



中國港灣工程有限責任公司

香港代表： 振華工程有限公司

CHINA HARBOUR ENGINEERING COMPANY LIMITED
HONG KONG REPRESENTATIVE: ZHEN HUA ENGINEERING CO., LTD.

Date : 24 August 2017
Our Ref. : CHEC300/OUT/2017/08/04.05/029983

By Hand

AECOM Asia Company Limited
8/F Grand Central Plaza
Tower 2, 138 Shatin Rural Committee Road
Shatin, Hong Kong

Attn: Mr. Ng Wang Shek
The Engineer's Representative

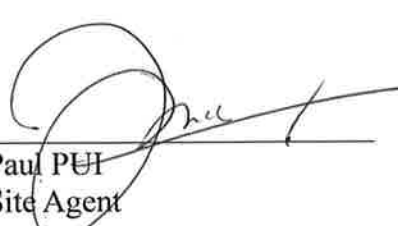
Dear Sir,

Contract No. HY/2013/03
Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities –
Vehicle Clearance Plazas and Ancillary Buildings and Facilities
EP Condition 5.4 – Monthly EM&A Report (July 2017)

Pursuant to the Condition 5.4 of the EP-353/2009/K, we are pleased to submit one soft copy and three hard copies of the certified Monthly EM&A Report (Rev.4) for July 2017 for your on-ward submission.

Thank you for your kind attention.

Yours faithfully,
For and on behalf of
China Harbour Engineering Co. Ltd.


Paul PUI
Site Agent

PP/FH/MC/mt

Encl.



24 August 2017

By Fax (3468 2076) and By Post

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

Attention: Mr. W.S. Ng

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
Monthly Environmental Monitoring & Audit Report for July 2017**

Reference is made to the Environmental Team's submission of Monthly Environmental Monitoring & Audit Report for July 2017 (Rev. 4) certified by the ET Leader (ET's ref.: "MCL/ED/0477/2017/D" dated 19 August 2017) and provided to us via e-mail on 24 August 2017.

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

It was noted that the marine travel route from HKBCE to WDII project for delivery of surcharge material, which was not included in the approved Marine Travel Route Plan, was conducted in July 2017. The Engineer, ET Leader and Contractor are reminded to ensure the implementation of the approved Marine Travel Route Plan as per EP Condition 2.8, and update the plan for any new travel routes proposed and obtain the EPD's approval prior to implementation to comply with EP Condition 1.9.

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

Q:\Projects\HYDHZMBEEM00\02_Proj_Mgt\02_Corr\HYDHZMBEEM00_0_5744L.17.doc

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

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Website : www.materialab-consultant.com

Date 19 August 2017
Our Ref. MCL/ED/0477/2017/D

Ramboll Environ Hong Kong Limited
(formerly ENVIRON Hong Kong Limited)
21/F, BEA Harbour View Centre
56 Gloucester Road, Wan Chai
Hong Kong

BY HAND

Attn.: Mr. Raymond Dai, IEC

Dear Sir,

**EP Condition 5.4 – Monthly EM&A Report for
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 Condition 5.4 of the Environmental Permit (EP-353/2009/K) for the captioned project, we are pleased to submit the certified Monthly EM&A Report for July 2017 (Rev. 4) for your verification.

Should you require further information, please do not hesitate to contact our Miss Jamie Tam at 3565 4157 or the undersigned at 3565 4115.

Yours faithfully,
for and on behalf of
MATERIALAB CONSULTANTS LIMITED



Arthur Cheng
Environmental Team Leader

AC/jt

c.c. AECOM – Mr. P.K. Lee, Mr. W.S. Ng, Mr. Dominic Mow
RAMBOLL ENVIRON – Mr. Ray Yan, Mr. Andy Wong
CHEC – Mr. Marko Chan



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Report No.: 0165/15/ED/0867

**MONTHLY ENVIRONMENTAL MONITORING & AUDIT
REPORT (Rev. 4)**

July 2017

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/0867

Prepared by: Jamie Tam

Reviewed by: Bong Yu

Certified by:


Arthur Cheng
Environmental Team Leader

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The logo for MaterialLab, featuring the word "MaterialLab" in a bold, sans-serif font. The text is white and is set against a dark, rectangular background that has a horizontal line above and below it, creating a framed effect.

Report No.: 0165/15/ED/0867

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Report No.: 0165/15/ED/0867

EXECUTIVE SUMMARY

This Monthly 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" (includes the construction works of Contract No. HY/2013/06 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Automatic Vehicle Clearance Support System" within Contract No. HY/2013/03 works area) (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR). Contract No. HY/2013/03 was awarded to China Harbour Engineering Co. Limited (construction works of Contract No. HY/2013/06 was awarded to ATAL Technologies Limited within Contract No. HY/2013/03 works area) (hereafter referred to as "the Contractor") and Materialab Consultants Limited (MCL) was appointed as the Environmental Team (ET) by the Contractor.

Contract No. HY/2013/03 (includes the construction works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) 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 Contract No. HY/2013/03 took place on 10 April 2015 while the construction works and the EM&A programme of Contract No. HY/2013/03 commenced on 29 August 2015 (commencement of Contract No. HY/2013/06 took place on 14 August 2015 while the construction works and the EM&A programme of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area commenced on 13 September 2016).

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 23rd Monthly EM&A Report for the Contract which summaries findings of the EM&A programme during the reporting period from 1 July 2017 to 31 July 2017 (includes the findings of the EM&A programme of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area during the reporting period from 1 July 2017 to 31 July 2017) (the "reporting period"). The monthly EM&A programme was undertaken in accordance with the Updated EM&A Manual for HKBCF (Version 1.0). It should be noted that the air quality and noise monitoring works for the Contract are covered by Contract No. HY/2010/02 "Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works" and Contract No. HY/2011/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF". The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 and AMS7, noise monitoring at NMS2 and NMS3B, water quality monitoring at the locations shown in **Figure 3** and ecological monitoring as shown in **Figure 4** as part of EM&A programme if these monitoring stations are no longer covered under Contract No. HY/2010/02 and HY/2011/03. However, this is subject to ENPO's final decision on which ET should carry out the monitoring work at these stations.

The dates of site inspection for Contract No. HY/2013/03 (includes Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) during the reporting period are listed below:

Environmental Site Inspection: 6, 13, 21 and 27 July 2017.

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Breaches of Action and Limit Levels

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

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

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

There were two Action Level exceedances of suspended solids recorded at station SR3 during mid-ebb tide on 12 July 2017 and station IS7 during mid-flood tide on 14 July 2017. After investigation, it was concluded that the two exceedances were not relevant to Contract No. HY/2013/03. The investigation reports 002 & 003 (including the causes of exceedance, action taken and recommendation for mitigation) for Action or Limit Level Non-compliance were provided in **Appendix J**. There was no Action and Limit Level exceedance recorded on other monitoring dates at the monitoring stations shown as shown at **Table 4.1** by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

Ecological monitoring results at all transects are reported in the EM&A report prepared by Contract No. HY/2010/02.

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.

Future Key Issues

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

For Contract No. HY/2013/03

1. Building at Portion A1, B, G, N, J, STP & Pumping Stations;
2. CUE Construction at Portion B, C & J;
3. Drainage & Sewerage Work, Water Main & Cable Duct at Portion B, H1, H2, J, P, G & A1;
4. Radiation Screen Wall at Portion B, E, P, N, M, C;
5. Sign Gantry Footing at Portion B;
6. Sewerage Pumping Station, High Mast Lighting Foundation & Box Culvert C at Portion G;
7. Bridge Works at A1 to A9;
8. Site Foundation Works at Portion K;
9. Cover Walkway at Portion H1 & H2;
10. Box Culvert B at Portion N; Shuttle kiosk & Subway at Portion E;
11. Deployment, maintenance and inspection of silt curtain; and

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12. Construction of water outfall of box culvert.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area

1. Conduits, Wiring & display panel installation at Building 037 and CUE works area.

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1. INTRODUCTION

1.1 Background

1.1.1 MaterialLab Consultants Limited was commissioned by China Harbour Engineering Co. Limited (also referred to as "the Contractor") to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for Contract No. HY/2013/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Vehicle Clearance Plazas and Ancillary Buildings and Facilities" (includes the construction works of Contract No. HY/2013/06 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Automatic Vehicle Clearance Support System" within Contract No. HY/2013/03 works area) ("the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR).

1.1.2 Contract No. HY/2013/03 (includes the construction works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) is part of Hong Kong–Zhuhai–Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) which is "Designated Projects", under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (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. The general layout of the Project area is shown in **Appendix A**.

1.1.3 This is the twenty-third EM&A report to document the findings of site inspection activities and EM&A programme carried out by the Contractor of Contract No. HY/2013/03 (includes the construction works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) from 1 July 2017 to 31 July 2017 (reporting period) under Contract No. HY/2013/03 (from 1 July 2017 to 31 July 2017 for the construction works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) and is submitted to fulfil Condition 5.4 of the EP.

1.2 Project Description

1.2.1 The works to be executed under Contract No. HY/2013/03 include the following major items:

- a. Cargo clearance facilities including kiosks for clearance of good vehicles, customs inspection platforms, X-ray building, etc.;
- b. Passenger related facilities including processing kiosks and examination facilities for private cars and coaches, annexure for examination of accompanying passengers of private cars, etc.;
- c. Accommodation/offices for the facilities (like fire station, police station, buildings for Immigration Department [ImmD], Hong Kong Customs and Excise Department [C&ED], Agriculture, Fisheries and Conservation Department [AFCD], Food and Environmental Hygiene Department [FEHD], Department of Health [DofH] etc.) of the Government departments providing services in connection with the HKBCF;
- d. Provision of transport and miscellaneous facilities inside the HKBCF including public transport interchange (PTI), transport drop-off and pick-up areas, vehicle holding areas, passenger queuing areas, road networks, footbridges, fencing, sewerage and drainage systems, sewage treatment plant and treated effluent disposal facilities, water supply system, building services works, electronic system, and traffic control and information system including traffic control and surveillance system (TCSS), etc.;

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- e. Provision of roads connecting the BCF to the Hong Kong Link Road (HKLR), the Tuen Mun – Chek Lap Kok Link (TM-CLKL) and the Hong Kong International Airport (HKIA), expect the part of road works in HKIA entrusted to the HKLR project; and
- f. Reprovisioning of the affected HKIA's facilities, expect those affected by the Automated People Mover (APM) system such as the existing east rescue berth.

1.2.2 The works to be executed under Contract No. HY/2013/06 within Contract No. HY/2013/03 works area include the following major items:

- a. The Automatic Vehicle Clearance Support System amid to increasing traffic flow for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities;
- b. Responsible for designs and develops a set of tailor-made computer monitoring and control systems to for daily security operation; and
- c. The Clearance Workstations at 72 vehicle clearance kiosks, Customs and Excise's inbound and outbound traffic control centers as well as a Vehicle Tracking System.

1.3 Project Organisation

1.3.1 The Project Organisation for Environmental Works of Contract No. HY/2013/03 is shown in **Appendix B**. The contact person and telephone numbers of key personnel for the captioned project are shown in **Table 1.1**:

Table 1.1 Contact Persons and Telephone Numbers of Key Personnel (for Contract No. HY/2013/03)

Party	Position	Contact Person	Telephone No.	Fax No.
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Mr. W. S. Ng	3958 7400	3902 8800
Environmental Project Office / Independent Environmental Checker (Ramboll Environ Hong Kong Limited)	Environmental Project Office Leader	Mr. Y. H. Hui	3547 2133	3465 2899
	Independent Environmental Checker (IEC)	Mr. Raymond Dai	3465 2888	3465 2899
	Environmental Site Supervisor	Mr. Ray Yan	5181 8165	3465 2899
Contractor (China Harbour Engineering Co. Ltd)	Site Agent	Mr. Paul Pui	9125 0700	2512 0427
	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	--

1.3.2 The Project Organisation for Environmental Works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area is shown in **Appendix B**. The contact person and telephone numbers of key personnel for the captioned project are shown in **Table 1.2**:

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Table 1.2 Contact Persons and Telephone Numbers of Key Personnel (for Contract No. HY/2013/06 within Contract No. HY/2013/03 works area)

Party	Position	Contact Person	Telephone No.	Fax No.
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Mr. W. S. Ng	3958 7400	3902 8800
Environmental Project Office / Independent Environmental Checker (Ramboll Environ Hong Kong Limited)	Environmental Project Office Leader	Mr. Y. H. Hui	3547 2133	3465 2899
	Independent Environmental Checker (IEC)	Mr. Raymond Dai	3465 2888	3465 2899
	Environmental Site Supervisor	Mr. Ray Yan	5181 8165	3465 2899
Contractor (ATAL Technologies Limited)	Site Agent	Mr. Eric Yim	2565 3355	3162 5217
	Environmental Officer	Mr. W. Li	2565 3137	3162 5217
Environmental Team (Materialab Consultants Limited)	Environmental Team Leader (ETL)	Mr. Arthur Cheng	3565 4115	2450 8032
24-hr Complaint Hotline	--	--	6509 0375	--

1.3.3 The Contract HY/2013/03 has commenced on 10 April 2015. The commencement of construction works and the EM&A programme have commenced on 29 August 2015.

1.3.4 The Contract HY/2013/06 has commenced on 14 August 2015. The commencement of construction works and the EM&A programme have commenced on 13 September 2016 within Contract No. HY/2013/03 works area.

1.4 Construction Programme

1.4.1 The construction programme for Contract No. HY/2013/03 (includes the construction works of HY/2013/06 within Contract No. HY/2013/03 works area) are provided in **Appendix C**.

1.5 Construction Works Undertaken during the Reporting Period

1.5.1 The construction works of Contract No. HY/2013/03 commenced on 29 August 2015 (includes the construction works of Contract No. HY/2013/06 commenced on 13 September 2016 within Contract No. HY/2013/03 works area). During this reporting period, the following major site activities were commenced:

For Contract No. HY/2013/03

1. Building at Portion A1, B, G, N, J, STP & Pumping Stations;
2. CUE Construction at Portion B, C & J;
3. Drainage & Sewerage Work, Water Main & Cable Duct at Portion B, H1, H2, J, P, G & A1;
4. Radiation Screen Wall at Portion B, E P, N,M,C;
5. Sign Gantry Footing at Portion B;
6. Sewerage Pumping Station, High Mast Lighting Foundation & Box Culvert C at Portion G;
7. Bridge Works at A1 to A9;

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8. Site Foundation Works at Portion K;
9. Cover Walkway at Portion H1 & H2;
10. Box Culvert B at Portion N; Shuttle kiosk & Subway at Portion E;
11. Deployment, maintenance and inspection of silt curtain; and
12. Construction of water outfall of box culvert.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area

1. Conduits & Wiring installation at Building 037 and CUE works area.

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2. AIR QUALITY MONITORING

2.1 Monitoring Locations

2.1.1 The air quality monitoring works for the Contract are covered by Contract No. HY/2010/02 "Hong Kong-Zhuhai-Macao-Bridge HKBCF – Reclamation Works" and Contract No. HY/2011/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF". The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 and AMS7 as part of EM&A programme if these air quality monitoring stations are no longer covered under Contract No. HY/2010/02 and HY/2011/03. **Figure 1** shows the locations of air monitoring stations.

Table 2.1 Air Quality Monitoring Location

Air Monitoring Station	Location
AMS6	Dragonair/CNAC (Group) Building (A80)
AMS7	Hong Kong SkyCity Marriott Hotel

2.2 Monitoring Requirements

2.2.1 The monitoring requirements, equipment, parameters, frequency and duration, methodology, schedule, and meteorological information are described in the monthly EM&A Reports prepared for Contract No. HY/2010/02 and HY/2011/03.

2.2.2 The Action and Limit levels for 1-hr TSP and 24-hr TSP are summarized in **Table 2.2**.

Table 2.2 Action and Limit Levels for Air Quality

Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
1 hour TSP		
AMS6	360	500
AMS7	370	
24 hours TSP		
AMS6	173	260
AMS7	183	

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

2.2.4 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 monthly EM&A Report.

2.3 Monitoring Results

2.3.1 The monitoring results for AMS6 and AMS7 are reported in the monthly EM&A Reports prepared for Contract No. HY/2011/03 and HY/2010/02 respectively.

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

2.3.3 There was no Action and Limit Level exceedances 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.

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3. NOISE MONITORING

3.1 Monitoring Locations

- 3.1.1 The noise monitoring works for the Contract are covered by Contract No. HY/2010/02 "Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works". The ET of the Contract or another ET of the HZMB project is required to conduct noise monitoring at NMS2 and NMS3B as part of EM&A programme if these monitoring stations are no longer covered under Contract No. HY/2010/02. **Figure 2** shows the locations of noise monitoring stations.

Table 3.1 Construction Noise Monitoring Location

ID No.	Description
NMS2	Seaview Crescent
NMS3B	Site Boundary of Site Office Area at WA2

3.2 Monitoring Requirements

- 3.2.1 The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology and monitoring schedule are detailed in the monthly EM&A Reports prepared for Contract No. HY/2010/02.
- 3.2.2 The Action and Limit Levels for construction noise are defined in **Table 3.2**.

Table 3.2 Action and Limit Level for Construction Noise

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

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

3.3 Monitoring Results

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

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4. WATER QUALITY MONITORING

4.1 Monitoring Locations

- 4.1.1 The water monitoring works for the Contract are covered by Contract No. HY/2010/02 "Hong Kong-Zhuhai-Macao-Bridge HKBCF – Reclamation Works". The ET of the Contract or another ET of the HZMB project is required to conduct impact water quality monitoring at the stations shown in **Table 4.1** and **Figure 3**.

Table 4.1 Water Quality Monitoring Stations

Station	Description	East	North
IS5	Impact Station (Close to HKBCF construction site)	811579	817106
IS(Mf)6	Impact Station (Close to HKBCF construction site)	812101	817873
IS7	Impact Station (Close to HKBCF construction site)	812244	818777
IS8	Impact Station (Close to HKBCF construction site)	814251	818412
IS(Mf)9	Impact Station (Close to HKBCF construction site)	813273	818850
IS10(N)	Impact Station (Close to HKBCF construction site)	812569	821475
IS(Mf)11	Impact Station (Close to HKBCF construction site)	813562	820716
IS(Mf)16	Impact Station (Close to HKBCF construction site)	814328	819497
IS17	Impact Station (Close to HKBCF construction site)	814539	820391
SR3	Sensitive receivers (San Tau SSSI)	810525	816456
SR4(N)	Sensitive receivers (Tai Ho)	814705	817859
SR5(N)	Control Station	812569	821475
SR6	Sensitive receivers (Sha Chau and Lung Kwu Chau Marine Park)	805837	821818
SR7	Sensitive receivers (Tai Mo Do)	814293	821431
SR10A ⁽¹⁾	Sensitive receivers(Ma Wan FCZ) 1	823741	823495
SR10B(N) ⁽¹⁾	Sensitive receivers(Ma Wan FCZ) 2	823683	823187
CS(Mf)3(N)	Control Station	808814	822355
CS(Mf)5	Control Station	817990	821129
CS4	Control Station	810025	824004
CS6	Control Station	817028	823992
CSA ⁽²⁾	Control Station	818103	823064

Note:

⁽¹⁾ Additional monitoring station for Ma Wan FCZ

⁽²⁾ Additional control monitoring station for Ma Wan FCZ

Remarks:

The ET of the Contract should conduct impact water quality monitoring at the WQMs listed in the table as part of EM&A programme according to latest notification from ENPO if water quality monitoring is no longer covered by another ET of the HZMB project. The ET of the Contract shall communicate and share the monitoring data to the ET(s) of the other contracts if the water quality monitoring station(s) is/are as part of EM&A programme.

4.2 Monitoring Requirements

- 4.2.1 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 by Contract No. HY/2010/02.
- 4.2.2 The event and action plan is provided in **Appendix D**.
- 4.2.3 The Action and Limit Levels for Water Quality are provided in **Table 4.2**.

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Table 4.2 Action and Limit Levels for Water Quality

Parameters	Action	Limit
DO in mg/L (Surface, Middle & Bottom)	Surface and Middle 5.0 Bottom 4.7	Surface and Middle = 4.2 (except 5 mg/L for FCZ) Bottom = 3.6
SS in mg/L (depth-averaged) at all monitoring stations and control stations	23.5 and 120% of upstream control station's SS at the same tide of the same day*	34.4 and 130% of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes*
Turbidity in NTU (depth-averaged)	27.5 and 120% of upstream control station's turbidity at the same tide of the same day*	47.0 and 130% of upstream control station's turbidity at the same tide of the same day*

* Remarks: Reference is made to EPD approval of adjustment of water quality assessment criteria issued and became effective on 18 February 2013.

Notes:

1. "depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
3. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
4. All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered as necessary.
5. The 1%-ile of baseline data for dissolved oxygen (surface and middle) and dissolved oxygen (bottom) are 4.2mg/L and 3.6mg/L respectively.

4.2.4 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 monthly EM&A Report.

4.3 Monitoring Results

4.3.1 The monitoring results for the monitoring stations shown in **Table 4.1** are reported in the monthly EM&A Report prepared for Contract No. HY/2010/02. There were two Action Level exceedances of suspended solids recorded at station SR3 during mid-ebb tide on 12 July 2017 and station IS7 during mid-flood tide on 14 July 2017. After investigation, it was concluded that the two exceedances were not relevant to Contract No. HY/2013/03.

4.3.2 Regarding the exceedance on 12 July 2017, marine-based construction works were undertaken in Box Culvert B and there was one derrick lighter delivered sand to the work site of Three Runway Project on 12 July 2017 under Contract No. HY/2013/03. Both marine-based construction works and the route of marine transportation were far away from the concerned WQM station SR3. There was no notification of exceedance received at the WQM stations closer to the marine-based construction works areas, such as IS(Mf)11, IS10, IS17 and SR7. Besides, the SS exceedance was recorded at 13:49. The derrick lighter was deposited at HKBCF from morning until 16:00. Therefore, it was unlikely to generate any suspended solids to cause the SS exceedance recorded at the concerned WQM station SR3 during mid-ebb tide on 12 July 2017. Besides, the water quality mitigation measures as mentioned in EM&A Manual and EP were fully implemented in Contract No. HY/2013/03. Hence, the exceedance on 12 July 2017 was not related to Contract No. HY/2013/03.

4.3.3 Regarding the exceedance on 14 July 2017, marine-based construction works were undertaken in Box Culvert B and there were two derrick lighters delivered sand to the work site of Three Runway Project on 14 July 2017 under Contract No. HY/2013/03. Both marine-based construction works and the routes of marine transportation were undertaken in the north side of HKBCF while the concerned WQM station IS7 was in the south-west side. As the concerned monitoring station was far away from both marine-based construction works and the routes of marine transportation and there was no notification of exceedance received at the WQM

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stations closer to the works areas, such as IS(Mf)11, IS10, IS17 and SR7, it was unlikely to generate any suspended solids to cause the SS exceedance recorded at the concerned WQM station IS7 during mid-flood tide on 14 July 2017. Besides, the water quality mitigation measures as mentioned in EM&A Manual and EP were fully implemented in Contract No. HY/2013/03. Hence, the exceedance on 14 July 2017 was not related to Contract No. HY/2013/03.

4.3.4 After investigation, it was concluded that the exceedances were not related to Contract No. HY/2013/03 due to the above reasons. The investigation reports 002 & 003 (including the causes of exceedance, action taken and recommendation for mitigation) for Action or Limit Level Non-compliance were provided in **Appendix J**. There was no Action and Limit Level exceedance recorded on other monitoring dates at the monitoring stations shown as shown at **Table 4.1** by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

4.3.5 Although the exceedances were not relevant to Contract No. HY/2013/03, the Contractor was reminded to continue to fully maintain all water quality mitigation measures and ensure the silt curtain is fully maintained to prevent any water quality impact to seawater.

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5. ECOLOGY MONITORING

5.1 Monitoring Locations

5.1.1 The ecological monitoring works for the Contract are covered by Contract No. HY/2010/02 "Hong Kong-Zhuhai-Macao-Bridge HKBCF – Reclamation Works". The ET of the Contract or another ET of the HZMB project is required to conduct dolphin monitoring at 24 transects as part of EM&A programme if these transects are no longer covered under Contract No. HY/2010/02. The ecological monitoring should adopt line-transect vessel survey method. The survey follows pre-set and fixed transect lines in the two areas defined by AFCD as: Northeast Lantau survey area; and Northwest Lantau survey area. **Figure 4** shows the co-ordinates for the transect lines and layout map.

Remarks:

The ET of this Contract should conduct impact ecological monitoring as part of EM&A programme according to latest notification from ENPO when the monitoring transect(s) is/are no longer covered by another ET of the HZMB project.

5.2 Monitoring Requirements

5.2.1 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 by Contract No. HY/2010/02.

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

5.2.3 The Action and Limit Levels for Chinese White Dolphin Monitoring are provided in **Table 5.1(a)** & **Table 5.1(b)**.

Table 5.1(a) Action and Limit Levels for Chinese White Dolphin Monitoring - Approach to Define Action Level (AL) and Limit Level (LL)

	North Lantau Social Cluster	
	NEL	NWL
Action Level	(STG < 70% of baseline) & (ANI < 70% of baseline)	(STG < 70% of baseline) & (ANI < 70% of baseline)
Limit Level	[(STG < 40% of baseline) & (ANI < 40% of baseline)] AND [(STG < 40% of baseline) & (ANI < 40% of baseline)]	

For North Lantau Social Cluster, action level will be trigger if either NEL or NWL fall below the criteria; limit level will be triggered if both NEL and NWL fall below the criteria.

Table 5.2(b) Derived Value of Action Level (AL) and Limit Level (LL) for Chinese White Dolphin Monitoring

	North Lantau Social Cluster	
	NEL	NWL
Action Level	(STG < 4.2) & (ANI < 15.5)	(STG < 6.9) & (ANI < 31.3)
Limit Level	[(STG < 2.4) & (ANI < 8.9)] AND [(STG < 3.9) & (ANI < 17.9)]	

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

5.3 Monitoring Result

5.3.1 The dolphin survey results for all transects are reported in the monthly EM&A Reports prepared by Contract No. HY/2010/02.

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6. DISPOSAL OF MARINE SEDIMENT EXTRACTED FROM BORED PILING WORKS

6.1 Background

6.1.1 After the acceptance of the review of the approved Sediment Quality Report (SQR) for this Project under EPD letter dated 19 August 2015, an approval to dispose the marine sediment extracted from bored piling for this Project was then approved under memo from Secretary, Marine Fill Committee of CEDD dated 20 August 2015 for the disposal of marine sediment extracted from bored piling works. 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.

6.1.2 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 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).

6.2 Dumping Arrangements

6.2.1 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.

6.2.2 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.

6.3 Quantity Disposed

6.3.1 Marine sediment extracted from bored piling from this Contract was disposed to allocated dumping site in July 2017. The summary of marine sediment disposed up to end July 2017 is shown in the following table:

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Table 6.1 Summary of Marine Sediment Disposed to Dumping Site

Month/Year	Quantity disposed (in '000m ³)			Total
	HY/2013/02	HY/2013/03	HY/2013/04	
Jan 2016	1.272	1.950	0.800	4.022
Feb 2016	2.816	2.328	0.704	5.848
Mar 2016	0.600	2.464	3.942	7.006
Apr 2016	5.128	5.602	5.028	15.758
May 2016	0.000	0.000	0.000	0.000
Jun 2016	1.200	4.584	1.578	7.362
Sub-Total	11.016	16.928	12.052	39.996
Jul 2016	0.728	10.728	3.690	15.146
Aug 2016	1.784	1.544	4.428	7.756
Sep 2016	2.328	6.816	3.888	13.032
Oct 2016	1.096	2.376	5.286	8.758
Nov 2016	0.000	0.000	0.000	0.000
Dec 2016	1.568	4.960	2.538	9.066
Cat L in Dec 2016	0.000	2.792	3.570	6.362
Sub-Total	18.520	46.144	35.452	100.116
Jan 2017	0.000	0.656	6.552	7.208
Feb 2017	0.088	0.264	1.380	1.732
Mar 2017	0.000	0.000	0.000	0.000
Apr 2017	0.624	1.288	0.000	1.912
May 2017	0.000	1.440	0.000	1.440
June 2017	1.432	0.000	0.000	1.432
July 2017	0.000	0.000	0.000	0.000
Total	20.664	49.792	43.384	113.840

Note: All sediments are in Type II disposal method except Cat L (in Type I)

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7. ENVIRONMENTAL SITE INSPECTION AND AUDIT

7.1 Site Inspection

- 7.1.1 Site audits were carried out by ET on weekly basis to monitor the implementation of proper environmental management practices and mitigation measures in the Project site.
- 7.1.2 The joint site audits for Contract No. HY/2013/03 (includes Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) were conducted on 6, 13, 21, and 27 July 2017 by the representatives of Engineer, Contractor, ET and IEC (IEC for 21 July 2017).
- 7.1.3 Particular observations during the site inspection and corrective actions undertaken by the Contractor are described below:

For Contract No. HY/2013/03

30 June 2017

- 1. The Contractor was reminded to increase watering for dust suppression on site. Subsequently, watering was provided. The observation was closed on 6 July 2017.
- 2. The Contractor was reminded to improve housekeeping on site. Subsequently, housekeeping was removed. The observation was closed on 6 July 2017.
- 3. The Contractor was reminded to increase watering for dust suppression when drilling at A6 Bridge. Subsequently, watering was provided for dust suppression when drilling. The observation was closed on 6 July 2017.
- 4. The Contractor was reminded to remove stagnant water accumulated at the drip tray of a generator at CUE works area. Subsequently, stagnant water was removed. The observation was closed on 6 July 2017.

6 July 2017

- 1. The Contractor was reminded to remove general and construction waste accumulated at Building 037. Subsequently, general and construction waste were removed. The observation was closed on 13 July 2017.

13 July 2017

- 1. The Contractor was reminded to increase watering for dust suppression on site. Subsequently, watering was provided. The observation was closed on 21 July 2017.
- 2. The Contractor was reminded to remove stagnant water accumulated around Building 040. Subsequently, stagnant water was removed. The observation was closed on 21 July 2017.

21 July 2017

- 1. The Contractor was reminded to remove stagnant water accumulated at Building 037. Subsequently, stagnant water was removed. The observation was closed on 27 July 2017.
- 2. The Contractor was reminded to remove general waste accumulated at Building 037. Subsequently, general waste was removed. The observation was closed on 27 July 2017.
- 3. The Contractor was reminded to provide a label for NRMM found in A7 Bridge. Subsequently, a label was provided. The observation was closed on 27 July 2017.
- 4. The Contractor was reminded to provide covers for the opened cement bags in A7 Bridge. Subsequently, covers were provided. The observation was closed on 27 July 2017.

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27 July 2017

1. The Contractor was reminded to increase watering for dust suppression at Box Culvert B. Follow-up actions for outstanding observation will be checked in the upcoming site inspections and reported in the coming reporting period.
2. The Contractor was reminded to provide a label for a NRMM found in Portion P. Follow-up actions for outstanding observation will be checked in the upcoming site inspections and reported in the coming reporting period.
3. The Contractor was reminded to remove stagnant water accumulated in Portion P. Follow-up actions for outstanding observation will be checked in the upcoming site inspections and reported in the coming reporting period.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area

6 July 2017

1. Nil findings.

13 July 2017

1. Nil findings.

21 July 2017

1. Nil findings.

27 July 2017

1. Nil findings.

7.2 Advice on the Solid and Liquid Waste Management Status

- 7.2.1 The Contractor of Contract No. HY/2013/03 registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.
- 7.2.2 The monthly summary of waste flow table for Contract No. HY/2013/03 (includes Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) are detailed in **Appendix E**.
- 7.2.3 Contract No. HY/2013/03 has been assigned to arrange for delivery of surplus filling materials from Contract No. HY/2013/03 to other projects, including Tuen Mun - Chek Lap Kok Link (TM-CLKL) project of HZMB, the Airport Authority Hong Kong's Three Runway (3RS) Project, Wan Chai Development Phase II project and Hong Kong Link Road (HKLR) project of HZMB. The estimated quantity of surplus filling materials is confirmed by Resident Site Staff of Contract No. HY/2013/03. The summary of surplus filling materials delivered to other projects up to the end of July 2017 is shown in **Table 7.1**.

