RAMBOLL

Ref.: HYDHZMBEEM00_0_7419L.19.doc

30 May 2019

By Fax (3468 2076) and By Post

AECOM Asia Co. Ltd.
The PRE's Office
550 Cheung Tung Road, Lantau
Hong Kong

Attention: Mr. Simon Cheung

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/2013/01
HZMB HKBCF – Passenger Clearance Building
Quarterly EM&A Report No. 13 for September 2017 to November 2017

Reference is made to the Environmental Team's submission of Quarterly EM&A Report No. 13 for September 2017 to November 2017 (Revision 4) certified by the ET Leader (ET's ref.: "5126871/19.10/OC122/KC/RL" dated 30 May 2019) and provided to us via e-mail on 30 May 2019.

We are pleased to inform you that we have no adverse comments on the captioned Quarterly EM&A Report for September 2017 to November 2017.

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 Hong Kong Limited

Ray Yan
Independent Environmental Checker

c.c.	HyD	Mr. Cheng Pan	(By Fax: 3188 6614)
	HyD	Ms. Iris Ng	(By Fax: 3188 6614)
	Atkins	Mr. Keith Chau	(By Fax: 2890 6343)
	LCWJV	Mr. Owen Leung	(By Fax: 3621 0180)

Internal: DY, YH, DF, HW, ENPO Site

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

SNC·LAVALIN

ATKINS
Member of the SNC-Lavalin Group

13F Wharf T&T Centre
Harbour City
Tsim Sha Tsui
Kowloon Hong Kong
+852 2972 1000
+852 2890 6343
info.hk@atkinsglobal.com

atkinsglobal.com
snclavalin.com

Your ref.
Our ref. 5126871/19.10/OC122/KC/RL
Date: 30 May 2019

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

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

Attn: Mr. Stephen Tsang

Dear Mr. Tsang,

Contract No. HY/2013/01
Hong Kong – Zhuhai – Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building
Certification of Quarterly EM&A Report No. 13

Atkins China Limited certifies, in the capacity of Environmental Team Leader, that Quarterly EM&A Report No. 13 (Revision 4) conforms the requirements provided in Condition 16.4 of the Environmental Monitoring and Audit Manual for HKBCF (Version 1.0).

Yours faithfully,
for and on behalf of
Atkins China Limited

Keith Chau
Environmental Team Leader

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

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

Contract No. HY/2013/01

Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Quarterly EM&A Report No. 13
(Covering the Period from 1 September 2017 to 30 November 2017)

20 May 2019

Revision 4

Main Contractor

LEIGHTON 禮頓
俊和 CHUN WO
Leighton - Chun Wo Joint Venture

Environmental Team

ATKINS
Member of the SNC-Lavalin Group

Contents

Figures

Appendices

Executive Summary

This Quarterly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract HY/2013/01 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) – Passenger Clearance Building (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR). The Contract was awarded to Leighton – Chun Wo Joint Venture (hereafter referred to as "the Contractor") and Atkins China Limited was appointed as the Environmental Team (ET) by the Contractor.

The Contract is part of Hong Kong – Zhuhai – Macao Bridge HKBCF which is a "Designated Project", under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap 499) and Environmental Impact Assessment (EIA) Report (Register No. AEIAR-145/2009) was prepared for the Project. The current Environmental Permit (EP) No. EP-353/2009/K for HKBCF was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. Site preparation works of the Contract started on 26 September 2014 and the construction works of the Contract commenced on 6 October 2014.

Atkins China Limited has been appointed by the Contractor to implement the Environmental Monitoring & Audit (EM&A) programme for the Contract in accordance with the Updated EM&A Manual for HKBCF (Version1.0) and will be providing environmental team services to the Contract.

This is the thirteenth Quarterly EM&A Report for the Contract which summaries findings of the EM&A works during the reporting period from 1 September 2017 to 30 November 2017.

Environmental Monitoring and Audit Progress

The EM&A programme was undertaken in accordance with the Updated EM&A Manual for HKBCF (Version 1.0). The air quality, noise, water quality and dolphin monitoring works under Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works were suspended from 1 September 2017. The ET of Contract No. HY/2013/01 is required and continues the same implementation of environmental monitoring commencing on 1 September 2017. It should be noted that the air quality monitoring station (AMS6) is covered by Contract No. HY/2011/03 Hong Kong-Zhuhai Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF.

A summary of the monitoring activities during the reporting period are listed below:

Monitoring Items	Date		
	September 2017	October 2017	November 2017
1-hour TSP Monitoring	1, 4, 5, 8, 11, 14 ,15, 20, 21, 26, 27 and 29	3, 4, 6, 10, 12, 16, 18, 20, 24, 26 and 30	1, 3, 7, 9, 13, 15, 17, 21, 23, 27 and 29
24-hour TSP Monitoring	1, 4, 7, 8, 13, 14, 19, 20, 25, 26, 28 and 30	3, 6, 9, 11, 13, 17, 19, 23, 25, 27 and 31	2, 6, 8, 10, 14, 16, 20, 22, 24, 28 and 30
Noise Monitoring	4, 6, 12, 14, 18, 20, 26 and 28	3, 4, 9, 10, 16, 18, 24, 26 and 30	1, 7, 9, 13, 15, 21, 23, 27 and 29
Water Quality Monitoring	1, 6, 8, 11, 13, 15, 18, 20, 22, 25, 27 and 29	2, 4, 6, 9, 11, 13, 16, 18, 20, 23, 25, 27 and 30	1, 3, 6, 8, 10, 13, 15, 17, 20, 22, 24, 27 and 29
Chinese White Dolphin Monitoring	5, 14, 21 and 25	6, 12, 17 and 19	6, 14, 23 and 28
Environmental Site Inspection	6, 13, 20 and 27	4, 11, 18 and 25	1, 8, 15, 22 and 29

Breaches of Action and Limit Levels

A summary of environmental exceedances for the reporting period are listed below:

Environmental Monitoring	Parameters	Action Level (AL)			Limit Level (LL)		
		Sep 2017	Oct 2017	Nov 2017	Sep 2017	Oct 2017	Nov 2017
Air Quality	1-hr TSP	-	-	-	-	-	-
	24-hr TSP	-	-	1	-	-	-
Noise	$L_{eq\ (30\ min)}$	-	-	-	-	-	-
Water Quality	Suspended solids level (SS)	8	5	15	1	-	4
	Turbidity level	5	-	-	1	-	-
	Dissolved oxygen level (DO)	137	7	-	26	8	-
Dolphin Monitoring	Quarterly Analysis	-			1		
Total		178			41		

Based on the investigation results, all exceedances are found that not related to Contract No. HY/2013/01.

Implementation of Environmental Measures

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. Potential environmental impacts due to the construction activities were monitored and reviewed.

Complaint Log

There were two complaints received in relation to the environmental impact during the reporting period.

A summary of environmental complaints for the previous reporting period is as follows:

Environmental Complaint No.	Date of Complaint Received	Description of Environmental Complaints
009	27 October 2017	Water Quality
010	23 November 2017	Dust

Complaint No.009

A complaint was received by EPD which regarding to the water quality at C3 area, the complaint was informed to the Environmental Team, Engineer's Representative and Contractor by ENPO's email on 27 October 2017.

Based on the investigation results, it is found that the complaint is not related to Contract No. HY/2013/01. No immediate mitigation measures are required as the complaint is not related to Contact No. HY/2013/01.

Complaint No.010

A compliant was received by EPD regarding dust emission from HZMB construction site. Environmental Team was informed by ENPO on 23 November 2017.

The Water Spraying Plan, which include the information of watering schedule, routing of trucks of watering and the location of water filling, was prepared and submitted to RE and ENPO.

Notifications of Summons and Successful Prosecutions

There was no notification of summon or prosecution received during this reporting period.

Reporting Change

The ET of Contract No. HY/2013/01 implemented the environmental monitoring (air quality, noise, water quality and dolphin monitoring works for the entire HKBCF) since 1 September 2017. It should be noted that the air quality monitoring station (AMS6) is covered by Contract No. HY/2011/03 Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF.

Air quality monitoring station-AMS3B, noise monitoring station-NMS3B and the meteorological station have been slightly re-located to AECOM PRE's Office since 1 September 2017.

1 Introduction

1.1 Basic Project Information

1.1.1 This Quarterly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract HY/2013/01 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region. The Contract was awarded to Leighton – Chun Wo Joint Venture (hereafter referred to as "the Contractor") and Atkins China Limited was appointed as the Environmental Team (ET) by the Contractor.

1.1.2 The Contract is part of Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) which is a "Designated Project", under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap 499). An Environmental Impact Assessment (EIA) Report (Register No. AEIAR-145/2009) was prepared for the Project. The current Environmental Permit (EP) No. EP-353/2009/K for HKBCF was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. Site preparation work of the Contract started on 26 September 2014 and the construction works of the Contract commenced on 6 October 2014. The works areas of the Contract are shown in **Appendix A**.

1.1.3 This is the thirteenth Quarterly EM&A Report for the Contract which summarizes the audit findings of the EM&A programme during the reporting period from 1 September 2017 to 30 November 2017.

1.2 Project Organisation

1.2.1 The project organization structure and lines of communication with respect to the on-site environmental management structure is shown in **Appendix B**. The key personnel contact names and numbers are summarized in **Table 1.1**.

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Michael Tovey	3958 7339	3468 2076
Environmental Project Office / Independent Environmental Checker (Ramboll Environ Hong Kong Limited)	Environmental Project Office Leader	Y. H. Hui	3465 2888	3465 2899
	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
Contractor (Leighton – Chun Wo Joint Venture)	Project Manager	Owen Leung	9232 5750	3621 0180
	Environmental Officer	Michael Lee	6461 8635	3621 0180
Environmental Team (Atkins China Limited)	Environmental Team Leader	Keith Chau	2972 1721	2890 6343
24 hours complaint hotline	---	---	3958 7300	---

1.3 Construction Programme

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

1.4 Construction Works Undertaken During the Reporting Period

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

Land-Based Work

- Waterproofing
- Backfilling
- Formwork and falsework stripping
- Western vertical column
- Blockwork walls
- Pipework and ductwork installation
- Hanger rods for cable container
- Wet trade works
- Dry trade works
- Facade Bracket for Cabins
- Mechanical, Electrical and Plumbing (MEP) High Level Containment
- Removal of Temporary Works
- Window wall glazing
- Heat exchanger installation
- Heavy MEP plant set up in basement
- Double Bow Truss installation
- Mullion Frame installation
- Curtain wall glaring
- Hanging scaffolding
- Hanging scaffolding removal
- Footbridge construction
- Roof cladding
- Refuse collection point
- Southern toilet
- Miscellaneous steelwork
- Lift installation
- Escalator installation
- Glazed lift installation
- Road and Kerbing
- Testing and commissioning works
- Water features and planters

Marine Based work

- Seawater intake seawall reinstatement
- Seawater outfall pipe laying
- Localized silt curtain deployment at jetty
- Localized silt curtain removal at seawater intake and box culvert
- Temporary jetty dismantling

2 EM&A Requirement

2.1 Summary of EM&A Requirements

2.1.1 The EM&A programme was undertaken in accordance with the Updated EM&A Manual for HKBCF (Version 1). The air quality, noise, water quality and dolphin monitoring works under Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works were suspended from 1 September 2017. The ET of Contract No. HY/2013/01 is required and continues the same implementation of environmental monitoring commencing on 1 September 2017. It should be noted that the air quality monitoring station (AMS 6) is covered by Contract No. HY/2011/03 Hong Kong-Zhuhai Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF.

2.1.2 The permission to carry out impact air quality monitoring work at AMS7 (Hong Kong SkyCity Marriott Hotel) was not granted after 31 January 2015. The impact air quality monitoring location (AMS7) was relocated to a nearby air sensitive receiver, Chu Kong Air-Sea Union Transportation Co. Ltd. (AMS7A), from 5 February 2015 to 30 December 2015. The alternative location at Chu Kong Air-Sea Union Transportation Co. Ltd. was approved by EPD on 5 February 2015. However, AMS7A was relocated back to its original location (AMS7-Hong Kong SkyCity Marriott Hotel) on 30 December 2015. The relocation of air quality monitoring location, AMS7A, back to AMS7 was approved by EPD on 21 December 2015. The baseline and action/limit level for air quality as derived from the baseline monitoring data recorded at Hong Kong SkyCity Marriott Hotel (AMS7) was adopted for the air quality monitoring location.

2.1.3 A summary of air and noise monitoring locations are presented in **Table 2.1**. The location of air quality and noise monitoring stations are shown as in **Figure 2.1** and **Figure 2.2**, respectively.

Table 2.1 Summary of Impact EM&A Requirements

Environmental Monitoring	ID	Location Description
Air Quality	AMS2(1)	Tung Chung Development Pier
	AMS3B(1)	Site Boundary of Site Office Area at Work Area WA2
	AMS6(1)	Dragonair/CNAC (Group) Building
	AMS7(1) (2)	Hong Kong SkyCity Marriott Hotel
Noise	NMS2(3)	Seaview Crescent
	NMS3B(3)(4)	Site Boundary of Site Office Area at Works Area WA2

Remarks:
(1) The ET of this Contract should conduct impact air quality monitoring at the Air Monitoring Station listed in the table as part of EM&A programme according to the latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project.
(2) The original monitoring location was at Hong Kong SkyCity Marriott Hotel (AMS7). As the permission to carry out air quality monitoring at Hong Kong SkyCity Marriott Hotel was not granted after 31 January 2015, the monitoring location was relocated to Chu Kong Air-Sea Union Transportation Co. Ltd. (AMS7A) from 5 February 2015 to 30 December 2015. The alternative monitoring location at Chu Kong Air-Sea Union Transportation Co. Ltd. was approved by EPD on 5 February 2015. However, AMS7A was relocated back to its original location (AMS7-Hong Kong SkyCity Marriott Hotel) on 30 December 2015. The relocation of air quality monitoring location, AMS7A, back to AMS7 was approved by EPD on 21 December 2015.
(3) The ET of this Contract should conduct impact noise monitoring at the NMS listed in the table as part of EM&A programme according to the latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project.
(4) The Action and Limit Levels for schools will be applied for this alternative monitoring location.

2.1.4 The water quality works under Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works were suspended from 1 September 2017. The ET of Contract No. HY/2013/01 is required and continues the same implementation of environmental monitoring commencing on 1 September 2017. A total of twenty-one stations (nine Impact Stations (IS),

seven Sensitive Receiver Stations (SR) and five Control/Far Field Stations (CS)) are covered by the current EM&A programme.

2.1.5 The water quality monitoring stations at CS(Mf)3 (Coordinate: 809989E, 821117N), IS10 (Coordinate: 812577E, 820670N) and SR5 (811489E, 820455N) have been occupied by the marine work of a designated project - Expansion of Hong Kong International Airport into a Three-Runway System (3RS Project). The alternative water quality monitoring station at CS(Mf)3(N) (Coordinate: 808814E, 822355N), IS10(N) (Coordinate: 812942E, 820881N) and SR5(N) (812569E, 8201475N) were justified and verified by the ET Leader for Contract No. HY/2010/02 and the IEC respectively on 24 March 2017 and it was approved by EPD on 12 May 2017.

2.1.6 **Table 2.2** and **Figure 2.3** show the locations of water quality monitoring stations.

Table 2.2 Impact 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	Impact Station (Close to HKBCF construction site)	812577	820670
IS10(N)*	Impact Station (Close to HKBCF construction site)	812942	820881
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	Sensitive receivers (Artificial Reef in NE Airport)	811489	820455
SR5(N)*	Sensitive receiver (Artificial Reef in NE Airport)	812569	821475
SR6	Sensitive receivers (Sha Chau and Lung Kwu Chau Marine Park)	805837	821818
SR7	Sensitive receivers (Tai Mo Do)	814293	821431
SR10A^	Sensitive receivers (Ma Wan FCZ) 1	823741	823495
SR10B(N)^	Sensitive receivers (Ma Wan FCZ) 2	823683	823187
CS(Mf)3	Control Station	809989	821117
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	Control Station	818103	823064

Remarks:
* Alternative water quality monitoring stations at CS(Mf)3(N), SR5(N) and IS10(N) were justified and verified by the ET Leader for Contract No. HY/2010/02 and the IEC respectively on 24 March 2017 and it was approved by EPD on 12 May 2017.
^ Water sampling team reported that the monitoring stations at SR3, SR10A and SR10B(N) were not available for water sampling due to safety reason, thus, monitoring stations were changed to tentative coordination (i.e. SR3(N): E810689 N816591; SR10A(N): E823644 N823484 and SR10B(N2): E823689 N823159).

2.1.7 The dolphin monitoring works under Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works were suspended from 1 September 2017. The ET of Contract No. HY/2013/01 is required to conduct dolphin monitoring at the twenty-four transects.

2.1.8 The dolphin 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. The change of transect lines 2, 3, 4, 5, 6 and 7 and new vessel-based transect line 24 for dolphin monitoring have been proposed due to the marine work of a designated project - Expansion of Hong Kong International Airport into a Three-Runway System (3RS Project). It was justified and verified by the ET Leader for Contract No. HY/2010/02 and the IEC respectively on 24 March 2017 and it was approved by EPD on 12 May 2017.

2.1.9 The co-ordinates for the transect lines showing the transect lines have been obtained from AFCD and are shown in **Table 2.3** and **Figure 2.4** shows the layout map.

Table 2.3 Impact Dolphin Monitoring Line Transect Co-ordinates

Transect ID	HK Grid System	
	East	North
1*	804671	815456
	804671	831404
2	805476	820800
	805476	826654
3	806464	821150
	806464	822911
4	807518	821500
	807518	829230
5	808504	821850
	808504	828602
6	809490	822150
	809490	825352
7	810499	822000
	810499	824613
8*	811508	821123
	811508	824254
9*	812516	821303
	812516	824254
10*	813525	820827
	813525	824657
11#	814556	818853
	814556	820992
12	815542	818807
	815542	824882
13	816506	819480
	816506	824859
14	817537	820220
	817537	824613
15	818568	820735
	818568	824433
16	819532	821420
	819532	824209
17	820451	822125
	820451	823671

18	821504	822371
	821504	823761
19	822513	823268
	822513	824321
20	823477	823402
	823477	824613
21	805476	827081
	805476	830562
22	806464	824033
	806464	829598
23	814559	821739
	814559	824768
24	805476	815900
	805476	819100

Remarks:

(a) * Due to the presence of deployed silt curtain systems at the site boundaries of the Contract, some of the transect lines shown in Figure 5.1 could not be fully surveyed during the regular survey. Transect 10 is reduced from 6.4km to approximately 3.6km in length due to the HKBCF construction site. Therefore the total transect length for both NEL and NWL combined is reduced to approximately 108km

(b) # Coordinates for transect lines 1, 8, 9 and 11 have been updated in respect to the Proposal for Alteration of Transect Line for Dolphin Monitoring approved by EPD on 19 August 2015.

(c) The change of transect lines 2, 3, 4, 5, 6 and 7 and new vessel-based transect line 24 for dolphin monitoring have been proposed due to the marine work of a designated project-Expansion of Hong Kong International Airport into a Three-Runway System (3RS Project). It was justified and verified by the ET Leader for Contract No. HY/2010/02 and the IEC respectively on 24 March 2017 and it was approved by EPD on 12 May 2017.

(d) Due to marine work of the Expansion of Hong Kong International Airport into a Three-Runway System (3RS Project), original transect lines of dolphin monitoring 2, 3, 4, 5, 6 and 7 are enclosed by works boundary of 3RS Project. Alternative dolphin monitoring transect lines 2, 3,4, 5, 6, 7 and 24 are adopted starting from 17 May 2017 to replace the original transect lines.

2.2 Monitoring Requirements

2.2.1 The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology, monitoring schedule, meteorological information is detailed in the monthly EM&A Reports for Contract No. HY/2013/01.

2.3 Action and Limit Levels

2.3.1 The Action and Limit Level for 1-hr TSP and 24-hr TSP are provided in **Table 2.4** and **Table 2.5**, respectively.

