Room 723 & 725, 7/F, Block B, Profit Industrial Building,

1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong.

ام٣ Fax Email : (852)-24508238 : (852)-24508032 : mcl@fugro.com



Report No.: 0165/15/ED/0562

QUARTERLY ENVIRONMENTAL MONITORING & AUDIT REPORT (Rev. 1)

June 2016 to August 2016

Client:

China Harbour Engineering Co., Ltd.

Project:

Contract No. HY/2013/03

Hong Kong-Zhuhai-Macao Bridge

Hong Kong Boundary Crossing Facilities -

Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Report No.:

0165/15/ED/0562

Prepared by:

Sandra Pang

Reviewed by: Bong Yu

Certified by:

Arthur Cheng

Environmental Team Leader



Ref.: HYDHZMBEEM00_0_4618L.16

28 September 2016

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. Michael Tovey

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/2013/03 - HZMB HKBCF - Vehicle Clearance Plazas and

Ancillary Buildings and Facilities

Quarterly EM&A Report No.4 for June 2016 to August 2016

Reference is made to the Environmental Team's submission of Quarterly Environmental Monitoring & Audit Report No.4 for June 2016 to August 2016 (Rev. 1) certified by the ET Leader (ET's ref.: "MCL/ED/0562/2016/C" dated 27 September 2016) and provided to us via e-mail on 27 September 2016.

We are pleased to inform you that we have no adverse comment on the captioned report. We write to verify the captioned submission in accordance with Section 16.4.1 of the Updated EM&A Manual (2011).

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)
MCL Mr. Arthur Cheng (By Fax: 2450 8032)
CHEC Mr. Johnason Ko (By Fax: 2887 3014)

Internal: DY, YH, ENPO Site

any



27 September 2016

MCL/ED/0562/2016/C

Date

Our Ref.

Room 723 & 725, 7/F, Block B,

Profit Industrial Building,

1-15 Kwai Fung Crescent, Kwai Fong,

Hong Kong

Tel

: +852-2450 8238

: +852-2450 8032 Fax E-mail: mcl@fugro.com.hk

Website: www.materialab-consultant.com

Ramboll Environ Hong Kong Limited (formerly ENVIRON Hong Kong Limited) Room 2403, 24/F, Jubilee Centre, 18 Fenwick Street, Wan Chai, Hong Kong

Attn.: Mr. Raymond Dai, IEC

BY HAND

Dear Sir,

Quarterly EM&A Report for June 2016 to August 2016 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities -Vehicle Clearance Plazas and Ancillary Buildings and Facilities (Contract No. HY/2013/03)

Pursuant to Section 16.4 of the updated EM&A Manual for Hong Kong Boundary Crossing Facilities (Version 1.0) covering the captioned contract, we are pleased to submit the certified Quarterly EM&A Report for June 2016 to August 2016 (Rev.1) for your verification.

Should you require further information, please do not hesitate to contact our Miss Sandra Pang at 3565 4156 or the undersigned at 3565 4115.

Yours faithfully, for and on behalf of MATERIALAB CONSULTANTS LIMITED

Arthur Chena

Environmental Team Leader

AC/by

Encl.

C.C.

AECOM - Mr. P.K. Lee, Mr. W.S. Ng, Mr. Patrick Ko RAMBOLL ENVIRON - Mr. Ray Yan, Mr. Andy Wong CHEC – Mr. Marko Chan

Room 723 & 725, 7/F, Block B, Profit Industrial Building,

: (852)-24508238 Tel 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508032 Fax Hong Kong. Email : mcl@fugro.com



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Room 723 & 725, 7/F, Block B, Profit Industrial Building,

Tel : (852)-24508238 1-15 Kwai Fung Crescent, Kwai Fong, Fax : (852)-24508032 Hong Kong. Email : mcl@fugro.com



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Tel : (852)-24508238 1-15 Kwai Fung Crescent, Kwai Fong, Fax Hong Kong.



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EXECUTIVE SUMMARY

This Quarterly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2013/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities" (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR). The Contract was awarded to China Harbour Engineering Co. Limited (hereafter referred to as "the Contractor") and MateriaLab Consultants Limited (MCL) was appointed as the Environmental Team (ET) by the Contractor.

The Contract is part of the "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities" (HZMB HKBCF) Project which is a "Designated Project" under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and for which an EIA Report (Register No. AEIAR-145/2009) was prepared and approved. The current Environmental Permit (EP) for HKBCF, namely No. EP-353/2009/K, was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. Commencement of the Contract took place on 10 April 2015 while the construction works and the EM&A programme of this Contract commenced on 29 August 2015.

MateriaLab Consultants Limited (MCL) 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 for the Contract. This is the 4th Quarterly EM&A Report for the Contract which summaries findings of the EM&A works during the reporting period from 01 June 2016 to 31 August 2016 (the "reporting period").

Environmental Monitoring and Audit Progress

The 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 during the reporting period are listed below:

Environmental Site Inspection:

- 03, 10, 17, 24 and 30 June 2016
- 08, 15, 22 and 29 July 2016
- 05, 12, 19 and 26 August 2016

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 is reported in 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 station AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

Room 723 & 725, 7/F, Block B.

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

There was no marine works conducted during the reporting period and therefore, no water quality impact monitoring result is reported.

There was no marine works conducted during the reporting period and therefore, no ecology monitoring result is reported.

Complaint Log

There were no complaints 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 Changes

There was no reporting change during the reporting period.

Room 723 & 725, 7/F, Block B. Profit Industrial Building,

Tel 1-15 Kwai Fung Crescent, Kwai Fong, Fax

: (852)-24508238 : (852)-24508032 Email : mcl@fuaro.com Hong Kong.



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1. INTRODUCTION

1.1 **Basic Project Information**

- 1.1.1 This Quarterly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2013/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities -Vehicle Clearance Plazas and Ancillary Buildings and Facilities" (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR). The Contract was awarded to China Harbour Engineering Co. Limited (hereafter referred to as "the Contractor") and MateriaLab Consultants Limited (MCL) was appointed as the Environmental Team (ET) by the Contractor.
- 1.1.2 The Contract is part of the "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities" (HZMB HKBCF) Project which is a "Designated Project" under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and for which an EIA Report (Register No. AEIAR-145/2009) was prepared and approved. The current Environmental Permit (EP) for HKBCF, namely No. EP-353/2009/K, was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. Commencement of the Contract took place on 10 April 2015 and the construction works commenced on 29 August 2015. The works areas of the contract are shown in Appendix A.
- This is the 4th Quarterly EM&A Report summarising the findings of EM&A activities conducted 1.1.3 under the Contract from 01 June 2016 to 31 August 2016 (the "reporting period") and is submitted to fulfil Condition 16.4 of the Updated EM&A Manual for HKBCF.

1.2 **Project Organisation**

The organisation chart and lines of communication with respect to the on-site environmental 1.2.1 management structure together with the contact information of the key personnel are 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	Contact Person	Telephone No.	Fax No.
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Mr. Michael Tovey	3985 7470	3902 8800
Environmental Project Office /	Environmental Project Office Leader	Mr. Y. H. Hui	3547 2133	3465 2899
Independent Environmental Checker	Independent Environmental Checker (IEC)	Mr. Raymond Dai	3465 2888	34652899
(Ramboll Environ Hong Kong Limited)	Environmental Site Supervisor	Mr. Ray Yan	5181 8165	3465 2899
Contractor	Site Agent	Mr. Paul Pui	9125 0700	2512 0427
(China Harbour Engineering Co. Ltd)	Environmental Officer	Mr. Marko Chan	9427 2879	2512 0427
Environmental Team (MateriaLab Consultants Limited)	Environmental Team Leader (ETL)	Mr. Arthur Cheng	3565 4115	2450 8032
24-hr Complaint Hotline			5236 7111	

Room 723 & 725, 7/F, Block B, Profit Industrial Building,

Profit Industrial Building, Tel : (852)-24508238
1-15 Kwai Fung Crescent, Kwai Fong, Fax : (852)-24508032
Hong Kong. Email : mcl@fugro.com



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1.3 Construction Programme

1.3.1 The Construction Works Programme of the Project 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:

June 2016

- i. Site Investigation at Portion G;
- ii. Piling at Portion A1, STP, G (Bridge A1 A5, A7b, A8 & A9);
- iii. Building at Portion A1 & G;
- iv. CUE Construction, Drainage & Sewerage Work, Radiation Screen Wall and Sign Gantry Footing at Portion B;
- v. Bridge Construction, High Mast Lighting Foundation, Pumping Station & Box Culvert D at Portion G; and
- vi. Marine sediment excavation activities from the land-based works and corresponding disposal at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee.

July 2016

- i. Site Investigation at Portion G;
- ii. Piling at Portion A1, STP, G (Bridge A1 A5, A7b, A8 & A9);
- iii. Building at Portion A1 & G;
- iv. CUE Construction, Drainage & Sewerage Work, Radiation Screen Wall and Sign Gantry Footing at Portion B;
- v. Bridge construction, High Mast Lighting Foundation, Pumping Station & Box Culvert D at Portion G: and
- vi. Marine sediment excavation activities from the land-based works and corresponding disposal at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee.

August 2016

- i. Site Investigation at Portion G;
- ii. Piling at Portion C, STP, Area G (Bridge A1 A5, A7b, A8 & A9), Box Culvert B & C;
- iii. Building at Portion A1, B, G, STP & Pumping Stations;
- iv. CUE Construction at Portion B, C & J;
- v. Drainage & Sewerage Work at Portion B, H1, H2, G & A1;
- vi. Radiation Screen Wall and Sign Gantry Footing at Portion B;
- vii. Sewerage Pumping Station, High Mast Lighting Foundation & Box Culvert D at Portion G;
- viii. Bridge Works at A1 to A6;
- ix. Site Foundation Works at Portion K:
- x. Cover Walkway at Portion H1 & H2; and
- xi. Marine sediment excavation activities from the land-based works and corresponding disposal at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee.

: (852)-24508238

: (852)-24508032

: mcl@fuaro.com

Room 723 & 725, 7/F, Block B, Profit Industrial Building,

Profit Industrial Building, Tel
1-15 Kwai Fung Crescent, Kwai Fong, Fax
Hong Kong. Email

MateriaLab

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2. EM&A REQUIREMENTS

2.1 Summary of EM&A Requirements

- 2.1.1 The 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.
- 2.1.2 A summary of air and noise monitoring locations are presented in **Table 2.1**. The location of air quality and noise monitoring stations are shown as in **Figure 1** and **Figure 2**, respectively.

Table 2.1 Air Quality and Noise Monitoring Locations

Environmental Monitoring	ronmental Monitoring Identification No. Location Description		
Air Quality	AMS6(1)	Dragonair/CNAC (Group) Building (A80)	
	AMS7(1)	Hong Kong SkyCity Marriott Hotel	
Noise	NMS2(2)	Seaview Crescent	
	NMS3B(2) (3)	Site Boundary of Site Office Area at WA2	

Remarks:

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.

2.3 Action and Limit Levels

2.3.1 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)	
AMS6	360	500	
AMS7	370	500	

Table 2.3 Action and Limit Levels for 24-hour TSP

Monitoring Station	Action Level (µg/m³)	Limit Level (µg/m³)
AMS6	173	260
AMS7	183	260

⁽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 latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project.

⁽²⁾ 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.

⁽³⁾ The Action and Limit Levels for schools will be applied for this alternative monitoring location.

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: (852)-24508238 Tel 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508032 Fax Email : mcl@fuaro.com Hong Kong.



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If exceedance(s) at these stations 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 quarterly EM&A Report.

2.3.3 The Action and Limit Levels for construction noise are defined in **Table 2.4**.

Table 2.4 Action and Limit Level for Construction Noise

Monitoring Station	Action Level	Limit Level	
For the Time Period 0700-1900 hrs. on Normal Weekdays			
NMS2	When one documented	75.0 dB (A) Leq (30 min.)	
NMS3B	complaint is received	70.0 dB (A) Leq (30 min.)*	

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.

If exceedance(s) at these stations 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 quarterly EM&A Report.

Event and Action Plans 2.4

The event and action plans for air quality and noise are provided in **Appendix D**. 2.4.1

2.5 **Mitigation Measures**

2.5.1 Environmental mitigation measures for the contract were recommended in the approved EIA Report. Appendix E lists the recommended mitigation measures and the implementation status.

^{*} Reduce to 70 dB(A) for schools and 65 dB(A) during school examination period.

Room 723 & 725, 7/F, Block B, Profit Industrial Building,

Profit Industrial Building, Tel : (852)-24508238
1-15 Kwai Fung Crescent, Kwai Fong, Fax : (852)-24508032
Hong Kong. Email : mcl@fugro.com



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3. ENVIRONMENTAL MONITORING AND AUDIT

3.1 Air Quality Monitoring Results

- 3.1.1 The monitoring results for AMS6 and AMS7 are reported in the monthly EM&A Reports (for June 2016, July 2016 and August 2016) prepared for Contract Nos. HY/2011/03 and HY/2010/02 respectively.
- 3.1.2 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 is reported in the monthly EM&A Reports (for June 2016, July 2016 and August 2016) prepared by Contract No. HY/2011/03.
- 3.1.3 There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

3.2 Noise Monitoring Results

- 3.2.1 The monitoring results for NMS2 and NMS3B are reported in the monthly EM&A Reports (for June 2016, July 2016 and August 2016) prepared for Contract No. HY/2010/02.
- 3.2.2 No noise exceedances were recorded at stations NMS2 and NMS3B by the ET of Contract No. HY/2010/02 during the reporting period.

3.3 Water Quality Monitoring Results

- 3.3.1 There was no marine works conducted during the reporting period and therefore, no relevant monitoring result is reported. However, ET of the Contract shall closely monitor on the status of marine works, which shall conduct monitoring when marine works commence in the future.
- 3.3.2 The ET of the Contract is required to conduct impact water quality monitoring as part of EM&A programme if water quality monitoring is no longer covered by another ET of the HZMB project. The ETL shall review and obtain IEC, ENPO and EPD agreement on the contract specific water quality monitoring works at least a month before the commencement of any marine works.

3.4 Ecology Monitoring Results

- 3.4.1 There was no marine works conducted, which impacted to the ecology during the reporting period and therefore, no relevant monitoring result is reported. However, ET of the Contract shall closely monitor on the status of marine works, which shall conduct monitoring when marine works commence in the future.
- 3.4.2 The ET of the Contract is required to conduct ecology monitoring as part of EM&A programme if ecology monitoring is no longer covered by another ET of the HZMB project. The ETL shall review and obtain IEC, ENPO, AFCD and EPD agreement on the contract specific marine ecology monitoring works at least a month before the commencement of any marine works.

3.5 Implementation of Environmental Measures

3.5.1 In response to the site audit findings, the Contractor carried out corrective actions. Details of site audit findings and the corrective actions during the reporting period are presented in **Appendix F**.

Room 723 & 725, 7/F, Block B, Profit Industrial Building,

Profit Industrial Building, Tel : (852)-24508238 1-15 Kwai Fung Crescent, Kwai Fong, Fax : (852)-24508032 Hong Kong. Email : mcl@fugro.com



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- 3.5.2 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in **Appendix E**. All necessary mitigation measures at this stage of works were implemented properly.
- 3.5.3 Implementation status of Regular Marine Travel Route Plan (RMTRP) was checked by ET. Training of marine travel route for marine vessels operator was given to relevant staff and relevant records were kept properly. Marine traffic records which indicated the number of trips data for pelican barge, hopper barge, tug boat and floating concrete batching plant on the implementation of RMTRP from June 2016 to August 2016 were checked by ET. Marine traffic records of June 2016, July 2016 and August 2016 were provided by Contractor to ER, IEC/ENPO for checking within the month of July 2016, August 2016 and September 2016 respectively.
- 3.5.4 With respect to condition 3.26A of EP-353/2009/K approved by EPD on 11 April 2016, the numbers and operating periods of floating grout production facilities and floating concrete batching plants on-site to review on the compliance to this EP condition were checked. Under Contract No. HY/2013/03, one floating concrete batching plant was operated on-site during the reporting period.

3.6 Advice on the Solid and Liquid Waste Management Status

- 3.6.1 The Contractor registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.
- 3.6.2 No extracted marine sediment was treated using cement solidification/stabilisation (Cement S/S) techniques under Contract No. HY/2013/03 during this reporting period. The marine sediment extracted from this Contract was disposed to the Marine Fill Committee (MFC) allocated disposal sites directly without treatment during this reporting period. As a practical means, the disposal operation is managed by one contractor who is also responsible for applying dumping permit and its subsequent extension applications from EPD. Contract No. HY/2013/03 has been assigned to coordinate and arrange for disposal of extracted marine sediment from all three Contracts (Contract Nos. HY/2013/02, HY/2013/03 and HY/2013/04).
- 3.6.3 The barge for disposal of marine sediment was morn at the temporary loading and unloading at the east shore of the HKBCF Island, which has been being used by reclamation contractor (Contract No. HY/2010/02) for reclamation activities. In terms of safety consideration and to avoid mixing of sediment between contracts, each dumping date was allocated to one Contract. The quantity of marine sediment disposed on each date was from one Contract.
- 3.6.4 During dumping, Contractor of Contract No. HY/2013/03 is responsible for transporting the marine sediment from the site area of Contract No. HY/2013/03 to the barge. The estimated quantity of marine sediment in each truck is confirmed by Resident Site Staff of Contract Nos. HY/2013/02, HY/2013/03 and HY/2013/04. The trip tickets for transportation and disposal of marine sediment are collected and checked. Contract No. HY/2013/03 as the dumping permit holder is responsible for reporting to EPD the quantity disposed of as the condition stipulated in the dumping permit. The disposal site allocated to this Project is the Mud Pit CMP Vd of the Confined Marine Sediment Disposal Facility to the East of Sha Chau (ESC) during this reporting period.

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Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com Hong Kong.



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Marine sediment extracted from bored piling from this Contract was disposed to allocated dumping site during this reporting period. The summary of marine sediment disposed during this reporting period is shown in the following table:

Table 3.1 Summary of Marine Sediment Disposed to Dumping Site

Month/Year	Quantity dispos	Quantity disposed (in'000m³)			
	HY/2013/02	HY/2013/03	HY/2013/04	Total	
Jun 2016	1.200	4.584	1.578	7.362	
Jul 2016	0.728	10.728	3.690	15.146	
Aug 2016	1.784	1.544	4.428	7.756	
Total	3.712	16.856	9.696	30.264	

- The summary of waste flow table is detailed in **Appendix G**. 3.6.6
- 3.6.7 Contractor's site arrangement for disposal of bentonite slurry to Tseung Kwan O Area 137 Fill Bank was checked by ET and formal consent has been obtained from Tseung Kwan O Area 137 Fill Bank for receiving used bentonite slurry generated from Contract No. HY/2013/03.
- **Environmental Licences and Permits** 3.7
- 3.7.1 The valid environmental licences and permits during the reporting period are summarized in Appendix H.

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SUMMARY OF EXCEEDANCES, COMPLAINTS, NOTIFICATION OF SUMMONS AND 4. SUCCESSFUL PROSECUTION

4.1 Summary of Exceedance of the Environmental Quality Performance Limit

- Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 4.1.1 is reported in the monthly EM&A Reports (for June 2016, July 2016 and August 2016) 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 station AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- 4.1.3 There was no Action and Limit Level exceedance for noise recorded at station NMS2 and station NMS3B by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- 4.1.4 There was no marine works conducted during the reporting period and therefore, no relevant monitoring result is reported.
- 4.1.5 There was no marine works conducted during the reporting period and therefore, no ecology monitoring result is reported.

4.2 Summary of Complaints, Notification of Summons and Successful Prosecution

- 4.2.1 There were no complaints received in relation to the environmental impact during the reporting period. The details of cumulative statistics of Environmental Complaints are provided in Appendix I.
- 4.2.2 No notification of summons or prosecutions was received during the reporting period.
- 4.2.3 Statistics on notifications of summons and successful prosecutions are summarized in Appendix I.

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Profit Industrial Building, Tel : (852)-24508238
1-15 Kwai Fung Crescent, Kwai Fong, Fax : (852)-24508032
Hong Kong. Email : mcl@fugro.com



Report No.: 0165/15/ED/0562

5. COMMENTS, RECOMMENDATIONS AND CONCLUSIONS

5.1 Comments

- 5.1.1 According to the environmental site inspections undertaken during the reporting period, the following recommendations were provided:
 - CHEC was reminded to increase watering for dust suppression at haul roads on site.
 - CHEC was reminded to clear the stagnant water accumulated at the concreted area of Portion A1.
 - CHEC was reminded to increase watering for dust suppression at haul roads in general.
 - CHEC was reminded to enhance watering for dusty activities at Portion G.
 - CHEC is reminded to remove stagnant water at CUE.
 - CHEC was reminded to maintain good housekeeping on site at CUE.
 - CHEC was reminded to remove stagnant water at Building 026.
 - CHEC was reminded to properly store chemical on site at Building 037.
 - CHEC was reminded to remove stagnant water under generator at Building 037.
 - CHEC was reminded to remove stagnant water accumulated at CUE works area.
 - CHEC was reminded to increase watering for dust suppression at haul roads.
 - CHEC was reminded to provide the noise emission label for powered mechanical at CUE works area.
 - CHEC was reminded to cover the stockpile with tarpaulin sheets near Building 037.
 - CHEC was reminded to remove the stagnant water accumulated in Building 037.
 - CHEC was reminded to remove stagnant water accumulated in Building 042.
 - CHEC is reminded to remove stagnant water on site.
 - CHEC was reminded to provide drip tray for chemical containers on site.
 - CHEC was reminded to increase watering for dust suppression on site.
 - CHEC was reminded to remove general refuse accumulated at A2 Bridge area.
- 5.1.2 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in **Appendix E**. All necessary mitigation measures at this stage of works were implemented properly.

5.2 Recommendations

- 5.2.1 With implementation of the recommended environmental mitigation measures, the contract's environmental impacts were considered environmentally acceptable. The weekly environmental site inspections ensured that all the environmental mitigation measures recommended were effectively implemented.
- 5.2.2 The recommended environmental mitigation measures, as included in the EM&A programme, effectively minimize the potential environmental impacts from the contract. Also, the EM&A programme effectively monitored the environmental impacts from the construction activities and ensure the proper implementation of mitigation measures. No particular recommendation was advised for the improvement of the programme.

5.3 Conclusions

5.3.1 Commencement of the Contract took place on 10 April 2015 and the construction works of the Contract commenced on 29 August 2015. This is the 4th Quarterly EM&A Report summarising the findings of EM&A activities conducted under the Contract from 01 June 2016 to 31 August 2016.

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- Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 5.3.2 shall be referred to the monthly EM&A Reports (for June 2016, July 2016 and August 2016) prepared by Contract No. HY/2011/03.
- 5.3.3 There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- 5.3.4 There was no Action and Limit Level exceedance for noise recorded at station NMS2 and station NMS3B by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- 5.3.5 There was no marine works conducted during the reporting period and therefore, no water quality impact monitoring result is reported.
- 5.3.6 There was no marine works conducted during the reporting period and therefore, no ecology monitoring result is reported.
- 5.3.7 Environmental site inspection was carried out on 03, 10, 17, 24 and 30 June 2016, 08, 15, 22 and 29 July 2016, and 05, 12, 19 and 26 August 2016. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site inspections.
- 5.3.8 There were no complaints received in relation to the environmental impact during the reporting period.
- 5.3.9 There were no notifications of summons or prosecutions received during the reporting period.

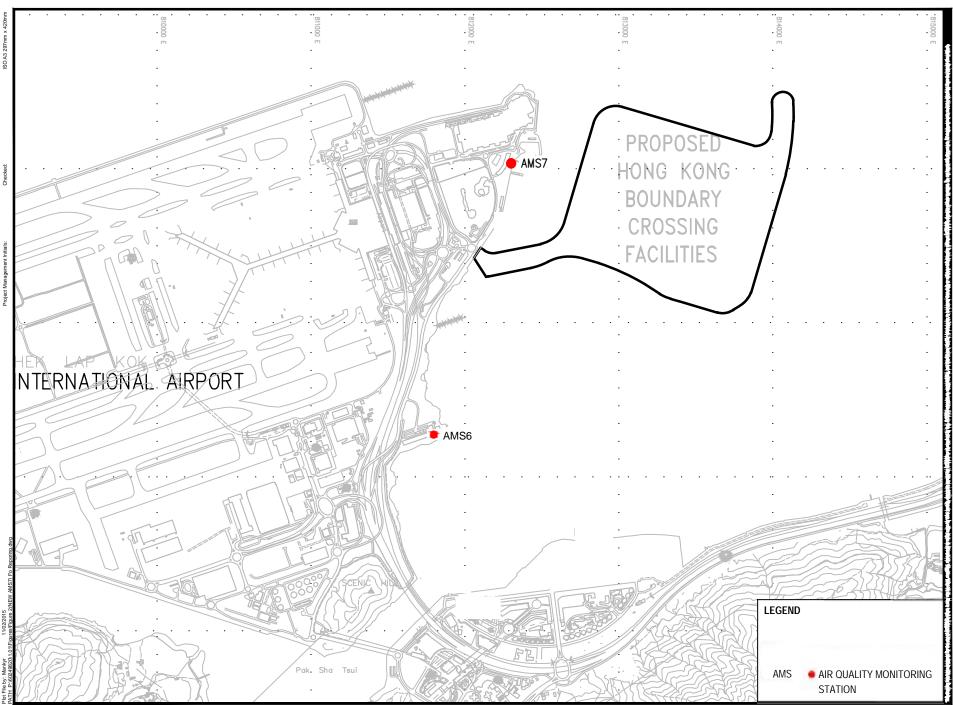
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Figure 1

Air Quality Monitoring Stations



AIR QUALITY AND NOISE MONITORING STATIONS FOR HKBCF

HONG KONG - ZHUHAI - MACAO BRIDGE HONG KONG BOUNDARY CROSSING FACILITIES - RECLAMATION WORKS

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Figure 2

Noise Monitoring Stations

AIR QUALITY AND NOISE MONITORING STATIONS FOR HKBCF

HONG KONG - ZHUHAI - MACAO BRIDGE HONG KONG BOUNDARY CROSSING FACILITIES - RECLAMATION WORKS

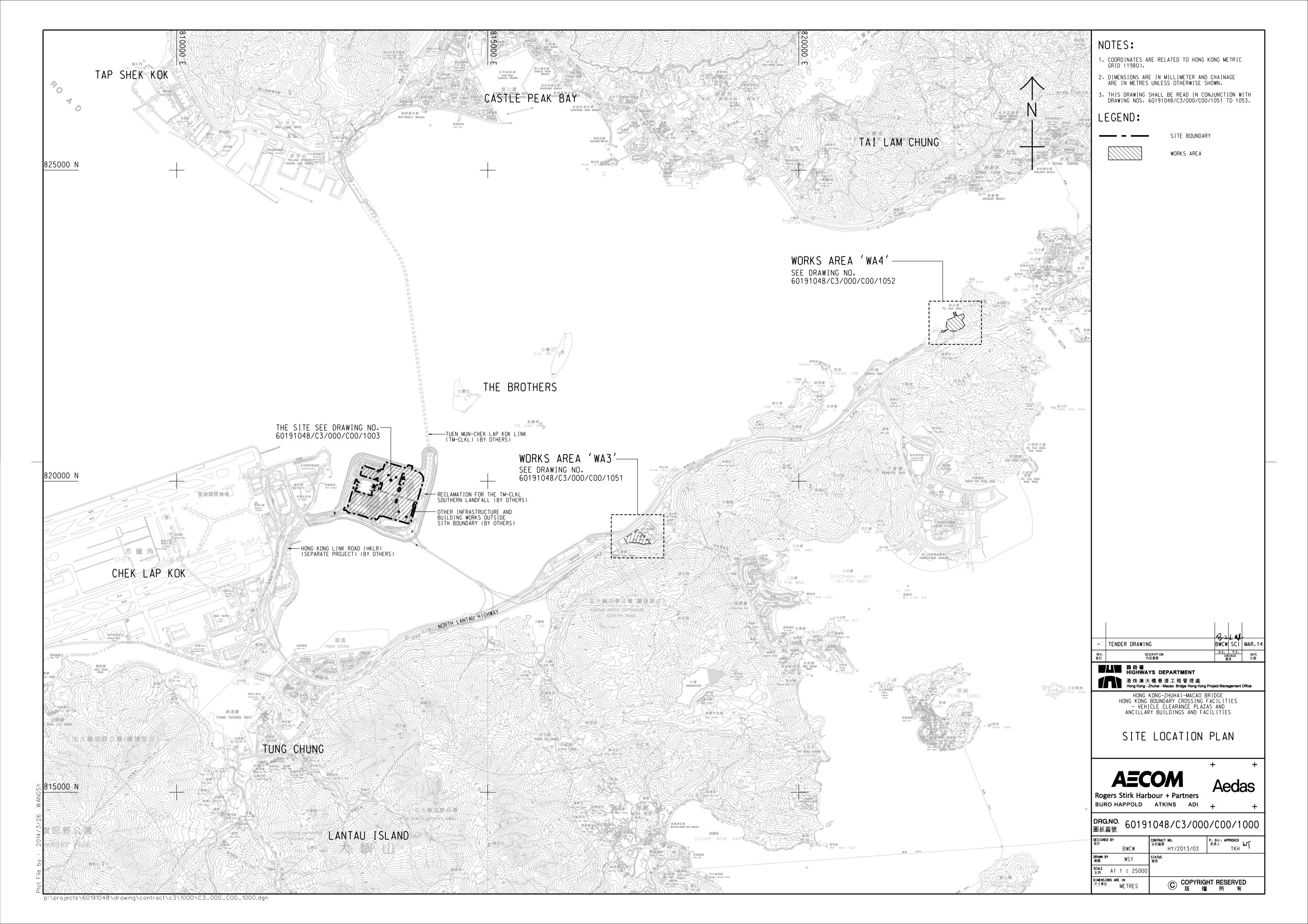
Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com

