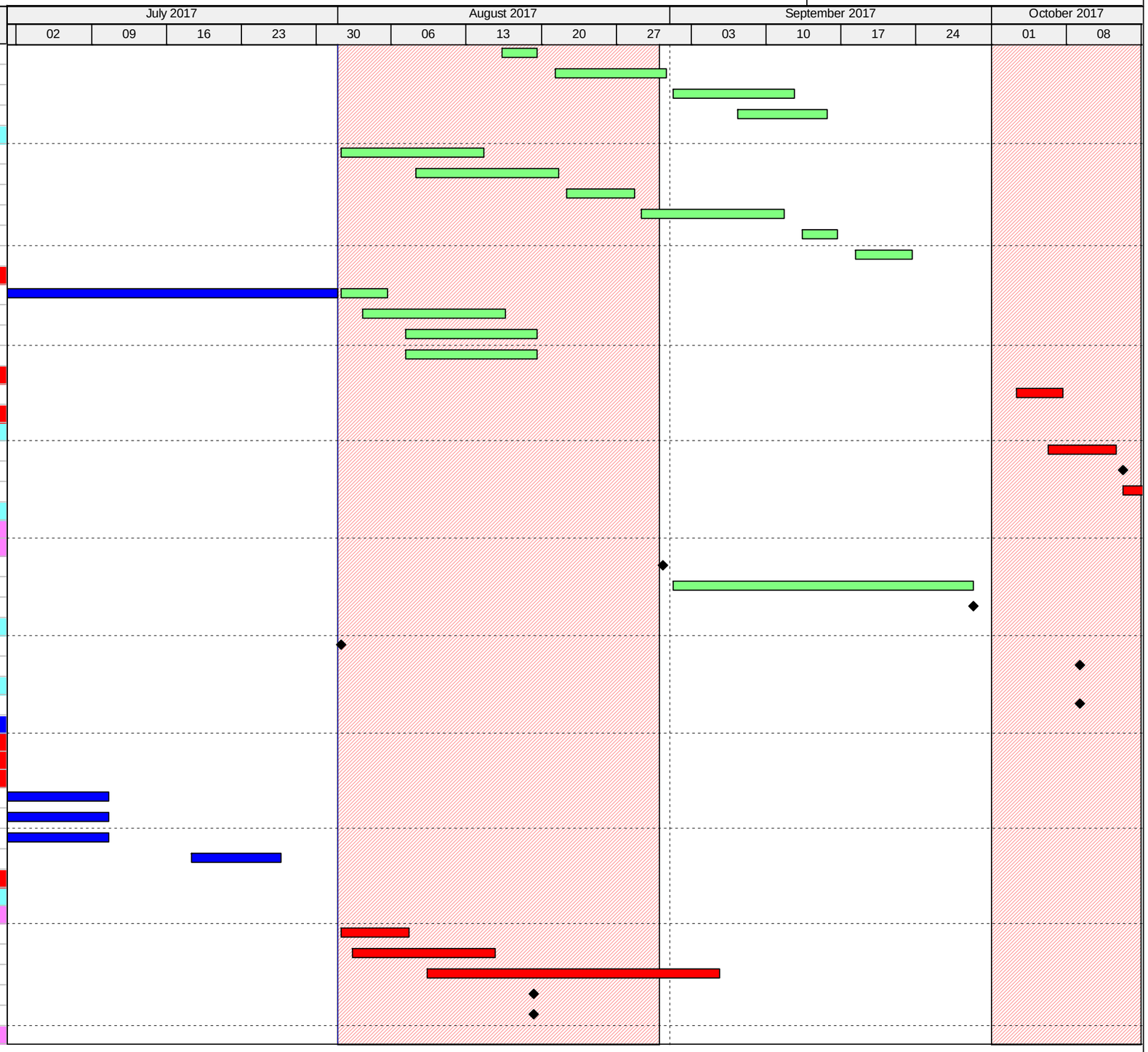
Activity ID	Activity Name
RAB-50-1210	050 H1 - Install Cat Ladder and Roof Access Hatch
RAB-50-4470	050 H1 - Installation of Aluminium Canopy
RAB-50-4320	050 H1 - Install Aluminium Cladding
RAB-50-1100	050 H1 - Install Skylights (8No)
External Finishes	
RAB-50-1120	050 H1 - Install External Louvers /Windows/Doors
RAB-50-1150	050 H1 - External Render
RAB-50-1190	050 H1 - External Tiling
RAB-50-1220	050 H1 - External Painting
RAB-50-1250	050 H1 - Dismantle Scaffolding
RAB-50-1260	050 H1 - Make good external surfaces
Utilities and Drainage	
RAB-50-8015	050 H1 - Construct Permanent Drainage and Manholes (Approx 20n
RAB-50-8025	050 H1 - Utiltites and Common Telecom Ducting
RAB-50-8035	050 H1 - Install Flushing Water Mains
RAB-50-8045	050 H1 - Install Fresh Water Mains
Testing & Commissioning	
RAB-TC50-1000	050 H1 - T&C (HVAC, FS, P&D, OTHERS)
Statutory Submissions & Approvals (Day 670 Completion)	
BBEO	
RAB-BEE-300	050 H1 - Registered Energy Assessor Inspection & Certification
RAB-BEE-310	050 H1 - Submit REA Certification to EDMS
RAB-BEE-320	050 H1 - EDMS Issue of Cert of Compliance Registration (COCR)
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-454	050 H1 - Submit WWO 46 Pt. IV
RAB-WSD-464	050 H1 - WSD Inspection/Meter Connection for Building 050
RAB-WSD-474	050 H1 - WSD Issue WWO 046 Part V, Cert Plumbing Instl'n Compl
Fire Servives Department (VAC)	
RAB-FSD-1080	050 H1 - Submit Form 314
RAB-FSD-1090	050 H1 - Submit Form 501
Engineer (AECOM)	
RAB-50-7340	050 H1 - Submit Building 050 H1 As Built Drawings to Engineer
Public Toilet (Portion H2)	
Excavation	
Raft	
Structure	
RAB-50-4330	050 H2 - Construct Roof Floor at +11.525mPD
RAB-50-2060	050 H2 - Construct RC Walls (External and Internal)
RAB-50-2070	050 H2 - Construct RC Support Columns for Aluminium Solar Shade
RAB-50-2080	050 H2 - Cure and Strip False/Formwork
ABWF/E&M	
Internal Finishes	
Degree 1	
RAB-50-2310	050 H2 - Screeding
RAB-50-2330	050 H2 - Plastering & Undercoat
RAB-50-2170	050 H2 - MEP 1st Fix
RAB-KD10A10	050 H2 - Projected achievement of Stage 10A of the Works
RAB-50-2390	050 H2 - Access for C3 Cabling Works
Degree 2	



Remaining Level of Effort | Actual Work | Critical Remaining ...
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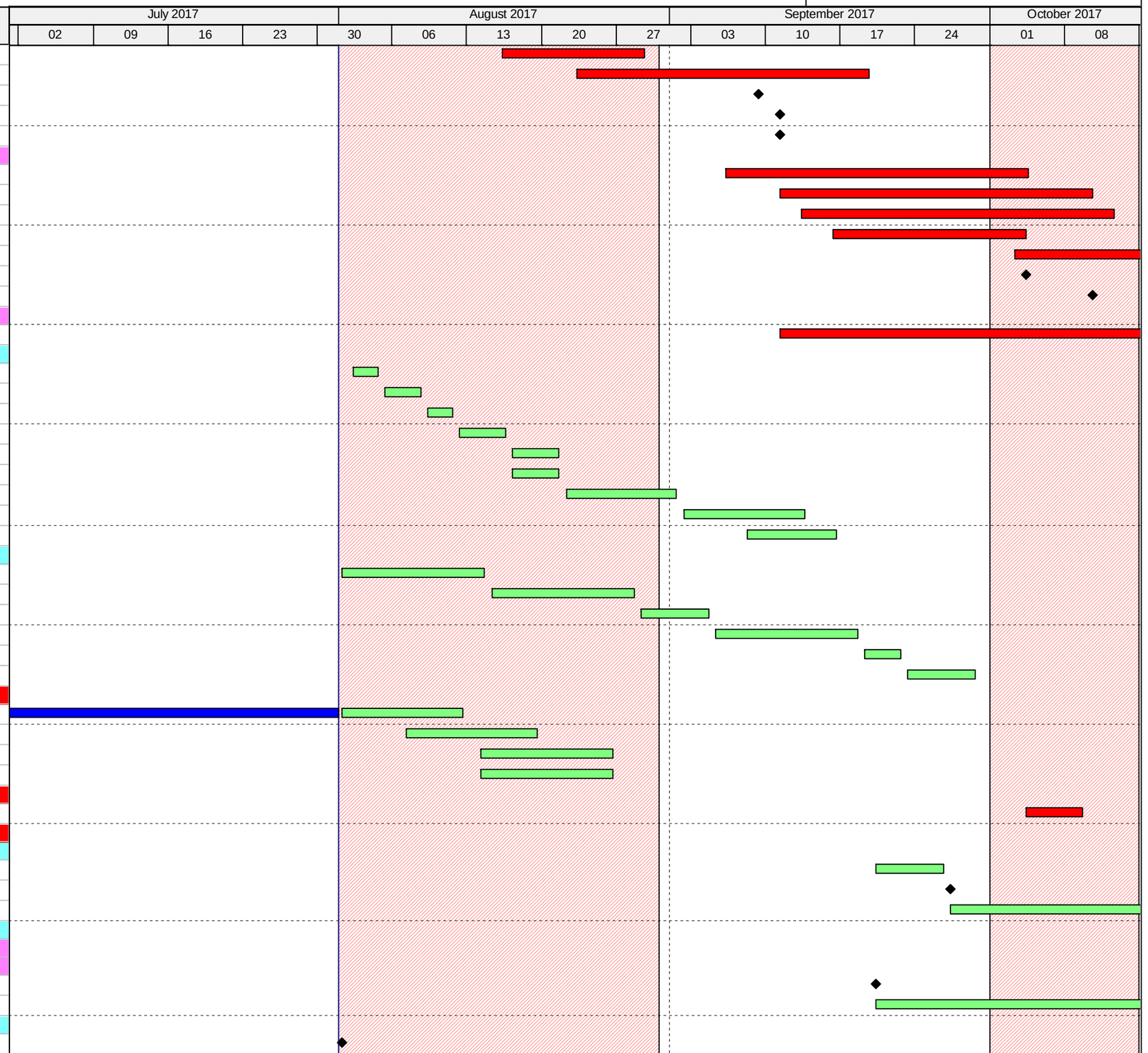
Activity ID	Activity Name
RAB-50-2360	050 H2 - Louver / Door Frame
RAB-50-2270	050 H2 - MEP 2nd Fix
RAB-50-2300	050 H2 - Power On
RAB-KD10B10	050 H2 - Projected achievement of Stage 10B of the Works
RAB-KD10B40	050 H2 - Access for C3 Equip. Installation
Degree 3	
RAB-50-2340	050 H2 - Ceiling Frame
RAB-50-2350	050 H2 - Wall Finish
RAB-50-2370	050 H2 - Ceiling & Floor Finish
RAB-50-2280	050 H2 - MEP Final Fix
RAB-50-2380	050 H2 - Door panel & Ironmongery
RAB-50-7470	050 H2 - End Users and MoM handover inspection
RAB-KD10C10	050 H2 - Projected achievement of Stage 10C of the Works
Specialist installation	
RAB-50-2240	050 H2 - Installation of Sanitaryware and Fixtures
Roof Finishes	
RAB-50-2130	050 H2 - Leveling screed - 140m²
RAB-50-2140	050 H2 - Waterproof membrane - 140m²
RAB-50-2160	050 H2 - Top Screed - 140m²
RAB-50-2180	050 H2 - Install Roof Tiles - 140m²
RAB-50-2200	050 H2 - Install Railing - 49m
RAB-50-2210	050 H2 - Install Cat Ladder and Roof Access Hatch
RAB-50-2230	050 H2 - Installation of Aluminium Canopy
RAB-50-4360	050 H2 - Install Aluminium Cladding
RAB-50-2100	050 H2 - Install Skylights (8No)
External Finishes	
RAB-50-2120	050 H2 - Install External Louvers /Windows/Doors
RAB-50-2150	050 H2 - External Render
RAB-50-2190	050 H2 - External Tiling
RAB-50-2220	050 H2 - External Painting
RAB-50-2250	050 H2 - Dismantle Scaffolding
RAB-50-2260	050 H2 - Make good external surfaces
Utilities and Drainage	
RAB-50-7895	050 H2 - Construct Permanent Drainage and Manholes (Approx 20n
RAB-50-7905	050 H2 - Utiltites and Common Telecom Ducting
RAB-50-7915	050 H2 - Install Flushing Water Mains
RAB-50-7925	050 H2 - Install Fresh Water Mains
Testing & Commissioning	
RAB-TC50-1010	050 H2 - T&C (HVAC, FS, P&D, OTHERS)
Statutory Submissions & Approvals (Day 670 Completion)	
BBEO	
RAB-BEE-330	050 H2 - Registered Energy Assessor Inspection & Certification
RAB-BEE-340	050 H2 - Submit REA Certification to EDMS
RAB-BEE-350	050 H2 - EDMS Issue of Cert of Compliance Registration (COCR)
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-594	050 H2 - Submit WWO 46 Pt. IV
RAB-WSD-434	050 H2 - WSD Inspection/Meter Connection for Building 050
Fire Servives Department (VAC)	
RAB-FSD-1110	050 H2 - Submit Form 314



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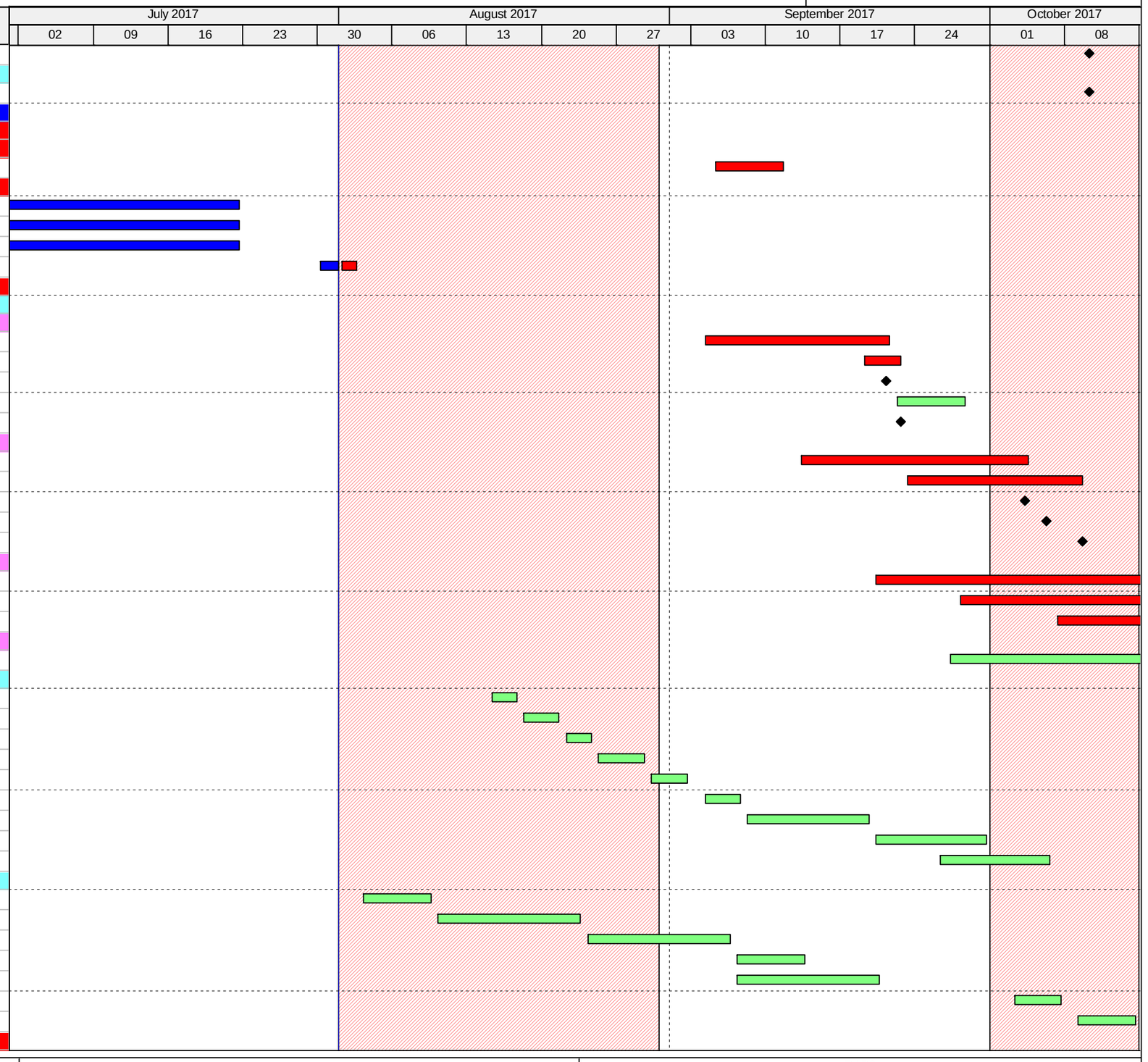
Contract No. HY/2014/05 - Remaining Ancillary Building and Facilities

Activity ID	Activity Name
RAB-FSD-1120	050 H2 - Submit Form 501
Engineer (AECOM)	
RAB-50-7370	050 H2 - Submit Building 050 H1 As Built Drawings to Engineer
Public Toilet (Portion A1)	
Excavation	
Raft	
RAB-50-3050	050 A1 - Ground Slab
Structure	
RAB-50-3060	050 A1 - Construct RC Walls (External and Internal)
RAB-50-3070	050 A1 - Construct Roof Floor at +11.525mPD (140m²) (21m³)
RAB-50-4340	050 A1 - Construct RC Support Columns for Aluminium Solar Shade
RAB-50-3080	050 A1 - Cure and Strip False/Formwork
ABWF/E&M	
Internal Finishes	
Degree 1	
RAB-50-3170	050 A1 - MEP 1st Fix
RAB-50-3310	050 A1 - Plastering & Undercoat
RAB-50-3330	050 A1 - Access for C3 for Cabling Works
RAB-50-3320	050 A1 - Screeding
RAB-KD11A10	KD11A - Projected achievement of Stage 11A of the Works
Degree 2	
RAB-50-3270	050 A1 - MEP 2nd Fix
RAB-50-3360	050 A1 - Louver / Door Frame
RAB-50-3390	050 A1 - Access for C3 for Equip. Installation
RAB-50-3300	050 A1 - Power On
RAB-KD11B10	KD11B - Projected achievement of Stage 11B of the Works
Degree 3	
RAB-50-3340	050 A1 - Ceiling Frame
RAB-50-3350	050 A1 - Wall Finish
RAB-50-3370	050 A1 - Ceiling & Floor Finish
Specialist installation	
RAB-50-3240	050 A1 - Installation of Sanitaryware and Fixtures
Roof Finishes	
RAB-50-3130	050 A1 - Leveling screed - 140m²
RAB-50-3140	050 A1 - Waterproof membrane - 140m²
RAB-50-3160	050 A1 - Top Screed - 140m²
RAB-50-3180	050 A1 - Install Roof Tiles - 140m²
RAB-50-3200	050 A1 - Install Railing - 49m
RAB-50-3210	050 A1 - Install Cat Ladder and Roof Access Hatch
RAB-50-3230	050 A1 - Installation of Aluminium Canopy
RAB-50-4370	050 A1 - Install Aluminium Cladding
RAB-50-3100	050 A1 - Install Skylights (8No)
External Finishes	
RAB-50-3090	050 A1 - Erect External Scaffolding
RAB-50-3120	050 A1 - IInstall External Louvers /Windows/Doors
RAB-50-3150	050 A1 - External Render (From Bldg 050 H2)
RAB-50-3190	050 A1 - External Tiling
RAB-50-3220	050 A1 - External Painting
RAB-50-3250	050 A1 - Dismantle Scaffolding
RAB-50-3260	050 A1 - Make good external surfaces
Utilities and Drainage	