Table 2.4 Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level, µg/m³	Limit Level, µg/m³
AMS2 – Tung Chung Development Pier	374	500
AMS3B - Site Boundary of Site Office at Work Area WA2	368	
AMS6 – Dragonair/CNAC (Group) Building (HKIA)	360	
AMS7 – Hong Kong SkyCity Marriott Hotel	370	

Table 2.5 Action and Limit Levels for 24-hour TSP

Monitoring Station	Action Level, µg/m³	Limit Level, µg/m³
AMS2 – Tung Chung Development Pier	176	260
AMS3B - Site Boundary of Site Office at Work Area WA2	167	
AMS6 – Dragonair/CNAC (Group) Building (HKIA)	173	
AMS7 – Hong Kong SkyCity Marriott Hotel	183	

2.3.2 The Action and Limit Levels for construction noise are defined in **Table 2.6**.

Table 2.6 Action and Limit Level for Construction Noise

Parameter	Action Level	Limit Level
07:00 – 19:00 hours on normal weekdays	When one documented complaint is received	75/70/65 dB(A)*

Notes :
If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.
* Reduce to 70 dB(A) for schools and 65 dB(A) during school examination period. The Action and limit Levels for schools will be applied for NMS3B. Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65 dB(A) applies during the school examination period.

2.3.3 The Action and Limit Levels for water quality are provided in **Table 2.7**.

Table 2.7 Action and Limit Levels for Water Quality

Parameters	Action	Limit
DO in mg L^{-1} (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^{-1} (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 4.2 mg/L and 3.6 mg/L respectively.

2.3.4 The Action and Limit Levels for Chinese White Dolphin Monitoring are provided in **Table 2.8** and **Table 2.9**, respectively.

Table 2.8 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)]	

Table 2.9 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)]	

2.4 Event Action Plans

2.4.1 The Event Actions Plans for air quality, noise, water quality and dolphin monitoring are provided in **Appendix D.**

2.5 Mitigation Measures

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

3 Environmental Monitoring and Audit

3.1 Air Quality Monitoring Results

3.1.1 In accordance with the Contract Specific EM&A Manual, impact 1-hour Total Suspended Particulates (TSP) monitoring was conducted for at least three times every 6 days, while impact 24-hour TSP monitoring was carried out for at least once every 6 days at the 4 monitoring stations (AMS2, AMS3B, AMS6 and AMS7).

3.1.2 The weather was sunny and hot, with occasional cloudy in the reporting period. Construction works during the quarterly period are shown in Section 1.4.1. The major dust source in the reporting period included construction activities from the Project, as well as traffic emission. No specific trend of the monitoring results or existence of persistent pollution source was noted.

3.1.3 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 Reports (for September to November 2017) prepared by Contract No. HY/2011/03.

3.1.4 The graphical plots of the monitoring results are presented in **Appendix F**.

3.1.5 The number of exceedances recorded during the reporting period are presented in the **Table 3.1**. The monitoring results for 1-hour and 24-hour are summarized in **Table 3.2** and **Table 3.3** respectively.

Table 3.1 Summary of number of exceedances for 1-hr and 24-hr TSP Monitoring

Monitoring Station	September 2017		October 2017		November 2017	
	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level
AMS2	-	-	-	-	-	-
AMS3B	-	-	-	-	-	1 (24-hr TSP)
AMS7	-	-	-	-	-	-

Table 3.2 Summary of 1-hour TSP Monitoring Results Obtained During the Reporting Period

Reporting month	Monitoring Station	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
September 2017	AMS2	28	15 - 52	374	500
	AMS3B	15	3 - 31	368	
	AMS7	55	8 - 160	370	
October 2017	AMS2	45	26 - 92	374	500
	AMS3B	35	16 - 58	368	
	AMS7	46	29 - 102	370	
November 2017	AMS2	122	14 - 312	374	500
	AMS3B	34	12 - 87	368	
	AMS7	47	21 - 106	370	

Table 3.3 Summary of 24-hour TSP Monitoring Results Obtained During the Reporting Period

Reporting month	Monitoring Station	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
September 2017	AMS2	40	20 - 65	176	260
	AMS3B	47	27 - 68	167	
	AMS7	50	26 - 90	183	
October 2017	AMS2	75	27 - 107	176	260
	AMS3B	79	36 - 119	167	
	AMS7	91	42 - 120	183	
November 2017	AMS2	109	52 - 150	176	260
	AMS3B	108	57- 168	167	
	AMS7	83	54 - 118	183	

3.1.6 No Action and Limit Level exceedances of 1-hour TSP were recorded at AMS2, AMS3B and AMS7 during the reporting period.

3.1.7 No Action and Limit Level exceedances of 24-hour TSP were recorded at AMS2 and AMS7 during the reporting period.

3.1.8 One Action Level and no Limit Level exceedance of 24-hour TSP was recorded at AMS3B during the reporting period. For detail of investigation, please refer to **Appendix K**.

3.2 Noise Monitoring Results

3.2.1 In accordance with the Contract Specific EM&A Manual, impact noise monitoring was conducted for at least once per week during the construction phase of the Contract. The graphical plots of the monitoring results are presented in **Appendix F**. No specific trend of the monitoring results or existence of persistent pollution source was noted.

3.2.2 The number of exceedances recorded during the reporting period are presented in the **Table 3.4**. The monitoring results for noise are summarized in **Table 3.5**.

Table 3.4 Summary of number of exceedances for Impact Noise Monitoring

Monitoring Station	September 2017		October 2017		November 2017	
	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level
NMS2	-	-	-	-	-	-
NMS3B(*)	-	-	-	-	-	-

Remark (*): Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65 dB(A) applies during the school examination period. The examination period of Ho Yu College was 2 – 15 November 2017, the Limit Level of 65 dB(A) was applied.

Table 3.5 Summary of Noise Monitoring Result Obtained During Reporting Period

Reporting month	Monitoring Station	Average, dB(A) $L_{eq\ (30\ mins)}$	Range, dB(A) $L_{eq\ (30\ mins)}$	Limit Level, dB(A) $L_{eq\ (30\ mins)}$
September 2017	NMS2	66	63 - 67	75
	NMS3B(*)	65	63 - 66	70/65
October 2017	NMS2	65	64 - 66	75
	NMS3B(*)	66	65 - 67	70/65
November 2017	NMS2	65	65 - 66	75
	NMS3B(*)	66	65 - 68	70/65

3.2.3 No Action and Limit Level exceedances of Noise monitoring were recorded at NMS2 and NMS3B during the reporting period.

3.2.4 The measured noise level was 67.5 dB(A) on 7 November 2017 at Station NMS3B, which exceeded the noise level of 65dB(A) during examination period and it was higher than the baseline level of 66.3 dB(A). Therefore, baseline correction was carried out and the corrected noise level which solely represent the noise level of Construction works are 61.3 dB(A) and no exceedance after correction. As such the Event and Action Plan was not triggered.

3.2.5 The measured noise level was 66.4 dB(A) on 13 November 2017 at Station NMS3B, which exceeded the noise level of 65dB(A) during examination period and it was higher than the baseline level of 66.3 dB(A). Therefore, baseline correction was carried out and the corrected noise level which solely represent the noise level of Construction works are 50.0 dB(A) and no exceedance after correction. As such the Event and Action Plan was not triggered.

3.3 Water Quality Monitoring Results

3.3.1 Impact water quality monitoring was carried out to ensure that any deterioration of water quality was detected, and that timely action was taken to rectify the situation. For impact water quality monitoring, measurement was taken in accordance with the Contract Specific EM&A Manual.

3.3.2 The graphical plots of the monitoring results are presented in **Appendix F.**

3.3.3 For impact water quality monitoring, number of exceedances recorded for reporting period at each impact station are summarised in **Table 3.6**.

Table 3.6 Summary of Water Quality Exceedances

Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		SS	
		Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood
IS5	Action Level		2017-09-08	2017-09-01; 2017-09-13; 2017-09-18	2017-09-01; 2017-09-13; 2017-09-29	2017-09-08		2017-09-08	
	Limit Level								
IS(Mf)6	Action Level								2017-11-06; 2017-11-15
	Limit								

Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		SS	
		Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood
	Level								
IS7	Action Level	2017-09-08		2017-09-08; 2017-09-29					
	Limit Level								
IS8	Action Level		2017-09-08; 2017-09-11; 2017-09-22	2017-09-29	2017-09-11				2017-09-06; 2017-09-18; 2017-09-25; 2017-11-13; 2017-11-24
	Limit Level						2017-09-15		
IS(Mf)9	Action Level		2017-09-08; 2017-09-11; 2017-09-22		2017-09-13				
	Limit Level								
IS10(N)	Action Level	2017-09-08; 2017-09-11; 2017-09-13; 2017-09-22; 2017-09-29	2017-09-08; 2017-09-11; 2017-09-22	2017-09-01; 2017-09-15; 2017-09-18; 2017-09-22; 2017-09-27; 2017-09-29	2017-09-01; 2017-09-11; 2017-09-15; 2017-09-29		2017-09-08		
	Limit Level								2017-09-08
IS(Mf)11	Action Level	2017-09-11; 2017-09-15; 2017-09-22	2017-09-08; 2017-09-11; 2017-09-13; 2017-09-15; 2017-09-22	2017-09-01; 2017-09-11; 2017-09-18; 2017-09-29	2017-09-01; 2017-09-08; 2017-09-11; 2017-09-29		2017-09-06; 2017-09-08		2017-09-08; 2017-10-20; 2017-11-03; 2017-11-08
	Limit Level								
IS(Mf)16	Action Level	2017-09-08	2017-09-08; 2017-09-11; 2017-09-22	2017-09-08; 2017-09-11; 2017-09-13; 2017-09-18; 2017-09-29	2017-09-11; 2017-09-13				2017-11-06
	Limit Level								
IS17	Action Level	2017-09-08; 2017-09-11; 2017-09-15	2017-09-08; 2017-09-11; 2017-09-13; 2017-09-22	2017-09-01; 2017-09-06; 2017-09-08; 2017-09-11; 2017-09-13; 2017-09-15; 2017-09-27	2017-09-08; 2017-09-11; 2017-09-13; 2017-09-29				
	Limit Level								

Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		SS	
		Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood
SR3^	Action Level	2017-09-08; 2017-09-22	2017-09-08						
	Limit Level								
SR4(N)	Action Level		2017-09-08; 2017-09-11; 2017-09-22						2017-09-06
	Limit Level								2017-11-08
SR5(N)	Action Level	2017-09-11; 2017-09-13; 2017-09-22	2017-09-08; 2017-09-11; 2017-09-22	2017-09-01; 2017-09-11; 2017-09-27; 2017-09-29	2017-09-11; 2017-09-29				2017-10-18; 2017-10-20; 2017-10-23
	Limit Level								2017-11-03; 2017-11-08
SR6	Action Level	2017-09-08; 2017-09-11; 2017-09-18; 2017-09-22	2017-09-06; 2017-09-08; 2017-09-11; 2017-09-15; 2017-09-18; 2017-09-20; 2017-09-22	2017-09-18	2017-09-11; 2017-09-15; 2017-09-18; 2017-09-20		2017-09-08	2017-11-03; 2017-11-08; 2017-11-22	2017-09-06; 2017-09-20
	Limit Level								2017-11-22
SR7	Action Level	2017-09-11	2017-09-08; 2017-09-11; 2017-09-22						2017-10-20; 2017-11-03; 2017-11-06; 2017-11-20
	Limit Level								
SR10A^	Action Level			2017-10-02; 2017-10-04	2017-09-06; 2017-09-08; 2017-09-11; 2017-09-13; 2017-09-15; 2017-09-20; 2017-09-27; 2017-10-02; 2017-10-04				2017-11-06
	Limit Level	2017-09-06; 2017-09-08; 2017-09-13; 2017-09-22; 2017-10-04	2017-09-06; 2017-09-08; 2017-09-11; 2017-09-13; 2017-09-15; 2017-09-18; 2017-09-20; 2017-09-22; 2017-10-04						
SR10B (N)^	Action Level			2017-09-11; 2017-09-27; 2017-09-29	2017-09-06; 2017-09-11; 2017-09-13; 2017-09-15; 2017-09-22; 2017-09-25;				2017-11-06

Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		SS	
		Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood
					2017-09-27; 2017-10-02; 2017-10-04; 2017-10-06				
	Limit Level	2017-09-06; 2017-09-08; 2017-09-11; 2017-09-22; 2017-10-04; 2017-10-06	2017-09-06; 2017-09-08; 2017-09-11; 2017-09-13; 2017-09-15; 2017-09-18; 2017-09-20; 2017-09-22; 2017-09-25; 2017-09-27; 2017-10-02; 2017-10-04; 2017-10-06; 2017-10-09						
Total	Action Level	23	39	38	44	1	4	4	24
		177							
	Limit Level	11	23	0	0	0	1	0	5
		40							

Remark:

^ Water sampling team reported that the monitoring stations at SR3, SR10A and SR10B(N) were not available for water sampling due to safety reason, thus, monitoring stations were changed to tentative coordination (i.e. SR3(N): E810689 N816591; SR10A(N): E823644 N823484 and SR10B(N2): E823689 N823159).

3.3.4 There were 61 Action Level exceedances of dissolved oxygen were recorded at mid-ebb tide while 83 Action Level exceedances of dissolved oxygen were recorded at mid-flood tide. 11 Limit Level exceedances of dissolved oxygen were recorded at mid-ebb tide while 23 Limit Level exceedances of dissolved oxygen were recorded at mid-flood tide.

3.3.5 An Action Level exceedance of turbidity was recorded at mid-ebb tide while 4 Action Level exceedances of turbidity were recorded at mid-flood tide. No Limit Level exceedance of turbidity was recorded at ebb tide while 1 Limit Level exceedance of turbidity was recorded at flood tide.

3.3.6 4 Action Level exceedances of suspended solid were recorded at mid-ebb tide while 24 Action Level exceedances of suspended solid were recorded at mid-flood tide. No Limit Level exceedances of suspended solid were recorded at mid-ebb tide while 5 Limit Level exceedances of suspended solid were recorded mid-flood tide.

3.3.7 As confirmed by the Contractor, no marine transportation and marine-based work was conducted when water quality monitoring was conducted in September, October and November 2017. Therefore, it is concluded that the exceedances were not related the Contract. The detailed investigation results of these exceedances recorded are shown in **Appendix K.**

3.3.8 The weather was mostly fine and hot, with occasional showers, with abundant sunshine, temperatures stays high degrees during September 2017.

3.3.9 Temperature was one of essential factor to dissolved oxygen, based on past weather summary report from Hong Kong Observatory, there were more 22 days of daily mean temperature recorded for September 2017 as above normal and 10 of these days were defined as extremely high temperature, while the weather remained mostly fine and hot till mid-October when cooler temperatures to Hong Kong for the rest of the month. the weather in November in Hong Kong was generally fine and dry, while windy and rainy weather was recorded the rest of the month. In a conclusion, number of exceedances in dissolved oxygen of September 2017 was higher than October and November 2017. After detailed analysis and comparison between the impaction

stations and control stations, such overall variations in all sampling stations are considered to have been driven by natural fluctuations.

3.4 Dolphins Monitoring Results

Data Analysis

3.4.1 Distribution Analysis – The line-transect survey data was integrated with the Geographic Information System (GIS) in order to visualize and interpret different spatial and temporal patterns of dolphin distribution using sighting positions. Location data of dolphin groups were plotted on map layers of Hong Kong using a desktop GIS (ArcView© 3.1) to examine their distribution patterns in details. The dataset was also stratified into different subsets to examine distribution patterns of dolphin groups with different categories of group sizes, young calves and activities.

3.4.2 Encounter rate analysis – Encounter rates of Chinese white dolphins (number of on-effort sightings per 100 km of survey effort, and total number of dolphins sighted on-effort per 100 km of survey effort) were calculated in NEL and NWL survey areas in relation to the amount of survey effort conducted during each month of monitoring survey. Dolphin encounter rates were calculated in two ways for comparisons with the HZMB baseline monitoring results as well as to AFCD long-term marine mammal monitoring results.

3.4.3 Firstly, for the comparison with the HZMB baseline monitoring results, the encounter rates were calculated using primary survey effort alone, and only data collected under Beaufort 3 or below condition would be used for encounter rate analysis. The average encounter rate of sightings (STG) and average encounter rate of dolphins (ANI) were deduced based on the encounter rates from six events during the present quarter (i.e. six sets of line-transect surveys in North Lantau), which was also compared with the one deduced from the six events during the baseline period (i.e. six sets of line-transect surveys in North Lantau).

3.4.4 Secondly, the encounter rates were calculated using both primary and secondary survey effort collected under Beaufort 3 or below condition as in AFCD long-term monitoring study. The encounter rate of sightings and dolphins were deduced by dividing the total number of on-effort sightings (STG) and total number of dolphins (ANI) by the amount of survey effort for the present quarterly period.

3.4.5 Quantitative grid analysis on habitat use – To conduct quantitative grid analysis of habitat use, positions of on-effort sightings of Chinese White Dolphins collected during the quarterly impact phase monitoring period were plotted onto 1-km^2 grids among NWL and NEL survey areas on GIS. Sighting densities (number of on-effort sightings per km^2) and dolphin densities (total number of dolphins from on-effort sightings per km^2) were then calculated for each 1 km by 1 km grid with the aid of GIS. Sighting density grids and dolphin density grids were then further normalized with the amount of survey effort conducted within each grid. The total amount of survey effort spent on each grid was calculated by examining the survey coverage on each line-transect survey to determine how many times the grid was surveyed during the study period. For example, when the survey boat traversed through a specific grid 50 times, 50 units of survey effort were counted for that grid. With the amount of survey effort calculated for each grid, the sighting density and dolphin density of each grid were then normalized (i.e. divided by the unit of survey effort).

3.4.6 The newly-derived unit for sighting density was termed SPSE, representing the number of on-effort sightings per 100 units of survey effort. In addition, the derived unit for actual dolphin density was termed DPSE, representing the number of dolphins per 100 units of survey effort. Among the 1-km^2 grids that were partially covered by land, the percentage of sea area was calculated using GIS tools, and their SPSE and DPSE values were adjusted accordingly. The following formulae were used to estimate SPSE and DPSE in each 1-km2 grid within the study area:

$$SPSE = ((S / E) \times 100) / SA\%$$
$$DPSE = ((D / E) \times 100) / SA\%$$

where S = total number of on-effort sightings

D = total number of dolphins from on-effort sightings
E = total number of units of survey effort
SA% = percentage of sea area

3.4.7 Behavioural analysis – When dolphins were sighted during vessel surveys, their behaviour was observed. Different activities were categorized (i.e. feeding, milling/resting, traveling, socializing) and recorded on sighting datasheets. This data was then input into a separate database with sighting information, which can be used to determine the distribution of behavioural data with a desktop GIS. Distribution of sightings of dolphins engaged in different activities and behaviours would then be plotted on GIS and carefully examined to identify important areas for different activities of the dolphins.

3.4.8 Ranging pattern analysis – Location data of individual dolphins that occurred during the 3-month impact phase monitoring period were obtained from the dolphin sighting database and photo-identification catalogue. To deduce home ranges for individual dolphins using the fixed kernel methods, the program Animal Movement Analyst Extension, was loaded as an extension with ArcView© 3.1 along with another extension Spatial Analyst 2.0. Using the fixed kernel method, the program calculated kernel density estimates based on all sighting positions, and provided an active interface to display kernel density plots. The kernel estimator then calculated and displayed the overall ranging area at 95% UD level.

Summary of Survey Effort and Dolphin Sightings

3.4.9 During the period of September to November 2017, six sets of systematic line-transect vessel surveys were conducted for the HKBCF project to cover all transect lines in NWL and NEL survey areas twice per month.

3.4.10 From these surveys, a total of 790.3 km of survey effort was collected, with 97.9% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility). Among the two areas, 289.9 km and 500.4 km of survey effort were conducted in NEL and NWL survey areas respectively.