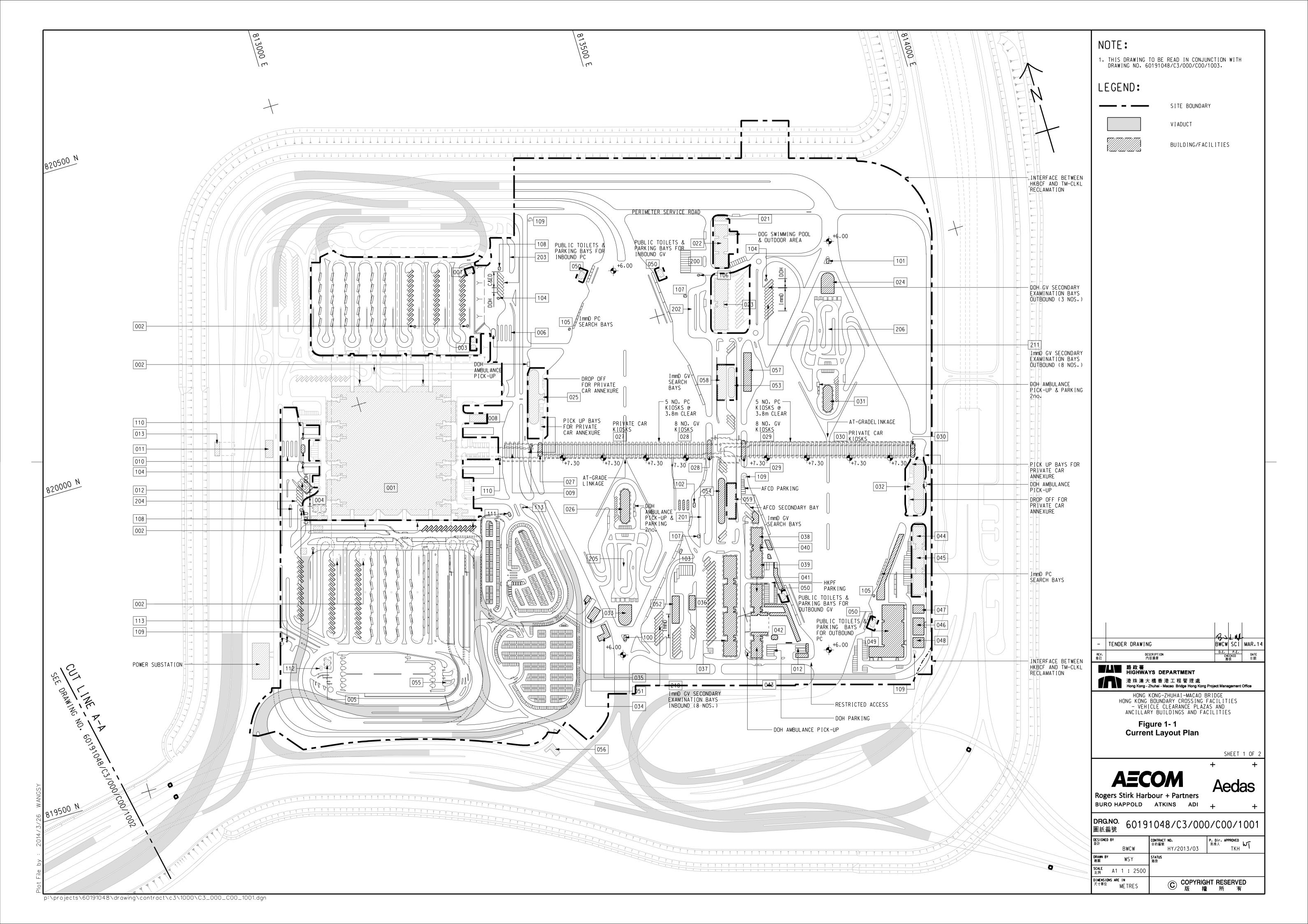


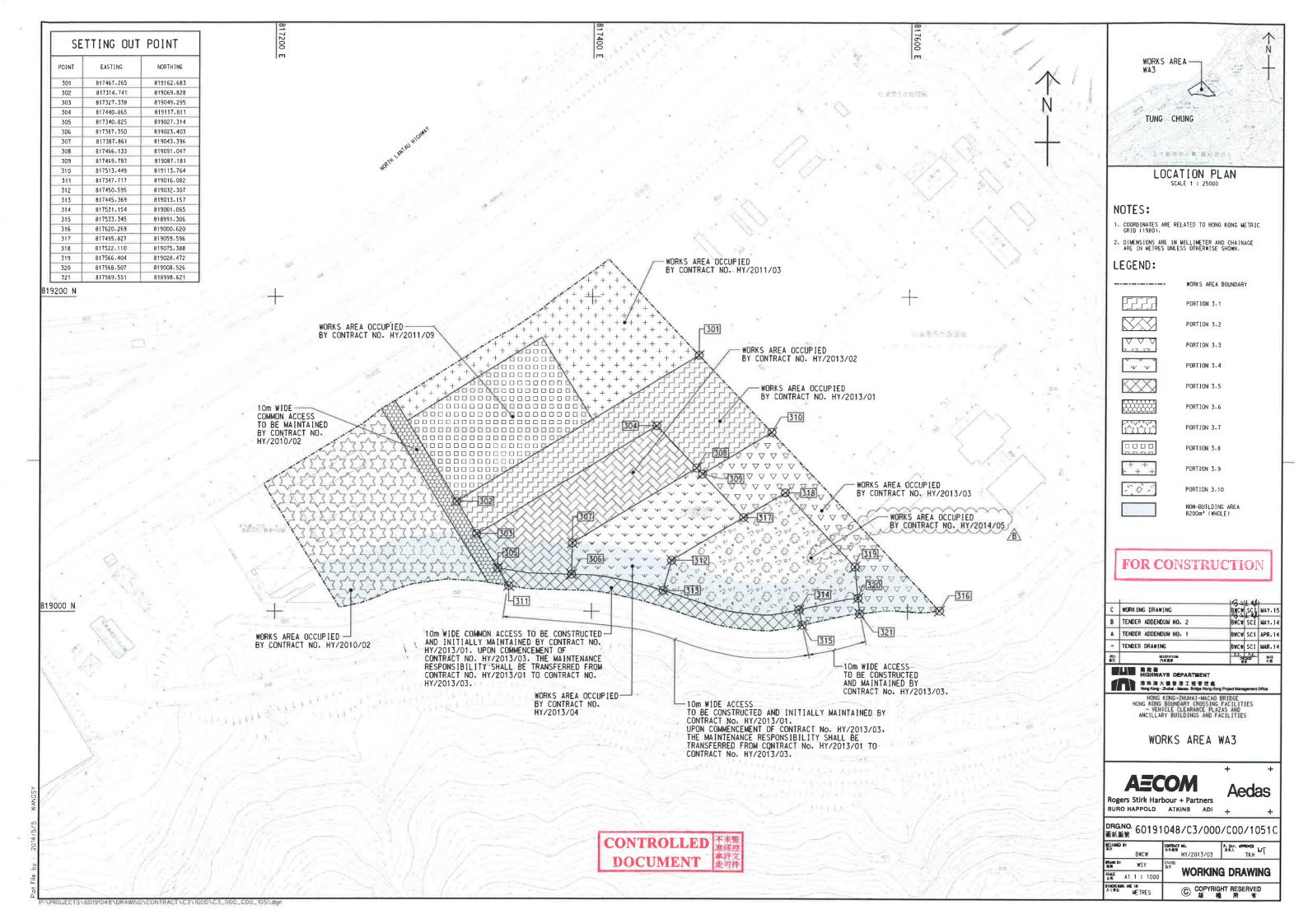
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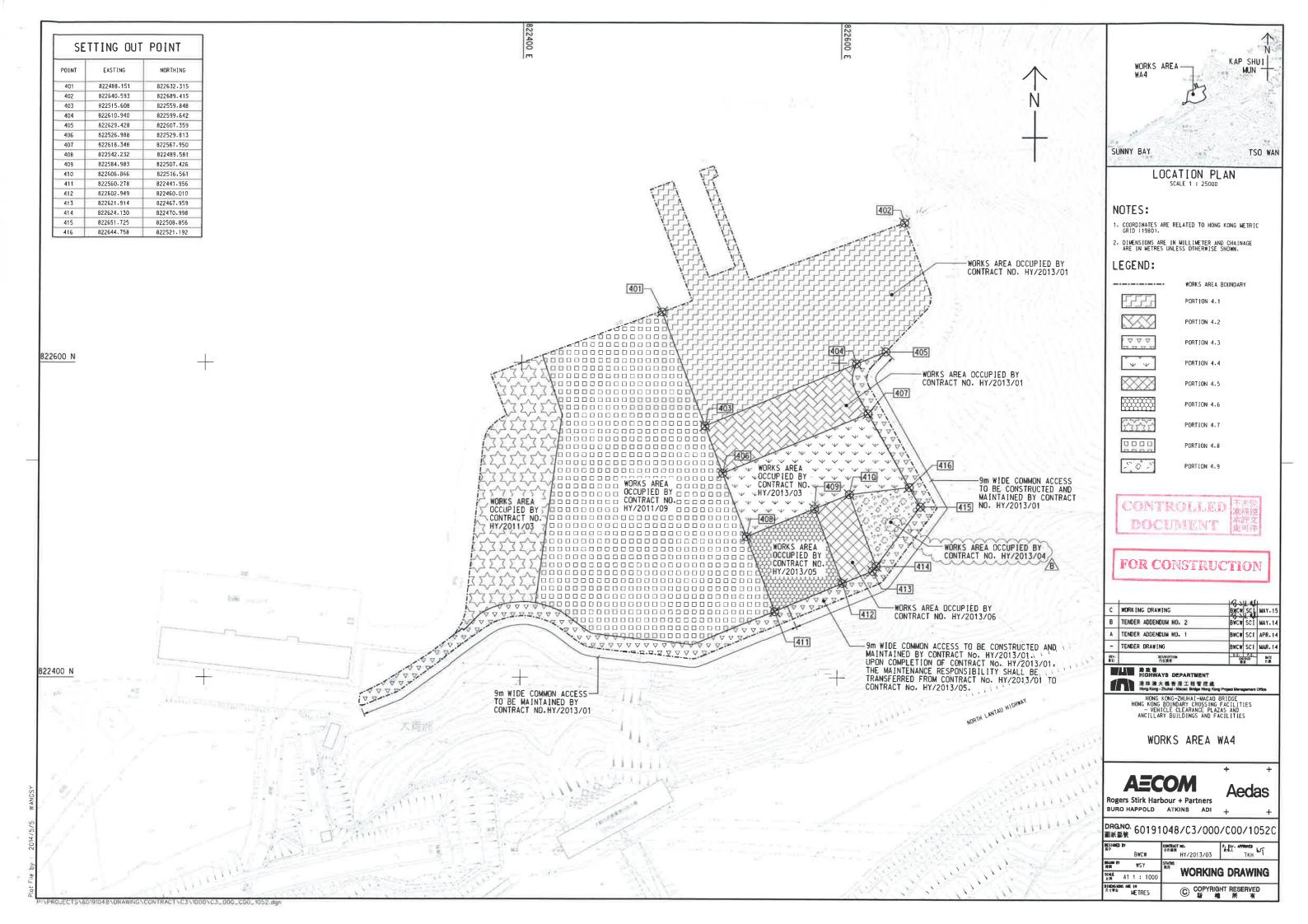
Appendix A

Location of Works Areas









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Appendix B

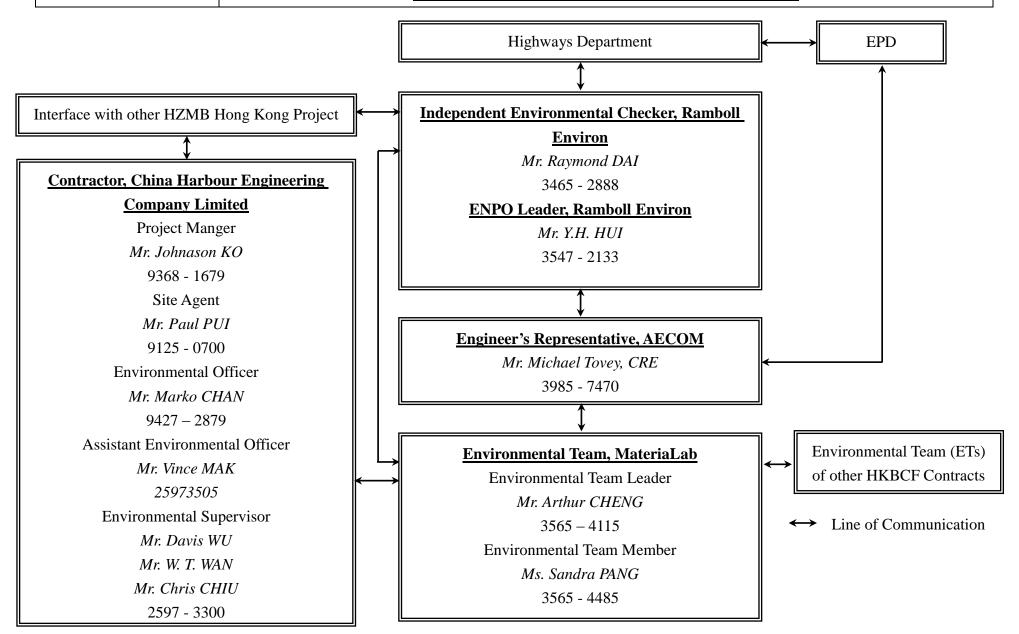
Project Organization for Environmental Works

CHINA HARBOUR ENGINEERING COMPANY LIMITED



Contract No. HY/2013/03 Hong Kong-Zhuhai-Macao Bridge, Hong Kong Boundary Crossing Facilities – Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Projects Organization for Environmental Works



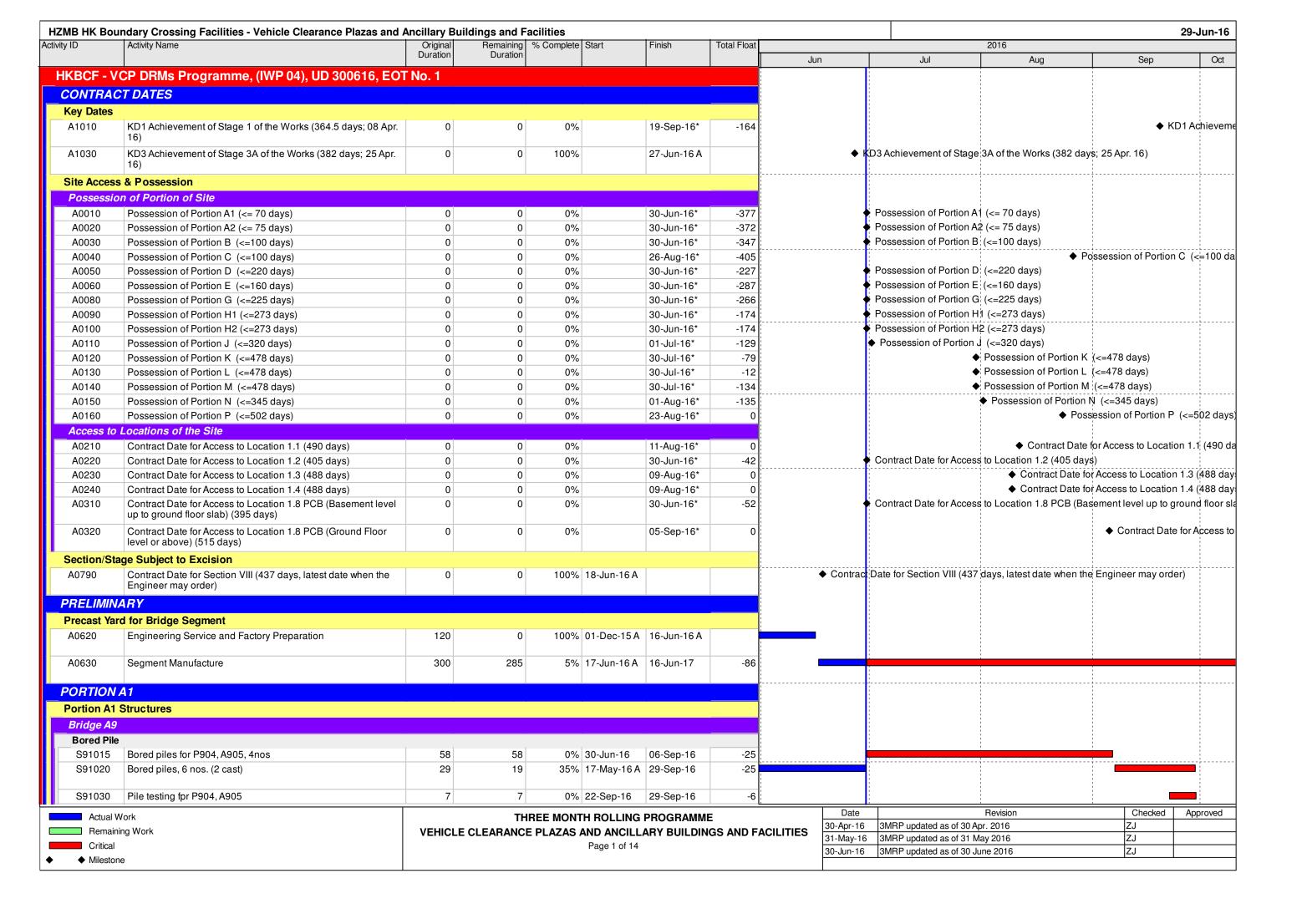
Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com

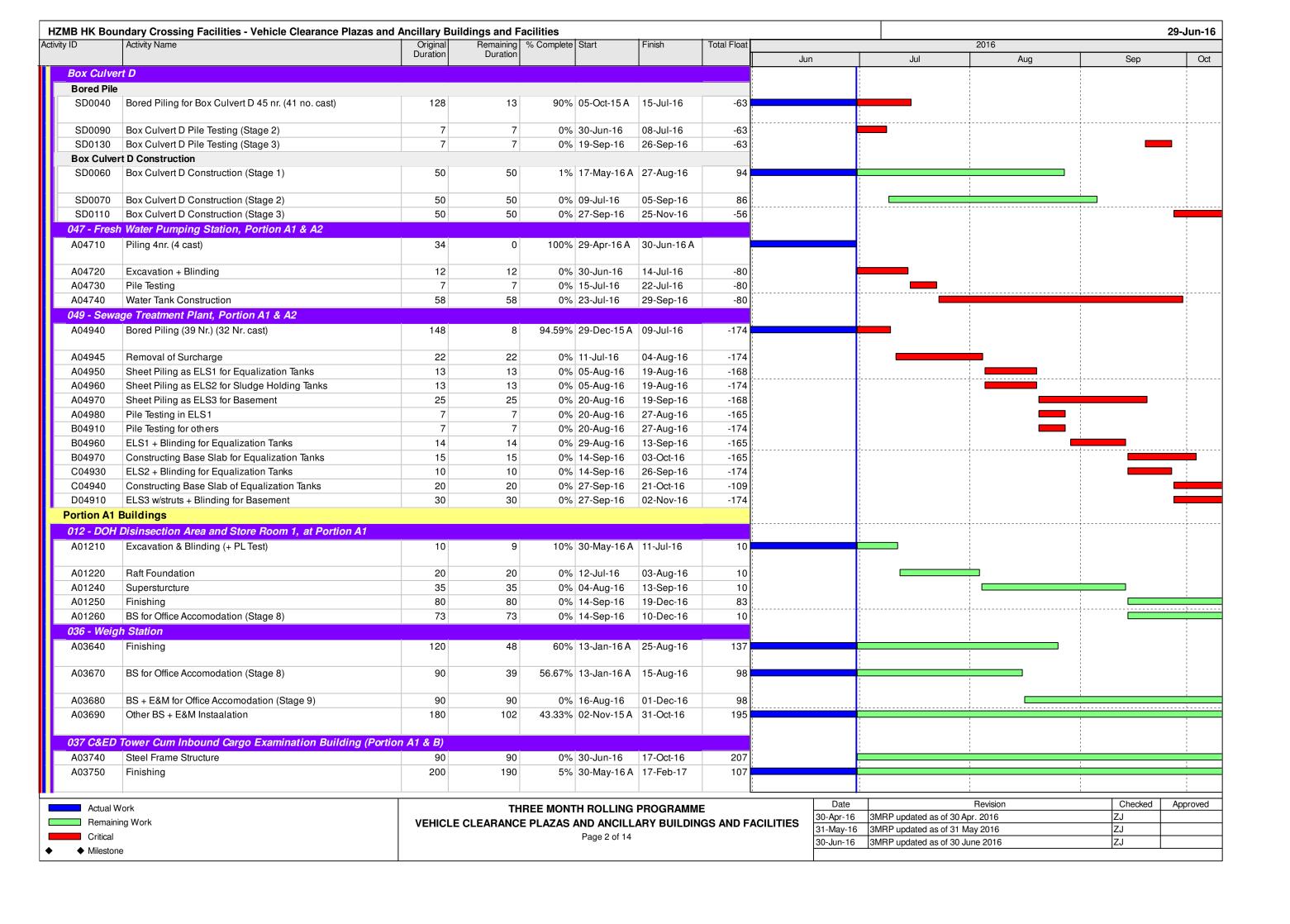


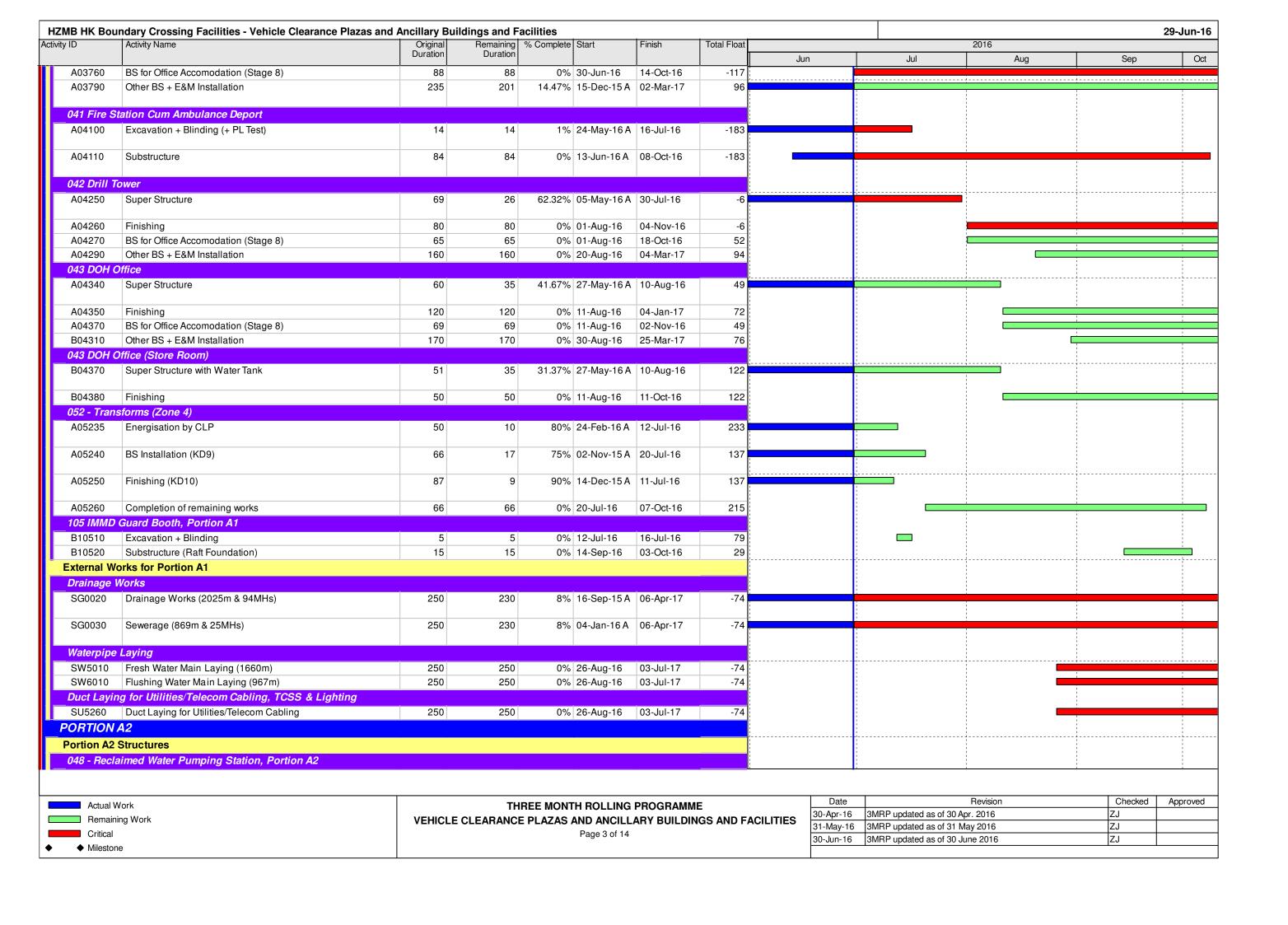
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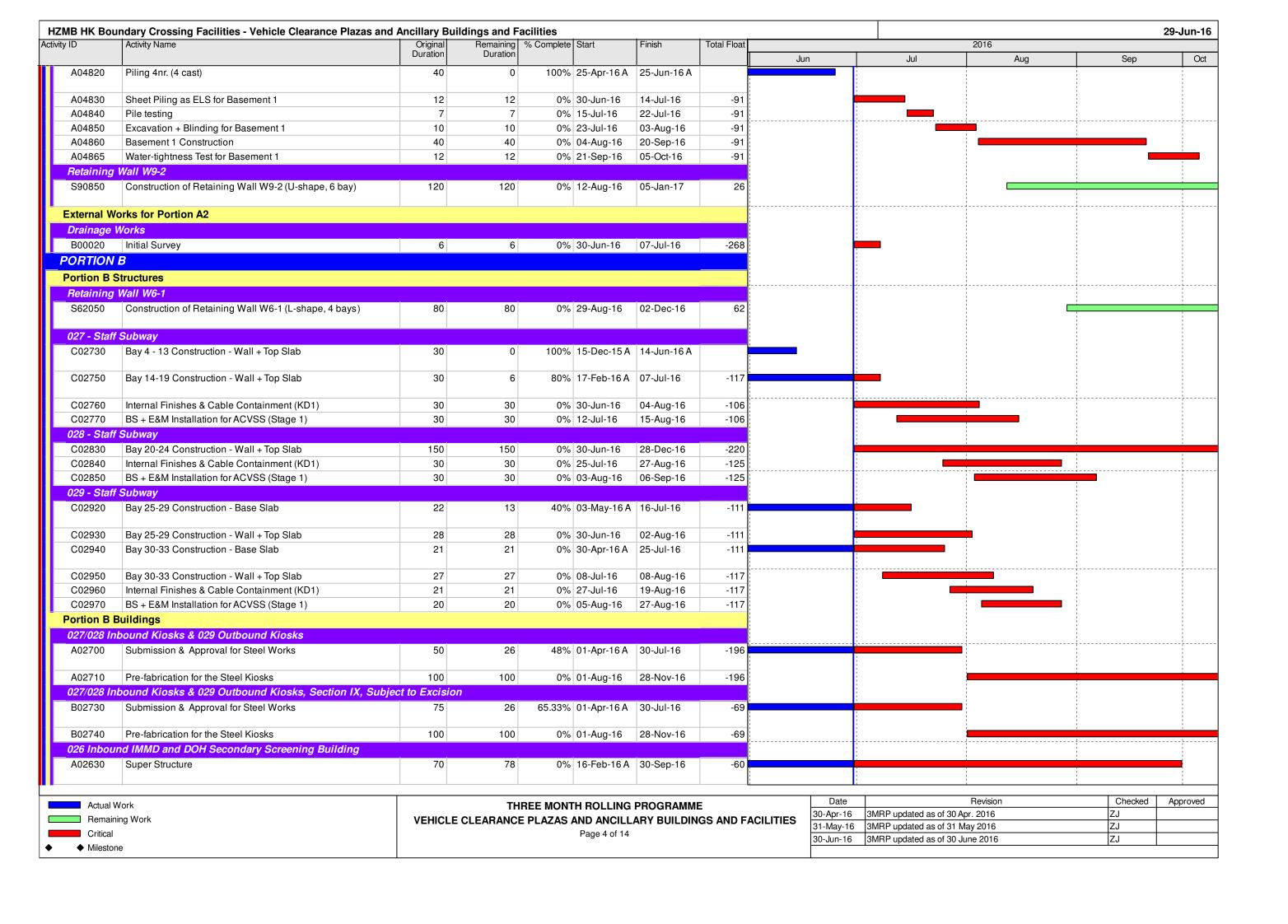
Appendix C