Table 7.1 Summary of Surplus Filling Materials Delivered from Contract No. HY/2013/03 to other projects

Month/Year	Density (in tonnes/m ³)	Quantity disposed (in '000m ³)				Total
		To TM-CLKL Project	To 3RS Project	To WDII Project	To HKLR Project	
May 2017	2.3	12.637	0	0	0	12.637
June 2017	2.63925	14.769	11.238	0	0	26.007
July 2017	/	4.651	38.207	10.606	0.760	54.224
Total	/	32.057	49.445	10.606	0.760	92.868

Remarks: The variation in density is due to different compositions of surplus filling materials

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7.2.4 0.000 (in'000m³) of excavated marine sediment (from Contract No. HY/2013/03), 30.339 (in'000m³) of Inert C & D Wastes and 1.448 (in'000m³) of Non-inert C & D Wastes were generated (from Contract No. HY/2013/03) in this reporting period. 54.224 (in'000m³) of Inert C & D Wastes were reused in other projects and 0.486 (in'000m³) of Inert C & D Wastes was disposed as public fill. No Inert C & D Wastes and 0.020 (in tonnes) of Non-inert C & D Wastes were generated (from Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) in this reporting period. 0.020 (in tonnes) metals were generated and recycled (from Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) in this reporting period.

7.2.5 The excavated marine mud from the land-based works was disposed of at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee. The Contractor of Contract No. HY/2013/03 shall ensure no spilling and overflowing of materials during loading / unloading / transportation is allowed.

7.2.6 The Contractor was reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packing, Labelling and Storage of Chemical Waste.

7.2.7 Contractor of Contract No. HY/2013/03'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.

7.3 Environmental Licenses and Permits

7.3.1 The valid environmental licenses and permits for Contract No. HY/2013/03 (includes Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) during the reporting period are summarized in **Appendix F**. The Contractor of Contract No. HY/2013/06 was advised to register as a chemical waste producer when chemical waste is expected to generate for the foreseeable future from the operations (For Registration as Waste Producer Pursuant to Waste Disposal (Chemical Waste) (General) Regulation).

7.4 Implementation Status of Environmental Mitigation Measures

7.4.1 In response to the site audit findings, the Contractor carried out corrective actions.

7.4.2 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in **Appendix G**. All necessary mitigation measures at this stage of works were implemented properly.

7.4.3 Implementation status of Regular Marine Travel Route Plan (RMTRP) was checked by ET. In general, the Contractor has complied with the plan. One route to WDII was scheduled which approval is pending. The Contractor is revising RMTRP with the route to WDII according to the comments given by IEC. The Contractor has been reminded to follow EP condition 1.9 to ensure the compliance in the submission of updated RMTRP prior to implementation. Training of marine travel route for marine vessels operator was given to relevant staff and relevant records were kept properly. The marine traffic records and geographical plots of all the vessels tracks to demonstrate the conformance of the vessel to the proposed route in July 2017 would be provided to ER, ETL, IEC/ENPO for checking within the month of August 2017.

7.4.4 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

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batching plants on-site to review on the compliance to this EP condition were checked. Under Contract No. HY/2013/03, no floating concrete batching plant was operated on-site during the reporting period.

- 7.4.5 As silt curtain was installed since May 2017, Dolphin Watching Plan (DWP) should be implemented. The status of silt curtain was reviewed by ET and there was no change on the status of silt curtain during the reporting period. Implementation status of DWP was checked by ET. The records of dolphin watching training, regular inspection of the silt curtains and visual inspection of waters surrounded by the silt curtain in July 2017 would be provided to ER, ETL, IEC/ENPO for checking within the month of August 2017.

7.5 Summary of Exceedance of the Environmental Quality Performance Limit

- 7.5.1 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.
- 7.5.2 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.
- 7.5.3 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.
- 7.5.4 There were two Action Level exceedances of suspended solids recorded at station SR3 during mid-ebb tide on 12 July 2017 and station IS7 during mid-flood tide on 14 July 2017. After investigation, it was concluded that the two exceedances were not relevant to Contract No. HY/2013/03. The investigation reports 002 & 003 (including the causes of exceedance, action taken and recommendation for mitigation) for Action or Limit Level Non-compliance were provided in **Appendix J**. There was no Action and Limit Level exceedance recorded on other monitoring dates at the monitoring stations shown as shown at **Table 4.1** by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- 7.5.5 Ecological monitoring results at all transects are reported in the EM&A report prepared by Contract No. HY/2010/02.

7.6 Summary of Complaints, Notification of Summons and Successful Prosecution

- 7.6.1 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 H**.
- 7.6.2 There was no notification for summons or prosecutions received in relation to the environmental impact during this reporting period.
- 7.6.3 Statistics on environmental complaints, notifications of summons and successful prosecutions are provided in **Appendix H**.

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Report No.: 0165/15/ED/0867

8. FUTURE KEY ISSUES

8.1 Construction Programme for the Coming Months

8.1.1 As informed by the Contractor, the following are the major construction activities anticipated in August 2017:

For Contract No. HY/2013/03

1. Building at Portion A1, B, G, N, J, STP & Pumping Stations;
2. CUE Construction at Portion B, C & J;
3. Drainage & Sewerage Work, Water Main & Cable Duct at Portion B, H1, H2, J, P, G & A1;
4. Radiation Screen Wall at Portion B, E, P, N, M, C;
5. Sign Gantry Footing at Portion B;
6. Sewerage Pumping Station, High Mast Lighting Foundation & Box Culvert C at Portion G;
7. Bridge Works at A1 to A9;
8. Site Foundation Works at Portion K;
9. Cover Walkway at Portion H1 & H2;
10. Box Culvert B at Portion N; Shuttle kiosk & Subway at Portion E;
11. Deployment, maintenance and inspection of silt curtain; and
12. Construction of water outfall of box culvert.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area

1. Conduits, Wiring & display panel installation at Building 037 and CUE works area.

8.2 Environmental Site Inspection Schedule for the Coming Month

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

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9. CONCLUSIONS

- 9.1 Commencement of Contract No. HY/2013/03 took place on 10 April 2015. The commencement date for construction works and the EM&A programme of Contract No. HY/2013/03 commenced on 29 August 2015 (commencement of Contract No. HY/2013/06 took place on 14 August 2015. The commencement date for construction works and the EM&A programme of Contract No. HY/2013/06 commenced on 13 September 2016 within Contract No. HY/2013/03 works area).
- 9.2 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.
- 9.3 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.
- 9.4 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.
- 9.5 There were two Action Level exceedances of suspended solids recorded at station SR3 during mid-ebb tide on 12 July 2017 and station IS7 during mid-flood tide on 14 July 2017. After investigation, it was concluded that the two exceedances were not relevant to Contract No. HY/2013/03. The investigation reports 002 & 003 (including the causes of exceedance, action taken and recommendation for mitigation) for Action or Limit Level Non-compliance were provided in **Appendix J**. There was no Action and Limit Level exceedance recorded on other monitoring dates at the monitoring stations shown as shown at **Table 4.1** by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- 9.6 Ecological monitoring results at all transects are reported in the EM&A report prepared by Contract No. HY/2010/02.
- 9.7 Environmental site inspections were carried out on 6, 13, 21 and 27 July 2017. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site inspections.
- 9.8 There were no complaints received in relation to the environmental impact during the reporting period.
- 9.9 There were no notifications of summons or prosecutions received during the reporting period.

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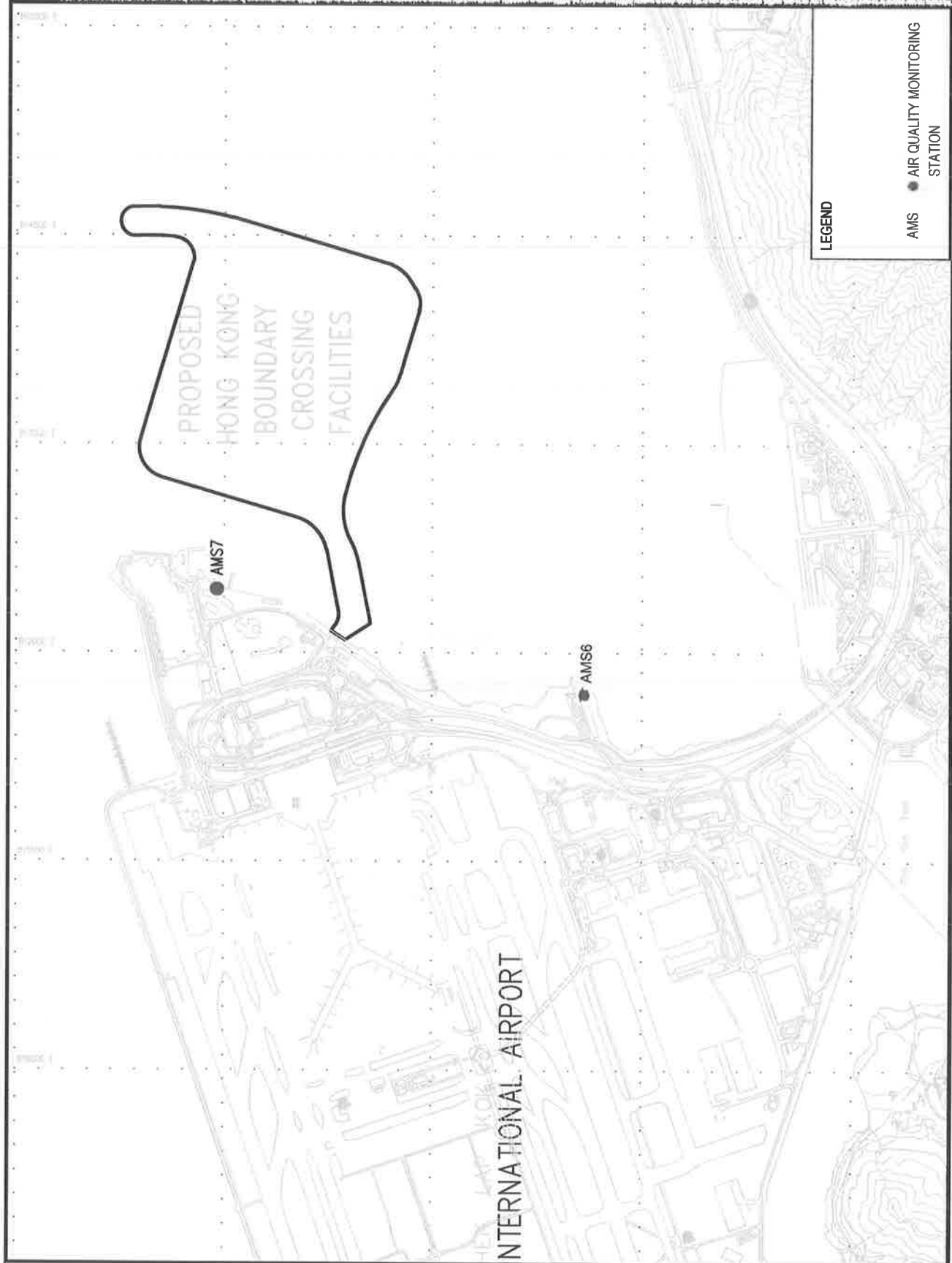
Report No.: 0165/15/ED/0867

Figure 1

Air Quality Monitoring Stations

LEGEND

- AMS ● AIR QUALITY MONITORING STATION



HONG KONG - ZHUZHAI - MACAO BRIDGE
- RECLAMATION WORKS
Project No. : -

AIR QUALITY AND NOISE
MONITORING STATIONS
FOR HKBCF



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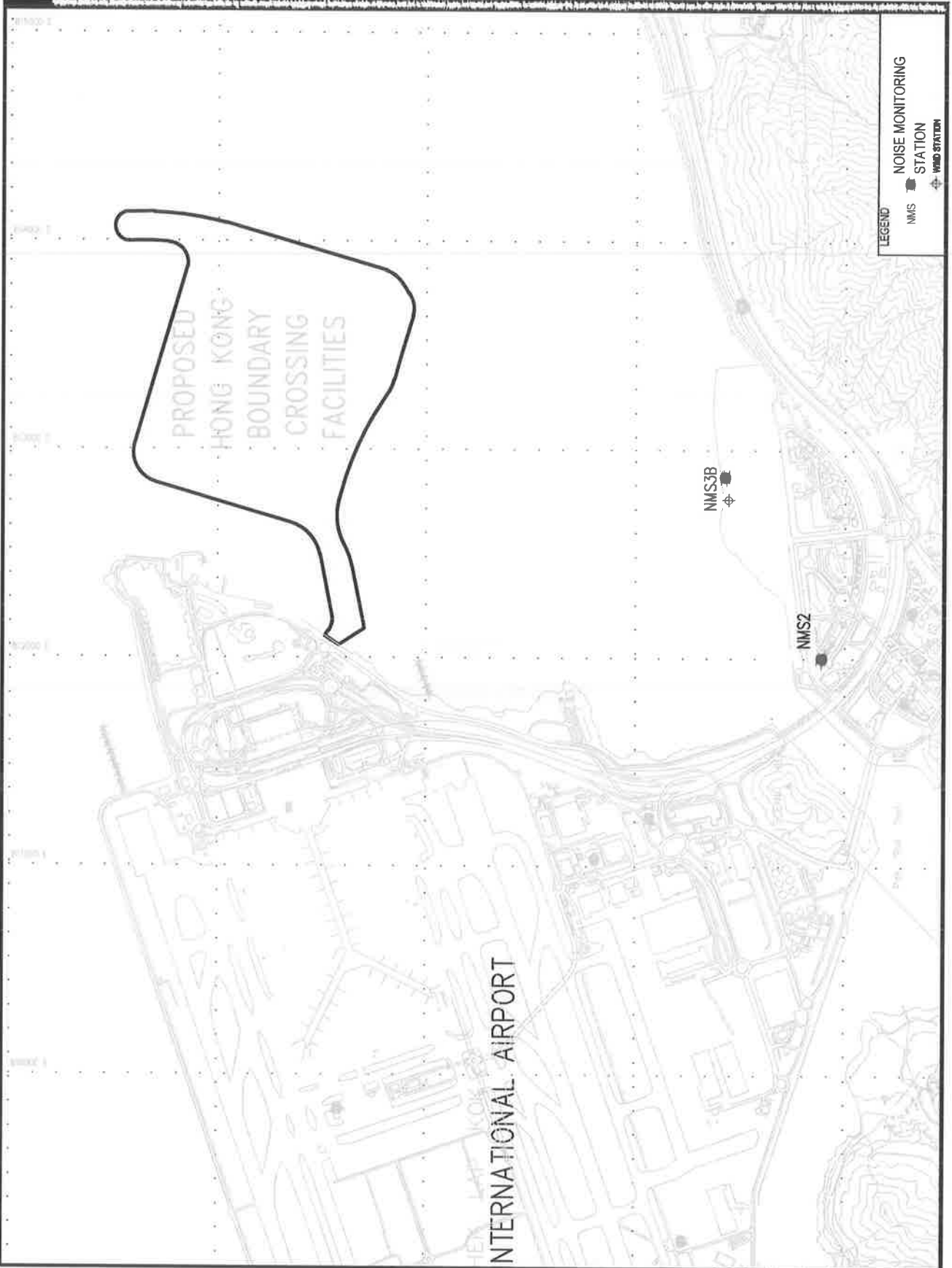
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Figure 2

Noise Monitoring Stations

LEGEND

- NOISE MONITORING STATION
- NMS
- WIND STATION



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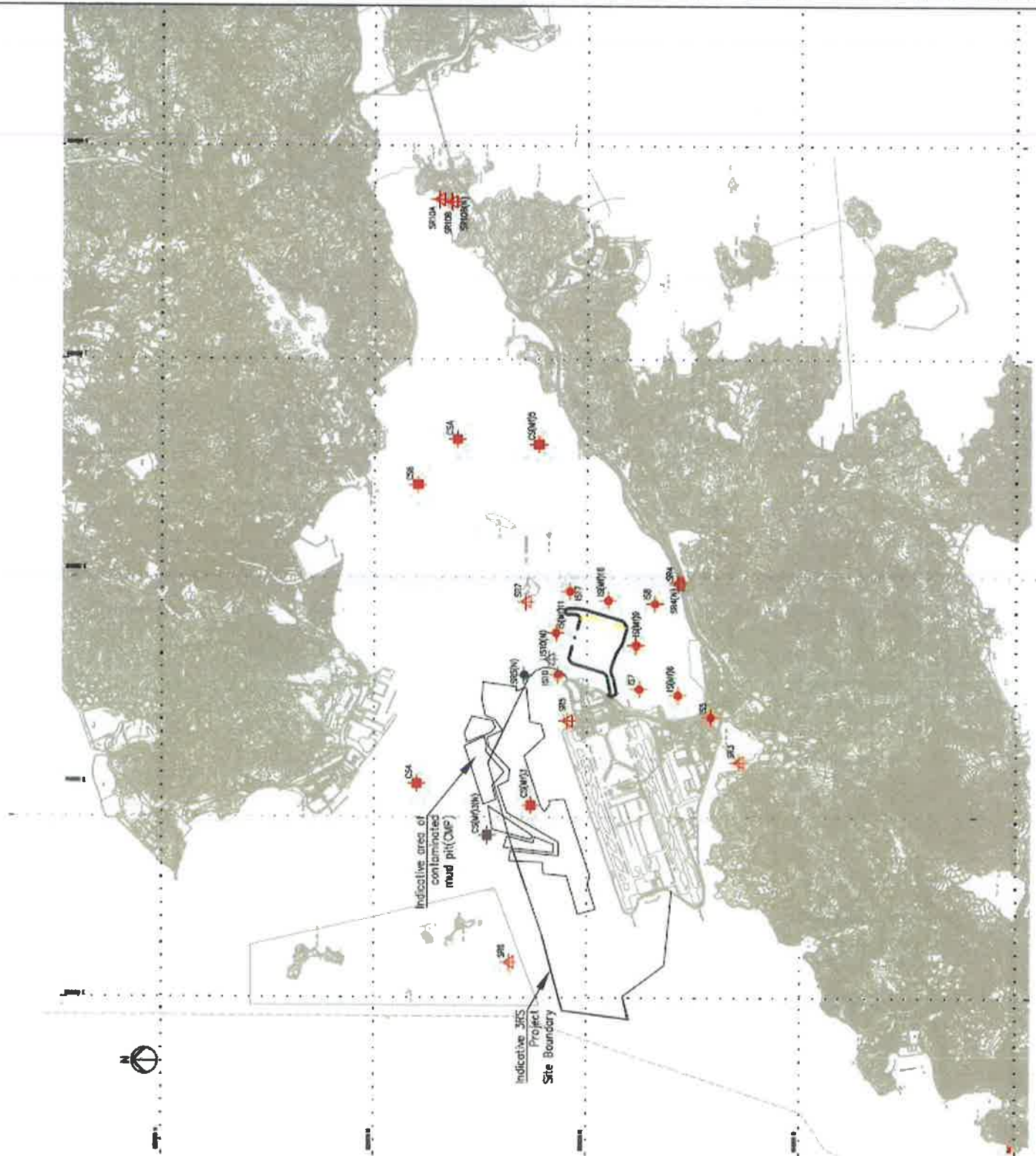
Figure 3

Water Quality Monitoring Stations

- LEGEND**
- IS
 - CS
 - SR
 - IS
 - SR
 - CS
- IMPACT STATIONS**
- CONTROL / FAR FIELD STATIONS**
- SENSITIVE RECEIVERS STATIONS**
- IMPACT STATIONS (RELOCATED)**
- SENSITIVE RECEIVERS STATIONS (RELOCATED)**
- CONTROL / FAR FIELD STATIONS (RELOCATED)**

SETTING OUT SCHEDULE

MONITORING STATIONS	CO-ORDINATES	
	EASTING	NORTHING
IS3	011879	017106
IS101/10	012100	017073
IS7	012244	016777
IS8	014251	016442
IS101/10	013273	016850
SR101/1	012586	024475
IS101/11	013362	020716
IS101/16	014208	016447
IS17	016539	020281
SR3	016625	016468
SR101/1	014705	017859
IS101/1	012842	020681
SR6	005537	027688
SR7	014293	021431
SR101/1	023719	022485
SR101/1	023580	023387
CS101/10	008894	023355
CS101/1	017399	021129
CS4	010025	024094
CS8	017628	023992
CSA	016103	023064
IS10	012577	020079
SR5	014169	020455
CS101/1	009289	021117



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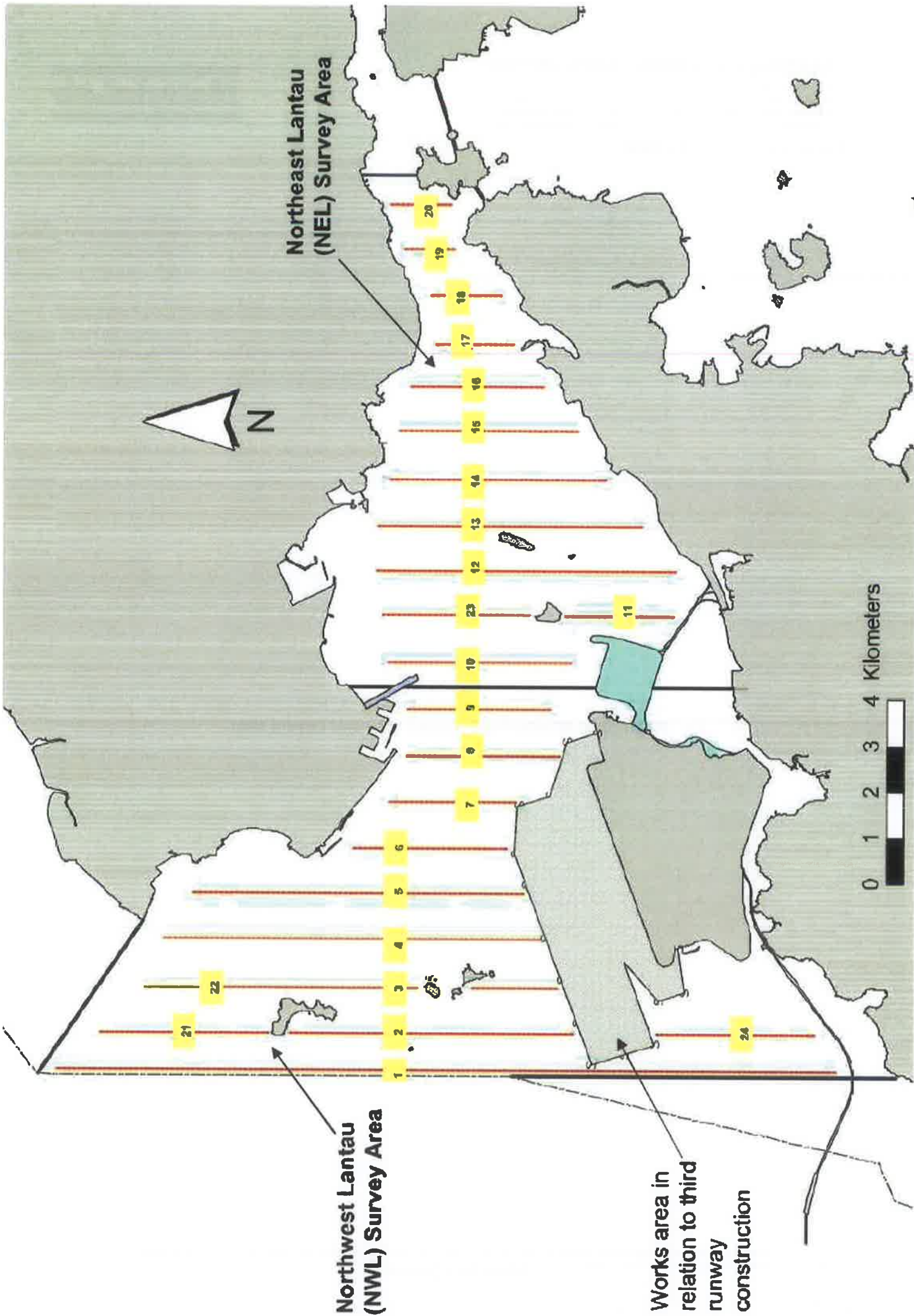
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Figure 4

Ecological Monitoring Transect Line and Layout Map



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Appendix A

Location of Works Areas



NOTE:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING NO. 60191048/C3/000/C00/1001.

LEGEND:

- SITE BOUNDARY
- ▭ VIADUCT
- ▭ BUILDING/FACILITIES

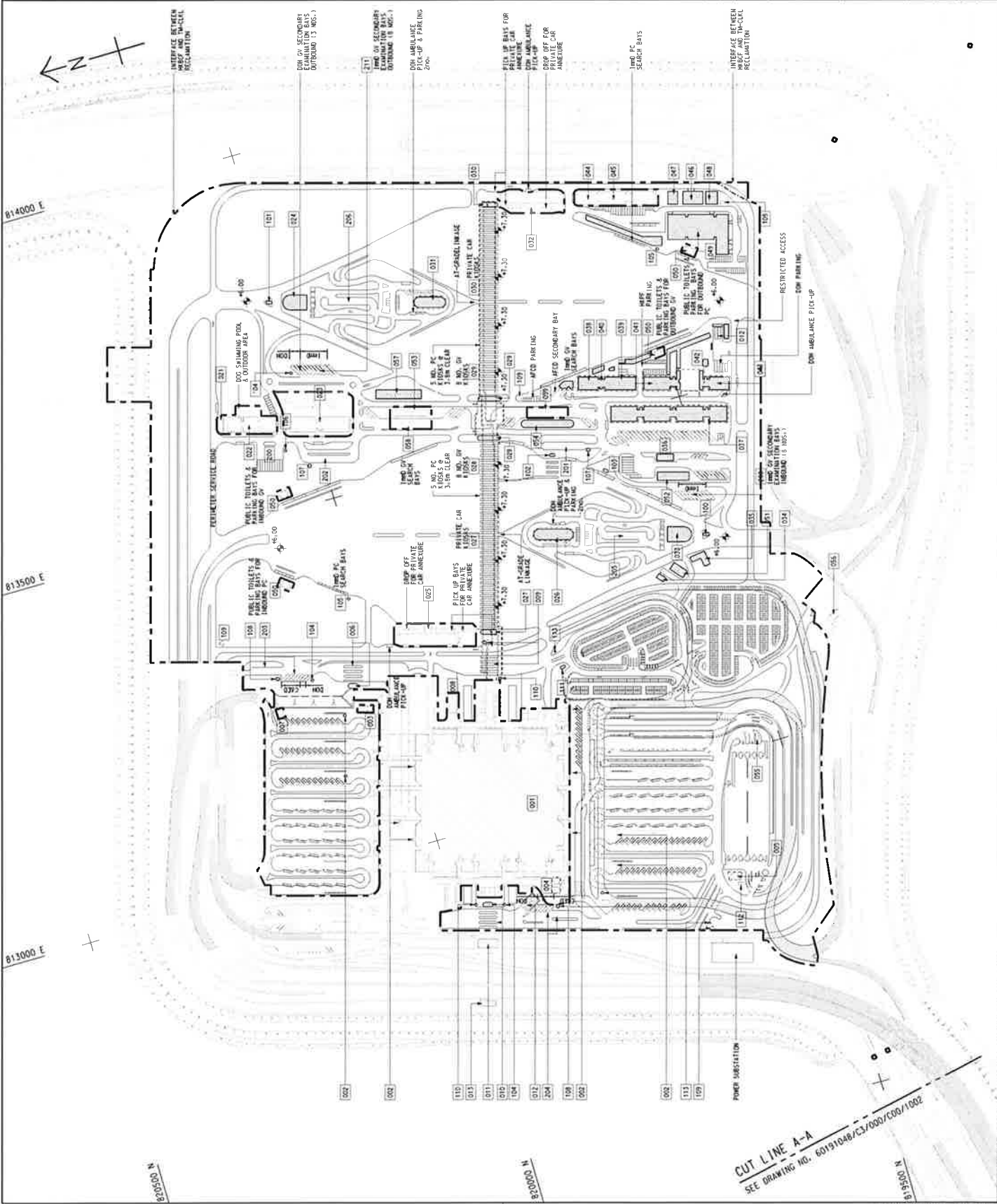
1	RECKER DRAWING	DATE	NO.
2	REVISED	DATE	NO.
3	REVISED	DATE	NO.