3.4.11 The total survey effort conducted on primary lines was 574.2 km, while the effort on secondary lines was 216.1 km. Survey effort conducted on both primary and secondary lines were considered as on-effort survey data. A summary table of the survey effort is shown in **Annex I** of **Appendix L**.

3.4.12 During the six sets of monitoring surveys in September to November 2017, six groups of 25 Chinese White Dolphins were sighted, with the summary table of the dolphin sightings shown in **Annex II** of **Appendix L**. All dolphin sightings were made during on-effort search, while five of the six on-effort dolphin sightings were made on primary lines. In addition, all dolphin groups were sighted in NWL, and no dolphin was sighted at all in NEL.

Distribution

3.4.13 Distribution of dolphin sightings made during monitoring surveys in September to November 2017 is shown in **Figure 1** of **Appendix L**. Five of the four sightings were made at the northwest portion of the North Lantau region, mainly within the Sha Chau and Lung Kwu Chau Marine Park (**Figure 1** of **Appendix L**). One dolphin group was also sighted at the southwestern end of NWL survey area, or near the HKLR09 alignment. On the contrary, the dolphins were completely absent from the central and eastern portions of North Lantau waters, similar to the consistent findings of HKLR03 surveys in recent years (**Figure 1** of **Appendix L**).

3.4.14 All dolphin sightings were located far away from the HKBCF and HKLR03 reclamation sites as well as along the alignment and Tuen Mun-Chek Lap Kok Link (TMCLKL) (**Figure 1** of **Appendix L**). However, one sighting was made near the alignment of HKLR09 as mentioned above.

3.4.15 Sighting distribution of dolphins during the present impact phase monitoring period (September to November 2017) was drastically different from the one during the baseline monitoring period (**Figure 1** of **Appendix L**). In the present quarter, dolphins have disappeared from the NEL region, which was in stark contrast to their frequent occurrence around the Brothers Islands, near Shum Shui Kok and in the vicinity of HKBCF reclamation site during the baseline period (**Figure 1** of **Appendix L**).

3.4.16 On the other hand, dolphin occurrence in NWL waters was also noticeably different between the baseline and impact phase periods. During the present impact monitoring period, dolphins were seldom sighted here, and mainly at the northwestern end of the area, which was in stark contrast with their frequent occurrences throughout the entire survey area during the baseline period (**Figure 1** of **Appendix L**). Seasonal distributions of dolphins during baseline and impact periods can be referred to those presented in the corresponding quarterly EM&A summary report prepared under Contract No. HY/2011/03.

Encounter Rate

3.4.17 During the present three-month study period, the encounter rates of Chinese White Dolphins deduced from the survey effort and on-effort sighting data from the primary transect lines under favourable conditions (Beaufort 3 or below) for each set of the surveys in NEL and NWL are shown in **Table 3.7**. The average encounter rates deduced from the six sets of surveys were also compared with the ones deduced from the baseline monitoring period (September – November 2011) (**Table 3.8**).

3.4.18 To facilitate the comparison with the AFCD long-term monitoring results, the encounter rates were also calculated for the present quarter using both primary and secondary survey effort. The encounter rates of sightings (STG) and dolphins (ANI) in NWL were 1.2 sightings and 5.2 dolphins per 100 km of survey effort respectively, while the encounter rates of sightings (STG) and dolphins (ANI) in NEL were both nil for this quarter.

Table 3.7 Dolphin Encounter Rates (Sightings Per 100 km of Survey Effort) During Reporting Period (September to November 2017)

Survey Area	Dolphin Monitoring	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)	Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)
		Primary Lines Only	Primary Lines Only
Northeast Lantau	Set 1 (5 & 14 Sep 2017)	0.0	0.0
	Set 2 (21 & 25 Sep 2017)	0.0	0.0
	Set 3 (6 & 12 Oct 2017)	0.0	0.0
	Set 4 (17 & 19 Oct 2017)	0.0	0.0
	Set 5 (6 & 14 Nov 2017)	0.0	0.0
	Set 6 (23 & 28 Nov 2017)	0.0	0.0
Northwest Lantau	Set 1 (5 & 14 Sep 2017)	3.4	11.9
	Set 2 (21 & 25 Sep 2017)	3.3	8.3
	Set 3 (6 & 12 Oct 2017)	0.0	0.0
	Set 4 (17 & 19 Oct 2017)	0.0	0.0
	Set 5 (6 & 14 Nov 2017)	1.7	1.7
	Set 6 (23 & 28 Nov 2017)	0.0	0.0

Table 3.8 Comparison of Average Dolphin Encounter Rates From Impact Monitoring Period (September to November 2017) and Baseline Monitoring Period (September to November 2011)

Survey Area	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)		Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)	
	Reporting Period	Baseline Monitoring Period	Reporting Period	Baseline Monitoring Period
Northeast Lantau	0.0	6.0 ± 5.1	0.0	22.2± 26.8
Northwest Lantau	1.4 ± 1.7	9.9 ± 5.9	3.7 ± 5.2	44.7 ± 29.9

Notes:
1) The encounter rates deduced from the baseline monitoring period have been recalculated based only on the survey effort and on-effort sighting data made along the primary transect lines under favourable conditions.
2) ± denotes the standard deviation of the average encounter rates.

3.4.19 In NEL, the average dolphin encounter rates (both STG and ANI) in the present three-month impact monitoring period were both zero with no on-effort sighting being made, and such extremely low occurrence of dolphins in NEL have also been consistently recorded in recent years of HZMB monitoring (**Table 3.8**).

3.4.20 Comparison of average dolphin encounter rates (**Table 3.9**) in Northeast Lantau survey area from the same autumn quarters of HKLR03 and HKBCF impact monitoring period and baseline monitoring period (September-November 2011) (Note: encounter rates deduced from the baseline monitoring period have been recalculated based only on survey effort and on-effort sighting data made along the primary transect lines under favourable conditions; ± denotes the standard deviation of the average encounter rates)

Table 3.9 Comparison of Average Dolphin Encounter Rates in Northeast Lantau Survey Area from All Quarters of Impact Monitoring Period and Baseline Monitoring Period (September to November 2011)

	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)	Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)
September-November 2011 (Baseline)	**6.0 ± 5.1**	**22.2 ± 26.8**
September-November 2013 (HKLR03 Impact (*))	1.0 ± 1.6	3.8 ± 6.5
September-November 2014 (HKLR03 Impact (*))	0.0	0.0
September-November 2015 (HKLR03 Impact (*))	0.0	0.0
September-November 2016 (HKLR03 Impact (*))	0.0	0.0
September-November 2017 (HKBCF Impact)	**0.0**	**0.0**

Notes:
1) The encounter rates deduced from the baseline monitoring period have been recalculated based only on survey effort and on-effort sighting data made along the primary transect lines under favourable conditions.

2) ± denotes the standard deviation of the average encounter rates.
(*) As explained in Section 1.5 of Appendix L, the previous monitoring data from Contract No. HY/2011/03 (i.e. HKLR03) were adopted for comparison with the baseline and present HKBCF impact monitoring period.

3.4.21 On the other hand, the average dolphin encounter rates (STG and ANI) in NWL during the present impact phase monitoring period (reductions of 85.7% and 91.8% respectively) were only very small fractions of the ones recorded during the three-month baseline period, indicating a dramatic decline in dolphin usage of this survey area as well during the present impact phase period (**Table 3.10**).

3.4.22 During the same autumn quarters, dolphin encounter rates in NWL during autumn 2017 was similar to the previous autumn period in and 2016 but was much lower than the ones in the summer periods of 2013, 2014 and 2015 (**Table 3.10**). Such temporal trend should be closely monitored in the upcoming monitoring quarters whether the dolphin occurrence would continue to increase as the construction activities of HZMB works have been mostly completed in coming months.

Table 3.10 Comparison of Average Dolphin Encounter Rates in Northwest Lantau Survey Area from All Quarters of Impact Monitoring Period and Baseline Monitoring Period (September to November 2011)

Monitoring Period	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)	Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)
September-November 2011 (Baseline)	**9.9 ± 5.9**	**44.7 ± 29.9**
September-November 2013 (HKLR03 Impact (*))	8.0 ± 1.1	32.5 ± 26.5
September-November 2014 (HKLR03 Impact (*))	5.1 ± 4.4	20.5 ± 15.1
September-November 2015 (HKLR03 Impact (*))	3.9 ± 1.6	21.1 ± 17.2
September-November 2016 (HKLR03 Impact (*))	2.9 ± 2.0	10.9 ± 11.0
September-November 2017 (HKBCF Impact)	**3.1 ± 1.9**	**10.4 ± 9.7**

Notes:
1) The encounter rates deduced from the baseline monitoring period have been recalculated based only on survey effort and on-effort sighting data made along the primary transect lines under favourable conditions.
2) ± denotes the standard deviation of the average encounter rates.
(*) As explained in Section 1.5 of Appendix L, the previous monitoring data from Contract No. HY/2011/03 (i.e. HKLR03) were adopted for comparison with the baseline and present HKBCF impact monitoring period.

3.4.23 A two-way ANOVA with repeated measures and unequal sample size was conducted to examine whether there were any significant differences in the average encounter rates between the baseline and impact monitoring periods. The two variables that were examined included the two periods (baseline and impact phases) and two locations (NEL and NWL).

3.4.24 For the comparison between the baseline period and the present quarter, the p-values for the differences in average dolphin encounter rates of STG and ANI were 0.0025 and 0.0156 respectively. If the alpha value is set at 0.05, significant differences were detected between the baseline and present quarters in both the average dolphin encounter rates of STG and ANI.

3.4.25 As indicated in both dolphin distribution patterns and encounter rates, dolphin usage has been significantly reduced in both NEL and NWL survey areas during the present quarterly period, and such low occurrence of dolphins has also been consistently documented in past HZMB dolphin monitoring studies.

3.4.26 The dramatic decline in dolphin usage of North Lantau region raises serious concern, as the timing of the decline in dolphin usage in North Lantau waters coincided well with the construction schedule of the HZMB-related projects (Hung 2017). Apparently, there was no sign of recovery

of dolphin usage even though most of the marine works associated with the HZMB construction have been completed.

Group Size

3.4.27 Group size of Chinese White Dolphins ranged from one to 12 individuals per group in North Lantau region during September to November 2017. The average dolphin group sizes from these three months were compared with the ones deduced from the baseline period in September to November 2011, as shown in **Table 3.11**.

Table 3.11 Comparison of Average Dolphin Group Sizes between Reporting Period (September to November 2017) and Baseline Monitoring Period (September to November 2011)

Survey Area	Average Dolphin Group Size	
	Reporting Period	Baseline Monitoring Period
Overall	4.2 ± 4.2 (n = 6)	3.7 ± 3.1 (n = 66)
Northeast Lantau	---	3.2 ± 2.2 (n = 17)
Northwest Lantau	4.2 ± 4.2 (n = 6)	3.9 ± 3.4 (n = 49)

Note:

1) ± denotes the standard deviation of the average group size.

3.4.28 The average dolphin group size in NWL waters during September to November 2017 was lower than the one recorded during the three-month baseline period, but this could be partly related to the small sample size of 6 dolphin groups when compared to the 66 groups sighted during the baseline period (**Table 3.11**).

3.4.29 Notably, four of the 6 dolphin groups were composed of 1-4 individuals only, while there was one medium-sized group with five dolphins, and another large group with 12 dolphins (**Annex II of Appendix L**).

3.4.30 Distribution of the larger dolphin groups (i.e. five individuals or more per group) during the present quarter is shown in **Figures 3a and 3b of Appendix L**, with comparison to the one in baseline period. The medium-sized group with 5 dolphins was located to the west of the airport near the HKLR09 alignment, while the large group of 12 dolphins was sighted adjacent to the west of Lung Kwu Chau (**Figure 2 of Appendix L**). Such distribution pattern was very different from the baseline period, when the larger dolphin groups were frequently sighted and evenly distributed in NWL waters, with a few also sighted in NEL waters (**Figure 2 of Appendix L**).

Habitat Use

3.4.31 From September to November 2017, the three of the six grids with high dolphin densities were located to the west of Lung Kwu Chau, north of Sha Chau and near the HKLR09 alignment (**Figures 3a and 3b of Appendix L**). All grids near HKLR03/HKBCF reclamation sites as well as TMCLKL alignment did not record any presence of dolphins at all during on-effort search in the present quarterly period (**Figures 3a and 3b of Appendix L**).

3.4.32 However, it should be emphasized that the amount of survey effort collected in each grid during the three-month period was fairly low (6-12 units of survey effort for most grids), and therefore the habitat use pattern derived from the three-month dataset should be treated with caution. A more complete picture of dolphin habitat use pattern should be examined when more survey effort for each grid will be collected throughout the impact phase monitoring programme.

3.4.33 When compared with the habitat use patterns during the baseline period, dolphin usage in NEL and NWL has drastically diminished in both areas during the present impact monitoring period (**Figure 4 of Appendix L**). During the baseline period, many grids between Siu Mo To and Shum Shui Kok in NEL recorded moderately high to high dolphin densities, which was in stark contrast to the complete absence of dolphins there during the present impact phase period (**Figure 4 of Appendix L**).

3.4.34 The density patterns were also very different in NWL between the baseline and impact phase monitoring periods, with high dolphin usage throughout the area during the baseline period. In contrast, only several grids with high dolphin densities were located near Lung Kwu Chau and Sha Chau during the present impact phase period (**Figure 4 of Appendix L**).

Mother-calf Pairs

3.4.35 During the present quarterly period, no young calf was sighted at all among the six groups of dolphins.

Activities and Associations with Fishing Boats

3.4.36 During the three-month study period, one of the 6 dolphin groups (i.e. the large group located just to the west of Lung Kwu Chau; (**Figure 5 of Appendix L**) were engaged in socializing activity, while the rest of the groups were not engaged in feeding, traveling or milling/resting activity during the three-month study period.

3.4.37 When compared to the baseline period, distribution of various dolphin activities during the present impact phase monitoring period was drastically different with very rare occurrence of such activities in the present quarter (**Figure 5 of Appendix L**).

3.4.38 Moreover, none of the dolphin groups was found to be associated with any operating fishing boat during the present impact phase period.

Summary Photo-identification works

3.4.39 From September to November 2017, over 1,000 digital photographs of Chinese White Dolphins were taken during the impact phase monitoring surveys for the photo-identification work.

3.4.40 In total, 18 individuals sighted 19 times altogether were identified (see summary table in **Annex III of Appendix L** and photographs of identified individuals in **Annex IV of Appendix L**). All of these re-sightings were made in NWL. Among the 18 individuals, only one individual (i.e. CH34) was re-sighted twice, while the rest were only re-sighted once during the three-month period (**Annex III of Appendix L**).

3.4.41 Notably, ten of these 18 individuals (i.e. CH34, NL12, NL49, NL104, NL136, NL182, NL202, NL320, NL321 and WL05) were also sighted in Northwest Lantau during the HKLR03 monitoring surveys conducted concurrently in the same three-month period. Moreover, six individuals (i.e. CH34, NL12, NL49, NL182, NL317, and WL05) were also sighted in West Lantau waters during the HKLR09 monitoring surveys from September to November 2017, showing their extensive individual movements across different survey areas.

Individual range use

3.4.42 Ranging patterns of the 18 individuals identified during the three-month study period were determined by fixed kernel method, and are shown in **Annex V of Appendix L**.

3.4.43 All identified dolphins sighted in the present quarter were utilizing NWL waters only but have completely avoided NEL waters where many of them have utilized as their core areas in the past (**Annex V of Appendix L**). This is in stark contrary to the extensive movements between NEL and NWL survey areas observed in the earlier impact monitoring quarters as well as the baseline period.

3.4.44 On the other hand, three individuals (NL12, NL182 and WL05) consistently utilized North Lantau waters in the past have extended their range use to WL during the present quarter.

3.4.45 In the upcoming quarters, individual range use and movements should be continuously monitored to examine whether there has been any consistent shifts of individual home ranges from North Lantau to West or Southwest Lantau, as such shift could possibly be related to the HZMB-related construction works (see Hung 2017).

Action Level / Limit Level Exceedance

3.4.46 There was one Limit Level exceedance of dolphin monitoring for the quarterly monitoring data (between September 2017 – November 2017). For detail of investigation, please refer to **Appendix K**.

3.4.47 During the present quarter of dolphin monitoring, no adverse impact from the activities of this construction project on Chinese White Dolphins was noticeable from general observations.

3.4.48 Although dolphins seldom occurred in the area of HKBCF construction in the past and during the baseline monitoring period, it is apparent that dolphin usage has been dramatically reduced in North Lantau waters in recent years, and many individuals have shifted away from this once-important habitat for the dolphins.

3.4.49 It is critical to continuously monitor the dolphin usage in North Lantau region in the upcoming quarters, to determine whether the dolphins are continuously affected by the various construction activities in relation to the HZMB-related works, and whether there is any sign of recovery when the construction works have been completed.

3.5 Implementation of Environmental Measures

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

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

3.5.3 The marine traffic records and geographical plots of all the vessels tracks for the reporting month will be submitted by the Contractor to Engineer's Representative (ER), Environmental Team Leader (ETL) and Independent Environmental Checker / Environmental Project Office (IEC/ENPO) within 3 weeks after the reporting month. As informed by Contractor, there was no marine traffic since 2 June 2017.

3.5.4 Regular marine travel route for marine vessels were implemented properly and training was provided for barge operators in accordance with the Regular Marine Travel Routes Plan and relevant records were kept properly.

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

3.6 Advice on the Solid and Liquid Waste Management Status

3.6.1 The Contractor registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.

3.6.2 No marine sediment was generated/treated and no treated marine sediment was reused in the reporting period. As informed by the Contractor in March 2016, the transfer of treated marine sediment to Contract no. HY/2010/02 has been discontinued since July 2015.

3.6.3 The summary of waste flow table is detailed in **Appendix H**.

3.6.4 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 Packaging, Labelling and Storage of Chemical Wastes*.

3.7 Environmental Licenses and Permits

3.7.1 The valid environmental licenses and permits during the reporting period are summarized in **Appendix I**.

4 Summary of Exceedance, Complaint, Notification of Summons and Successful Prosecution

4.1 Summary of Exceedance of the Environmental Quality Performance Limit

4.1.1 For air quality monitoring, No Action and Limit Level exceedances of 1-hour TSP were recorded at AMS2, AMS3B and AMS7 during the reporting period. No Action and Limit Level exceedances of 24-hour TSP were recorded at AMS2 and AMS7 during the reporting period. No Limit Level exceedance of 24-hour TSP was recorded at AMS3B during the reporting period while on 28 November 2017, one AL exceedance of 24-hour TSP at ASM3B was recorded.

4.1.2 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A Reports (for September to November 2017) prepared by Contract No. HY/2011/03.

4.1.3 There were no Action and Limit Level exceedance for noise recorded at NMS2 and NMS3B during the reporting period.

4.1.4 For water quality monitoring during the reporting period, there were 61 Action Level exceedances of dissolved oxygen were recorded at mid-ebb tide while 83 Action Level exceedances of dissolved oxygen were recorded at mid-flood tide. 11 Limit Level exceedances of dissolved oxygen were recorded at mid-ebb tide while 23 Limit Level exceedances of dissolved oxygen were recorded at mid-flood tide.

4.1.5 An Action Level exceedance of turbidity was recorded at mid-ebb tide while 4 Action Level exceedances of turbidity were recorded at mid-flood tide. No Limit Level exceedance of turbidity was recorded at ebb tide while 1 Limit Level exceedance of turbidity was recorded at flood tide.

4.1.6 4 Action Level exceedances of suspended solid were recorded at mid-ebb tide while 24 Action Level exceedances of suspended solid were recorded at mid-flood tide. No Limit Level exceedances of suspended solid were recorded at mid-ebb tide while 5 Limit Level exceedances of suspended solid were recorded mid-flood tide.

4.1.7 After investigation, the exceedance was considered not likely to be caused by this Contract's activities. No follow-up action is required.

4.1.8 Impact dolphin monitoring results at all transects are reported in the EM&A Reports prepared for Contract No. HY/2013/01. One Limit Level exceedance of dolphin monitoring was recorded in the reporting quarter.