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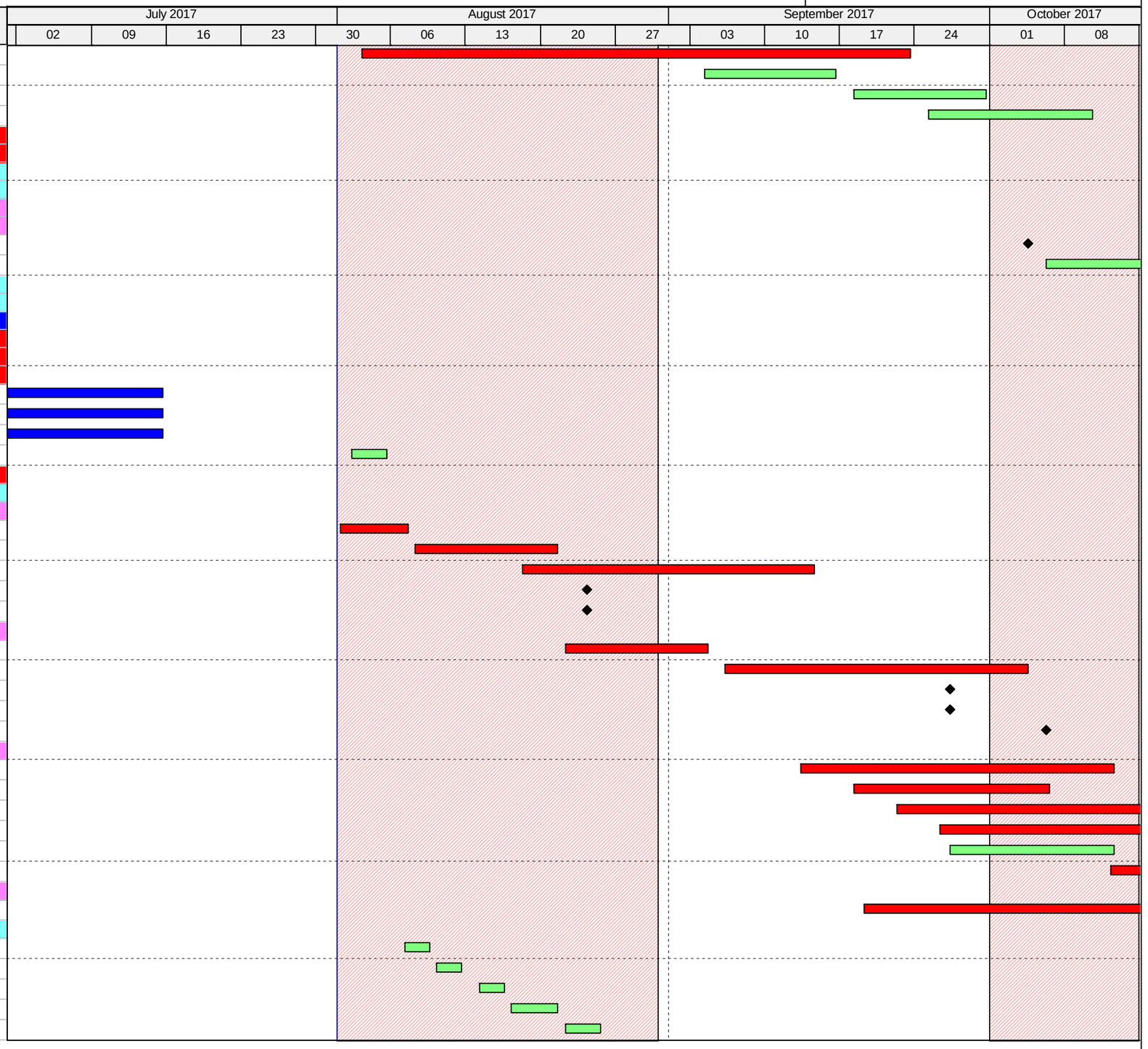
Activity ID	Activity Name
RAB-50-7935	050 A1 - Construct Permanent Drainage and Manholes
RAB-50-7965	050 A1 - Install Fresh Water Mains
RAB-50-7945	050 A1 - Utiltites and Common Telecom Ducting
RAB-50-7955	050 A1 - Install Flushing Water Mains
Testing & Commissioning	
Statutory Submissions & Approvals (Day 670 Completion)	
BBEO	
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-394	050 A1 - Submit WWO 46 Pt. IV
RAB-WSD-404	050 A1 - WSD Inspection/Meter Connection
Fire Servives Department (VAC)	
Engineer (Aecom)	
Public Toilet (Portion A2)	
Excavation	
Raft	
Structure	
RAB-50-4060	050 A2 - Construct RC Walls (External and Internal)
RAB-50-4070	050 A2 - Construct Roof Floor at +11.525mPD (140m²) (21m³)
RAB-50-4350	050 A2 - Construct RC Support Columns for Aluminium Solar Shade
RAB-50-4080	050 A2 - Cure and Strip False/Formwork
ABWF/E&M	
Internal Finishes	
Degree 1	
RAB-50-4400	050 A2 - Screeding
RAB-50-4420	050 A2 - Plastering & Undercoat
RAB-50-4170	050 A2 - MEP 1st Fix
RAB-KD12A10	KD12A - Projected achievement of Stage 12A of the Works
RAB-50-4410	050 A2 - Access for C3 Cabling Works
Degree 2	
RAB-50-4440	050 A2 - Louver / Door Frame
RAB-50-4270	050 A2 - MEP 2nd Fix
RAB-KD12B10	KD12B - Projected achievement of Stage 12B of the Works
RAB-50-4480	050 A2 - Access for C3 Equip. Installation
RAB-50-4300	050 A2 - Power On
Degree 3	
RAB-50-4390	050 A2 - Ceiling Frame
RAB-50-4280	050 A2 - MEP Final Fix
RAB-50-4430	050 A2 - Wall Finish
RAB-50-4450	050 A2 - Ceiling & Floor Finish
RAB-50-4290	050 A2 - Snagging and Remedials
RAB-50-4460	050 A2 - Door panel & Ironmongery
Specialist installation	
RAB-50-4240	050 A2 - Installation of Sanitaryware and Fixtures
Roof Finishes	
RAB-50-4130	050 A2 - Leveling screed - 140m²
RAB-50-4140	050 A2 - Waterproof membrane - 140m²
RAB-50-4160	050 A2 - Top Screed - 140m²
RAB-50-4180	050 A2 - Install Roof Tiles - 140m²
RAB-50-4200	050 A2 - Install Railing - 49m



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Actual Level of Effort | Remaining Work | Finish Constraint

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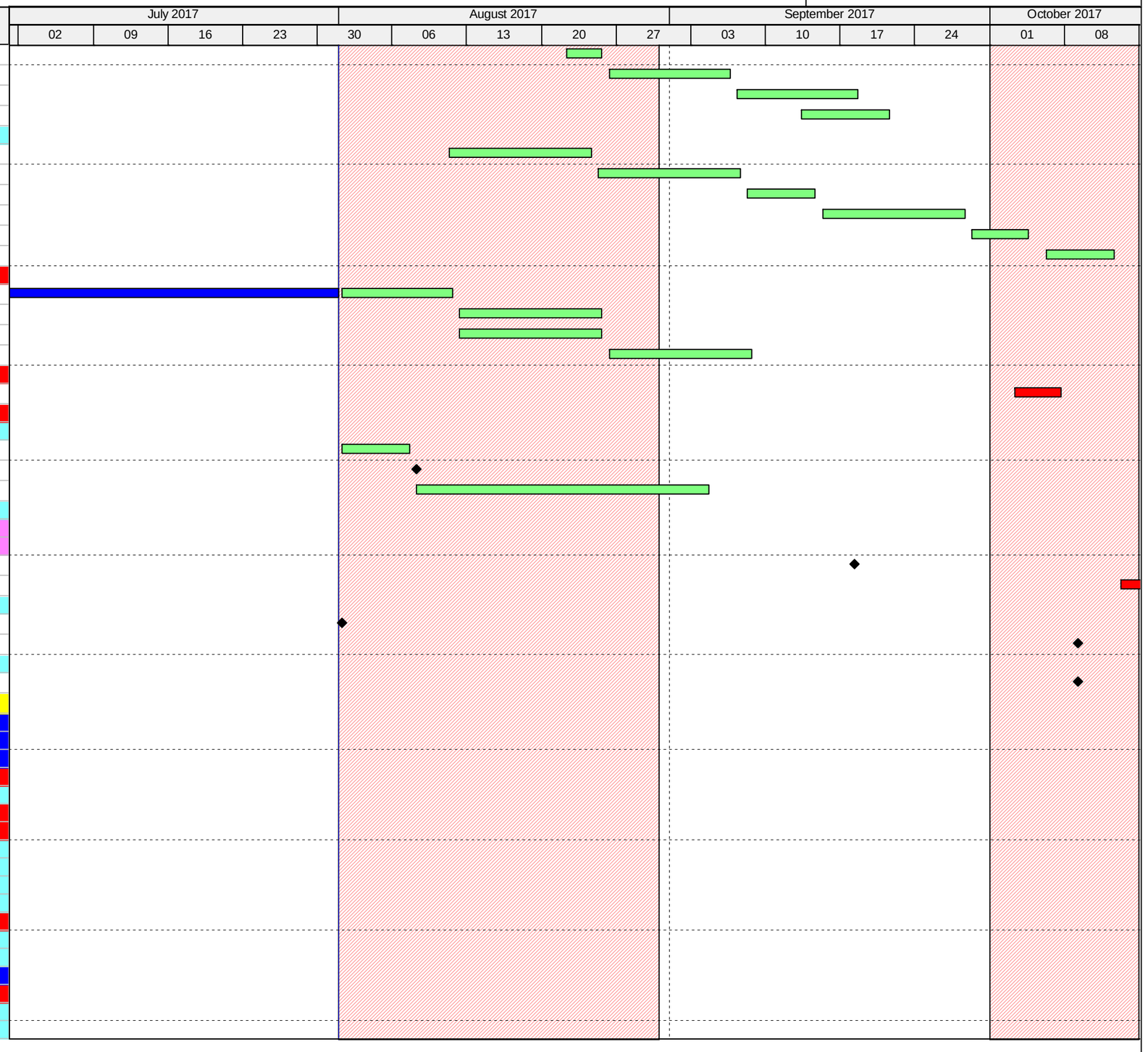
Activity ID	Activity Name
RAB-50-4210	050 A2 - Install Cat Ladder and Roof Access Hatch
RAB-50-4230	050 A2 - Installation of Aluminium Canopy
RAB-50-4380	050 A2 - Install Aluminium Cladding
RAB-50-4100	050 A2 - Install Skylights (8No)
External Finishes	
RAB-50-4120	050 A2 - Install External Louvers /Windows/Doors
RAB-50-4150	050 A2 - External Render
RAB-50-4190	050 A2 - External Tiling
RAB-50-4220	050 A2 - External Painting
RAB-50-4250	050 A2 - Dismantle Scaffolding
RAB-50-4260	050 A2 - Make good external surfaces
Utilities and Drainage	
RAB-50-7975	050 A2 - Construct Permanent Drainage and Manholes (Approx 20m
RAB-50-7995	050 A2 - Install Flushing Water Mains
RAB-50-8005	050 A2 - Install Fresh Water Mains
RAB-50-7985	050 A2 - Utiltites and Common Telecom Ducting
Testing & Commissioning	
RAB-TC50-1030	050 A2 - T&C (HVAC, FS, P&D, OTHERS)
Statutory Submissions & Approvals (Day 670 Completion)	
BBEO	
RAB-BEE-390	050 A2 - Registered Energy Assessor Inspection & Certification
RAB-BEE-400	050 A2 - Submit REA Certification to EDMS
RAB-BEE-410	050 A2 - EDMS Issue of Cert of Compliance Registration (COCR)
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-124	050 A2 - Submit WWO 46 Pt. IV
RAB-WSD-134	050 A2 - WSD Inspection/Meter Connection for Building 050
Fire Servives Department (VAC)	
RAB-FSD-260	050 A2 - Submit Form 314
RAB-FSD-270	050 A2 - Submit Form 501
Engineer (AECOM)	
RAB-50-7430	050 A2 - Submit Building 050 H1 As Built Drawings to Engineer
Building 053 - Outbound X-Ray Building	
Excavation	
Raft	
Structure	
External Walls	
To First Floor Level	
Internal Structures	
First Floor	
Slabs	
Cure and Strip	
1/F - Roof Level	
Staircases	
Roof Floor	
Slabs	
Cure and Strip	
ABWF/E&M	
Ground Floor	
Degree 1 - G/F	
Degree 2 - G/F	



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Actual Level of Effort
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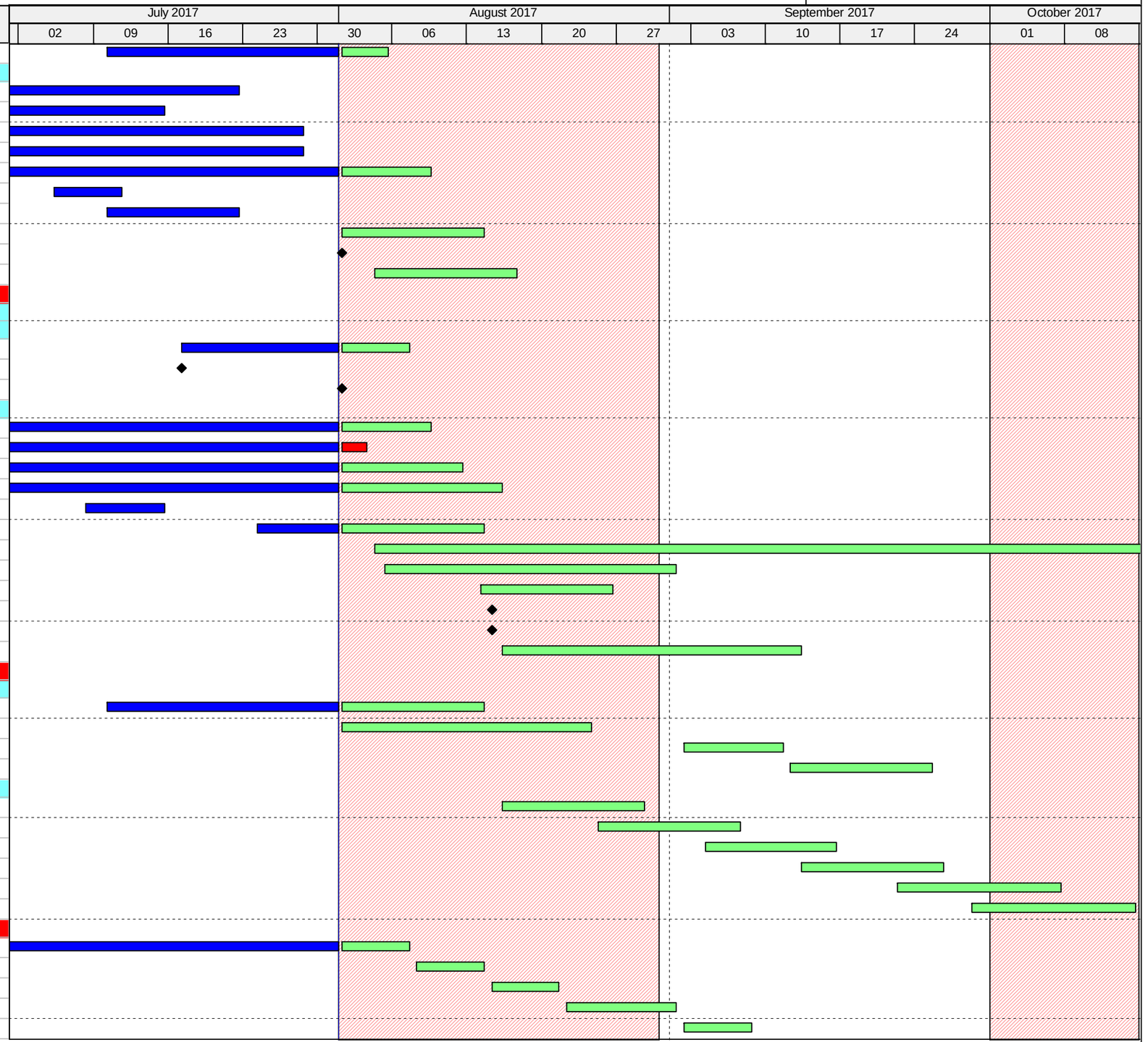
Activity ID	Activity Name
RAB-53-7895	053 - Frame for Wall Panel & Cladding, G/F
Degree 3 - G/F	
RAB-53-0660	053 - Wall Tiling & Wall Painting Final Coat (2), G/F
RAB-53-0730	053 - MEP Final Fix, G/F
RAB-53-8135	053 - Ceiling Plaster Board Sub-Frame, G/F
RAB-53-8205	053 - Floor Painting & Tiling, G/F
RAB-53-0710	053 - Door Panel & Ironmongery, G/F
RAB-53-0690	053 - Raised Floor System, G/F
RAB-53-8145	053 - Floor Carpet G/F
RAB-53-7915	053 - Ceiling Plaster Board, G/F
RAB-53-8225	053 - Early Handover Rooms Ready to End User
RAB-53-0700	053 - Glazing, G/F
First Floor	
Degree 1 - 1/F	
Degree 2 - 1/F	
RAB-53-8015	053 - Frame for Wall Panel & Cladding, 1/F
RAB-53-8175	053 - Access to C7 equipment Installatrion***
RAB-53-8065	053 - Power On, 1/F
Degree 3 - 1/F	
RAB-53-8155	053 - Wall Tiling & Wall Painting Final Coat (2), 1/F
RAB-53-8105	053 - MEP Final Fix, 1/F
RAB-53-7985	053 - Ceiling Plaster Board Sub-Frame, 1/F
RAB-53-8215	053 - Floor Painting & Tiling, 1/F
RAB-53-8165	053 - Floor Carpet, 1/F
RAB-53-8085	053 - Door Panel & Ironmongery, 1/F
RAB-53-8195	053 - MEP Balance of Works
RAB-53-8075	053 - Glazing, 1/F
RAB-53-7995	053 - Ceiling Plaster Board, 1/F
RAB-53-8095	053 - Projected Achievement of Stage 1C, 1/F
RAB-53-8185	053 - Early Handover Rooms to End Users***
RAB-53-8125	053 - Snagging and Remedials, 1/F
External Finishes	
External Facade	
RAB-53-0440	053 - Install External Louvers /Windows/Doors
RAB-53-0500	053 - External Painting
RAB-53-0570	053 - Dismantle Scaffolding
RAB-53-0640	053 - Make good external surfaces
At Grade	
RAB-53-7615	053 - Prepare Sub Grade
RAB-53-7885	053 - Laying Geo Textile
RAB-53-7625	053 - Lay Granular Sub-Base
RAB-53-7635	053 - Laying Course
RAB-53-7695	053 - Concrete Block Paving
RAB-53-7705	053 - Snag Listing
Roof Finishes	
RAB-53-0460	053 - Waterproof Membrane - (490m²)
RAB-53-670	053 - Insulation Board - (490m²)
RAB-53-0490	053 - Top Screed - (490m²)
RAB-53-0520	053 - Install Roof Tiles - (490m²)
RAB-53-0530	053 - Install Railing - 105m



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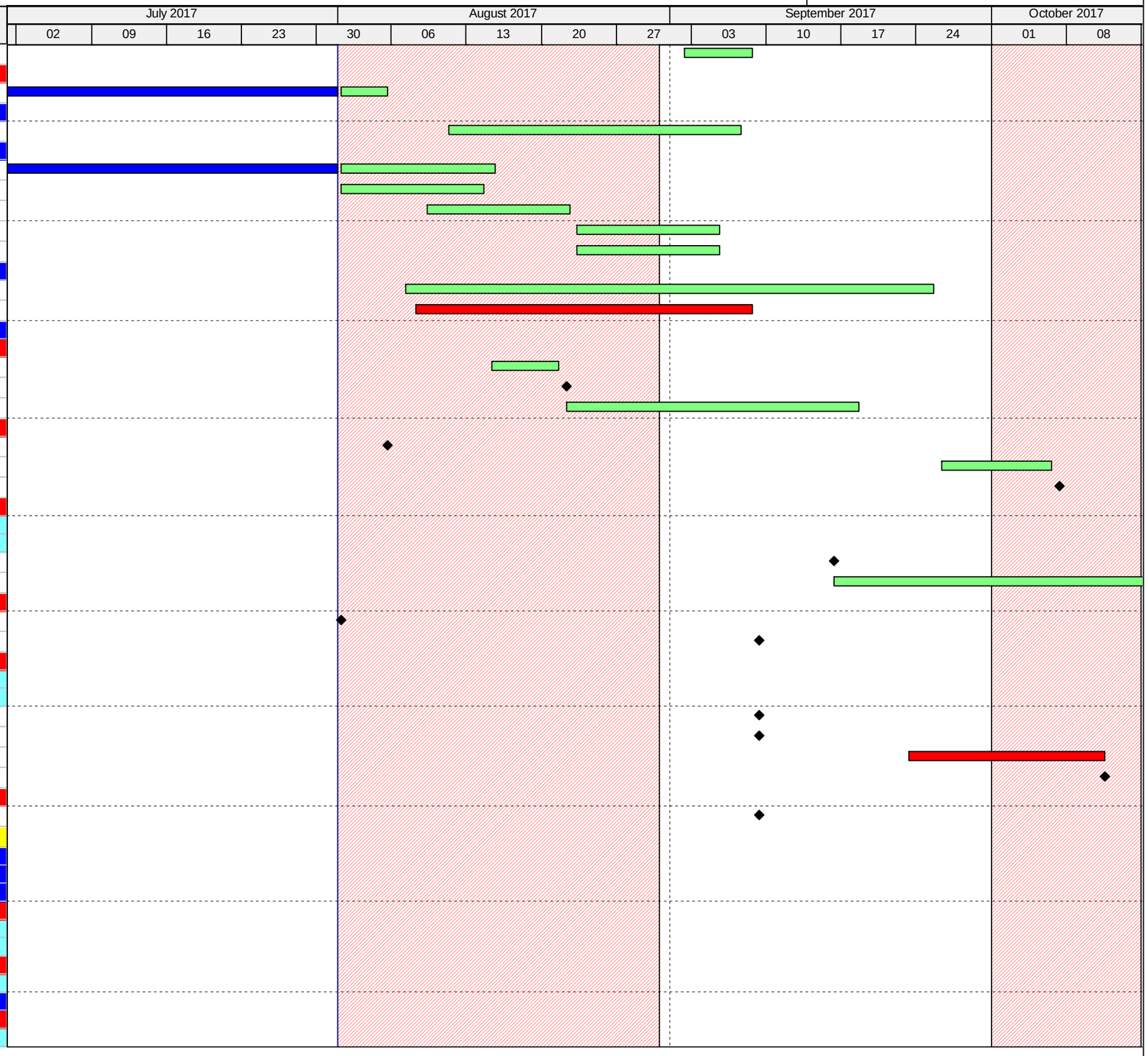
Activity ID	Activity Name
RAB-53-0540	053 - Install Cat Ladder and Roof Hatch
Spacialist Installations	
RAB-53-0600	053 - Install Lift (1 nos)
Glazed Canopy	
RAB-53-0620	053 - Construct high level Canopy at +9.95mPD
Utilities and Drainage	
RAB-53-7595	053 - Construct Permanent Drainage and Manholes (Approx 135m)
RAB-53-7610	053 - Install Flushing Water Mains
RAB-53-7605	053 - Utiltites and Common Telecom Ducting
RAB-53-7620	053 - Install Fresh Water Mains
RAB-53-7655	053 - Install FS Water Main
Testing & Commissioning	
RAB-TC53-1050	053 - T&C, Lift
RAB-TC53-1040	053 - T&C (HVAC, FS, P&D, OTHERS)
Statutory Submissions & Approvals (Day 470 Completion)	
BBEO	
RAB-BEE-420	053 - Registered Energy Assessor Inspection & Certification
RAB-BEE-430	053 - Submit REA Certification to EDMS
RAB-BEE-440	053 - EDMS Issue of Cert of Compliance Registration (COCR)
EMSD - Building 053 Lift Inspection	
RAB-FSD-150	053 - Submit EMSD Form 5 (Completion of Lift Installation)
RAB-FSD-160	053 - EMSD Lift Inspection
RAB-FSD-090	053 - EMSD Lift Certificate Issued (Fire Lift)
Water Supplies Department (WSD)	
Commencement	
Completion	
RAB-WSD-100	053 - Submit WWO 46 Pt. IV
RAB-WSD-102	053 - WSD's Processing/Inspection/Meter Connection
VAC	
RAB-FSD-1140	053 - Submit Form 314
RAB-FSD-1150	053 - Submit Form 501
FSD	
Commencement	
Completion	
RAB-FSD-410	053 - Submit WWO 46 Pt. I V
RAB-FSD-670	053 - Submit Form 501
RAB-FSD-420	053 - FSD Inspection Period
RAB-FSD-430	053 - Issue Form 172, FS Compliance Cert.
Engineer (AECOM)	
RAB-53-7460	053 - Submit Building 053 As Built Drawings to Engineer
Building 058 - Outbound X-Ray Scan Tunnel	
Excavation	
Raft	
Structure	
Walls	
South	
North	
Roof Slabs	
Cure and Strip	
ABWF/E&M	
Internal Finishes	
Degree 1	