MTR
 香港地鐵有限公司
 MTR CORPORATION LIMITED
 香港地鐵有限公司
 9000 YONGE STREET, SUITE 1000, TORONTO, ONTARIO M2N 6L9, CANADA
 9000 YONGE STREET, SUITE 1000, TORONTO, ONTARIO M2N 6L9, CANADA

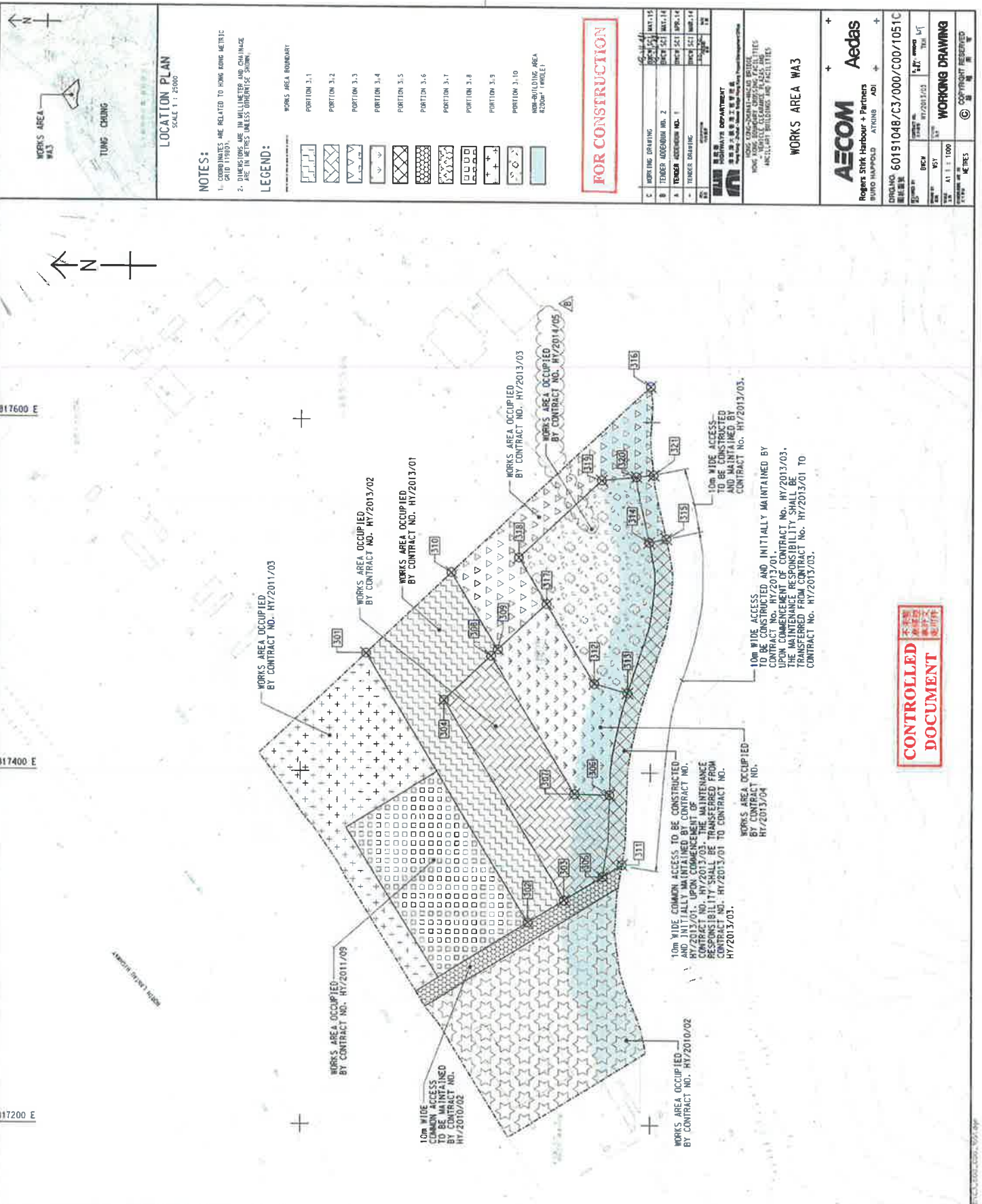
AECOM
 Rogers Shirk Harbour + Partners
 BURO HAPFOLD ATKINS ADI +

PROJECT NO. 60191048/C3/000/C00/1001
 SHEET NO. 1 OF 2
 DATE: 01/2012
 SCALE: AS SHOWN
 DRAWN BY: AT I. 2300
 CHECKED BY: YS
 APPROVED BY: JH
 PROJECT TITLE: 香港國際機場三跑道系統
 PROJECT LOCATION: 香港國際機場
 COPYRIGHT RESERVED



CUT LINE A-A
 SEE DRAWING NO. 60191048/C3/000/C00/1002

SETTING OUT POINT		
POINT	EASTING	NORTHING
301	817482.265	819142.483
302	817314.741	819065.828
303	817327.338	819046.295
304	817446.845	819117.811
305	817546.825	819207.214
306	817397.250	819223.403
307	817387.861	819243.336
308	817466.133	819301.047
309	817465.782	819305.181
310	817511.499	819313.744
311	817501.777	819314.002
312	817655.335	819332.397
313	817465.369	819333.157
314	817531.154	819301.665
315	817533.545	818911.206
316	817625.248	819000.620
317	817495.427	819025.936
318	817522.110	819025.388
319	817586.404	819224.472
320	817581.507	819000.528
321	817565.531	818994.627



LOCATION PLAN
SCALE 1 : 25000

WORKS AREA WA3
TUNG CHANG

NOTES:
1. COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
2. DIMENSIONS ARE IN MILLIMETERS AND CHANGE ARE IN METRES UNLESS OTHERWISE SHOWN.

LEGEND:

- WORKS AREA BOUNDARY
- PORTION 3.1
- PORTION 3.2
- PORTION 3.3
- PORTION 3.4
- PORTION 3.5
- PORTION 3.6
- PORTION 3.7
- PORTION 3.8
- PORTION 3.9
- PORTION 3.10
- NON-BUILDING AREA (ROOM / POOLE)

FOR CONSTRUCTION

C	WORKING DRAWING	REV. NO.	DATE
1	TENDER ADDENDUM NO. 2	001	14/05/14
2	TENDER ADDENDUM NO. 1	001	14/05/14
3	TENDER DRAWING	001	14/05/14
4	TENDER DRAWING	001	14/05/14
5	TENDER DRAWING	001	14/05/14
6	TENDER DRAWING	001	14/05/14
7	TENDER DRAWING	001	14/05/14
8	TENDER DRAWING	001	14/05/14
9	TENDER DRAWING	001	14/05/14
10	TENDER DRAWING	001	14/05/14

RETAIL HOUSING DEPARTMENT
HONG KONG GOVERNMENT
HONG KONG GOVERNMENT OFFICIAL FACILITIES
HONG KONG GOVERNMENT OFFICIAL FACILITIES
HONG KONG GOVERNMENT OFFICIAL FACILITIES

WORKS AREA WA3

AECOM
Rogers Stirk Harbour + Partners
BIRD HAPPOLD
ATKINS
ADI

Aedas

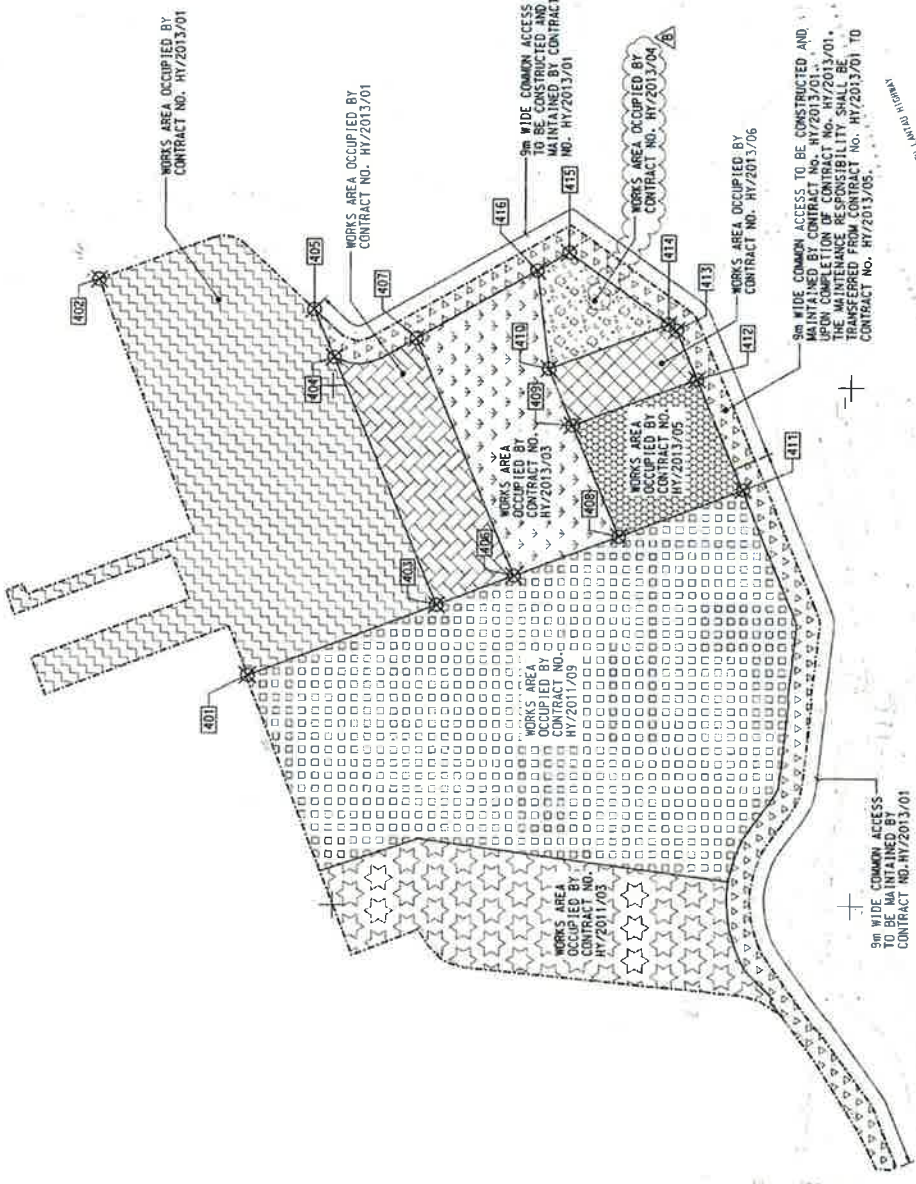
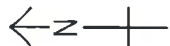
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PROJECT: WORKING DRAWING
DRAWN BY: [Name]
CHECKED BY: [Name]
DATE: 14/05/14
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SETTING OUT POINT		
POINT	Easting	Northing
401	822448.151	822432.315
402	822510.931	822418.415
403	822515.608	822559.648
404	822510.840	822599.642
405	822629.628	822607.855
406	822576.888	822579.813
407	822111.548	822412.862
408	822542.232	822489.851
409	822544.993	822507.725
410	822606.848	822516.549
411	822601.378	822494.578
412	822531.548	822460.018
413	822531.544	822467.928
414	822514.130	822470.938
415	822451.232	822509.862
416	822444.258	822511.118

822400 E

822400 E



822500 N

822400 N

LOCATION PLAN
SCALE 1:25000

WORKS AREA WAA
SUNNY BAY
TSD WAN
KAP SHUI MUN

NOTES:

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

LEGEND:

WORKS AREA BOUNDARY

- PORTION 4.1
- PORTION 4.2
- PORTION 4.3
- PORTION 4.4
- PORTION 4.5
- PORTION 4.6
- PORTION 4.7
- PORTION 4.8
- PORTION 4.9

FOR CONSTRUCTION

CONTRACT DOCUMENT

C	WORKING DRAWING	REV. 01	MAY 13
B	TENDER ADDENDUM NO. 2	REV. 01	MAY 13
A	TENDER ADDENDUM NO. 1	REV. 01	APR. 14
→	TENDER DRAWING	REV. 01	MAY 14
→	→	→	→
→	→	→	→
→	→	→	→
→	→	→	→

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MTR RAILWAY DEPARTMENT
KING LING STATION (KALAMAT STREET)
TRANSFORMER AND ELECTRICAL SERVICES
VEHICLE CLEARANCE PLANS AND
AUXILIARY BUILDINGS AND FACILITIES

WORKS AREA WAA

AECOM Aedas
Rogers Stirk Harbour + Partners
Wong Ho-Po-Loi Anne ADI

PROJECT NO. HY/2013/03
DRAWING NO. 60191048/C3/000/C00/1052C
DATE: 14.11.2008
SCALE: AS SHOWN
DRAWN BY: [Name]
CHECKED BY: [Name]
APPROVED BY: [Name]

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Appendix B

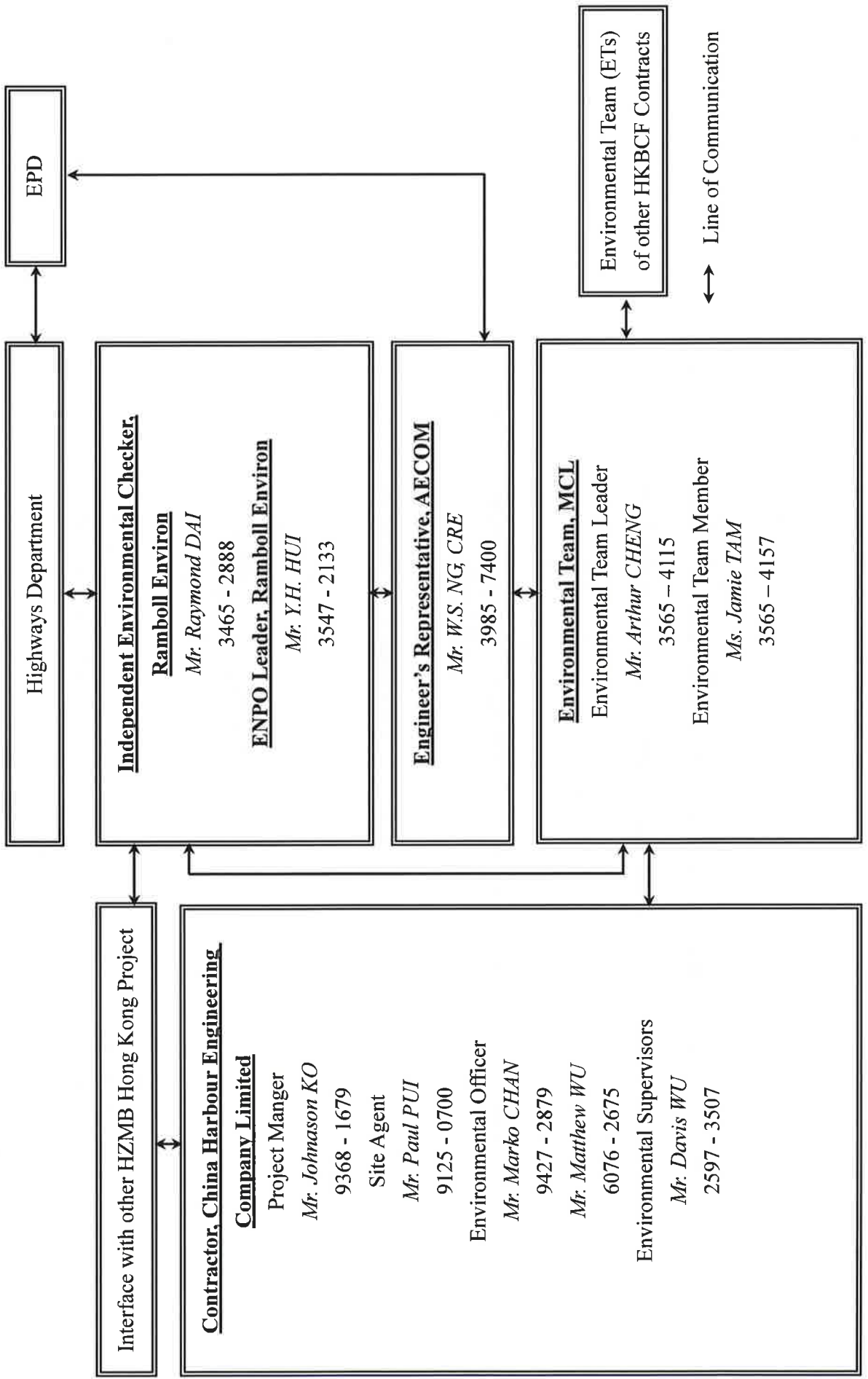
Project Organization for Environmental Works



CHINA HARBOUR ENGINEERING COMPANY LIMITED

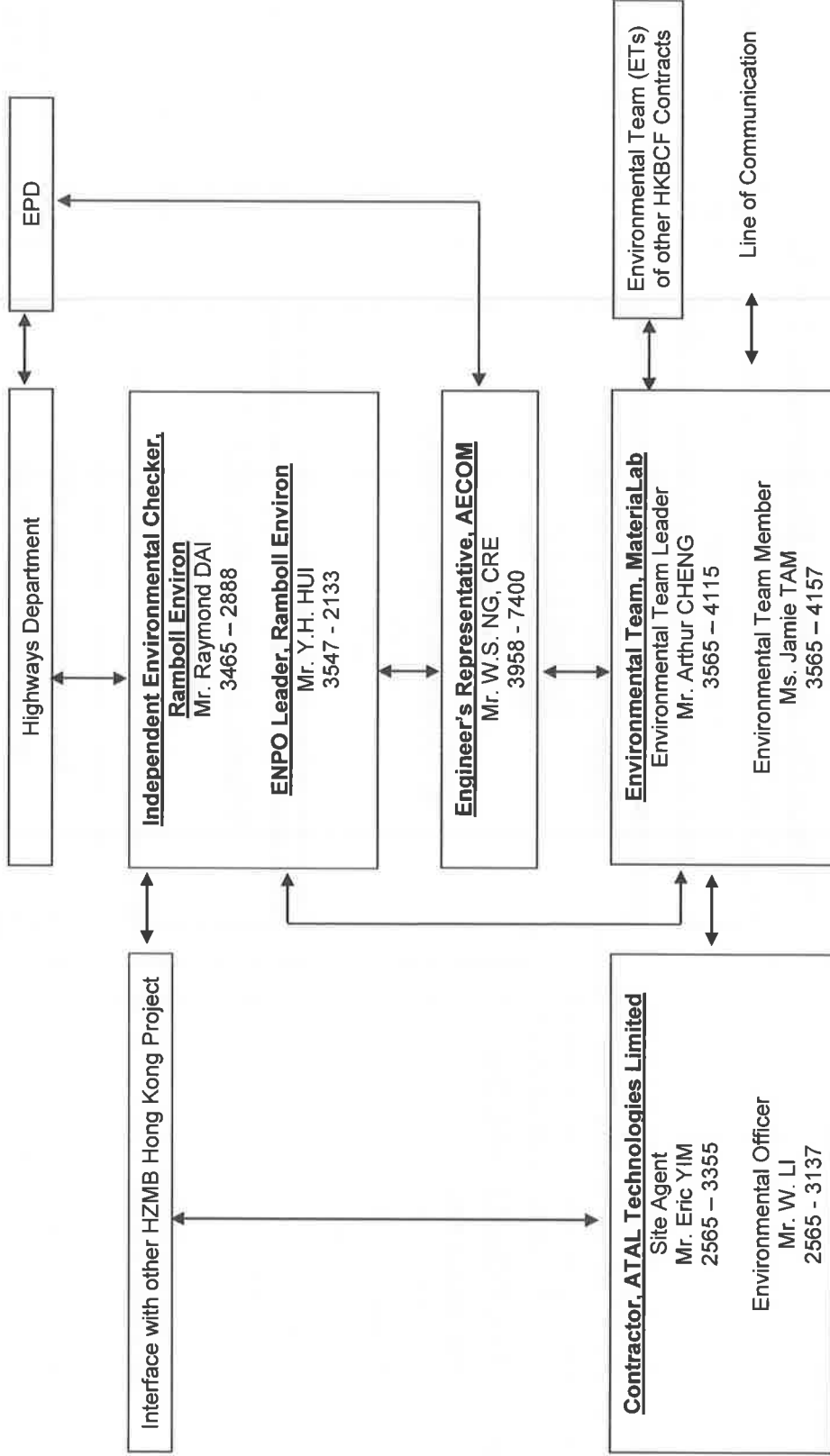
Contract No. HY/2013/03 Hong Kong-Zhuhai-Macao Bridge, Hong Kong Boundary Crossing Facilities – Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Projects Organization for Environmental Works



Contract No. HY/2013/06 (within Contract No. HY/2013/03 works area)
 Hong Kong-Zhuhai-Macao Bridge, Hong Kong Boundary Crossing Facilities – Automatic Vehicle Clearance Support System

Projects Organization for Environmental Works



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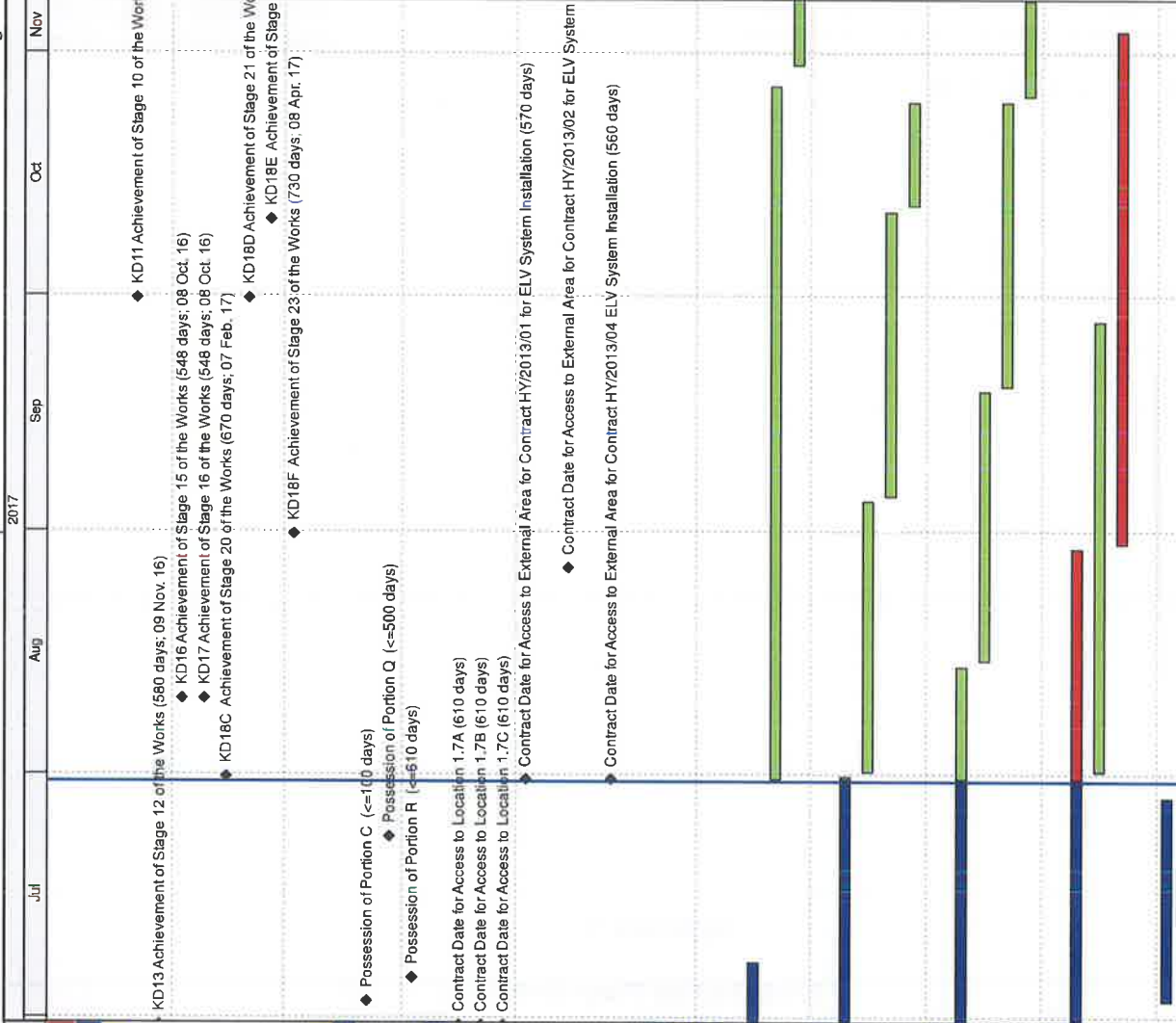
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Appendix C

Construction Programme

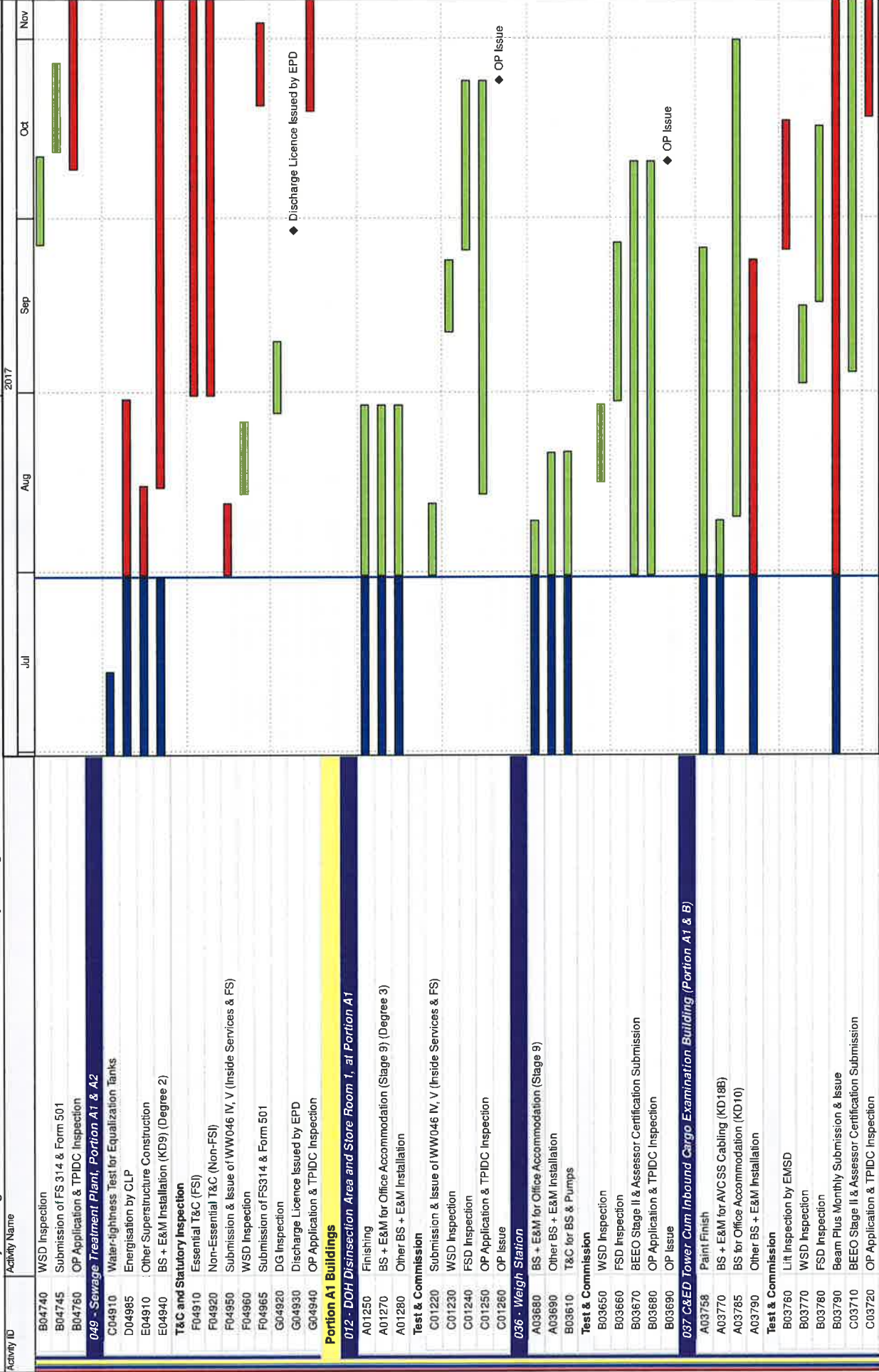


Date	Revision	Checked	Approved
31-May-17	3MRP updated as of 31 May 2017	ZJ	
30-Jun-17	3MRP updated as of 30 June 2017	ZJ	
31-Jul-17	3MRP updated as of 31 July 2017	ZJ	

THREE MONTH ROLLING PROGRAMME
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

- Actual Work
- Remaining Work
- Critical
- ◆ Milestone

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

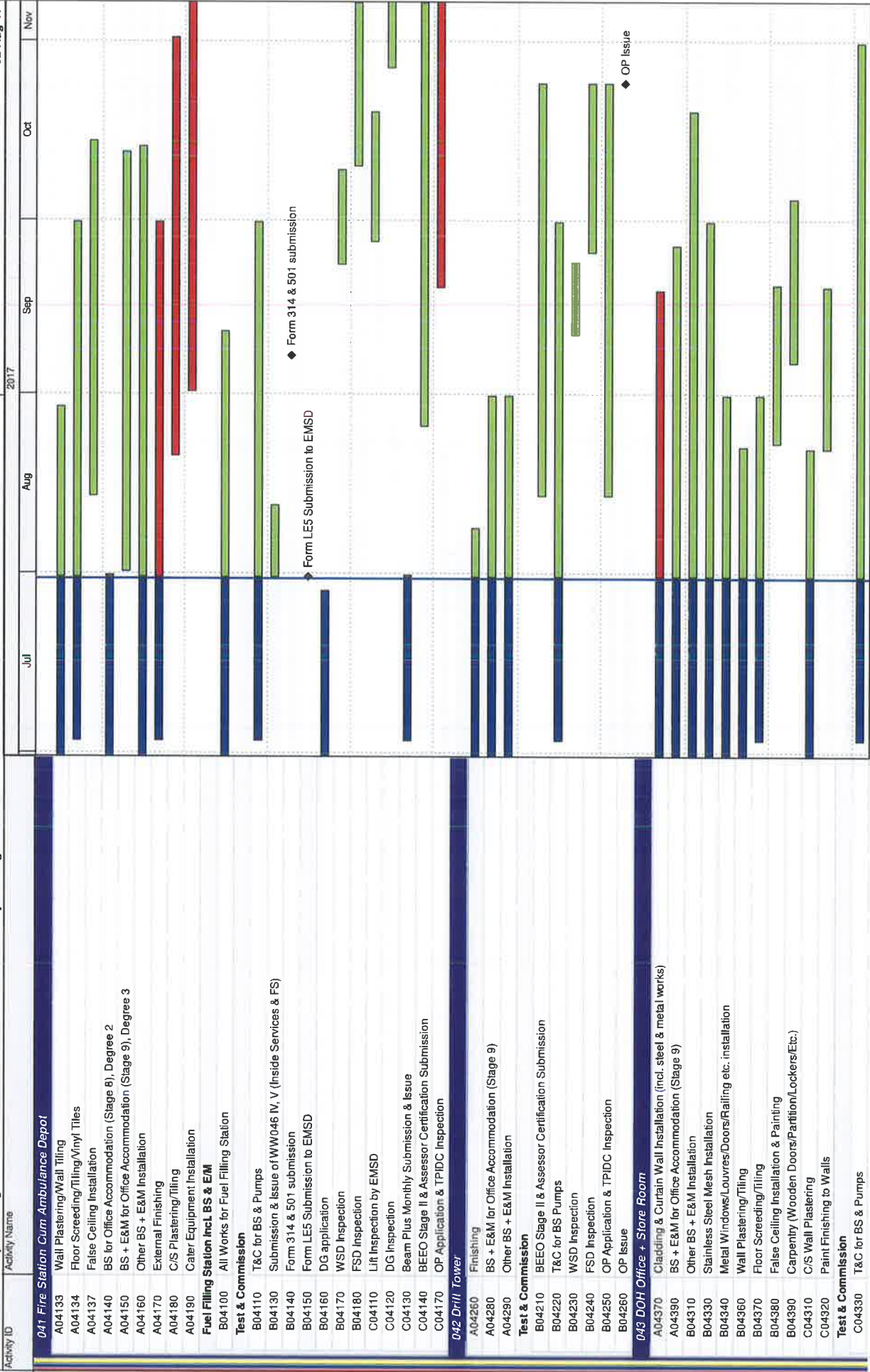


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THREE MONTH ROLLING PROGRAMME
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

02-Aug-17



Activity Name	Jul	Aug	Sep	Oct	Nov
041 Fire Station Cum Ambulance Depot					
A04133 Wall Plastering/Wall Tiling					
A04134 Floor Screeding/Tiling/Vinyl Tiles					
A04137 False Ceiling Installation					
A04140 BS for Office Accommodation (Stage 8), Degree 2					
A04150 BS + E&M for Office Accommodation (Stage 9), Degree 3					
A04160 Other BS + E&M Installation					
A04170 External Finishing					
A04180 C/S Plastering/Tiling					
A04190 Cater Equipment Installation					
Fuel Filling Station Incl BS & E&M					
B04100 All Works for Fuel Filling Station					
Test & Commission					
B04110 T&C for BS & Pumps					
B04130 Submission & Issue of WW046 IV, V (Inside Services & FS)					
B04140 Form 314 & 501 submission					
B04150 Form LES Submission to EMSD					
B04160 DG application					
B04170 WSD Inspection					
B04180 FSD Inspection					
C04110 Lift Inspection by EMSD					
C04120 DG Inspection					
C04130 Beam Plus Monthly Submission & Issue					
C04140 BEE0 Stage II & Assessor Certification Submission					
C04170 OP Application & TPIDC Inspection					
042 Drill Tower					
A04260 Finishing					
A04280 BS + E&M for Office Accommodation (Stage 9)					
A04290 Other BS + E&M Installation					
Test & Commission					
B04210 BEE0 Stage II & Assessor Certification Submission					
B04220 T&C for BS Pumps					
B04230 WSD Inspection					
B04240 FSD Inspection					
B04250 OP Application & TPIDC Inspection					
B04260 OP Issue					
043 DOH Office + Store Room					
A04370 Cladding & Curtain Wall Installation (incl. steel & metal works)					
A04390 BS + E&M for Office Accommodation (Stage 9)					
B04310 Other BS + E&M Installation					
B04330 Stainless Steel Mesh Installation					
B04340 Metal Windows/Louvers/Doors/Railing etc. installation					
B04360 Wall Plastering/Tiling					
B04370 Floor Screeding/Tiling					
B04380 False Ceiling Installation & Painting					
B04390 Carpentry (Wooden Doors/Partition/Lockers/Etc.)					
C04310 C/S Wall Plastering					
C04320 Paint Finishing to Walls					
Test & Commission					
C04330 T&C for BS & Pumps					