4.2 Summary of Complaints, Notification of Summons and Successful Prosecution

4.2.1 There was two complaints were received in relation to the environmental impact during the reporting period. A summary of environmental complaint is presented in **Table 4.1**. The details of cumulative statistics of Environmental Complaints are provided in **Appendix J**.

Table 4.1 A Summary of Environmental Complaints for the Previous Reporting Month

Environmental Complaint No.	Date of Complaint Received	Description of Environmental Complaints
009	27 October 2017	Water Quality
010	23 November 2017	Dust

Environmental Compliant No. 009 – Water Quality

4.2.1 According to ENPO's email to the Environmental Team, Engineer's Representative and Contractor on 27 October 2017, it was noted that EPD received a complaint regarding the water quality at C3 area.

4.2.2 Based to the observation of weekly site inspections (4, 11, 18 and 25 October 2017 and 1 November 2017) and confirmed by the Contractor, the wastewater generated on site is treated by the wastewater treatment facilities (sedimentation tank and AquaSed) before discharge. No site runoff within the Contract site was observed.

4.2.3 Based on water quality monitoring results in October 2017, total 5 Action Level exceedances of Suspended Solid were recorded at SR5(N), IS(Mf)11 and SR7 on 18, 20 and 23 October 2017. After the investigation which concluded the exceedances were not related to the Contract.

4.2.4 Based on the investigation results, it is found that the complaint is not related to Contract No. HY/2013/01.

Environmental Compliant No. 010 – Dust

4.2.5 The complaint focuses on the dust generation from the haul road. Based on the information from the Contractor, the construction works undertaken on 23 November 2017 is shown as below:

- Waterproofing
- Formwork and falsework stripping
- Pipework and ductwork installation
- Hanger rods for cable container
- Wet trade works
- Dry trade works
- Mechanical, electrical, and plumbing (MEP) High Level Containment
- Removal of temporary works
- Window wall glazing
- Curtain wall glazing
- Hanging scaffolding removal
- Refuse collection point
- Southern toilet
- Minimal instruction set computer (MISC) steelwork
- Lift installation
- Testing and commissioning works

4.2.6 The Contractor has implemented measures to avoid dust emission according to Water Spraying Plan in November. The Contractor has provided the guideline to remind the site vehicles should travel within speed limit of 8 km/hr. According to site inspection which conducted on 1, 8, 15 and 22 November 2017, no dusty activities and dry condition in haul road were observed.

4.2.7 The Contractor have arranged a staff to supervise the haul road condition near PCB building. In case of adverse dust emission, the Contractor should arrange the water truck or front-line staff to enhance the watering. The watering plan, which include the information of watering schedule, routing of trucks for watering and the location of water filling, was prepared and submitted to RE and ENPO. The Contractor was also reminded to implement all necessary mitigation as specified in EIA (Section 5.5.6.3), EM&A Manual (EM&A Log Ref: A3), EMP, Method Statements, General and Particular Specifications of this Project to minimize the potential dust impact during construction activities.

4.2.8 Statistics on notifications of summons and successful prosecutions are summarized in **Appendix J**.

5 Comments, Recommendations and Conclusion

5.1 Comments

5.1.1 According to the environmental site inspections undertaken during the reporting period, the following recommendations were provided:

- The Contractor was reminded to provide watering for the road to avoid dust generation.
- The Contractor was reminded to provide drip trays for chemical containers.
- The Contractor was reminded to clear the general refuse.
- The Contractor was reminded to cover the dusty material to prevent fugitive dust emission.
- The Contractor was reminded to provide water spraying during concrete breaking in process.
- The Contractor was reminded to carry out cement mixing work in an area sheltered on the top and 3 sides to avoid dust emission.
- The Contractor was reminded to cover the bags of cement entirely by impervious sheeting or place them in an area sheltered on the top and 3 sides.
- The Contractor was reminded to display environmental permit and a construction noise permit major site exits.

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

5.2 Recommendations

5.2.1 With implementation of the recommended environmental mitigation measures, the contract's environmental impacts were considered environmentally acceptable. The weekly environmental site inspections ensured that all the environmental mitigation measures recommended were effectively implemented.

5.2.2 The recommended environmental mitigation measures, as included in the EM&A programme, effectively minimize the potential environmental impacts from the contract. Also, the EM&A programme effectively monitored the environmental impacts from the construction activities and ensure the proper implementation of mitigation measures. No particular recommendation was advised for the improvement of the programme.

5.3 Conclusions

5.3.1 The site preparation work of the Contract started on 26 September 2014 and the construction works of the Contract commenced on 6 October 2014. This is the thirteen Quarterly EM&A Report summaries findings of the EM&A works during the reporting period from 1 September to 30 November 2017.

5.3.2 For air quality monitoring, no Action and Limit Level exceedances of 1-hour TSP were recorded at AMS2, AMS3B and AMS7 during the reporting period. No Action and Limit Level exceedances of 24-hour TSP were recorded at AMS2 and AMS7 during the reporting period. No Limit Level exceedance of 24-hour TSP was recorded at AMS3B during the reporting period while one AL exceedance of 24-hour TSP at ASM3B was recorded on 28 November 2017.

5.3.3 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 Reports (for September to November 2017) prepared by Contract No. HY/2011/03.

5.3.4 There were no Action and Limit Level exceedance for noise recorded at NMS2 and NMS3B during the reporting period.

5.3.5 For water quality monitoring during the reporting period, there were 61 Action Level exceedances of dissolved oxygen were recorded at mid-ebb tide while 83 Action Level exceedances of dissolved oxygen were recorded at mid-flood tide. 11 Limit Level exceedances of dissolved oxygen were recorded at mid-ebb tide while 23 Limit Level exceedances of dissolved oxygen were recorded at mid-flood tide.

5.3.6 An Action Level exceedance of turbidity was recorded at mid-ebb tide while 4 Action Level exceedances of turbidity were recorded at mid-flood tide. No Limit Level exceedance of turbidity was recorded at ebb tide while 1 Limit Level exceedance of turbidity was recorded at flood tide.

5.3.7 4 Action Level exceedances of suspended solid were recorded at mid-ebb tide while 24 Action Level exceedances of suspended solid were recorded at mid-flood tide. No Limit Level exceedances of suspended solid were recorded at mid-ebb tide while 5 Limit Level exceedances of suspended solid were recorded mid-flood tide.

5.3.8 After investigation, the exceedance was considered not likely to be caused by this Contract's activities. No follow-up action is required.

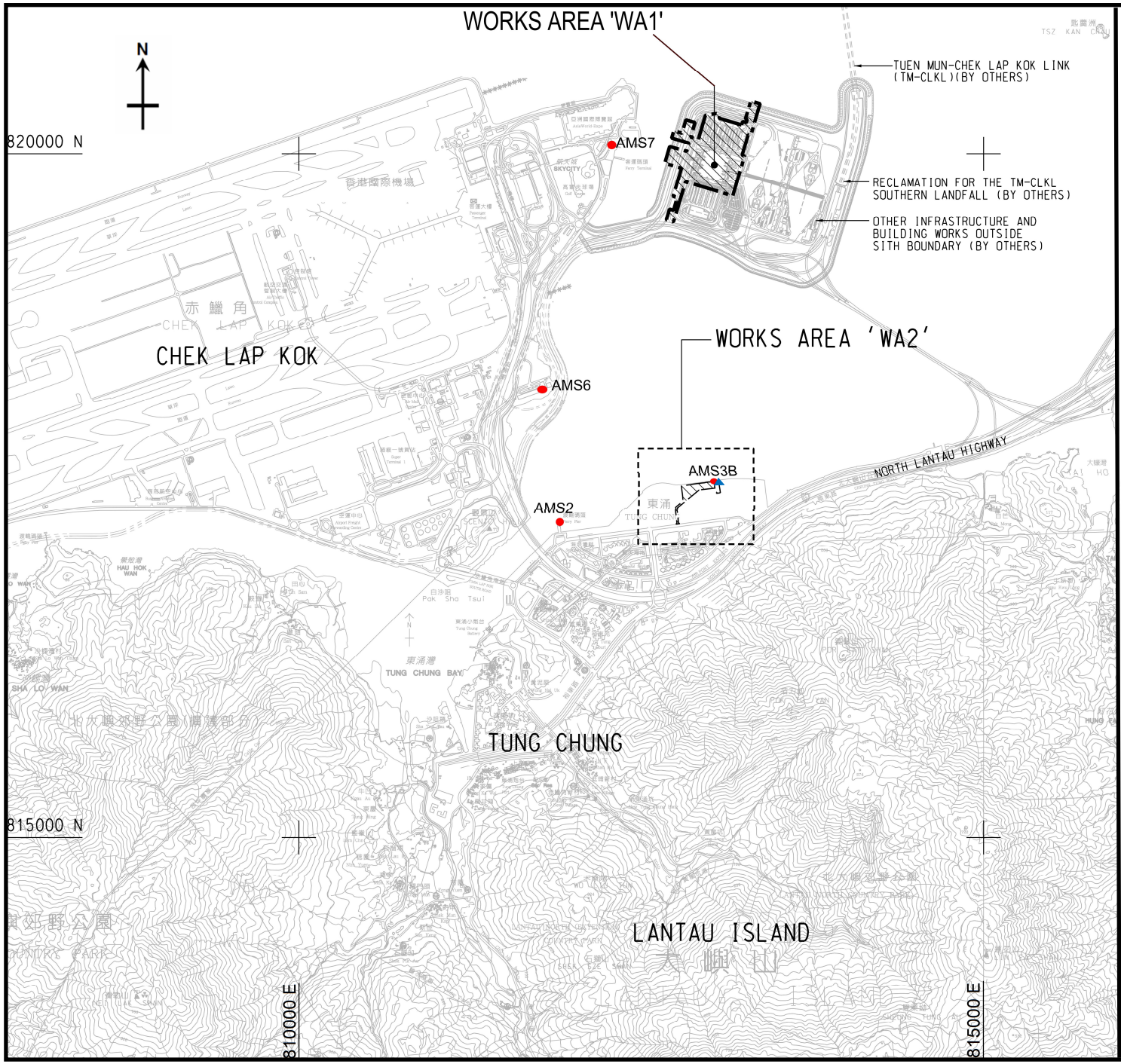
5.3.9 Impact dolphin monitoring results at all transects are reported in the EM&A Reports prepared for Contract No. HY/2013/01. One Limit Level exceedance of dolphin monitoring was recorded during the monitoring period (between September 2017 – November 2017).

5.3.10 Environmental site inspections were carried out on 6, 13, 20 and 27 September 2017, 4, 11, 18 and 25 October 2017 and 1, 8, 15, 22 and 29 November 2017. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site inspections.

5.3.11 There were two complaints received in relation to the environmental impact during the reporting period. The complaint investigations were closed and details were in Investigation No. 009 ver2 and 010 ver1 in **Appendix K**.

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

FIGURES



LEGEND

- AIR QUALITY MONITORING STATIONS
- WIND STATION

Figure 2.1

Location of Air Quality Monitoring Stations and Wind Station

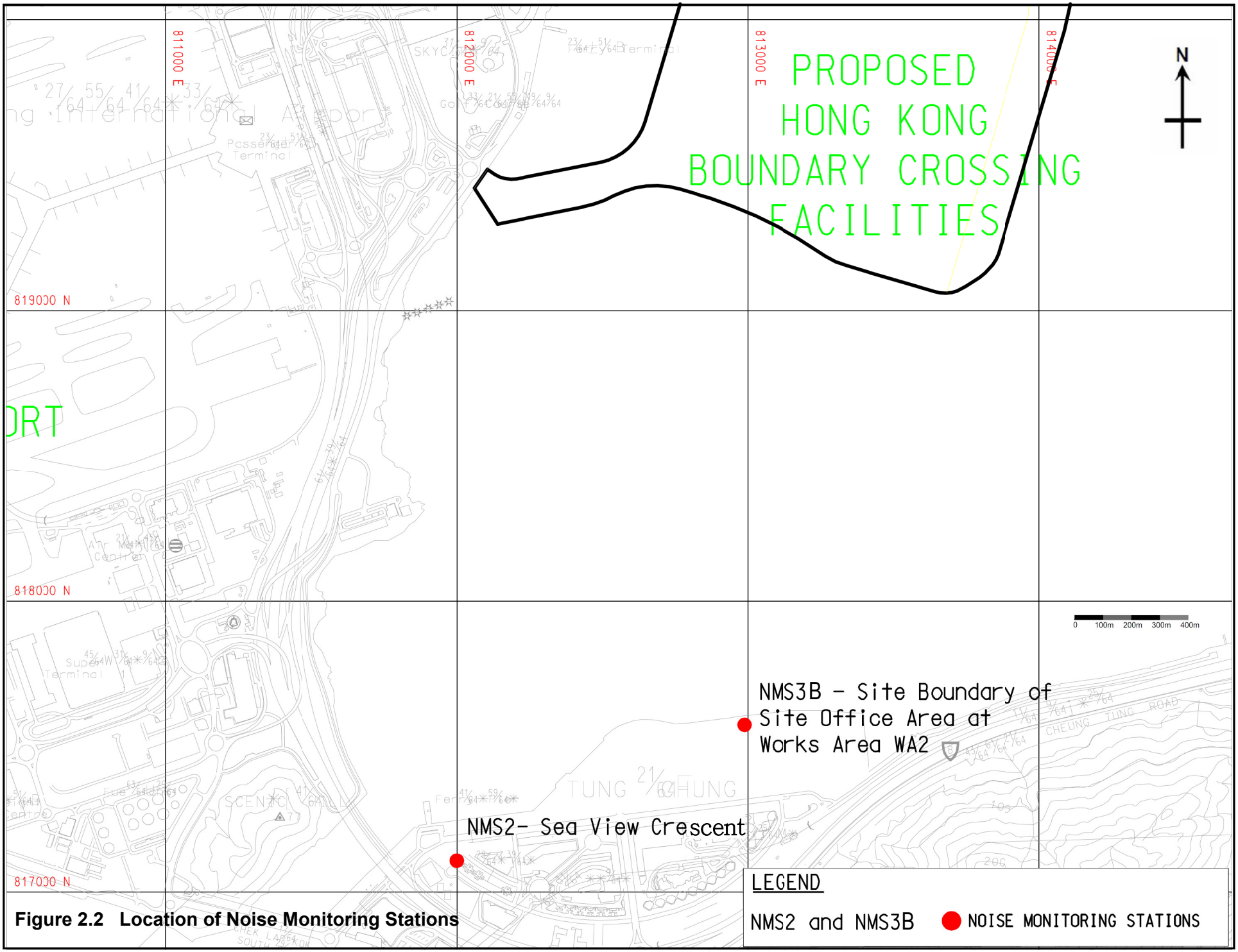
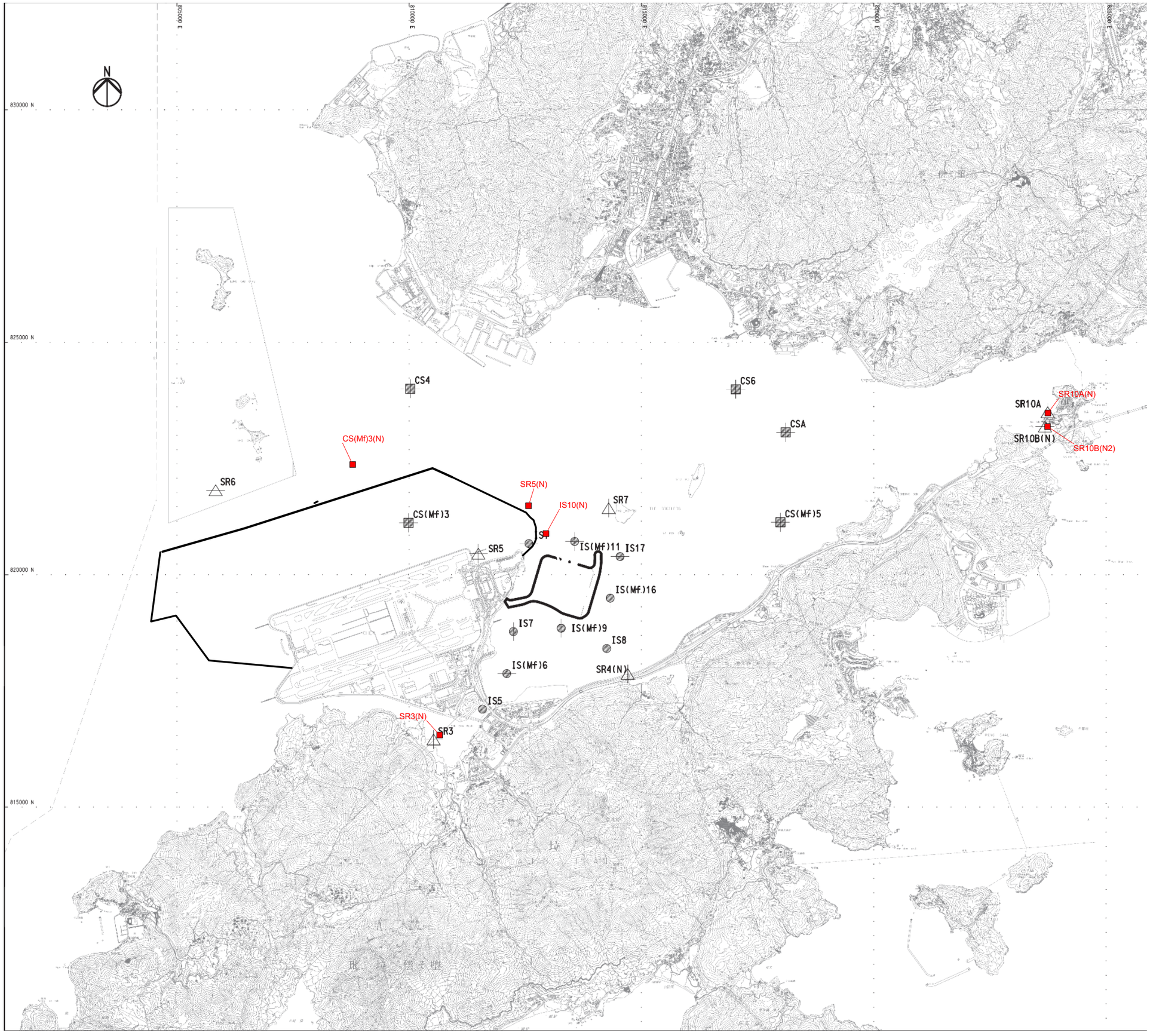


Figure 2.2 Location of Noise Monitoring Stations



Station	East	North
IS5	811579	817106
IS(Mf)6	812101	817873
IS7	812244	818777
IS8	814251	818412
IS(Mf)9	813273	818850
IS10(N)	812942	820881
IS(Mf)11	813562	820716
IS(Mf)16	814328	819497
IS17	814539	820391
SR3(N)	810689	816591
SR4(N)	814705	817859
SR5(N)	812569	821475
SR6	805837	821818
SR7	814293	821431
SR10A(N)	823644	823484
SR10B(N2)	823689	823159
CS(Mf)3(N)	808814	822355
CS(Mf)5	817990	821129
CS4	810025	824004
CS6	817028	823992
CSA	818103	823064