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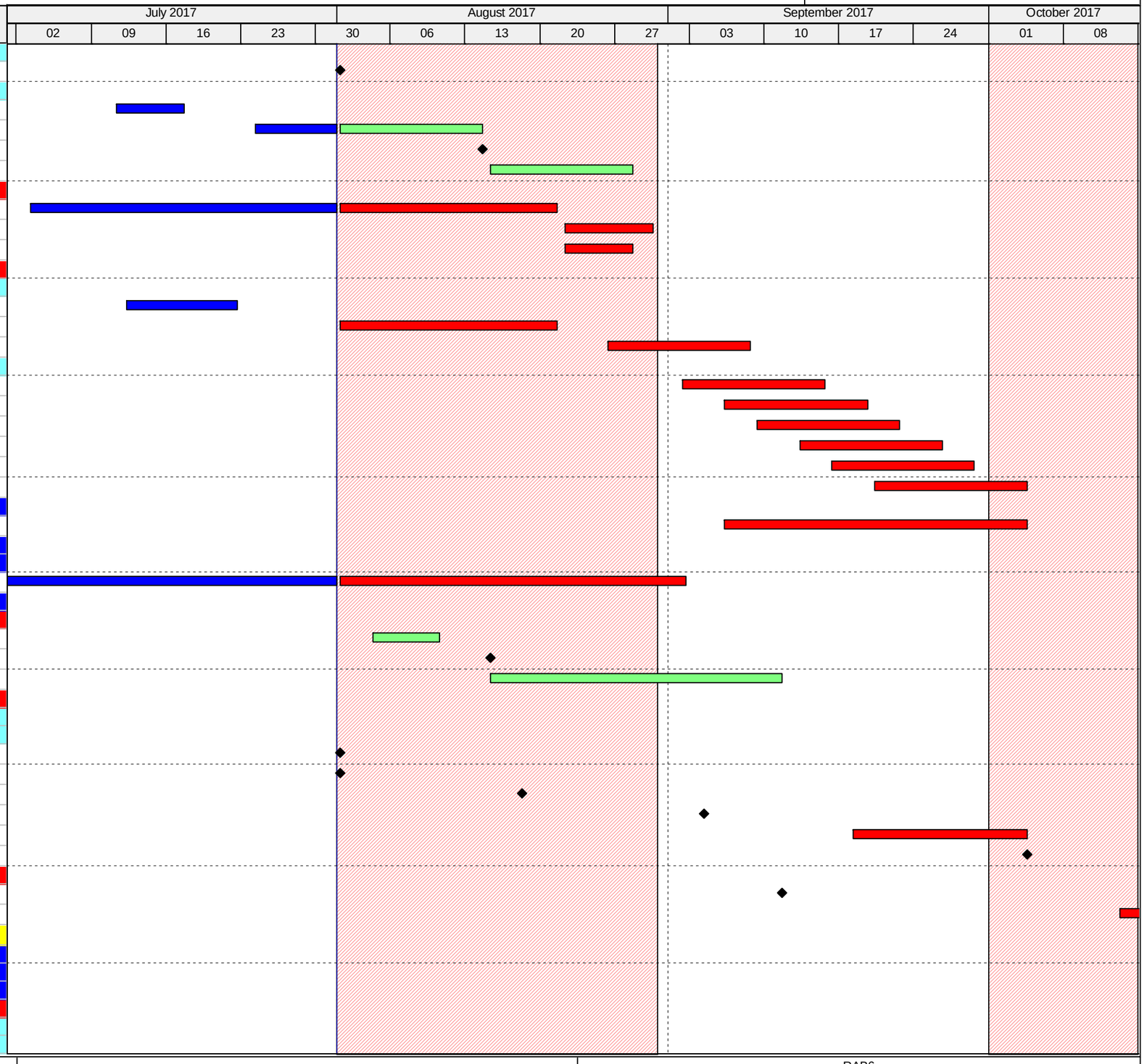
Activity ID	Activity Name
	Degree 2
RAB-58-0640	058 - Power On
	Degree 3
RAB-58-0710	058 - Door Panel (By other)
RAB-58-0700	058 - Floor Finish (Epoxy Paint)
RAB-58-7520	058 - End Users and MoM handover inspection
RAB-58-0660	058 - Snagging and Remedials, Bldg. Internal
	Roof Finishes
RAB-58-0510	058 - Install Roof Tiles - 885m²
RAB-58-0540	058 - Install Railing - 152m
RAB-58-0530	058 - Install Roof Hatch
	External Finishes
	Facade
RAB-58-0560	058 - Dismantle Scaffolding
RAB-58-0470	058 - External Painting
RAB-58-0620	058 - Make good external surfaces
	At Grade
RAB-58-6760	058 - Prepare Sub Grade
RAB-58-6750	058 - Laying Geo Textile
RAB-58-6770	058 - Lay Granular Sub-Base
RAB-58-6780	058 - Laying Course
RAB-58-6740	058 - Concrete Block Paving
RAB-58-6800	058 - Snagging and Remedials
	Glazed Canopy
RAB-58-0600	058 - Construct high level canopy at +13.231mPD
	Utilities and Drainage
	Testing & Commissioning
RAB-TC58-1060	058 - T&C (HVAC, FS, P&D, OTHERS)
	Statutory Submissions & Approvals (Day 470 Completion)
	BBEO
RAB-BEE-450	058 - Registered Energy Assessor Inspection & Certification
RAB-BEE-460	058 - Submit REA Certification to EDMS
RAB-BEE-470	058 - EDMS Issue of Cert of Compliance Registration (COCR)
	VAC (FSD)
	Commencement
	Completion
RAB-FSD-0280	058 - Submit Form 314
RAB-FSD-370	058 - Submit Form 046 Part IV
RAB-FSD-500	058 - Submit Form 046 Part V
RAB-FSD-100	058 - Submit Form 501 to FSD
RAB-FSD-102	058 - FSD Inspection Period For Building 058
RAB-FSD-104	058 - Fire Certificate Obtained (Form 172) Handover For Building 05
	Engineer (AECOM)
RAB-58-7490	058 - Submit Building 058 As Built Drawings to Engineer
RAB-58-7500	058 - Engineer Inspection Period
	Building 059 - Inbound X-Ray Scan Tunnel
	Excavation
	Raft Foundations
	Structure
	Walls
	West
	East



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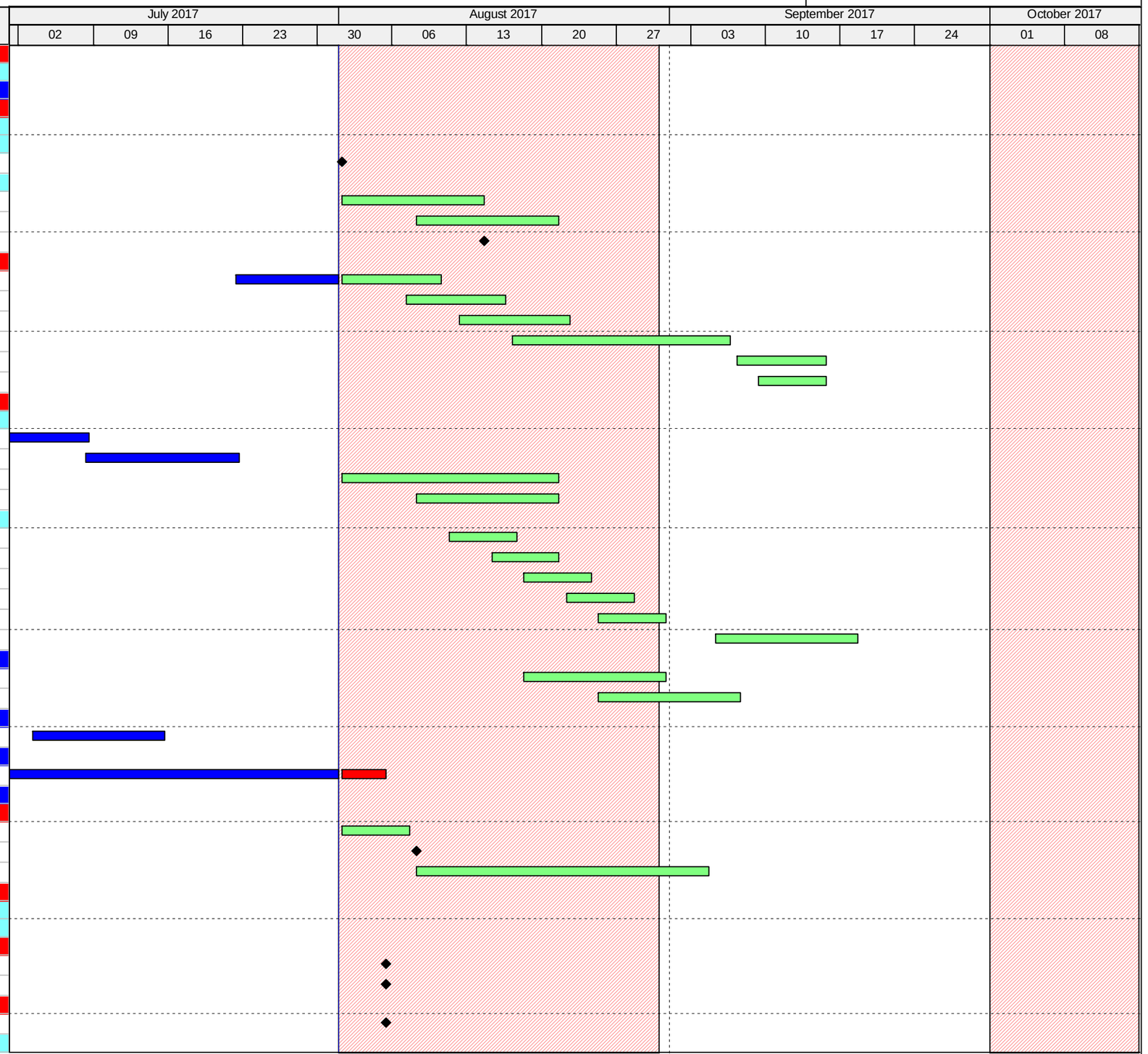
Activity ID	Activity Name
	Roof Slabs
	Cure and Strip
	ABWF/E&M
	Internal Finishes
	Degree 1
	Degree 2
RAB-59-0640	059 - Power On
	Degree 3
RAB-59-0700	059 - Floor Finish (Epoxy Paint)
RAB-59-7560	059 - Snagging and Remedials
RAB-59-7550	059 - End Users and MoM handover inspection
	Roof Finishes
RAB-59-0490	059 - Waterproof Membrane - 885m²
RAB-59-670	059 - Insulation Board - 885m²
RAB-59-0510	059 - Top Screed - 885m²
RAB-59-0540	059 - Install Roof Tiles - 885m²
RAB-59-0560	059 - Install Railing - 152m
RAB-59-0550	059 - Install Roof Hatch
	External Finishes
	Facade
RAB-59-0430	059 - External Render (630m²)
RAB-59-0590	059 - Dismantle Scaffolding
RAB-59-0480	059 - External Painting
RAB-59-0650	059 - Make good external surfaces
	At Grade
RAB-59-6700	059 - Prepare Sub Grade
RAB-59-6690	059 - Laying Geo Textile
RAB-59-6710	059 - Lay Granular Sub-Base
RAB-59-6720	059 - Laying Course
RAB-59-6680	059 - Concrete Block Paving
RAB-59-0670	059 - Snagging and Remedials
	Glazed Canopy
RAB-59-0610	059 - Construct high level glazed canopy at +13.406mPD North
RAB-59-0620	059 - Construct high level glazed canopy at +13.231mPD South
	Utilities and Drainage
RAB-59-7370	059 - Install FS Water Main
	Testing & Commissioning
RAB-TC59-1000	059 - T&C (HVAC, FS, P&D, OTHERS)
	Statutory Submissions & Approvals (Day 470 Completion)
	BBEO
RAB-BEE-480	059 - IRegistered Energy Assessor Inspection & Certification
RAB-BEE-490	059 - ISubmit REA Certification to EDMS
RAB-BEE-500	059 - IEDMS Issue of Cert of Compliance Registration (COCR)
	Fire Services Department (FSD)
	Commencement
	Completion
	VAC
RAB-FSD-550	059 - Submit Form 314
RAB-FSD-560	059 - Submit Form 501
	Bldg. 059 Ready for Engineer's Inspection - C8 Target Programme
RAB-59-7520	059 - Submit Building 059 As Built Drawings to Engineer
	Bldg. 059 Ready for FS Inspection



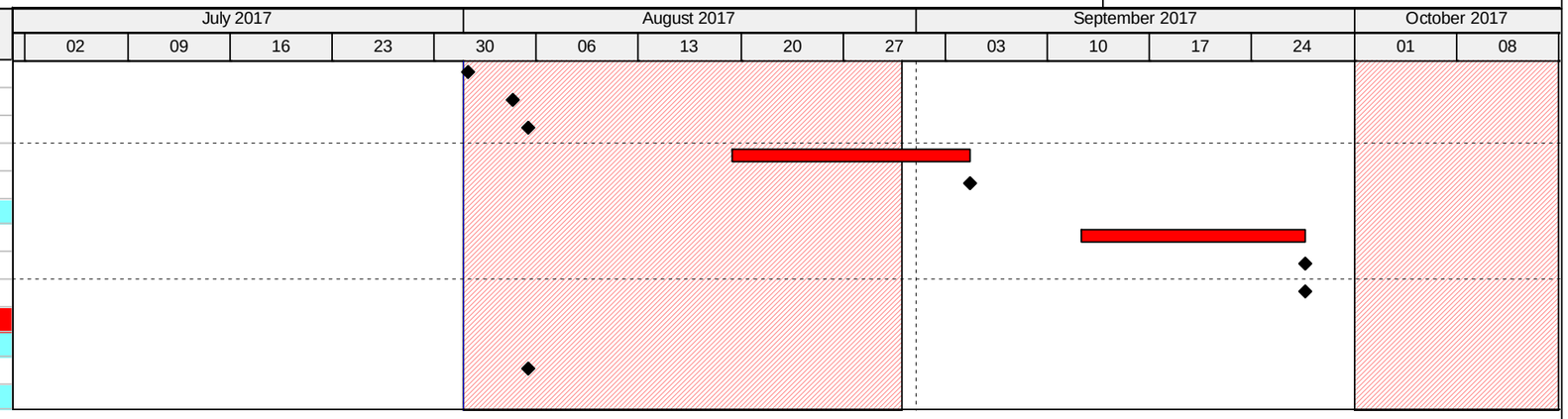
Remaining Level of Effort | Actual Work | Critical Remaining ...
Actual Level of Effort | Remaining Work | Finish Constraint

3-Month Rolling Programme Update, 01 Aug. 2017

RAB6			
Date	Revision	Checked	Approved
01-Aug-17	3-Month Rolling Programme, 01 Aug-17 Update	SGJ	

Contract No. HY/2014/05 - Remaining Ancillary Building and Facilities

Activity ID	Activity Name
RAB-FSD-530	059 - Submit Form WWO 46 Part IV
RAB-FSD-540	059 - Submit Form WWO 46 Part V
RAB-FSD-760	059 - Submit Form 501 to FSD for FS Inspection For Building 059
RAB-FSD-740	059 - FSD Inspection Period For Building 059
RAB-FSD-750	059 - Fire Certificate Obtained (Form 172) Handover For Building 05
Bldg. 059 Ready for Engineer Inspection	
RAB-59-7570	059 - Engineer Inspection Period
RAB-59-7580	059 - Engineer Issue Occupation Permit
RAB-59-7590	KD2 - Projected Completion of Section II of the Works (470 days) Bu
Bldg. 059 Ready for Engineer's Inspection As Instructed By The Engineer	
Bldg. 059 for FS Inspection (Due to C3 Work Interface)	
RAB-FSD-470	059 - Submit Form 501 to FSD for FS Inspection For Building 059
Bldg. 059 Ready for Engineer Inspection (Due to C3 Work Interface)	



Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining ...
Finish Constraint

3-Month Rolling Programme Update, 01 Aug. 2017

RAB6			
Date	Revision	Checked	Approved
01-Aug-17	3-Month Rolling Programme, 01 Aug-17 Update	SGJ	

Detail Work Programme

Activity ID	Activity Name
Hong Kong-Zhuhai_Macao Bridge Hong Kong Boundary Crossing F	
Key Dates	
Interface Activities	
Site and Facility Inspection	
JS1200	Pre Site and Facility Inspection by Contractor at Location 4 - Deg2
JS1210	Joint Site and Facility Inspection with Interface Contractor at Location 4 - Deg2
JS1620	Pre Site and Facility Inspection by Contractor at Location 14 - Deg2
JS1630	Joint Site and Facility Inspection with Interface Contractor at Location 14 - Deg2
JS1760	Pre Site and Facility Inspection by Contractor at Location 18 - Deg1
JS1770	Joint Site and Facility Inspection with Interface Contractor at Location 18 - Deg1
JS1780	Pre Site and Facility Inspection by Contractor at Location 18 - Deg2
JS1790	Joint Site and Facility Inspection with Interface Contractor at Location 18 - Deg2
Access Dates	
AD1000	Location 1(PCB (001) Basement)-Deg1 (270d)
AD1010	Location 1(PCB (001) Basement)-Deg2 (380d)
AD1020	Location 1(PCB (001) ELV Room (Grid Line E3))-Deg1 (270d)
AD1030	Location 1(PCB (001) ELV Room (Grid Line E3))-Deg2 (380d)
AD1040	Location 2(PCB (001) First Floor Main Server Room)-Deg1 (330d)
AD1050	Location 2(PCB (001) First Floor Main Server Room)-Deg2 (380d)
AD1060	Location 2(PCB (001) First Floor Main Server Room) - For Server Installation - Deg2 (3
AD1070	Location 2(PCB (001) Ground Floor ELV Room (Grid Line E3)) - Deg1 (330d)
AD1080	Location 2(PCB (001) Ground Floor DOH Port Health Control Room (Grid Line BD5)) -
AD1090	Location 2(PCB (001) Ground Floor DOH Port Health Control Room (Grid Line BD5)) -
AD1130	Location 3(Inbd Cargo Exam Bldg (037) Platform Control Room)-Deg2 (500d)
AD1150	Location 3(Inbd Cargo Exam Bldg (037) Inspector Offices 128,129,130,131,128,129,14
AD1170	Location 3a(Inbd Cargo Exam Bldg (037) ROCARS Room)-Deg2 (480d)
AD1190	Location 3a(Inbd Cargo Exam Bldg (037) Main Server Room)-Deg2 (480d)
AD1200	Location 3a(Inbd Cargo Exam Bldg (037) Main Server Room) - For Server installation -
AD1220	Location 4(Outbd Cargo Exam Bldg (023))-Deg2 (680d)
AD1240	Location 4a(Outbd Cargo Exam Bldg (023))-Deg2 (630d)
AD1270	Location 6(Common Utility Enclosure & Staff Subway)-Deg1 (400d)
AD1290	Location 7(Common Utility Enclosure & Staff Subway)-Deg1 (270d)
AD1300	Location 8(Inbd Private Car Annex (025))-Deg1 (430d)
AD1310	Location 8(Inbd Private Car Annex (025))-Deg2 (580d)
AD1320	Location 8(Inbd Private Car Annex (025) Canopy)-Deg1 (430d)
AD1330	Location 8(Inbd Private Car Annex (025) Canopy)-Deg2 (580d)
AD1340	Location 9(Outbd Private Car Annex (032))-Deg1 (520d)
AD1350	Location 9(Outbd Private Car Annex (032))-Deg2 (660d)
AD1360	Location 9(Outbd Private Car Annex (032) Canopy)-Deg1 (520d)
AD1370	Location 9(Outbd Private Car Annex (032) Canopy)-Deg2 (660d)
AD1501	Location 12(Inbd Private Car Kiosks(027))-Deg1 (400d) Phase 2
AD1510	Location 12(Inbd Private Car Kiosks(027))-Deg2 (480d) Phase 1
AD1511	Location 12(Inbd Private Car Kiosks(027))-Deg2 (480d) Phase 2
AD1521	Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg1 (400d) Phase 2

Programme No.: HZMB-DWP
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Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing
Facilities - Automatic Vehicle
Clearance Support System (AVCSS)

Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC
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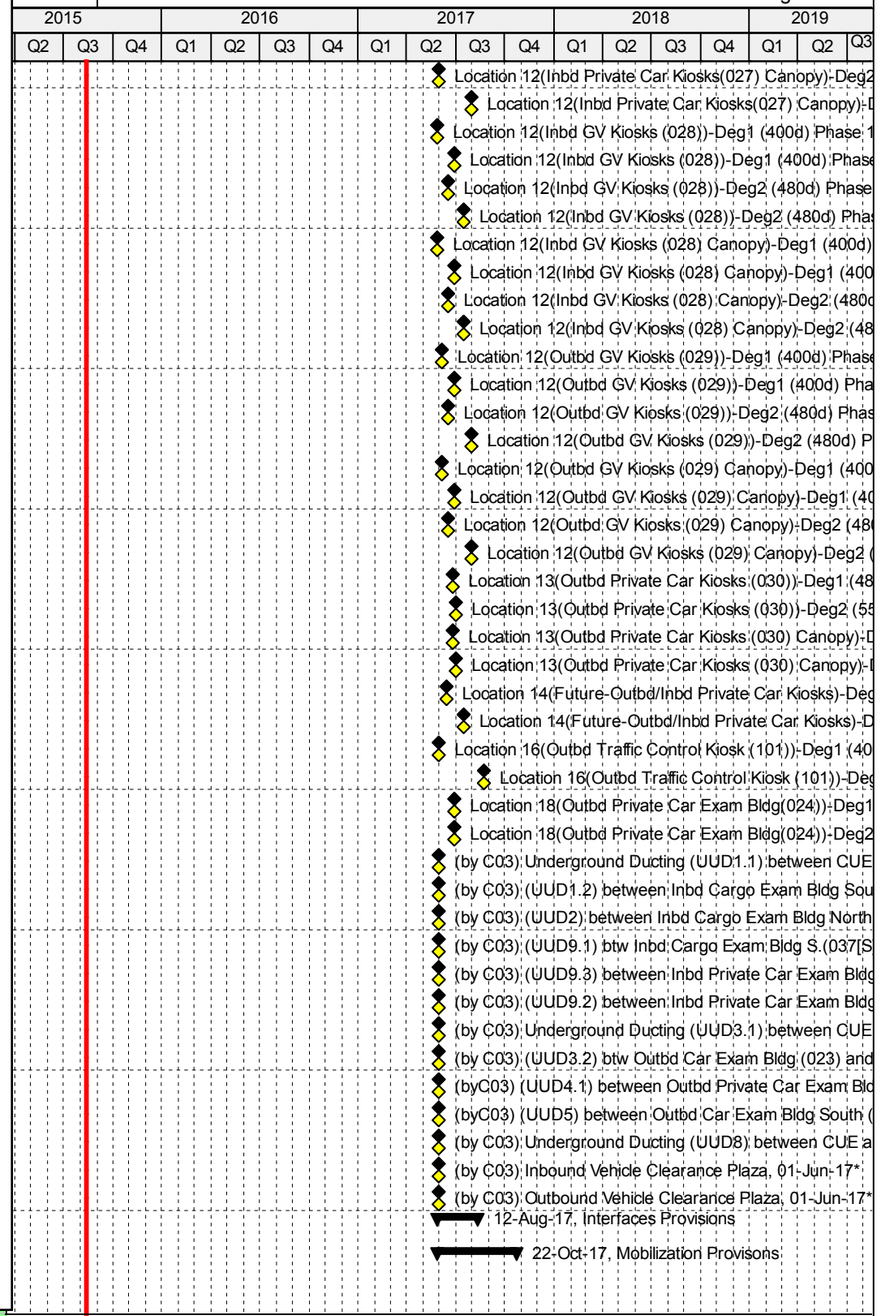
5-May-17	Rev.: 1.0b	WC	LC

Activity ID	Activity Name
AD1530	Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg2 (480d) Phase 1
AD1531	Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg2 (480d) Phase 2
AD1540	Location 12(Inbd GV Kiosks (028))-Deg1 (400d) Phase 1
AD1541	Location 12(Inbd GV Kiosks (028))-Deg1 (400d) Phase 2
AD1550	Location 12(Inbd GV Kiosks (028))-Deg2 (480d) Phase 1
AD1551	Location 12(Inbd GV Kiosks (028))-Deg2 (480d) Phase 2
AD1560	Location 12(Inbd GV Kiosks (028) Canopy)-Deg1 (400d) Phase 1
AD1561	Location 12(Inbd GV Kiosks (028) Canopy)-Deg1 (400d) Phase 2
AD1570	Location 12(Inbd GV Kiosks (028) Canopy)-Deg2 (480d) Phase 1
AD1571	Location 12(Inbd GV Kiosks (028) Canopy)-Deg2 (480d) Phase 2
AD1580	Location 12(Outbd GV Kiosks (029))-Deg1 (400d) Phase 1
AD1581	Location 12(Outbd GV Kiosks (029))-Deg1 (400d) Phase 2
AD1590	Location 12(Outbd GV Kiosks (029))-Deg2 (480d) Phase 1
AD1591	Location 12(Outbd GV Kiosks (029))-Deg2 (480d) Phase 2
AD1600	Location 12(Outbd GV Kiosks (029) Canopy)-Deg1 (400d) Phase 1
AD1601	Location 12(Outbd GV Kiosks (029) Canopy)-Deg1 (400d) Phase 2
AD1610	Location 12(Outbd GV Kiosks (029) Canopy)-Deg2 (480d) Phase 1
AD1611	Location 12(Outbd GV Kiosks (029) Canopy)-Deg2 (480d) Phase 2
AD1620	Location 13(Outbd Private Car Kiosks (030))-Deg1 (480d) Phase 1
AD1630	Location 13(Outbd Private Car Kiosks (030))-Deg2 (550d) Phase 1
AD1640	Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg1 (480d) Phase 1
AD1650	Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg2 (550d) Phase 1
AD1660	Location 14(Future-Outbd/Inbd Private Car Kiosks)-Deg1 (610d)
AD1670	Location 14(Future-Outbd/Inbd Private Car Kiosks)-Deg2 (680d)
AD1700	Location 16(Outbd Traffic Control Kiosk (101))-Deg1 (400d)
AD1710	Location 16(Outbd Traffic Control Kiosk (101))-Deg2 (480d)
AD1740	Location 18(Outbd Private Car Exam Bldg(024))-Deg1 (-)
AD1750	Location 18(Outbd Private Car Exam Bldg(024))-Deg2 (670d)
AD1780	(by C03) Underground Ducting (UUD1.1) between CUE and Inbd Cargo Exam Bldg (0
AD1790	(by C03) (UUD1.2) between Inbd Cargo Exam Bldg South (037[S]) and DOH Cargo C
AD1800	(by C03) (UUD2) between Inbd Cargo Exam Bldg North (037[N]) and Inbd Vehicle Cle
AD1810	(by C03) (UUD9.1) btw Inbd Cargo Exam Bldg S.(037[S]) & Inbd PC Exam Bldg(033) &
AD1820	(by C03) (UUD9.3) between Inbd Private Car Exam Bldg (033) and Inbd Vehicle Clear
AD1830	(by C03) (UUD9.2) between Inbd Private Car Exam Bldg (033) and Inbd Vehicle Clear
AD1840	(by C03) Underground Ducting (UUD3.1) between CUE to Outbd Cargo Exam Bldg (0
AD1850	(by C03) (UUD3.2) btw Outbd Car Exam Bldg (023) and Outbd PC Exam Bldg (024) a
AD1860	(byC03) (UUD4.1) between Outbd Private Car Exam Bldg (024) and Outbd Vehicle Cle
AD1870	(byC03) (UUD5) between Outbd Car Exam Bldg South (023[S]) and Outbd Vehicle Cle
AD1880	(by C03) Underground Ducting (UUD8) between CUE and Outbd PCA (032)
AD1910	(by C03) Inbound Vehicle Clearance Plaza
AD1920	(by C03) Outbound Vehicle Clearance Plaza
Interfaces Provisions	
Mobilization Provisons	
WA4 Site Erection & Servicing	



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Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing
Facilities - Automatic Vehicle
Clearance Support System (AVCSS)

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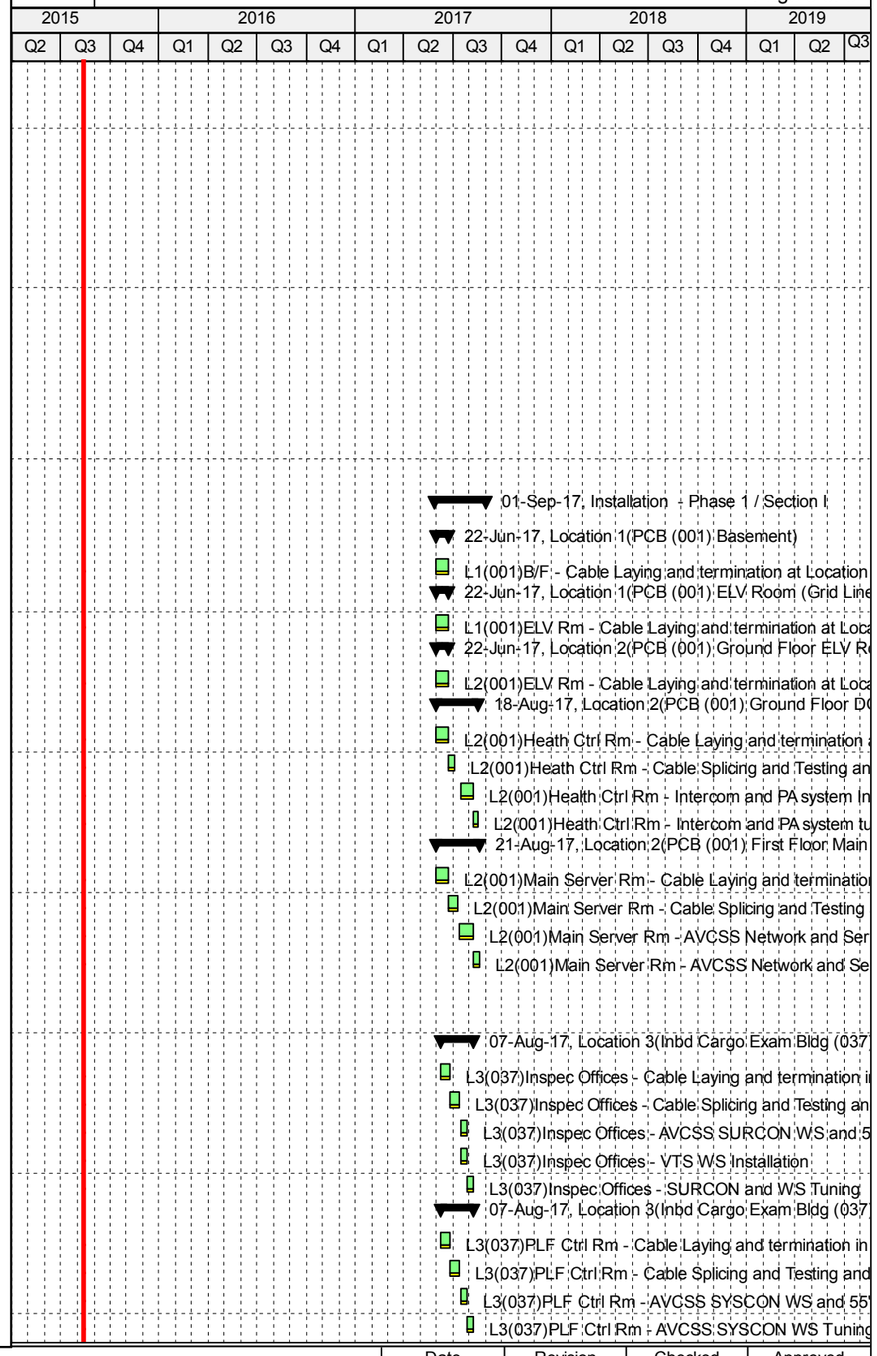
5-May-17	Rev.: 1.0b	WC	LC

Activity ID	Activity Name
	Detailed Design Specification
	Contruction Design and Management
	Supply/Manufacture Mock-up items
	Supply/Manufacture prototypes
	Software Design, Coding and Testing
	Coding
	Software System Inetgration
	Prototype & Software Simulation Tests
	Procurement - Phase 1 / Section I
	Supply/Manufacture products for FAT
	Factory Acceptance Test (FAT)
	Supply/Manufacture Equipment
	Delivery and Bench Acceptance Test for Phase 1/ Section I
	Installation - Phase 1 / Section I
	Location 1(PCB (001) Basement)
EM1920	L1(001)B/F - Cable Laying and termination at Location 1 and Location 2
	Location 1(PCB (001) ELV Room (Grid Line E3))
EM1940	L1(001)ELV Rm - Cable Laying and termination at Location 1 and Location 2
	Location 2(PCB (001) Ground Floor ELV Room (Grid Line E3))
EM1960	L2(001)ELV Rm - Cable Laying and termination at Location 1 and Location 2
	Location 2(PCB (001) Ground Floor DOH Port Health Control Room (Grid Line BD5))
EM1080	L2(001)Heath Ctrl Rm - Cable Laying and termination at Location 1 and Location 2
EM1100	L2(001)Heath Ctrl Rm - Cable Splicing and Testing and Labeling
EM1120	L2(001)Health Ctrl Rm - Intercom and PA system Installation
EM1140	L2(001)Heath Ctrl Rm - Intercom and PA system tuning
	Location 2(PCB (001) First Floor Main Server Room)
EM1000	L2(001)Main Server Rm - Cable Laying and termination at Location 1 and Location 2
EM1020	L2(001)Main Server Rm - Cable Splicing and Testing and Labeling
EM1040	L2(001)Main Server Rm - AVCSS Network and Server Installation
EM1060	L2(001)Main Server Rm - AVCSS Network and Server Tuning
	Location 3(Inbd Cargo Exam Bldg (037) MDF Room)
	Location 3(Inbd Cargo Exam Bldg (037) ELV Room)
	Location 3(Inbd Cargo Exam Bldg (037) Inspector Offices 128,129,130,131,128,129,14
EM2020	L3(037)Inspec Offices - Cable Laying and termination in Location 3 and Location 3a
EM2040	L3(037)Inspec Offices - Cable Splicing and Testing and Labeling
EM2060	L3(037)Inspec Offices - AVCSS SURCON WS and 55" LCD Installation
EM2080	L3(037)Inspec Offices - VTS WS Installation
EM2100	L3(037)Inspec Offices - SURCON and WS Tuning
	Location 3(Inbd Cargo Exam Bldg (037) Platform Control Room)
EM1160	L3(037)PLF Ctrl Rm - Cable Laying and termination in Location 3 and Location 3a
EM1180	L3(037)PLF Ctrl Rm - Cable Splicing and Testing and Labeling
EM1200	L3(037)PLF Ctrl Rm - AVCSS SYSCON WS and 55" TV Wall Installation
EM1220	L3(037)PLF Ctrl Rm - AVCSS SYSCON WS Tuning



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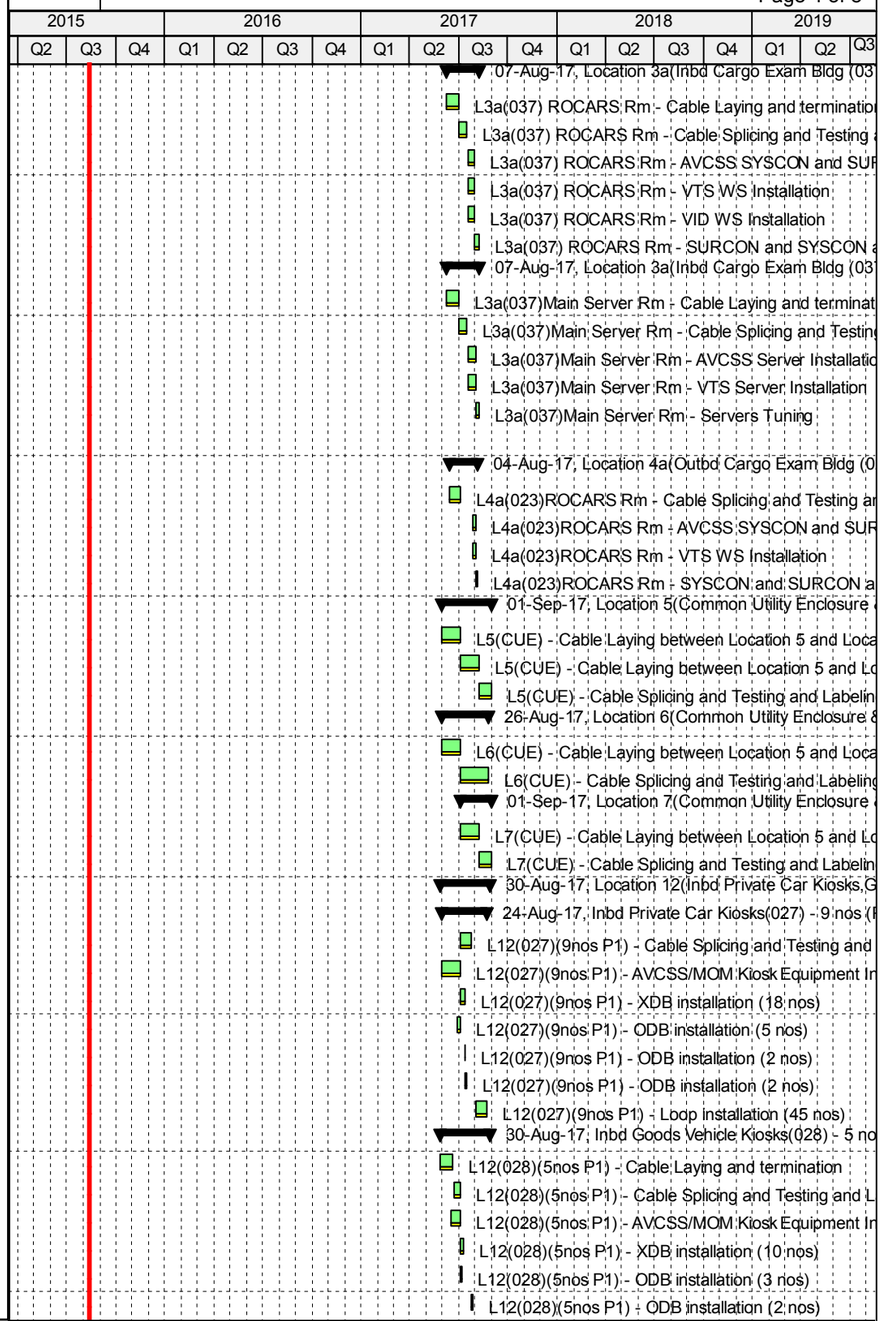
Activity ID	Activity Name
Location 3a(Inbd Cargo Exam Bldg (037) ROCARS Room)	
EM1240	L3a(037) ROCARS Rm - Cable Laying and termination in Location 3 and Location 3a
EM1260	L3a(037) ROCARS Rm - Cable Splicing and Testing and Labeling
EM1280	L3a(037) ROCARS Rm - AVCSS SYSCON and SURCON and Intercom Installation
EM1300	L3a(037) ROCARS Rm - VTS WS Installation
EM1320	L3a(037) ROCARS Rm - VID WS Installation
EM1340	L3a(037) ROCARS Rm - SURCON and SYSCON and WS Tuning
Location 3a(Inbd Cargo Exam Bldg (037) Main Server Room)	
EM2120	L3a(037)Main Server Rm - Cable Laying and termination in Location 3 and Location 3a
EM2140	L3a(037)Main Server Rm - Cable Splicing and Testing and Labeling
EM2160	L3a(037)Main Server Rm - AVCSS Server Installation
EM2180	L3a(037)Main Server Rm - VTS Server Installation
EM2200	L3a(037)Main Server Rm - Servers Tuning
Location 4(Outbd Cargo Exam Bldg (023) MDF Room)	
Location 4a(Outbd Cargo Exam Bldg (023) ROCARS Room)	
EM2240	L4a(023)ROCARS Rm - Cable Splicing and Testing and Labeling
EM2260	L4a(023)ROCARS Rm - AVCSS SYSCON and SURCON and Intercom Installation
EM2280	L4a(023)ROCARS Rm - VTS WS Installation
EM2300	L4a(023)ROCARS Rm - SYSCON and SURCON and WS Tuning
Location 5(Common Utility Enclosure & Staff Subway)	
EM2341	L5(CUE) - Cable Laying between Location 5 and Location 6
EM2361	L5(CUE) - Cable Laying between Location 5 and Location 7
EM2380	L5(CUE) - Cable Splicing and Testing and Labeling
Location 6(Common Utility Enclosure & Staff Subway)	
EM2400	L6(CUE) - Cable Laying between Location 5 and Location 6
EM2420	L6(CUE) - Cable Splicing and Testing and Labeling
Location 7(Common Utility Enclosure & Staff Subway)	
EM2440	L7(CUE) - Cable Laying between Location 5 and Location 7
EM2460	L7(CUE) - Cable Splicing and Testing and Labeling
Location 12(Inbd Private Car Kiosks,GV Kiosks (027,028,029))	
Inbd Private Car Kiosks(027) - 9 nos (Phase 1)	
EM1500	L12(027)(9nos P1) - Cable Splicing and Testing and Labeling
EM1520	L12(027)(9nos P1) - AVCSS/MOM Kiosk Equipment Installation (9 nos)
EM1541	L12(027)(9nos P1) - XDB installation (18 nos)
EM1542	L12(027)(9nos P1) - ODB installation (5 nos)
EM1543	L12(027)(9nos P1) - ODB installation (2 nos)
EM1544	L12(027)(9nos P1) - ODB installation (2 nos)
EM1560	L12(027)(9nos P1) - Loop installation (45 nos)
Inbd Goods Vehicle Kiosks(028) - 5 nos (Phase 1)	
EM1620	L12(028)(5nos P1) - Cable Laying and termination
EM1640	L12(028)(5nos P1) - Cable Splicing and Testing and Labeling
EM1660	L12(028)(5nos P1) - AVCSS/MOM Kiosk Equipment Installation (5 nos)
EM1681	L12(028)(5nos P1) - XDB installation (10 nos)
EM1682	L12(028)(5nos P1) - ODB installation (3 nos)
EM1683	L12(028)(5nos P1) - ODB installation (2 nos)



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Hong Kong-Zhuhai-Macao Bridge
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Facilities - Automatic Vehicle
Clearance Support System (AVCSS)