THREE MONTH ROLLING PROGRAMME
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

Date	Revision	Checked	Approved
31-May-17	3MRP updated as of 31 May 2017	ZJ	
30-Jun-17	3MRP updated as of 30 June 2017	ZJ	
31-Jul-17	3MRP updated as of 31 Jul 2017	ZJ	

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

02-Aug-17

Activity ID	Activity Name	2017	2017	2017	2017	2017	2017	2017	2017
		Jul	Aug	Sep	Oct	Nov			
C04340	Submission & Issue of WW046 I, II, III (Inside Services & FS)								
C04350	Submission & Issue of WW046 IV, V (Inside Services & FS)								
C04360	Form 2 Submission								
C04370	Form 314 & 501 submission								
D04310	WSD Inspection								
D04320	FSD Inspection								
D04330	Lift Inspection by EMSD								
D04340	DG Inspection								
D04350	BEEO Stage II & Assessor Certification Submission								
D04380	OP Application & TPIDC Inspection								
052 - Transforms (Zone 4)									
A05235	Engrisection by CLP								
Fuel Filling Station Incl. BS & E/M									
A05290	All Works for Fuel Filling Station								
T&C and Statutory Inspection									
B05210	T&C for BS & Pumps								
B05220	DG application								
B05230	DG Inspection								
B05270	Non-Essential T&C (Non-FSI)								
B05280	OP Application & TPIDC Inspection								
B05290	Provision of TPIDC's Completion Certificate (OP Issue)								
Completion of Fire Services Installation and Equipment (FCD)									
C05210	Approved Building Plans								
C05220	Application for FSI Inspection (FSI501) cw FSI Plan (FSI314)								
C05230	Provision of Direct Link for Fire Alarm System by Chubb								
C05240	FSI Inspection								
C05250	Acceptance by FSD								
105 IMMID Guard Booth, Portion A1 (Mock Up)									
B10540	Finishing								
B10550	BS for Office Accommodations (KD9)								
B10560	BS + E&M for Office Accommodation (KD10)								
B10570	Other BS + E & M Installation								
C10540	T&C for BS & Pumps								
Facade Envelop Structure Installation									
B10590	Fabrication of F/C System								
C10520	Steel Frame Installation								
C10530	Envelop Cladding and Roofing Panel Installation								
210 - IMMID.GV Secondary Examination Bays Inbound									
ER5830	Construction of the Area and Access to the Interface Contractor								
External Works for Portion A1									
Drainage Works									
ED5590	Drainage Works (774m & 35MHs), Stage 2								
ED5600	Sewerage (300m & 9MHs), Stage 2								
ED5610	Drainage Works (773m & 34MHs), Stage 3								
ED5620	Sewerage (269m & 7MHs), Stage 3								
Waterpipe Laying									
EW5010	Fresh Water Main Laying (1660 m)								
EW6010	Flushing Water Main Laying (967 m)								
EW6180	Chilled Water Pipe Laying in Portion A1 (external)								
Duct Laying for Utilities/Telecom Cabling, TCSS & Lighting									

Date	Revision	Checked	Approved
31-May-17	3MRP updated as of 31 May 2017	ZJ	
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THREE MONTH ROLLING PROGRAMME
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

Actual Work
Remaining Work
Critical
Milestone

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Activity ID	Activity Name	2017					02-Aug-17
		Jul	Aug	Sep	Oct	Nov	
EU5260	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
EU5270	Duct & Cable Laying for TCSS & Lighting						
Roadworks							
ER1520	Subbase (6500 ton), Stage 1 (Western)						
ER3540	Bitumen Pavement (10000 ton), Stage 1 (Western)						
ER3550	Rigid Pavement (900 m3), Footpath & EVA, Stage 1 (Western)						
Road Furniture							
ER0800	ELV Installation						
ER0830	Road Furniture						
PORTION A2							
Portion A2 Structures							
046 - Refuse Collection Point, Portion A2							
A04620	Superstructure w/2 water tank						
A04630	BS for Office Accommodations (Stage 8) (KD9)						
A04640	BS + E&M for Office Accommodations (Stage 9) (KD10)						
A04660	Other BS + E&M Installation						
Test & Commission							
B04620	Submission & Issue of WW046 I, II, III (Inside Services & FS)						
B04630	Submission & Issue of WW046 IV, V (Inside Services & FS)						
B04650	T&C for BS & Pumps						
B04660	WSD Inspection						
B04670	FSD Inspection						
B04680	OP Application & TPIDC Inspection						
048 - Reclaimed Water Pumping Station, Portion A2							
B04820	BS for Office Accommodations (Stage 8) (KD9)						
B04830	BS + E&M for Office Accommodation (Stage 9) (KD10)						
B04840	Other BS + E&M Installation						
Test & Commission							
B04850	T&C for BS & Pumps & SWT						
B04870	DG Inspection						
B04880	Submission & Issue of WW046 I, II, III (Inside Services & FS)						
B04890	Submission & Issue of WW046 IV, V (Inside Services & FS)						
C04810	Form 314 & 501 submission						
C04840	WSD Inspection						
C04850	FSD Inspection						
C04860	OP Application & TPIDC Inspection						
Retaining Wall W9-2							
SW9210	Construction of Retaining Wall W9-2 (U-shape, 6 bay)						
SW9220	Backfilling for Retaining Wall W9-2						
SW9230	Parapet for Retaining Wall W9-2 (22 pour) & E&M Works						
SW9240	Retaining Wall W9-2 Drainage System & Cable Laying						
External Works for Portion A2							
Drainage Works							
ED2280	Drainage Works (228m & 15MHs)						
ED3560	Sewerage (322m & 9MHs)						
Waterpipe Laying							
EW2290	Fresh Water Main Laying (236m)						
EW2300	Flushing Water Main Laying (91m)						
Duct Laying for Utilities, Telecom Cabling, TCSS & Lighting							

Actual Work	Date	Revision	Checked	Approved
	31-May-17	3MRP updated as of 31 May 2017	Z.J	
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HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

02-Aug-17

Activity ID	Activity Name	2017	Jul	Aug	Sep	Oct	Nov
EU5280	Duct & Cable Laying for Utilities/telecom, CLP, BS & ELV						
EU5290	Duct & Cable Laying for TCSS & Lighting						
PORTION B							
Portion B Structures							
Retaining Wall W7-2							
S70910	C3-S8 Slopeworks						
S70970	Retaining Wall W7-2 Parapet (2 pour) & E&M Works						
S70980	Retaining Wall W7-2 Drainage System & Cable Laying						
S70990	Retaining Wall W7-2 Bituminous Paving (79 ton) (KD25)						
Retaining Wall W6-1							
S62070	Retaining Wall W6-1 Parapet (8 pour) & E&M Works						
S62080	Retaining Wall W6-1 Drainage System & Cable Laying						
S62210	Retaining Wall W6-1 Bituminous Paving (347 ton) (KD25)						
Bay 25 - 29 of CUE/Staff Subway							
C02960	Internal Finishes & Cable Containment						
C02970	BS + E&M Installation for AVCSS						
Portion B Buildings							
027/028 Inbound Kiosks & 029 Outbound Kiosks							
A02720	Superstructure						
A02730	Construction of Subway Entrance						
A02740	Construction of Subway Toilets						
A02760	BS for Office Accommodation						
A02770	BS + E&M for office accommodation (Stage 9)						
A02780	BS + E&M for AVCSS Works (KD18A)						
A02780	BS + E&M for AVCSS Cabling (KD18B)						
B02720	Other BS + E&M Installation						
Test & Commission							
B02810	T&C for BS & Pumps						
B02830	Submission & Issue of WW046 IV, V (Inside Services & FS)						
B02840	WSD Inspection						
B02860	OP Application & TPIDC Inspection						
027/028 Inbound Kiosks & 029 Outbound Kiosks, Section IX, Subject to Excision							
B02750	Superstructure						
B02752	Finishing						
B02760	BS + E&M for AVCSS Works (KD18C)						
B02770	BS + E&M for AVCSS Works (KD18D)						
B02780	BS + E&M for allowing users to move in furniture (KD18E)						
B02790	Pavement & Drainage (KD30)						
Test & Commission							
D02710	T&C for BS & Pumps						
D02730	Submission & Issue of WW046 IV, V (Inside Services & FS)						
D02740	WSD Inspection						
D02760	OP Application & TPIDC Inspection						
025 Inbound IMMD and DOH Secondary Screening Building							
A02640	Finishing						
A02670	BS for Office Accommodation (Stage 6)						
A02680	BS + E&M for Office Accommodation (Stage 9)						
A02690	Other BS + E&M Installation						
Test & Commission							
B02640	BEE0 Stage II & Assessor Certification Submission						

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Actual Work
 Remaining Work
 Critical
 Milestone

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Activity ID	Activity Name	2017	Jul	Aug	Sep	Oct	Nov
B02650	TC for BS & Pumps						
C02610	OP Application & TPIDC Inspection						
054 Inbound Fixed X-ray Building							
A05460	Finishing						
A05467	Energyisation by CLP						
A05480	BS + E&M for Office Accommodation (Stage 9)						
A05490	Other BS + E&M Installation						
Fuel Filling Station incl. BS & E/M							
B05490	All Works for Fuel Filling Station						
T&C and Statutory Inspection for Zone 4a							
B05400	BEEC Stage II & Assessor Certification Submission						
B05420	T&C for BS & Pumps						
B05430	Form LE Submission to EMSD						
B05440	Lift Inspection by EMSD						
B05480	DG Inspection						
Completion of Fire Services Installation and Equipment (FCD)							
F05450	Application for FSI Inspection (FSI/501) c/w FSI Plan (FSI/314)						
F05460	Provision of Direct Link for Fire Alarm System by Chubb						
F05470	FSI Inspection (2 Trials)						
F05480	Acceptance by FSD						
Waterworks Ordinance (WSD)							
G05410	Approval Letter and approved Drawings						
G05430	Submission of WW046 - Part IV (Inside Services)						
G05440	WSD Inspection & Issue of WW046 - Part V (Inside Services)						
G05450	Water Connection & Water Supplies Certificate issued by WSD (Inside Services)						
038AFCD Office							
A03850	Finishing + Curtain Wall Installation						
A03870	BS for Office Accommodation (Stage 8)						
A03880	BS + E&M for Office Accommodation (Stage 9)						
A03890	Other BS + E&M Installation						
Test & Commission							
B03810	T&C for BS & Pumps						
B03830	Submission & Issue of WW046 I, II, III (Inside Services & FS)						
B03840	Submission & Issue of WW046 IV, V (Inside Services & FS)						
B03880	Form 314 & 501 submission						
C03820	Form 2 Submission						
C03830	Lift Inspection by EMSD						
C03850	FSD Inspection						
C03860	BEEC Stage II & Assessor Certification Submission						
C03870	OP Application & TPIDC Inspection						
039 Police Main Building							
A03940	Finishing + Curtain Wall Installation						
A03950	BS for Office Accommodation (Stage 8), & for TCSS works (KD14)						
A03960	BS + E&M for Office Accommodation (Stage 9)						
A03970	Other BS + E&M Installation						
Fuel Filling Station incl. BS & E/M							
B03910	All Works for Fuel Filling Station						
Test & Commission							
B03930	Submission & Issue of WW046 IV, V (Inside Services & FS)						
B03940	BEEC Stage II & Assessor Certification Submission						

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VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

- █ Actual Work
- █ Remaining Work
- █ Critical
- ◆ Milestone

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

02-Aug-17

Activity ID	Activity Name	2017				
		Jul	Aug	Sep	Oct	Nov
B03950	Beam Plus Monthly Submission & Issue					
B03960	Form 314 & 501 submission					
C03920	DG Inspection					
C03960	Lift Inspection by EMSD					
C03970	T&C for BS & Pumps					
C03980	WSD Inspection					
C03990	FSD Inspection					
D03930	OP Application & TPIDC Inspection					
040 Incident Control Tower						
A04050	Finishing (KD9)					
A04060	BS for Office Accommodation (Stage 8), & for TCSS works (KD14)					
A04070	BS + E&M for Office Accommodation (Stage 9)					
Facade Cladding System						
B04040	Steel Frame Installation					
B04050	Cladding Panel Installation					
Glass Wall						
C04020	Fabrication of Glass Wall					
C04040	Steel Frame Installation					
C04050	Glass Panel Installation					
Test & Commission						
D04010	Form 314 & 501 submission					
D04030	T&C for BS & Pumps					
D04040	Form 2 Submission					
D04050	Lift Inspection by EMSD					
D04070	FSD Inspection					
D04080	OP Application & TPIDC Inspection					
102 HKPF UVSS Monitor Room						
A10230	Finishing (False Ceiling) (KD9)					
A10240	BS for Office Accommodation (Stage 8)					
A10260	BS + E&M for Office Accommodation (Stage 9)					
A10270	Other BS + E&M Installation					
A10290	T&C for BS & Pumps					
C10220	WVO 46 Part IV, V Submission (inside Service + FS)					
C10230	Plumbing Inspection by WSD					
C10240	FSI Form 314 & 501 Submission					
C10250	FS Inspection by FSD					
C10260	TPIDC Inspection					
Metal Canopy and Roof Installation						
B10230	Steel Frame Installation					
B10240	Glass panel, metal cladding panel installation					
103 Police Inspection Post						
A10350	Finishing (False Ceiling) (KD9)					
A10360	BS for Office Accommodation (Stage 8)					
A10370	BS + E&M for Office Accommodation (Stage 9)					
A10380	Other BS + E&M Installation					
C10310	T&C for BS & Pumps					
C10330	WVO 46 Part IV, V Submission (inside Service + FS)					
C10340	WSD inspection					
C10350	FS inspection by FSD					
C10360	TPIDC Inspection					

Form 314 & 501 submission

Form 2 Submission

WVO 46 Part IV, V Submission (inside Service + FS)

FSI Form 314 & 501

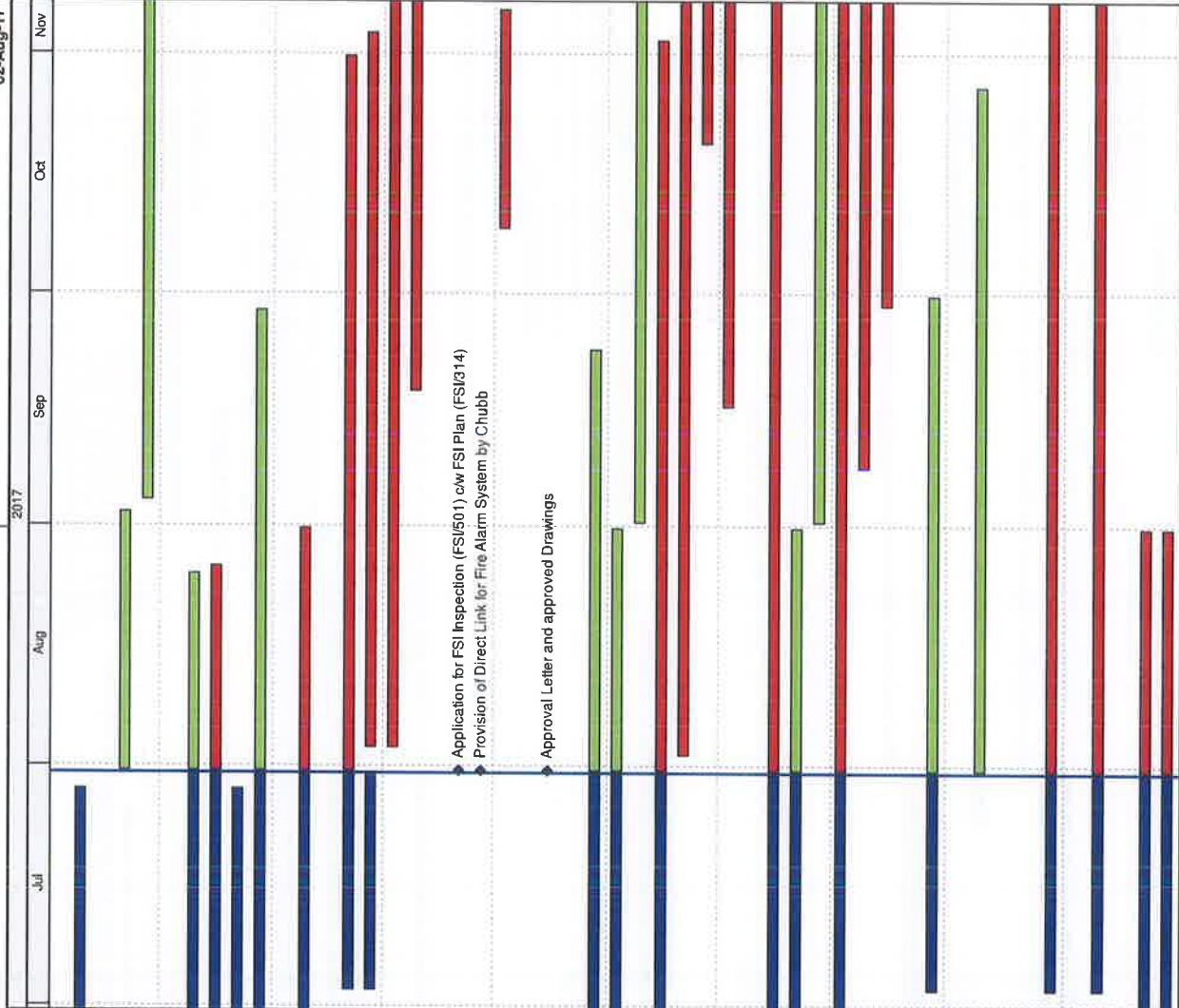
WVO 46 Part IV, V Submission (inside Service + FS)

Actual Work	Remaining Work	Critical	Milestone
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31-May-17	3MRP updated as of 31 May 2017	ZJ	
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VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities



Activity ID	Activity Name	2017	2017	2017	2017	2017
		Jul	Aug	Sep	Oct	Nov
HPL Composite Panel Cladding System						
B10320	Fabrication of HPL Cladding					
B10330	Casted-in Items Installation					
B10340	Steel Frame Installation					
B10350	HPL Cladding Panel Installation					
057 Transformers (Zone 2)						
A05740	Finishing					
A05755	Energisation by CLP					
A05770	BS + E&M for Office Accommodation (Stage 9)					
A05780	Other BS + E&M Installation					
Fuel Filling Station incl. BS & E/M						
A05790	All Works for Fuel Filling Station					
T&C and Statutory Inspection for Zone 2a & 2b						
C05700	T&C for BS & Pumps					
F05700	Essential T&C (FSI)					
F05710	Non-Essential T&C (Non-FSI)					
F05720	OP Application & TPIDC Inspection					
Completion of Fire Services Installation and Equipment (FCD)						
F05750	Application for FSI Inspection (FSI/501) c/w FSI Plan (FSI/314)					
F05760	Provision of Direct Link for Fire Alarm System by Chubb					
F05770	FSI Inspection (2 Trials)					
DG License & EPD Generator Approval						
G05710	Approval Letter and approved Drawings					
107 - C&ED Mobile X-ray Operation Office (Cargo), Portion B						
C10740	Finishing					
C10750	BS for Office Accommodation (Stage 8)					
C10760	BS + E&M for Office Accommodation (Stage 9)					
C10770	Other BS + E&M Installation					
C10780	T&C for BS & Pumps					
C10784	FS inspection by FSD					
C10790	TPIDC Inspection					
113 - Field Kiosk for Access Control, Portion B						
B11340	Finishing					
B11350	BS for Office Accommodation (Stage 8)					
B11360	BS + E&M for Office Accommodation (Stage 9)					
B11370	Other BS + E&M Installation					
B11380	T&C for BS & Pumps					
B11390	TPIDC Inspection					
201 - Inbound Cargo Mobile X-ray Operation Area						
ER5850	Construction of the Area and Access to the Interface Contractor					
205 - Inbound Private Car Mobile X-ray Operation Area						
ER5860	Construction of the Area and Access to the Interface Contractor					
External Works for Portion B						
Works in Location 1.7A						
BB1480	ELV Works & T&C in Location 1.7A					
Works in Location 1.7B						
BB1490	ELV Works & T&C in Location 1.7B					
Waterpipe Laying						
EW6100	Fresh Water Main Laying (1000m), Stage 3					
EW6110	Flushing Water Main Laying (931m), Stage 3					

Date	Revision
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30-Jun-17	3MRP updated as of 30 June 2017
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HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

02-Aug-17

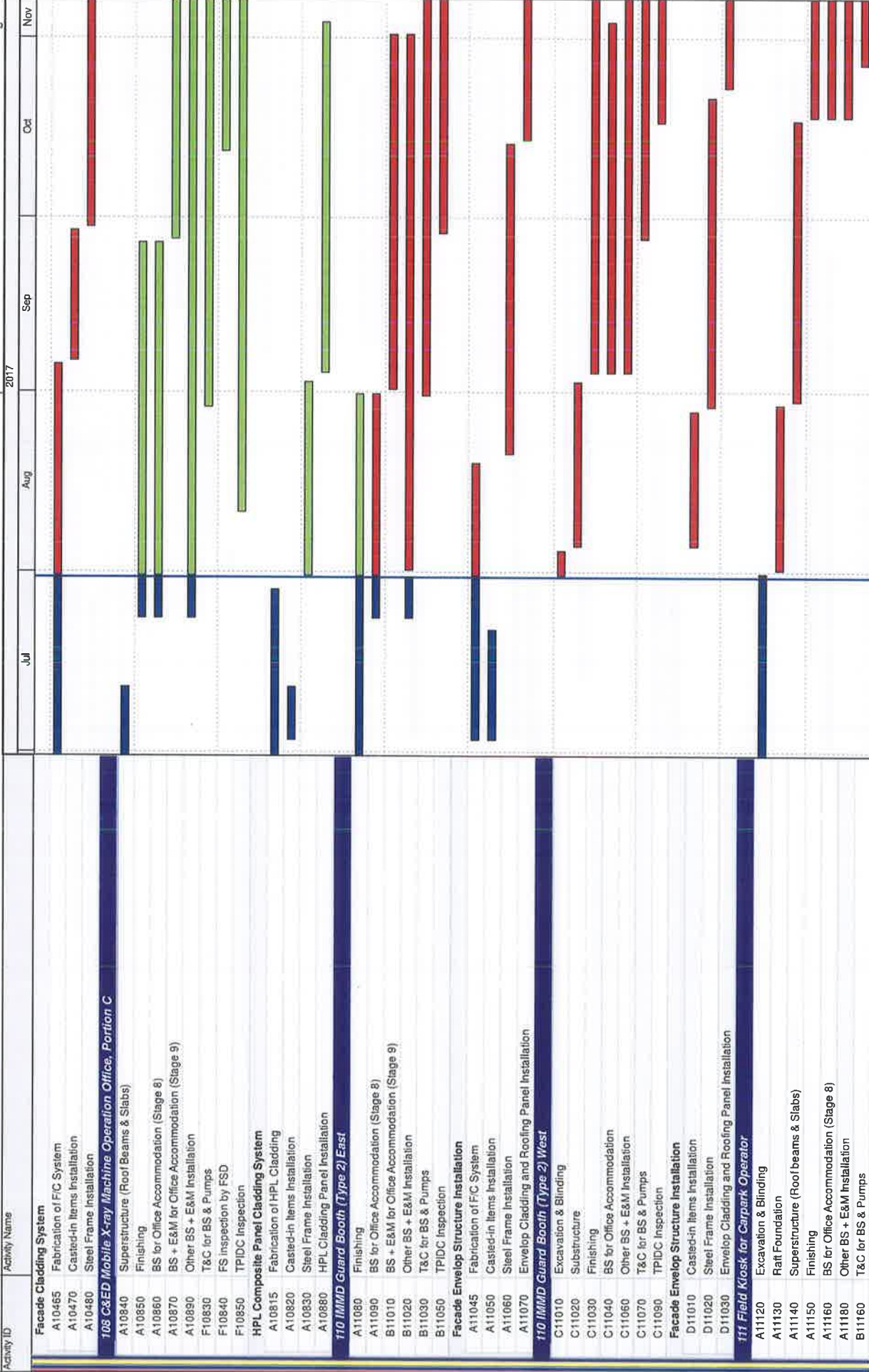
Activity ID	Activity Name	2017	Jul	Aug	Sep	Oct	Nov
EW6190	Chilled Water Pipe Laying in Portion B (external)						
Duct Laying for Utilities/Telecom Cabling, TCSS & Lighting							
EU5300	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
EU5310	Duct & Cable Laying for TCSS & Lighting						
EU5550	ELV Installation						
EU5630	Access date to Telephone Companies						
Roadworks							
ER1640	Subbase (21000 ton), Stage 1						
ER3590	Bitumen Pavement (30000 ton), Stage 1						
ER3600	Rigid Pavement (1188 m3), Footpath & EVA, Stage 1						
ER5590	Subbase (22152 ton), Stage 2						
ER5600	Bitumen Pavement (31126 ton), Stage 2						
ER5610	Rigid Pavement (1188 m3), Footpath & EVA, Stage 2						
Road Furniture							
ER1620	Road Furniture						
Sign Gantry ADS 306A & ADS 306B							
ES5240	Fabrication & Delivery of Sign Gantries to Site						
ES5250	Erection of Sign Gantry						
PORTION C							
Portion C Buildings							
010 - Inbound Coach Kiosk & Staff Subway Entrance (Subway Deleted)							
A01020	Base Slab & Kiosk superstructure						
A01030	BS + Finishing + E&M for AVCSS works (KD18A)						
009 - Staff Subway Entrance (Bay 0 - 3) & Shuttle Bus Kiosks							
B00930	BS + E&M for AVCSS works (KD18A)						
B00940	BS + E&M for AVCSS Cabling (KD18B)						
B00970	BS + E&M for Office Accommodation (Stage 9) (KD10)						
C00920	T&C for BS & Pumps						
C00940	TPIDC Inspection						
012 - DOH Disinsection Area and Store Room 1, at Portion C							
B01210	Excavation & Blinding						
B01220	Raft Foundation						
B01230	Superstructure						
B01240	Finishing						
B01270	BS for Office Accommodation (KD 9)						
B01280	BS + E&M for Office Accommodation (KD 10)						
B01290	Other BS + E&M Installation						
Test & Commission							
E01210	Submission of WWO46 - Part I, II, III (Inside Services + FS)						
E01220	Submission of WWO46 - Part IV, V (Inside Services + FS)						
E01260	TPIDC Inspection						
104 - DOH Secondary Screening Station, at Portion C							
A10420	Excavation & Blinding						
A10430	Substructure						
A10435	Finishing						
A10440	BS for Office Accommodation (Stage 8)						
B10410	Other BS + E&M Installation						
B10420	T&C for BS & Pumps						
B10440	TPIDC Inspection						

Actual Work	Revision	Date	Checked	Approved
Actual Work		31-May-17	ZJ	
Remaining Work		30-Jun-17	ZJ	
Critical		31-Jul-17	ZJ	
Milestone				

**THREE MONTH ROLLING PROGRAMME
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES**

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

02-Aug-17



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Date	Revision	Checked	Approved
31-May-17	3MRP updated as of 31 May 2017	ZJ	
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- █ Actual Work
- █ Remaining Work
- █ Critical
- ◆ Milestone

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Activity ID	Activity Name	2017					02-Aug-17
		Jul	Aug	Sep	Oct	Nov	
B11180	TPIDC Inspection						
HPL Composite Panel Cladding System							
B11120	Fabrication of HPL Cladding						
B11130	Coated-in Items Installation						
B11140	Steel Frame Installation						
113 - Field Kiosk for Access Control, Portion C							
C11320	Raft Foundation						
C11330	Superstructure (Roof Beams & Slabs)						
C11340	Finishing						
D11310	BS for Office Accommodation (Stage 8)						
D11330	Other BS + E&M Installation						
F11310	T&C for BS & Pumps						
F11330	TPIDC Inspection						
204 - Inbound Coach Exam Area & Mobile X-ray Operation							
ER5760	Radiation Screen Wall Construction						
ER5880	Construction of the Area and Access to the Interface Contractor						
External Works for Portion C							
Works in Location 1.2, 1.3 & 011 - Emergency Generator Building							
BB1460	ELV System Installations and T&C for Contract HY2013/01						
BB1470	Provisioning of Civil Engineering Works for 011-Emergency Generator Building (KD18)						
Drainage Works							
B00040	Initial Survey						
SG2400	Drainage Works (797m & 36MHe)						
SG3610	Sewerage (186m & 4MHe)						
Waterpipe Laying							
SW2410	Fresh Water Main Laying (272m)						
SW2420	Flushing Water Main Laying (105m)						
SW9280	Chilled Water Pipe Laying in Portion C (external)						
Duct Laying for Utilities/Telecom Cabling, TCSS & Lighting							
SU5320	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
SU5330	Duct & Cable Laying for TCSS & Lighting						
SU5400	ELV Installation						
Roadworks							
SR2500	Subbase (4201 ton)						
SR3620	Bitumen Pavement (6200 ton)						
SR3630	Rigid Pavement (132 m3), Footpath & EVA						
Road Furniture							
SR2480	Road Furniture						
PORTION D							
Portion D Building							
114 - Field Kiosk for Access Control, Portion D							
D11340	BS for Office Accommodation (Stage 8)						
D11350	BS + E&M for Office Accommodation (Stage 9)						
D11360	Other BS + E&M Installation						
F11350	T&C for BS & Pumps						
F11370	TPIDC Inspection						
External Works for Portion D							
Drainage Works							
SG3640	Drainage Works (361m & 14MHe)						