FIGURE 2.3 – LOCATION OF WATER QUALITY MONITORING STATIONS

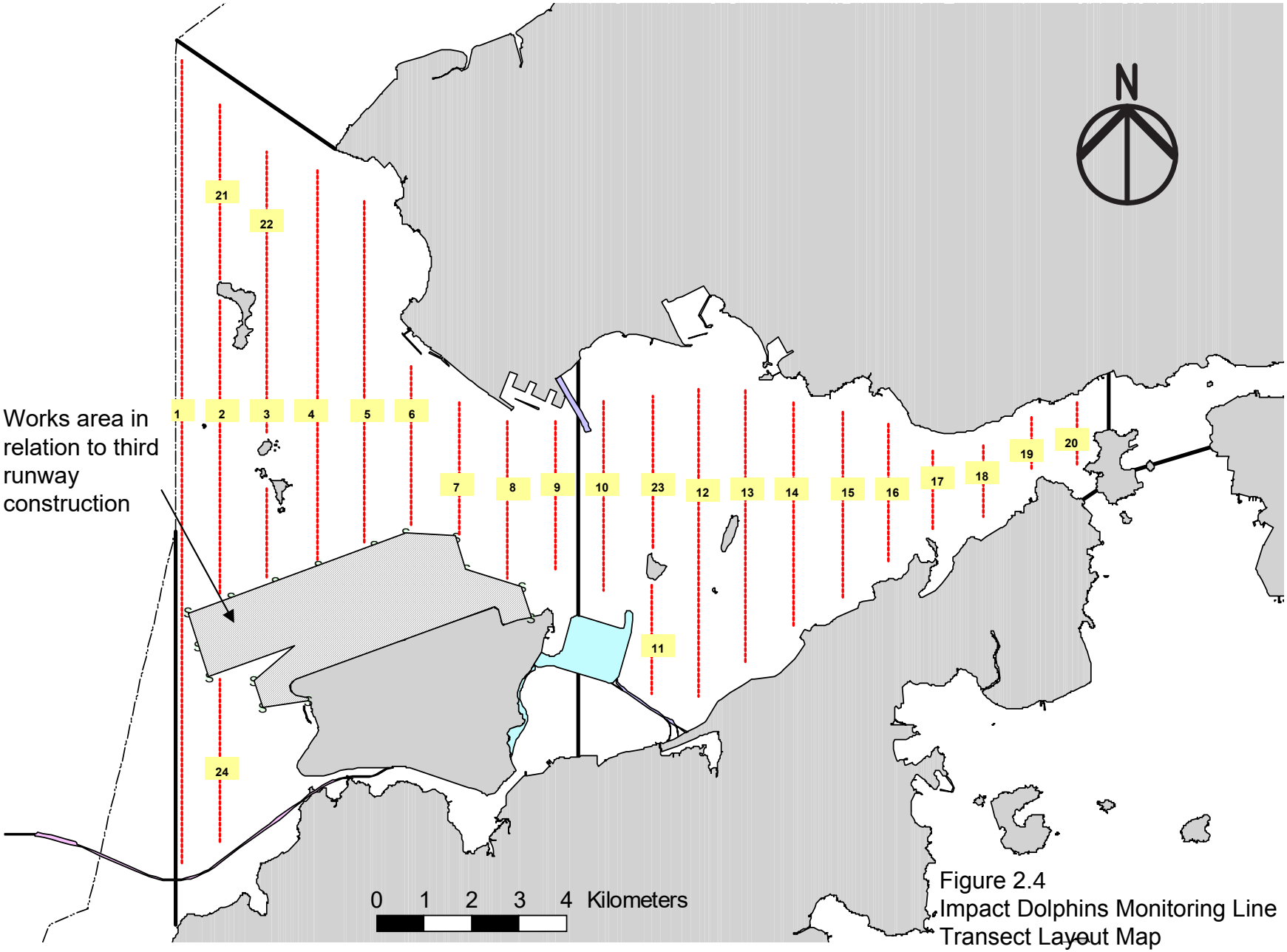
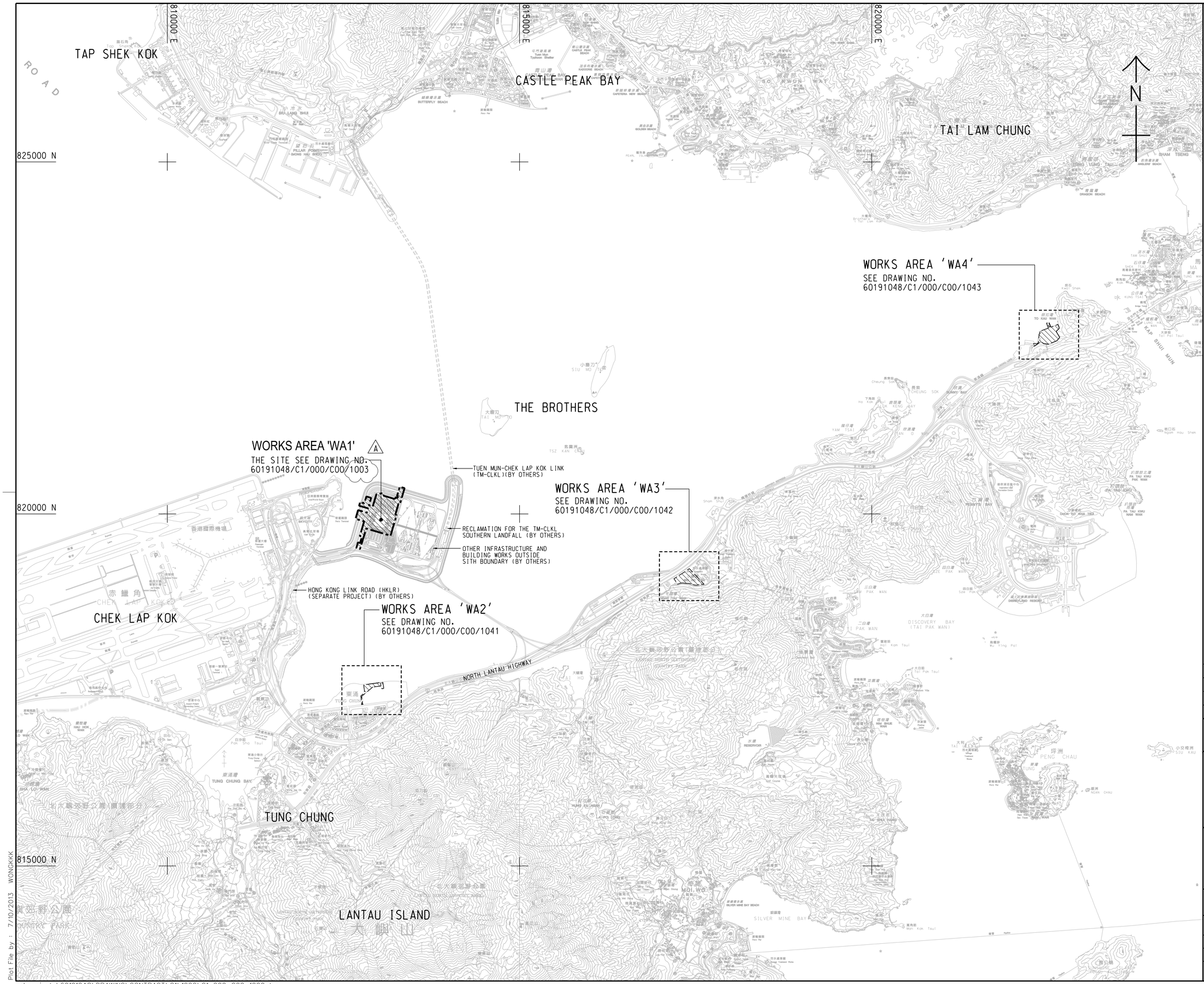


Figure 2.4
Impact Dolphins Monitoring Line Transect Layout Map

APPENDIX A

Location of Works Areas



NOTES:

1. COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
2. DIMENSIONS ARE IN MILLIMETER AND CHAINAGE ARE IN METRES UNLESS OTHERWISE SHOWN.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 60191048/C1/000/C00/1041 TO 1043.

LEGEND: A A

SITE BOUNDARY

WORKS AREA

REV. 修訂	DESCRIPTION 內容摘要	D.E. P.E. CHECKED 查核	DATE 日期
B	WORKING DRAWING	BWCW SCI	JUN.14
A	TENDER ADDENDUM NO. 1	BWCW SCI	OCT.13
-	TENDER DRAWING	BWCW SCI	SEP.13

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

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- PASSENGER CLEARANCE BUILDING

SITE LOCATION PLAN

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

DRG.NO. 圖紙編號 60191048/C1/000/C00/1000B

DESIGNED BY 設計	BWCW	CONTRACT NO. 合約編號	HY/2013/01
DRAWN BY 繪圖	WSY	P. Dir. APPROVED 負責人	TKH
SCALE 比例	A1 1 : 25000	STATUS 階段	WORKING DRAWING
DIMENSIONS ARE IN 尺寸單位	METRES	© COPYRIGHT RESERVED 版權所有	

Plot File by : 7/10/2013 WONGKKK

p:\projects\60191048\DRAWING\CONTRACT\C1\1000\C1_000_C00_1000.dgn

812500 E

813000 E

813500 E

820500 N

820000 N

819500 N

SKYCITY

GATE 2 TO BE CONSTRUCTED
WHEN HY/2013/02 CONTRACTOR
TAKE OVER PORTION 1

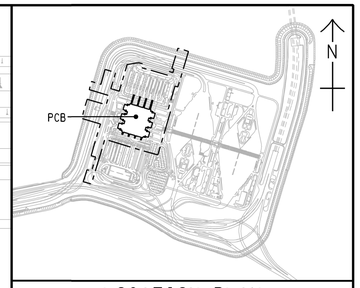
HAUL ROAD TO BE CONSTRUCTED
DIVERTED, MANAGED AND MAINTAINED
BY HY/2013/01 CONTRACT

C3

GATE TO BE CONSTRUCTED
BY CLP

MARINE LOADING AND UNLOADING
POINTS, EXACT LOCATION AND
EXTENT TO BE LIAISED AND
CONFIRMED WITH HY/2013/02
CONTRACTOR

GATE 1 TO BE CONSTRUCTED
AT THE COMMENCEMENT OF THE CONTRACT



LOCATION PLAN
SCALE 1 : 20000

NOTES:

1. COORDINATES ARE BASED ON HONG KONG METRIC GRID (1980) UNLESS OTHERWISE NOTED.
2. LEVELS ARE IN METRES RELATIVE TO HONG KONG PRINCIPAL DATUM (mPD) UNLESS OTHERWISE NOTED.
3. DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
4. SETTING OUT, DIMENSIONS, LEVELS, COORDINATES ARE TO BE CALCULATED BY THE CONTRACTOR. NO INFORMATION SHOULD BE SCALED PHYSICALLY OR ELECTRONICALLY FROM THE DRAWINGS OR FILES.
5. SITE ACCESS SHALL BE HARD PAVED WITH PROPER DRAINAGE PROVIDED. IT SHALL BE KEPT UNOBSTRUCTED AND UNDISRUPTED AT ALL TIMES.

LEGEND:

SITE BOUNDARY

7.3m CLEAR WIDTH
CONSTRUCTION HAUL ROAD

INDICATIVE 20m WIDE
VEHICULAR ACCESS
BY RECLAMATION
CONTRACT HY/2010/02

REV. 修訂	DESCRIPTION 內容摘要	D.E.	P.E. CHECKED 查核	DATE 日期
-	TENDER DRAWING	BWCW	SCI	SEP.13

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

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- PASSENGER CLEARANCE BUILDING

WORKS AREA WA1

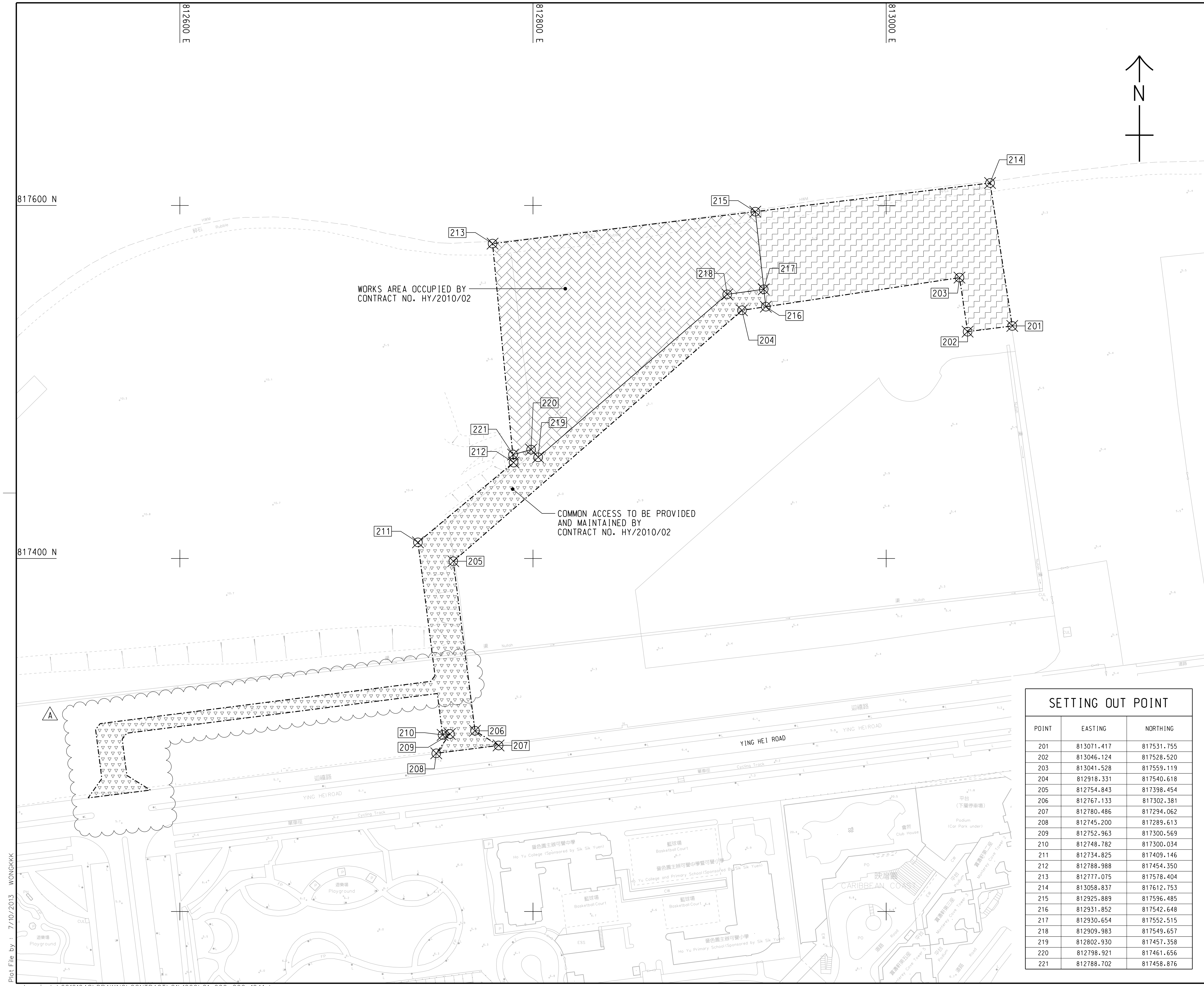
AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

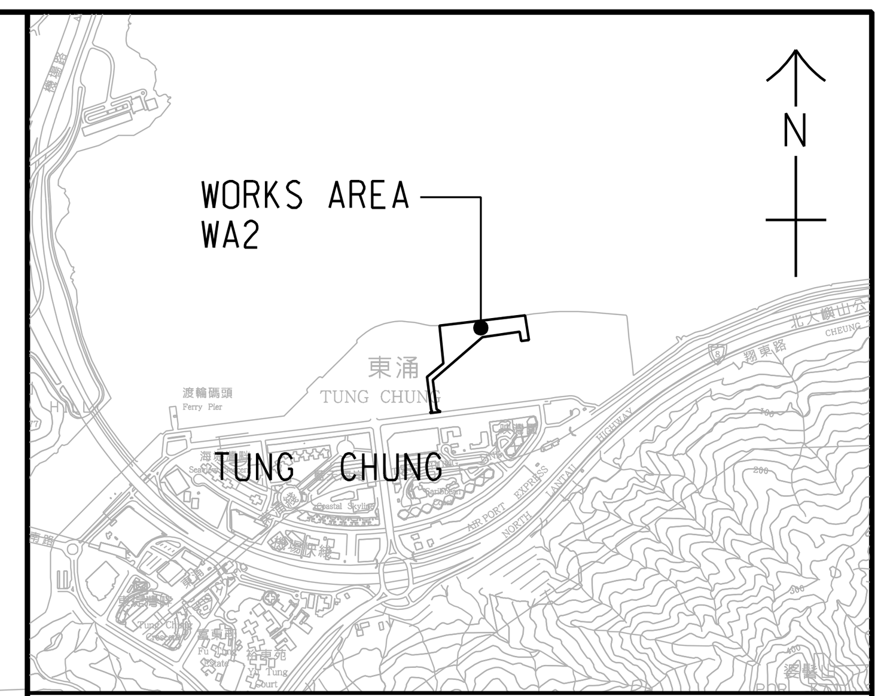
DRG.NO. 圖紙編號 60191048/C1/000/C00/1044

DESIGNED BY 設計	CONTRACT NO. 合約編號	P. Dir. APPROVED 負責人
BWCW	HY/2013/01	EMSC
DRAWN BY 繪圖 WSY	STATUS 階段	
SCALE 比例 A1 1 : 2500		
DIMENSIONS ARE IN 尺寸單位 METRES		

Plot File by : 2013/9/10 WANGSY

p:\projects\60191048\drawing\contract\c1\1000\C1_000_C00_1044.dgn





LOCATION PLAN

SCALE 1 : 25000

NOTES:

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

LEGEND:

- WORKS AREA BOUNDARY
- PORTION 2.1
- PORTION 2.2
- PORTION 2.3

SETTING OUT POINT

POINT	EASTING	NORTHING
201	813071.417	817531.755
202	813046.124	817528.520
203	813041.528	817559.119
204	812918.331	817540.618
205	812754.843	817398.454
206	812767.133	817302.381
207	812780.486	817294.062
208	812745.200	817289.613
209	812752.963	817300.569
210	812748.782	817300.034
211	812734.825	817409.146
212	812788.988	817454.350
213	812777.075	817578.404
214	813058.837	817612.753
215	812925.889	817596.485
216	812931.852	817542.648
217	812930.654	817552.515
218	812909.983	817549.657
219	812802.930	817457.358
220	812798.921	817461.656
221	812788.702	817458.876

REV. 修訂	DESCRIPTION 內容摘要	CHECKED 複核 D.E.	CHECKED 複核 P.E.	DATE 日期
B	WORKING DRAWING	BWCW	SCI	JUN.14
A	TENDER ADDENDUM NO. 1	BWCW	SCI	OCT.13
-	TENDER DRAWING	BWCW	SCI	SEP.13

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

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- PASSENGER CLEARANCE BUILDING

WORKS AREA WA2

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

DRG.NO. 圖紙編號 60191048/C1/000/C00/1041B

DESIGNED BY 設計	CONTRACT NO. 合約編號	P. Dir. APPROVED 批准人
BWCW	HY/2013/01	TKH

DRAWN BY 繪圖 WSY
SCALE 比例 A1 1 : 1000
DIMENSIONS ARE IN 尺寸單位 METRES
STATUS 階段 WORKING DRAWING

Plot File by : 7/10/2013 WONGKKK
p:\projects\60191048\DRAWING\CONTRACT\C1\1000\C1_000_C00_1041.dgn

SETTING OUT POINT

POINT	EASTING	NORTHING
301	817467.265	819162.683
302	817314.741	819069.828
303	817327.338	819049.295
304	817440.865	819117.811
305	817340.825	819027.314
306	817387.350	819023.403
307	817387.861	819043.396
308	817466.133	819091.047
309	817469.783	819087.181
310	817513.449	819113.764
311	817347.717	819016.082
312	817526.774	819020.578
313	817531.659	819021.641
314	817531.154	819001.065
315	817533.345	818991.306
316	817620.269	819000.620

817200 E

817400 E

817600 E

819200 N

819000 N

NORTH LANTAU HIGHWAY

CHEUNG TUNG ROAD

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

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

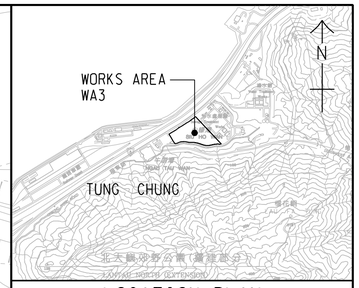
WORKS AREA OCCUPIED BY CONTRACT NO. HY/2011/09