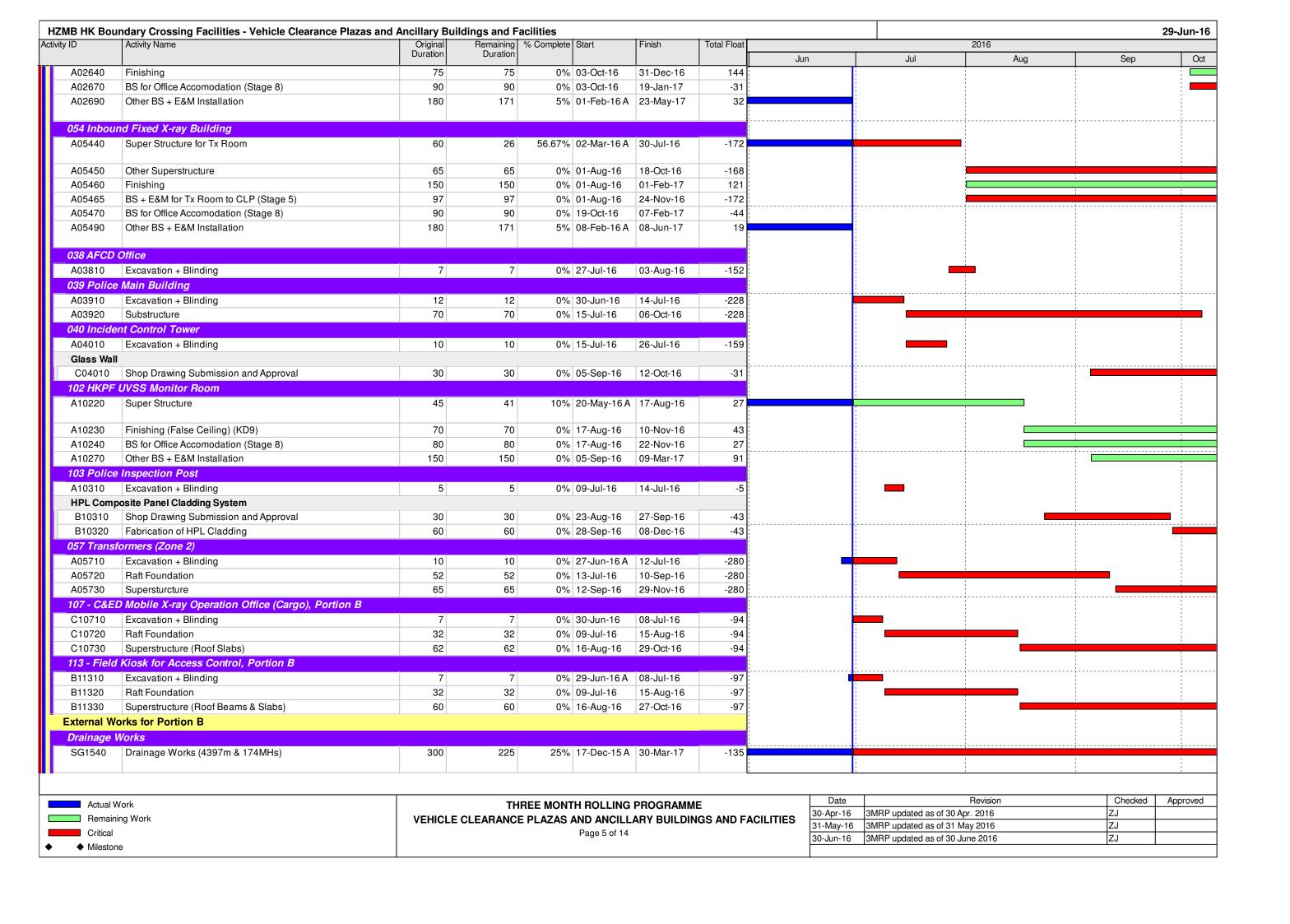
Construction Programme

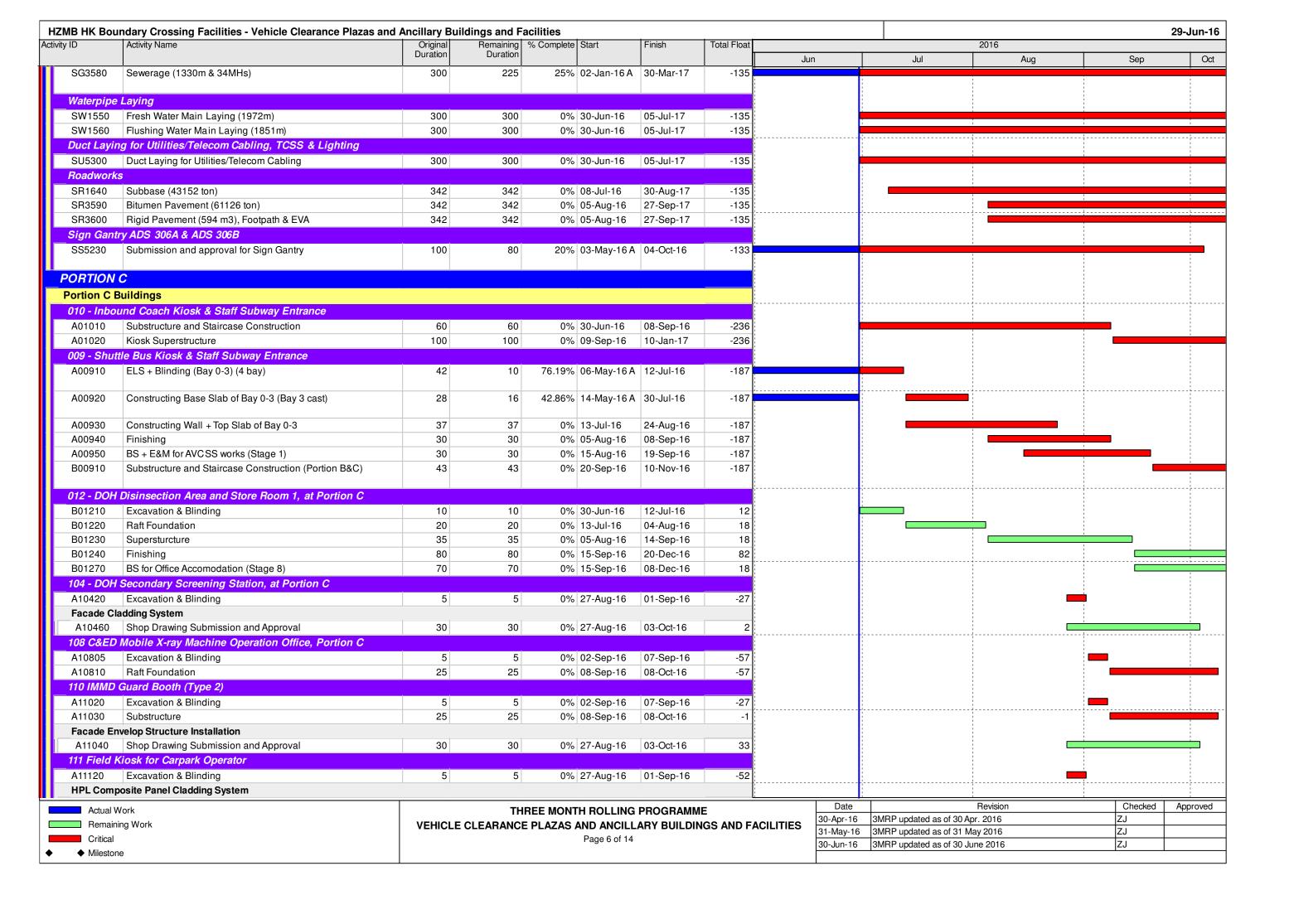


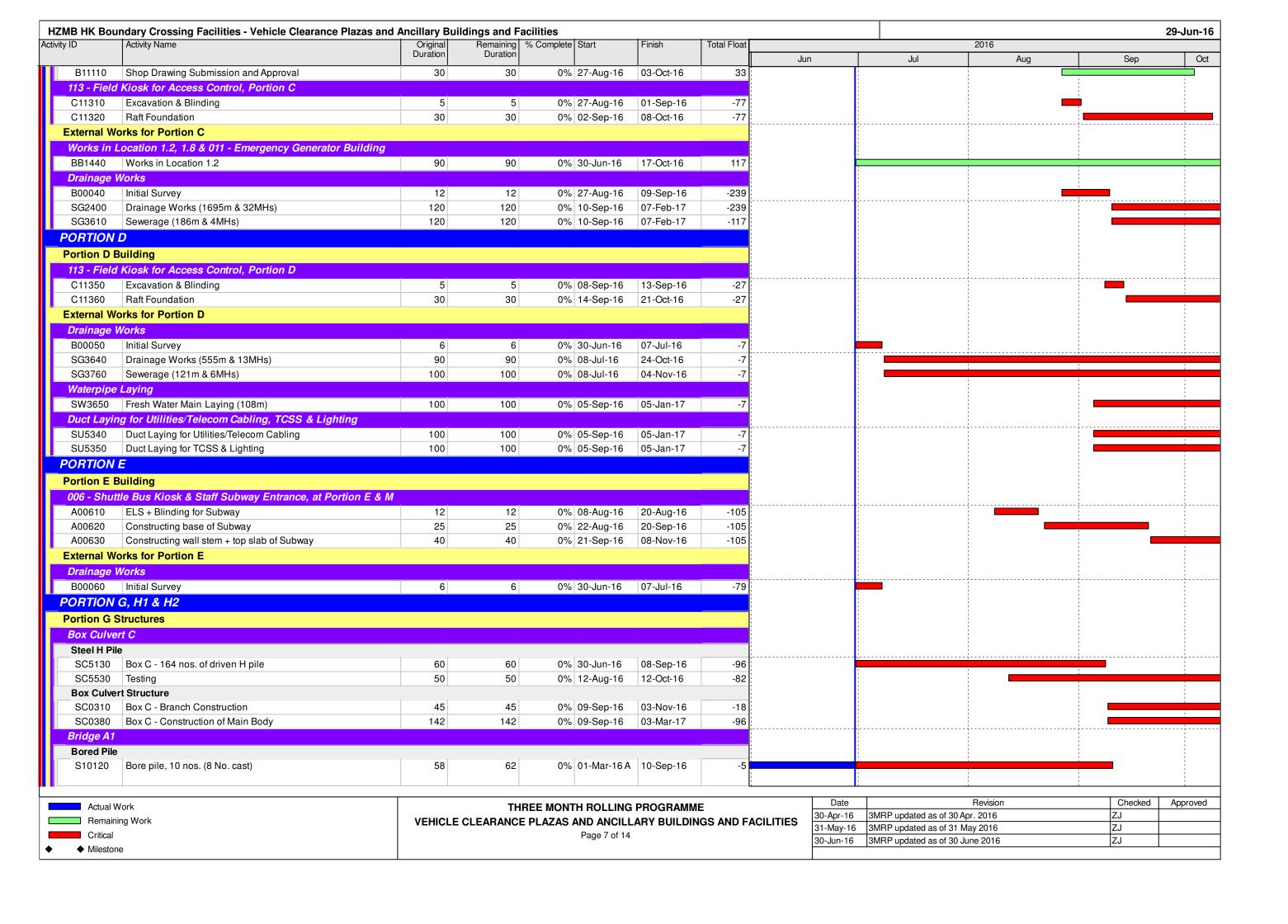


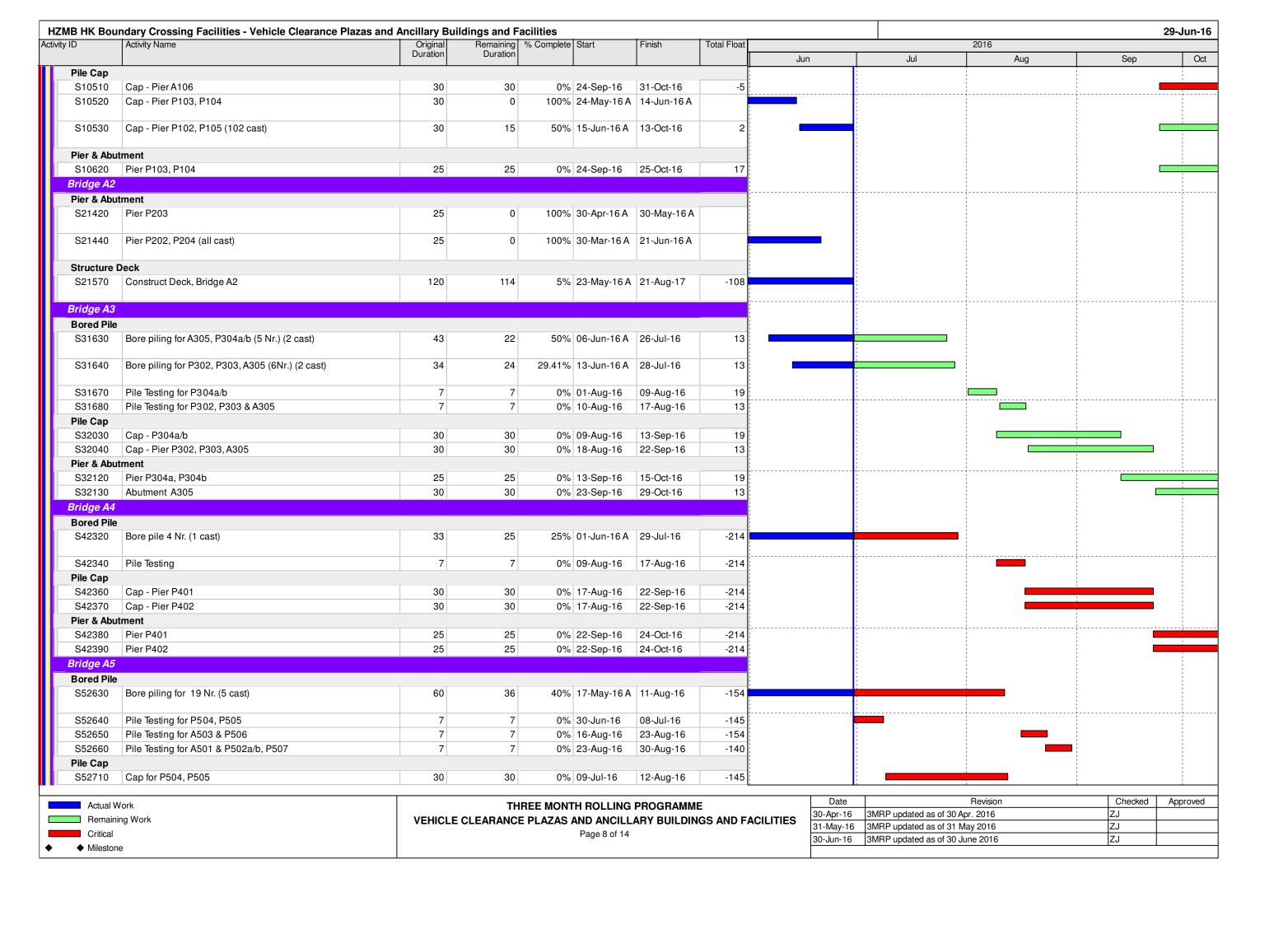


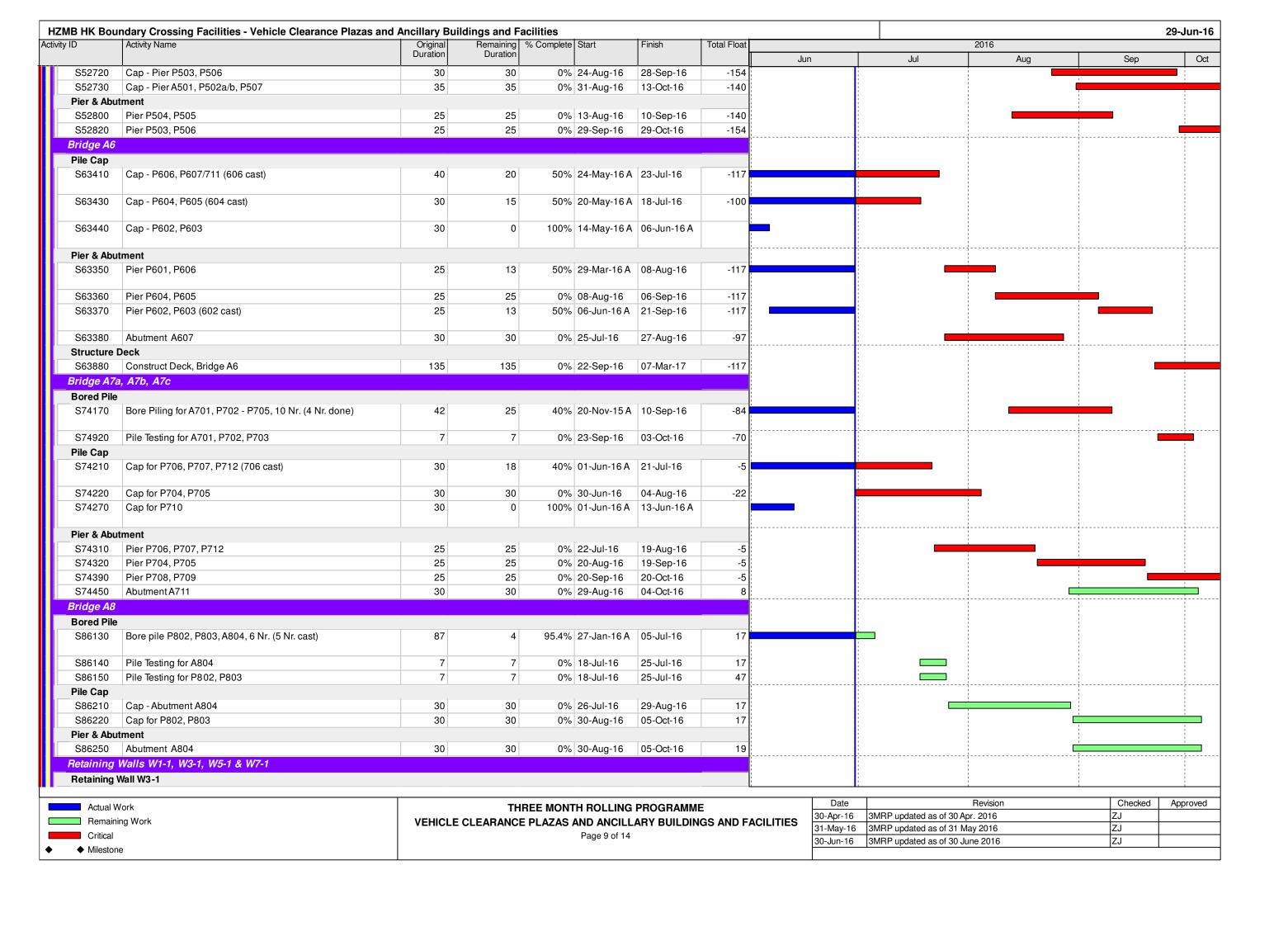


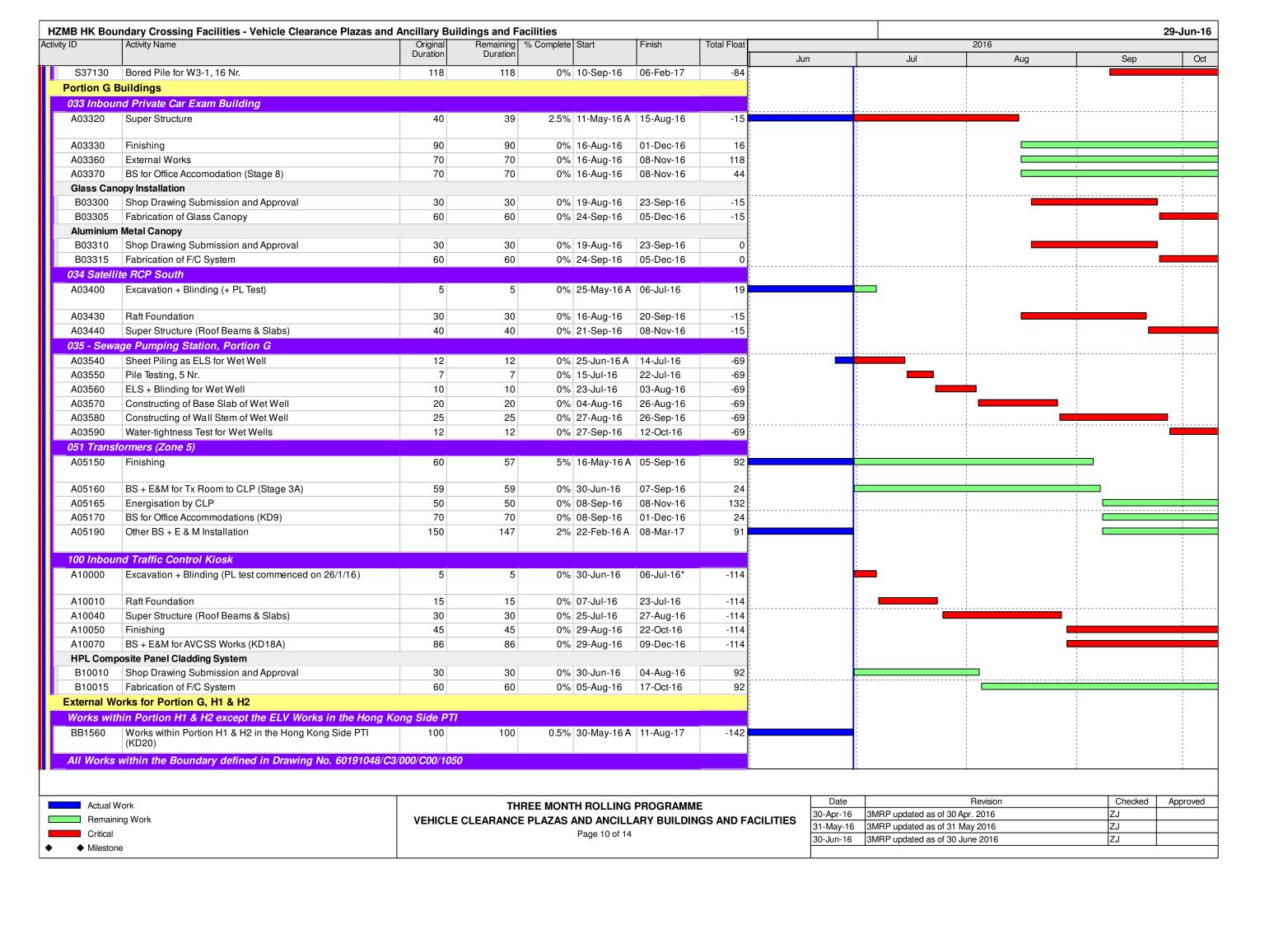


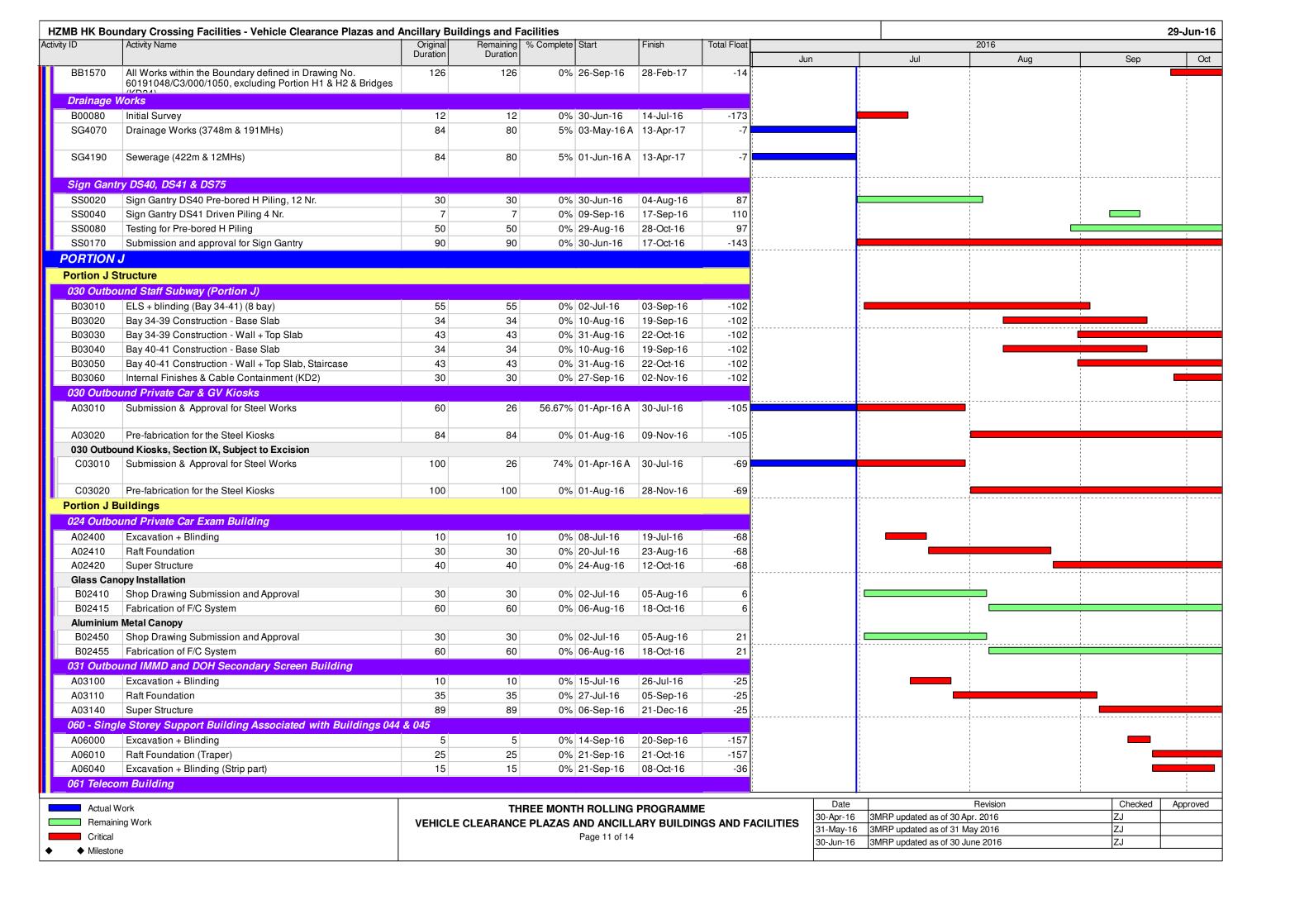


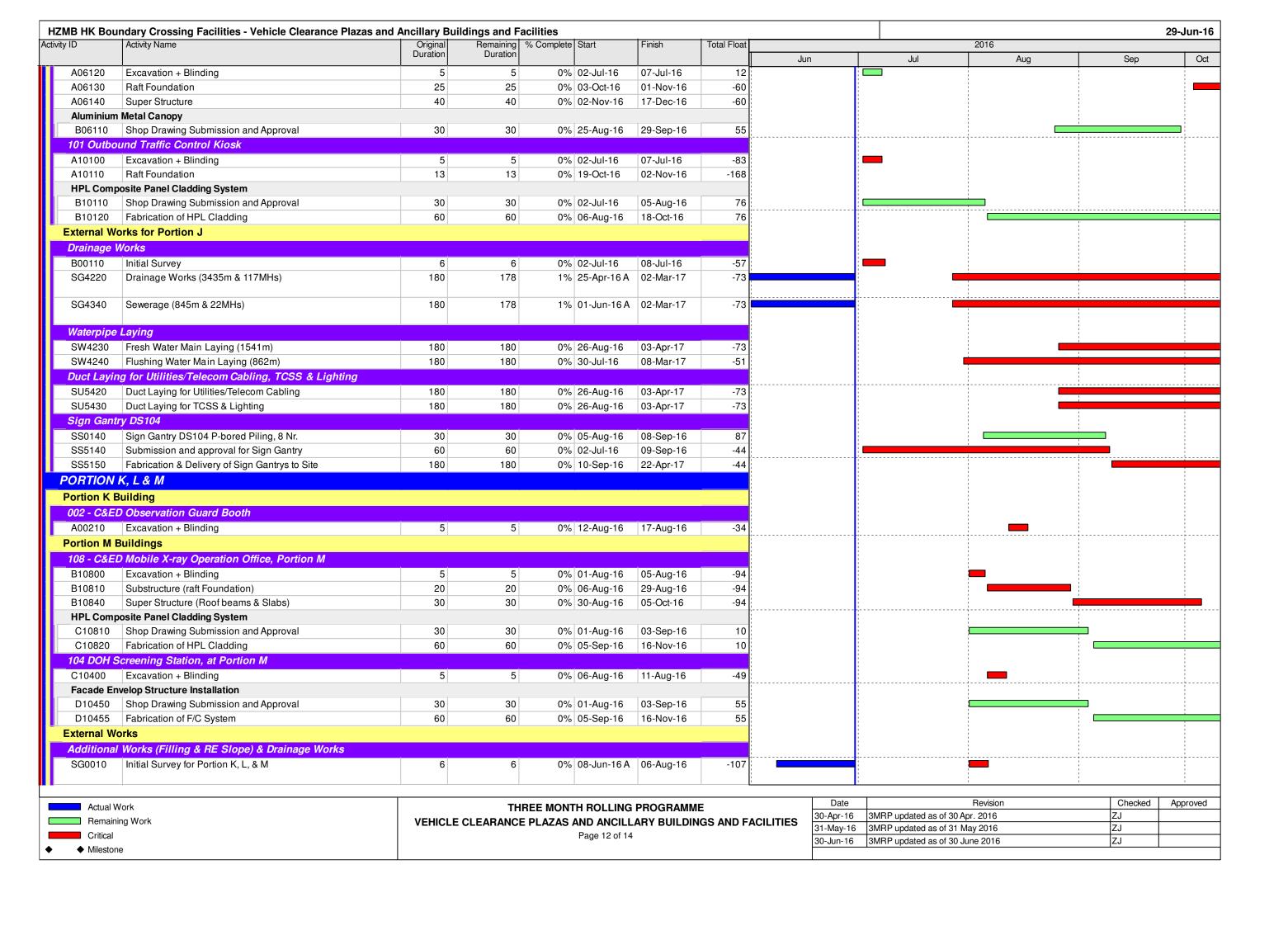


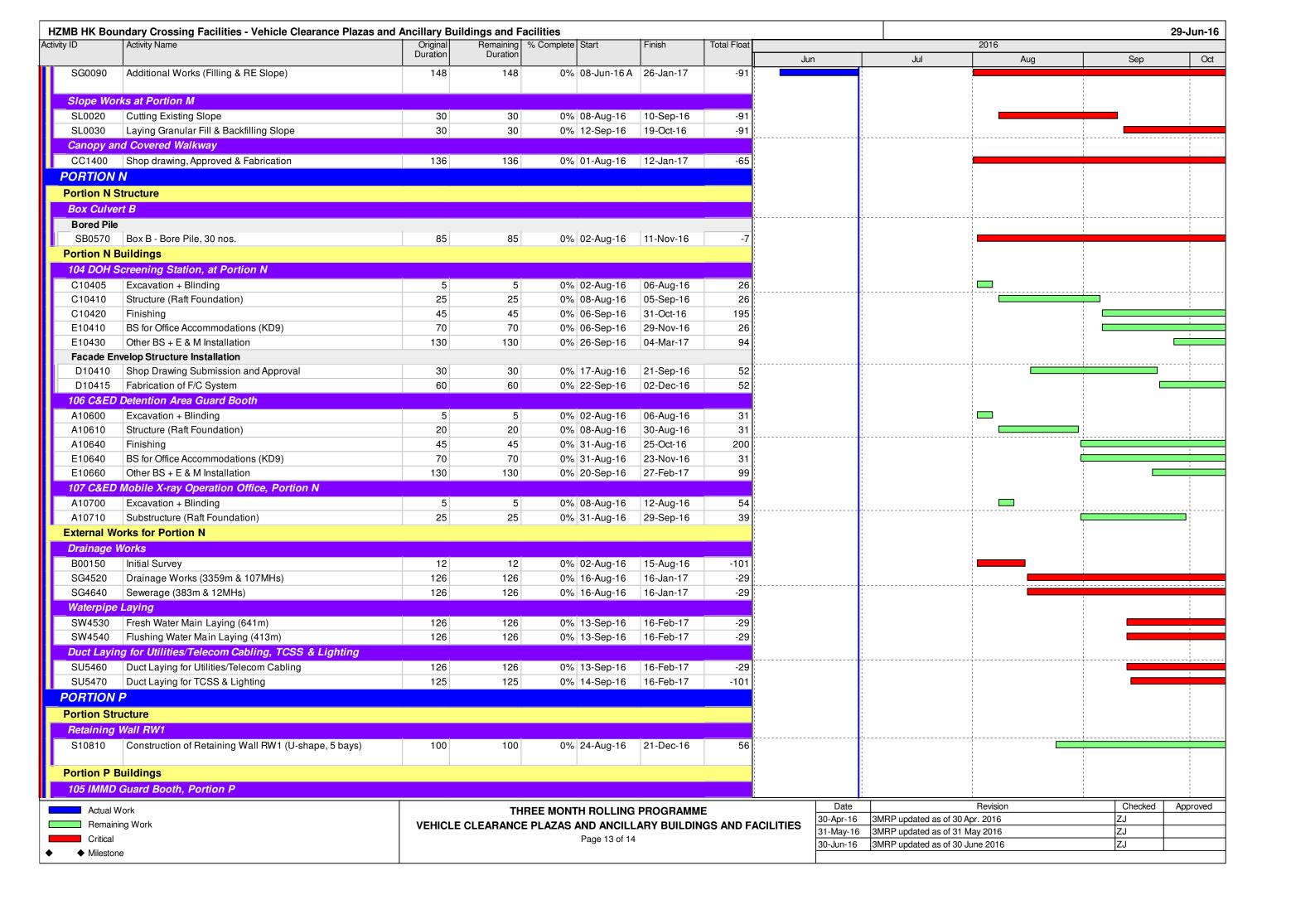










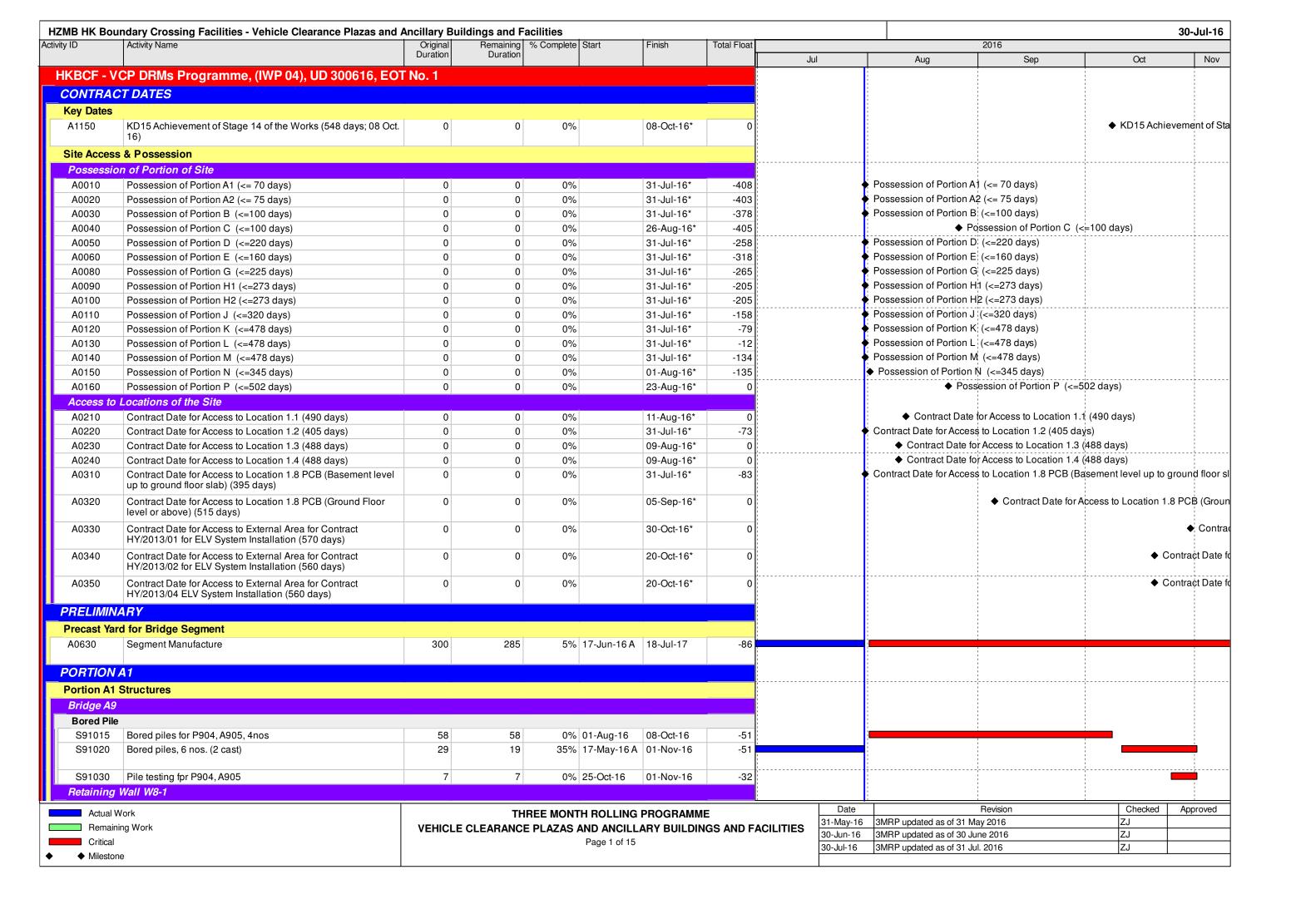


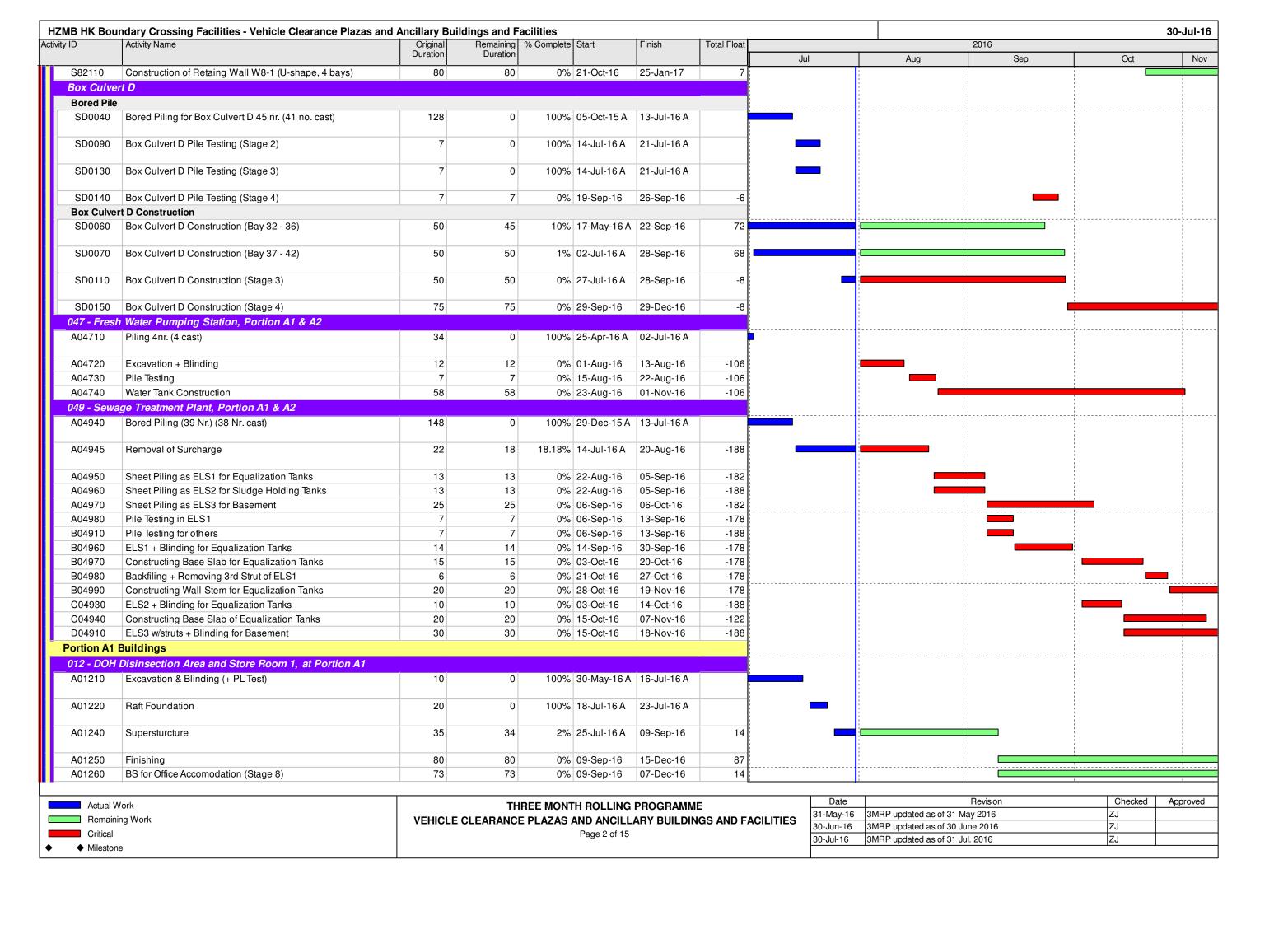
rity ID	Activity Name	Original		% Complete Start	Finish	Total Float	2016					
		Duration	Duration					Jun	Jul	Aug	Sep	Oc
A10510	Excavation + Blinding	5	5	0%	24-Aug-16	29-Aug-16	42					
Facade En	velop Structure Installation									i (1 1	
A10560	Shop Drawing Submission and Approval	30	30	0%	24-Aug-16	28-Sep-16	50				T	
A10565	Fabrication of F/C System	60	60	0%	29-Sep-16	09-Dec-16	50	}		1	1 1 1	
External Wo	orks for Portion P										1 1 1	
Drainage V	Works										 	
B00160	Initial Survey	6	6	0%	24-Aug-16	30-Aug-16	0				1 1 1	
SG4670	Drainage Works (4651m & 129MHs)	105	105	0%	31-Aug-16	06-Jan-17	40			l	1	