<p>THREE MONTH ROLLING PROGRAMME</p> <p>VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES</p> <p>Page 12 of 25</p>		<p>Date</p> <p>31-May-17</p> <p>30-Jun-17</p> <p>31-Jul-17</p>	<p>Revision</p> <p>3MRP updated as of 31 May 2017</p> <p>3MRP updated as of 30 June 2017</p> <p>3MRP updated as of 31 July 2017</p>	<p>Checked</p> <p>ZJ</p> <p>ZJ</p> <p>ZJ</p>	<p>Approved</p>
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HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Activity ID	Activity Name	2017				02-Aug-17
		Jul	Aug	Sep	Oct	
SG3760	Sewerage (121m & 6MHs)					
Waterpipe Laying						
SW3650	Fresh Water Main Laying (108m)					
Duct Laying for Utilities/Telecom Cabling, TCSS & Lighting						
B11480	ELV System Installation for Contract HY2013/02					
SU5340	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV					
SU5350	Duct & Cable Laying for TCSS & Lighting					
SU5640	Access date to Telephone Companies					
Roadworks						
SR3740	Subbase (261 ton)					
SR3770	Bitumen Pavement (619 ton)					
Road Furniture						
SR3720	Road Furniture (KD25)					
PORTION E						
006 - Shuttle Bus Kiosk & Staff Subway Entrance, at Portion E & M						
A00640	Backfilling & Surcharge					
A00650	Constructing Ground Slab					
A00660	Constructing Kiosk (4 Nr.)					
A00670	Constructing Subway Entrance					
A00680	Canopy Roof					
A00690	BS + E&M for AVCSS works (KD18B)					
B00610	BS for Office Accommodation (Stage 8)					
B00620	BS + E&M for Office Accommodation (Stage 9)					
B00640	Other BS + E&M Installation					
B00650	T&C for BS & ELV					
B00660	TPIDC Inspection					
External Works for Portion E						
Drainage Works						
SG3780	Drainage Works (99m & 5MHs)					
SG3900	Sewerage (38m & 1 MH)					
Waterpipe Laying						
SW3790	Fresh Water Main Laying (45m)					
SW3800	Flushing Water Main Laying (25m)					
Duct Laying for Utilities/Telecom Cabling, TCSS & Lighting						
SU5360	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV					
SU5370	Duct & Cable Laying for TCSS & Lighting					
Roadworks						
SR3880	Subbase (1659 ton)					
SR3910	Bitumen Pavement (2105 ton)					
SR3920	Rigid Pavement (180 m ³)					
Railing						
SR3850	Railing					
Road Furniture						
SR3860	Road Furniture (KD25)					
PORTION F						
External Works for Portion F						
Drainage Works						
SG3930	Drainage Works (122m & 9MHs)					
SG4050	Sewerage (70m & 3MHs)					

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H2MB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

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Activity ID	Activity Name	Jul	Aug	Sep	Oct	Nov
Waterpipe Laying						
SW9940	Fresh Water Main Laying (205m)					
Duct Laying for Utilities/Telecom, TCSS & Lighting						
SU5380	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV					
SU5390	Duct & Cable Laying for TCSS & Lighting					
SU5420	ELV Installation					
Roadworks						
SR4030	Subbase (1534 ton)					
SR4060	Bitumen Pavement (1909 ton)					
PORTION G, H1 & H2						
Box Culvert Structures						
Box Culvert Structure						
SC0320	Box C - Branch Backfilling					
SC0390	Box C - Back filling					
Bridge A1						
Structure Deck						
SA1520	Parapet (42 pour), E&M works & installation of DS38 & DS39					
SA1530	Bituminous Paving (751 ton) (KD25)					
Bridge A2						
Structure Deck						
SA2460	Deck on P201 & P202 + Stressing					
SA2470	Parapet (36 pour), E&M Works & installation of DS49					
SA2480	Bituminous Paving (KD25)					
Bridge A3						
Structure Deck						
SA3510	Parapet (56 pour), E&M Works & installation of DSS1					
SA3520	Bituminous Paving (580 ton) (KD25)					
Bridge A4						
Structure Deck						
SA4460	Deck on P304b, P401, P402 + Stressing					
SA4470	Parapet (35 pour), E&M Works					
SA4480	Bituminous Paving (232 ton) (KD25)					
Bridge A5						
Structure Deck						
SA5560	Deck on P507 & P508a, P508b + Stressing					
SA5570	MJ Installation (KD16 & KD17)					
SA5580	Parapet (65 pour), E&M Works installation of ADS 304A					
Bridge A6						
Structure Deck						
SA6540	Parapet (50 pour) & E&M Works					
Bridge A7a, A7b, A7c						
Structure Deck						
SA7940	Parapet for Bridge A7b (8 pour) & E&M Works					
SA7950	Parapet for Bridge A7c (38 pour) & E&M Works					
SA7960	Parapet for Bridge A7a (48 pour) & E&M Works					
SA7970	Bituminous Paving for A7b (571 ton) (KD25)					
SA7980	Bituminous Paving for A7c (400 ton) (KD25)					
SA7990	Bituminous Paving for A7a (400 ton) (KD25)					

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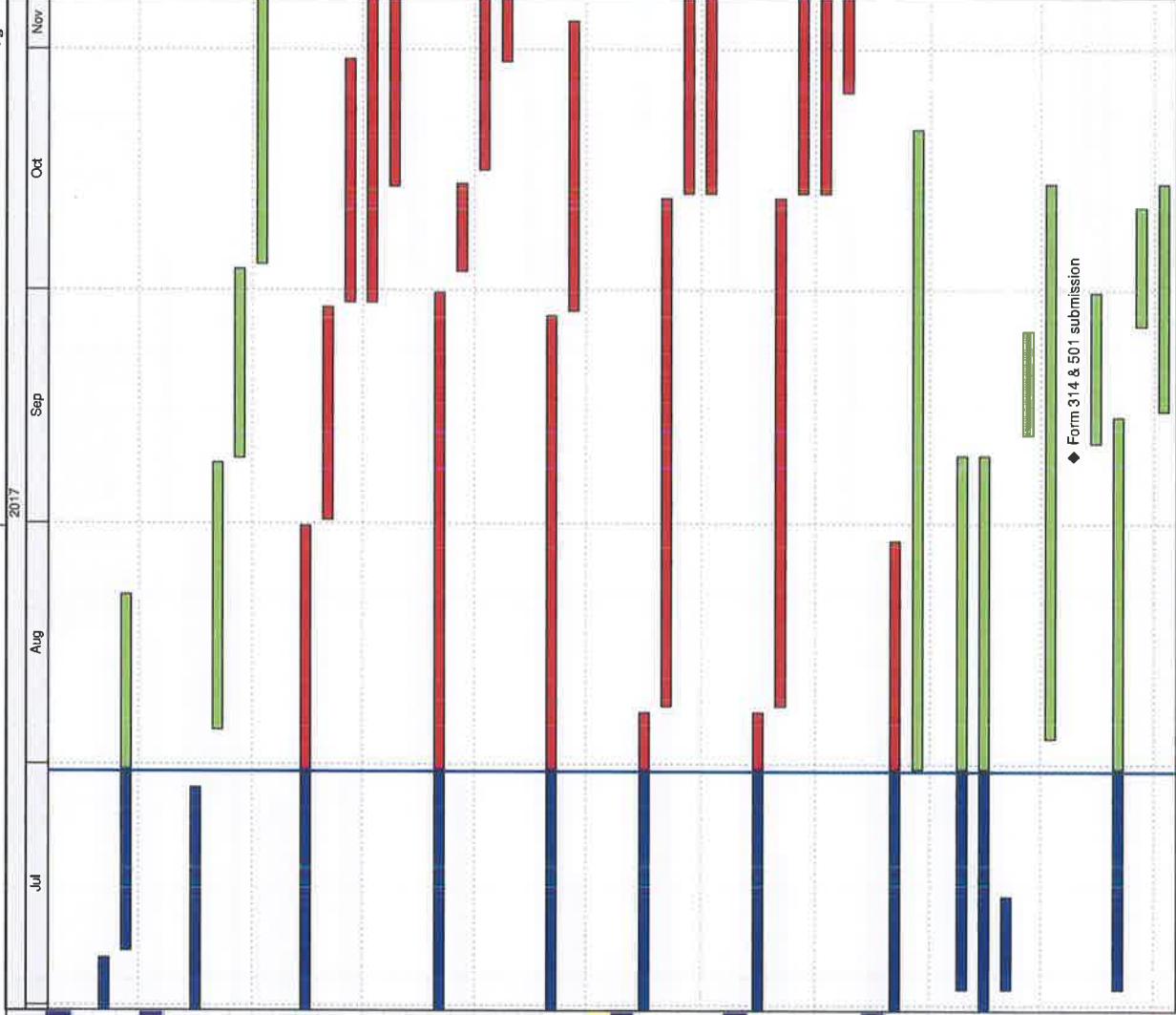
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█ Actual Work
█ Remaining Work
█ Critical
◆ Milestone

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities



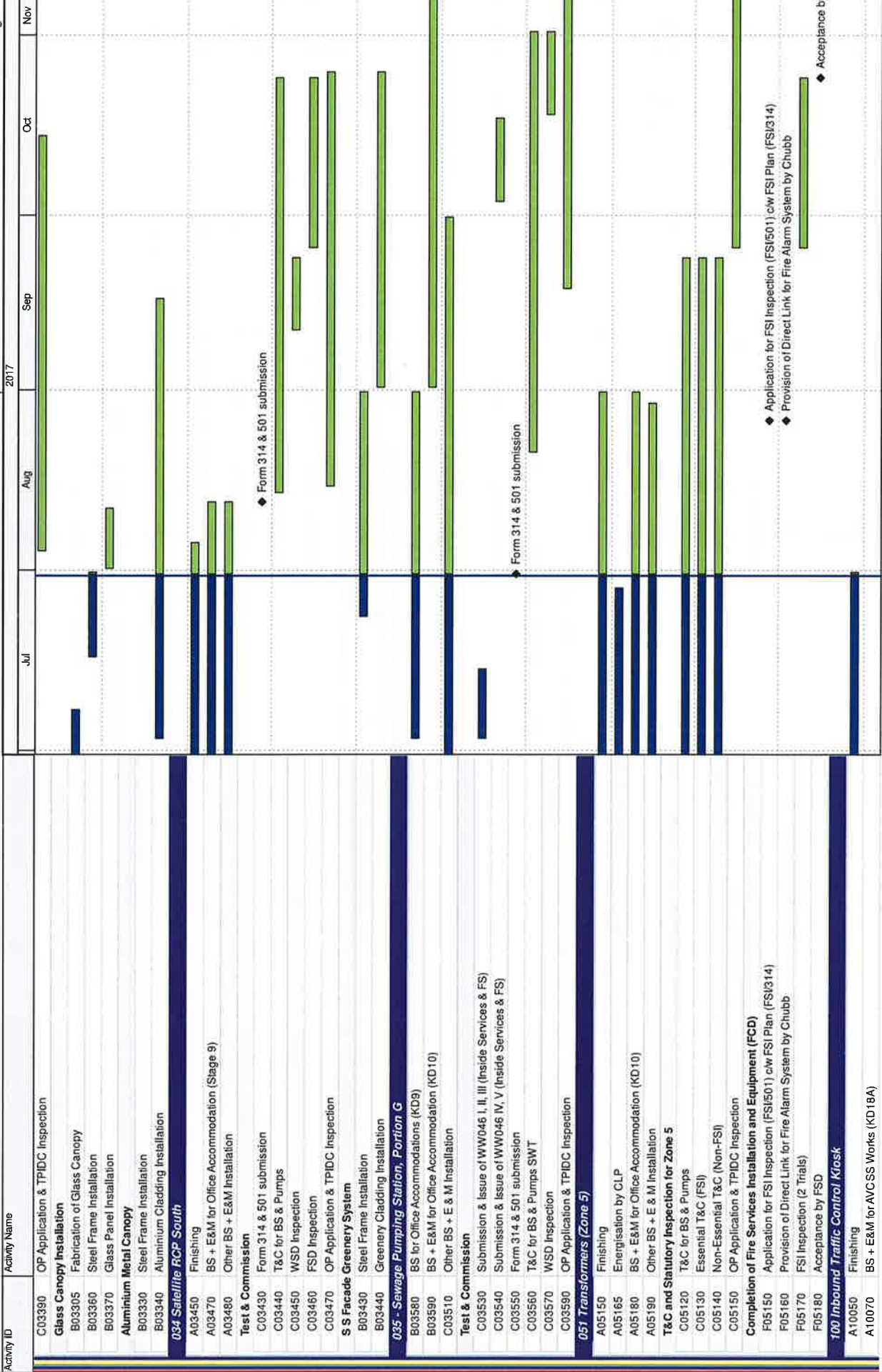
Activity ID	Activity Name	2017	2017	2017	2017	2017
		Jul	Aug	Sep	Oct	Nov
Bridge A8						
Structure Deck						
SA8470	Parapet (26 Pour) & E&M works					
SA8480	Bituminous Paving (348 ton) (KD25)					
Retaining Walls W7-1, W3-1, W5-1 & W7-1						
Retaining Wall W1-1						
SW1120	Retaining Wall W1-1 Backfilling					
SW1122	Slope C3-S3 Construction					
SW1130	Retaining Wall W1-1 Parapet (8 pour) & E&M Works					
SW1150	Retaining Wall W1-1 Drainage System & Cable Laying					
Retaining Wall W3-1						
SW3150	Construction of Retaining Wall W3-1 (U-shape, 4 bays)					
SW3160	Backfilling W3-1					
SW3165	Slope C3-S4 Construction					
SW3170	Parapet W3-1 (8 pours) & E&M Works					
SW3180	W3-1 Drainage System & Cable Laying					
Retaining Wall W5-1						
SW5010	Construction of Retaining Wall W5-1 (L-shape, 5 bays)					
SW5020	Retaining Wall W5-1 Backfilling to Retaining Wall					
SW5024	Slope C3-S5 Construction					
SW5030	Retaining Wall W5-1 Parapet (9 pour) & E&M Works					
Retaining Wall W7-1						
SW7110	Construction of Retaining Wall W7-1 (U-shape, 4 bays)					
SW7120	Backfilling to Retaining Wall W7-1					
Portion G Buildings						
002 - C&ED Observation Guard Booth No. 1, Portion H1						
C00230	Raft Foundation					
C00240	Superstructure					
C00250	Finishing					
C00260	BS for Office Accommodations (KD9)					
002 - C&ED Observation Guard Booth No. 2, Portion H1						
E00220	Raft Foundation					
E00230	Superstructure					
E00240	Finishing					
E00250	BS for Office Accommodations (KD9)					
E00295	OP Application & TPIDC Inspection					
003 Inbound Private Car Exam Building						
A03330	Finishing					
A03360	External Works					
A03370	BS for Office Accommodation (Stage 8)					
A03380	BS + E&M for Office Accommodation (Stage 9)					
A03390	Other BS + E&M Installation					
C03310	Submission & Issue of WW046 I, II, III (Inside Services & FS)					
C03320	Submission & Issue of WW046 IV, V (Inside Services & FS)					
C03330	BEEO Stage II & Assessor Certification Submission					
C03340	Form 314 & 501 submission					
C03350	Plumbing Inspection by WSD					
C03360	T&C for BS & Pumps					
C03370	WSD Inspection					
C03380	FSD Inspection					

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█ Actual Work
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Activity ID	Activity Name	2017					02-Aug-17
		Jul	Aug	Sep	Oct	Nov	
B10060	BS + E&M for AVCS Cabling (KD188)						
B10070	BS for Office Accommodations (KD9)						
B10080	BS + E&M for Office Accommodation (KD10)						
B10090	Other BS + E & M Installation						
C10020	Submission & Issue of WW046 IV, V (Inside Services & FS)						
C10030	Form 314 & 501 submission						
C10040	T&C for BS & Pumps SWT						
C10050	WSD Inspection						
C10060	FSD Inspection						
C10070	OP Application & TPIDC Inspection						
HPL Composite Panel Cladding System							
B10015	Fabrication of FC System						
B10030	Steel Frame Installation						
B10040	HPL Cladding Panel Installation						
112 Field Kiosk for Taxi Queuing Area							
A11240	Finishing						
A11250	BS + E & M Installation						
A11260	T&C for BS & Pumps SWT						
A11280	OP Application & TPIDC Inspection						
External Works for Portion G, H1 & H2							
ELV Works within Portion H2 in the Hong Kong Side PTI							
EU1550	ELV Works within Portion H2 in the Hong Kong Side PTI (KD19)						
Works within Portion H1 & H2 except the ELV Works in the Hong Kong Side PTI							
EU1560	Drainage & Sewerage Works within Portion H1 & H2 in the Hong Kong Side PTI (KD20)						
All Works within the Boundary defined in Drawing No. 60191048/C3/000/C00/1050							
BEU1570	Drainage & Sewerage Works (incl. CLP) within the Boundary defined in Drawing No. 60191048/C3/000/1050						
BEU1580	Roadworks within the Boundary defined in Drawing No. 60191048/C3/000/1050, excluding Portion H1 & H2 & Bridges (KD24)						
Drainage Works							
ED4070	Drainage Works (6954m & 393MHs)						
ED4190	Sewerage (437m & 1.2MHs)						
Waterpipe Laying							
EW4080	Fresh Water Main Laying (1689m)						
EW4090	Flushing Water Main Laying (411m)						
Duct Laying for Utilities/Telecom Cabling, TCSS & Lighting							
EU5400	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
EU5410	Duct & Cable Laying for TCSS & Lighting						
EU5560	ELV Installation						
Roadworks							
ER4170	Subbase (17045 ton)						
ER4200	Bitumen Pavement (24549 ton)						
ER4210	Rigid Pavement (514 m3), Footpath & EVA						
Road Furniture							
ER4150	Road Furniture						
Sign Gantry DS40, DS41 & DS75							
ES0180	Fabrication & Delivery of Sign Gantries to Site						
ES0190	Erection of Sign Gantry						
Canopy and Covered Walkway							
CC1820	Footing						

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Activity ID	Activity Name	2017					02-Aug-17
		Jul	Aug	Sep	Oct	Nov	
CC1330	Steel Frame Installation						
PORTION J							
Portion J Structure							
<i>Bay 30 - 41 of CUE/Staff Subway (Portion J)</i>							
B03260	Internal Finishes & Cable Containment (KD2)						
B03270	BS + E&M Installation for AVCSS (Stage 2) (KD2)						
030 Outbound Private Car & GV Kiosks							
A03030	Superstructure (Incl. Entrance & Toilet)						
A03050	Finishing						
A03060	BS + E&M for AVCSS Works (KD18B)						
A03070	BS for Office Accommodations (KD9)						
A03080	BS + E&M for Office Accommodation (KD10)						
A03090	Other BS + E & M Installation						
B03010	T&C for BS & Pumps SWT						
B03030	OP Application & TPIDC Inspection						
030 Outbound Kiosks, Section IX, Subject to Excision							
C03030	Superstructure						
C03040	BS + E&M for AVCSS Works (KD18C) & Finishing						
C03050	BS + E&M for AVCSS Works (KD18D) & Finishing						
Portion J Buildings							
024 Outbound Private Car Exam Building							
A02430	Finishing (KD9)						
A02440	BS for Office Accommodations (KD18F)						
A02450	BS + E&M for Office Accommodation (KD18G)						
A02460	Other BS + E & M Installation (KD31)						
Test & Commission							
D02420	Submission & Issue of WW046 IV, V (Inside Services & FS)						
D02430	BEEC Stage II & Assessor Certification Submission						
D02440	WSD Inspection						
D02450	FSD Inspection						
D02460	T&C for BS & Pumps						
D02470	OP Application & TPIDC Inspection						
Glass Canopy Installation							
B02415	Fabrication of F/C System						
B02430	Steel Frame Installation						
B02440	Glass Panel Installation						
Aluminium Metal Canopy							
B02470	Steel Frame Installation						
B02480	Aluminium Cladding Installation (KD31)						
031 Outbound I/MMD and DOH Secondary Screen Building							
A03150	Finishing (KD31)						
A03160	BS for Office Accommodations (KD18F)						
A03170	BS + E&M for Office Accommodation (KD18G)						
A03180	Other BS + E & M Installation (KD31)						
Test & Commission							
C03130	Submission & Issue of WW046 IV, V (Inside Services & FS)						
C03140	BEEC Stage II & Assessor Certification Submission						
C03150	Form LES Submission to EMSD						
C03160	Lift Inspection by EMSD						
C03170	T&C for BS & Pumps						

■ Actual Work
■ Remaining Work
■ Critical
◆ Milestone

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HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

02-Aug-17

Activity ID	Activity Name	2017	Jul	Aug	Sep	Oct	Nov
C03180	WSD Inspection						
D03110	OP Application & TPIDC Inspection						
060 - Single Storey Support Building Associated with Buildings 044 & 045							
A06025	Finishing						
A06055	Energisation by CLP						
A06060	BS for Office Accommodation (Stage 10) (KD11)						
A06070	BS + E&M for Office Accommodations (Stage 11) (KD12)						
A06080	Other BS + E&M Installation						
Fuel Filling Station incl. BS & E/M							
A06090	All Works for Fuel Filling Station						
T&C and Statutory Inspection for Zone 3a							
B06020	BEEC Stage II & Assessor Certification Submission						
B06030	T&C for BS & Pumps						
B06060	Essential T&C (FSI)						
B06070	Non-Essential T&C (Non-FSI)						
B06080	OP Application & TPIDC Inspection						
Completion of Fire Services Installation and Equipment (FCD)							
F06050	Application for FSI Inspection (FSI501) c/w FSI Plan (FSI314)						
F06060	Provision of Direct Link for Fire Alarm System by Chubb						
F06070	FSI Inspection (2 Trials)						
Waterworks Ordinance (WSD)							
G06030	Submission of WWO46 - Part IV (Inside Services)						
G06040	WSD Inspection & Issue of WWO46 - Part V (Inside Services)						
DG License & EPD Generator Approval							
G06000	DG Application						
061 Telecom Building							
A06150	Finishing (KD9)						
A06160	BS for Office Accommodations (KD9)						
A06170	BS + E&M for Office Accommodation (KD10)						
A06180	Other BS + E & M Installation						
A06190	T&C for BS						
B06160	FSD Inspection						
B06170	OP Application & TPIDC Inspection						
Aluminium Metal Canopy							
B06140	Aluminium Cladding Installation						
101 Outbound Traffic Control Kiosk							
A10140	Finishing						
A10150	BS + E&M for AVCSS Works (KD18A)						
A10160	BS + E&M for AVCSS Cabling (KD18B)						
A10170	BS for Office Accommodations (KD9)						
A10180	BS + E&M for Office Accommodation (KD10)						
A10190	Other BS + E & M Installation						
C10120	Submission of WWO46 - Part IV (Inside Services)						
C10130	T&C for BS & Pumps						
C10140	WSD Inspection						
C10160	OP Application & TPIDC Inspection						
HPL Composite Panel Cladding System							
B10120	Fabrication of HPL Cladding						
B10140	Steel Frame Installation						
B10150	HPL Cladding Panel Installation (KD25)						

◆ Application for FSI Inspection (FSI501) c/w FSI Plan (FSI314)
◆ Provision of Direct Link for Fire Alarm System

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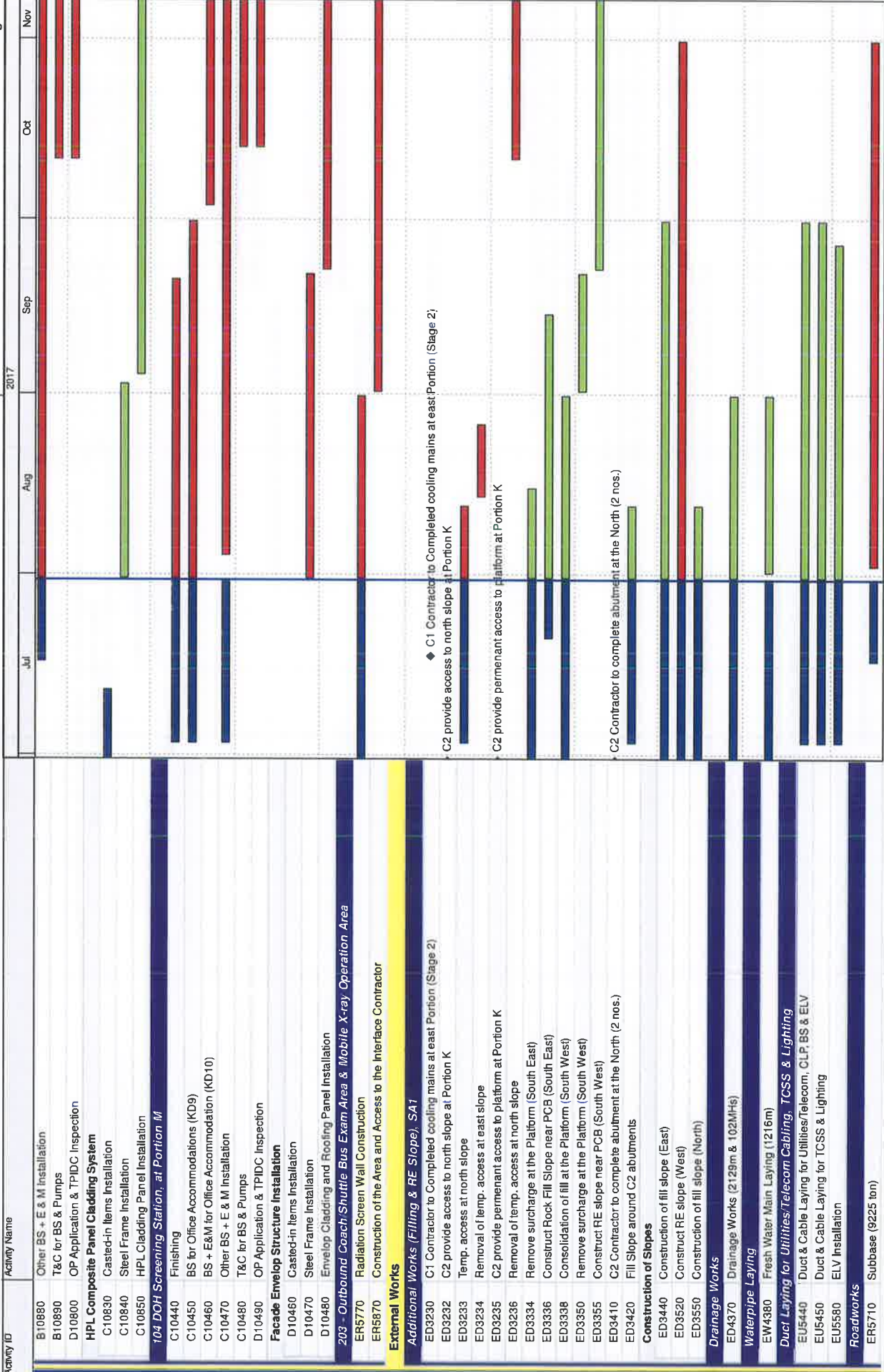
- █ Actual Work
- █ Remaining Work
- █ Critical
- ◆ Milestone

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities		2017				02-Aug-17
Activity ID	Activity Name	Jul	Aug	Sep	Oct	Nov
206 - Outbound Private Car Mobile X-ray Operation Area						
ER5780	Radiation Screen Wall Construction					
ER5800	Construction of the Area and Access to the Interface Contractor					
External Works for Portion J						
Works in Location 1.7B						
EU1500	ELV Works & T&C in Location 1.7B					
Works in Location 1.7C						
EU1530	ELV Works & T&C in Location 1.7C					
Drainage Works						
ED4220	Drainage Works (1700m & 66MHs), Stage 1					
ED4340	Sewerage (425m & 11MHs), Stage 1					
ED5710	Drainage Works (1697m & 65MHs), Stage 2					
ED5720	Sewerage (425m & 12MHs), Stage 2					
Waterpipe Laying						
EW4230	Fresh Water Main Laying (1541m)					
EW4240	Flushing Water Main Laying (962m)					
SW9290	Chilled Water Pipe Laying in Portion J (external)					
Duct Laying for Utilities/Telecom Cabling, TCSS & Lighting						
EU5420	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV					
EU5430	Duct & Cable Laying for TCSS & Lighting					
EU5570	ELV Installation					
Roadworks						
ER4320	Subbase (15400 ton), Stage 1 (Northern)					
ER4350	Bitumen Pavement (20000 ton), Stage 1 (Northern)					
ER4360	Rigid Pavement (173 m3), Footpath & EVA, Stage 1 (Northern)					
ER5680	Subbase (15409 ton), Stage 2 (Southern)					
Road Furniture						
ER4300	Road Furniture (KD25)					
Sign Gantry DS104						
ES5150	Fabrication & Delivery of Sign Gantries to Site					
ES5160	Erection of Sign Gantry					
PORTION K, L, M, S & T						
Portion K Building						
002 - C&ED Observation Guard Booth No. 1, Portion K						
A00230	Superstructure					
A00240	Finishing					
A00250	BS for Office Accommodations (Degree of Completion 2)					
A00270	Other BS + E & M Installation					
002 - C&ED Observation Guard Booth No. 2, Portion K						
B00230	Superstructure					
B00240	Finishing					
B00250	BS for Office Accommodations (Degree of Completion 2)					
B00270	Other BS + E & M Installation					
Portion M Buildings						
108 - C&ED Mobile X-ray Operation Office, Portion M						
B10840	Superstructure (Roof beams & Slabs)					
B10850	Finishing					
B10860	BS for Office Accommodations (KD9)					
B10870	BS + E&M for Office Accommodation (KD10)					

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Critical	30-Jun-17	ZJ	
Milestones	31-Jul-17	ZJ	

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Activity ID	Activity Name	2017	2017	2017	2017	2017
		Jul	Aug	Sep	Oct	Nov
ER5720	Bitumen Pavement (9102 ton)					
ER5730	Rigid Pavement (1525 m3) & Footpath					
Canopy and Covered Walkway						
CC1400	Shop drawing, Approved & Fabrication					
CC1410	Footing					
CC1420	Steel Frame Installation					
CC1430	Panel Installation					
Railing						
ER4440	Railing					
Road Furniture						
ER4450	Road Furniture (KD25)					
PORTION N						
Portion N Structure						
Box Culvert B						
Box Culvert Structure						
SB0710	Box B - Construction (Stage 1)					
SB0720	Box B - Construction (Stage 2)					
SB0722	Box B - Temporary Works for Construction of Outfall Structure					
SB0730	Box B - Outfall Structure					
SB0740	Box B - Reinstatement of Sloping Seawall					
SB0750	Box B - Backfilling					
Portion N Buildings						
104 DOH Screening Station, at Portion N						
C10410	Structure (Rat) Foundation					
C10420	Finishing					
E10410	BS for Office Accommodations (KD9)					
E10420	BS + E&M for Office Accommodation (KD10)					
E10430	Other BS + E & M Installation					
Facade Envelop Structure Installation						
D10415	Fabrication of F/C System					
D10420	Casted-in Items Installation					
D10430	Steel Frame Installation					
106 C&ED Detention Area Guard Booth						
A10640	Finishing					
E10640	BS for Office Accommodations (KD9)					
E10650	BS + E&M for Office Accommodation (KD10)					
Facade Envelop Structure Installation						
B10615	Fabrication of F/C System					
B10620	Casted-in Items Installation					
B10630	Steel Frame Installation					
B10640	Envelop Cladding and Roofing Panel Installation					
107 C&ED Mobile X-ray Operation Office, Portion N						
A10740	Superstructure					
A10750	Finishing (KD9)					
A10760	Other BS + E & M Installation (KD10)					
A10770	T&C for BS & Pumps					
A10790	OP Application & TPDC Inspection					
HPL Composite Panel Cladding System						
B10720	Fabrication of HPL Composite Panel System					