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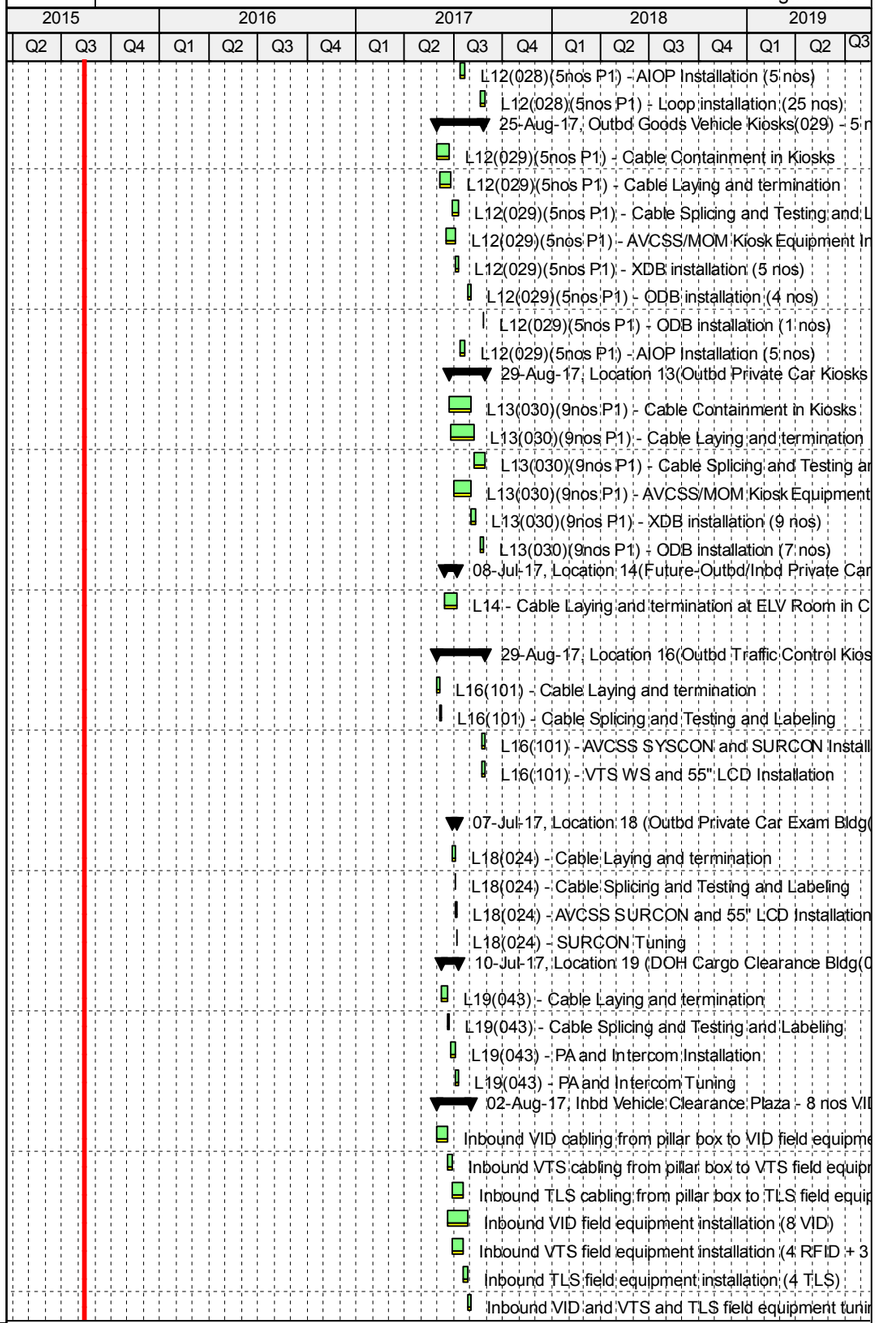
Activity ID	Activity Name
EM1700	L12(028)(5nos P1) - AIOP Installation (5 nos)
EM1720	L12(028)(5nos P1) - Loop installation (25 nos)
Outbd Goods Vehicle Kiosks(029) - 5 nos (Phase 1)	
EM1740	L12(029)(5nos P1) - Cable Containment in Kiosks
EM1760	L12(029)(5nos P1) - Cable Laying and termination
EM1780	L12(029)(5nos P1) - Cable Splicing and Testing and Labeling
EM1800	L12(029)(5nos P1) - AVCSS/MOM Kiosk Equipment Installation (5 nos)
EM1821	L12(029)(5nos P1) - XDB installation (5 nos)
EM1822	L12(029)(5nos P1) - ODB installation (4 nos)
EM1823	L12(029)(5nos P1) - ODB installation (1 nos)
EM1840	L12(029)(5nos P1) - AIOP Installation (5 nos)
Location 13(Outbd Private Car Kiosks (030)) - 9 nos (Phase 1)	
EM2520	L13(030)(9nos P1) - Cable Containment in Kiosks
EM2540	L13(030)(9nos P1) - Cable Laying and termination
EM2560	L13(030)(9nos P1) - Cable Splicing and Testing and Labeling
EM2580	L13(030)(9nos P1) - AVCSS/MOM Kiosk Equipment Installation (9 nos)
EM2601	L13(030)(9nos P1) - XDB installation (9 nos)
EM2602	L13(030)(9nos P1) - ODB installation (7 nos)
Location 14(Future-Outbd/Inbd Private Car Kiosks) - 6+6 nos	
EM1440	L14 - Cable Laying and termination at ELV Room in CUE
Location 15(Inbd Traffic Control Kiosk (100))	
Location 16(Outbd Traffic Control Kiosk (101))	
EM2760	L16(101) - Cable Laying and termination
EM2780	L16(101) - Cable Splicing and Testing and Labeling
EM2800	L16(101) - AVCSS SYSCON and SURCON Installation
EM2820	L16(101) - VTS WS and 55" LCD Installation
Location 17(Inbd Private Car Exam Bldg(033) Operational Office)	
Location 18 (Outbd Private Car Exam Bldg(024) Operational Office)	
EM2940	L18(024) - Cable Laying and termination
EM2960	L18(024) - Cable Splicing and Testing and Labeling
EM2980	L18(024) - AVCSS SURCON and 55" LCD Installation
EM3000	L18(024) - SURCON Tuning
Location 19 (DOH Cargo Clearance Bldg(043))	
EM1360	L19(043) - Cable Laying and termination
EM1380	L19(043) - Cable Splicing and Testing and Labeling
EM1400	L19(043) - PA and Intercom Installation
EM1420	L19(043) - PA and Intercom Tuning
Inbd Vehicle Clearance Plaza - 8 nos VID, 7 nos VTS, 4 nos TLS	
EM3020	Inbound VID cabling from pillar box to VID field equipment
EM3040	Inbound VTS cabling from pillar box to VTS field equipment
EM3060	Inbound TLS cabling from pillar box to TLS field equipment
EM3080	Inbound VID field equipment installation (8 VID)
EM3100	Inbound VTS field equipment installation (4 RFID + 3 Cameras)
EM3120	Inbound TLS field equipment installation (4 TLS)
EM3140	Inbound VID and VTS and TLS field equipment tuning



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Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities - Automatic Vehicle Clearance Support System (AVCSS)

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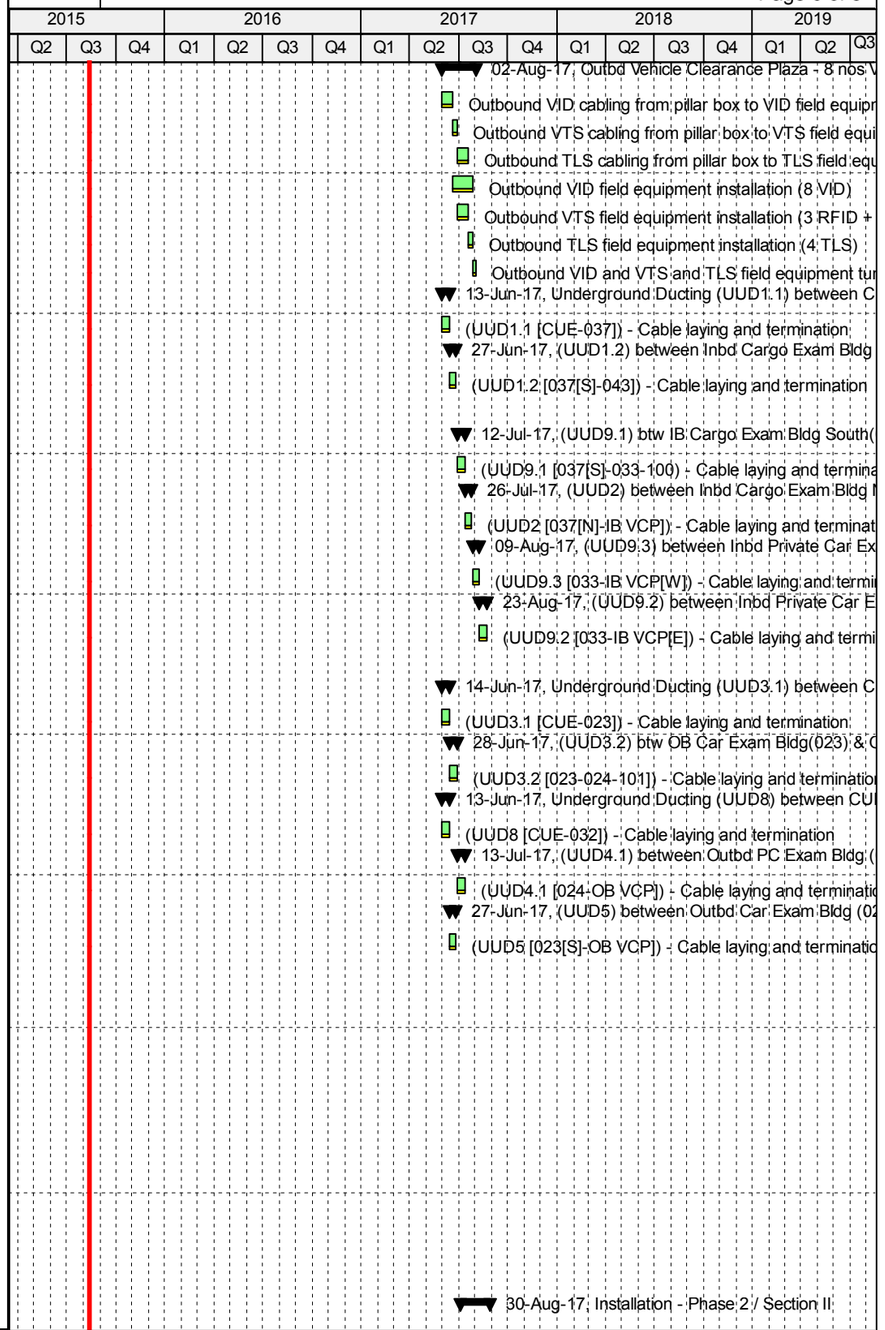
Activity ID	Activity Name
	Outbd Vehicle Clearance Plaza - 8 nos VID, 6 nos VTS, 4 nos TLS
EM3160	Outbound VID cabling from pillar box to VID field equipment
EM3180	Outbound VTS cabling from pillar box to VTS field equipment
EM3200	Outbound TLS cabling from pillar box to TLS field equipment
EM3220	Outbound VID field equipment installation (8 VID)
EM3240	Outbound VTS field equipment installation (3 RFID + 3 Cameras)
EM3260	Outbound TLS field equipment installation (4 TLS)
EM3280	Outbound VID and VTS and TLS field equipment tuning
	Underground Ducting (UUD1.1) between CUE and Inbd Cargo Exam Bldg (037)
UD1000	(UUD1.1 [CUE-037]) - Cable laying and termination
	(UUD1.2) between Inbd Cargo Exam Bldg South (037[S]) and DOH Cargo Clearance Bl
UD1060	(UUD1.2 [037[S]-043]) - Cable laying and termination
	Underground Ducting (UUD6) between CUE and Shuttle Bus Kiosk (006) and Inbd Priv
	(UUD9.1) btw IB Cargo Exam Bldg South(037[S]) & IB PC Exam Bldg(033) & IB Traffic
UD1040	(UUD9.1 [037[S]-033-100) - Cable laying and termination
	(UUD2) between Inbd Cargo Exam Bldg North (037[N]) to Inbd VCP
UD1010	(UUD2 [037[N]-IB VCP]) - Cable laying and termination
	(UUD9.3) between Inbd Private Car Exam Bldg (033) and Inbd Vehicle Clearance Plaza
UD1070	(UUD9.3 [033-IB VCP[W]) - Cable laying and termination
	(UUD9.2) between Inbd Private Car Exam Bldg (033) and Inbd Vehicle Clearance Plaza
UD1020	(UUD9.2 [033-IB VCP[E]) - Cable laying and termination
	Underground Ducting (UUD7) between PCB(001) and Inbd Coach Kiosks(010)
	Underground Ducting (UUD3.1) between CUE and Outbd Cargo Exam Bldg (023)
UD1030	(UUD3.1 [CUE-023]) - Cable laying and termination
	(UUD3.2) btw OB Car Exam Bldg(023) & OB PC Exam Bldg(024) & OB Traffic Control I
UD1050	(UUD3.2 [023-024-101]) - Cable laying and termination
	Underground Ducting (UUD8) between CUE and Outbd PCA (032)
UD1100	(UUD8 [CUE-032]) - Cable laying and termination
	(UUD4.1) between Outbd PC Exam Bldg (024) and Outbd Vehicle Clearance Plaza
UD1080	(UUD4.1 [024-OB VCP]) - Cable laying and termination
	(UUD5) between Outbd Car Exam Bldg (023[S]) and Outbd Vehicle Clearance Plaza
UD1090	(UUD5 [023[S]-OB VCP]) - Cable laying and termination
	Initial On-Site Test and Commissioning / Pre-SAT (Phase 1 / Section I)
	Site Acceptance Test (Phase 1 / Section I)
	Security Risk Assessment and Audit
	Operability Period Test (Phase 1 / Section I)
	Completion (Phase 1 /Section I)
	Training and Document (Phase 1 /Section I)
	Operation (Phase 1 /Section I)
	Engineering Support for Phase 1 / Section I
	Procurement - Phase 2 / Section II
	Delivery and Bench Acceptance Test for Phase 2/Section II
	Installation - Phase 2 / Section II



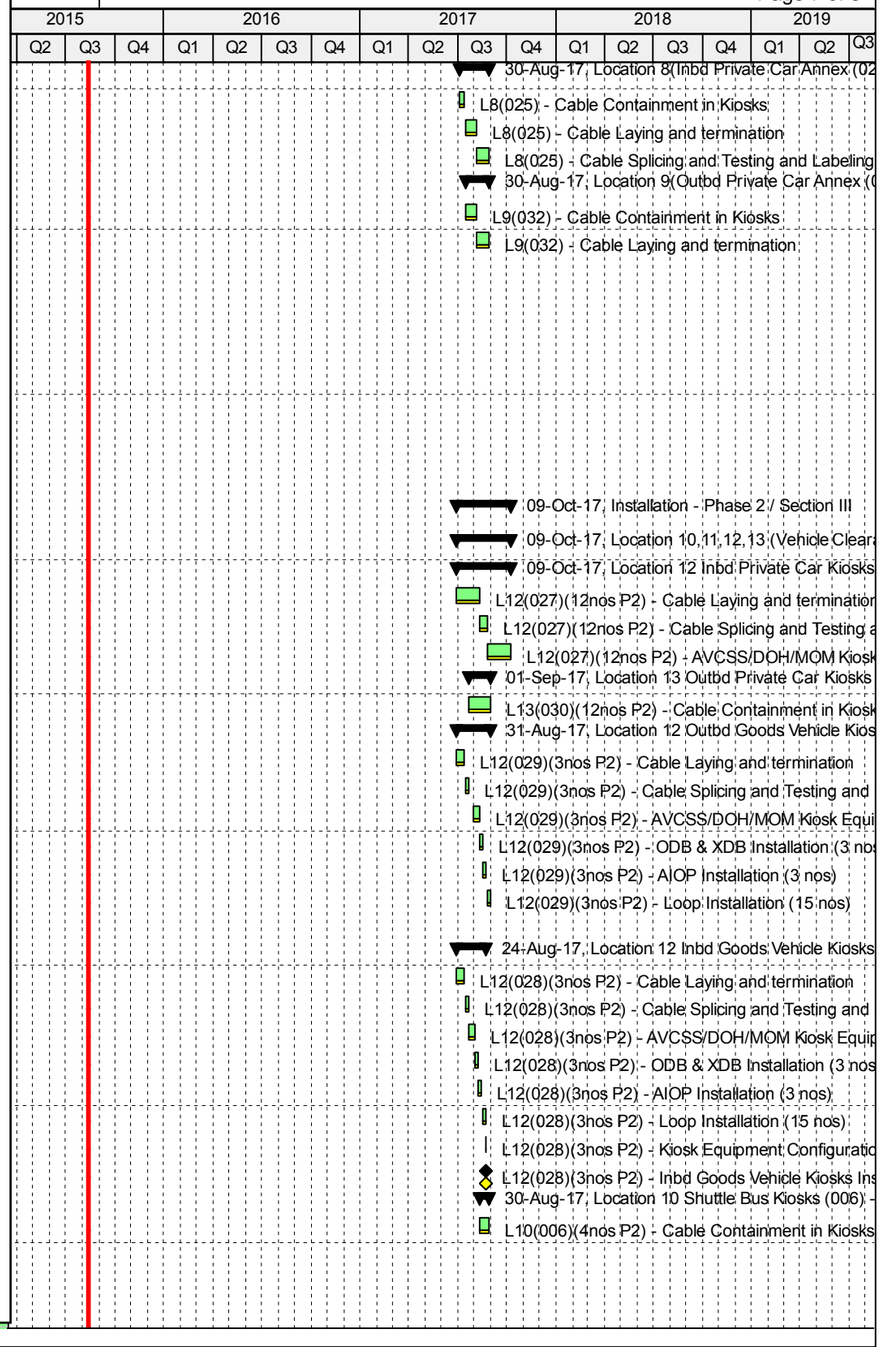
Programme No.: HZMB-DWP
Data Date: 14-Aug-15

Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone
Milestone
summary

Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing
Facilities - Automatic Vehicle
Clearance Support System (AVCSS)

Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC
10-Mar-17	Rev.: 1.0a	WC	LC
5-May-17	Rev.: 1.0b	WC	LC

Activity ID	Activity Name
	Location 8(Inbd Private Car Annex (025)) (Phase 2)
EM3370	L8(025) - Cable Containment in Kiosks
EM3380	L8(025) - Cable Laying and termination
EM3400	L8(025) - Cable Splicing and Testing and Labeling
	Location 9(Outbd Private Car Annex (032)) (Phase 2)
EM3500	L9(032) - Cable Containment in Kiosks
EM3520	L9(032) - Cable Laying and termination
	Initial On-Site Test and Commissioning / Pre-SAT (Phase 2 / Section II)
	Site Acceptance Test (Phase 2 / Section II)
	Operability Period Test (Phase 2 / Section II)
	Completion (Phase 2 / Section II)
	Engineering Support for Phase 2 / Section II
	Procurement for Phase2 / Section III
	Delivery and Bench Acceptance Test for Phase2 / Section III
	Installation - Phase 2 / Section III
	Location 10,11,12,13 (Vehicle Clearance Kiosks)
	Location 12 Inbd Private Car Kiosks (027) - 12 nos (Phase 2)
EM4440	L12(027)(12nos P2) - Cable Laying and termination
EM4460	L12(027)(12nos P2) - Cable Splicing and Testing and Labeling
EM4480	L12(027)(12nos P2) - AVCSS/DOH/MOM Kiosk Equipment Installation (12 nos)
	Location 13 Outbd Private Car Kiosks (030) - 12 nos (Phase 2)
EM4560	L13(030)(12nos P2) - Cable Containment in Kiosks
	Location 12 Outbd Goods Vehicle Kiosks (029) - 3 nos (Phase 2)
EM4880	L12(029)(3nos P2) - Cable Laying and termination
EM4900	L12(029)(3nos P2) - Cable Splicing and Testing and Labeling
EM4920	L12(029)(3nos P2) - AVCSS/DOH/MOM Kiosk Equipment Installation (3 nos)
EM4940	L12(029)(3nos P2) - ODB & XDB Installation (3 nos)
EM4960	L12(029)(3nos P2) - AIOP Installation (3 nos)
EM4980	L12(029)(3nos P2) - Loop Installation (15 nos)
	Location 11 Outbd Coach Kiosks (009) - 4 nos (Phase 2)
	Location 12 Inbd Goods Vehicle Kiosks (028) - 3 nos (Phase 2)
EM4720	L12(028)(3nos P2) - Cable Laying and termination
EM4740	L12(028)(3nos P2) - Cable Splicing and Testing and Labeling
EM4760	L12(028)(3nos P2) - AVCSS/DOH/MOM Kiosk Equipment Installation (3 nos)
EM4780	L12(028)(3nos P2) - ODB & XDB Installation (3 nos)
EM4800	L12(028)(3nos P2) - AIOP Installation (3 nos)
EM4820	L12(028)(3nos P2) - Loop Installation (15 nos)
EM4840	L12(028)(3nos P2) - Kiosk Equipment Configuration (3 nos)
EM5120	L12(028)(3nos P2) - Inbd Goods Vehicle Kiosks Installation Complete
	Location 10 Shuttle Bus Kiosks (006) - 4 nos (Phase 2)
EM4000	L10(006)(4nos P2) - Cable Containment in Kiosks
	Location 11 Inbd Coach Kiosks (010) - 2 nos (Phase 2)-1
	Location 11 Inbd Coach Kiosks (010) - 2 nos (Phase 2)-2
	Initial On-Site Test and Commissioning / Pre-SAT (Phase 2 / Section III)



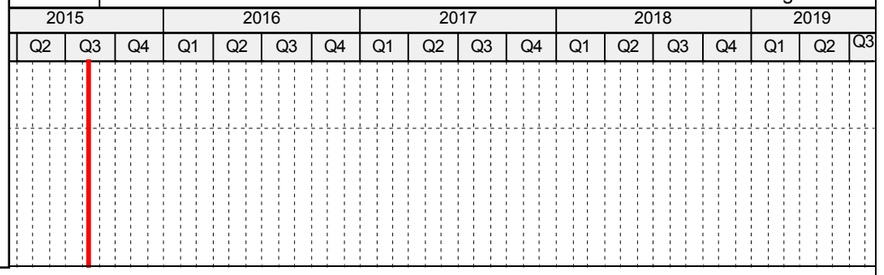
Programme No.: HZMB-DWP
Data Date: 14-Aug-15

Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone
Milestone
summary

Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities - Automatic Vehicle Clearance Support System (AVCSS)

Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC
10-Mar-17	Rev.: 1.0a	WC	LC
5-May-17	Rev.: 1.0b	WC	LC

Activity ID	Activity Name
	Site Acceptance Test (Phase 2 / Section III)
	Operability Period Test (Phase 2 / Section III)
	Completion (Phase 2 / Section III)
	Operation (Phase 2 / Section III)
	Defect Liability Period (DLP)
	Document Submission (Phase 2 / Section III)