SG4790	Sewerage (269m & 7MHs)	105	105	0%	31-Aug-16	06-Jan-17	40			1	; 	
Waterpipe	Laying										1 1 1	
SW4680	Fresh Water Main Laying (1270m)	105	105	0%	29-Sep-16	07-Feb-17	40				1 1 1	Ė
SW4690	Flushing Water Main Laying (455m)	105	105	0%	29-Sep-16	07-Feb-17	40	!		! !	! ! !	
Duct Layin	ng for Utilities/Telecom Cabling, TCSS & Lighting							!		 	i i i	
SU5480	Duct Laying for Utilities/Telecom Cabling	105	105	0%	29-Sep-16	07-Feb-17	41			1	1 1 1	Ė
SU5490	Duct Laying for TCSS & Lighting (KD15)	24	24	0%	09-Sep-16	08-Oct-16	0					_
Landscape	Works Works										 	
A5170	Design and Procurement for Irrigation System	274	274	0%	30-Jun-16	30-Mar-17	-11	<u>:</u>			· !	

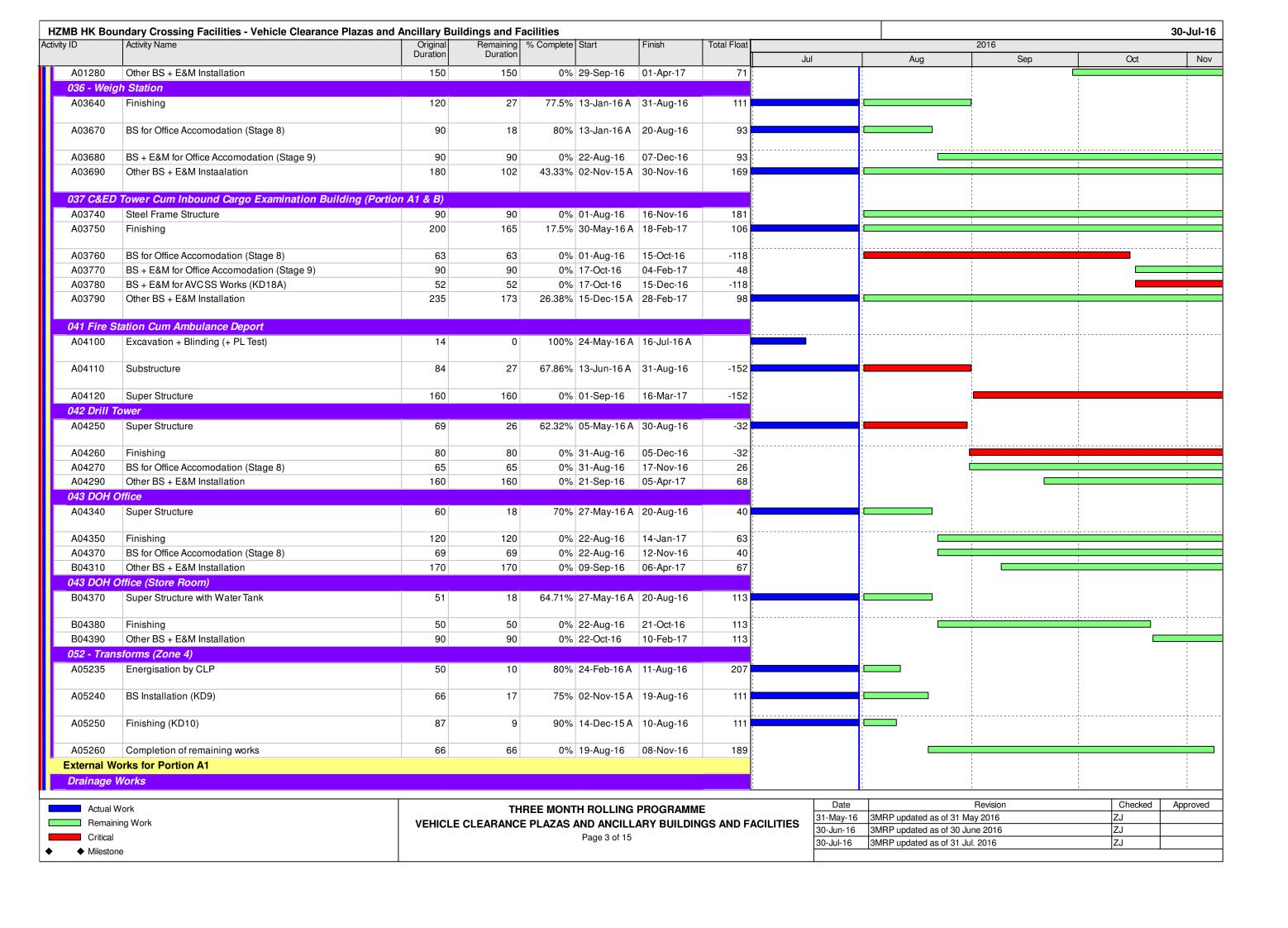
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	Critical
* •	Milestone

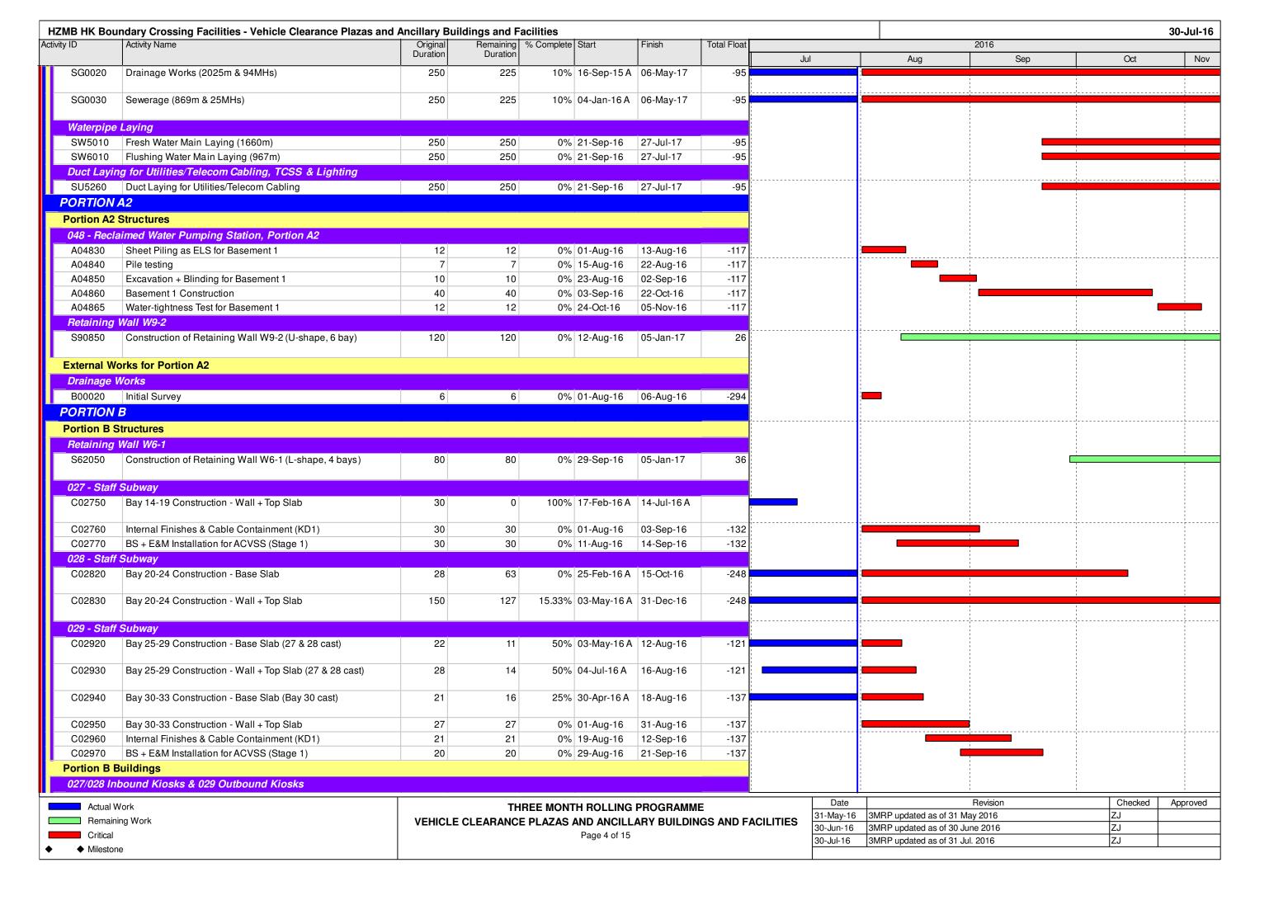
THREE MONTH ROLLING PROGRAMME
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES
Page 14 of 14

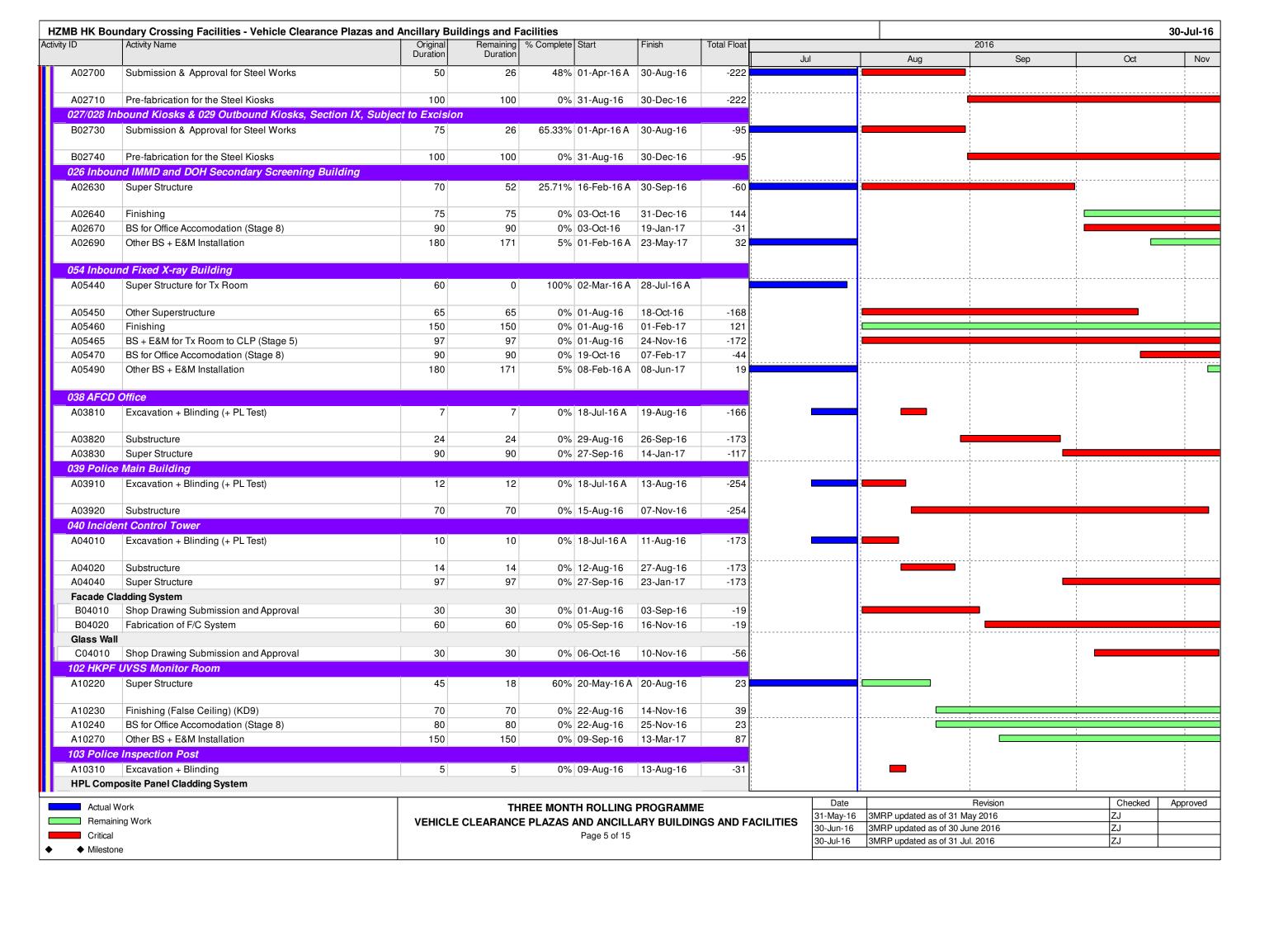
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	31-May-16	3MRP updated as of 31 May 2016	ZJ	
	30-Jun-16	3MRP updated as of 30 June 2016	ZJ	