Activity ID	Activity Name	2017	2017	2017	2017	2017
		Jul	Aug	Sep	Oct	Nov
ER5720	Bitumen Pavement (9102 ton)					
ER5730	Rigid Pavement (1525 m3) & Footpath					
Canopy and Covered Walkway						
CC1400	Shop drawing, Approved & Fabrication					
CC1410	Footing					
CC1420	Steel Frame Installation					
CC1430	Panel Installation					
Railing						
ER4440	Railing					
Road Furniture						
ER4450	Road Furniture (KD25)					
PORTION N						
Portion N Structure						
Box Culvert B						
Box Culvert Structure						
SB0710	Box B - Construction (Stage 1)					
SB0720	Box B - Construction (Stage 2)					
SB0722	Box B - Temporary Works for Construction of Outfall Structure					
SB0730	Box B - Outfall Structure					
SB0740	Box B - Reinstatement of Sloping Seawall					
SB0750	Box B - Backfilling					
Portion N Buildings						
104 DOH Screening Station, at Portion N						
C10410	Structure (Rat) Foundation					
C10420	Finishing					
E10410	BS for Office Accommodations (KD9)					
E10420	BS + E&M for Office Accommodation (KD10)					
E10430	Other BS + E & M Installation					
Facade Envelop Structure Installation						
D10415	Fabrication of F/C System					
D10420	Casted-in Items Installation					
D10430	Steel Frame Installation					
106 C&ED Detention Area Guard Booth						
A10640	Finishing					
E10640	BS for Office Accommodations (KD9)					
E10650	BS + E&M for Office Accommodation (KD10)					
Facade Envelop Structure Installation						
B10615	Fabrication of F/C System					
B10620	Casted-in Items Installation					
B10630	Steel Frame Installation					
B10640	Envelop Cladding and Roofing Panel Installation					
107 C&ED Mobile X-ray Operation Office, Portion N						
A10740	Superstructure					
A10750	Finishing (KD9)					
A10760	Other BS + E & M Installation (KD10)					
A10770	T&C for BS & Pumps					
A10790	OP Application & TPDC Inspection					
HPL Composite Panel Cladding System						
B10720	Fabrication of HPL Composite Panel System					

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Date	Revision	Checked	Approved
31-May-17	3MRP updated as of 31 May 2017	ZJ	
30-Jun-17	3MRP updated as of 30 June 2017	ZJ	
31-Jul-17	3MRP updated as of 31 July 2017	ZJ	

█	Actual Work
█	Remaining Work
█	Critical
◆	Milestone

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Activity ID	Activity Name	2017					02-Aug-17
		Jul	Aug	Sep	Oct	Nov	
B10730	Casted-in Items Installation						
B10740	Steel Frame Installation						
B10750	HPL Cladding Panel Installation						
200 Inbound/Outbound Vehicle Detection Area							
ER5810	Construction of the Area and Access to the Interface Contractor						
202 Outbound Cargo Mobile X-ray Operation Area							
ER5790	Radiation Screen Wall Construction						
ER5820	Construction of the Area and Access to the Interface Contractor						
211 - Inmmd GV Secondary Examination Bays Outbound							
ER5840	Construction of the Bays and Access to the Interface Contractor						
External Works for Portion N							
Works in Location 1.7A							
EU1540	ELV Works & T&C in Location 1.7A						
Drainage Works							
ED4620	Drainage Works (964m & 56MHs), Stage 1 (Southern)						
ED4650	Sewerage (383m & 12MHs), Stage 1 (Southern)						
ED5750	Drainage Works (963m & 56MHs), Stage 2 (Northern)						
ED5760	Sewerage (383m & 12MHs), Stage 2 (Northern)						
Waterpipe Laying							
EW4530	Fresh Water Main Laying (641m)						
EW4540	Flushing Water Main Laying (413m)						
SW9300	Chilled Water Pipe Laying in Portion N (external)						
Duct Laying for Utilities/Telecom Cabling, TCSS & Lighting							
EU5460	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
EU5470	Duct & Cable Laying for TCSS & Lighting						
EU5590	ELV Installation						
Roadworks							
ER4620	Subbase (6475 ton)						
ER4650	Bitumen Pavement (10144ton)						
ER4660	Rigid Pavement (183 m3), Footpath & EVA						
Road Furniture							
ER4600	Road Furniture (KD25)						
PORTION P							
Portion Structure							
Retaining Wall RW1							
RW1110	Construction of Retaining Wall RW1 (U-shape, 5 bays)						
RW1140	Backfilling RW1						
RW1150	Parapet RW1 (20 pours)						
RW1160	RW1 Drainage System						
Portion P Buildings							
105 IMMD Guard Booth, Portion P							
A10530	On Grade Ground Slab						
A10540	Finishing						
E10500	BS for Office Accommodations (KD9)						
E10510	BS + E&M for Office Accommodation (KD10)						
E10520	Other BS + E & M Installation						
E10530	Form 314 Submission						
E10540	Form 501 Submission						
E10550	T&C for BS & Pumps						

■ Actual Work
■ Remaining Work
■ Critical
◆ Milestone

◆ Form 314 Submission
◆ Form 501 Submission

THREE MONTH ROLLING PROGRAMME

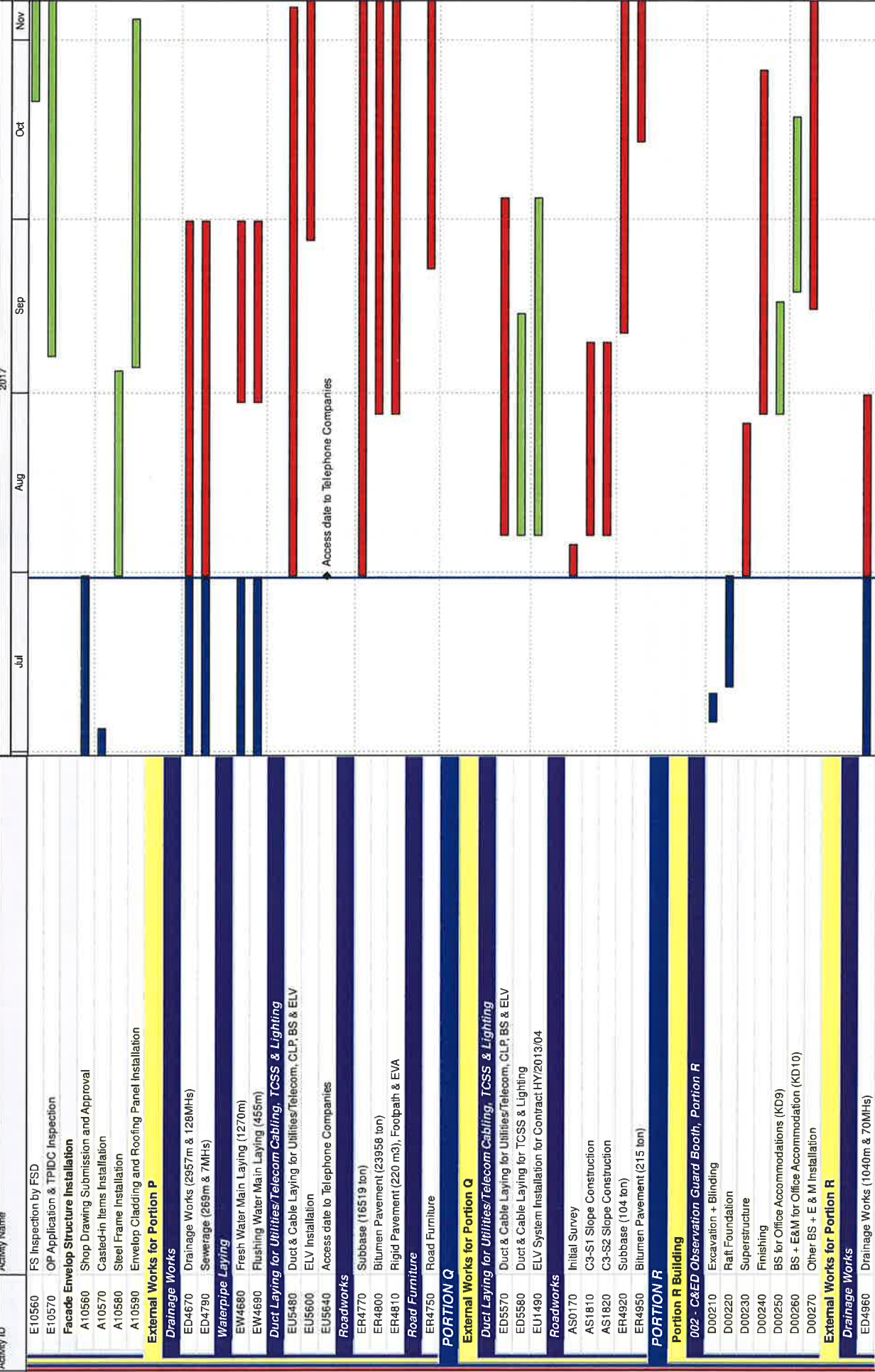
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

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31-May-17	3MRP updated as of 31 May 2017	ZJ	
30-Jun-17	3MRP updated as of 30 June 2017	ZJ	
31-Jul-17	3MRP updated as of 31 July 2017	ZJ	

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Activity Name
2017
02-Aug-17



Date	Revision	Checked	Approved
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THREE MONTH ROLLING PROGRAMME
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

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HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities

02-Aug-17

Activity ID	Activity Name	2017				
		Jul	Aug	Sep	Oct	Nov
ED5080	Sewerage (272m & 7MHs)					
Waterpipe Laying						
EW4970	Fresh Water Main Laying (614m)					
EW4980	Flushing Water Main Laying (222m)					
Duct Laying for Utilities/Telecom Cabling, TCSS & Lighting						
EU5500	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV					
EU5510	Duct & Cable Laying for TCSS & Lighting					
EU5610	ELV Installation					
Roadworks						
ERS060	Subbase (1734 ton)					
ERS090	Bitumen Pavement (812ton)					
ERS100	Rigid Pavement (487 m3)					
Road Furniture						
ERS040	Road Furniture (KD25)					
Landscape Works						
A5170	Design and Procurement for Irrigation System					
A5180	Installation of Irrigation System					
A5190	All landscape Soft & Hard Works					



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31-Jul-17	3MRP updated as of 31 July 2017	ZJ	

**THREE MONTH ROLLING PROGRAMME
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES**

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Activity ID	Activity Name	2015				2016				2017				2018				2019	
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
<p>Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossin</p> <p>Key Dates</p> <ul style="list-style-type: none"> A1000 Acceptance of Contract A1010 Commencement of Works A1020 Excision of Phase 2 (Section II & III) A1120 KD1 (Phase 1 / Section I) (28 Kiosks) A1470 KD2 (Phase 2 / Section II) (2 Kiosks) A1480 KD3 (Phase 2 / Section III) (42 Kiosks) <p>Interface Activities</p> <ul style="list-style-type: none"> A6860 Interface Management Plan Submission between C6 and C1 A6865 Interface Management Plan between C6 and C1 reviewed by Engineer A6870 Detailed Interface Document Submission between C6 and C1 A6875 Detailed Interface Document between C6 and C1 reviewed by Engineer A6880 Interface Management Plan Submission between C6 and C3 A6885 Interface Management Plan between C6 and C3 reviewed by Engineer A6890 Detailed Interface Document Submission between C6 and C3 A6895 Detailed Interface Document between C6 and C3 reviewed by Engineer A6900 Interface Management Plan Submission between C6 and C8 A6905 Interface Management Plan between C6 and C8 reviewed by Engineer A6910 Detailed Interface Document Submission between C6 and C8 A6915 Detailed Interface Document between C6 and C8 reviewed by Engineer <p>Site and Facility Inspection</p> <ul style="list-style-type: none"> A4730 Pre Site and Facility Inspection by Contractor at Location 1 - Deg1 A4740 Joint Site and Facility Inspection with Interface Contractor at Location 1 - Deg1 A4760 Pre Site and Facility Inspection by Contractor at Location 2 - Deg1 A4770 Joint Site and Facility Inspection with Interface Contractor at Location 2 - Deg1 A4772 Pre Site and Facility Inspection by Contractor at Location 2 - Deg2 A4774 Joint Site and Facility Inspection with Interface Contractor at Location 2 - Deg2 A4775 Joint Site and Facility Inspection with Interface Contractor at Location 2 for Server Installation A4780 Pre Site and Facility Inspection by Contractor at Location 3 - Deg1 A4790 Joint Site and Facility Inspection with Interface Contractor at Location 3 - Deg1 A4800 Pre Site and Facility Inspection by Contractor at Location 3 - Deg2 A4810 Joint Site and Facility Inspection with Interface Contractor at Location 3 - Deg2 A4820 Pre Site and Facility Inspection by Contractor at Location 3a - Deg1 A4830 Joint Site and Facility Inspection with Interface Contractor at Location 3a - Deg1 A4840 Pre Site and Facility Inspection by Contractor at Location 3a - Deg2 A4850 Joint Site and Facility Inspection with Interface Contractor at Location 3a - Deg2 A4851 Joint Site and Facility Inspection with Interface Contractor at Location 3a for Server Installation A4860 Pre Site and Facility Inspection by Contractor at Location 4 - Deg1 A4870 Joint Site and Facility Inspection with Interface Contractor at Location 4 - Deg1 A4880 Pre Site and Facility Inspection by Contractor at Location 4 - Deg2 A4890 Joint Site and Facility Inspection with Interface Contractor at Location 4 - Deg2 A4891 Pre Site and Facility Inspection by Contractor at Location 4a - Deg1 																			

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



Date	Revision	Checked	Approved
14-Nov-16	Rev: 0	WC	LC

Activity ID	Activity Name	2015				2016				2017				2018				2019	
		Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
A4882	Joint Site and Facility Inspection with Interface Contractor at Location 4a - Deg1																		
A4900	Pre Site and Facility Inspection by Contractor at Location 4a - Deg2																		
A4910	Joint Site and Facility Inspection with Interface Contractor at Location 4a - Deg2																		
A4920	Pre Site and Facility Inspection by Contractor at Location 5 - Deg1																		
A4930	Joint Site and Facility Inspection with Interface Contractor at Location 5 - Deg1																		
A4940	Pre Site and Facility Inspection by Contractor at Location 5 - Deg2																		
A4950	Joint Site and Facility Inspection with Interface Contractor at Location 5 - Deg2																		
A4960	Pre Site and Facility Inspection by Contractor at Location 6 - Deg1																		
A4970	Joint Site and Facility Inspection with Interface Contractor at Location 6 - Deg1																		
A4980	Pre Site and Facility Inspection by Contractor at Location 6 - Deg2																		
A4990	Joint Site and Facility Inspection with Interface Contractor at Location 6 - Deg2																		
A5000	Pre Site and Facility Inspection by Contractor at Location 7 - Deg1																		
A5010	Joint Site and Facility Inspection with Interface Contractor at Location 7 - Deg1																		
A5020	Pre Site and Facility Inspection by Contractor at Location 8 - Deg1																		
A5030	Joint Site and Facility Inspection with Interface Contractor at Location 8 - Deg1																		
A5040	Pre Site and Facility Inspection by Contractor at Location 8 - Deg2																		
A5050	Joint Site and Facility Inspection with Interface Contractor at Location 8 - Deg2																		
A5060	Pre Site and Facility Inspection by Contractor at Location 9 - Deg1																		
A5070	Joint Site and Facility Inspection with Interface Contractor at Location 9 - Deg1																		
A5080	Pre Site and Facility Inspection by Contractor at Location 9 - Deg2																		
A5090	Joint Site and Facility Inspection with Interface Contractor at Location 9 - Deg2																		
A5100	Pre Site and Facility Inspection by Contractor at Location 10 - Deg1																		
A5110	Joint Site and Facility Inspection with Interface Contractor at Location 10 - Deg1																		
A5120	Pre Site and Facility Inspection by Contractor at Location 10 - Deg2																		
A5130	Joint Site and Facility Inspection with Interface Contractor at Location 10 - Deg2																		
A5140	Pre Site and Facility Inspection by Contractor at Location 11 - Deg1																		
A5150	Joint Site and Facility Inspection with Interface Contractor at Location 11 - Deg1																		
A5160	Pre Site and Facility Inspection by Contractor at Location 11 - Deg2																		
A5170	Joint Site and Facility Inspection with Interface Contractor at Location 11 - Deg2																		
A5180	Pre Site and Facility Inspection by Contractor at Location 12 - Deg1																		
A5190	Joint Site and Facility Inspection with Interface Contractor at Location 12 - Deg1																		
A5200	Pre Site and Facility Inspection by Contractor at Location 12 - Deg2																		
A5210	Joint Site and Facility Inspection with Interface Contractor at Location 12 - Deg2																		
A5220	Pre Site and Facility Inspection by Contractor at Location 13 - Deg1																		
A5230	Joint Site and Facility Inspection with Interface Contractor at Location 13 - Deg1																		
A5240	Pre Site and Facility Inspection by Contractor at Location 13 - Deg2																		
A5250	Joint Site and Facility Inspection with Interface Contractor at Location 13 - Deg2																		
A5260	Pre Site and Facility Inspection by Contractor at Location 14 - Deg1																		
A5270	Joint Site and Facility Inspection with Interface Contractor at Location 14 - Deg1																		
A5300	Pre Site and Facility Inspection by Contractor at Location 15 - Deg1																		
A5310	Joint Site and Facility Inspection with Interface Contractor at Location 15 - Deg1																		
A5320	Pre Site and Facility Inspection by Contractor at Location 15 - Deg2																		
A5330	Joint Site and Facility Inspection with Interface Contractor at Location 15 - Deg2																		
A5340	Pre Site and Facility Inspection by Contractor at Location 16 - Deg1																		
A5350	Joint Site and Facility Inspection with Interface Contractor at Location 16 - Deg1																		

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



Date	Revision	Checked	Approved
14-Nov-16	Rev. 0	WC	LC

Activity ID	Activity Name	2015				2016				2017				2018				2019	
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
A5360	Pre Site and Facility Inspection by Contractor at Location 16 - Deg2																		
A5370	Joint Site and Facility Inspection with Interface Contractor at Location 16 - Deg2																		
A5375	Pre Site and Facility Inspection by Contractor at Location 17 - Deg1																		
A5376	Joint Site and Facility Inspection with Interface Contractor at Location 17 - Deg1																		
A5380	Pre Site and Facility Inspection by Contractor at Location 17 - Deg2																		
A5390	Joint Site and Facility Inspection with Interface Contractor at Location 17 - Deg2																		
A5395	Pre Site and Facility Inspection by Contractor at Location 18 - Deg1																		
A5396	Joint Site and Facility Inspection with Interface Contractor at Location 18 - Deg1																		
A5400	Pre Site and Facility Inspection by Contractor at Location 18 - Deg2																		
A5410	Joint Site and Facility Inspection with Interface Contractor at Location 18 - Deg2																		
A5420	Pre Site and Facility Inspection by Contractor at Location 19 - Deg1																		
A5430	Joint Site and Facility Inspection with Interface Contractor at Location 19 - Deg1																		
A5440	Pre Site and Facility Inspection by Contractor at Location 19 - Deg2																		
A5450	Joint Site and Facility Inspection with Interface Contractor at Location 19 - Deg2																		
A5470	Pre Site and Facility Inspection by Contractor at Inbound Vehicle Clearance Plaza																		
A5480	Joint Site and Facility Inspection with Interface Contractor at Inbound Vehicle Clearance Plaza																		
A5490	Pre Site and Facility Inspection by Contractor at Outbound Vehicle Clearance Plaza																		
A5550	Joint Site and Facility Inspection with Interface Contractor at Outbound Vehicle Clearance Plaza																		
Access Dates		<p>24-Jun-17, Access Dates</p> <p>Location 1(PCB 001) Basement)-Deg1 (270d)</p> <p>Location 1(PCB 001) ELV Room (Grid Line E3))-Deg1 (270d), 10-May-16*</p> <p>Location 2(PCB 001) First Floor Main Server Room)-Deg1 (330d)</p> <p>Location 2(PCB 001) First Floor Main Server Room)-Deg2 (380d)</p> <p>Location 2(PCB 001) First Floor Main Server Room) - For Server Installation</p> <p>Location 2(PCB 001) Ground Floor ELV Room (Grid Line E3)) - Deg1 (330d)</p> <p>Location 2(PCB 001) Ground Floor DOH Port Health Control Room (Grid Line BD5)) - Deg1 (330d)</p> <p>Location 2(PCB 001) Ground Floor DOH Port Health Control Room (Grid Line BD5)) - Deg2 (380d)</p> <p>Location 3(Inbd Cargo Exam Bldg (037) MDF Room)-Deg1 (400d)</p> <p>Location 3(Inbd Cargo Exam Bldg (037) ELV Room)-Deg1 (400d)</p> <p>Location 3(Inbd Cargo Exam Bldg (037) Platform Control Room)-Deg1 (400d)</p> <p>Location 3(Inbd Cargo Exam Bldg (037) Platform Control Room)-Deg2 (500d)</p> <p>Location 3(Inbd Cargo Exam Bldg (037) Inspector Offices 128,129,130,131,128,129,140,141)-Deg1 (400d)</p> <p>Location 3(Inbd Cargo Exam Bldg (037) Inspector Offices 128,129,130,131,128,129,140,141)-Deg2 (500d)</p> <p>Location 3a(Inbd Cargo Exam Bldg ROCARS Room)-Deg1 (-)</p> <p>Location 3a(Inbd Cargo Exam Bldg ROCARS Room)-Deg2 (480d)</p> <p>Location 3a(Inbd Cargo Exam Bldg Main Server Room)-Deg1 (-)</p> <p>Location 3a(Inbd Cargo Exam Bldg Main Server Room)-Deg2 (480d)</p> <p>Location 3a(Inbd Cargo Exam Bldg Main Server Room) - For Server Installation</p> <p>Location 4(Outbd Cargo Exam Bldg (023))-Deg1 (530d)</p> <p>Location 4(Outbd Cargo Exam Bldg (023))-Deg2 (680d)</p> <p>Location 4a(Outbd Cargo Exam Bldg (023))-Deg1 (-)</p>																	

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



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Activity ID	Activity Name	2015				2016				2017				2018				2019	
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
A1162	Location 4a(Outbd Cargo Exam Bldg (023))-Deg2 (630d)																		
A1170	Location 5(Common Utility Enclosure & Staff Subway)-Deg1 (320d)																		
A1180	Location 5(Common Utility Enclosure & Staff Subway)-Deg2 (-)																		
A1190	Location 6(Common Utility Enclosure & Staff Subway)-Deg1 (400d)																		
A1200	Location 6(Common Utility Enclosure & Staff Subway)-Deg2 (-)																		
A1210	Location 7(Common Utility Enclosure & Staff Subway)-Deg1 (270d)																		
A1230	Location 8(Inbd Private Car Annex (025))-Deg1 (430d)																		
A1240	Location 8(Inbd Private Car Annex (025))-Deg2 (580d)																		
A1241	Location 8(Inbd Private Car Annex (025) Canopy)-Deg1 (430d)																		
A1242	Location 8(Inbd Private Car Annex (025) Canopy)-Deg2 (580d)																		
A1250	Location 9(Outbd Private Car Annex (032))-Deg1 (520d)																		
A1260	Location 9(Outbd Private Car Annex (032))-Deg2 (660d)																		
A1261	Location 9(Outbd Private Car Annex (032) Canopy)-Deg1 (520d)																		
A1262	Location 9(Outbd Private Car Annex (032) Canopy)-Deg2 (660d)																		
A1270	Location 10(Shuttle Bus Kiosks (006))-Deg1 (480d)																		
A1280	Location 10(Shuttle Bus Kiosks (006))-Deg2 (550d)																		
A1281	Location 10(Shuttle Bus Kiosks (006) Canopy)-Deg1 (480d)																		
A1282	Location 10(Shuttle Bus Kiosks (006) Canopy)-Deg2 (550d)																		
A1290	Location 11(Outbd Coach Kiosks (009))-Deg1 (400d)																		
A1300	Location 11(Outbd Coach Kiosks (009))-Deg2 (480d)																		
A1301	Location 11(Outbd Coach Kiosks (009) Canopy)-Deg1 (400d)																		
A1302	Location 11(Outbd Coach Kiosks (009) Canopy)-Deg2 (480d)																		
A1303	Location 11(Inbd Coach Kiosks (010))-Deg1 (400d)																		
A1304	Location 11(Inbd Coach Kiosks (010))-Deg2 (480d)																		
A1305	Location 11(Inbd Coach Kiosks (010) Canopy)-Deg1 (400d)																		
A1306	Location 11(Inbd Coach Kiosks (010) Canopy)-Deg2 (480d)																		
A1310	Location 12(Inbd Private Car Kiosks(027))-Deg1 (400d)																		
A1311	Location 12(Inbd Private Car Kiosks(027))-Deg2 (480d)																		
A1312	Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg1 (400d)																		
A1313	Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg2 (480d)																		
A1314	Location 12(Inbd GV Kiosks (028))-Deg1 (400d)																		
A1315	Location 12(Inbd GV Kiosks (028))-Deg2 (480d)																		
A1316	Location 12(Inbd GV Kiosks (028) Canopy)-Deg1 (400d)																		
A1317	Location 12(Inbd GV Kiosks (028) Canopy)-Deg2 (480d)																		
A1318	Location 12(Outbd GV Kiosks (029))-Deg1 (400d)																		
A1319	Location 12(Outbd GV Kiosks (029))-Deg2 (480d)																		
A1320	Location 12(Outbd GV Kiosks (029) Canopy)-Deg1 (400d)																		
A1321	Location 12(Outbd GV Kiosks (029) Canopy)-Deg2 (480d)																		
A1330	Location 13(Outbd Private Car Kiosks (030))-Deg1 (480d)																		
A1340	Location 13(Outbd Private Car Kiosks (030))-Deg2 (550d)																		
A1341	Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg1 (480d)																		
A1342	Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg2 (550d)																		
A1350	Location 14(Future-Outbd/Inbd Private Car Kiosks)-Deg1 (610d)																		
A1370	Location 15(Inbd Traffic Control Kiosk (100))-Deg1 (400d)																		
A1380	Location 15(Inbd Traffic Control Kiosk (100))-Deg2 (480d)																		



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Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing
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Activity ID	Activity Name	2015				2016				2017				2018				2019	
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
A1380	Location 16(Outbd Traffic Control Kiosk (101))-Deg1 (400d)																		
A1400	Location 16(Outbd Traffic Control Kiosk (101))-Deg2 (480d)																		
A1410	Location 17(Inbd Private Car Exam Bldg(033))-Deg1 (-)																		
A1420	Location 17(Inbd Private Car Exam Bldg(033))-Deg2 (5500d)																		
A1430	Location 18(Outbd Private Car Exam Bldg(024))-Deg1 (-)																		
A1440	Location 18(Outbd Private Car Exam Bldg(024))-Deg2 (670d)																		
A1450	Location 19(DOH Cargo Clearance Bldg(043))-Deg1 (-)																		
A1460	Location 19(DOH Cargo Clearance Bldg(043))-Deg2 (5500d)																		
A1461	Underground Ducting between Inbd Cargo Exam Bldg (037) and DOH Cargo Clearance Bldg (043) and CUE																		
A1462	Underground Ducting between Inbd Cargo Exam Bldg (037) and Inbd Vehicle Clearance Plaza																		
A1463	Underground Ducting between CUE and Outbd Car Exam Bldg (023)																		
A1464	Underground Ducting between Outbd Cargo Exam Bldg (023) and Outbd Vehicle Clearance Plaza																		
A1465	Underground Ducting between CUE and Outbd Vehicle Clearance Plaza																		
A1466	Underground Ducting between CUE and Inbd P. Car Annex (025) and Shuttle Bus Kiosks (006)																		
A1467	Underground Ducting between PCB(001) and Inbd Coach Kiosks(010)																		
A1468	Underground Ducting between CUE and Outbd PCA (032)																		
A1478	Inbound Vehicle Clearance Plaza (Assume same as Location 3)																		
A1488	Outbound Vehicle Clearance Plaza (Assume same as Location 4 degree 1 + 51 day)																		
Interfaces Provisions																			
A7000	Inbound VID foundation and mounting structure (assume same as Access date of Inbound Vehicle Clearance Plaza)																		
A7010	Inbound VTS foundation and mounting poles (assume same as Access date of Inbound Vehicle Clearance Plaza)																		
A7020	Inbound TLS foundation and mounting poles (assume same as Access date of Inbound Vehicle Clearance Plaza)																		
A7030	Outbound VID foundation and mounting structure (assume same as Access date of Outbound Vehicle Clearance Plaza)																		
A7040	Outbound VTS foundation and mounting poles (assume same as Access date of Outbound Vehicle Clearance Plaza)																		
A7050	Outbound TLS foundation and mounting poles (assume same as Access date of Outbound Vehicle Clearance Plaza)																		
WA4 Site Erection & Servicing																			
A1740	Possession of Site																		
A1750	Method Statement & Drawing																		
A1760	Place Order to prepare materials																		
A1770	Review, revise and approve method statement																		
A1780	Equipment mobilization and construction material delivered to the site																		
A1790	Set up the alignment and level of the u-channel																		
A1800	Trial pit excavation																		
A1801	Excavation for chain-link fence footing																		
A4540	Underground Utility detection																		
A4550	Delivery of asphalt and fencing materials																		
A4560	Trimming and leveling soil surface for paving asphalt material																		
A4570	Remove the vegetation and loose material on the soil surface by backhoe																		
A4580	Set out the alignment and level of the u-channel																		

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		Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
A4590	Installation of fencing post along the site boundary																		
A4600	Excavation for underground drainage pipe																		
A4610	Evenly spread the asphalt scrap material by backhoe																		
A4620	Cast concrete for the u-channel and underground drainage pipe																		
A4630	Remove the u-channel framework																		
A4640	Installation of chain-link fencing along the site boundary																		
A4650	Installation of access doors																		
A4660	Excavation for drainage ditch																		
A4670	Cast concrete for the drainage ditch																		
A4680	Compact the asphalt scrap material																		
A4690	Land surveying																		
A4700	Inspection of chain-link fencing and access doors																		
A4710	Testing of drains																		
A4720	Completion of the works, 14-Nov-15																		
Detailed Design Specification																			
A1808	Preliminary System Proposal Submission																		
A1809	Engineer's agreement with preliminary system proposal																		
A1810	Draft Detailed Design Specification (DDS) Submission																		
A1814	Draft Hardware Function Design Specification for Computer system and Network system (HFD)																		
A1815	Draft Software Function Design Specification for Computer system and Network system (SFD)																		
A1820	Engineer's Review and Approval for Draft Detailed Design Specification (DDS)																		
A1823	Engineer's Review and Approval for Draft Hardware FDS for Computer system and Network system (HFD)																		
A1824	Engineer's Review and Approval for Draft Software FDS for Computer system and Network system (SFD)																		
A1829	Interface Requirements for CED (LBS, CED IT Server, Metro-Ethernet) and IMMD (AVCS)																		
A1830	Final DDS Submission (AVCSS,VTS,VDS)(Phase 1/Section I)																		
A1831	Development of System Security Plan																		
A1840	Engineer's Review and Approval for Final DDS Submission including System Security Plan (AVCSS)(Phase 1/Section I)																		
A1850	Final DDS Submission (AVCSS)(Phase 2/Section II&III)																		
A1860	Engineer's Review and Approval for DDS Submission (AVCSS)(Phase 2/Section II&III)																		
Construction Design and Management																			
A6920	Construction Health and Safety Plan Submission																		
A6930	Construction Health and Safety Plan reviewed by Engineer																		
A4749	Preparation of Kiosk equipment Mock-up																		
A4750	Installation of Kiosk equipment Mock-up																		
Supply/Manufacture prototypes																			
A2900	Manufacture LED Display Prototype (VID, ODB and XDB)																		
A2910	Manufacture All-In-One Panel Prototype (APOP)																		
Software Design, Coding and Testing																			
22-May-17, Software Design, Coding and Testing																			

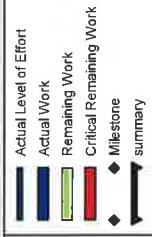
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Hong Kong Boundary Crossing
Facilities - Automatic Vehicle
Clearance Support System (AVCSS)