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

301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316

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

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



LOCATION PLAN
SCALE 1 : 25000

NOTES:

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

LEGEND:

- WORKS AREA BOUNDARY
- PORTION 3.1
- PORTION 3.2
- PORTION 3.3
- PORTION 3.4
- PORTION 3.5
- PORTION 3.6
- PORTION 3.7
- PORTION 3.8
- PORTION 3.9

REV. 修訂	DESCRIPTION 內容摘要	DRAWN 繪圖	CHECKED 查核	DATE 日期
A	WORKING DRAWING	BWCW	SCT	JUN.14
-	TENDER DRAWING	BWCW	SCT	SEP.13

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

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- PASSENGER CLEARANCE BUILDING

WORKS AREA WA3

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

DRG.NO. 圖紙編號 60191048/C1/000/C00/1042A

DESIGNED BY 設計 BWCW	CONTRACT NO. 合約編號 HY/2013/01	P. Dir. APPROVED 負責人 TKH
DRAWN BY 繪圖 WSY	STATUS 階段 **WORKING DRAWING**	
SCALE 比例 A1 1 : 1000		
DIMENSIONS ARE IN 尺寸單位 METRES	© COPYRIGHT RESERVED 版權所有	

Plot File by : 2013/9/10 WANGSY

p:\projects\60191048\drawing\contract\c1\1000\C1_000_C00_1042.dgn

SETTING OUT POINT

POINT	EASTING	NORTHING
401	822488.151	822632.315
402	822640.593	822689.415
403	822515.608	822559.848
404	822610.940	822599.642
405	822629.428	822607.359
406	822526.988	822529.813
407	822618.348	822567.950
408	822542.232	822489.581
409	822584.983	822507.426
410	822606.866	822516.561
411	822560.278	822441.956
412	822602.949	822460.010
413	822621.914	822467.959
414	822624.130	822470.998
415	822651.725	822508.856

822600 N

822400 E

822600 E

822400 N

TO KAU WAN

401 402 403 404 405 406 407 408 409 410 411 412 413 414 415

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

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

WORKS AREA OCCUPIED BY CONTRACT NO. HY/2013/05

9m WIDE COMMON ACCESS TO BE CONSTRUCTED AND MAINTAINED BY CONTRACT NO. HY/2013/01

9m WIDE COMMON ACCESS TO BE MAINTAINED BY CONTRACT NO.HY/2013/01

NORTH LANTAU HIGHWAY

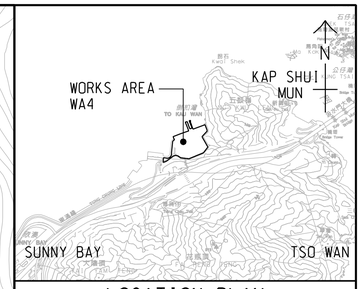
大青洲 TAI TSING CHAU

船廠 Shipyard

海堤 Seawall

碎石 Rubble

隧道 Tunnel



LOCATION PLAN
SCALE 1 : 25000

NOTES:

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

LEGEND:

- WORKS AREA BOUNDARY
- PORTION 4.1
- PORTION 4.2
- PORTION 4.3
- PORTION 4.4
- PORTION 4.5
- PORTION 4.6
- PORTION 4.7
- PORTION 4.8

REV. 修訂	DESCRIPTION 內容摘要	D.C.	P.C. CHECKED 審核	DATE 日期
-	TENDER DRAWING	BWCW	SCI	SEP.13

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

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- PASSENGER CLEARANCE BUILDING

WORKS AREA WA4

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

DRG.NO. 圖紙編號 60191048/C1/000/C00/1043

DESIGNED BY 設計	BWCW	CONTRACT NO. 合約編號	HY/2013/01	P. Dir. APPROVED 批准人	EMSC
DRAWN BY 繪圖	WSY	STATUS 階段			
SCALE 比例	A1 1 : 1000				
DIMENSIONS ARE IN 尺寸單位	METRES				

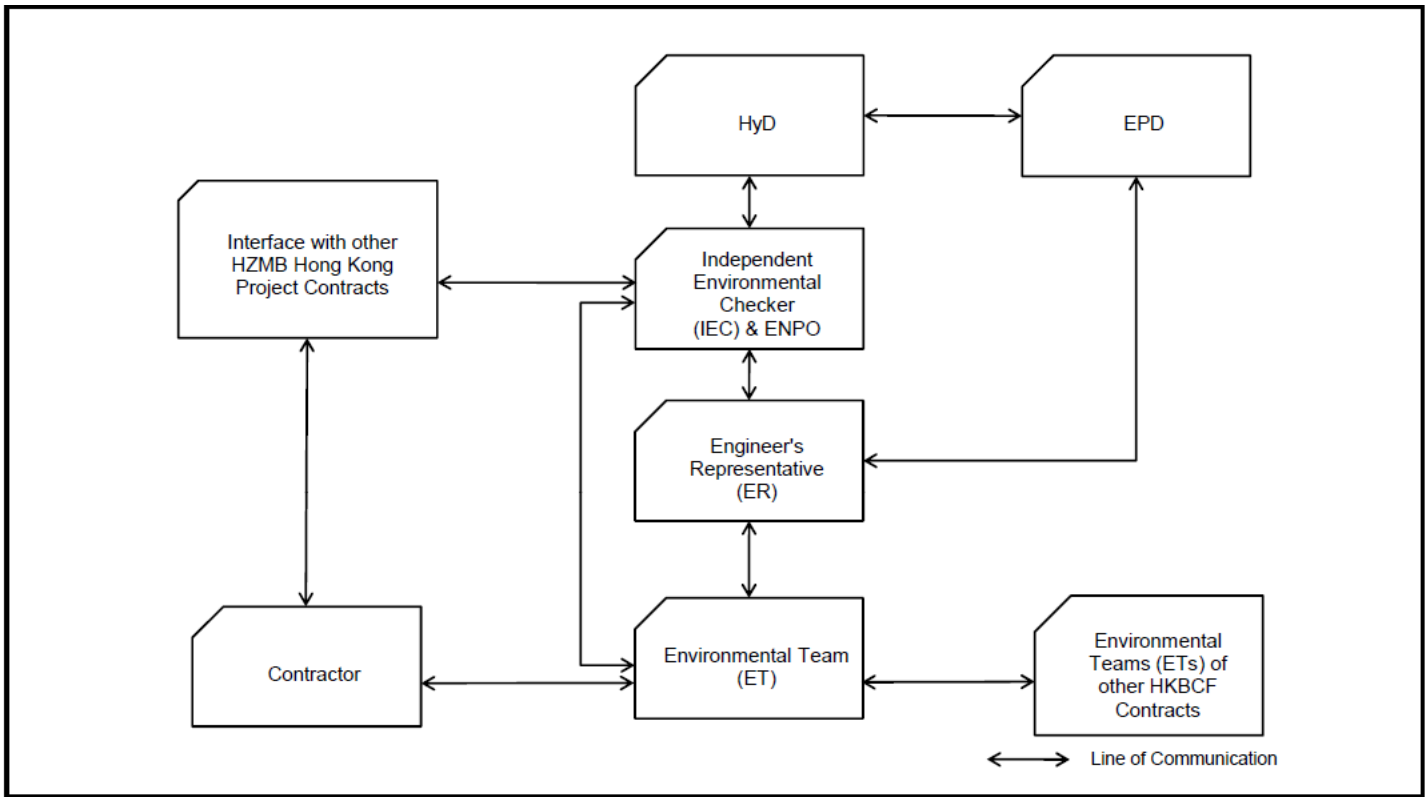
Plot File by : 2013/9/10 WANGSY

P:\Projects\60191048\DRAWING\CONTRACT\C1\1000\C1_000_C00_1043.dgn

APPENDIX B

Project Organization for Environmental Works

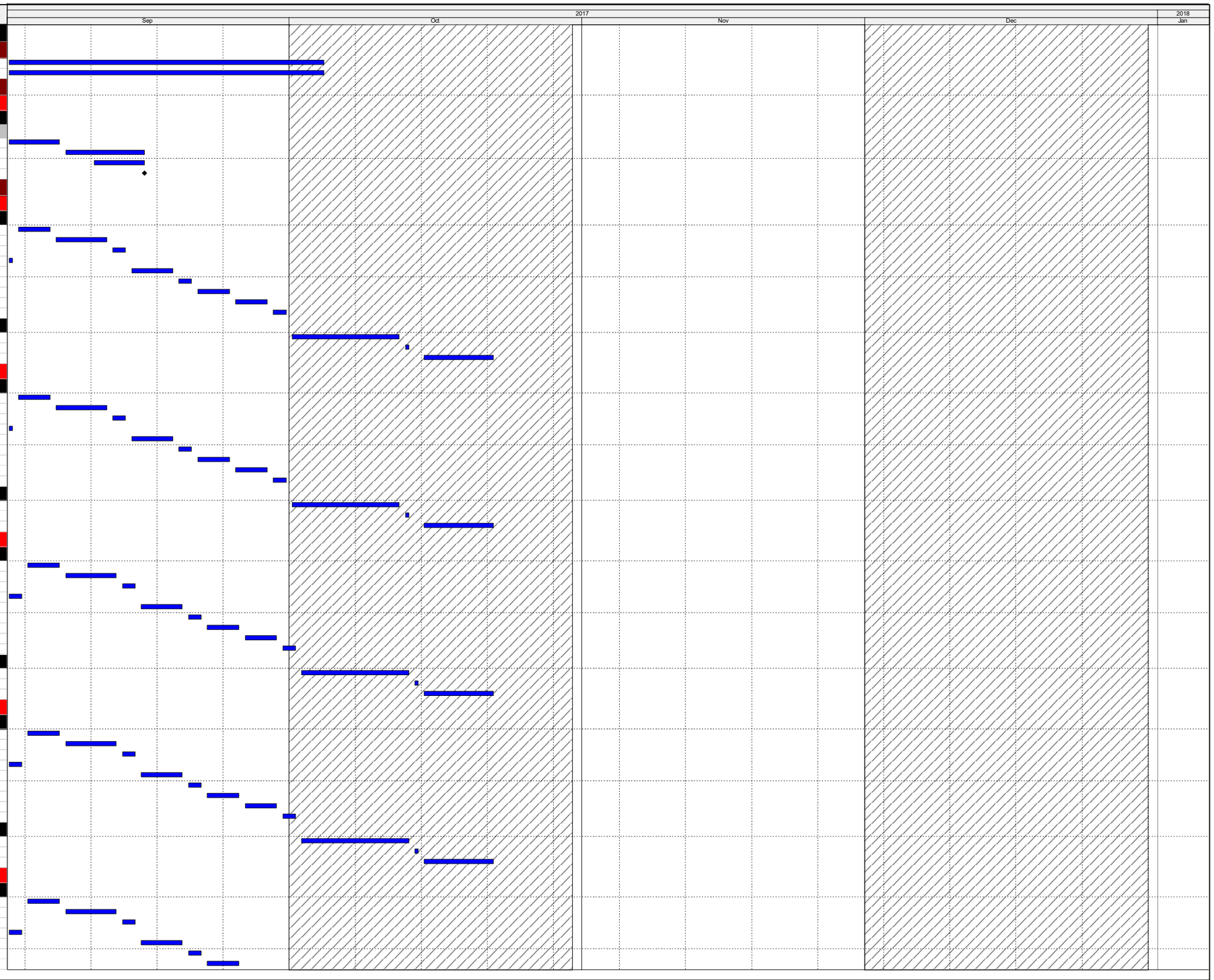
Project Organisation for Environmental Works



APPENDIX C

Construction Programme

Activity ID	Activity Name
TRADE PROGRAMME TO COMPLETION -	
Heat Exchanger Room	
PCB-9A-1740	Install Heat Exchangers in Heat Exchanger Room (4 No)
PCB-9A-1780	Install Pumps in Heat Exchanger Room (4 No)
Box Culvert A	
RC Structures	
Portion B - Box Culvert Outfall Works	
Bay 31 - Outfall Structure	
PCB-09-1870-173	BCA (B) Backfill Soil to Previous Seawall Profile
PCB-09-1870-183	BCA (B) Remove Sheetpiles
PCB-09-1870-193	BCA (B) Place Rock Armour according to previous profile.
PCB-09-1870-203	BCA (B) Handover Bay 30 and seawall to C2
Fire Lifts	
Lift Installation LS07 - Cabin J	
Lift Installation Works	
LS1910	Cabin J - Install Machine and Controller (Incl Wiring)
LS1920	Cabin J - Install Car Counterweight, Assemble Car, Fix Sheathed Cables
LS1930	Cabin J - Startup Inspection Mode Test (Low Speed)
LS1940	Cabin J - Fixing Guide Rail Bracket and Guide Rails
LS1950	Cabin J - Fixing Landing Sill and Architraves
LS1960	Cabin J - Fixing Push Buttons and Indicate Base Box
LS1970	Cabin J - Fixing Landing Door header and Doors
LS1980	Cabin J - Lift Shaft Trunking and and Wiring lightning and buffers
LS1990	Cabin J - Electrical Accessories, Cleaning,Painting and CCTV Installation
Localised T&C	
A21410	Cabin J - Testing, Commissioning and Adjustment
A21420	Cabin J - LE 5 and Test Report Submission
A21430	Cabin J - EMSD onsite Inspection
Lift Installation LS06 - Cabin G	
Lift Installation Works	
LS2030	Cabin G - Install Machine and Controller (Incl Wiring)
LS2040	Cabin G - Install Car Counterweight, Assemble Car, Fix Sheathed Cables
LS2050	Cabin G - Startup Inspection Mode Test (Low Speed)
LS2060	Cabin G - Fixing Guide Rail Bracket and Guide Rails
LS2070	Cabin G - Fixing Landing Sill and Architraves
LS2080	Cabin G - Fixing Push Buttons and Indicate Base Box
LS2090	Cabin G - Fixing Landing Door header and Doors
LS2100	Cabin G - Lift Shaft Trunking and and Wiring lightning and buffers
LS2110	Cabin G - Electrical Accessories, Cleaning,Painting and CCTV Installation
Localised T&C	
A21330	Cabin G - Testing, Commissioning and Adjustment
A21340	Cabin G - LE5 and Test Report Submission
A21350	Cabin G - EMSD onsite Inspection
Lift Installation LS03 - Cabin D	
Lift Installation Works	
LS2140	Cabin D - Install Machine and Controller (Incl Wiring)
LS2150	Cabin D - Install Car Counterweight, Assemble Car, Fix Sheathed Cables
LS2160	Cabin D - Startup Inspection Mode Test (Low Speed)
LS2170	Cabin D - Fixing Guide Rail Bracket and Guide Rails
LS2180	Cabin D - Fixing Landing Sill and Architraves
LS2190	Cabin D - Fixing Push Buttons and Indicate Base Box
LS2200	Cabin D - Fixing Landing Door header and Doors
LS2210	Cabin D - Lift Shaft Trunking and and Wiring lightning and buffers
LS2220	Cabin D - Electrical Accessories, Cleaning,Painting and CCTV Installation
Localised T&C	
A21370	Cabin D - Testing, Commissioning and Adjustment
A21380	Cabin D - LE5 and Test Report Submission
A21390	Cabin D - EMSD onsite Inspection
Lift Installation LS04 - Cabin E	
Lift Installation Works	
LS2250	Cabin E - Install Machine and Controller (Incl Wiring)
LS2260	Cabin E - Install Car Counterweight, Assemble Car, Fix Sheathed Cables
LS2270	Cabin E - Startup Inspection Mode Test (Low Speed)
LS2280	Cabin E - Fixing Guide Rail Bracket and Guide Rails
LS2290	Cabin E - Fixing Landing Sill and Architraves
LS2300	Cabin E - Fixing Push Buttons and Indicate Base Box
LS2310	Cabin E - Fixing Landing Door header and Doors
LS2320	Cabin E - Lift Shaft Trunking and and Wiring lightning and buffers
LS2330	Cabin E - Electrical Accessories, Cleaning,Painting and CCTV Installation
Localised T&C	
A21210	Cabin E - Testing, Commissioning and Adjustment
A21220	Cabin E - LE5 and Test Report Submission
A21230	Cabin E - EMSD onsite Inspection
Lift Installation LS05 - Cabin F	
Lift Installation Works	
LS2360	Cabin F - Install Machine and Controller (Incl Wiring)
LS2370	Cabin F - Install Car Counterweight, Assemble Car, Fix Sheathed Cables
LS2380	Cabin F - Startup Inspection Mode Test (Low Speed)
LS2390	Cabin F - Fixing Guide Rail Bracket and Guide Rails
LS2400	Cabin F - Fixing Landing Sill and Architraves
LS2410	Cabin F - Fixing Push Buttons and Indicate Base Box
LS2420	Cabin F - Fixing Landing Door header and Doors