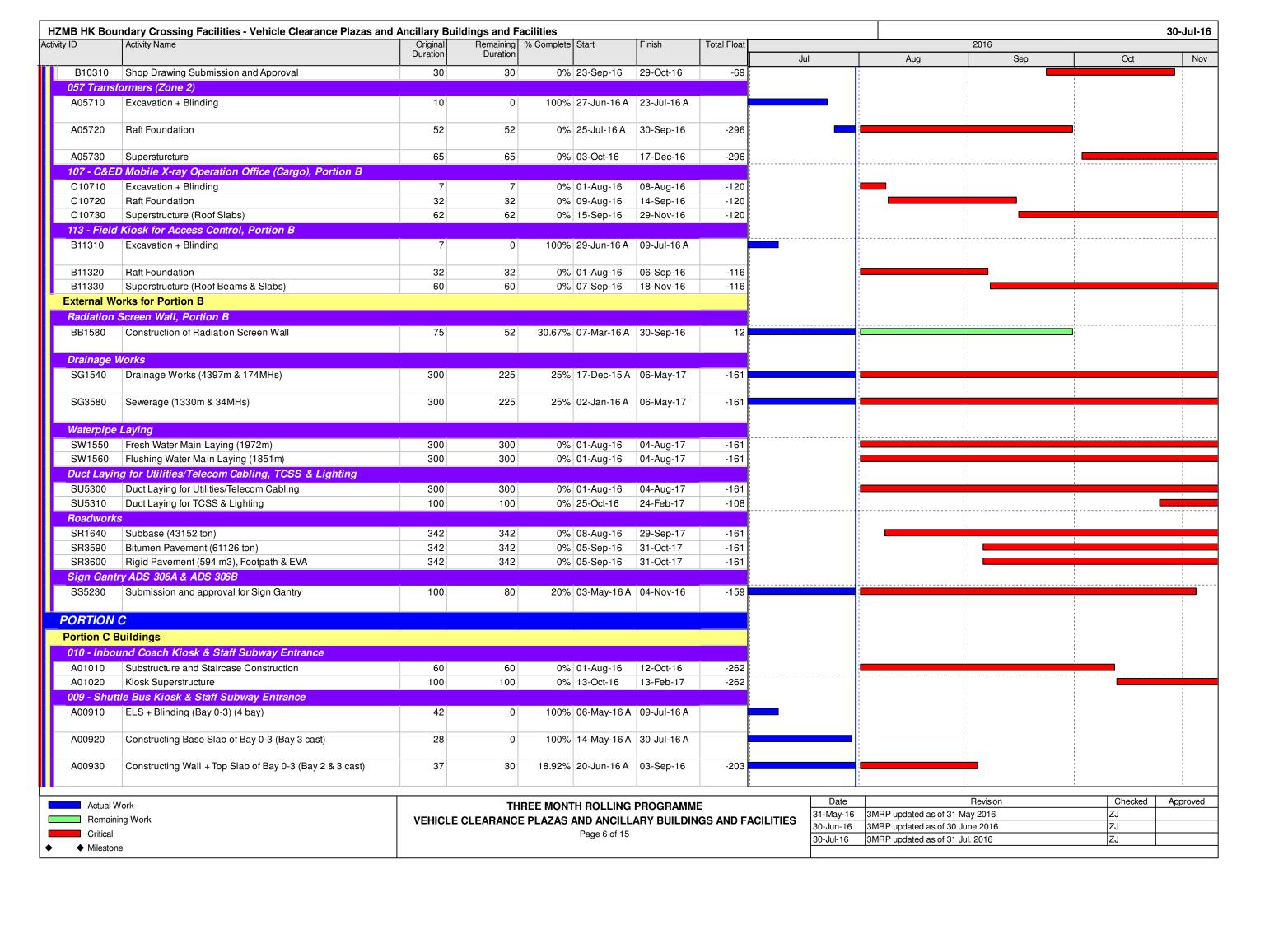


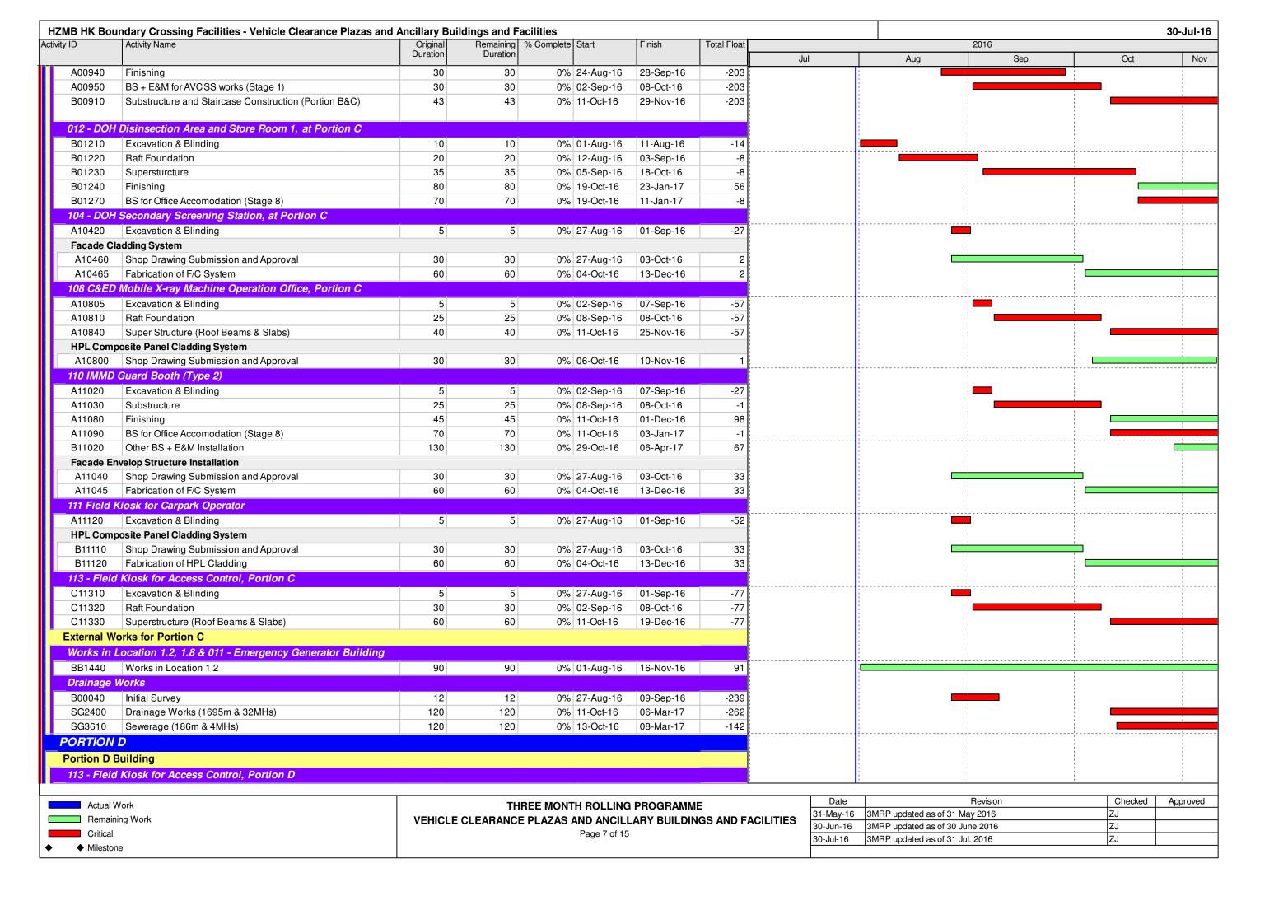


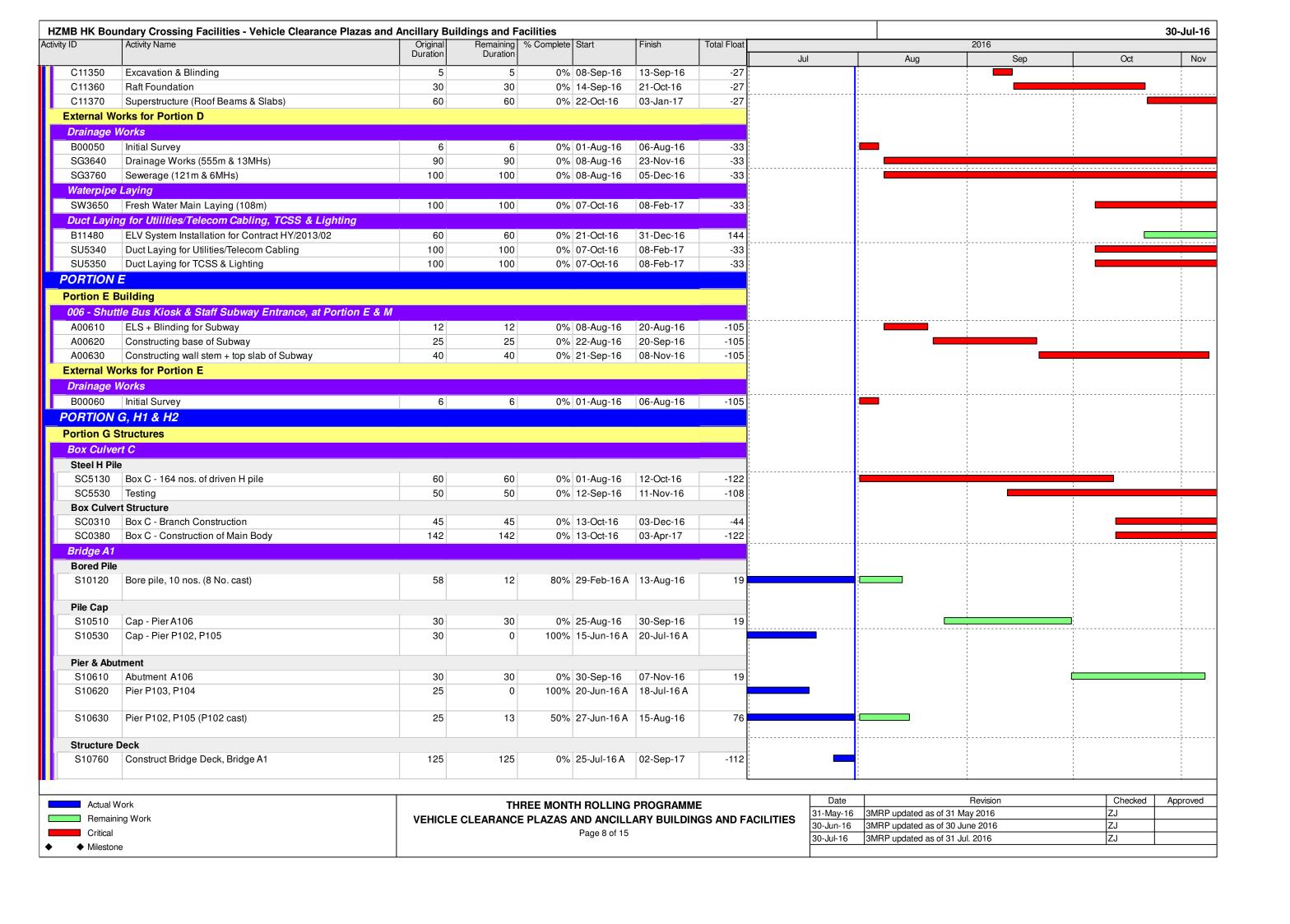


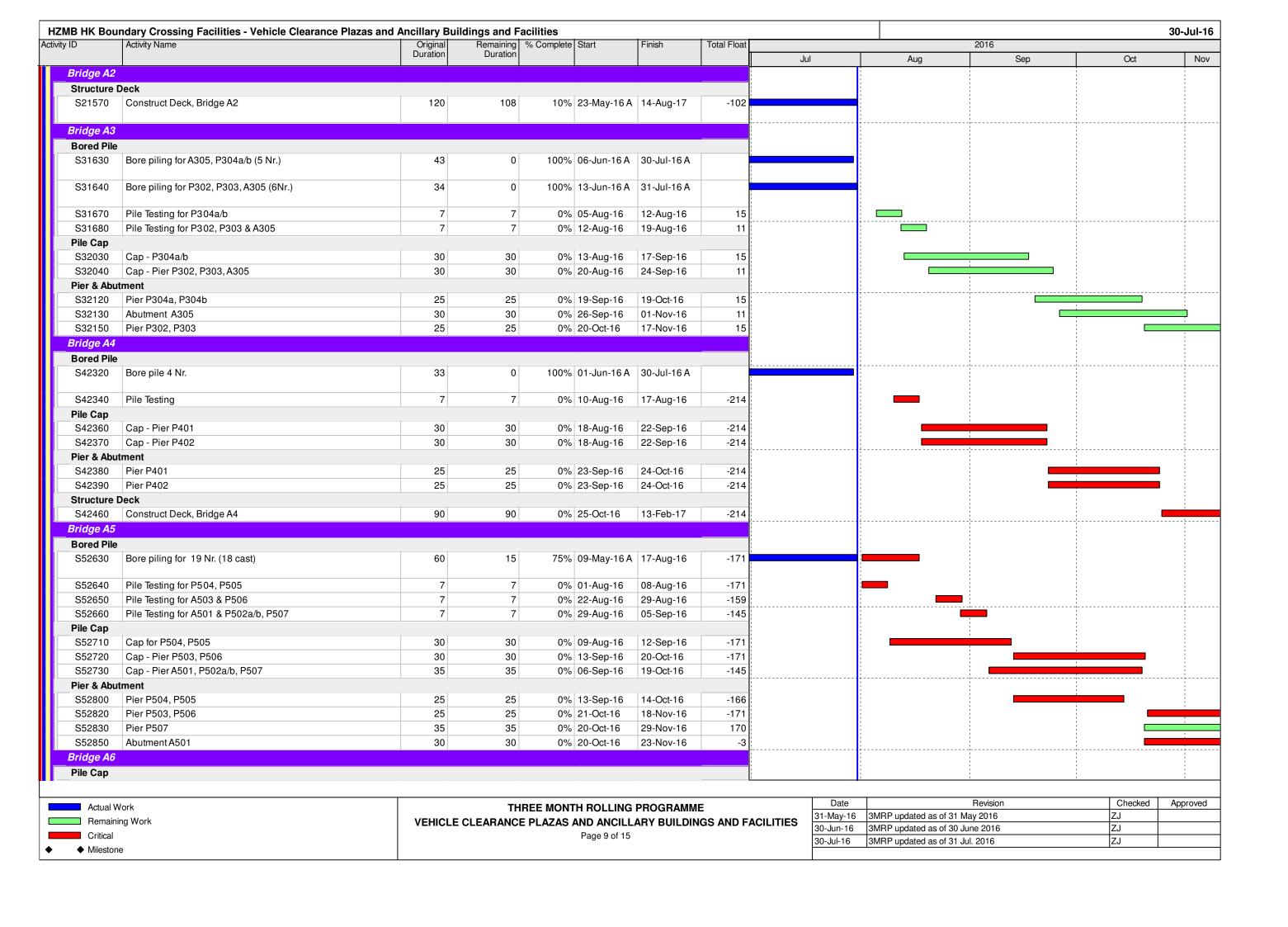


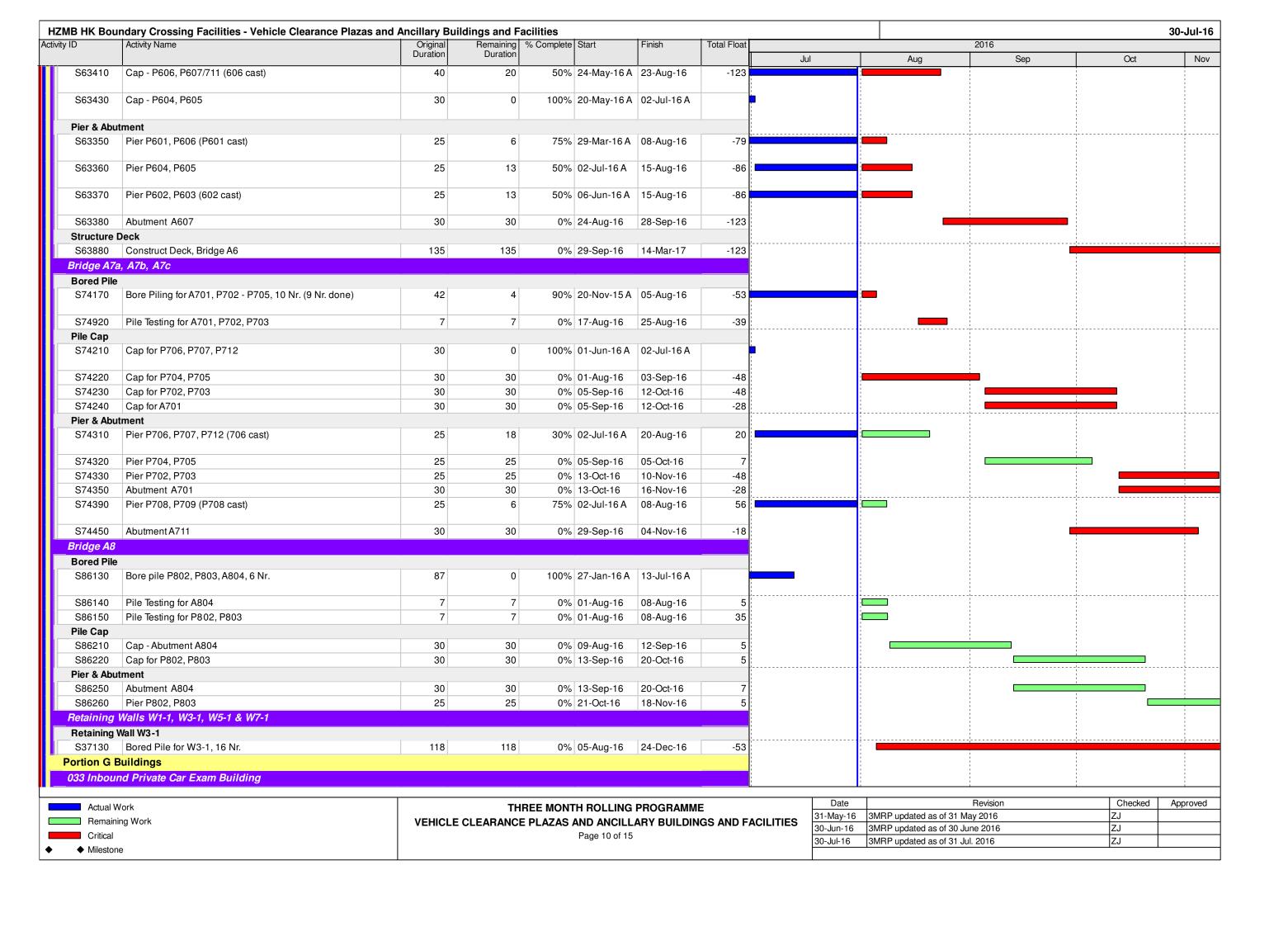


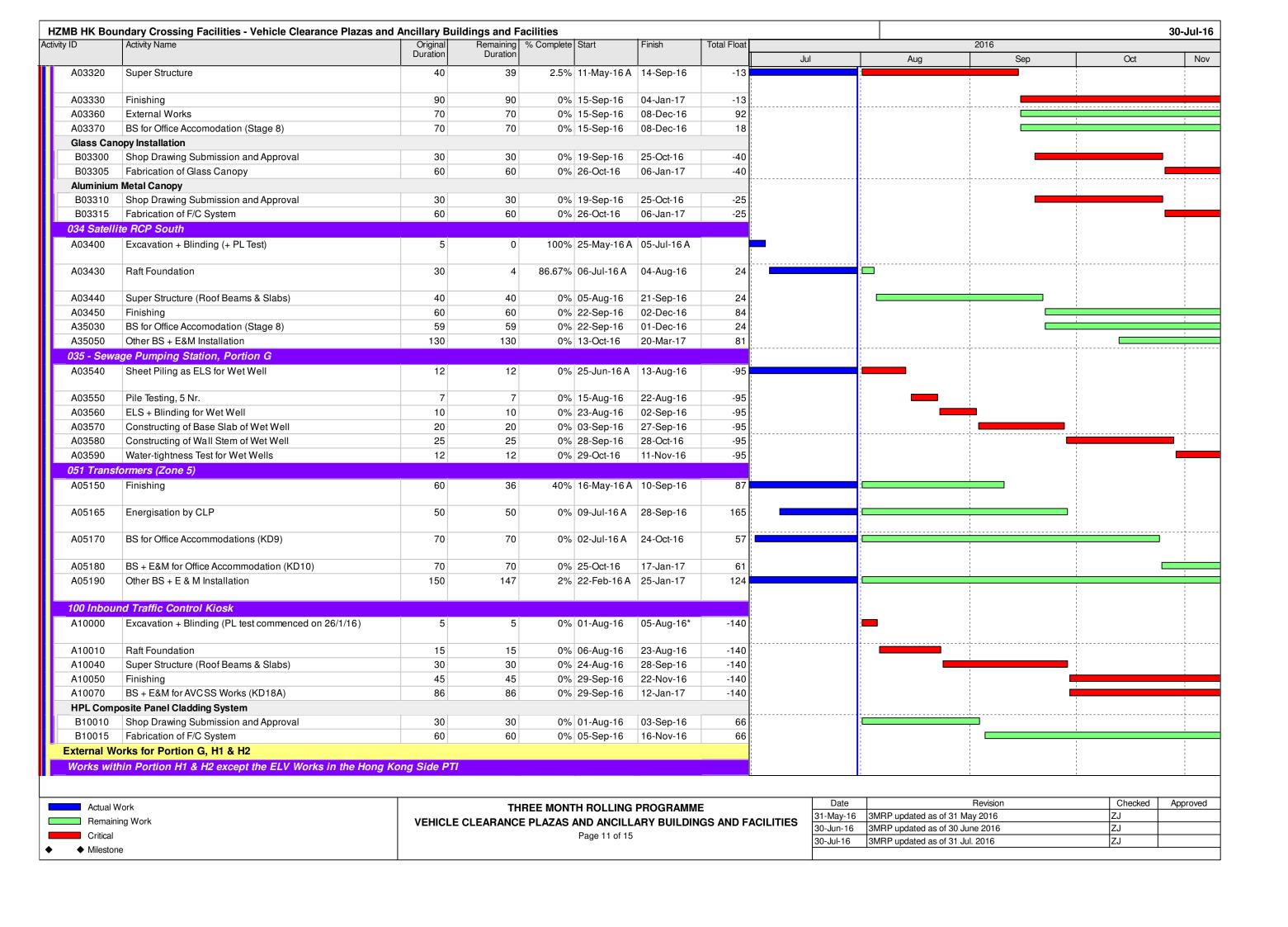


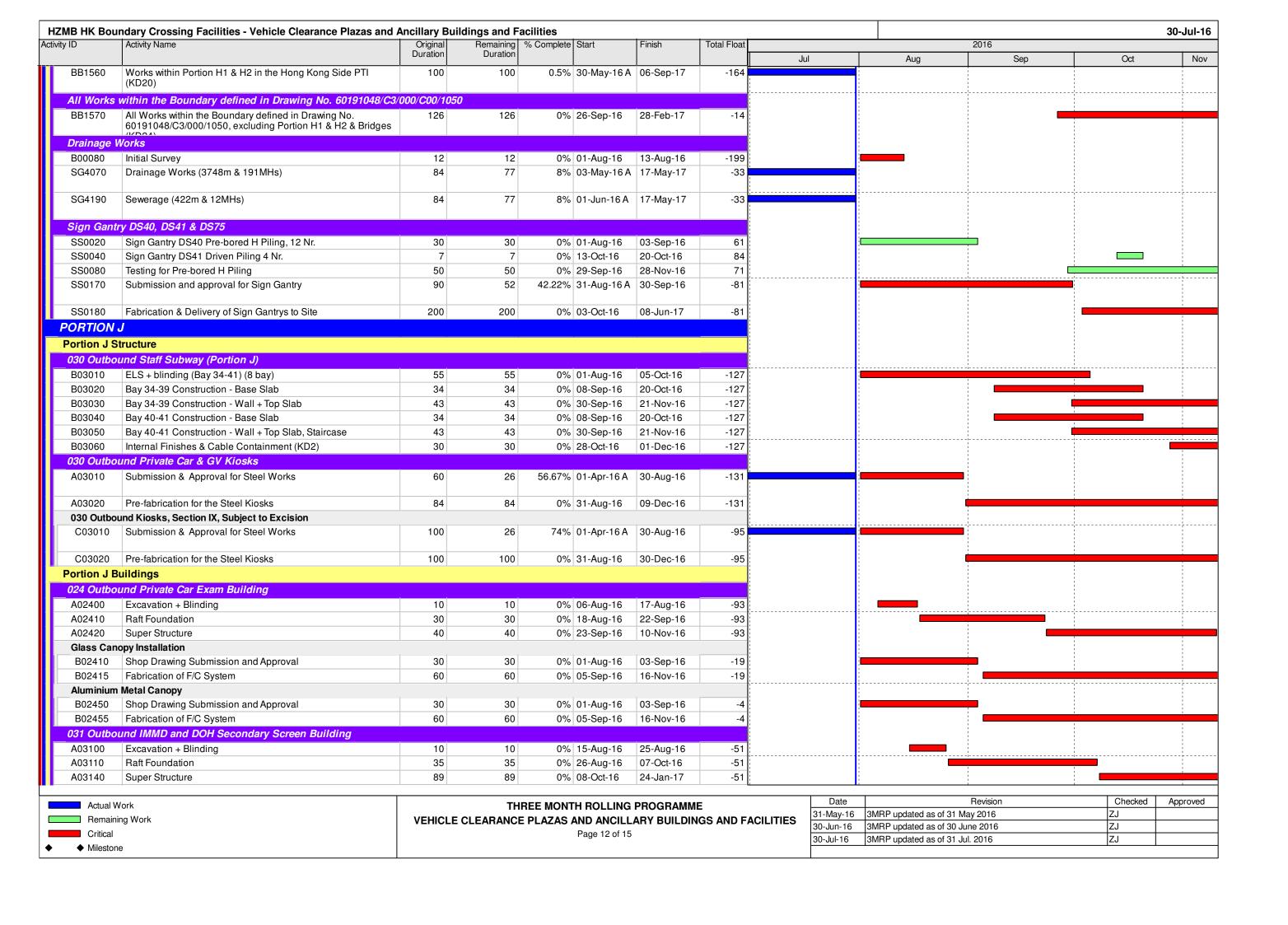


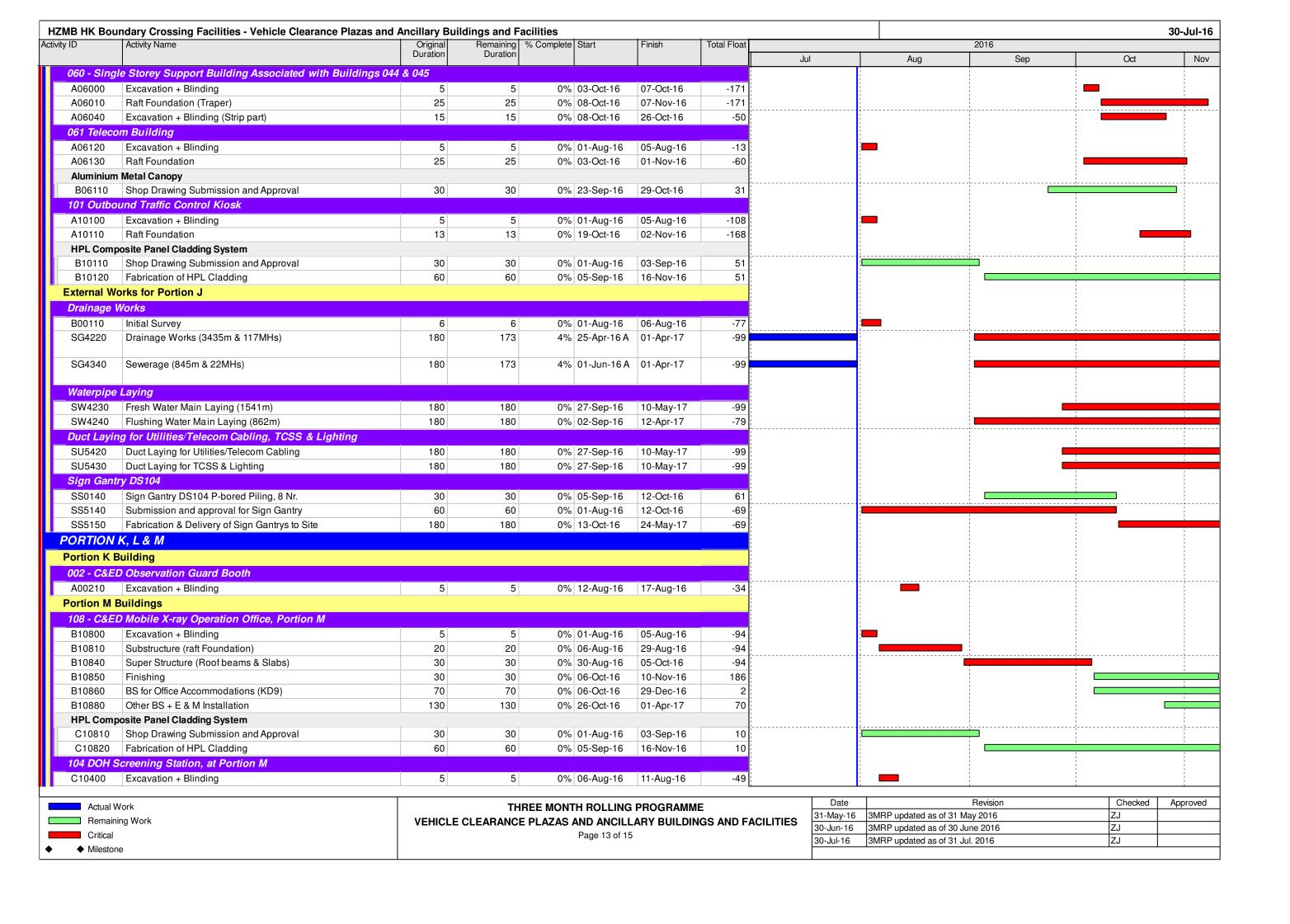


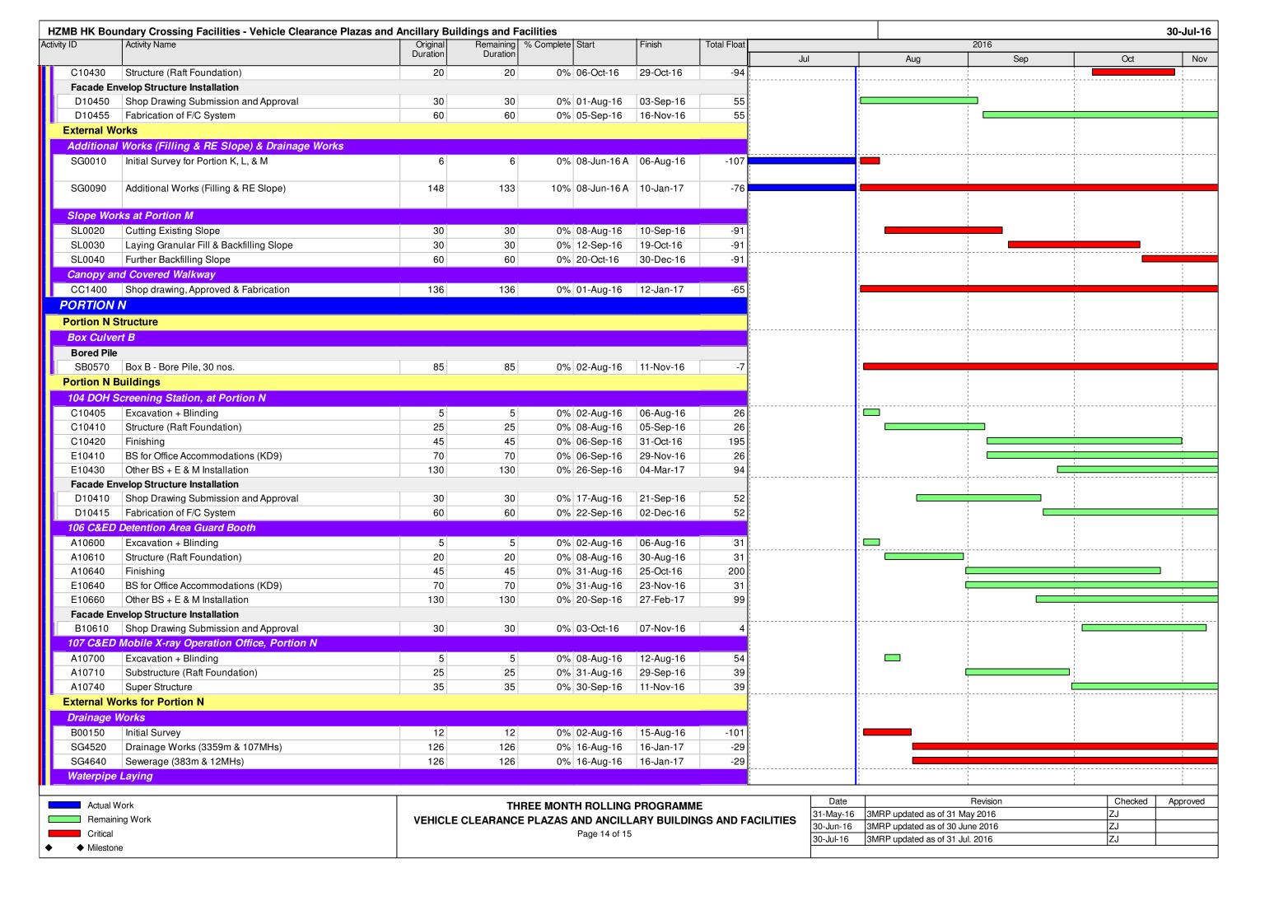


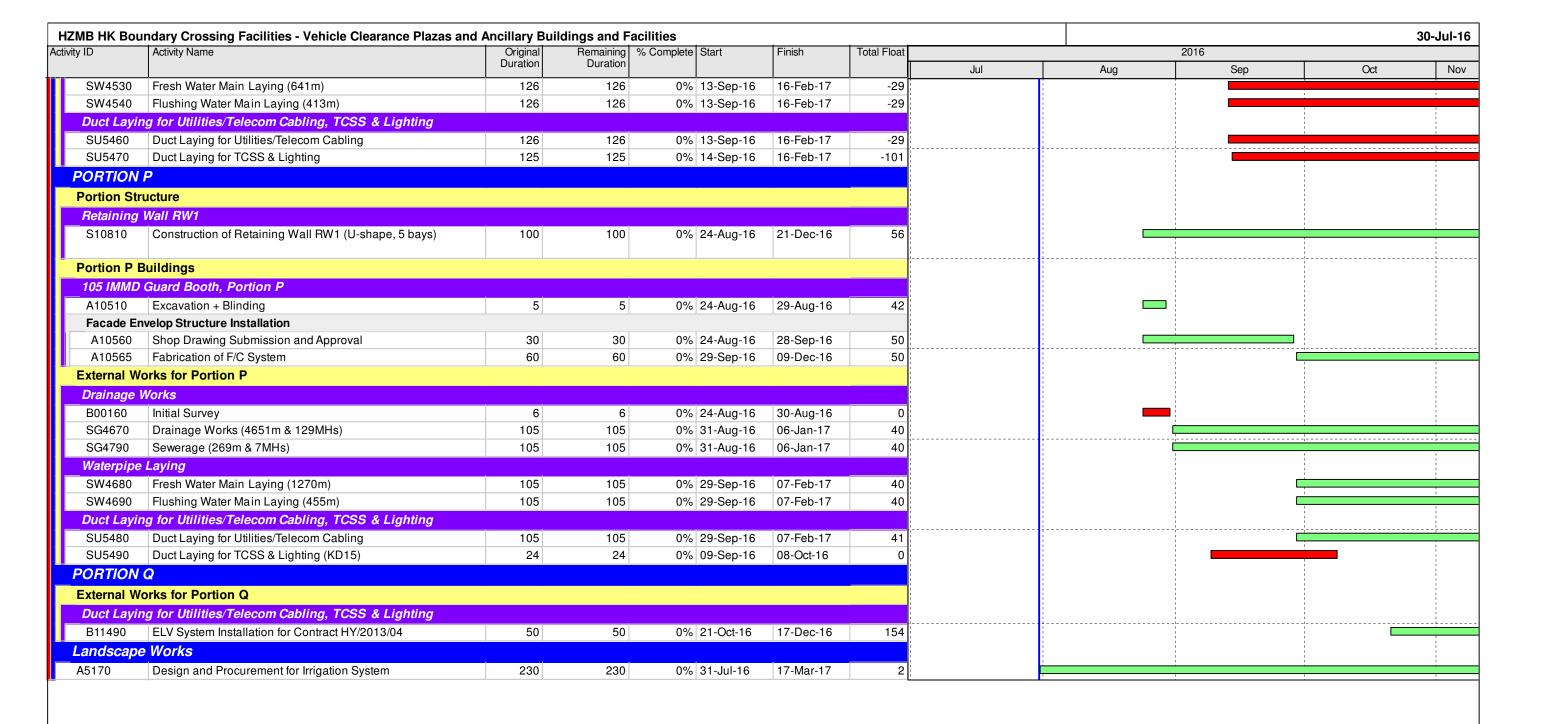










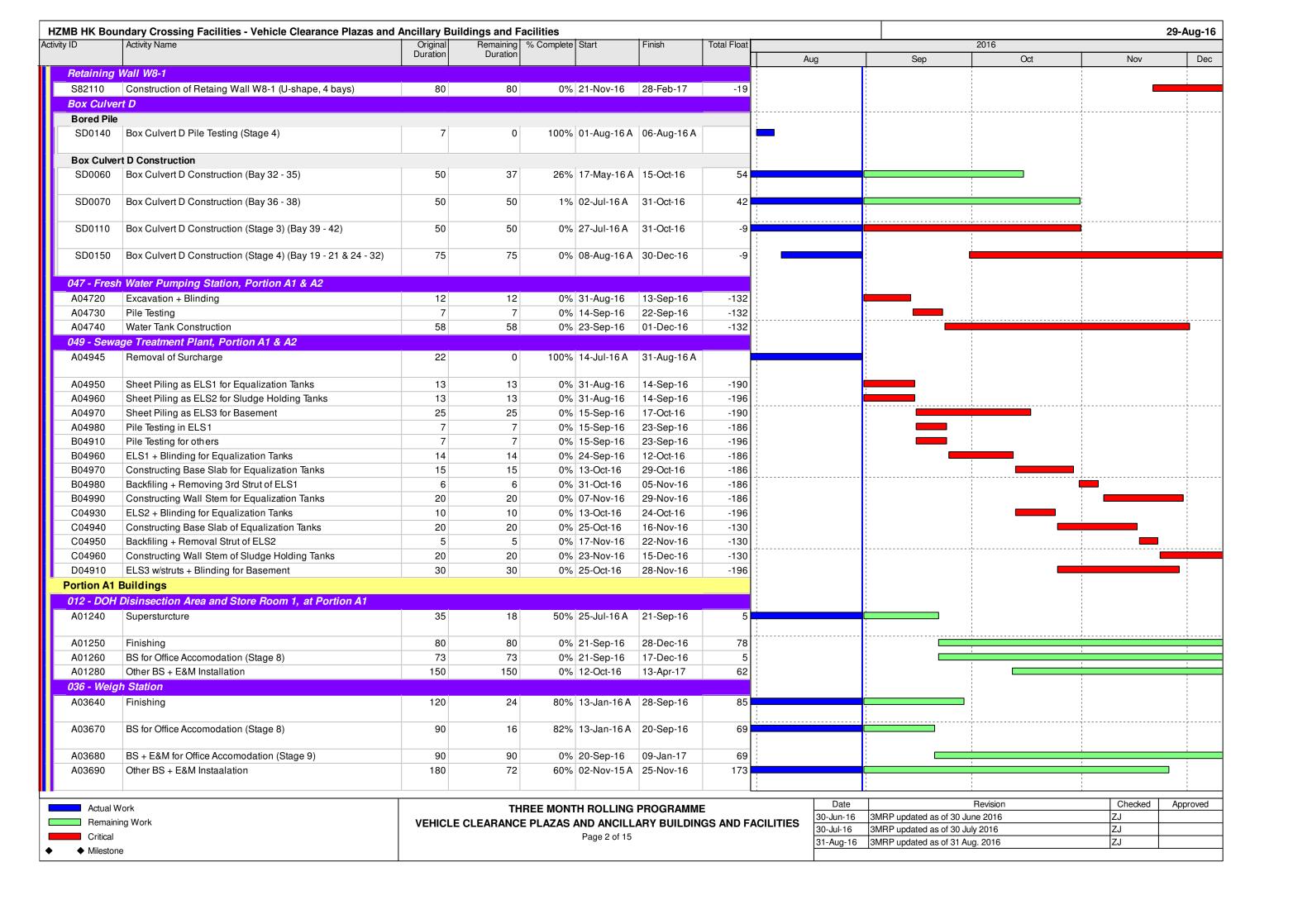