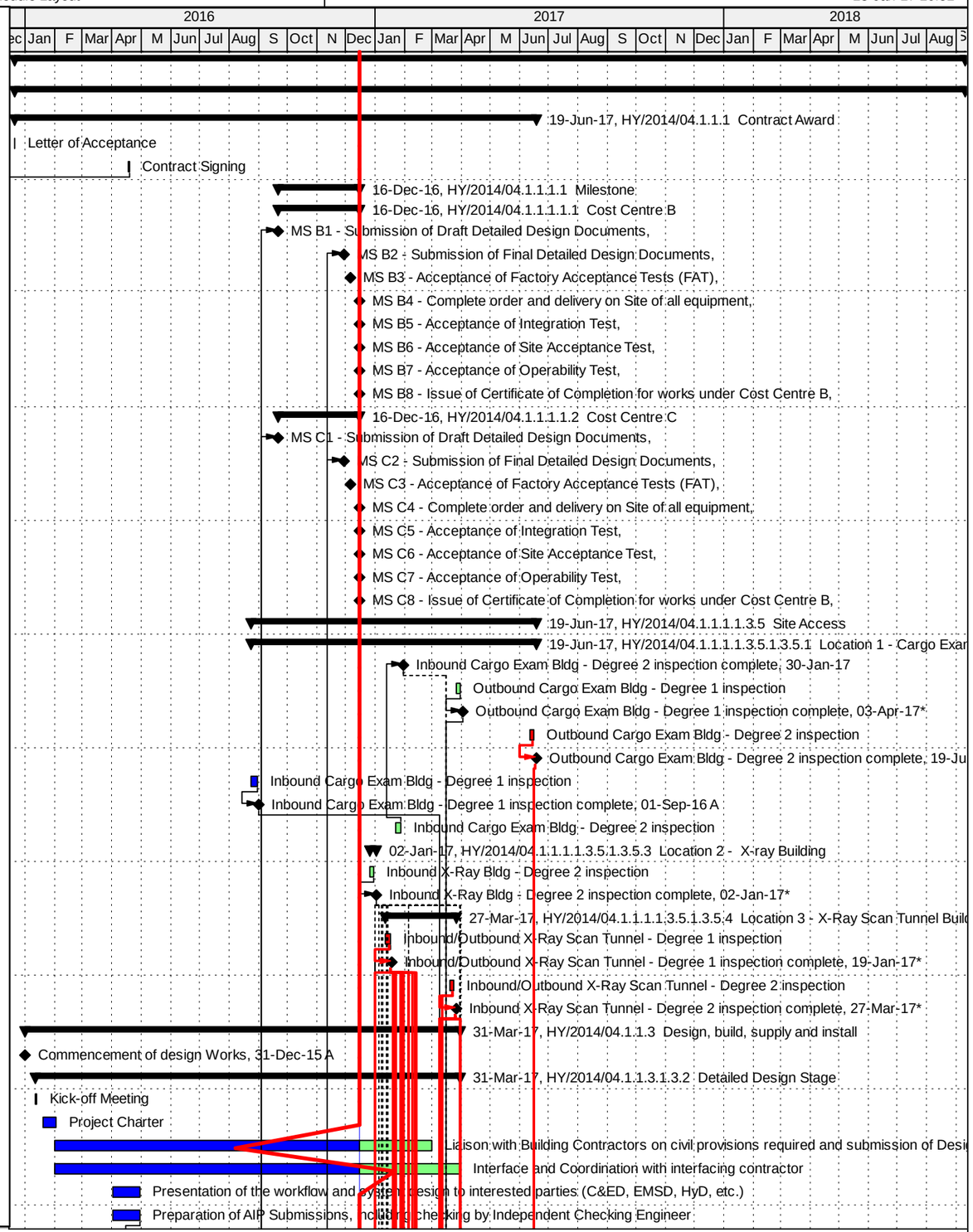
Programme No.: HZMB-DWP
Data Date: 14-Aug-15

Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone
Milestone
summary

Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing
Facilities - Automatic Vehicle
Clearance Support System (AVCSS)

Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC
10-Mar-17	Rev.: 1.0a	WC	LC
5-May-17	Rev.: 1.0b	WC	LC

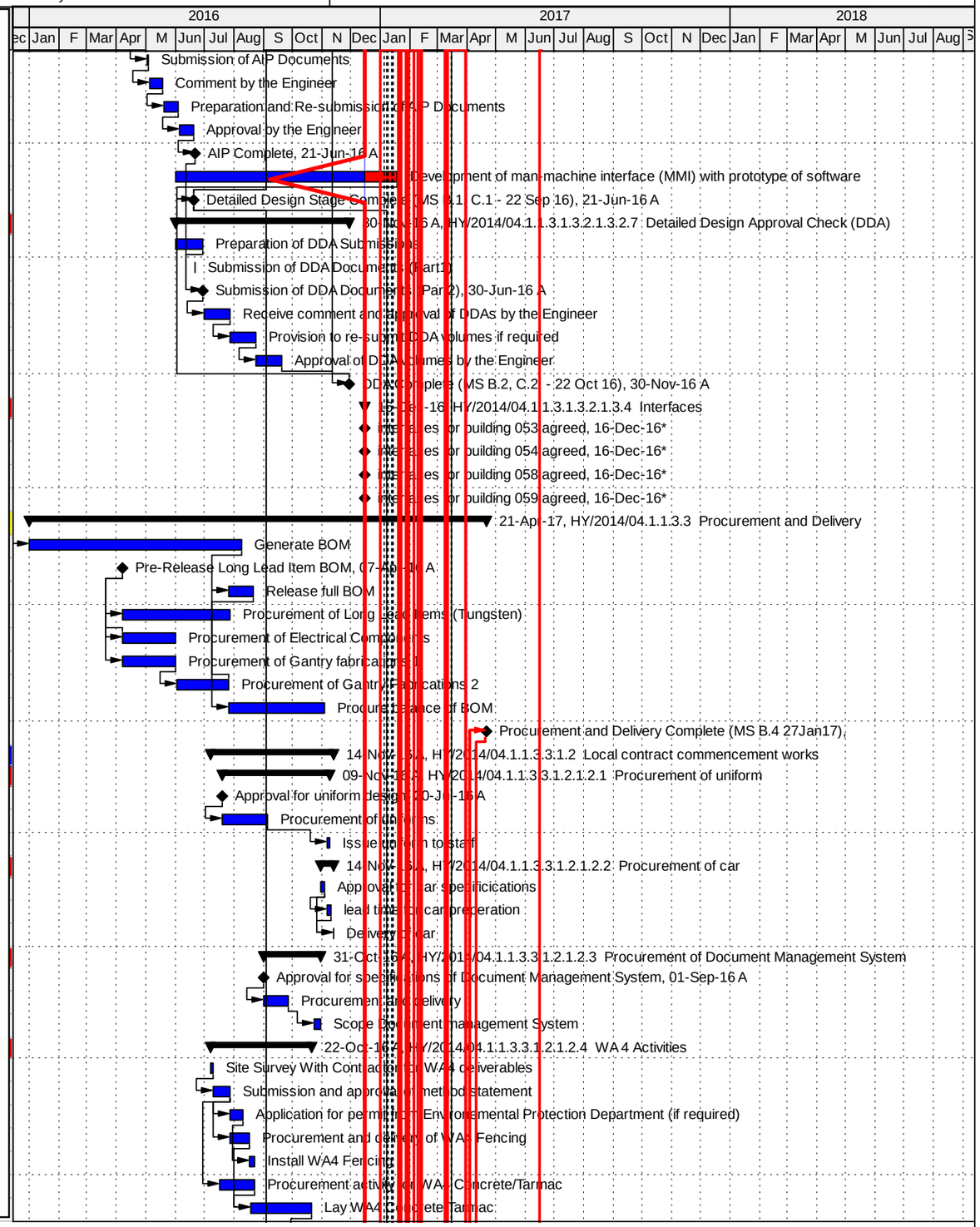
Activity ID	Activity Name
HY/2014/04	Hong Kong-Zhuhai-Macao Brid
HY/2014/04.1	Contract No. HY/2014/04 Hong
HY/2014/04.1.1.1	Contract Award
3	Letter of Acceptance
4	Contract Signing
HY/2014/04.1.1.1.1	Milestone
HY/2014/04.1.1.1.1.1	Cost Centre B
A1(	MS B1 - Submission of Draft Detailed Design Do
A1(	MS B2 - Submission of Final Detailed Design Do
A1(	MS B3 - Acceptance of Factory Acceptance Test
A1(	MS B4 - Complete order and delivery on Site of a
A1(	MS B5 - Acceptance of Integration Test
A1(	MS B6 - Acceptance of Site Acceptance Test
A1(	MS B7 - Acceptance of Operability Test
A1(	MS B8 - Issue of Certificate of Completion for wc
HY/2014/04.1.1.1.1.2	Cost Centre C
A1(	MS C1 - Submission of Draft Detailed Design Do
A11	MS C2 - Submission of Final Detailed Design Do
A11	MS C3 - Acceptance of Factory Acceptance Tes
A11	MS C4 - Complete order and delivery on Site of a
A11	MS C5 - Acceptance of Integration Test
A11	MS C6 - Acceptance of Site Acceptance Test
A11	MS C7 - Acceptance of Operability Test
A11	MS C8 - Issue of Certificate of Completion for wc
HY/2014/04.1.1.1.1.3.5	Site Access
HY/2014/04.1.1.1.1.3.5.1.3.5.1	Location 1 - Cargo Exa
100	Inbound Cargo Exam Bldg - Degree 2 inspection
102	Outbound Cargo Exam Bldg - Degree 1 inspection
103	Outbound Cargo Exam Bldg - Degree 1 inspectic
104	Outbound Cargo Exam Bldg - Degree 2 inspection
105	Outbound Cargo Exam Bldg - Degree 2 inspectic
97	Inbound Cargo Exam Bldg - Degree 1 inspection
98	Inbound Cargo Exam Bldg - Degree 1 inspection
99	Inbound Cargo Exam Bldg - Degree 2 inspection
HY/2014/04.1.1.1.1.3.5.1.3.5.3	Location 2 - X-ray Build
107	Inbound X-Ray Bldg - Degree 2 inspection
108	Inbound X-Ray Bldg - Degree 2 inspection comp
HY/2014/04.1.1.1.1.3.5.1.3.5.4	Location 3 - X-Ray Scar
110	Inbound/Outbound X-Ray Scan Tunnel - Degree
111	Inbound/Outbound X-Ray Scan Tunnel - Degree
112	Inbound/Outbound X-Ray Scan Tunnel - Degree
113	Inbound X-Ray Scan Tunnel - Degree 2 inspectic
HY/2014/04.1.1.3	Design, build, supply and install
28	Commencement of design Works
HY/2014/04.1.1.3.1.3.2	Detailed Design Stage
30	Kick-off Meeting
31	Project Charter
32	Liaison with Building Contractors on civil provisio
33	Interface and Coordination with interfacing contra
35	Presentation of the workflow and system design
36	Preparation of AIP Submissions, including checki



Actual Level of Effort | Remaining Work | Milestone
Actual Work | Critical Remaining Work | summary

TASK filter: All Activities

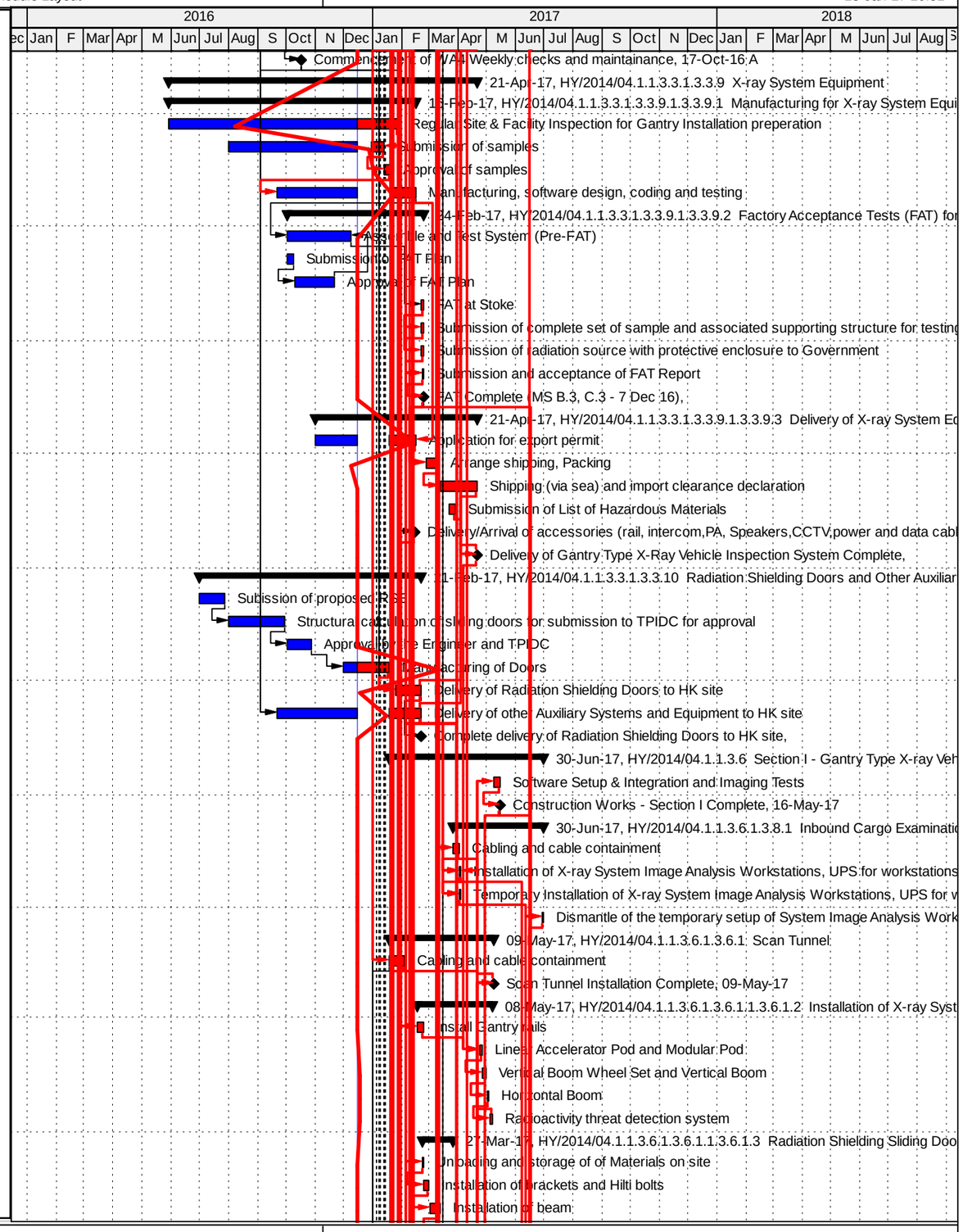
Activity ID	Activity Name
37	Submission of AIP Documents
38	Comment by the Engineer
39	Preparation and Re-submission of AIP Documents
40	Approval by the Engineer
41	AIP Complete
42	Development of man-machine interface (MMI) wi
51	Detailed Design Stage Complete (MS B.1, C.1 - 2
HY/2014/04.1.1.3.1.3.2.1.3.2.7	**Detailed Design Approv**
44	Preparation of DDA Submissions
45	Submission of DDA Documents (Part1)
46	Submission of DDA Documents (Part2)
47	Receive comment and approval of DDAs by the I
48	Provision to re-submit DDA volumes if required
49	Approval of DDA volumes by the Engineer
50	DDA Complete (MS B.2, C.2 - 22 Oct 16)
HY/2014/04.1.1.3.1.3.2.1.3.4	**Interfaces**
91	interfaces for building 053 agreed
92	interfaces for building 054 agreed
93	interfaces for building 058 agreed
94	interfaces for building 059 agreed
HY/2014/04.1.1.3.3	**Procurement and Delivery**
53	Generate BOM
54	Pre-Release Long Lead Item BOM
55	Release full BOM
56	Procurement of Long Lead Items (Tungsten)
57	Procurement of Electrical Components
58	Procurement of Gantry fabrications 1
59	Procurement of Gantry Fabrications 2
60	Procure balance of BOM
89	Procurement and Delivery Complete (MS B.4 27
HY/2014/04.1.1.3.3.1.2	**Local contract commencement w**
HY/2014/04.1.1.3.3.1.2.1.2.1	**Procurement of uniform**
7	Approval for uniform design
8	Procurement of uniforms
9	Issue uniform to staff
HY/2014/04.1.1.3.3.1.2.1.2.2	**Procurement of car**
11	Approval for car specificications
12	lead time for car preperation
13	Delivery of car
HY/2014/04.1.1.3.3.1.2.1.2.3	**Procurement of Docume**
15	Approval for specifications of Document Manage
16	Procurement and delivery
17	Scope Document management System
HY/2014/04.1.1.3.3.1.2.1.2.4	**WA 4 Activities**
19	Site Survey With Contractor for WA4 deliverables
20	Submission and approval of method statement
21	Application for permit from Environemental Prote
22	Procurement and delivery of WA4 Fencing
23	Install WA4 Fencing
24	Procurement activity for WA4 Concrete/Tarmac
25	Lay WA4 Concrete/Tarmac



Actual Level of Effort | Actual Work | Remaining Work | Critical Remaining Work | Milestone | summary

TASK filter: All Activities

Activity ID	Activity Name
26	Commencement of WA4 Weekly checks and ma
HY/2014/04.1.1.3.3.1.3.3.9	X-ray System Equipment
HY/2014/04.1.1.3.3.1.3.3.9.1.3.3.9.1	Manufacturing for
63	Regular Site & Facility Inspection for Gantry Insta
64	Submission of samples
65	Approval of samples
66	Manufacturing, software design, coding and testing
HY/2014/04.1.1.3.3.1.3.3.9.1.3.3.9.2	Factory Acceptanc
68	Assemble and Test System (Pre-FAT)
69	Submission of FAT Plan
69.5	Approval of FAT Plan
70	FAT at Stoke
71	Submission of complete set of sample and assoc
72	Submission of radiation source with protective er
73	Submission and acceptance of FAT Report
74	FAT Complete (MS B.3, C.3 - 7 Dec 16)
HY/2014/04.1.1.3.3.1.3.3.9.1.3.3.9.3	Delivery of X-ray S
76	Application for export permit
77	Arrange shipping, Packing
78	Shipping (via sea) and import clearance declaratio
79	Submission of List of Hazardous Materials
80	Delivery/Arrival of accessories (rail, intercom,PA,
81	Delivery of Gantry Type X-Ray Vehicle Inspectior
HY/2014/04.1.1.3.3.1.3.3.10	Radiation Shielding Doors a
83	Subission of proposed RSE
84	Structural calculation of sliding doors for submiss
85	Approval by the Engineer and TPIDC
86	Manufacturing of Doors
87	Delivery of Radiation Shielding Doors to HK site
88	Delivery of other Auxiliary Systems and Equipmer
A1000	Complete delivery of Radiation Shielding Doors tc
HY/2014/04.1.1.3.6	Section I - Gantry Type X-ray Vehi
212	Software Setup & Integration and Imaging Tests
213	Construction Works - Section I Complete
HY/2014/04.1.1.3.6.1.3.8.1	Inbound Cargo Examination I
315	Cabling and cable containment
316	Installation of X-ray System Image Analysis Work
317	Temporary Installation of X-ray System Image An
318	Dismantle of the temporary setup of System Ima
HY/2014/04.1.1.3.6.1.3.6.1	Scan Tunnel
116	Cabling and cable containment
140	Scan Tunnel Installation Complete
HY/2014/04.1.1.3.6.1.3.6.1.1.3.6.1.2	Installation of X-ra
118	Install Gantry rails
119	Linear Accelerator Pod and Modular Pod
120	Vertical Boom Wheel Set and Vertical Boom
121	Horizontal Boom
122	Radioactivity threat detection system
HY/2014/04.1.1.3.6.1.3.6.1.1.3.6.1.3	Radiation Shieldin
124	Unloading and storage of of Materials on site
125	Installation of brackets and Hilti bolts
126	Installation of beam

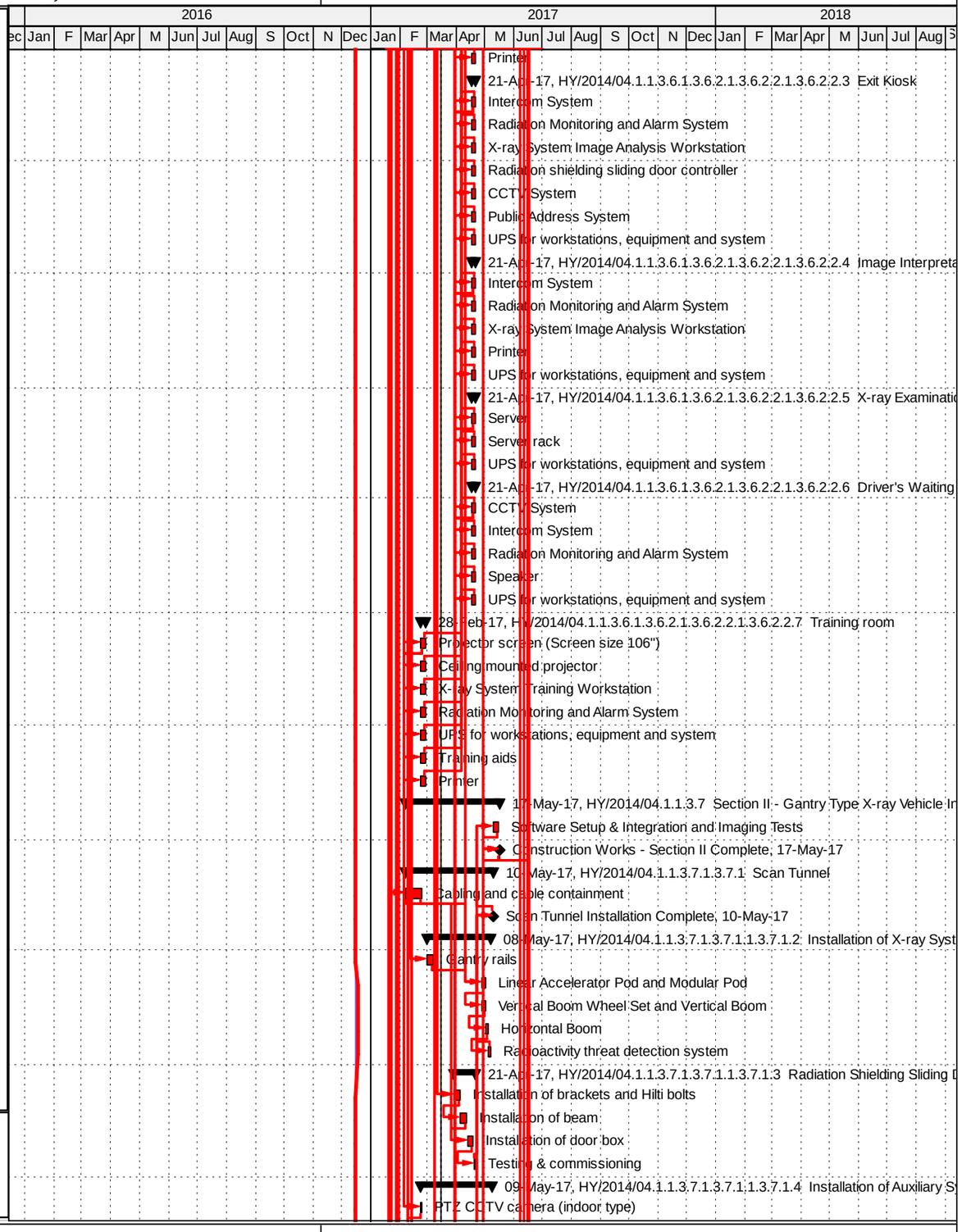


Actual Level of Effort | Remaining Work | Milestone
Actual Work | Critical Remaining Work | summary