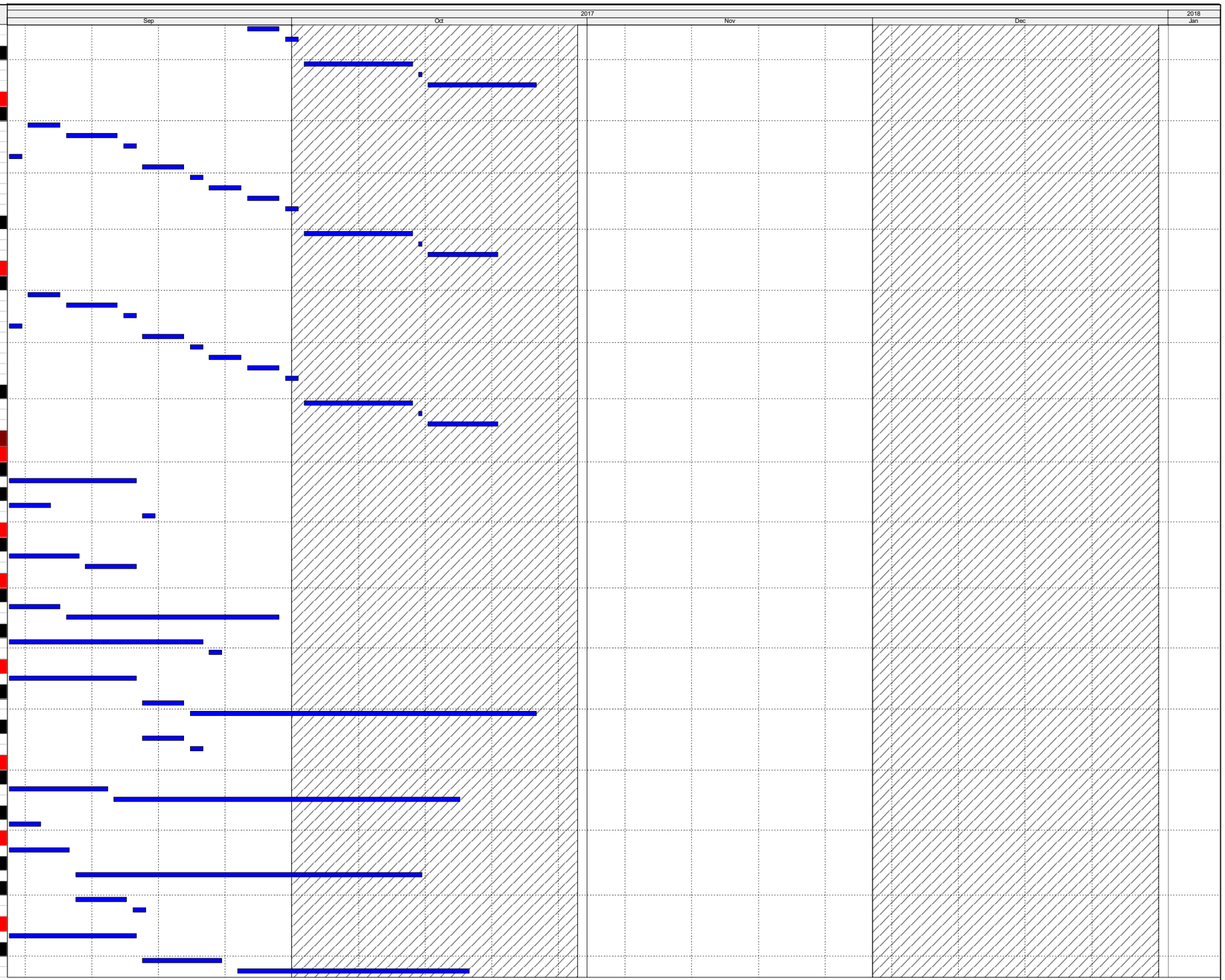
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
LS2430	Cabin F - Lift Shaft Trunking and and Wiring lightning and buffers
LS2440	Cabin F - Electrical Accessories, Cleaning,Painting and CCTV Installation
Localised T&C	
A21250	Cabin F - Testing, Commissioning and Adjustment
A21260	Cabin F - LE5 and Test Report Submission
A21270	Cabin F - EMSD onsite Inspection
Lift Installation LS02 - Cabin C	
Lift Installation Works	
LS2470	Cabin C - Install Machine and Controller (Incl Wiring)
LS2480	Cabin C - Install Car Counterweight, Assemble Car, Fix Sheathed Cables
LS2490	Cabin C - Startup Inspection Mode Test (Low Speed)
LS2500	Cabin C - Fixing Guide Rail Bracket and Guide Rails
LS2510	Cabin C - Fixing Landing Sill and Architraves
LS2520	Cabin C - Fixing Push Buttons and Indicate Base Box
LS2530	Cabin C - Fixing Landing Door header and Doors
LS2540	Cabin C - Lift Shaft Trunking and and Wiring lightning and buffers
LS2550	Cabin C - Electrical Accessories, Cleaning,Painting and CCTV Installation
Localised T&C	
A21290	Cabin C - Testing, Commissioning and Adjustment
A21300	Cabin C - LE5 and Test Report Submission
A21310	Cabin C - EMSD onsite Inspection
Lift Installation LS01 - Cabin A	
Lift Installation Works	
LS2580	Cabin A- Install Machine and Controller (Incl Wiring)
LS2590	Cabin A - Install Car Counterweight, Assemble Car, Fix Sheathed Cables
LS2600	Cabin A - Startup Inspection Mode Test (Low Speed)
LS2610	Cabin A - Fixing Guide Rail Bracket and Guide Rails
LS2620	Cabin A - Fixing Landing Sill and Architraves
LS2630	Cabin A - Fixing Push Buttons and Indicate Base Box
LS2640	Cabin A - Fixing Landing Door header and Doors
LS2650	Cabin A - Lift Shaft Trunking and and Wiring lightning and buffers
LS2660	Cabin A - Electrical Accessories, Cleaning,Painting and CCTV Installation
Localised T&C	
A21170	Cabin A - Testing, Commissioning and Adjustment
A21180	Cabin A - LE5 and Test Report Submission
A21190	Cabin A - EMSD onsite Inspection
Basement	
Zone J	
Plant Rooms	
A17960	(BFJ Plant) - Install Type FL9 Epoxy Floor Covering (1223m²) @100/d
Lobbys and Corridors	
A17680	(BFJ Lobby) - Install Type C5 FR Ceiling Panels (201m²)@75m/d
A17900	(BFJ Lobby) - Install Type FL9 Epoxy Floor Covering (7.5m²)@100/d
Zone H - Service Trough	
Lobbys and Corridors	
A17750	(BFH Lobby) - Install Type C5 FR Ceiling Panels (440m²)@75m/d
A17970	(BFH Lobby) - Install Type FL9 Epoxy Floor Covering (388m²)@100/d
Zone G	
Plant Rooms	
A17690	(BFG Plant) - Install Type C5 FR Ceiling Panels (246m²)@75m/d
A17980	(BFG Plant) - Install Type FL9 Epoxy Floor Covering (1826m²)@100/d
Lobbys and Corridors	
A17760	(BFG Lobby) - Install Type C5 FR Ceiling Panels (1354m²)@75m/d
A17910	(BFG Lobby) - Install Type FL9 Epoxy Floor Covering (11.37m²)@100/d
Zone D	
A18300	(BFD) - MEP Complete Cable Pulling and High Level Works
Plant Rooms	
A17700	(BFD Plant) - Install Type C5 FR Ceiling Panels (211m²)@75m/d
A18010	(BFE Plant) - Install Type FL9 Epoxy Floor Covering (3373m²)@100/d
Lobbys and Corridors	
A17770	(BFD Lobby) - Install Type C5 FR Ceiling Panels (234m²)@75m/d
A17950	(BFD Lobby) - Install Type FL9 Epoxy Floor Covering (43.5m²)@100/d
Zone E	
Plant Rooms	
A17710	(BFE Plant) - Install Type C5 FR Ceiling Panels (582m²)@75m/d
A18000	(BFE Plant) - Install Type FL9 Epoxy Floor Covering (4174m²)@100/d
Lobbys and Corridors	
A17780	(BFE Lobby) - Install Type C5 FR Ceiling Panels (120m²)@75m/d
Zone F	
A18330	(BFF) - MEP Complete Cable Pulling and High Level Works
Plant Rooms	
A17990	(BFF Plant) - Install Type FL9 Epoxy Floor Covering (2854m²)@100/d
Lobbys and Corridors	
A17740	(BFF Lobby) - Install Type C5 FR Ceiling Panels (321m²)@75m/d
A17920	(BFF Lobby) - Install Type FL9 Epoxy Floor Covering (13.8m²)@100/d
Zone A	
A18320	(BFA) - MEP Complete Cable Pulling and High Level Works
Plant Rooms	
A17720	(BFA Plant) - Install Type C5 FR Ceiling Panels (491m²)@75m/d
A18040	(BFA Plant) - Install Type FL9 Epoxy Floor Covering (1894m²)@100/d



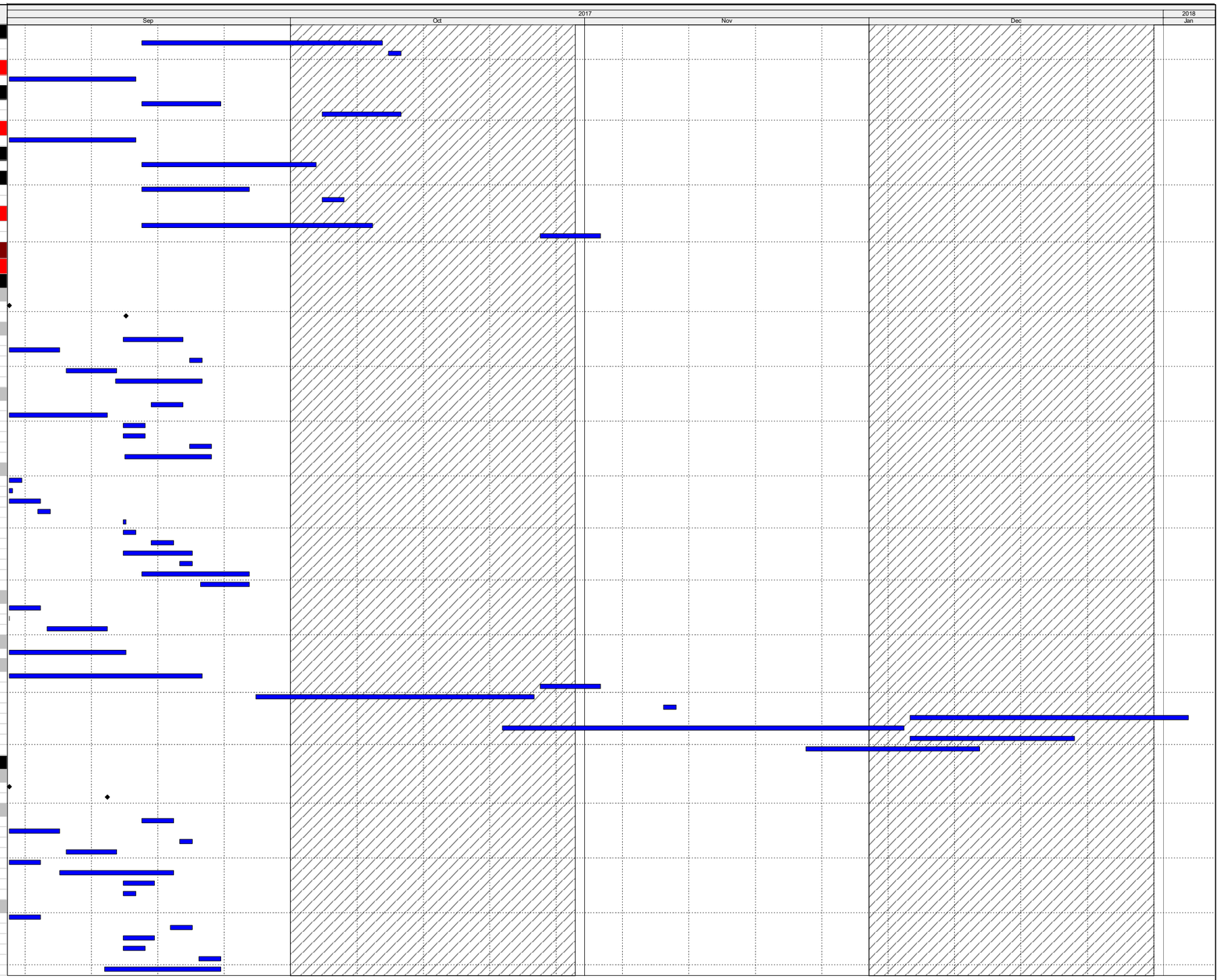
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
	Lobbys and Corridors
A17790	(BFA Lobby) - Install Type C5 FR Ceiling Panels (1381m²)@75m/d
A17930	(BFA Lobby) - Install Type FL9 Epoxy Floor Covering (8m²)@100/d
	Zone B - Service Trough
A18350	(BFB) - MEP Complete Cable Pulling and High Level Works
	Lobbys and Corridors
A17800	(BFB Lobby) - Install Type C5 FR Ceiling Panels (527m²)@75m/d
A18030	(BFB Lobby) - Install Type FL9 Epoxy Floor Covering (527m²)@100/d
	Zone C
A18340	(BFC) - MEP Complete Cable Pulling and High Level Works
	Plant Rooms
A18020	(BFC Plant) - Install Type FL9 Epoxy Floor Covering (1400m²)@100/d
	Lobbys and Corridors
A17730	(BFC Lobby)- Install Type C5 FR Ceiling Panels (641m²)@75m/d
A17940	(BFC Lobby) - Install Type FL9 Epoxy Floor Covering (10m²)@100/d
	All Zones Commissioning
BF1035	Basement - T&C for FSD pre-inspection stage 1 B/F
BF1040	Basement - PCB - FSD Inspection 1: Basement including staircases to G/F (All zones)
	Ground Floor
	Back of House
	Ground Floor - Zone J (South)
	Critical Dates
A13510	GF Zone J - Target for BOH Fire Services Inspection
A23270	GF Zone J - Target to complete all works to Degree 3
	Offices
J1040	(GFJ Office) - Floor - Epoxy Floor Coating (45m²)@100/d
J1060	(GFJ Office) - Door - Perm Door & Ironmongary (30 No) @8/d
J1070	(GFJ Office) - Floor Tiling (21m²) @100/d
J1080	(GFJ Office) - Ceiling - Al false ceiling (15.92m²) @75m/d
J1400	(GFJ Office) - MEP - Final Fix at Ceiling/walls
	Lobbys and Corridors
J1330	(GFJ Lob) - Floor - Tile (141m²) @100/d
J1340	(GFJ Lob) - MEP - Cable laying/high lvl detectors
J1350	(GFJ Lob) - Ceiling - FRR false ceiling (126m²) @75m/d
J1360	(GFJ Lob) - Ceiling - Air Grill
J1370	(GFJ Lob) - Wall -Skirting
J1380	(GFJ Lob) - MEP - Final fix at ceiling/walls
	Staff Toilet/Changing Rooms (2 x Male, 2 x Female)
E8070	(GFJ SWC) - Ceiling - hangers (13.2m) @15/d
E8080	(GFJ SWC) - MEP high level works
E8090	(GFJ SWC) - Cement Sheet (Wall Panel)
E8120	(GFJ SWC) - Floor - Tile (13.52m²) @100/d
E8140	(GFJ SWC) - Alum. Wall panel
E8150	(GFJ SWC) - Wall -Skirting
E8160	(GFJ SWC) - Ceiling - false ceiling (12.4m²) @75/d
E8170	(GFJ SWC) - Furniture/Joinary
E8180	(GFJ SWC) - Door - Perm. Door & Ironmongary (3No) @8/d
E8190	(GFJ SWC) - Toilet Cubicle
E8200	(GFJ SWC) - MEP Install Final fittings/cable laying
	Staircases (x 3)
J1460	(GFJ Stair) - Floor Finishes, Epoxy/Stone
J1470	(GFJ Stair) - MEP - Degree 3
J8010	(GFJ Stair) - Nosing Tile and Install Aluminium Extrusion
	MEP Install
J2650	GFJ - MEP small power + lighting wiring and AFA wiring
	Localised T&C of GF Zone J
J2711	GFJ - Stage 1 MEP T&C for FSD Inspection
J2711b	GFJ - PCB - FSD Inspection 1 : Basement including staircases to G/F
J2721	GFJ - Stage 2 MEP T&C for FSD inspection
J2722	GFJ - PCB - FSD Inspection 2: Row 2 cabins (2nos) all floors
J2731	GFJ - FSD Final Inspection PE (GF Zone J)
J2742	GFJ - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
J2751	GFJ - Stage 4 MEP T&C : SCADA fine tuning
J8060	GFJ - Toilets and PD risers complete : Toilets Commissioning
	Ground Floor - Zone G (South)
	Critical Dates
A13520	GF Zone G - Target for BOH Fire Services Inspection
A23280	GF Zone G - Target to complete all works to Degree 3
	Offices
G1040	(GFG Office) - Floor - Raised Floor support frame (70m²) @45m/d
G1060	(GFG Office) - Door - Perm Door & Ironmongary (30 No) @8/d
G1070	(GFG Office) - Floor Raised Floor Final (70m²) @100/d
G1080	(GFG Office) - Ceiling - Al false ceiling (232m²) @75m/d
G1390	(GFG Office) - MEP high level works complete ready for ceiling grid
G1400	(GFG Office) - MEP - Final Fix at Ceiling/walls
G8020	(GFG Office) - Floor Tiling (208m²) @100/d
G8030	(GFG Office) - Floor Epoxy Coating (78m²)@100/d
	Lobbys and Corridors
G1310	(GFG Lob) - MEP - Main ducts and trunking
G1330	(GFG Lob) - Floor - Tile (169m²) @100/d
G1350	(GFG Lob) - Ceiling- FRR false ceiling (154m²) @75m/d
G1360	(GFG Lob) - Ceiling - Air Grill
G1370	(GFG Lob) - Wall -Skirting
G1380	(GFG Lob) - MEP - Final fix at Ceiling/walls



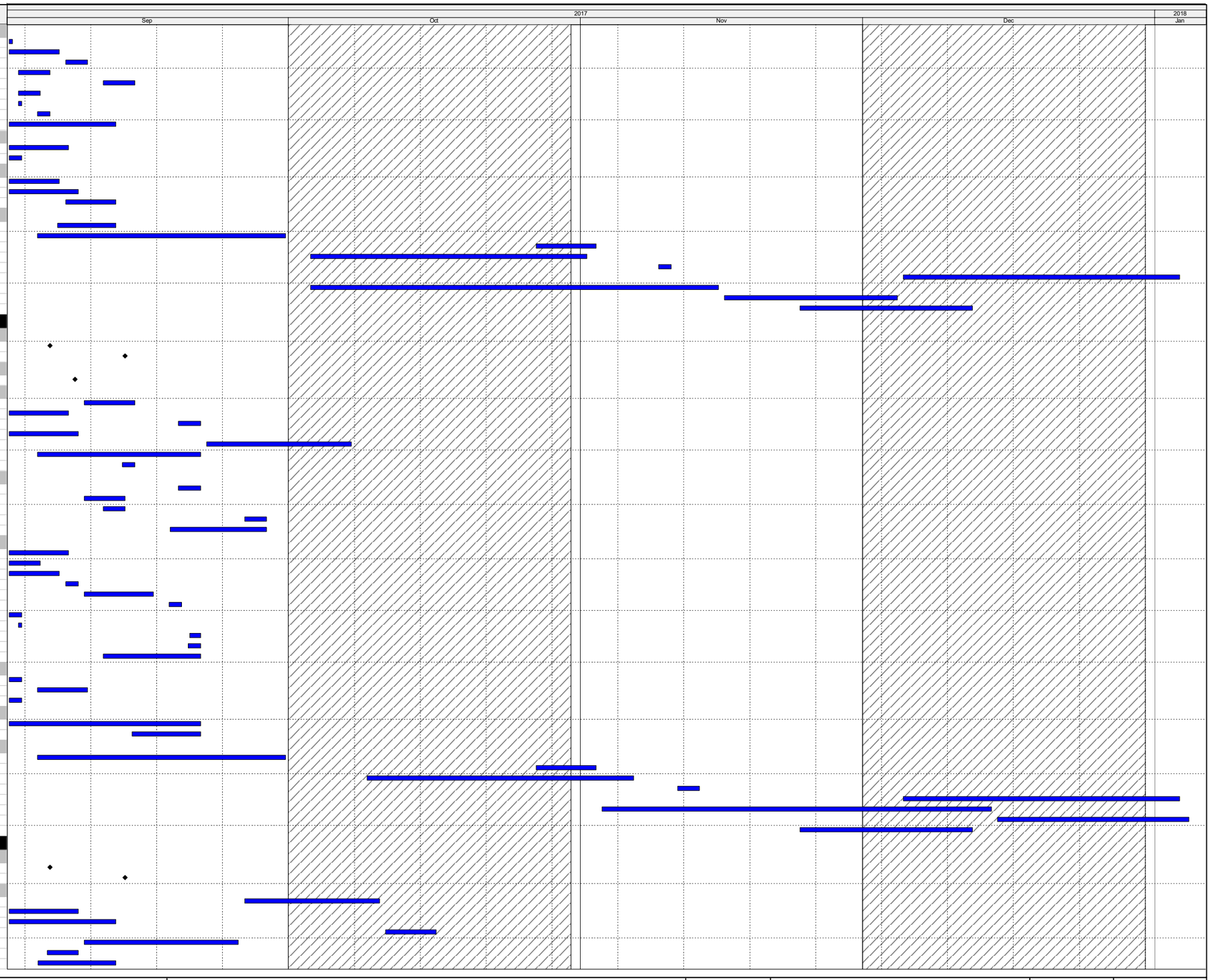
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
Public Toilets (1 x Male , 1 x Female 1 x Disabled)	
G1180	(GFG PWC) -Wall - Tile grout
G1190	(GFG PWC) -Ceiling - hangers (208m) @15m/d
G1200	(GFG PWC) -Floor - Tile (216m²) @100/d
G1210	(GFG PWC) -Furniture/Joinary
G1220	(GFG PWC) -Ceiling - false ceiling (208m²) @75/d
G1230	(GFG PWC) -Wall -Skirting
G1240	(GFG PWC) -Alum. Wall panel
G1260	(GFG PWC) -Door - Perm. Door & Ironmongary (3 No) @8/d
G1270	(GFG PWC) -Toilet Cubicle
Staircases	
G1430	(GFG Stair) - Wall - paint
G1470	(GFG Stair) - MEP - Degree 3
MEP Install	
G2890	GFG - MEP small power + lighting wiring and AFA wiring
G2920	GFG - MEP - final fix at Ceiling/walls
G2940	GFG - MEP - Install final fittings Toilets
Localised T&C of GF Zone G	
G1250	(GFG PWC) -MEP Install Final fittings/cable laying
G2970	GFG - Stage 1 MEP T&C for FSD Inspection
G2971	GFG - PCB - FSD Inspection 1 : Basement including staircases to G/F
G3000	GFG - Stage 2 MEP T&C for FSD inspection
G3001	GFG - PCB - FSD Inspection 2: Row 2 cabins (2nos) all floors
G3010	GFG - FSD Final Inspection (GF Zone G)
G3020	GFG - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
G3030	GFG - Stage 4 MEP T&C : SCADA fine tuning
G3035	GFG - Toilets and PD risers complete : Toilets Commissioning
Ground Floor - Zone D (Middle)	
Critical Dates	
A13530	GF Zone D - Target for BOH Fire Services Inspection
A23290	GF Zone D - Target to complete all works to Degree 3
Critical ELV Rooms	
D8040	C - Complete Wet Trades to SUPERVISOR WORKING PLATFROM (1) ROOM (03 D 023)
Offices	
D1040	(GFD Office) - Floor - Raised Floor support frame (193m²) @45m/d
D1060	(GFD Office) - Door - Perm Door & Ironmongary (15 No) @8/d
D1070	(GFD Office) - Floor Raised Floor Final (193m²) @100/d
D1080	(GFD Office) - Ceiling - Al false ceiling (414m²) @75m/d
D1400	(GFD Office) - MEP - Final Fix at Ceiling/walls
D8050	(GFD Office) - Floor Tiling (1433m²) @100/d
D8060	(GFD Office) - Floor Epoxy Coating (51m²)@100/d
Lobbys and Corridors	
D1330	(GFD Lob) - Floor - Tile (204m²) @100/d
D1350	(GFD Lob) - Ceiling - FRR false ceiling (204m²) @75m/d
D1360	(GFD Lob) - Ceiling - Air Grill
D1370	(GFD Lob) - Wall -Skirting
D1380	(GFD Lob) - MEP - Final fix at Ceiling/walls
Staff Toilet/Abluion Rooms (1 x Male and 1 x Female)	
D1130	(GFD SWC) -MEP high level works
D1160	(GFD SWC) -Cement Sheet (Wall Panel)
D1190	(GFD SWC) -Ceiling - hangers (17.8m) @15/d
D1200	(GFD SWC) -Floor - Tile (18.12m²) @100/d
D1210	(GFD SWC) -Furniture/Joinary
D1220	(GFD SWC) -Ceiling - false ceiling (17.86m²) @75/d
D1230	(GFD SWC) -Wall -Skirting
D1240	(GFD SWC) -Alum. Wall panel
D1250	(GFD SWC) -MEP Install Final fittings/cable laying
D1260	(GFD SWC) -Door - Perm. Door & Ironmongary (2 No) @8/d
D1270	(GFD SWC) -Toilet Cubicle
Staircases	
D1450	(GFD Stair) - MEP - Degree 2
D1460	(GFD Stair) - Nosing Tile and Install Aluminium Extrusion
D1470	(GFD Stair) - MEP - Degree 3
MEP Install	
D3010	GFD - MEP - final fix at Ceiling/walls
D3030	GFD - MEP - Install final fittings Toilets
Localised T&C of GF Zone D	
D3060	GFD - Stage 1 MEP T&C for FSD Inspection
D3070	GFD - FSD Inspection 1 : Basement including staircases to G/F
D3090	GFD - Stage 2 MEP T&C for final FSD inspection
D3091	GFD - PCB - FSD Inspection 3: Row 3 cabins (2nos) all floors
D3100	GFD - FSD Final Inspection (GF Zone D)
D3110	GFD - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
D3120	GFD - Stage 4 MEP T&C : SCADA fine tuning
D3125	GFD - Toilets and PD risers complete : Toilets Commissioning
Ground Floor - Zone E (Middle)	
Critical Dates for ELV	
A13540	GF Zone E - Target for BOH Fire Services Inspection
A23300	GF Zone E - Target to complete all works to Degree 3
Offices	
E1040	(GFE Office) -Floor - Raised Floor support frame (494m²) @45m/d
E1050	(GFE Office) -Ceiling Hangers (988m) @15/d
E1060	(GFE Office) -Door - Perm Door & Ironmongary (73 No) @8/d
E1070	(GFE Office) -Floor Raised Floor Final (494m²) @100/d
E1080	(GFE Office) -Ceiling - Al false ceiling (988m²) @75m/d
E1390	(GFE Office) -MEP high level works complete ready for ceiling grid
E1400	(GFE Office) -MEP - Final Fix at Ceiling/walls