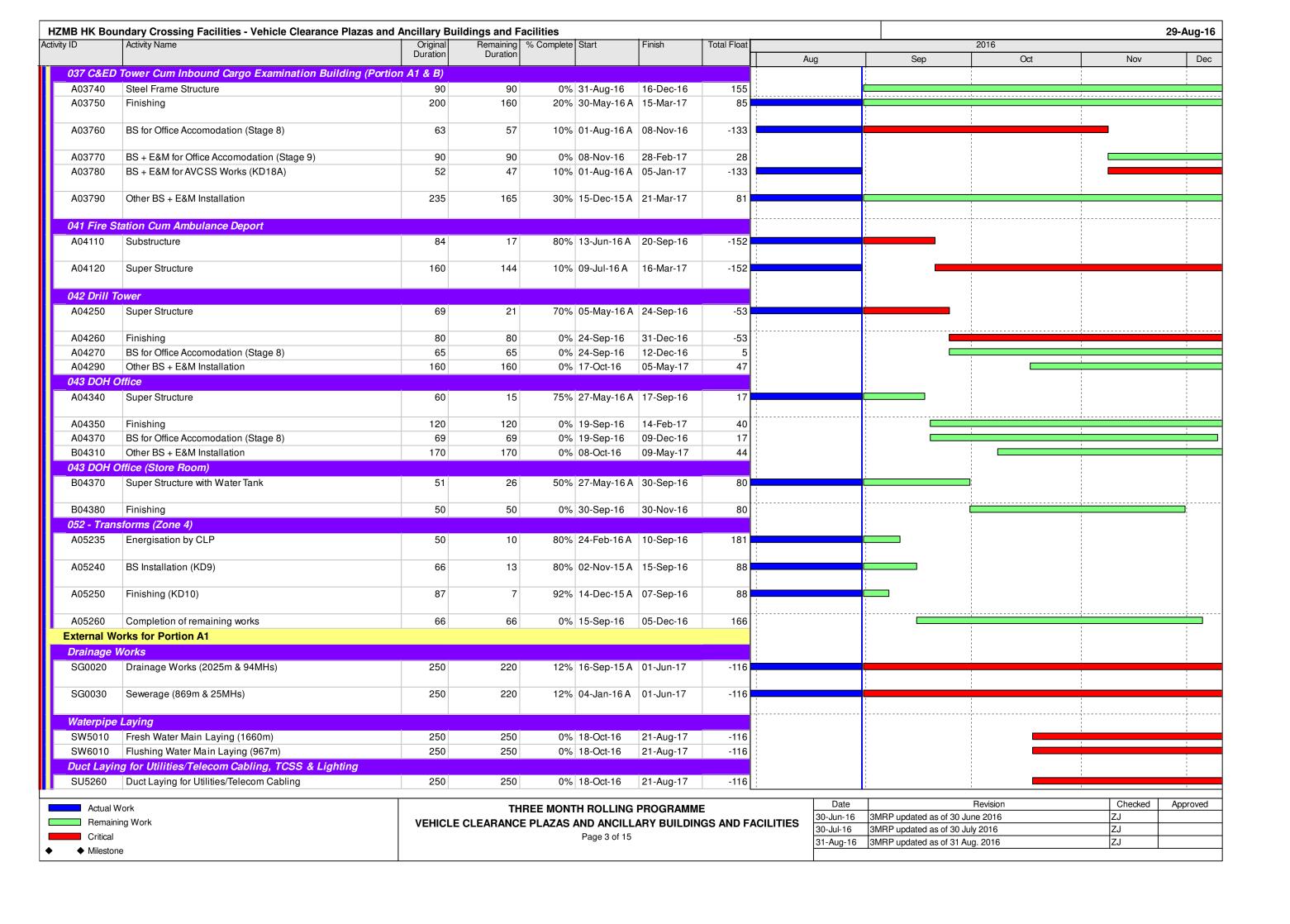
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Critical	
◆ Milestone	

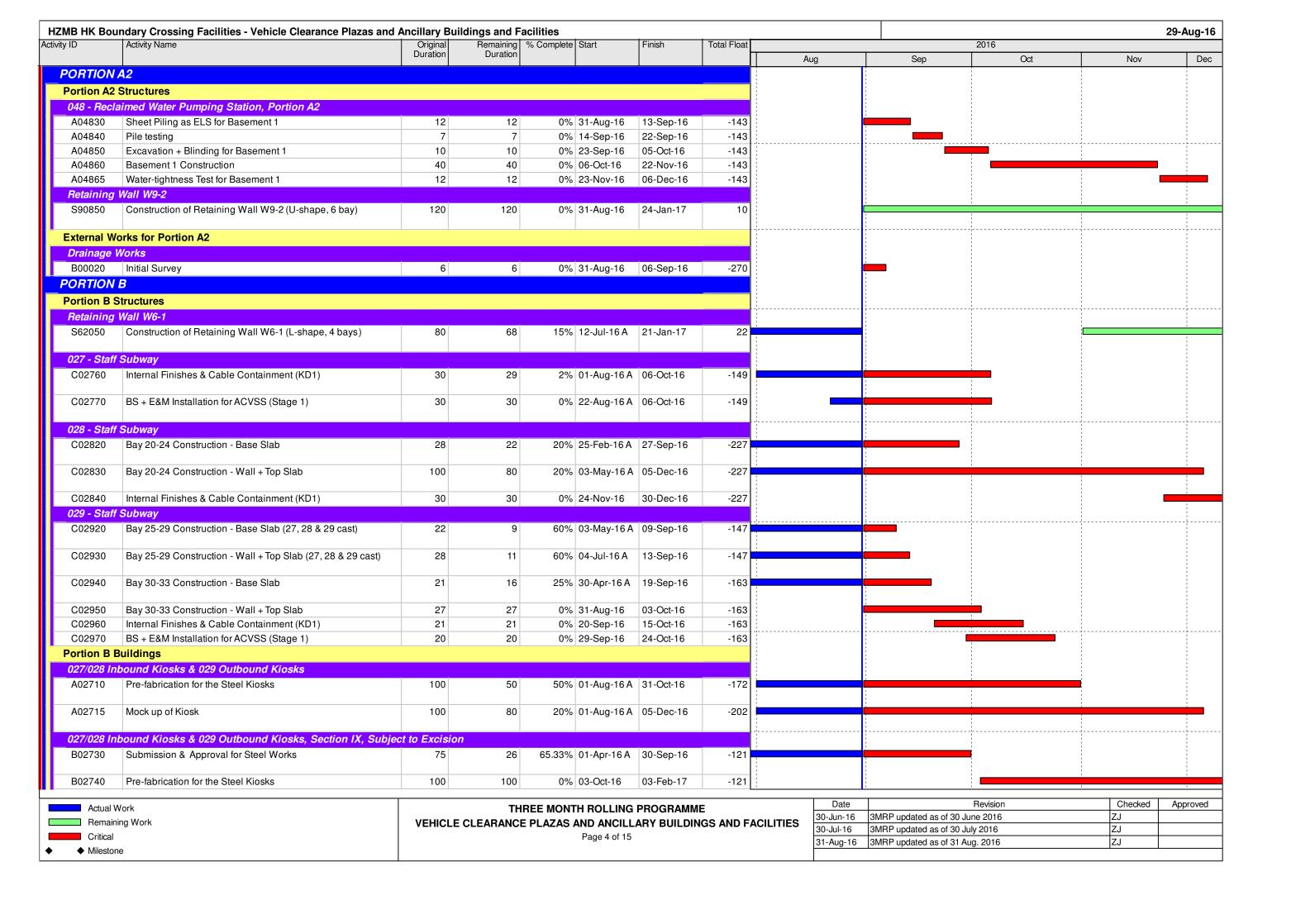
THREE MONTH ROLLING PROGRAMME
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES
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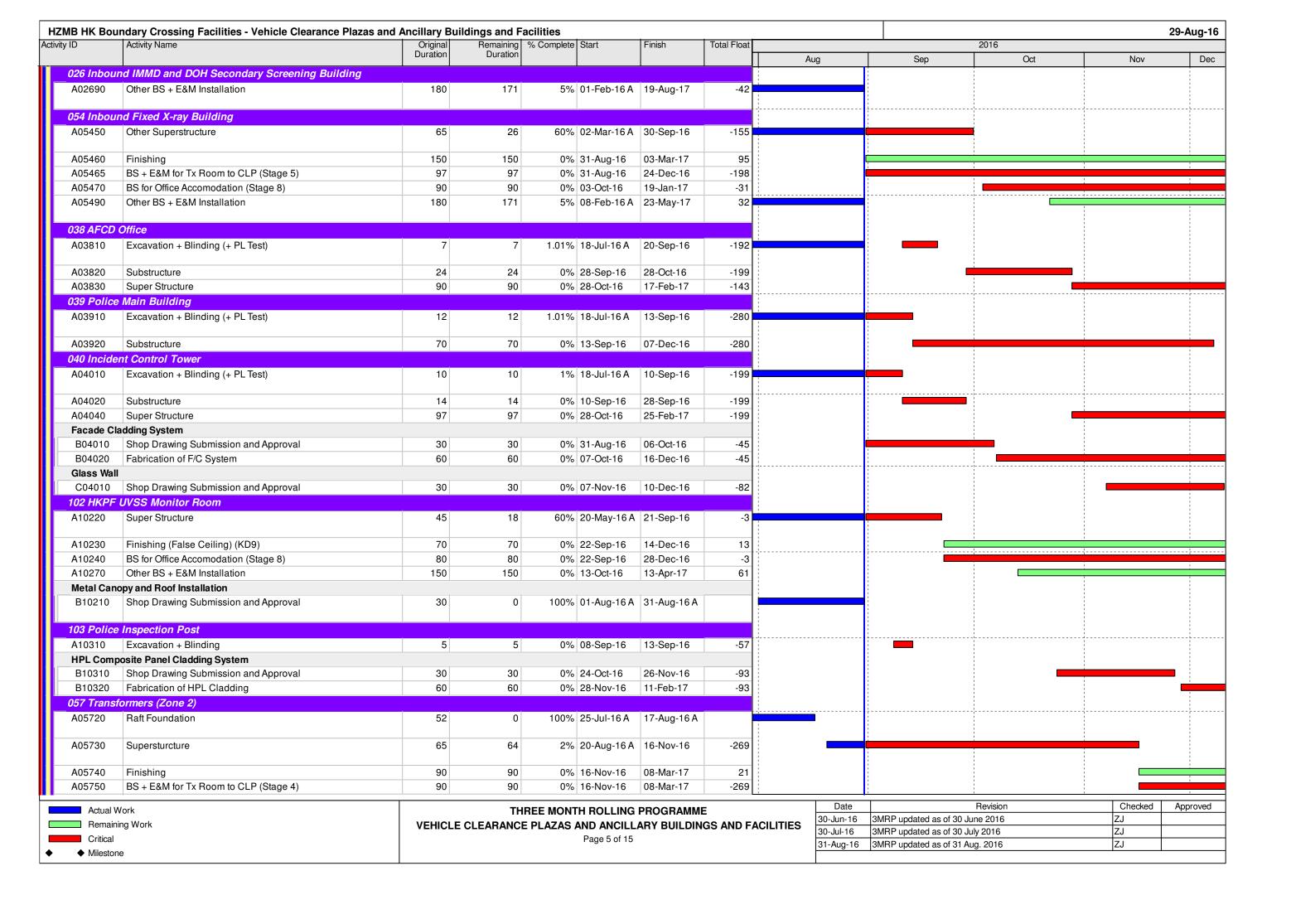
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30-Jul-16	3MRP updated as of 31 Jul. 2016	ZJ	