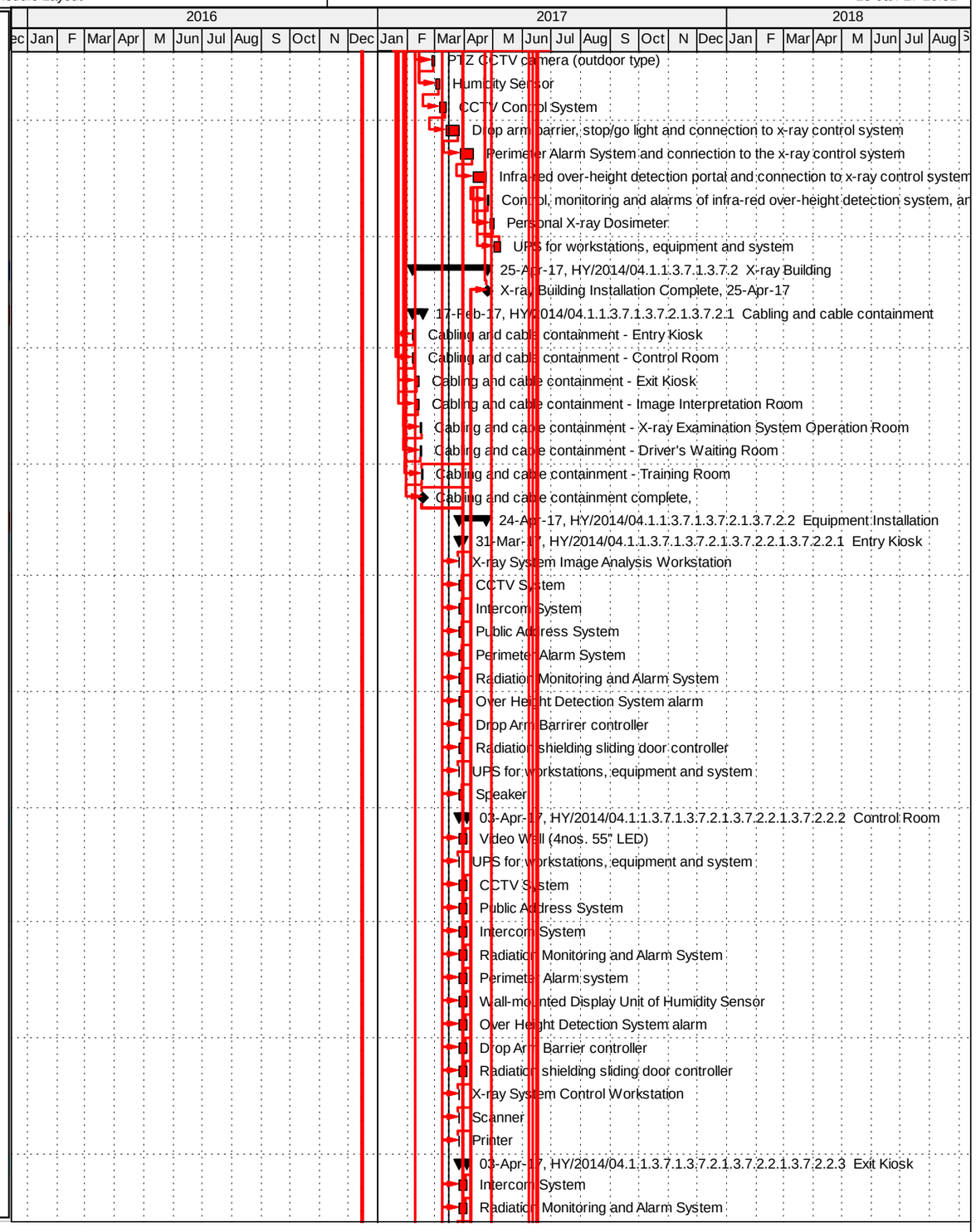
TASK filter: All Activities

Activity ID	Activity Name
127	Installation of door box
128	Testing & commissioning
HY/2014/04.1.1.3.6.1.3.6.1.1.3.6.1.4	Installation of oth
130	PTZ CCTV camera (indoor type)
131	PTZ CCTV camera (outdoor type)
132	Humidity Sensor
133	CCTV Control System
134	Drop arm barrier, stop/go light and connection to
135	Perimeter Alarm System and connection to the x-
136	Infra-red over-height detection portal and connec
137	Control, monitoring and alarms of infra-red over-
138	Personal X-ray Dosimeter
139	UPS for workstations, equipment and system
HY/2014/04.1.1.3.6.1.3.6.2	X-ray Building
211	X-ray Building Installation Complete
HY/2014/04.1.1.3.6.1.3.6.2.1.3.6.2.1	Cabling and cable
143	Entry Kiosk
144	Control Room
145	Exit Kiosk
146	Image Interpretation Room
147	X-ray Examination System Operation Room
148	Driver's Waiting Room
149	Training Room
150	Cabling and cable containment complete
HY/2014/04.1.1.3.6.1.3.6.2.1.3.6.2.2	Equipment Installa
HY/2014/04.1.1.3.6.1.3.6.2.1.3.6.2.2.1.3.6.2.2.1	Entry
:	X-ray System Image Analysis Workstation
:	CCTV System
:	Intercom System
:	Public Address System
:	Perimeter Alarm System
:	Radiation Monitoring and Alarm System
:	Over Height Detection System alarm
:	Drop Arm Barrirer controller
:	Radiation shielding sliding door controller
:	UPS for workstations, equipment and system
:	Speaker
HY/2014/04.1.1.3.6.1.3.6.2.1.3.6.2.2.1.3.6.2.2.2	Cont
:	Video Wall (4nos. 55" LED)
:	UPS for workstations, equipment and system
:	CCTV System
:	Public Address System
:	Intercom System
:	Radiation Monitoring and Alarm System
:	Perimeter Alarm system
:	Wall-mounted Display Unit of Humidity Sensor
:	Over Height Detection System alarm
:	Drop Arm Barrier controller
:	Radiation shielding sliding door controller
:	X-ray System Control Workstation
:	Scanner

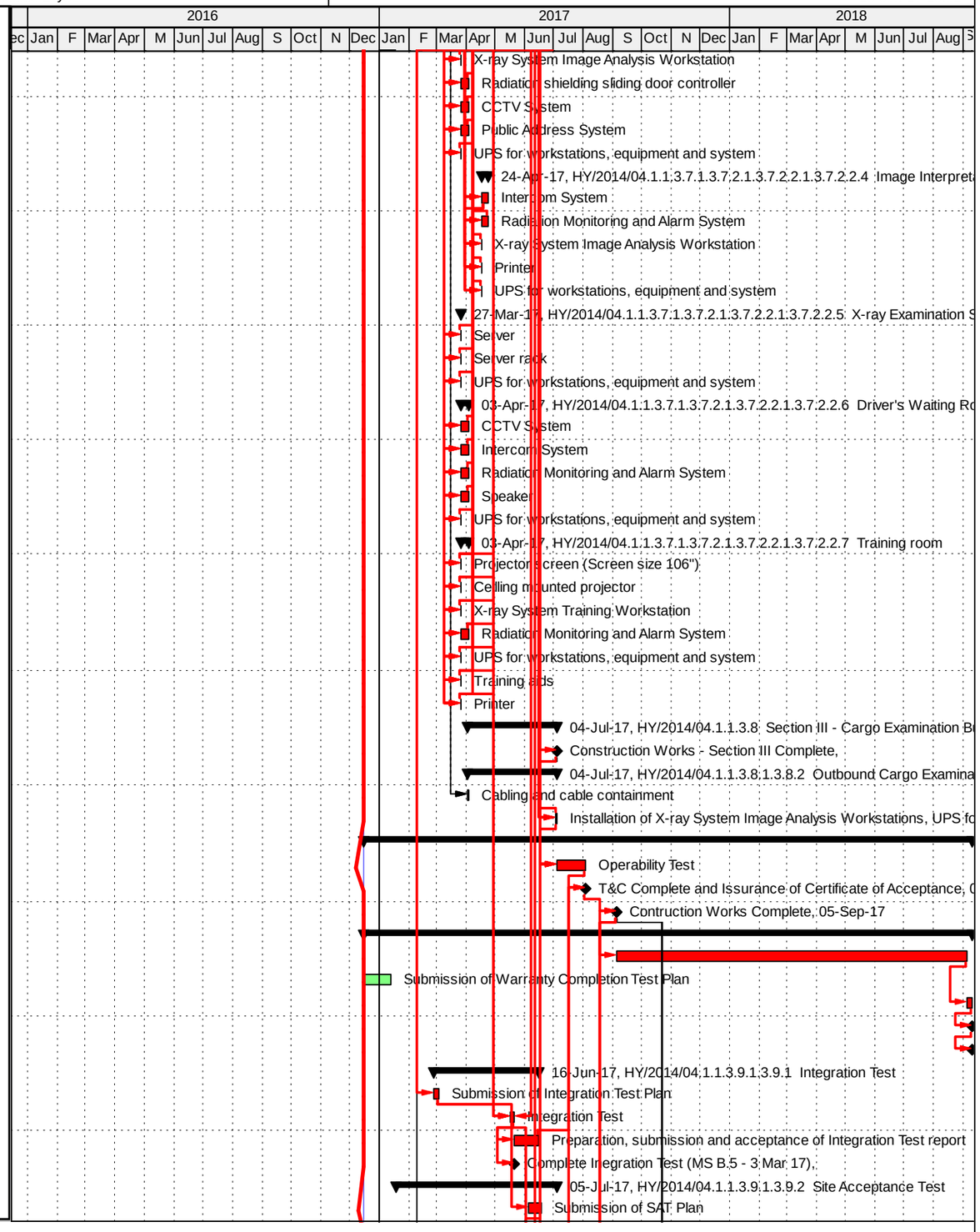
Activity ID	Activity Name
:	Printer
HY/2014/04.1.1.3.6.1.3.6.2.1.3.6.2.2.1.3.6.2.2.3	**Exit K**
:	Intercom System
:	Radiation Monitoring and Alarm System
:	X-ray System Image Analysis Workstation
:	Radiation shielding sliding door controller
:	CCTV System
:	Public Address System
:	UPS for workstations, equipment and system
HY/2014/04.1.1.3.6.1.3.6.2.1.3.6.2.2.1.3.6.2.2.4	**Imag**
:	Intercom System
:	Radiation Monitoring and Alarm System
:	X-ray System Image Analysis Workstation
:	Printer
:	UPS for workstations, equipment and system
HY/2014/04.1.1.3.6.1.3.6.2.1.3.6.2.2.1.3.6.2.2.5	**X-ray**
:	Server
:	Server rack
:	UPS for workstations, equipment and system
HY/2014/04.1.1.3.6.1.3.6.2.1.3.6.2.2.1.3.6.2.2.6	**Drive**
:	CCTV System
:	Intercom System
:	Radiation Monitoring and Alarm System
:	Speaker
:	UPS for workstations, equipment and system
HY/2014/04.1.1.3.6.1.3.6.2.1.3.6.2.2.1.3.6.2.2.7	**Train**
:	Projector screen (Screen size 106")
:	Ceilling mounted projector
:	X-ray System Training Workstation
:	Radiation Monitoring and Alarm System
:	UPS for workstations, equipment and system
:	Training aids
:	Printer
HY/2014/04.1.1.3.7	**Section II - Gantry Type X-ray Vehi**
311	Software Setup & Integration and Imaging Tests
312	Construction Works - Section II Complete
HY/2014/04.1.1.3.7.1.3.7.1	**Scan Tunnel**
216	Cabling and cable containment
239	Scan Tunnel Installation Complete
HY/2014/04.1.1.3.7.1.3.7.1.1.3.7.1.2	**Installation of X-ra**
218	Gantry rails
219	Linear Accelerator Pod and Modular Pod
220	Vertical Boom Wheel Set and Vertical Boom
221	Horizontal Boom
222	Radioactivity threat detection system
HY/2014/04.1.1.3.7.1.3.7.1.1.3.7.1.3	**Radiation Shieldin**
224	Installation of brackets and Hilti bolts
225	Installation of beam
226	Installation of door box
227	Testing & commissioning
HY/2014/04.1.1.3.7.1.3.7.1.1.3.7.1.4	**Installation of Aux**
229	PTZ CCTV camera (indoor type)



Activity ID	Activity Name
230	PTZ CCTV camera (outdoor type)
231	Humidity Sensor
232	CCTV Control System
233	Drop arm barrier, stop/go light and connection to
234	Perimeter Alarm System and connection to the x-
235	Infra-red over-height detection portal and connec
236	Control, monitoring and alarms of infra-red over-
237	Personal X-ray Dosimeter
238	UPS for workstations, equipment and system
HY/2014/04.1.1.3.7.1.3.7.2 X-ray Building	
310	X-ray Building Installation Complete
HY/2014/04.1.1.3.7.1.3.7.2.1.3.7.2.1 Cabling and cable	
242	Cabling and cable containment - Entry Kiosk
243	Cabling and cable containment - Control Room
244	Cabling and cable containment - Exit Kiosk
245	Cabling and cable containment - Image Interpret
246	Cabling and cable containment - X-ray Examinati
247	Cabling and cable containment - Driver's Waiting
248	Cabling and cable containment - Training Room
249	Cabling and cable containment complete
HY/2014/04.1.1.3.7.1.3.7.2.1.3.7.2.2 Equipment Installa	
HY/2014/04.1.1.3.7.1.3.7.2.1.3.7.2.2.1.3.7.2.2.1 Entry	
1	X-ray System Image Analysis Workstation
1	CCTV System
1	Intercom System
1	Public Address System
1	Perimeter Alarm System
1	Radiation Monitoring and Alarm System
1	Over Height Detection System alarm
1	Drop Arm Barrirer controller
1	Radiation shielding sliding door controller
1	UPS for workstations, equipment and system
1	Speaker
HY/2014/04.1.1.3.7.1.3.7.2.1.3.7.2.2.1.3.7.2.2.2 Cont	
1	Video Wall (4nos. 55" LED)
1	UPS for workstations, equipment and system
1	CCTV System
1	Public Address System
1	Intercom System
1	Radiation Monitoring and Alarm System
1	Perimeter Alarm system
1	Wall-mounted Display Unit of Humidity Sensor
1	Over Height Detection System alarm
1	Drop Arm Barrier controller
1	Radiation shielding sliding door controller
1	X-ray System Control Workstation
1	Scanner
1	Printer
HY/2014/04.1.1.3.7.1.3.7.2.1.3.7.2.2.1.3.7.2.2.3 Exit K	
1	Intercom System
1	Radiation Monitoring and Alarm System



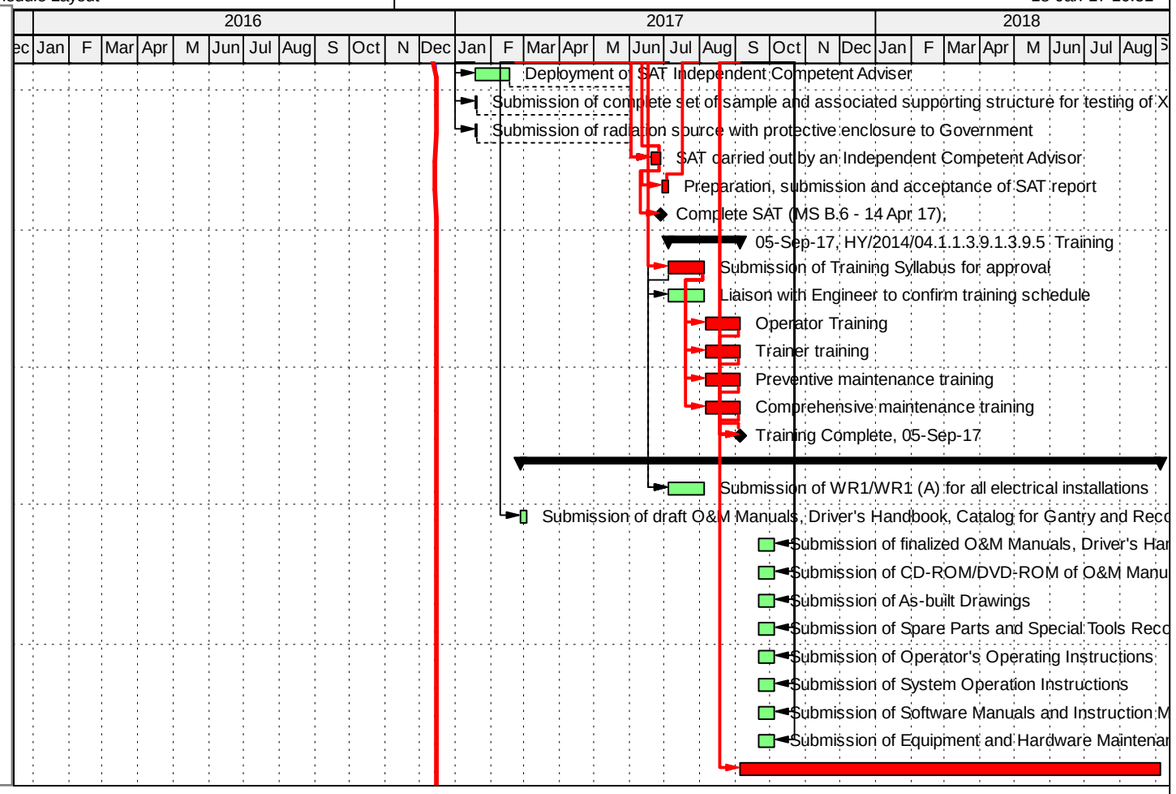
Activity ID	Activity Name
	X-ray System Image Analysis Workstation
	Radiation shielding sliding door controller
	CCTV System
	Public Address System
	UPS for workstations, equipment and system
HY/2014/04.1.1.3.7.1.3.7.2.1.3.7.2.2.1.3.7.2.2.4	Imag
	Intercom System
	Radiation Monitoring and Alarm System
	X-ray System Image Analysis Workstation
	Printer
	UPS for workstations, equipment and system
HY/2014/04.1.1.3.7.1.3.7.2.1.3.7.2.2.1.3.7.2.2.5	X-ray
	Server
	Server rack
	UPS for workstations, equipment and system
HY/2014/04.1.1.3.7.1.3.7.2.1.3.7.2.2.1.3.7.2.2.6	Drive
	CCTV System
	Intercom System
	Radiation Monitoring and Alarm System
	Speaker
	UPS for workstations, equipment and system
HY/2014/04.1.1.3.7.1.3.7.2.1.3.7.2.2.1.3.7.2.2.7	Train
	Projector screen (Screen size 106")
	Ceilling mounted projector
	X-ray System Training Workstation
	Radiation Monitoring and Alarm System
	UPS for workstations, equipment and system
	Training aids
	Printer
HY/2014/04.1.1.3.8	Section III - Cargo Examination Bu
322	Construction Works - Section III Complete
HY/2014/04.1.1.3.8.1.3.8.2	Outbound Cargo Examinatior
320	Cabling and cable containment
321	Installation of X-ray System Image Analysis Work
HY/2014/04.1.1.3.9	On-Site Testing & Commissioning
335	Operability Test
336	T&C Complete and Issurance of Certificate of Ac
345	Contruction Works Complete
HY/2014/04.1.1.3.9.1.3.10	Defect Liability Period for Con
359	Defect Liability Period
360	Submission of Warranty Completion Test Plan
361	Warranty Completion Test
362	DLP Complete and issuance of Defect Laibility C
363	Commencement of Maintenance Services
HY/2014/04.1.1.3.9.1.3.9.1	Integration Test
325	Submission of Integration Test Plan
326	Integration Test
327	Preparation, submission and acceptance of Inte
327.5	Complete Inegration Test (MS B.5 - 3 Mar 17)
HY/2014/04.1.1.3.9.1.3.9.2	Site Acceptance Test
329	Submission of SAT Plan



Actual Level of Effort | Actual Work | Remaining Work | Critical Remaining Work | Milestone | summary

TASK filter: All Activities

Activity ID	Activity Name
330	Deployment of SAT Independent Competent Advi
331	Submission of complete set of sample and assoc
332	Submission of radiation source with protective er
333	SAT carried out by an Independent Competent A
334	Preparation, submission and acceptance of SAT
334.5	Complete SAT (MS B.6 - 14 Apr 17)
HY/2014/04.1.1.3.9.1.3.9.5 Training	
338	Submission of Training Syllabus for approval
339	Liaison with Engineer to confirm training schedule
340	Operator Training
341	Trainer training
342	Preventive maintenance training
343	Comprehensive maintenance training
344	Training Complete
HY/2014/04.1.1.3.9.1.3.9.7 Other Documentation	
347	Submission of WR1/WR1 (A) for all electrical ins
348	Submission of draft O&M Manuals, Driver's Han
349	Submission of finalized O&M Manuals, Driver's H
350	Submission of CD-ROM/DVD-ROM of O&M Ma
351	Submission of As-built Drawings
352	Submission of Spare Parts and Special Tools Re
353	Submission of Operator's Operating Instructions
354	Submission of System Operation Instructions
355	Submission of Software Manuals and Instruction
356	Submission of Equipment and Hardware Mainter
357	Submission of Software License Installation Disk



Actual Level of Effort | Actual Work | Remaining Work | Critical Remaining Work | Milestone | summary

TASK filter: All Activities

APPENDIX D

Event and Action Plan

Event/Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurement s 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 ER; 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 ER on the effectiveness of the proposed remedial measures; 5. Supervise 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 ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, 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 ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation 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 3 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 ER until the exceedance is abated.