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		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Coding																			
A5460	CCS, SURCON, SYSCON, CDBS Development Stage 1																		
A5500	VTS Development Stage 1																		
A5510	VIDS Development Stage 1																		
A5540	CCS, SURCON, SYSCON, CDBS Development Stage 2																		
A5580	VTS Development Stage 2																		
A5590	VIDS Development Stage 2																		
	Software System Integration																		
A5520	Test Plan Documentation Submission																		
A5530	Engineer's Review and Approval for Test Plan Documentation Submission																		
A5600	Software System Integration Test																		
A5630	CCS/SYSCON/SURCON/CDBS/VTS/VIDS Software Enhancement																		
A5640	Software User Acceptance Test (UAT)																		
	Prototype & Software Simulation Tests																		
A1910	Prototype Test Document																		
A2130	Engineer's Approval for Testing Document																		
A2920	CCWS with CDBS, SURCON and SYSCON (Software Simulation/ Software Integration Test)																		
A2930	Vehicle Tracking System (VTS) (Software Simulation/ Software Integration Test)																		
A2950	LED Displays (VID, ODB and XDB)																		
A2960	All-In-One Panel (AIOP)																		
A3020	Prototype Testing Report Submission																		
A4350	Engineer's Approval for Prototype Testing Report																		
	Procurement - Phase 1 / Section 1																		
A3070	Procurement of Equipment for Phase 1/Section 1																		
A3080	Procurement of Cable and Accessories for Phase 1 /Section 1																		
A3990	Procurement of All Servers and Workstations																		
	Supply/Manufacture products for FAT																		
A2980	Supply/Manufacture LED Display (ODB, VID and XDB) for FAT																		
A2990	Supply/Manufacture All-In-One Panel (AIOP) for FAT																		
A3000	Supply/Manufacture off-the-shelf equipment for FAT																		
	Factory Acceptance Test (FAT)																		
A2120	FAT Procedure Document																		
A2121	Engineer's Approval for FAT Procedure Document																		
A3050	FAT for Licence Plate Recognition System (LPRS)																		
A3060	FAT for PA/Intercom																		
A3080	FAT for ODB																		
A3100	FAT for XDB																		
A3110	FAT for VID																		
A3120	FAT for Video Management System (VMS)																		
A3130	FAT for Vehicle Tracking System (VTS)																		
A3140	FAT for Communication Network (CMN)																		
A3150	FAT for All-In-One Panel (AIOP)																		
A3160	FAT for AVCSS System Test																		
A4360	FAT Report Submission																		



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		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
A4370	Engineer's Approval for FAT Report Submission																		
Supply/Manufacture Equipment																			
A6830	Supply/Manufacture LED (ODB, VID and XDB) Display for installation																		
A6840	Supply/Manufacture AIOF for installation																		
Delivery and Bench Acceptance Test for Phase 1/ Section 1																			
A6740	Material On-Site for Phase 1/Section 1																		
A6750	Material Bench Acceptance Test for Phase 1/Section 1																		
A6850	Cable On-Site for Phase 1/Section 1																		
A6960	AIOF On-Site for Phase 1/Section 1																		
A6970	AIOF Bench Acceptance Test for Phase 1/Section 1																		
A6980	LED (ODB, VID and XDB) On-Site for Phase 1/Section 1																		
A6990	LED (ODB, VID and XDB) Bench Acceptance Test for Phase 1/Section 1																		
Installation - Phase 1 / Section 1																			
Location 1(PCB 001) Basement																			
A3081	Cable Laying and termination at Location 1 and Location 2																		
Location 1(PCB 001) ELV Room (Grid Line E3)																			
A3101	Cable Laying and termination at Location 1 and Location 2																		
Location 2(PCB 001) Ground Floor ELV Room (Grid Line E3)																			
A3121	Cable Laying and termination at Location 1 and Location 2																		
Location 2(PCB 001) Ground Floor DOH Port Health Control Room (Grid Line BD)																			
A2041	Cable Laying and termination at Location 1 and Location 2																		
A2042	Cable Testing																		
A2043	Intercom and PA system installation																		
A2044	Intercom and PA system tuning																		
Location 2(PCB 001) First Floor Main Server Room																			
A2001	Cable Laying and termination at Location 1 and Location 2																		
A2002	Cable Testing																		
A2003	AVCSS Network and Server Installation																		
A2004	AVCSS Network and Server Tuning																		
Location 3(Inbd Cargo Exam Bldg 037) Inspector Offices 128,129,130,131,128,12																			
A3241	Cable Laying and termination in Location 3 and Location 3a																		
A3242	AVCSS SURCON WS and 55" LCD Installation																		
A3243	VTS WS Installation																		
A3245	SURCON, WS Tuning																		
Location 3(Inbd Cargo Exam Bldg 037) ELV Room																			
A3210	Cable Laying and termination between Location 3 and CUE																		
Location 3(Inbd Cargo Exam Bldg 037) Platform Control Room																			
A2071	Cable Laying and termination in Location 3 and Location 3a																		
A2072	AVCSS SYSCON WS and 55" TV Wall Installation																		
A2074	AVCSS SYSCON WS Tuning																		
Location 3(Inbd Cargo Exam Bldg 037) MDF Room																			
A3190	Cable Laying and termination between Location 3 and CUE																		
Location 3a(Inbd Cargo Exam Bldg 037) ROCARS Room																			
A2091	Cable Laying and termination in Location 3 and Location 3a																		
A2092	AVCSS SYSCON, SURCON and Intercom Installation																		

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		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
A2093	VTS WS Installation																		
A2094	VID WS Installation																		
A2096	SURCON, SYSCON, WS Tuning																		
A3330	Cable Laying and termination in Location 3 and Location 3a																		
A3340	AVCSS Server Installation																		
A3350	VTS Server Installation																		
A3360	Servers Tuning																		
A3410	Cable Laying and termination between CUE and Location 4																		
A3370	Cable Laying and termination in Location 4 and 4a																		
A3380	AVCSS SYSCON, SURCON and Intercom Installation																		
A3390	VTS WS Installation																		
A3400	SYSCON, SURCON, WS Tuning																		
A3430	Cable Laying between Location 5 and Location 7																		
A3440	Cable Laying between Location 5 and Location 6																		
A3480	ODB Switch Installation at EL Room 2-7																		
A3450	Cable Laying between Location 5 and Location 6																		
A3490	ODB Switch Installation at EL Room 8-9,11-12																		
A3470	Cable Laying between Location 5 and Location 7																		
A2452	Cable Containment in Kiosks																		
A2453	Cable Laying and termination																		
A2454	Cable Splicing, Testing and Labeling																		
A2460	AVCSS/DOH/MOM Kiosk Equipment Installation (9 nos)																		
A2470	ODB & XDB installation (9 nos)																		
A4380	Inbd Private Car Kiosk Installation Complete																		
A2532	Cable Containment in Kiosks																		
A2533	Cable Laying and termination																		
A2534	Cable Splicing, Testing and Labeling																		
A2540	AVCSS/DOH/MOM Kiosk Equipment Installation (5 nos)																		
A2550	AOP Installation (5 nos)																		
A2560	ODB & XDB installation (5 nos)																		
A4390	Inbd Goods Vehicle Kiosks Installation Complete																		
A2572	Cable Containment in Kiosks																		
A2573	Cable Laying and termination																		
A2574	Cable Splicing, Testing and Labeling																		
A2580	AVCSS/DOH/MOM Kiosk Equipment Installation (5 nos)																		

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		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
A2590	AIP Installation (5 nos)																		
A2600	ODB & XDB installation (5 nos)																		
A4400	Outbound Goods Vehicle Kiosks Installation Complete																		
Location 13 (Outbound Private Car Kiosks (030)) - 9 nos (Phase 1)																			
A3582	Cable Containment in Kiosks																		
A3583	Cable Laying and termination																		
A3584	Cable Splicing, Testing and Labeling																		
A3590	AVCSS/DOH/MOM Kiosk Equipment Installation (9 nos)																		
A3600	ODB & XDB installation (9 nos)																		
A4410	Outbound Private Car Kiosks Installation Complete																		
Location 14 (Future-Outbound Private Car Kiosks) - 6+6 nos																			
A2441	Cable Laying and termination at ELV Room in CUE																		
Location 15 (Inbound Traffic Control Kiosk (100))																			
A3651	Cable Laying and termination																		
A3652	AVCSS SYSSCON, SURCON Installation																		
A3660	VTS WS and 55" LCD Installation																		
A3670	SYSSCON, SURCON, WS Tuning																		
Location 16 (Outbound Traffic Control Kiosk (101))																			
A3701	Cable Laying and termination																		
A3702	AVCSS SYSSCON, SURCON Installation																		
A3710	VTS WS and 55" LCD Installation																		
Location 17 (Inbound Private Car Exam Bldg(033) Operational Office)																			
A3750	Cable Laying and termination																		
A3760	AVCSS SURCON and 55" LCD Installation																		
A3770	SURCON Tuning																		
Location 18 (Outbound Private Car Exam Bldg(024) Operational Office)																			
A3780	Cable Laying and termination																		
A3790	AVCSS SURCON and 55" LCD Installation																		
Location 19 (DOH Cargo Clearance Bldg(043))																			
A2111	Cable Laying and termination between Location 19 and CUE																		
A2112	Cable Laying in Location 19																		
A2113	PA and Intercom Installation																		
A2123	PA and Intercom Tuning																		
Inbound Vehicle Clearance Plaza - 8 nos VID, 7 nos VTS, 4 nos TLS																			
A4050	Inbound VID cabling from pillar box to VID field equipment																		
A4052	Inbound VTS cabling from pillar box to VTS field equipment																		
A4054	Inbound TLS cabling from pillar box to TLS field equipment																		
A4080	Inbound VID field equipment installation (8 VID)																		
A4082	Inbound VTS field equipment installation (4 RFID + 3 Cameras)																		
A4084	Inbound TLS field equipment installation (4 TLS)																		
A4066	Inbound VID, VTS and TLS field equipment tuning																		
Outbound Vehicle Clearance Plaza - 8 nos VID, 6 nos VTS, 4 nos TLS																			
A4110	Outbound VID cabling from pillar box to VID field equipment																		
A4120	Outbound VTS cabling from pillar box to VTS field equipment																		
A4130	Outbound TLS cabling from pillar box to TLS field equipment																		

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A4140	Outbound VID field equipment installation (6 VID)																		
A4150	Outbound VTS field equipment installation (3 RFID + 3 Cameras)																		
A4170	Outbound TLS field equipment installation (4 TLS)																		
A4180	Outbound VID, VTS and TLS field equipment tuning																		
A3810	Underground Ducting between Inbd Cargo Exam Bldg (037) and CUE																		
A3830	Underground Ducting between Inbd Cargo Exam Bldg (037) and Inbd Vehicle Clea																		
A3850	Cable Laying and termination (note: Access Date by C03)																		
A3870	Underground Ducting between CUE and Outbd Car Exam Bldg (023)																		
A3890	Underground Ducting between Outbd Cargo Exam Bldg (023) and Outbd Vehicle I																		
A2150	On-Site Test and Commissioning (Phase 1 / Section I)																		
A2151	Testing & Commissioning Documents Submission (6 weeks before Testings carried out)																		
A2152	Engineer Approval for T&C Document																		
A2153	Joint Site Inspection for Permanent Power/Tele-communication for Initial on-site testing																		
A6601	Initial on-site Testing & Commissioning																		
A6602	Site Acceptance Test (Phase 1 / Section I)																		
A6603	Interface Readiness CED(LBS, CED IT, Metro-Ethernet) and IMMD (AVS)																		
A6604	SAT for AVCSS																		
A6800	SAT Test Document Submission																		
A6810	Software Manual Documentations Submission																		
A6820	Security Risk Assessment and Audit																		
A5610	Fix per SRAA Assessment																		
A5620	SRAA Audit																		
A5650	Operability Period Test (Phase 1 / Section I)																		
A2230	Joint Site Inspection for utilities, telecom connection and metro ethernet for OPT																		
A2231	Operability Period Test (OPT) Phase 1																		
A2240	Operability Period Test (OPT) Phase 2																		
A2180	Completion (Phase 1 / Section I)																		
A2190	AVCSS - Certificate of Completion (Phase 1/Section I)																		
A2240	Certificate of Completion Approval by Engineer																		
A2180	Training and Document (Phase 1 / Section I)																		
A2190	Training Materials & Documentation Submission																		
A2240	Operation and Maintenance Training																		
A2240	Site Operation (Phase 1/Section I)																		
A2240	Engineering Support for Phase 1 / Section I																		

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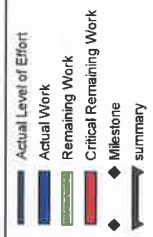
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A4420	Engineering Support for Phase 1/Section I																				
Procurement - Phase 2 / Section II																					
A3980	Procurement of Lane Field Equipment for Phase 2/Section II																				
A6760	Delivery and Bench Acceptance Test for Phase 2/Section II																				
A6770	Material On-site for Phase 2/Section II																				
A6770	Bench Acceptance Test for Phase 2/Section II																				
Installation - Phase 2 / Section II																					
Location 8 (Inbd Private Car Annex (026)) (Phase 2)																					
A4090	Site Preparation																				
A4091	Cable Containment in Kiosks																				
A4093	Cable Laying and termination																				
A4094	Cable Splicing, Testing and Labeling																				
A4096	Mobilization of kiosk equipment																				
A4100	AVCSS/DOH/MOM Kiosk Equipment Installation (1 no)																				
A4430	Inbd Private Car Annex Installation Complete																				
Location 9 (Outbd Private Car Annex (032)) (Phase 2)																					
A4151	Site Preparation																				
A4152	Cable Containment in Kiosks																				
A4153	Cable Laying and termination																				
A4154	Cable Splicing, Testing and Labeling																				
A4156	Mobilization of kiosk equipment																				
A4160	AVCSS/DOH/MOM Kiosk Equipment Installation (1 no)																				
A4440	Outbd Private Car Annex Installation Complete																				
Test and Commissioning (Phase 2 / Section II)																					
A2280	Testing & Commissioning Documents Submission																				
A2291	Engineer Approval for T&C Document																				
A2292	Initial on-site Testing & Commissioning																				
A2300	Site Acceptance Tests (SAT)																				
A2310	Operability Period Test (OPT)																				
Completion (Phase 2 / Section II)																					
A2320	AVCSS - Certificate of Completion (Phase 2/Section II)																				
A4320	Certificate of Completion Approval by Engineer																				
Engineering Support for Phase 2 / Section II																					
A4450	Engineering Support for Phase 2/Section II																				
Procurement for Phase2 / Section III																					
A4400	Procurement of Lane Field Equipment for Phase 2/Section III																				
A6780	Delivery and Bench Acceptance Test for Phase2 / Section III																				
A6790	Material On-site for Phase 2/Section III																				
A6790	Bench Acceptance Test for Phase 2/Section III																				
Installation - Phase 2 / Section III																					
Location 10, 11, 12, 13 (Vehicle Clearance Kiosks)																					
Shuttle Bus Kiosks (006) - 4 nos (Phase 2)																					
A2622	Cable Containment																				

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A2623	Cable Laying and termination																		
A2630	AVCSS/DOH/MOM Kiosk Equipment Installation (4 nos)																		
A4460	Shuttle Bus Kiosks Installation Complete																		
Outbd Coach Kiosks (009) - 4 nos (Phase 2)																			
A2662	Cable Containment																		
A2663	Cable Laying and termination																		
A2670	AVCSS/DOH/MOM Kiosk Equipment Installation (4 nos)																		
A4470	Outbd Coach Kiosks Installation Complete																		
Inbd Private Car Kiosks (027) - 12 nos (Phase 2)																			
A2742	Cable Containment																		
A2743	Cable Laying and termination																		
A2744	Cable Splicing, Testing and Labeling																		
A2750	AVCSS/DOH/MOM Kiosk Equipment Installation (12 nos)																		
A2760	Kiosk Equipment Configuration (12 nos)																		
A4480	Inbd Private Car Kiosks Installation Complete																		
Outbd Private Car Kiosks (030) - 12 nos (Phase 2)																			
A2782	Cable Containment																		
A2783	Cable Laying and termination																		
A2784	Cable Splicing, Testing and Labeling																		
A2790	AVCSS/DOH/MOM Kiosk Equipment Installation (12 nos)																		
A4500	Outbd Private Car Kiosks Installation Complete																		
Inbd Goods Vehicle Kiosks (028) - 3 nos (Phase 2)																			
A2822	Cable Containment																		
A2823	Cable Laying and termination																		
A2825	Kiosk Equipment Configuration (3 nos)																		
A2830	AVCSS/DOH/MOM Kiosk Equipment Installation (3 nos)																		
A4510	Inbd Goods Vehicle Kiosks Installation Complete																		
Outbd Goods Vehicle Kiosks (029) - 3 nos (Phase 2)																			
A2862	Cable Containment																		
A2863	Cable Laying and termination																		
A2865	Cable Splicing, Testing and Labeling																		
A2870	AVCSS/DOH/MOM Kiosk Equipment Installation (3 nos)																		
A4520	Outbd Goods Vehicle Kiosks Installation Complete																		
Inbd Coach Kiosks (010) - 4 nos (Phase 2)																			
A2702	Cable Containment																		
A2703	Cable Laying and termination																		
A2705	Kiosk Equipment Configuration (4 nos)																		
A2710	AVCSS/DOH/MOM Kiosk Equipment Installation (2 nos)																		
A2720	AVCSS/DOH/MOM Kiosk Equipment Installation (2 nos)																		
A4480	Inbd Coach Kiosks Installation Complete																		
Underground Ducting between CUE and Shuttle Bus Kiosk (006)																			
A3970	Cable Laying and termination (note: Access Date by C03)																		
Underground Ducting between PCB (001) and Inbd Coach Kiosks (010)																			
A3930	Cable Laying and termination (note: Access Date by C03)																		
Test and Commissioning (Phase 2 / Section III)																			

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		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
A2370	Testing & Commissioning Documents Submission (8 weeks before Testings carried out)																		
A2371	Engineer Approval for T&C Document																		
A2373	Initial on-site Testing & Commissioning																		
A2380	Site Acceptance Test (SAT)																		
A2390	Operation Acceptance Test (OPT)																		
Completion (Phase 2 / Section III)																			
A2400	AVCSS - Certificate of Completion (Phase 2/Section III)																		
A4330	Certificate of Completion Approval by Engineer																		
Operation (Phase 2 / Section III)																			
A2420	Site Operation (Phase 2/Section II & III)																		
Defect Liability Period (DLP)																			
A2430	DLP																		
Document Submission (Phase 2 / Section III)																			
A4340	As-built Drawings and O&M Manual																		



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

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

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

Date	Revision	Checked	Approved
14-Nov-16	Rev: 0	WC	LC

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Report No.: 0165/15/ED/0867

Appendix D

Event / Action Plan

Appendix D –

Event / Action Plan for Air Quality and Noise Monitoring and Water Quality Monitoring and Ecological 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 measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.

Event	Action			
	ET	IEC	ER	Contractor
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.

Event	Action			
	ET	IEC	ER	Contractor
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 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 exceedances abated.

Event / Action Plan for Construction Noise Monitoring

Event	Action			
	ET	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.

Event	Action			
	ET	IEC	ER	Contractor
Limit Level	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Water Quality

Event	ET Leader	IEC	ER	Contractor
Action level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Repeat in situ measurement on next day of exceedance to confirm findings 2. Identify source(s) of impact 3. Inform IEC, contractor and ER 4. Check monitoring data, all plant, equipment and Contractor's working methods 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of noncompliance in writing 2. Notify Contractor 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of noncompliance in writing 2. Notify Contractor 	<ol style="list-style-type: none"> 1. Inform the ER and confirm notification of the noncompliance in writing 2. Rectify unacceptable practice 3. Amend working methods if appropriate
Action level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> 1. Repeat in situ measurement to confirm findings 2. Identify source(s) of impact 3. Inform IEC, Contractor and ER 4. Check monitoring data, all plant, equipment and Contractor's working methods 5. Discuss mitigation measures with IEC, ER and Contractor 6. Ensure mitigation measures are implemented 7. Increase the monitoring frequency to daily until no exceedance of Action level 8. Repeat measurement on next day of exceedance to confirm findings 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor's working method 2. Discuss with ET and Contractor on possible remedial actions 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly 4. Assess the effectiveness of the implemented mitigation measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of noncompliance in writing 2. Discuss with IEC on the proposed mitigation measures 3. Make agreement on mitigation measures to be implemented 4. Ensure mitigation measures are properly implemented 5. Assess the effectiveness of the implemented mitigation measures 	<ol style="list-style-type: none"> 1. Inform the Engineer and confirm notification of the noncompliance in writing 2. Rectify unacceptable practice 3. Check all plant and equipment and consider changes of working methods 4. Discuss with ET and IEC on possible remedial actions and propose mitigation measures to IEC and ER within 3 working days of notification 5. Implement the agreed mitigation measures 6. Amend working methods if appropriate

Event	ET Leader	IEC	ER	Contractor
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings 2. Identify source(s) of impact 3. Inform IEC, Contractor, ER and EPD 4. Check monitoring data, all plant, equipment and Contractor's working methods 5. Discuss mitigation measures with IEC, ER and Contractor 6. Ensure mitigation measures are implemented 7. Increase the monitoring frequency to daily until no exceedance of Limit level 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor's working method 2. Discuss with ET and Contractor on possible remedial actions 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly 4. Assess the effectiveness of the implemented mitigation measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures 3. Request Contractor to critically review the working methods 4. Ensure mitigation measures are properly implemented 5. Assess the effectiveness of the implemented mitigation measures 	<ol style="list-style-type: none"> 1. Inform the ER and confirm notification of the noncompliance in writing 2. Rectify unacceptable practice 3. Check all plant and equipment and consider changes of working methods 4. Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET, IEC and ER 5. Implement the agreed mitigation measures 6. Amend working methods if appropriate
Limit level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings 2. Identify source(s) of impact 3. Inform IEC, contractor, ER and EPD 4. Check monitoring data, all plant, equipment and Contractor's working methods 5. Discuss mitigation measures with IEC, ER and Contractor 6. Ensure mitigation measures are implemented 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor's working method 2. Discuss with ET and Contractor on possible remedial actions 3. Review the Contractor's mitigation measures whenever necessary to assure their effectiveness and advise the ER accordingly 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures 3. Request Contractor to critically review the working methods 4. Make agreement on the mitigation measures to be implemented 5. Ensure mitigation measures are properly implemented 6. Assess the effectiveness of the implemented mitigation measures 7. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level 	<ol style="list-style-type: none"> 1. Inform the ER and confirm notification of the noncompliance in writing 2. Take immediate action to avoid further exceedance 3. Rectify unacceptable practice 4. Check all plant and equipment and consider changes of working methods 5. Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET, IEC and ER 6. Implement the agreed mitigation measures 7. Resubmit proposals of mitigation measures if problem still not under control 8. As directed by the engineer, to slow down or to stop all or part of the construction activities until no exceedance of Limit level

Event / Action Plan for Ecological Monitoring

Event	ET Leader	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> 1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, ER/SOR and Contractor; 5. Check monitoring data. 6. Review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and finding with the ET and the Contractor. 	<ol style="list-style-type: none"> 1. Discuss monitoring with the IEC and any other measures proposed by the ET; 2. If ER/SOR is satisfied with the proposal of any other measures, ER/SOR to signify the agreement in writing on the measures to be implemented. 	<ol style="list-style-type: none"> 1. Inform the ER/SOR and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the ER/SOR; 3. Implement the agreed measures.

Event	ET Leader	IEC	ER	Contractor
Limit Level	<ol style="list-style-type: none"> 1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, ER/SOR and Contractor of findings; 5. Check monitoring data; 6. Repeat review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary. 7. If ET proves that the source of impact is caused by any of the construction activity by the works contract, ET to arrange a meeting to discuss with IEC, ER/SOR and Contractor the necessity of additional dolphin monitoring and/or any other potential mitigation measures (e.g., consider to modify the perimeter silt curtain or consider to control/temporarily stop relevant construction activity etc.) and submit to IEC a proposal of additional dolphin monitoring and/or mitigation measures where necessary. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and findings with the ET and the Contractor; 3. Attend the meeting to discuss with ET, ER/SOR and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures. 4. Review proposals for additional monitoring and any other mitigation measures submitted by ET and Contractor and advise ER/SOR of the results and findings accordingly. 5. Supervise / Audit the implementation of additional monitoring and/or any other mitigation measures and advise ER/SOR the results and findings accordingly. 	<ol style="list-style-type: none"> 1. Attend the meeting to discuss with ET, IEC and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures. 2. If ER/SOR is satisfied with the proposals for additional dolphin monitoring and/or any other mitigation measures submitted by ET and Contractor and verified by IEC, ER/SOR to signify the agreement in writing on such proposals and any other mitigation measures. 3. Supervise the implementation of additional monitoring and/or any other mitigation measures. 	<ol style="list-style-type: none"> 1. Inform the ER/SOR and confirm notification of the non-compliance in writing; 2. Attend the meeting to discuss with ET, IEC and ER/SOR the necessity of additional dolphin monitoring and any other potential mitigation measures. 3. Jointly submit with ET to IEC a proposal of additional dolphin monitoring and/or any other mitigation measures when necessary. 4. Implement the agreed additional dolphin monitoring and/or any other mitigation measures.

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Appendix E

Waste Flow Table



Monthly Summary of Waste Flow Table for 2017 (year)

Name of Person completing the Record: **Marko Chan**

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-inert C&D Wastes Generated Monthly					
	Total Quantity Generated (in '000m ³)	Broken Concrete (see Note 1) (in '000m ³)	Reused in the Contract (in '000m ³)	Reused in other Projects (in '000m ³)	Disposed as Public Fill (in '000m ³)	Metals (in '000 Kg)	Paper/ cardboard packaging (in '000 Kg)	Plastics (see Note 2) (in '000 Kg)	Chemical Waste (in '000 Kg)	Others, e.g. general refuse		
											(in '000m ³)	(in '000m ³)
Jan	0.000	0	0	0	0.000	0	0	0	0	0.580		
Feb	0.000	0	0	0	0.000	0	0	0	0	0.585		
Mar	0.000	0	0	0	0.000	0	0	0	0	0.999		
Apr	0.043	0	0	0	0.043	0	0	0	0	1.073		
May	12.682	0	0	12.637	0.045	0	0	0	0	1.321		
Jun	27.129	0	0	26.007	1.122	0	0	0	0	2.023		
Jul	54.710	0	0	54.224	0.486	0	0	0	0	1.448		
Aug												
Sept												
Oct												
Nov												
Dec												
Total	94.564	0.000	0.000	92.868	1.696	0.000	0.000	0.000	0.000	8.029		

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 2017 (year)

Month	Total Quantity of Excavated Marine Sediment Generated in '000m ³	Reused in this contract in '000m ³	Reused in other Projects in '000m ³	Disposed of at CMP in '000m ³
Jan	0.656	0.000	0.000	0.656
Feb	0.264	0.000	0.000	0.264
Mar	0.000	0.000	0.000	0.000
Apr	1.288	0.000	0.000	1.288
May	1.440	0.000	0.000	1.440
Jun	0.000	0.000	0.000	0.000
Jul	0.000	0.000	0.000	0.000
Aug				
Sep				
Oct				
Nov				
Dec				
Total	3.648	0.000	0.000	3.648



ATAL Technologies Ltd.
Contract: HY/2013/06 HKBCF- Automatic Vehicle Clearance Support System
Location: Artificial Island of HKIAP (C3 Area)

Monthly Summary Waste Flow Table for 2017

Month	Inert C&D Waste disposal / 惰性廢物 (in tonnes) (see Note 1)						Non-inert C&D Waste disposal / 非惰性廢物 (in tonnes)						Waste to be recycled and returned / 可再循環利用或回收的廢物						Total Quantity Generated / 總生產量	
	Reused in the Work Package (e.g. backfilling) 再用於工程 (如回填)		Reused in other Projects 再用於其他工程		Inert Waste (e.g. soil, broken concrete, rubble, fill material etc.) 惰性廢物 (如泥, 石, 石頭, 石, 填料等)		Others (e.g. general refuse, broken formwork etc) 其他 (如垃圾, 廢板枋等)		Metals 金屬		Plastic 塑膠		Paper/cardboard packaging 廢紙/包裝紙類		Chemical Waste 化學廢物		Est. Qty. 估計數量	Act. Qty. 實際數量		
	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量			(a) = (b+c+d+e)	
January	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000	0.000	0.000	0.000		
February	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000	0.000	0.000	0.000		
March	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002		
April	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.005		
May	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.020		
June	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.020		
July	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.020		
August																				
September																				
October																				
November																				
December																				
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.067	0.067	0.070	0.070	0.000	0.004	0.004	0.000	0.000	0.067	0.067	0.067		

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

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Report No.: 0165/15/ED/0867

Appendix F

Environmental Licenses and Permits

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

(update: 07/08/2017)

Item	Permit/Licence Registration	Permit No.	Work Area	Application Date	Issue Date	Valid Date		Status	Remark
						From	To		
1	Environmental Permit Pursuant to Environmental Impact Assessment Ordinance	EP-353/2009/K	HKBCF	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)	WT00025384-2016	Main Site Area	09-Mar-16	10-Nov-16	10-Nov-16	30-Sep-20	Valid	
9	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	PP-RS0008-17	Box Culvert B	06-Apr-17	20-Apr-17	21-Apr-17	19-Jul-17	Valid until 19-Jul-17	
10	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0382-17	Main Site Area	10-Apr-17	25-Apr-17	27-Apr-17	24-Jul-17	Valid until 24-Jul-17	
11	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0516-17	Main Site Area	31-May-17	14-Jun-17	19-Jun-17	18-Sep-17	Valid	
12	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0632-17	Main Site Area	07-Jul-17	21-Jul-17	25-Jul-17	24-Nov-17	Valid	
13	Permit issued Under the Dumping at Sea Ordinance	EP/MD/18-018	East of Sha Chau (CMP Vd)	19-May-17	01-Jun-17	02-Jun-17	01-Jul-17	Valid until 01-Jul-17	
14	Permit issued Under the Dumping at Sea Ordinance	EP/MD/18-037	East of Sha Chau (CMP Vd)	19-Jun-17	06-Jul-17	07-Jul-17	06-Aug-17	Valid	
15	Specified Process License for Tar and Bitumen Works Pursuant to Section 14 of the Air Pollution Control Ordinance	L-15-039(1)	Temporary Asphalt Mixing Facility	05-Dec-16	16-Mar-17	16-Mar-17	15-Mar-19	Valid	

Environmental Permit / Licences Summary for Contract No. HY/2013/06 within the HY/2013/03 site works area

(update: 07/08/2017)

Item	Permit/Licence Registration	Permit No.	Work Area	Application Date	Issue Date	Valid Date		Status	Remark
						From	To		
1	Environmental Permit Pursuant to Environmental Impact Assessment Ordinance Billing A/C for Construction Waste Disposal	EP-353/2009/K	HKBCF	24-Mar-16	11-Apr-16	11-Apr-16	Nil	Valid	
2	Pursuant to Section 6 & 9 of the Waste Disposal (Charges for Disposal of Construction waste) Regulation	A/C No. 7023015	Main Site Area	07-Aug-15	20-Aug-15	20-Aug-15	Nil	Valid	
3	Registration as Waste Producer Pursuant to Waste Disposal (Chemical Waste) (General) Regulation	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	#
4	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0452-17	HKBCF	4-May-17	18-May-17	1-June-17	30-Nov-17	Valid	

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

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Report No.: 0165/15/ED/0867

Appendix G

Implementation Schedule for Environmental Mitigation Measures (EMIS)

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

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
Air Quality				
S5.5.6.1	A1	1) The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	All construction sites	V
S5.5.6.2	A2	2) Proper watering of exposed spoil should be undertaken throughout the construction phase: <ul style="list-style-type: none"> • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones. • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; 	All construction sites	V
S5.5.6.2	A2	<ul style="list-style-type: none"> • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials, • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top 	All construction sites	V
S5.5.6.2	A2	<ul style="list-style-type: none"> • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high 	All construction sites	N/A