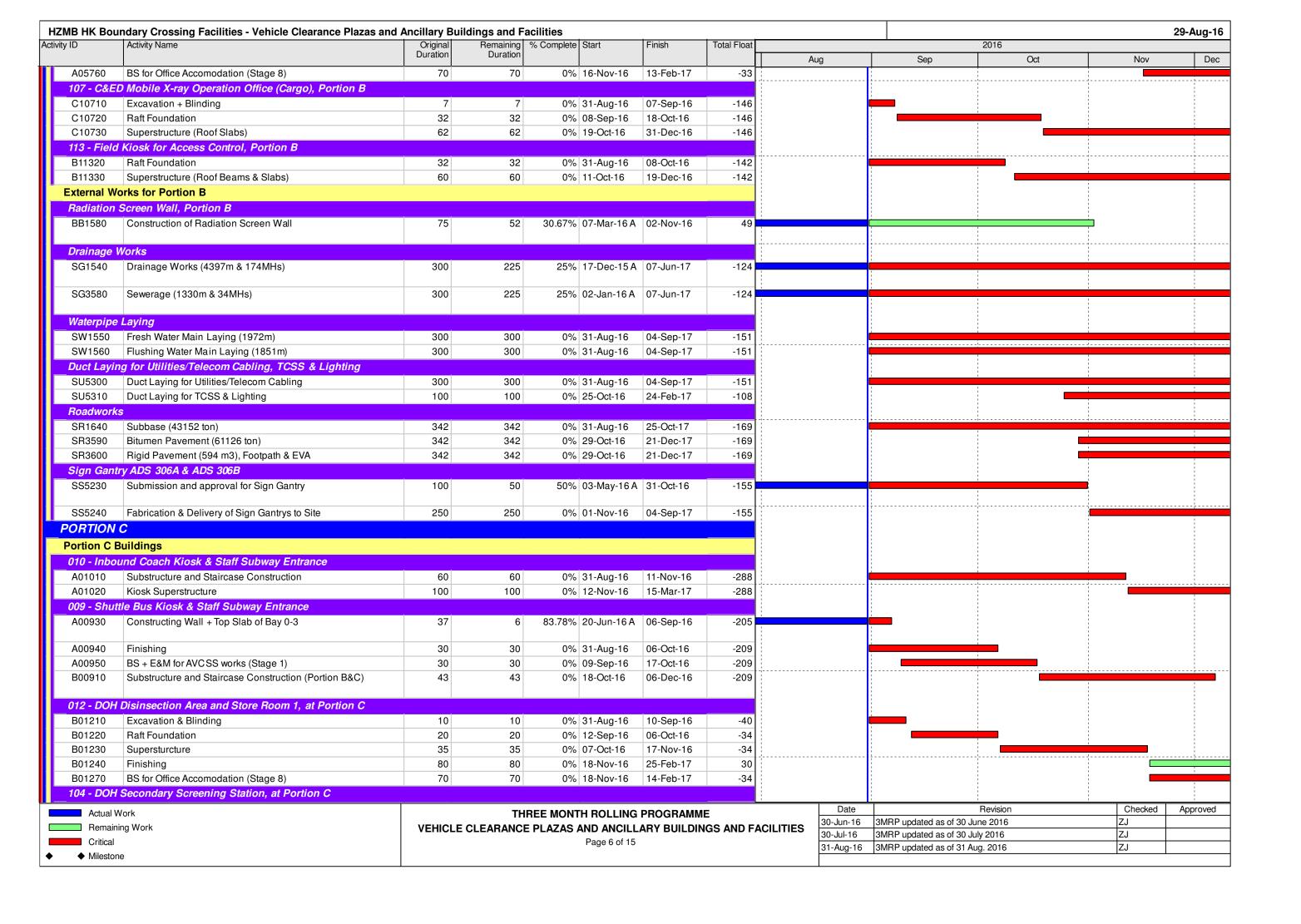
y ID	undary Crossing Facilities - Vehicle Clearance Plazas and A Activity Name	Original	Remaining		Start	Finish	Total Float		<u> </u>	2016		29-Aug-1
		Duration	Duration					Aug	Sep	Oct	Nov	De
(BCF - V	CP DRMs Programme, (IWP 04), UD 310816, EOT	No. 1										
ONTRAC	CT DATES								1	1	1 1 1	
Key Dates			<u></u>			<u></u>			1	1	1 1 1	
A1150	KD15 Achievement of Stage 14 of the Works (548 days; 08 Oct. 16)	0	0	0%		17-Oct-16*	-9			♦ KD15 Ach	ievement of Stage	14 of the W
Site Access	& Possession										! ! !	!
Possessio	on of Portion of Site						1					
A0010	Possession of Portion A1 (<= 70 days)	0	0	0%		31-Aug-16*	-439		Possession of Porti	ion Å1 (<= 70 days)	1 1 1	1
A0020	Possession of Portion A2 (<= 75 days)	0	0	0%		31-Aug-16*	-434		Possession of Porti	The state of the s	1 1 1	
A0030	Possession of Portion B (<=100 days)	0	0	0%		31-Aug-16*	-409		Possession of Porti	:	! !	
A0040	Possession of Portion C (<=100 days)	0	0	0%		31-Aug-16*	-409		Possession of Porti	ion Ç (<=100 days)	 	
A0050	Possession of Portion D (<=220 days)	0	0	0%		31-Aug-16*	-289		Possession of Porti	ion D (<=220 days)		
A0060	Possession of Portion E (<=160 days)	0	0	0%		31-Aug-16*	-349		Possession of Porti	ion É (<=160 days)	i I I	
A0080	Possession of Portion G (<=225 days)	0	0	0%		31-Aug-16*	-287		Possession of Porti	ion Ġ (<=225 days)	1 1 1	
A0090	Possession of Portion H1 (<=273 days)	0	0	0%		31-Aug-16*	-236		Possession of Porti	ion H1 (<=273 days)		-
A0100	Possession of Portion H2 (<=273 days)	0	0	0%		31-Aug-16*	-236		Possession of Porti	ion H2 (<=273 days)	, 	
A0110	Possession of Portion J (<=320 days)	0	0	0%		31-Aug-16*	-189		Possession of Porti	ion J (<=320 days)	 	
A0120	Possession of Portion K (<=478 days)	0	0	0%		31-Aug-16*	-110		Possession of Porti	ion K (<=478 days)	1 1 1	
A0130	Possession of Portion L (<=478 days)	0	0	0%		31-Aug-16*	-43		Possession of Porti	ion 🖟 (<=478 days)	! ! !	
A0140	Possession of Portion M (<=478 days)	0	0	0%		31-Aug-16*	-159		Possession of Porti	ion M (<=478 days)	1	
A0150	Possession of Portion N (<=345 days)	0	0	0%		31-Aug-16*	-164		Possession of Porti	ion N (<=345 days)	; 	į
A0160	Possession of Portion P (<=502 days)	0	0	0%		31-Aug-16*	-7		Possession of Porti	ion P (<=502 days)	 	
Access to	Locations of the Site								!		1 1 1	
A0210	Contract Date for Access to Location 1.1 (490 days)	0	0	0%		31-Aug-16*	-19		Contract Date for A	ccess to Location 1.1 (490 da	ys)	
A0220	Contract Date for Access to Location 1.2 (405 days)	0	0	0%		31-Aug-16*	-104		Contract Date for A	ccess to Location 1.2 (405 da	ys)	
A0230	Contract Date for Access to Location 1.3 (488 days)	0	0	0%		31-Aug-16*	-21		Contract Date for A	ccess to Location 1.3 (488 da	ys)	
A0240	Contract Date for Access to Location 1.4 (488 days)	0	0	0%		31-Aug-16*	-21		Contract Date for A	ccess to Location 1.4 (488 da	ys)	
A0250	Contract Date for Access to Location 1.5 (580 days)	0	0	0%		09-Nov-16*	0		i !		◆ Contract	Date for Ac
A0310	Contract Date for Access to Location 1.8 PCB (Basement level up to ground floor slab) (395 days)	0	0	0%		31-Aug-16*	-114		Contract Date for A	ccess to Location 1.8 PCB (Ba	sement level up to	o ground flo
A0320	Contract Date for Access to Location 1.8 PCB (Ground Floor level or above) (515 days)	0	0	0%		05-Sep-16*	0		◆ Contract Date	for Access to Location 1.8 PC	3 (Ground Floor le	vel or abov
A0330	Contract Date for Access to External Area for Contract HY/2013/01 for ELV System Installation (570 days)	0	0	0%		30-Oct-16*	0		! ! !	•	Contract Date for	Access to
A0340	Contract Date for Access to External Area for Contract HY/2013/02 for ELV System Installation (560 days)	0	0	0%		20-Oct-16*	0			◆ Contra	ct Date for Access t	to External
A0350	Contract Date for Access to External Area for Contract HY/2013/04 ELV System Installation (560 days)	0	0	0%		20-Oct-16*	0			◆ Contra	ct Date for Access t	to External
PRELIMIN	ARY									1	1 1 1	
Precast Yar	rd for Bridge Segment								i !) 	
A0630	Segment Manufacture	300	195	35%	17-Jun-16 A	29-Apr-17	-96		1		1 1	!
PORTION	A1										 	
	Structures										· 	1 1 1
Bridge A9											1 1 1	
Bored Pile											1 1 1	
S91015	Bored piles for P904, A905, 4nos	58	58	0%	31-Aug-16	09-Nov-16	-77			<u> </u>	!	
S91020	Bored piles, 6 nos. (2 cast)	29	19		17-May-16 A		-77					
S91030	Pile testing for P904, A905	7	7	0%	24-Nov-16	01-Dec-16	-58				· I I I	
Actual V	Nork		THE	REE MONT	H BOLLING	PROGRAMM		Date		Revision	Checked	Approve
	ning Work	VEHICI F					GS AND FACIL	ITIES 30-Jun-16			ZJ	
Critical		* LI IIOLL	. JELAHANGE	. LALAU F	Page 1 of 15	ATT DOILDIN	GO AND I ACIL	30-Jul-16	3MRP updated as of 3		ZJ	
UIIUUI					. 490 1 01 10			31-Aug-16	3MRP updated as of 3	R1 Aug. 2016	ZJ	l