Event / Action Plan for Construction Noise Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	1. Notify IEC and Contractor; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5 Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level	1. Inform IEC, ER, EPD and Contractor; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 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 3 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 ER until the exceedance is abated.

APPENDIX E

Waste Flow Table

Monthly Summary Waste Flow Table for 2017

Leighton - Chun Wo Joint Venture

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	a.Total Quantity Generated (see Note 8)	b. Hard Rock and Large Broken Concrete (see Note 9)	c. Reused in the Contract	d. Reused in Other Projects	e. Disposed as Public Fill (see Note 10)	f. Imported Fill	g. Metals (see Note 5)	h. Paper / Cardboard Packaging (see Note 5)	i. Plastics (see Note 3) (see Note 5)	j. Chemical Waste	k. Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
January	1.390	0.010	1.380	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.197
February	1.070	0.003	1.067	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.143
March	0.266	0.202	0.064	0.000	0.202	0.000	5.840	0.000	0.000	0.000	0.269
April	0.249	0.013	0.236	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.220
May	0.132	0.132	0.000	0.000	0.132	0.000	0.000	0.000	0.000	0.000	0.421
June	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.392
Sub-total	3.107	0.360	2.747	0.000	0.360	0.000	5.840	0.000	0.000	0.000	1.642
July	0.076	0.007	0.069	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.403
August											
September											
October											
November											
December											
Total	3.183	0.367	2.816	0.000	0.367	0.000	5.840	0.000	0.000	0.000	2.045

Total C&D waste generated = a+b+f+g+h+i+j+k

Total C&D waste generated (excluded excavated material) = g+h+i+j+k

Total C&D waste recycled = c+d+g+h+i

% of recycled C&D waste = (Total C&D waste generated - Total C&D waste recycled) / Total C&D waste generated

Notes:
(1) The performance target are given in PS Clause 6(14)
(2) The waste flow table shall also include C&D materials that are not specified in the Contract to be imported for use at the Site
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
(4) The Contractor shall also submit the latest forecast of the amount of C&D materials expected to be generated from the Works, together with a break down of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m3.
(5) All recyclable materials, including metals, paper / cardboard packaging, plastics, etc. will be collected by registered collector for recycling.
(6) Conversion factors for reporting purpose:
in-situ: rock = 2.5 tonnes/m^3; soil = 2.0 tonnes/m^3
excavated: rock = 2.0 tonnes/m^3; soil = 1.8 tonnes/m^3; broken concrete and bitumen = 2.4 tonnes/m^3
C&D Waste = 0.9 tonnes/m^3; bentonite slurry = 2.8 tonnes/m^3
(7) Numbers are rounded off to the nearest three decimal places
(8) The "Total Quantity Generated" equals to the sum of "Reuse in the Contract", "Reuse in Other Projects" and "Disposed as Public Fill"
(9) The "Hard Rock and Large Broken Concrete" were disposed as public fill
(10) The amount in "Disposed as Public Fill" included the "Hard Rock and Large Broken Concrete" disposed as public fill

Ver: 1st
Date: Jan 2017

ATAL Technologies Ltd.
Contract No. **HY/2013/06** HKBCF Automatic Vehicle Clearance Support System
Location: Artifical Island of HKIAP (C1 & C8 Area)

Monthly Summary Waste Flow Table for 2017

Month	Inert C&D Waste disposal / 堕性廢物 (in tonnes) (see Note 1)						Non-inert C&D Waste disposal 非堕性廢物 (in tonnes)		Waste to be recycled and returned / 可再循環利用或回收的廢物								Total Quantity Generated 總生產量	
	Reused in the Work Package (e.g. backfilling) 再用於工程 (如回填)		Reused in other Projects 再用於其他工程		Inert Waste (e.g. soil, broken concrete, rubble, fill material etc.) 堕性廢物 (如泥, 石矢頭, 石, 填料等)		Others (e.g. general refuse, broken formwork etc) 其他 (如垃圾, 廢板枋等)		Metals 金屬		Plastic 塑膠		Paper/cardboard packaging 廢紙/包裝紙類		Chemical Waste 化學廢物			
	(b)		(c)		(d)		(e)		(in tonnes)		(in tonnes)		(in tonnes)		(in litre)		(a)= (b+c+d+e)	
	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量
January	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000	0.000	0.000
February	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000	0.000	0.000
March	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002
April	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002
May	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.005
June	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002
July	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.002**	**0.002**	**0.002**	**0.002**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.002**	**0.002**
August																		
September																		
October																		
November																		
December																		
Total	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.013**	**0.013**	**0.013**	**0.013**	**0.000**	**0.000**	**0.004**	**0.004**	**0.000**	**0.000**	**0.013**	**0.013**

Notes: (1) The quantitles of C&D Materials, in tonne, was calculated by multiply the estimated volume, in m3, with the density of the soil, which is 1.5 gcm-^{3}.

Rapiscan systems
An OSI Systems Company

Highways Department
Monthly Summary of Waste Flow Table in 2017

Month	Actual Quantities of Inert C&D Materials Generated / Imported						Actual Quantities of Other C&D Materials / Wastes Generated				
	Total Quantity Generated (in '000m^3)	Hard Rocks and Large Broken Concrete (in '000m^3)	Reused in the Contract (in '000m^3)	Reused in other Projects (in '000m^3)	Disposed as Public Fill (in '000m^3)	Imported Fill (in '000m^3)	Metals (in '000kg)	Paper/Card-board packaging (in '000kg)	Plastic (in '000kg)	Chemical Waste (in '000kg)	Others. e.g. general refuse, plastic (in '000kg)
Jan-17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Feb-17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mar-17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Apr-17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.6100
May-17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.8000
Jun-17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.0700
Half-year total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.4800
Jul-17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	14.3700
Aug-17											
Sep-17											
Oct-17											
Nov-17											
Dec-17											
Yearly Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	21.8500

APPENDIX F

Environmental Licenses and Permits

LCAL H2642

Environmental License/ Permits /Notification Register

Contract No. HY/2014/05 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Date: July 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
1	All Areas	30 Jun 2015	N/A	Environmental Permit for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities	EP-353/2009/I	17 Jul 15	N/A	EPD	Superseded by EP-353/2009/J
2	All Areas	18 Feb 2016	N/A	Environmental Permit for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities	EP-353/2009/J	25 Feb 2016	N/A	EPD	Superseded by EP-353/2009/K
3	All Areas	24 Mar 2016	N/A	Environmental Permit for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities	EP-353/2009/K	11 Apr 2016	N/A	EPD	-
4	All Areas	30 Dec 2015	N/A	**Billing Account** for disposal of construction waste	7024342	16 Feb 2016	N/A	EPD	-
5	All Areas	30 Dec 2015	RABF-LTR- EPD-000001	**Notification** that notifiable works are anticipated to commence (Form NA).	Acknowledge Receipt Ref. No. 397571	06 Jan 2016	N/A	EPD	-
6	All Areas	04 Jan 2016	RABF-LTR- EPD-000002	**Registration** as Chemical Waste Producer for disposal of spent batteries, used lubrication oil and surplus paint at RABF area	WPN 5213-951-L2846-02	19 Feb 2016	N/A	EPD	-

Environmental License/ Permits /Notification Register

LCAL H2642

Contract No. HY/2014/05 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Date: July 2017									
Item No.	**Permit/License or Registration Application**			**Permit/License/ Notification/ Registration Description**	**Permit/License/ Registration Number**	**Issue/Start Date**	**Expiry Date**	**Issuing Office**	**Remark**
	Work Area	**Date**	**Reference**						
7	All Areas	25 Jan 2016	RABF-LTR- EPD-000003	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0106-16	11 Feb 2016	10 Aug 2016	EPD	Superseded by GW-RS0476-16
8	All Areas	08 May 2016	RABF-LTR- EPD-000012	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0476-16	19 May 2016	18 Nov 2016	EPD	Superseded by GW-RS0666-16
9	All Areas	16 Jun 2016	RABF-LTR- EPD-000015	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0666-16	04 Jul 2016	03 Jan 2017	EPD	Superseded by GW-RS0907-16
10	All Areas	18 Aug 2016	RABF-LTR- EPD-000018	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0907-16	01 Sep 2016	28 Feb 2017	EPD	Superseded by GW-RS1195-16

Environmental License/ Permits /Notification Register

Contract No. HY/2014/05 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Date: July 2017									
Item No.	**Permit/License or Registration Application**			**Permit/License/ Notification/ Registration Description**	**Permit/License/ Registration Number**	**Issue/Start Date**	**Expiry Date**	**Issuing Office**	**Remark**
	Work Area	**Date**	**Reference**						
11	All Areas	16 Nov 2016	RABF-LTR-EPD-000020	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS1195-16	30 Nov 2016	29 May 2017	EPD	Superseded by GW-RS1315-16
12	All Areas	08 Dec 2016	RABF-LTR-EPD-000023	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS1315-16	22 Dec 2016	21 Jun 2017	EPD	Superseded by GW-RS0131-17
13	WA3	13 Jan 2017	RABF-LTR-EPD-000026	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00. (Non-designated area)	GW-RS0070-17	27 Jan 2017	26 Jul 2017	EPD	Superseded by GW-RS0626-17
14	All areas	03 Feb 2017	RABF-LTR-EPD-000028	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0131-17	17 Feb 2017	16 Aug 2017	EPD	Superseded by GW-RS0306-17

Environmental License/ Permits /Notification Register

Contract No. HY/2014/05 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Date: July 2017									
Item No.	**Permit/License or Registration Application**			**Permit/License/ Notification/ Registration Description**	**Permit/License/ Registration Number**	**Issue/Start Date**	**Expiry Date**	**Issuing Office**	**Remark**
	Work Area	**Date**	**Reference**						
15	All areas	20 Mar 2017	RABF-LTR-EPD-000035	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0306-17	05 Apr 2017	02 Oct 2017	EPD	Superseded by GW-RS0435-17
16	All areas	05 May 2017	RABF-LTR-EPD-000036	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0435-17	20 May 2017	16 Nov 2017	EPD	-
17	WA3	28 Jun 2017	RABF-LTR-EPD-000041	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00. (Non-designated area)	GW-RS0626-17	27 Jul 2017	26 Jan 2018	EPD	-

ATAL Technologies Limited

Environmental License/ Permits /Notification Register

Contract No. HY/2013/06 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Automatic Vehicle Clearance Support System

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
									Date: July 2017
1	All Areas	24 Mar 2016	N/A	Environmental Permit for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities	EP-353/2009/K	11 Apr 2016	N/A	EPD	-
2	Building 023, 025 and 032	31 Jul 2015	WFG14980	**Billing Account** for disposal of construction waste	7023015	20 Aug 2015	N/A	EPD	-
3	N/A	N/A	N/A	Registration as Chemical Waste Producer for disposal chemical waste	N/A	N/A	N/A	N/A	#
4	All Areas	4 May 2017	CNP-GW416290	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 00:00 and 00:00 to 07:00. (Non-designated area)	GW-RS0452-17	1 Jun 2017	30 Nov 2017	EPD	-

The Contractor of Contract No. HY/2013/06 was advised to register as a chemical waste producer when chemical waste is expected to generate for the foreseeable future from the operations.

Rapiscan Systems Pte Ltd (RS)

Environmental License/ Permits /Notification Register

Contract No. HY/2014/04 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Gantry Type X-ray Vehicle Inspection System

Date: July 2017									
Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
1	All Areas	24 Mar 2016	N/A	Environmental Permit for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities	EP-353/2009/K	11 Apr 2016	N/A	EPD	-
2	All Areas	23 Aug 2016	N/A	**Billing Account** for disposal of construction waste	7025930	20 Sep 2016	N/A	EPD	(a)
3	N/A	N/A	N/A	Registration as Chemical Waste Producer for disposal chemical waste	N/A	N/A	N/A	N/A	(b)
4	Building 058 & 059	27 Jul 2017	-	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 00:00 and 00:00 to 07:00. (Non-designated area)	GW-RS0640-17	6 Aug 2017	4 Feb 2018	EPD	-

Remarks:
(a) As informed by the Contractor of Contract No. HY/2014/04 on 5 May 2017, the billing account for disposal of construction waste should be 7025930.
(b) The Contractor of Contract No. HY/2014/04 was advised to register as a chemical waste producer when chemical waste is expected to generate for the foreseeable future from the operations.

APPENDIX G

Implementation Schedule for Environmental Mitigation Measures (EMIS)

Contract No. HY/2014/05 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Implementation Schedule for Environmental Mitigation Measures

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Air Quality								
S5.5.6.1	A1	1) The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)	√
S5.5.6.2	A2	2) Proper watering of exposed spoil should be undertaken throughout the construction phase: • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones. • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S5.5.6.2	A2	• When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S5.5.6.2	A2	• Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)	√
S5.5.6.4	A3	The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	Control construction dust	Contractor	All construction sites	Construction stage	To control the dust impact	√
S5.5.6.5	A4	Engineer to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the contractor's attention to the relevant latest Practice Notes issued by EPD.	Control construction dust	Engineer	All construction sites	Design Stage	Air Pollution Control (Construction Dust) Regulation	√
S5.5.6.5	A5	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period.	Contractor	Selected representative dust monitoring station	Construction stage	• Air Pollution Control (Construction Dust) Regulation • To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)	√ (The dust monitoring works under EM&A programme for the Contract are covered by Contract No. HY/2010/02 and Contract No. HY/2011/03.)

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S5.5.7.1	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant: • Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system; • All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; • Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system; • The materials which may generate airborne dusty emissions should be wetted by water spray system; • All receiving hoppers should be enclosed on three sides up to 3m above unloading point; • All conveyor transfer points should be totally enclosed; • All access and route roads within the premises should be paved and wetted; and • Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body.	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period.	Contractor	Selected representative dust monitoring station	Construction stage	• Air Pollution Control (Construction Dust) Regulation •To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)	N/A
S5.5.2.7	A7	The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point: • All road surface within the barging facilities will be paved; • Dust enclosures will be provided for the loading ramp; • Vehicles will be required to pass through designated wheels wash facilities; and • Continuous water spray at the loading points.	Control construction dust	Contractor	All construction sites	Construction stage	Air Pollution Control (Construction Dust) Regulation	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Construction Noise (Air borne)								
S6.4.10	N1	1) Use of good site practices to limit noise emissions by considering the following: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; • material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	Control construction airborne noise by means of good site practices	Contractor	All construction sites	Construction stage	Noise Control Ordinance	√
S6.4.11	N2	2) Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites	Construction stage	• Noise Control Ordinance • Annex 5, TM-EIA	N/A
S6.4.12	N3	3) Install movable noise barriers (typically density @14kg/m^2), acoustic mat or full enclosure close to noisy plants including air compressor, generators, saw.	Screen the noisy plant items to be used at all construction sites	Contractor	For plant items listed in Appendix 6D of the EIA report at all construction sites	Construction stage	• Noise Control Ordinance • Annex 5, TM-EIA • 75dB(A) for residential premises • The movable barrier should achieve at least 5dB(A) and the full enclosure should be	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S6.4.13	N4	4) Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	Reduce the noise levels of plant items	Contractor	For plant items listed in Appendix 6D of the EIA report at all construction sites	Construction stage	• Noise Control Ordinance & its TM • Annex 5, TM-EIA	√
S6.4.14	N5	5) Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction stage	• Noise Control Ordinance • Annex 5, TM-EIA	√
/	N6	6) Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction stage	• Noise Control Ordinance • Annex 5, TM-EIA • 75dB(A) for residential premises	√ (The noise monitoring works under EM&A programme for the Contract are covered by Contract No. HY/2010/02.)
Sediment								
S7.3	S1	1) The requirements as recommended in ETWB TC 34/2002 Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.	Develop sediment disposal arrangement	Engineer	All construction sites	Design stage	• Waste Disposal Ordinance • ETW B TC 34/2002	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Waste Management (Construction Waste)								
S8.3.8	WM1	*Construction and Demolition Material* The following mitigation measures should be implemented in handling the waste: • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; • Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; and • Implement an enhanced Waste Management Plan similar to ETW BTC (Works) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. • In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	• Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETW BTC 19/2005	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S8.3.9-S8.3.11	WM2	*C&D Waste* • Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage. • The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	• Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETWB TC 19/2005	√
S8.2.12-S8.3.15	WM3	*Chemical Waste* • Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. • The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated.	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	• Waste Disposal (Chemical Waste) General) Regulation • Code of Practice on the Packaging, Labelling and Storage of Chemical Waste	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
		• Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD.						√
S8.3.16	WM4	*Sewage* • Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state, which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.	Proper handling of sewage from worker to avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance	√
S8.3.17	WM5	*General Refuse* • General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. • A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. • Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. • Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminum cans, plastic bottles etc., should be provided. • Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Water Quality (Construction Phase)								
S.9.11.1.7	W2	<u>Land Works</u> General construction activities on land should also be governed by standard good working practice. Specific measures to be written into the works contracts should include: • wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters; • sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the W PCO or collected for disposal offsite. The use of soakaways shall be avoided; • storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks; • silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm; • temporary access roads should be surfaced with crushed stone or gravel; • rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities; • measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system; • open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms; • manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers; • discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;	To control construction water quality	Contractor	Land-based works areas	Construction stage	TM-EIAO	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S9.11.1.7	W2	• all vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit; • wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain; • the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel; • wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects; • vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal; • the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately; • waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance; • all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and • surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.	To control construction water quality	Contractor	Land-based works areas	Construction stage	TM-EIAO	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Ecology (Construction Phase)								
S10.7	E4	• Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater	Prevent Sedimentation from Land-based works areas	Contractor	Land-based works areas	During construction	TM-Water	√
S10.7	E5	• Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time	Prevent disturbance to terrestrial fauna and habitats	Contractor	Land-based works areas	During construction		√
S10.7	E8	• Control vessel speed • Skipper training • Predefined and regular routes for working vessels; avoid Brother Islands.	Minimise marine traffic disturbance on dolphins	Contractor	Marine Traffic	During construction		N/A
Fisheries								
S11.7	F4	• Maritime Oil Spill Response Plan (MOSRP); • Contingency plan.	Minimise impacts on marine water quality impacts	Marine Department	HKBCF	During operation		N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Landscape & Visual (Detailed Design Phase)								
S14.3.3.1	LV1	General design measures include: • Roadside planting and planting along the edge of the HKBCF Island is proposed; • Transplanting of mature trees in good health and amenity value where appropriate and reinstatement of areas disturbed during construction by compensatory hydro-seeding and planting; • Protection measures for the trees to be retained during construction activities; • Optimizing the sizes and spacing of the bridge columns; Fine-tuning the location of the bridge columns to avoid visually-sensitive locations; • Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed; • Providing planting area around peripheral of HKBCF for tree planting screening effect; • Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline; • For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF; and • Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF.	Minimise visual & landscape impact	Detailed designer	HKBCF	Design Stage		N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Landscape & Visual (Construction Phase)								
S14.3.3.3	LV2	Mitigate both Landscape and Visual Impacts G1. Grass-hydroseed bare soil surface and stock pile areas. G2. Add planting strip and automatic irrigation system if appropriate at some portions of bridge footbridge to screen bridge and traffic. G3. Not applicable as this is for HKLR. G4. For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF G5. Vegetation reinstatement and upgrading to disturbed areas G6. Maximizing new tree shrub and other vegetation planting to compensate tree felled and vegetation removed G7. Providing planting area around peripheral of HKBCF for tree planting screening effect; G8. Plant salt-tolerant native and shrubs etc along the planter strip at affected seawall. G9. Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt "natural-look" by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enchance "natural-look" of the new coastline.	Minimise visual & landscape impact	Contractor	HKBCF	Construction stage		N/A
S14.3.3.3	LV3	<u>Mitigate Visual Impacts</u> V1. Minimize time for construction activities during construction period. V2. Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKBCF construction.						√ for V1. N/A for V2.

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
EM&A								
S15.2.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	Control EM&A Performance	Project Proponent	All construction sites		• EIAO Guidance Note No.4/2002 • TM-EIAO	√
S15.5 - S15.6	EM2	1) An Environmental Team needs to be employed as per the EM&A Manual. 2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. 3) An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	Perform environmental monitoring & auditing	Contractor	All construction sites		• EIAO Guidance Note No.4/2002 • TM-EIAO	√

Legends: √ = Implemented; X = Not implemented; N/A = Not applicable

APPENDIX H

Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions

Statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

For Contract No. HY/2014/05

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This reporting period	0	0	0
From commencement date of contract to end of reporting month	4	0	0

For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This reporting period	0	0	0
From commencement date of contract to end of reporting month	0	0	0

For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This reporting period	0	0	0
From commencement date of contract to end of reporting month	0	0	0

APPENDIX I

Environmental Site Inspection Schedule

Contract No. HY/2014/05 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Environmental Site Inspction Schedule for August 2017

	Sunday	Monday	Tueday	Wednesday	Thursday	Friday	Saturday
Time			1-Aug	2-Aug	3-Aug	4-Aug	5-Aug
			Site Inspection				
Time	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug
		Site Inspection					
Time	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug
		Site Inspection					
Time	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug
				Site Inspection			
Time	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug		
		Site Inspection					

Contract No. HY/2013/06 (within Contract No. HY/2014/05 works area) Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Automatic Vehicle Clearance Support System

Environmental Site Inspction Schedule for August 2017

	Sunday	Monday	Tueday	Wednesday	Thursday	Friday	Saturday
Time			1-Aug	2-Aug	3-Aug	4-Aug	5-Aug
			Site Inspection				
Time	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug
		Site Inspection					
Time	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug
		Site Inspection					
Time	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug
				Site Inspection			
Time	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug		
		Site Inspection					

Contract No. HY/2014/04 (within Contract No. HY/2014/05 works area) Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Gantry Type X-ray Vehicle Inspection System

Environmental Site Inspction Schedule for August 2017

	Sunday	Monday	Tueday	Wednesday	Thursday	Friday	Saturday
Time			1-Aug	2-Aug	3-Aug	4-Aug	5-Aug
			Site Inspection				
Time	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug
		Site Inspection					
Time	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug
		Site Inspection					
Time	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug
				Site Inspection			
Time	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug		
		Site Inspection					