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EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		level alarm which is interlocked with the material filling line and no overfilling is allowed; <ul style="list-style-type: none"> • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • Exposed earth should be properly treated by compaction, turving, 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	3) 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
S5.5.6.4	A4	4) 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 Representative dust monitoring station	V (Conducted by Contract No. HY/2010/02 and HY/2011/03)
S5.5.7.1	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant; <ul style="list-style-type: none"> • Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system; • All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; • Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system; • The materials which may generate airborne dusty emissions should be wetted by water spray system; • All receiving hoppers should be enclosed on three sides up to 3m above unloading point; • All conveyor transfer points should be totally enclosed; • All access and route roads within the premises should be paved and wetted; and • Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body 	Selected Representative dust monitoring station	N/A
S5.5.2.7	A7	The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point: <ul style="list-style-type: none"> • 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 Noise (Air borne)				
S6.4.10	N1	1) Use of good site practices to limit noise emissions by considering the following: <ul style="list-style-type: none"> • only well-maintained plant should be operated on-site and plant should be serviced regularly during 	All construction sites	V

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		the construction programme; • machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; • material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.		
S6.4.11	N2	2) Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	All construction sites	V
S6.4.12	N3	3) 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	4) 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 (Conducted by Contract No. HY/2010/02)
Sediment				
S7.3	S1	1) The requirements as recommended in ETWB TC 34/2002 Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.	All construction sites	V
Waste Management (Construction Waste)				
S8.3.8	WM1	<u>Construction and Demolition Material</u> 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	All construction sites	V

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		<p>materials and to minimize their generation during the course of construction.</p> <ul style="list-style-type: none"> In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation 		
S8.3.9- S8.3.11	WM2	<p><u>C&D Waste</u></p> <ul style="list-style-type: none"> Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage. The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage. 	All construction sites	V
S8.2.12- S8.3.15	WM3	<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> 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	<p><u>Sewage</u></p> <ul style="list-style-type: none"> 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 	All construction sites	V

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		toilets. Night soil should be collected by licensed collectors regularly.		
S8.3.17	WM5	<p>General Refuse</p> <ul style="list-style-type: none"> General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes. 	All construction sites	V
Water Quality (Construction Phase)				
S9.11.1.7	W2	<p><u>Land Works</u></p> <p>General construction activities on land should also be governed by standard good working practice. Specific measures to be written into the works contracts should include:</p> <ul style="list-style-type: none"> wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters; sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the 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 	Land-based works area	V

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EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		<p>the drainage system, and to prevent storm run-off from getting into foul sewers;</p> <ul style="list-style-type: none"> discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system; 		
S9.11.1.7	W2	<ul style="list-style-type: none"> all vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit; wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain; the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel; wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects; vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal; the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately; waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance; all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system. 	Land-based works area	V
S9.14	W3	Implement a water quality monitoring programme	Selected representative WQM stations	V (Conducted by Contract No. HY/2010/02)
Ecology (Construction Phase)				
S10.7	E4	<ul style="list-style-type: none"> Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater 	Land-based works areas	V
S10.7	E5	<ul style="list-style-type: none"> Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time 	Land-based works areas	V
S10.7	E6	<ul style="list-style-type: none"> Dolphin Exclusion Zone Dolphin watching plan 	Marine works	V
S10.7	E7	<ul style="list-style-type: none"> Decouple compressors and other equipment on working vessels Proposal on design and implementation of acoustic decoupling measures applied during dredging and reclamation works Avoidance of percussive piling 	Marine works	V
S10.7	E8	<ul style="list-style-type: none"> Control vessel speed Skipper training Predefined and regular routes for working 	Marine Traffic	V (The Contractor was revising RMTRP according to the

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		vessels; avoid Brother Islands.		comments from IEC and has been reminded to comply with the submission of updated RMTRP prior to implementation.)
S10.10	E9	Vessel based dolphin monitoring	Northeast and Northwest Lantau	V (Conducted by Contract No. HY/2010/02)
Fisheries				
S11.7	F4	<ul style="list-style-type: none"> Maritime Oil Spill Response Plan (MOSRP); Contingency plan. 	HKBCF	V
Landscape & Visual (Detailed Design Phase)				
S14.3.3.1	LV1	<p>General design measures include:</p> <ul style="list-style-type: none"> Roadside planting and planting along the edge of the HKBCF Island is proposed; Transplanting of mature trees in good health and amenity value where appropriate and reinstatement of areas disturbed during construction by compensatory hydro-seeding and planting; Protection measures for the trees to be retained during construction activities; Optimizing the sizes and spacing of the bridge columns; Fine-tuning the location of the bridge columns to avoid visually-sensitive locations; Providing planting area around peripheral of HKBCF for tree planting screening effect; Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline; For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF; and Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF. 	HKBCF	V
Landscape & Visual (Construction Phase)				
S14.3.3.3	LV2	<p>Mitigate both Landscape and Visual Impacts</p> <ul style="list-style-type: none"> 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	N/A

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EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		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.		
S14.3.3.3	LV3	<u>Mitigate Visual Impacts</u> V1. Minimize time for construction activities during construction period. V2. Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKBCF construction.	HKBCF	N/A
EM&A				
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	1) An Environmental Team needs to be employed as per the EM&A Manual. 2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. 3) An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	All construction sites	V

Legend: V = implemented; x = not implemented; N/A = not applicable

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Appendix H

Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions

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Appendix H –

Statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

For Contract No. HY/2013/03

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This reporting period	0	0	0
From commencement date of construction to end of reporting month	10	0	0

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area

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

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Appendix I

Environmental Site Inspection Schedule

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Contract No. HY/2013/03
HZMB HKBCF – Vehicle Clearance Plazas and Ancillary Buildings and Facilities
Weekly Environmental Site Inspection Schedule

Environmental Site Inspection Schedule for July 2017

July-2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6 Environmental Site Inspection	7	8
9	10	11	12	13 Environmental Site Inspection	14	15
16	17	18	19	20	21 Environmental Site Inspection	22
23	24	25	26	27 Environmental Site Inspection	28	29
30	31					

Tentative Environmental Site Inspection Schedule for August 2017

August-2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3 Environmental Site Inspection	4	5
6	7	8	9	10 Environmental Site Inspection	11	12
13	14	15	16	17 Environmental Site Inspection	18	19
20	21	22	23	24	25 Environmental Site Inspection	26
27	28	29	30	31 Environmental Site Inspection		

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**Contract No. HY/2013/06 (within Contract No. HY/2013/03 works area)
 HZMB HKBCF – Automatic Vehicle Clearance Support System
 Weekly Environmental Site Inspection Schedule**

Environmental Site Inspection Schedule for July 2017

July-2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6 Environmental Site Inspection	7	8
9	10	11	12	13 Environmental Site Inspection	14	15
16	17	18	19	20	21 Environmental Site Inspection	22
23	24	25	26	27 Environmental Site Inspection	28	29
30	31					

Tentative Environmental Site Inspection Schedule for August 2017

August-2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3 Environmental Site Inspection	4	5
6	7	8	9	10 Environmental Site Inspection	11	12
13	14	15	16	17 Environmental Site Inspection	18	19
20	21	22	23	24	25 Environmental Site Inspection	26
27	28	29	30	31 Environmental Site Inspection		

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Appendix J

Investigation Reports on Action Level or Limit Level Non-compliance

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INVESTIGATION REPORT ON

ACTION AND LIMIT LEVEL NON-COMPLIANCE

FOR

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. Ref.: 0165-15-IR002

Prepared by: Ms. Jamie Tam

Reviewed by: Mr. Bong Yu

Certified by: 
Mr. Arthur Cheng
Environmental Team Leader

Date: 1-8-2017

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Report No.: 0165/15/ED/0867

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NON-COMPLIANCE INVESTIGATION REPORT No.: 0165-15-IR002

1. Project Details

Contract No.: HY/2013/03

Contract Title: Hong Kong Zhuhai Macao Bridge Hong Kong Boundary Crossing
Facilities - Vehicle Clearance Plazas and Ancillary Buildings and
Facilities

Project Proponent: Highways Department

Main Contractor: China Harbour Engineering Co. Ltd.

2. Details of Non-compliance

Notification of Action/Limit Level Exceedance W107 was forwarded by IEC on 26
July 2017, with the information provided by the ET of Contract No. HY/2010/02:

Monitoring Date: 12 July 2017

The Action and Limit Levels of suspended solids (SS) determined from baseline
monitoring data are listed below:

Monitoring Parameter	Action Level (AL)	Limit Level (LL)
Depth averaged SS (in mg/L)	23.5	34.4

Mid-Ebb tide

Suspended Solids (SS) (in mg/L)

Monitoring Station	Monitoring Time	Measured Depth Averaged	Level Exceeded
SR3	13:49	24.7	Action

Monitoring was undertaken by the ET of Contract No. HY/2010/02. The Notification
of Action/Limit Level Exceedance W107 provided by the ET of Contract No.
HY/2010/02 is shown in **Appendix A**.

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3. Investigation of Non-compliance

Date Exceedance Investigated by Environmental Team: 1 August 2017

Summary of Investigation

As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, marine-based construction works were undertaken in Box Culvert B and there was one derrick lighter delivered sand to the work site of Three Runway Project on 12 July 2017 under Contract No. HY/2013/03. Both marine-based construction works and the route of marine transportation were far away from the concerned WQM station SR3. There was no notification of exceedance received at the WQM stations closer to the marine-based construction works areas, such as IS(Mf)11, IS10, IS17 and SR7. Besides, the SS exceedance was recorded at 13:49. The derrick lighter was deposited at HKBCF from morning until 16:00. Therefore, it was unlikely to generate any suspended solids to cause the SS exceedance recorded at the concerned WQM station SR3 during mid-ebb tide on 12 July 2017. The location of the WQM station where exceedance was recorded and all relevant WQM stations are shown in **Figure 1** and the locations of marine transportation and marine-based construction works are shown in **Figure 2**.

Investigation Results

The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract. Nevertheless, the Contractor had been reminded to comply with the requirements stipulated in the Environmental Mitigation Implementation Schedule (EMIS) of the EM&A Manual, in particular:

- **Water Quality:**
 - W1-
 1. barges and hopper dredgers shall have tight fitting seals to their bottom openings to prevent leakage of material;
 2. any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;
 3. loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation;
 4. excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved;
 5. adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; and
 6. all vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.

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4. Follow up Status (Exceedance)

During weekly site audit on 30 June, 6 and 13 July 2017, ET confirmed the Contractor had provided workable and effective water quality mitigation measures.

5. Recommendation to the Contractor

The Contractor was reminded to continue to fully maintain all water quality mitigation measures.

6. Follow up Status (Overall)

The captioned exceedance was not related to the Contract and therefore, no additional follow-up action is needed. However, ET proposed recommendations to Contractor in particular to the following aspects when there are marine construction activities.

Water Quality:

- Barges and hopper dredgers shall have tight fitting seals to their bottom openings to prevent leakage of material;
- Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;
- Loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation;
- Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved;
- Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; and
- All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.

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Figure 1

The Location of WQM Stations

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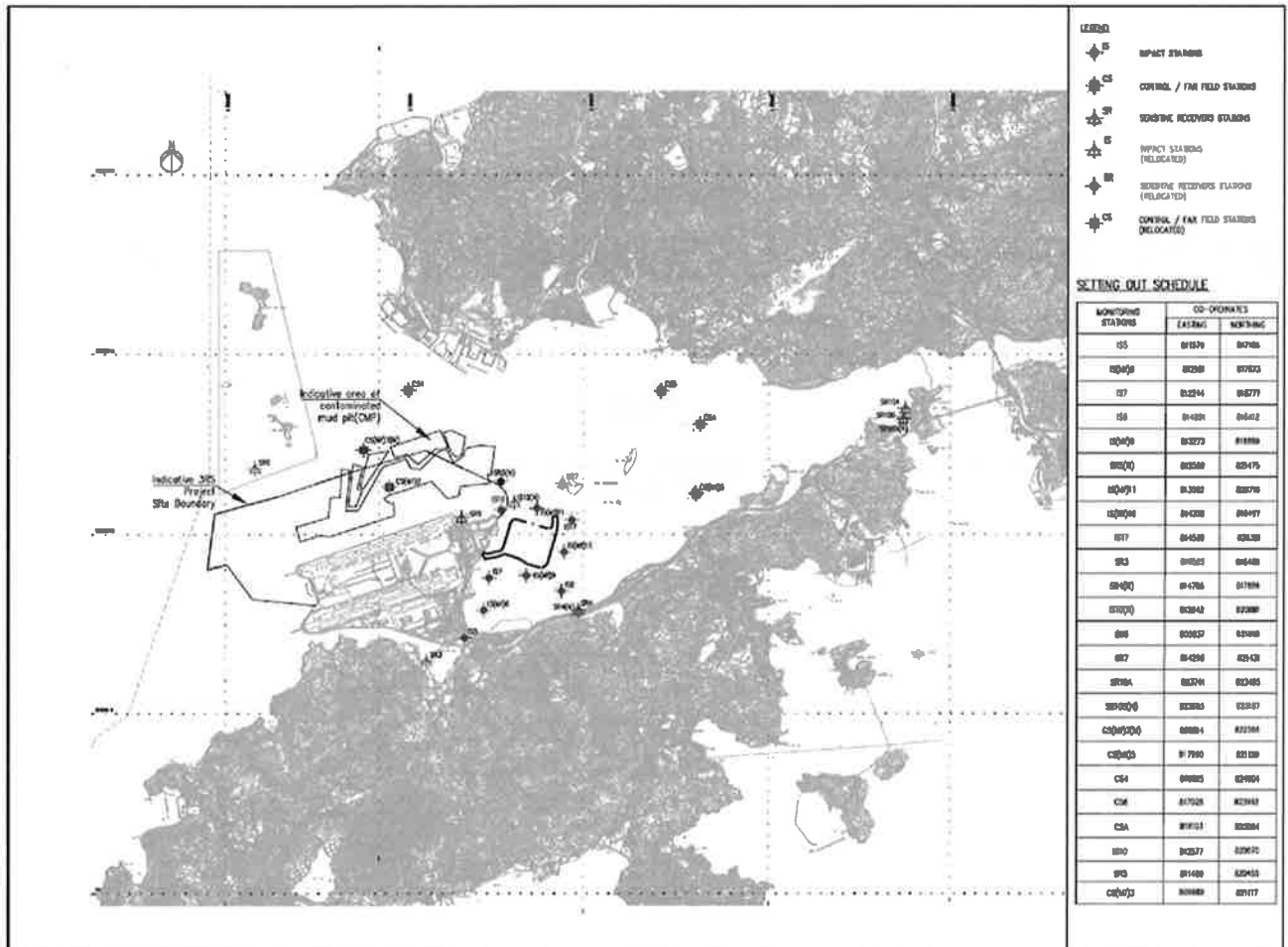
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Figure 2

The Locations of Marine Transportation and Marine-based Construction Works

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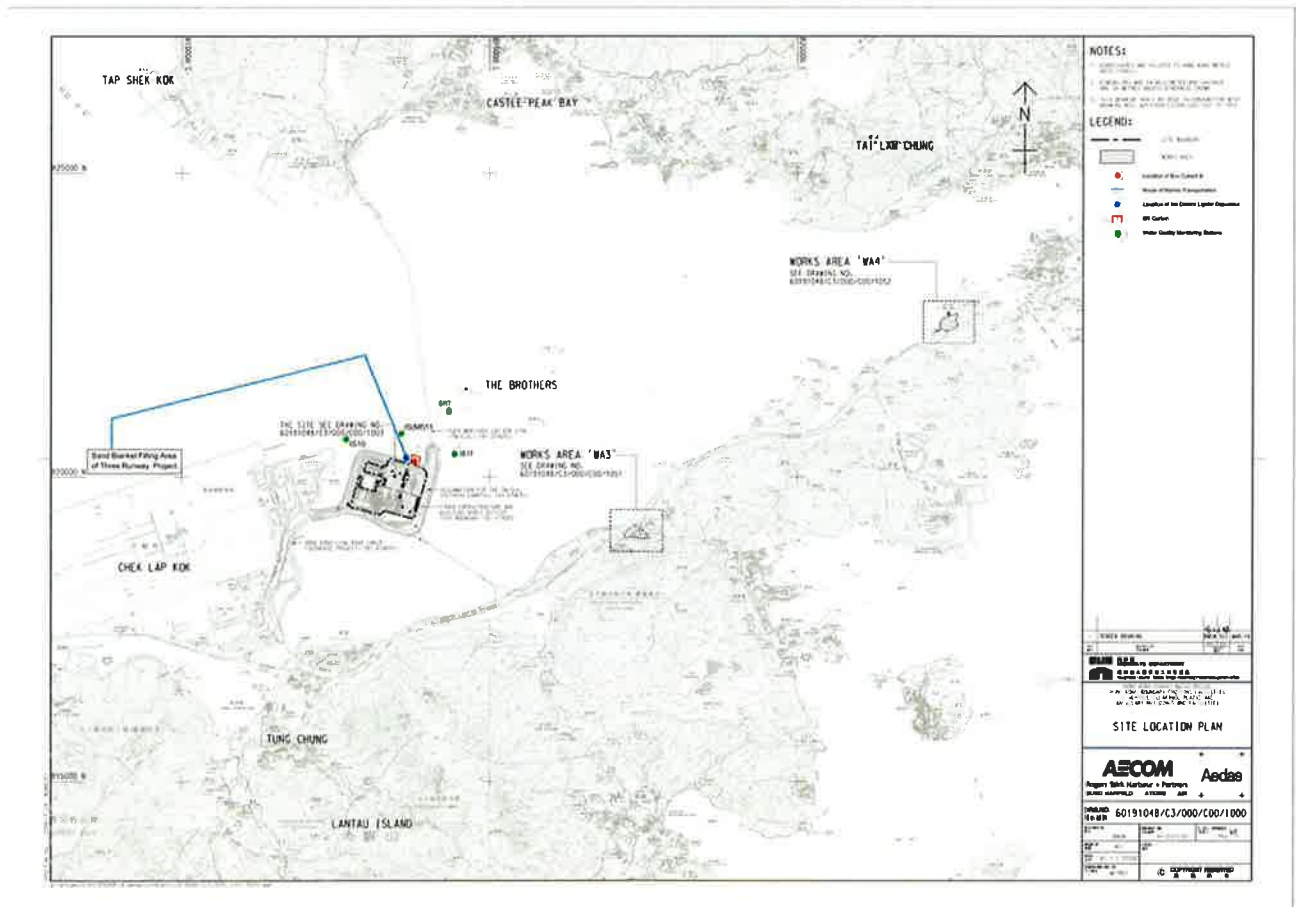
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Appendix A

Notification of Limit Level Exceedance W107

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Contract No. HY/2010/02
Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities - Reclamation Works
Incident Report on Action Level or Limit Level Non-compliance

Report No. W107
Monitoring Date 12-Jul-17

The Action and Limit Levels of turbidity and suspended solids (SS) determined from baseline monitoring data are reproduced below:

Monitoring Parameter	Action Level (AL)	Limit Level (LL)
Depth averaged SS (in mg/L)	23.5	34.4

Mid-Ebb tide

Suspended Solids (SS) (in mg/L)

Monitoring Station	Monitoring time	Measured depth averaged	Level Exceeded
SR3	13:49	24.7	Action

Investigation results will be provided within three working days.

ET Leader Signature & Date:  26-Jul-17

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INVESTIGATION REPORT ON

ACTION AND LIMIT LEVEL NON-COMPLIANCE

FOR

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. Ref.: 0165-15-IR003

Prepared by: Ms. Jamie Tam

Reviewed by: Mr. Bong Yu

Certified by:


Mr. Arthur Cheng
Environmental Team Leader

Date: 1-8-2017

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NON-COMPLIANCE INVESTIGATION REPORT No.: 0165-15-IR003

1. Project Details

Contract No.: HY/2013/03

Contract Title: Hong Kong Zhuhai Macao Bridge Hong Kong Boundary Crossing
Facilities - Vehicle Clearance Plazas and Ancillary Buildings and
Facilities

Project Proponent: Highways Department

Main Contractor: China Harbour Engineering Co. Ltd.

2. Details of Non-compliance

Notification of Action/Limit Level Exceedance W108 was forwarded by IEC on 26
July 2017, with the information provided by the ET of Contract No. HY/2010/02:

Monitoring Date: 14 July 2017

The Action and Limit Levels of suspended solids (SS) determined from baseline
monitoring data are listed below:

Monitoring Parameter	Action Level (AL)	Limit Level (LL)
Depth averaged SS (in mg/L)	23.5	34.4

Mid-Flood tide

Suspended Solids (SS) (in mg/L)

Monitoring Station	Monitoring Time	Measured Depth Averaged	Level Exceeded
IS7	10:17	24.9	Action

Monitoring was undertaken by the ET of Contract No. HY/2010/02. The Notification
of Action/Limit Level Exceedance W108 provided by the ET of Contract No.
HY/2010/02 is shown in **Appendix A**.

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3. Investigation of Non-compliance

Date Exceedance Investigated by Environmental Team: 1 August 2017

Summary of Investigation

As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, marine-based construction works were undertaken in Box Culvert B and there were two derrick lighters delivered sand to the work site of Three Runway Project on 14 July 2017 under Contract No. HY/2013/03. Both marine-based construction works and the routes of marine transportation were undertaken in the north side of HKBCF while the concerned WQM station IS7 was in the south-west side. As the concerned monitoring station was far away from both marine-based construction works and the routes of marine transportation and there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11, IS10, SR7 and IS17, it was unlikely to generate any suspended solids to cause the SS exceedance recorded at the concerned WQM station IS7 during mid-flood tide on 14 July 2017. The location of the WQM station where exceedance was recorded and all relevant WQM stations are shown in **Figure 1** and the locations of marine transportation and marine-based construction works are shown in **Figure 2**.

Investigation Results

The ET of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract. Nevertheless, the Contractor had been reminded to comply with the requirements stipulated in the Environmental Mitigation Implementation Schedule (EMIS) of the EM&A Manual, in particular:

- **Water Quality:**
 - W1-
 1. barges and hopper dredgers shall have tight fitting seals to their bottom openings to prevent leakage of material;
 2. any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;
 3. loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation;
 4. excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved;
 5. adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; and
 6. all vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.

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4. Follow up Status (Exceedance)

During weekly site audit on 30 June, 6, 13 and 21 July 2017, ET confirmed the Contractor had provided workable and effective water quality mitigation measures.

5. Recommendation to the Contractor

The Contractor was reminded to continue to fully maintain all water quality mitigation measures.

6. Follow up Status (Overall)

The captioned exceedance was not related to the Contract and therefore, no additional follow-up action is needed. However, ET proposed recommendations to Contractor in particular to the following aspects when there are marine construction activities.

Water Quality:

- Barges and hopper dredgers shall have tight fitting seals to their bottom openings to prevent leakage of material;
- Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;
- Loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation;
- Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved;
- Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; and
- All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.

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Figure 1

The Location of WQM Stations

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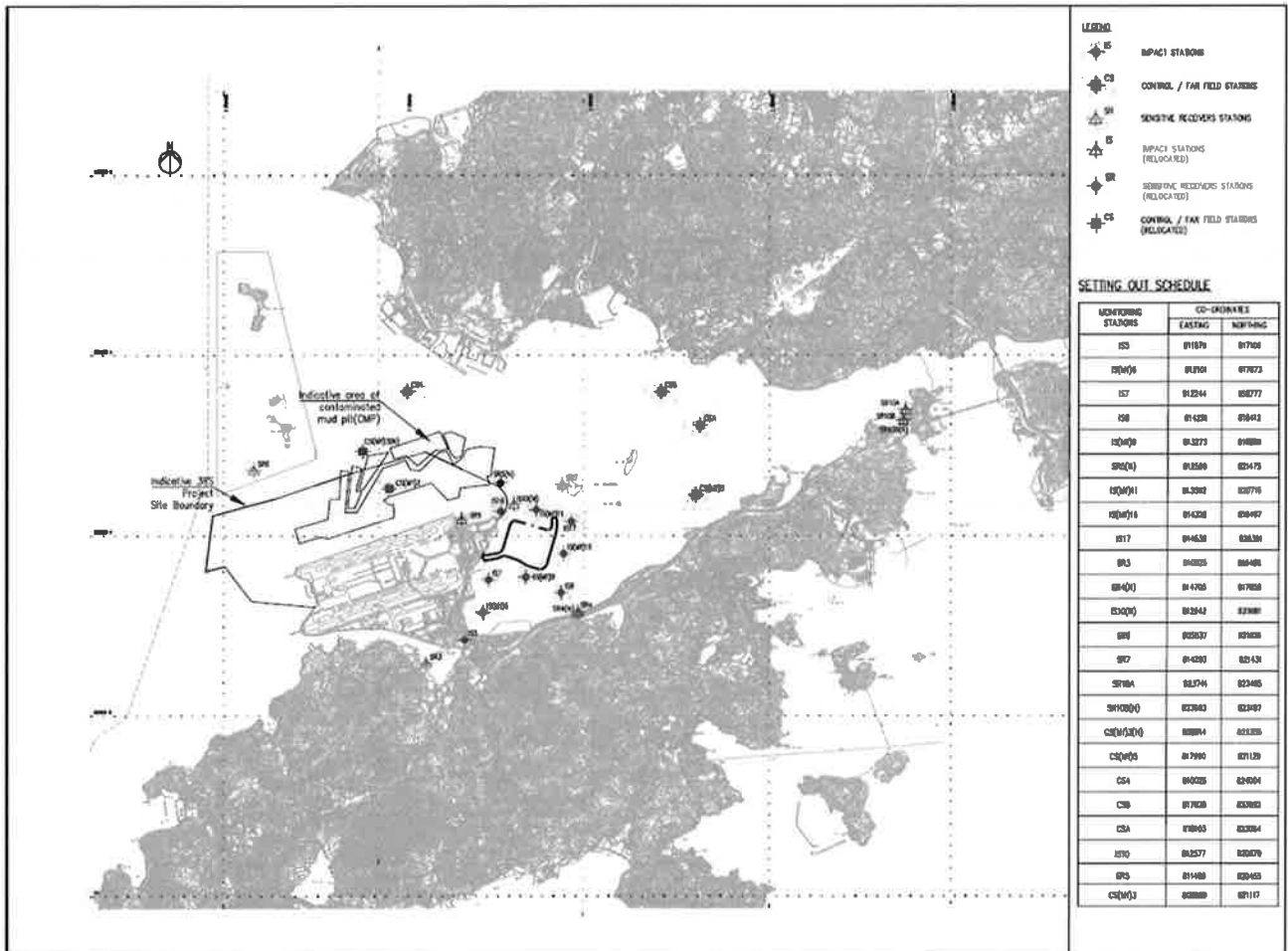
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Figure 2

The Locations of Marine Transportation and Marine-based Construction Works

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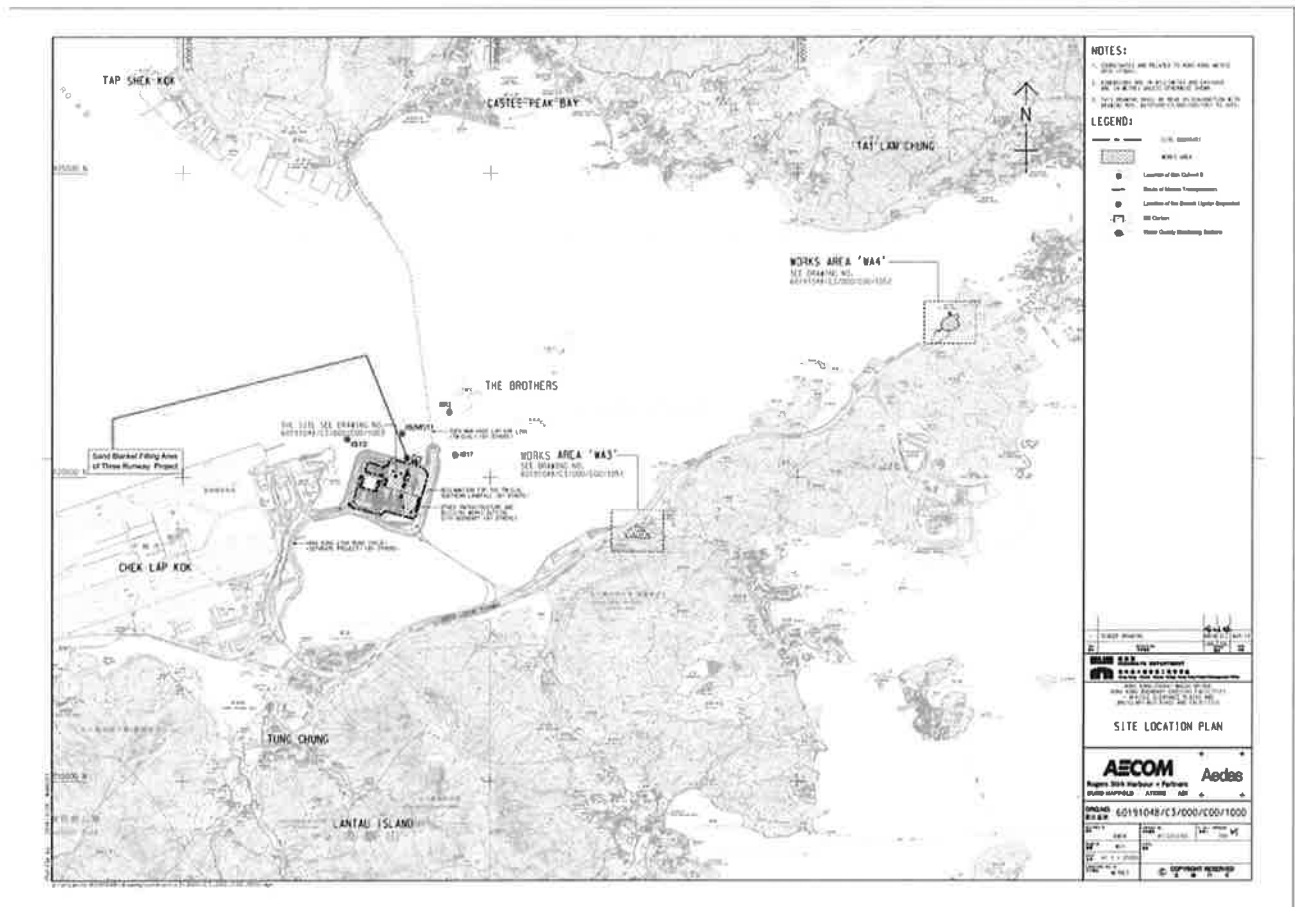
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Appendix A

Notification of Limit Level Exceedance W108

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Contract No. HY/2010/02
Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities – Reclamation Works
Incident Report on Action Level or Limit Level Non-compliance

Report No. W108
Monitoring Date 14-Jul-17

The Action and Limit Levels of turbidity and suspended solids (SS) determined from baseline monitoring data are reproduced below:

Monitoring Parameter	Action Level (AL)	Limit Level (LL)
Depth averaged SS (in mg/L)	23.5	34.4

Mid-Flood tide

Suspended Solids (SS) (in mg/L)

Monitoring Station	Monitoring time	Measured depth averaged	Level Exceeded
IS7	10:17	24.8	Action

Investigation results will be provided within three working days.

ET Leader Signature & Date:  26-Jul-17

Section 1

Section 2

Section 3