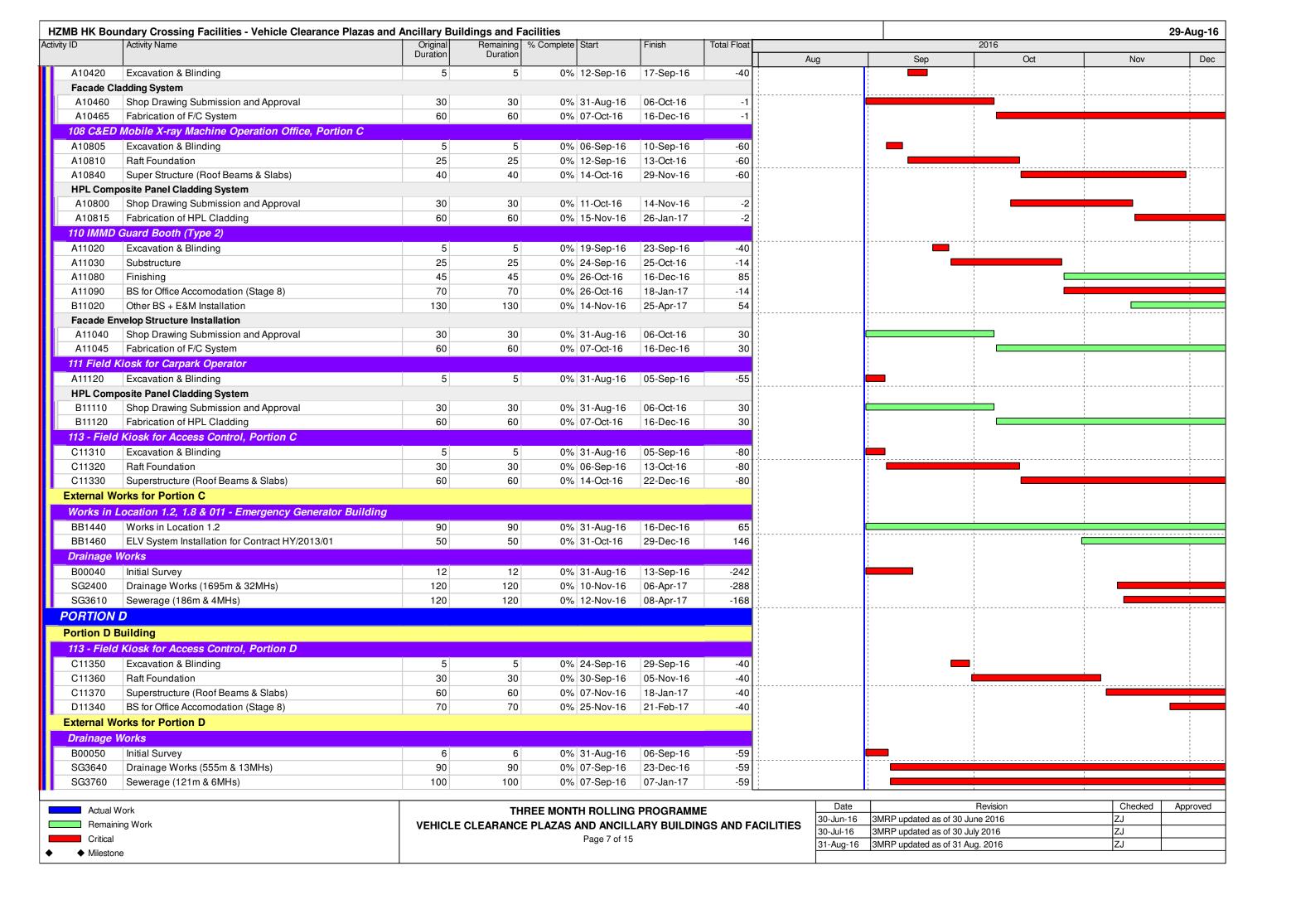


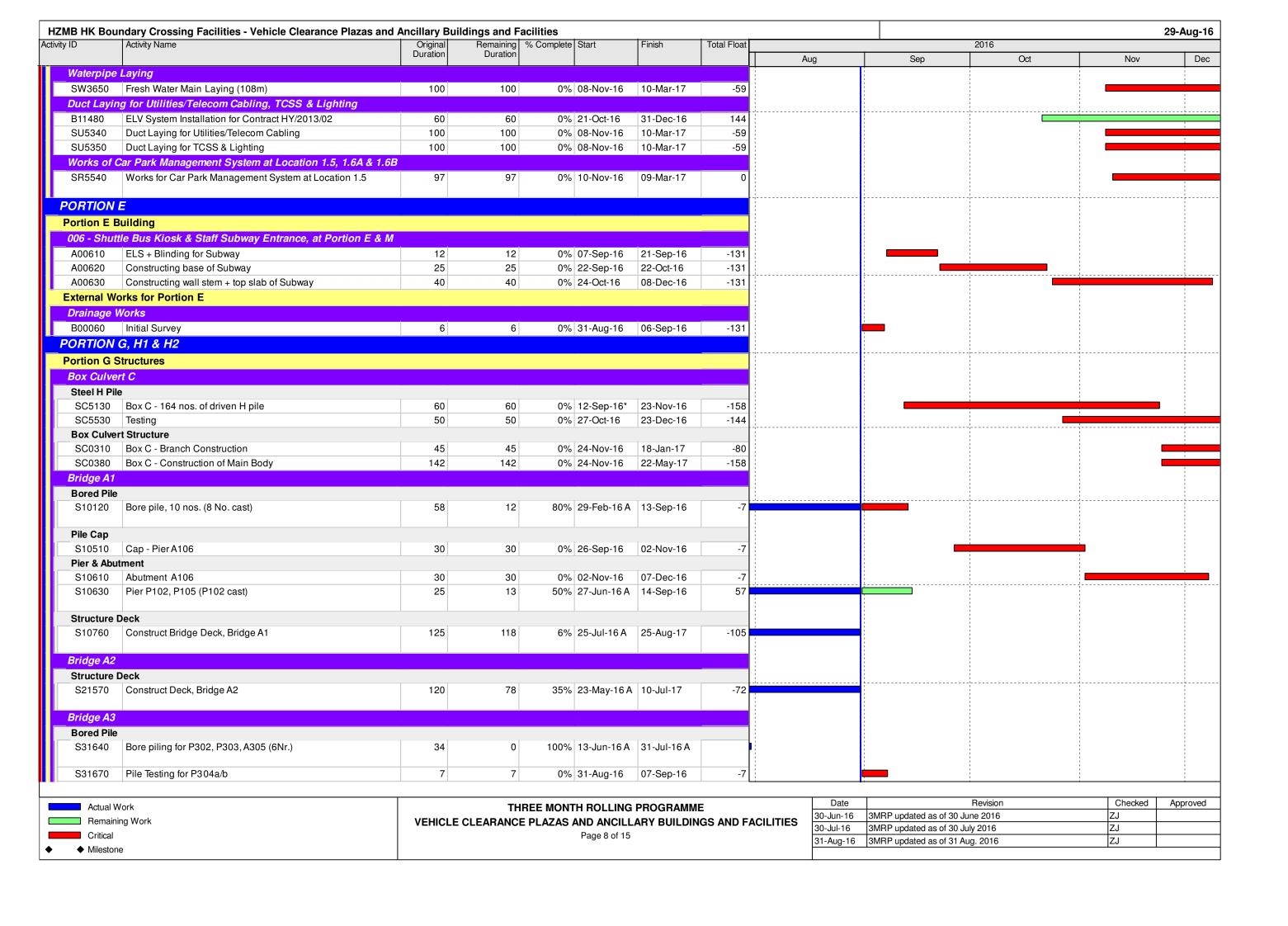


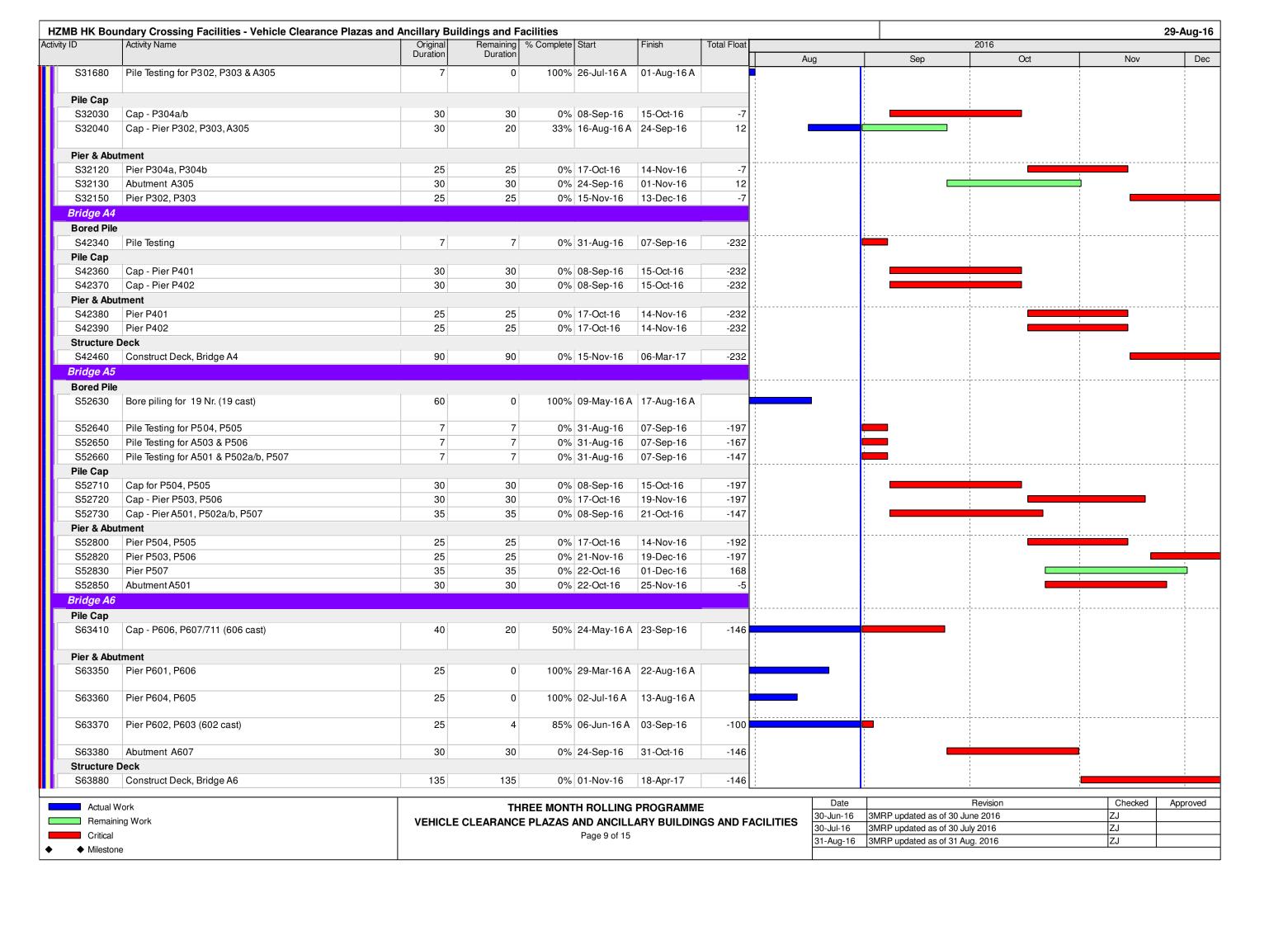


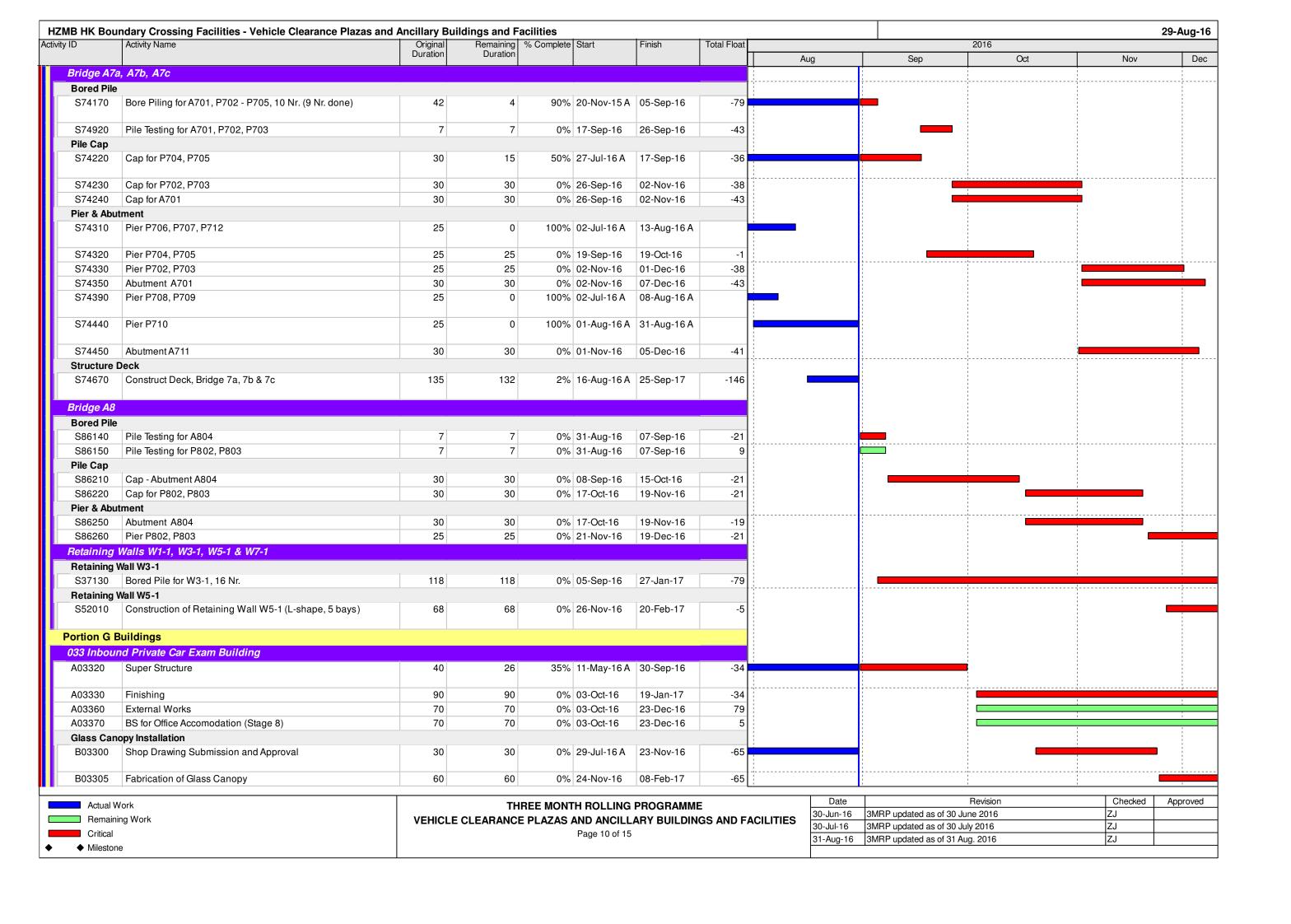


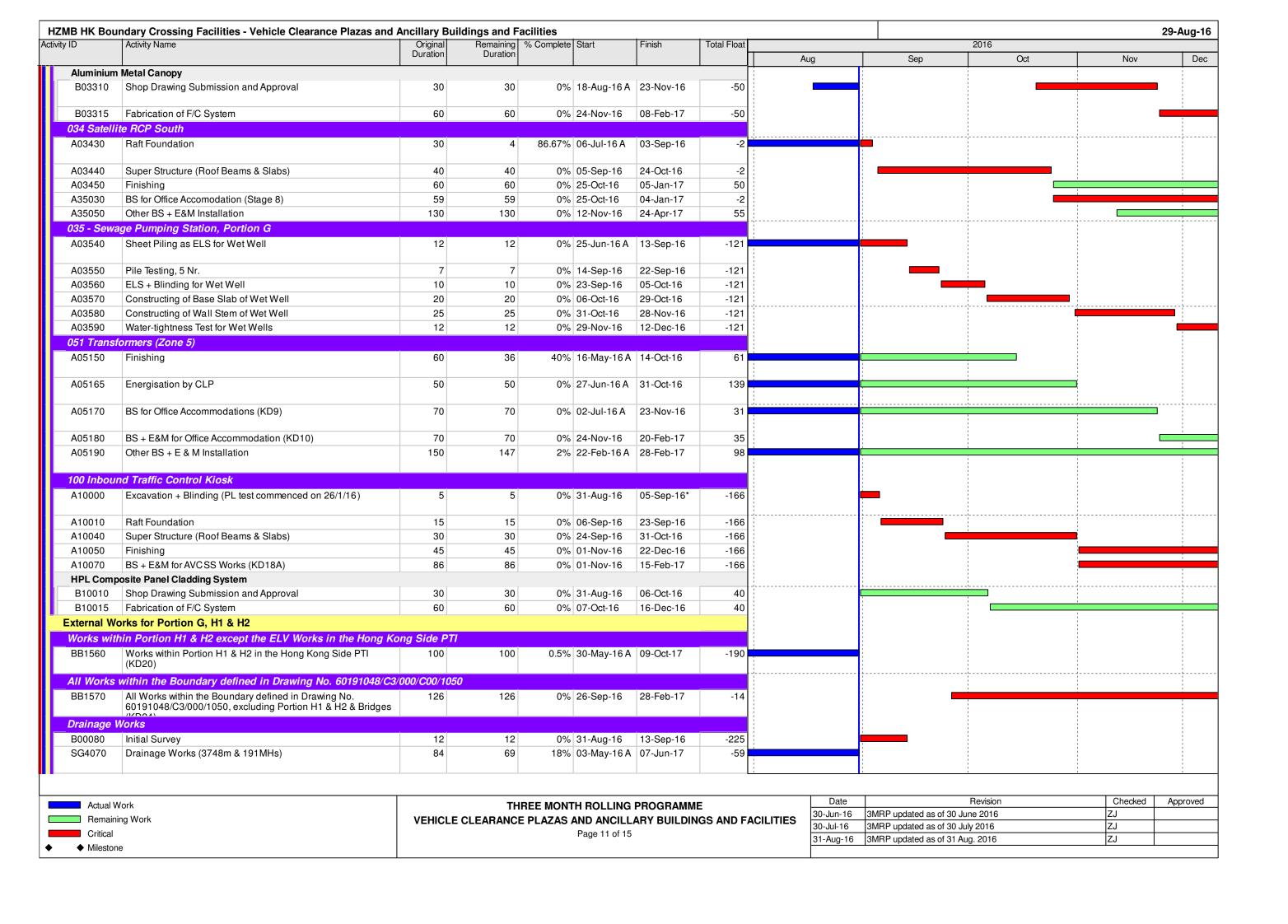


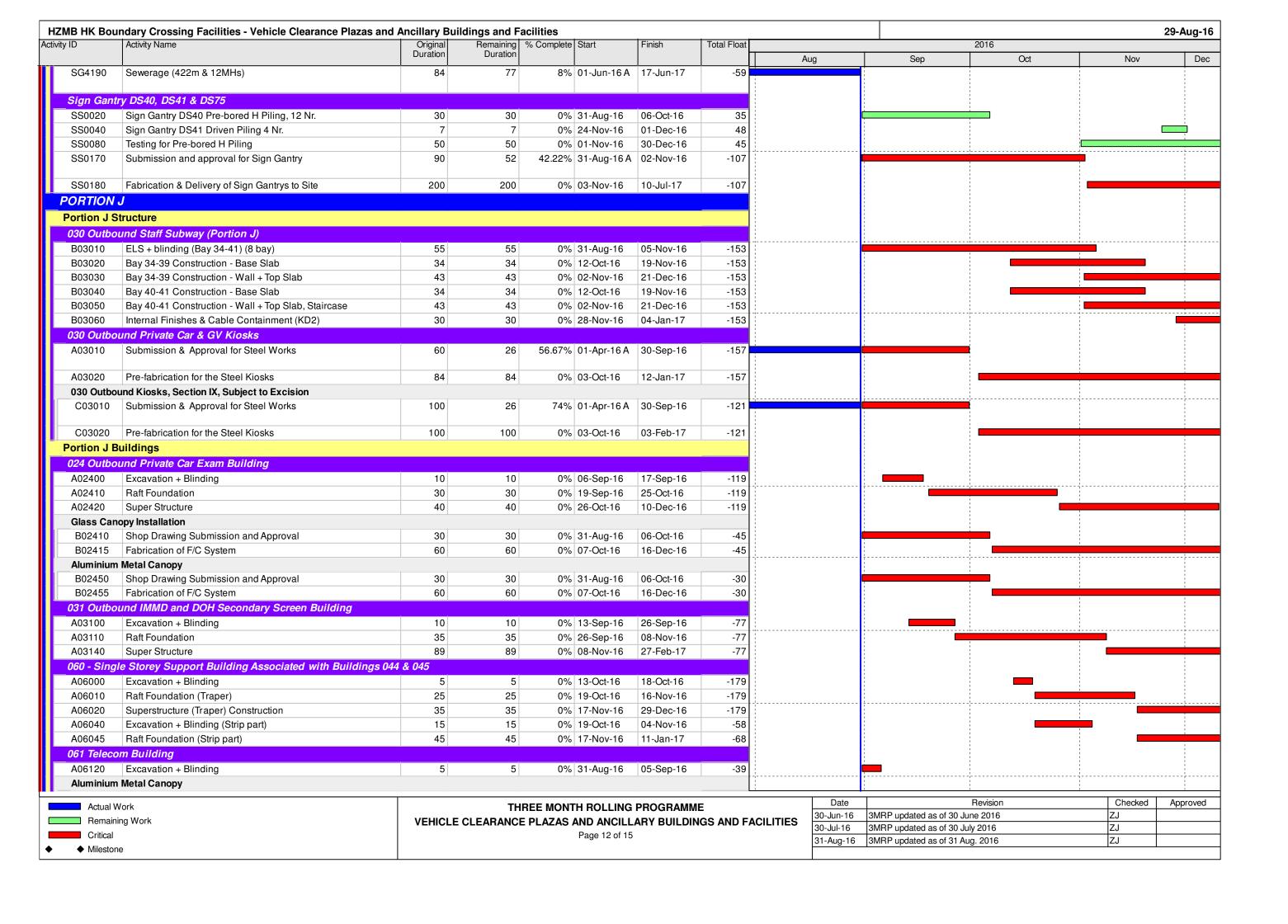


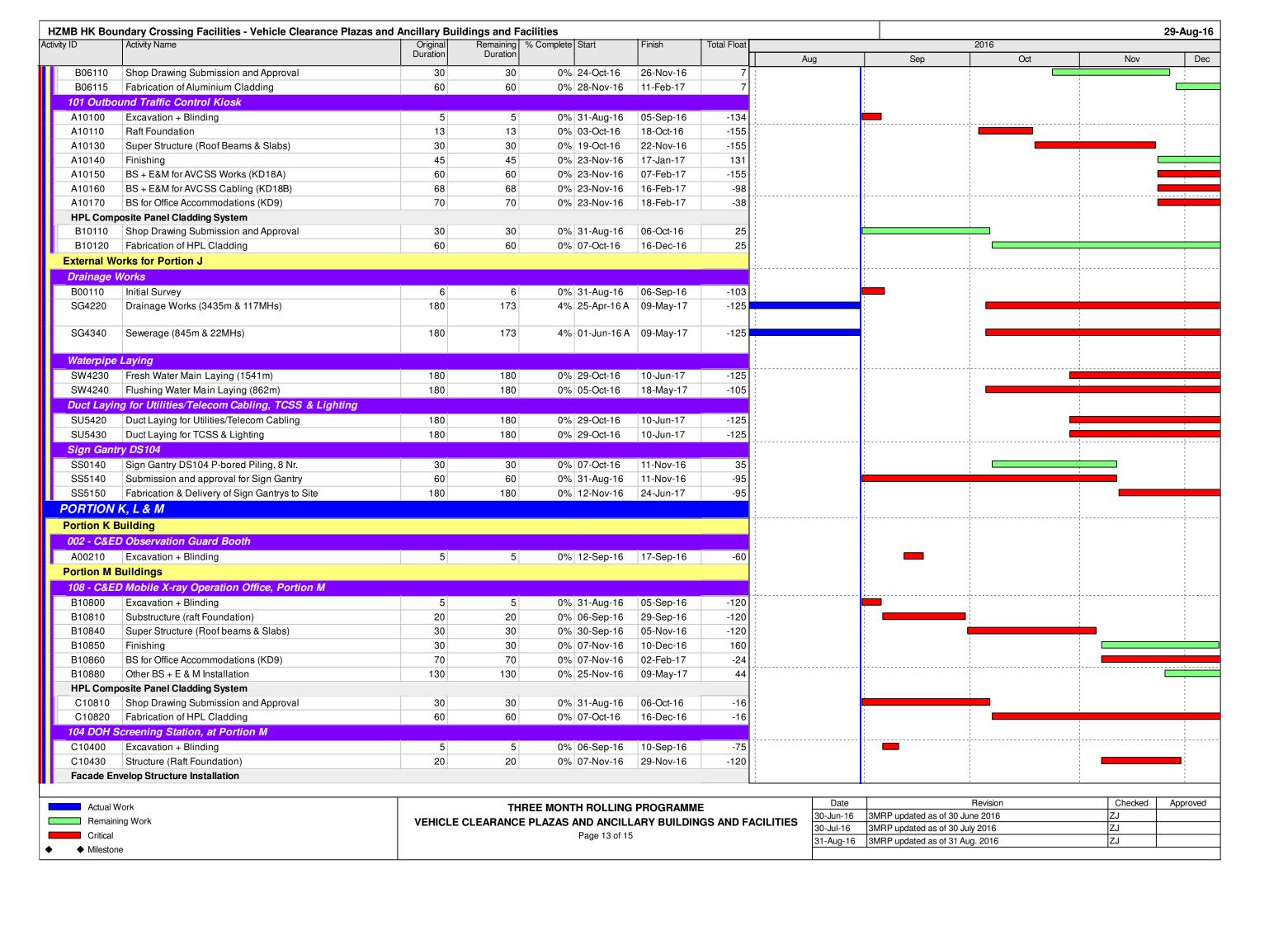


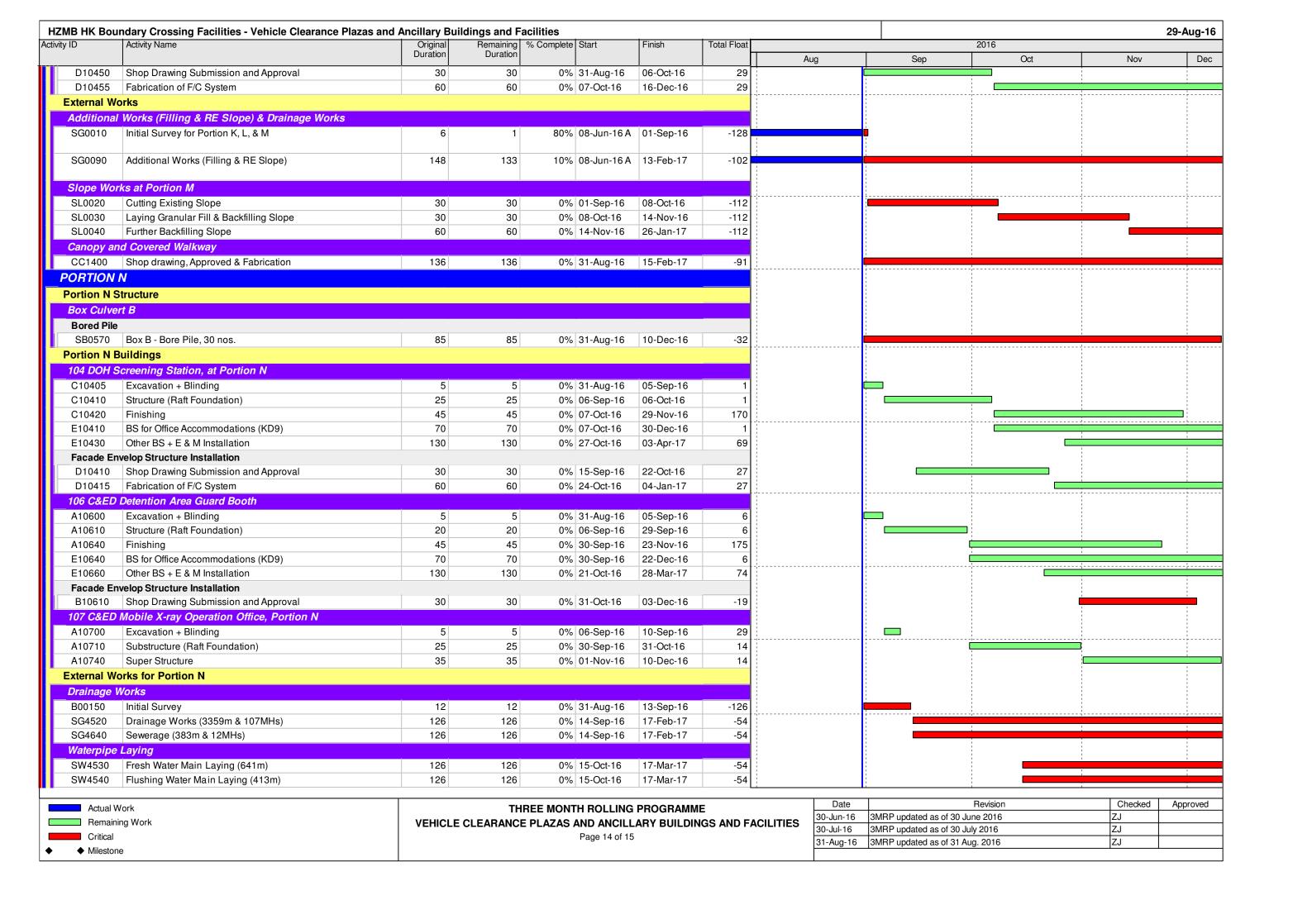














Actual Work	THREE MONTH ROLLING PROGRAMME
Remaining Work	VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES
Critical	Page 15 of 15
♦ Milestone	

Date	Revision	Checked	Approved
30-Jun-16	3MRP updated as of 30 June 2016	ZJ	
30-Jul-16	3MRP updated as of 30 July 2016	ZJ	
31-Aug-16	3MRP updated as of 31 Aug. 2016	ZJ	

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com



Report No.: 0165/15/ED/0562

Appendix D

Event / Action Plan

Appendix D -

Event / Action Plan for Air Quality and Noise Monitoring

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 measureme nt to confirm finding; 4. Increase monitoring frequency to daily.	 Check monitoring data submitted by ET; Check Contractor's working method. 	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.	

Event		Ac	tion	
	ET	IEC	ER	Contractor
Exceedance for two or more consecutive samples	 Identify source; Inform IEC and ER; Advise the ER on the effectiveness of the proposed remedial measures; Repeat measurement s to confirm findings; Increase monitoring frequency to daily; Discuss with IEC and Contractor on remedial actions required; If exceedanc e continues, arrange meeting with IEC and ER; If exceedanc e stops, cease additional monitoring. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise Implementatio n 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	 Identify source, investigate the causes of exceedance a nd propose remedial measures; Inform ER, Contractor and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise implementatio n of remedial measures. 	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate. 		

Event	Action			
Event	ET	IEC	ER	Contractor
2. Exceedance for two or more consecutive samples	 Notify IEC, ER, Contractor and EPD; Identify source; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Arrange meeting with IEC and ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 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.	 Confirm receipt of notification of failure in writing; Notify Contractor; In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; Ensure remedial measures properly implemented; 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. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedances 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.		

Event		Action						
	ET	IEC	ER	Contractor				
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.				

Room 723 & 725, 7/F, Block B,

Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Tel : (852)-24508238 : (852)-24508032 Fax Hong Kong. Email : mcl@fugro.com



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Appendix E

Implementation Schedule for Environmental Mitigation Measures (EMIS)

Appendix E – Implementation Schedule of Environmental Mitigation Measures (EMIS)

EIA Ref.	EM&A Log	Recommended Mitigation Measures	Location of the	Implementation Status
	Ref.		measures	
Air Quality		T.,	1	Γ.,
S5.5.6.1	A1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	All construction sites	V
\$5.5.6.2	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 	All construction sites	V
\$5.5.6.2	A2	 concrete, bituminous materials or hardcores; 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 	All construction sites	V
\$5.5.6.2	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 	All construction sites	N/A

EIA Ref.	EM&A	Recommended Mitigation Measures	Location of	Implementation
	Log Ref.		the measures	Status
		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 r part of the construction site where the exposed earth lies		
S5.5.6.3	A3	The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	All construction sites	V
\$5.5.6.4	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.	All construction sites	V
S5.5.6.4	A5	5) Implement regular dust monitoring under EM&A programme during the construction stage.	Selected Represent- ative dust monitoring station	V
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;	Selected Represent- ative dust monitoring station	N/A
		 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 		
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	All construction sites	V
Construction			LAU	V
\$6.4.10	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;	All construction sites	V

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		 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. 		
S6.4.11	N2	 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. 	All construction sites	V
S6.4.12	N3	Install movable noise barriers (typically density@14kg/m acoustic mat or full enclosure close to noisy plants including compressor, generators, saw.	For plant items listed in Appendix 6D of the EIA report at all construction sites	N/A
S6.4.13	N4	Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	For plant items listed in Appendix 6D of the EIA report at all construction site	V
S6.4.14	N5	5) Sequencing operation of construction plants where practicable	All construction sites where practicable	V
S5.1	N6	6) Implement a noise monitoring under EM&A programme.	Selected representative noise monitoring station	V
S7.3	S1	1) The requirements as recommended in ETWB TC 34/2002	All	٧
		Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.	construction sites	
S8.3.8	igement (C WM1	construction Waste) Construction and Demolition Material	All	V
		 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; 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 E7WBTC (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 	construction sites	

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
	IXCI.	disposal sites to the Project Proponent and get its	measures	
S8.3.9-	WM2	approval before implementation C&D Waste	All	V
S8.3.91 S8.3.11	VVIVIZ	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	construction sites	V
00.0.40	14/140	segregation and storage.	AII	V
\$8.2.12- \$8.3.15	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 labeled 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. 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 chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD. 	All construction sites	V
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.	All construction sites	V
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	All construction sites	V

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the	Implementation Status
	Ret.	le	measures	
		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.		
		Training should be provided to workers about the		
		concepts of site cleanliness and appropriate waste		
		management procedure, including reduction, reuse and		
		recycling of wastes.		
Water Quali	ty (Constr	uction Phase)		
S9.11.1.7	W2	Land Works	Land-based	V
		General construction activities on land should also be	works area	
		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 provent direct displaces to surface or marine.		
		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 WPCO 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		
C0 11 1 7	WO	sewerage system;	Land bass-	V
S9.11.1.7	W2	• all vehicles and plant should be cleaned before they leave	Land-based works area	v v
		the construction site to ensure that no earth, mud or	works alea	
		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		

EIA Ref. EM&A		Recommended Mitigation Measures	Location of	Implementation
	Log Ref.		the measures	Status
	11011	washing bay and the public road should be surfaced with	mousures	
		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.		
Ecology (Co	nstruction		I	
S10.7	E4	Watering to reduce dust generation; prevention of siltation	Land-based	V
		of freshwater habitats; Site runoff should be desilted, to	works areas	
		reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing		
		freshwater		
S10.7	E5	Good site practices, including strictly following the	Land-based	V
		permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night	works areas	
		time		
S10.7	E8	Control vessel speed	Marine	V
		Skipper training	Traffic	
		Predefined and regular routes for working vessels; avoid		
Fisheries	<u> </u>	Brother Islands.		
S11.7	F4	Maritime Oil Spill Response Plan (MOSRP);	HKBCF	V
		Contingency plan.		
		Detailed Design Phase)	LIKDOE	
S14.3.3.1	LV1	General design measures include: Roadside planting and planting along the edge of the	HKBCF	V
		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;		
		 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),		
	I	and the related infrastructure (e.g. parapet planting and		

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		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.		
		onstruction 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 enhance "natural-look" of the new coastline. 	HKBCF	N/A
S14.3.3.3	LV3	Mitigate Visual Impacts 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.	HKBCF	N/A
EM&A	l .	Sonoti dollori.		
S15.2.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual	All construction sites	V
S15.5 – S15.6	EM2	An Environmental Team needs to be employed as per the EM&A Manual. Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. 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.	All construction sites	V

Legend: V = implemented;

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com



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Appendix F

Site Audit Findings and Corrective Actions

Room 723 & 725, 7/F, Block B, Profit Industrial Building,

Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.

Tel: (852)-24508238
Fax: (852)-24508032
Fmail: mcl@fugro.com



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Appendix F - Site Audit Findings and Corrective Actions

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. During the reporting period, 13 site inspections were carried out on 03, 10, 17, 24 and 30 June 2016, 08, 15, 22 and 29 July 2016, and 05, 12, 19 and 26 August 2016.

Particular observations during the site inspections are described below.

13 May 2016

- 1. CHEC was reminded to remove the stagnant water accumulated at CUE works area. Subsequently, stagnant water was removed at CUE works area. The observation was closed on 03 June 2016.
- 2. CHEC was reminded to remove the stagnant water accumulated at Portion A1. Subsequently, stagnant water was removed at Portion A1. The observation was closed on 03 June 2016.
- CHEC was reminded to maintain housekeeping practice at CUE works area. Subsequently, housekeeping practice was maintained at CUE works area. The observation was closed on 03 June 2016.

20 May 2016

- CHEC was reminded to remove the stagnant water accumulated at the drip tray for chemical container at CUE works area. Subsequently, stagnant water was removed at the drip tray for chemical container at CUE works area. The observation was closed on 03 June 2016.
- 2. CHEC was reminded to remove the stagnant water accumulated at the drip tray for generator at Portion G. Subsequently, stagnant water was removed at the drip tray for generator at Portion G. The observation was closed on 03 June 2016.
- 3. CHEC was reminded to separate the excavated marine sediment properly at Portion G from other fill to avoid further contamination. Subsequently, the excavated marine sediment was removed at Portion G. The observation was closed on 03 June 2016.

27 May 2016

1. CHEC is reminded to remove stagnant water at CUE. Subsequently, stagnant water was removed at CUE works area. The observation was closed on 03 June 2016.

03 June 2016

1. CHEC was reminded to increase watering for dust suppression at haul roads on site. Subsequently, watering was increased for dust suppression at haul roads on site. The observation was closed on 03 June 2016.

10 June 2016

1. CHEC was reminded to increase watering for dust suppression at haul roads on site. Subsequently, watering was increased for dust suppression at haul roads on site. The observation was closed on 17 June 2016.

17 June 2016

 CHEC was reminded to clear the stagnant water accumulated at the concreted area of Portion A1. Subsequently, stagnant water was cleared at the concreted area of Portion A1. The observation was closed on 24 June 2016.

24 June 2016

Room 723 & 725, 7/F, Block B, Profit Industrial Building,

Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.

Tel: (852)-24508238
Fax: (852)-24508032
Fmail: mcl@fugro.com



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- 1. CHEC was reminded to increase watering for dust suppression at haul roads in general. Subsequently, watering was increased for dust suppression at haul roads in general. The observation was closed on 24 June 2016.
- 2. CHEC was reminded to enhance watering for dusty activities at Portion G. Subsequently, watering was enhanced for dusty activities at Portion G. The observation was closed on 24 June 2016.

30 June 2016

1. CHEC is reminded to remove stagnant water at CUE. Subsequently, Stagnant water was removed at CUE. The observation was closed on 08 July 2016.

08 July 2016

- 1. CHEC was reminded to maintain good housekeeping on site at CUE. Subsequently, housekeeping was maintained on site at CUE. The observation was closed on 15 July 2016.
- 2. CHEC was reminded to remove stagnant water at Building 026. Subsequently, stagnant water was removed at Building 026. The observation was closed on 15 July 2016.
- 3. CHEC was reminded to properly store chemical on site at Building 037. Subsequently, chemical container was removed at Building 037. The observation was closed on 15 July 2016.
- 4. CHEC was reminded to remove stagnant water under generator at Building 037. Subsequently, generator was removed at Building 037. The observation was closed on 15 July 2016.

15 July 2016

1. CHEC was reminded to remove stagnant water accumulated at CUE works area. Subsequently, stagnant water was removed at CUE works area. The observation was closed on 22 July 2016.

22 July 2016

- CHEC was reminded to increase watering for dust suppression at haul roads. Subsequently, watering was increased for dust suppression at haul roads. The observation was closed on 29 July 2016.
- 2. CHEC was reminded to provide the noise emission label for powered mechanical at CUE works area. Subsequently, the powered mechanical without the noise emission label was removed at CUE works area. The observation was closed on 29 July 2016.
- 3. CHEC was reminded to cover the stockpile with tarpaulin sheets near Building 037. Subsequently, the stockpile near Building 037 was removed. The observation was closed on 29 July 2016.
- 4. CHEC was reminded to remove the stagnant water accumulated in Building 037. Subsequently, stagnant water was removed in Building 037. The observation was closed on 29 July 2016.

29 July 2016

- 1. CHEC was reminded to remove stagnant water accumulated at CUE works area. Subsequently, stagnant water was removed at CUE works area. The observation was closed on 12 Aug 2016.
- 2. CHEC was reminded to remove stagnant water accumulated in Building 042. Subsequently, stagnant water was removed in Building 042. The observation was closed on 12 Aug 2016.

05 Aug 2016

1. CHEC was reminded to remove stagnant water accumulated at CUE works area. Subsequently, stagnant water was removed at CUE works area. The observation was closed on 12 Aug 2016.

12 Aug 2016

1. CHEC is reminded to remove stagnant water on site. Subsequently, stagnant water was removed on site. The observation was closed on 19 Aug 2016.

19 Aug 2016

Room 723 & 725, 7/F, Block B, Profit Industrial Building,

: (852)-24508238 Tel 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508032 Fax Email: mcl@fugro.com Hong Kong.



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1. CHEC was reminded to provide drip tray for chemical containers on site. Subsequently, chemical containers were removed on site. The observation was closed on 26 Aug 2016.

26 Aug 2016

- 1. CHEC was reminded to increase watering for dust suppression on site. Follow-up actions for outstanding observation will be checked in the upcoming site inspections and reported in the coming reporting period.
- 2. CHEC was reminded to remove general refuse accumulated at A2 Bridge area. Follow-up actions for outstanding observation will be checked in the upcoming site inspections and reported in the coming reporting period.

The Contractor has rectified most of the observations as identified during environmental site inspections during the reporting period. Follow-up actions for outstanding observations will be inspected during the next site inspections.

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com



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Appendix G

Waste Flow Table



Contract No. HY/2013/03
Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities
- Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Monthly Summary of Waste Flow Table for 2016 (year)

Name of Person completing the Record: Marko Chan

	Actual Qu	Actual Quantities of Non-inert C&D Wastes Generated Monthly				ted Monthly				
Month	Total Quantity Generated	Broken Concrete	Reused in the Contract	Reused in other	Disposed as Public Fill	Metals	Paper/ cardboard	Plastics	Chemical Waste	Others, e.g. general
		(see Note 1)		Projects			packaging	(see Note 2)		refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000m ³)
Jan	0.000	0	0	0	0.000	0	0.992	0	0	0.073
Feb	0.000	0	0	0	0.000	0	0	0	0	0.093
Mar	0.087	0	0	0	0.087	0	0.392	0	0	0.200
Apr	0.184	0	0	0	0.184	0	0.411	0	0	0.224
May	0.203	0	0	0	0.203	0	0	0	0	0.293
Jun	0.244	0	0	0	0.244	0	0.413	0	0	0.322
Jul	2.429	0	0	0	2.429	0	0	0	0	0.312
Aug	0.057	0	0	0	0.057	0	0	0	0	0.288
Sept										
Oct										
Nov										
Dec										
Total	3.204	0.000	0.000	0.000	3.204	0.000	2.208	0.000	0.000	1.805

Notes: (1) Broken concrete for recycling into aggregates.

(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

Monthly Summary of Excavated Marine Sediment for 2016 (year)

Month	Total Quantity of Excavated Marine Sediment Generated	Reused in this contract	Reused in other Projects	Disposed of at CMP
	in '000m ³	in '000m ³	in '000m ³	in '000m ³
Jan	1.950	0	0	1.950
Feb	2.328	0	0	2.328
Mar	2.464	0	0	2.464
Apr	5.602	0	0	5.602
May	0	0	0	0
Jun	4.584	0	0	4.584
Jul	10.728	0	0	10.728
Aug	1.544	0	0	1.544
Sep				
Oct				
Nov				
Dec				
Total	29.200	0.000	0.000	29.200

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com



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Appendix H

Environmental Licenses and Permits

Appendix H - Environmental Permit / Licences Summary for Contract No. HY/2013/03

T4	Damaid/Liaman Davidondian	D	XX7	Angliadian Data	Janua Data	Valid	Date	C4 - 4	Remark
Item	Permit/Licence Registration	Permit No.	Work Area	Application Date	Issue Date	From	То	Status	
1	Environmental Permit Pursuant to Environmental Impact Assessment Ordinance	EP-353/2009/K	НКВСГ	24-Mar-16	11-Apr-16	11-Apr-16	Nil	Valid	
2	Notification Pursuant to Section 3(1) of The Air Pollution Control (Construction Dust) Regulation	Ref No. 387703	Main Site Area	15-Apr-15	15-Apr-15	15-Apr-15	Nil	Valid	
3	Notification Pursuant to Section 3(1) of The Air Pollution Control (Construction Dust) Regulation	Ref No. 387735	Works Area WA3	15-Apr-15	15-Apr-15	15-Apr-15	Nil	Valid	
4	Billing A/C for Construction Waste Disposal Pursuant to Section 6 & 9 of the Waste Disposal (Charges for Disposal of Construction waste) Regulation	A/C No. 7022228	Main Site Area, WA3 & 4	15-Apr-15	06-May-15	06-May-15	Nil	Valid	
5	Registration as Waste Producer Pursuant to Waste Disposal (Chemical Waste) (General) Regulation	5213-951-C1186-28	Main Site Area	28-Apr-15	01-Jun-15	01-Jun-15	Nil	Valid	
6	Registration as Waste Producer Pursuant to Waste Disposal (Chemical Waste) (General) Regulation	5213-974-C3597-03	Works Area WA4	28-Apr-15	01-Jun-15	01-Jun-15	Nil	Valid	
7	Water Discharge License Pursuant to Water Pollution Control Ordinance (Cap 358)	WT00022180-2015	Works Area WA3	29-Apr-15	04-Aug-15	03-Aug-15	31-Aug-20	Valid	
8	Water Discharge License Pursuant to Water Pollution Control Ordinance (Cap 358)	WT00022391-2015	Main Site Area	06-May-15	04-Sept-15	04-Sept-15	30-Sept-20	Valid	
9	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	PP-RS0009-16	Portion G	02-Mar-16	16-Mar-16	21-Mar-16	20-Jul-16	Expired	
10	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0244-16	Main Site Area	03-Mar-16	17-Mar-16	18-Mar-16	18-Jun-16	Expired	
11	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0249-16	Main Site Area	03-Mar-16	17-Mar-16	19-Mar-16	18-Jun-16	Superseded	
12	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0269-16	Floating Concrete Batching Plant	03-Mar-16	17-Mar-16	19-Mar-16	18-Jun-16	Superseded	
13	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0348-16	Main Site Area	29-Mar-16	12-Apr-16	15-Apr-16	14-Jul-16	Superseded	
14	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0607-16	Main Site Area	02-Jun-16	16-Jun-16	19-Jun-16	18-Sep-16	Valid	

15	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0629-16	Floating Concrete Batching Plant	02-Jun-16	16-Jun-16	19-Jun-16	18-Dec-16	Superseded
16	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0639-16	Main Site Area	02-Jun-16	16-Jun-16	15-Jul-16	14-Oct-16	Superseded
17	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	PP-RS0020-16	Portion A, G & H	13-Jul-16	27-Jul-16	28-Jul-16	24-Jan-17	Valid
18	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0933-16	Main Site Area	18-Aug-16	01-Sept-16	05-Sept-16	31-Dec-16	Valid
19	Permit issued Under the Dumping at Sea Ordinance	EP/MD/17-029	East of Sha Chau (CMP Vd)	09-May-16	19-May-16	24-May-16	23-Jun-16	Expired
20	Permit issued Under the Dumping at Sea Ordinance	EP/MD/17-040	East of Sha Chau (CMP Vd)	31-May-16	13-Jun-16	14-Jun-16	13-Jul-16	Expired
21	Permit issued Under the Dumping at Sea Ordinance	EP/MD/17-062	East of Sha Chau (CMP Vd)	30-Jun-16	12-Jul-16	14-Jul-16	13-Aug-16	Expired
22	Permit issued Under the Dumping at Sea Ordinance	EP/MD/17-075	East of Sha Chau (CMP Vd)	27-Jul-16	05-Aug-16	14-Aug-16	31-Aug-16	Expired
23	Permit issued Under the Dumping at Sea Ordinance	EP/MD/17-088	East of Sha Chau (CMP Vd)	16-Aug-16	26-Aug-16	01-Sept-16	30-Sept-16	Valid

Room 723 & 725, 7/F, Block B,

Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Tel Fax Hong Kong.

: (852)-24508238 : (852)-24508032 Email : mcl@fugro.com



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Appendix I

Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong.

: (852)-24508238 : (852)-24508032 Tel Fax Email : mcl@fugro.com



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Appendix I -

Statistics on Environmental Complaints, Notifications of Summons and Successful **Prosecutions**

	Cumulative Statistics							
Reporting Period	Complaints	Notifications of	Successful					
		Summons	Prosecutions					
This reporting period	0	0	0					
From commencement	1	0	0					
date of construction to								
end of reporting period								