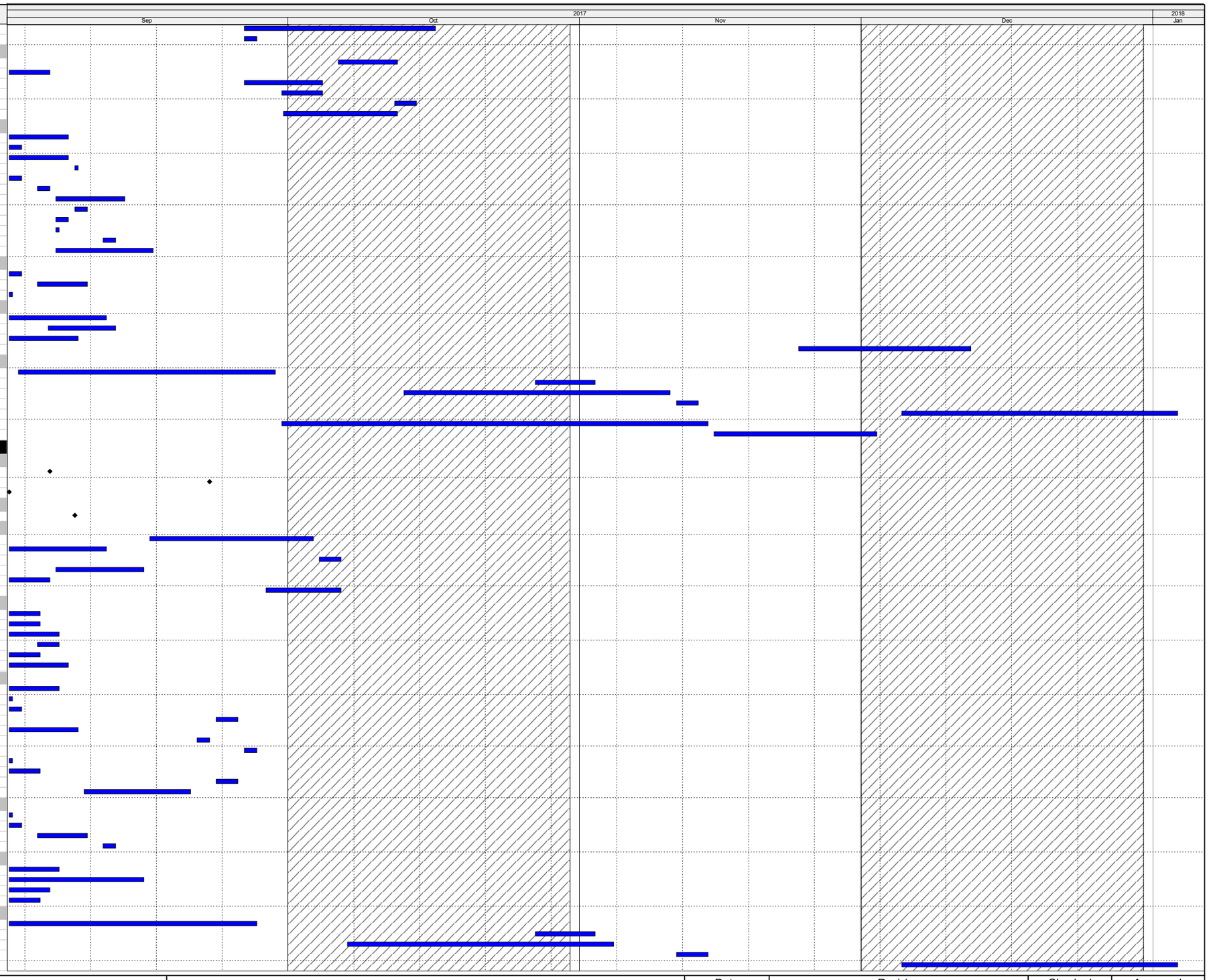
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
E8220	(GFE Office) -Floor Tiling (1443m²) @100/d
E8230	(GFE Office) -Floor Epoxy Coating (56m²)@100/d
Lobbys and Corridors	
E1330	(GFE Lob) - Floor - Tile (406m²) @100/d
E1340	(GFE Lob) - MEP - Cable laying/high M detectors
E1350	(GFE Lob) - Ceiling - FRR false ceiling (407m²) @75m/d
E1360	(GFE Lob) - Ceiling - Air Grill
E1370	(GFE Lob) - Wall -Skirting
E1380	(GFE Lob) - MEP - Final fix at ceiling/walls
Staff Toilet (1 x Male, 1 x Female and 2 x Disabled)	
E1140	(GFE SWC) - Wall Furring and GMS Subframe
E1160	(GFE SWC) - Cement Sheet (Wall Panel)
E1170	(GFE SWC) - Wall Stone
E1180	(GFE SWC) - Wall - Tile grout
E1190	(GFE SWC) - Ceiling - hangers (40.8m) @15/d
E1200	(GFE SWC) - Floor - Tile (57m²) @100/d
E1210	(GFE SWC) - Furniture/Joinary
E1220	(GFE SWC) - Ceiling - false ceiling (40.85m²) @75/d
E1230	(GFE SWC) - Wall -Skirting
E1240	(GFE SWC) - Alum. Wall panel
E1260	(GFE SWC) - Door - Perm. Door & Ironmongary (3No) @8/d
E1270	(GFE SWC) - Toilet Cubicle
Staircases	
E1450	(GFE Stair) - MEP - Degree 2
E1460	(GFE Stair) - Nosing Tile and Install Aluminium Extrusion
E1470	(GFE Stair) - MEP - Degree 3
MEP Install	
E3980	GFE - MEP small power + lighting wiring and AFA wiring
E4010	GFE - MEP - final fix at Ceiling/walls
E4030	GFE - MEP - Install final fittings Toilets
E4125	GFE - Toilets and PD risers complete : Toilets Commissioning
Localised T&C of GF Zone E	
E4060	GFE - Stage 1 MEP T&C for FSD Inspection
E4061	GFE - FSD Inspection 1 : Basement including staircases to G/F
E4090	GFE - Stage 2 MEP T&C for final FSD inspection
E4091	GFE - PCB - FSD Inspection 3: Row 3 cabins (2nos) all floors
E4100	GFE - FSD Final Inspection (GF Zone E)
E4110	GFE - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
E4120	GFE - Stage 4 MEP T&C : SCADA fine tuning
Ground Floor - Zone F (Middle)	
Critical Dates	
A13550	GF Zone F - Target for BOH Fire Services Inspection
A23310	GF Zone F - Target to complete all works to Degree 3
F8050	EU - Complete Wet Trades to Server Room & FM200 (03 F 020)
Critical ELV Rooms	
F8020	C - Complete Wet Trades Supervisor Working Platform (2) (03 F 001)
Offices	
F1040	(GFF Office) - Floor Tiling (1353m²) @100/d
F1060	(GFF Office) - Door - Perm Door & Ironmongary (42 No) @8/d
F1070	(GFF Office) - Floor Epoxy Coating (34m²)@100/d
F1080	(GFF Office) - Ceiling - Al false ceiling (700m²) @75m/d
F1390	(GFF Office) - MEP high level works complete ready for ceiling grid
F1400	(GFF Office) - MEP - Final Fix at Ceiling/walls
Lobbys and Corridors	
F1310	(GFF Lob) - MEP - Main ducts and trunking
F1340	(GFF Lob) - MEP - Cable laying/high M detectors
F1350	(GFF Lob) - Ceiling - FRR false ceiling (232m²) @75m/d
F1360	(GFF Lob) - Ceiling - Air Grill
F1370	(GFF Lob) - Wall -Skirting
F1380	(GFF Lob) - MEP - Final fix at ceiling/walls
Staff Toilet (1 x Male, 1 x Female, 1 x Disabled)	
F1170	(GFF SWC) - Wall Stone
F1180	(GFF SWC) - Wall - Tile grout
F1190	(GFF SWC) - Ceiling - hangers (8.7m) @15/d
F1200	(GFF SWC) - Floor - Tile (10.12m²) @100/d
F1210	(GFF SWC) - Furniture/Joinary
F1220	(GFF SWC) - Ceiling - false ceiling (8.7m²) @75/d
F1230	(GFF SWC) - Wall -Skirting
F1240	(GFF SWC) - Alum. Wall panel
F1250	(GFF SWC) - MEP Install Final fittings/cable laying
F1260	(GFF SWC) - Door - Perm. Door & Ironmongary (6 No) @8/d
F1270	(GFF SWC) - Toilet Cubicle
Staircases	
F1430	(GFF Stair) - Wall - paint
F1450	(GFF Stair) - MEP - Degree 2
F1460	(GFF Stair) - Nosing Tile and Install Aluminium Extrusion
F1470	(GFF Stair) - MEP - Degree 3
MEP Install	
F3960	GFF - MEP First fix duct and trunking
F3980	GFF - MEP small power + lighting wiring and AFA wiring
F4010	GFF - MEP - final fix at Ceiling/walls
F4030	GFF - MEP - Install final fittings Toilets
Localised T&C of GF Zone F	
F4060	GFF - Stage 1 MEP T&C for FSD Inspection
F4061	GFF - FSD Inspection 1 : Basement including staircases to G/F
F4090	GFF - Stage 2 MEP T&C for final FSD inspection
F4091	GFF - PCB - FSD Inspection 3: Row 3 cabins (2nos) all floors
F4100	GFF - FSD Final Inspection (GF Zone F)



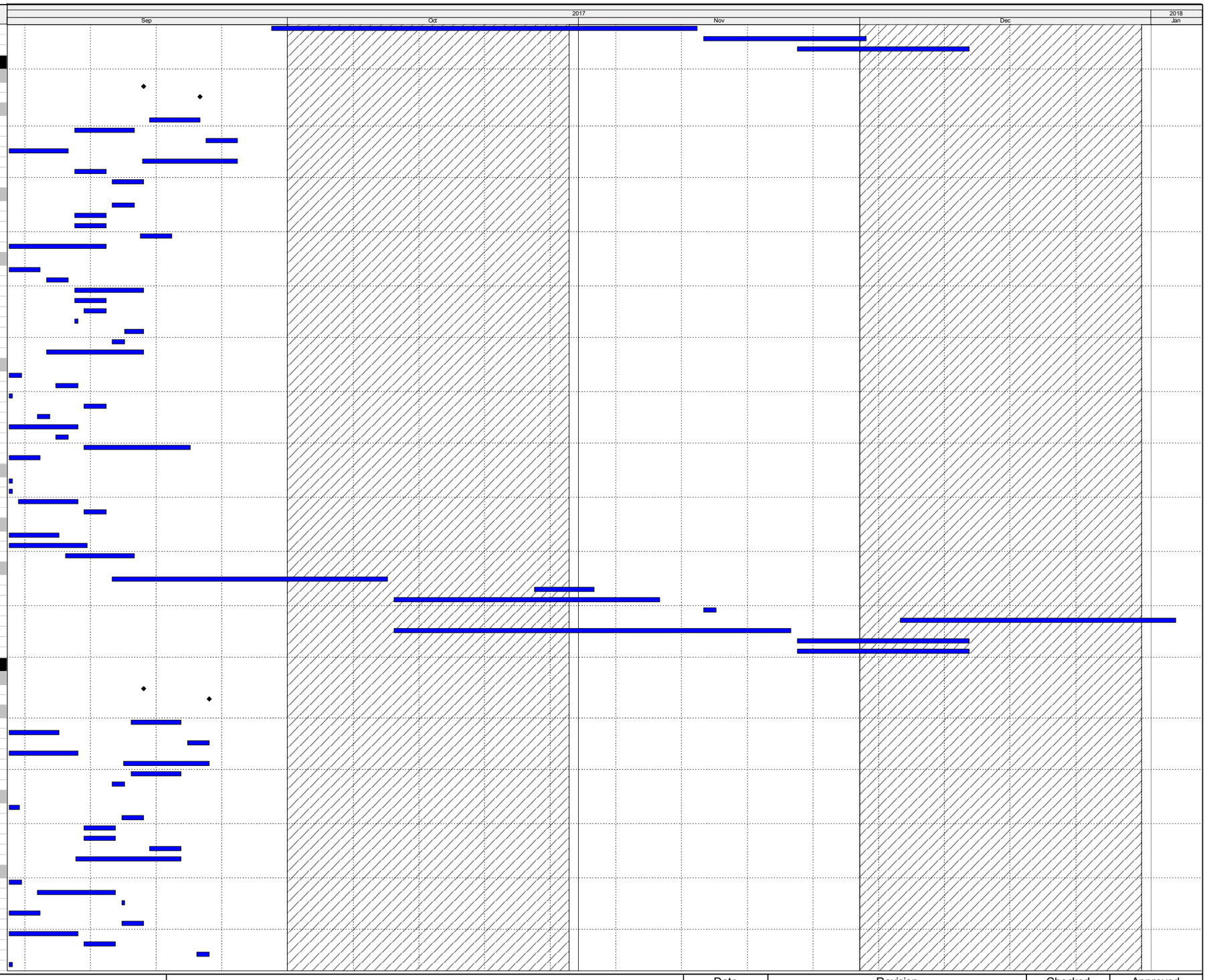
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
F4110	GFF - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
F4120	GFF - Stage 4 MEP T&C : SCADA fine tuning
F8280	GFF - Toilets and PD risers complete : Toilets Commissioning
Ground Floor - Zone C (North)	
Critical Dates	
A13580	GF Zone C - Target for BOH Fire Services Inspection
A23320	GF Zone C - Target to complete all works to Degree 3
Offices	
C1040	(GFC Office) - Floor - Raised Floor support frame (150.7m²) @45m/d
C1060	(GFC Office) - Door - Perm Door & Ironmongary (38 No) @8/d
C1070	(GFC Office) - Floor Raised Floor Final (150.7m²) @100/d
C1080	(GFC Office) - Ceiling - Al false ceiling (384m²) @75m/d
C1400	(GFC Office) - MEP - Final Fix at Ceiling/walls
C14550	(GFC Office) - Floor Epoxy Coating (150.7m²)@100/d
C14560	(GFC Office) - Floor Tiling (270m²) @100/d
Lobbys and Corridors	
C1330	(GFC Lob) - Floor - Tile (104m²) @100/d
C1350	(GFC Lob) - Ceiling - FRR false ceiling (102m²) @75m/d
C1360	(GFC Lob) - Ceiling - Air Grill
C1370	(GFC Lob) - Wall -Skirting
C1380	(GFC Lob) - MEP - Final fix at ceiling/walls
Public Toilets (1 x Male, 1 x Female and 2 x Disabled)	
C1190	(GFC PWC) - Ceiling - hangers (101m) @15/d
C1200	(GFC PWC) - Floor - Tile (109m²) @100/d
C1210	(GFC PWC) - Furniture/Joinary
C1220	(GFC PWC) - Ceiling - false ceiling (101m²) @75/d
C1230	(GFC PWC) - Wall -Skirting
C1240	(GFC PWC) - Alum. Wall panel
C1250	(GFC PWC) - MEP Install Final fittings/cable laying
C1260	(GFC PWC) - Door - Perm. Door & Ironmongary (2 No) @8/d
C1270	(GFC PWC) - Toilet Cubicle
Staff Toilet (1 x Male and 1 x Female)	
C8120	(GFC SWC) - Ceiling - hangers (17.6m) @15/d
C8170	(GFC SWC) - Floor - Tile (109m²) @100/d
C8190	(GFC SWC) - Alum. Wall panel
C8200	(GFC SWC) - Wall -Skirting
C8210	(GFC SWC) - Ceiling - false ceiling (17.62m²) @75/d
C8220	(GFC SWC) - Furniture/Joinary
C8230	(GFC SWC) - Door - Perm. Door & Ironmongary (2 No) @8/d
C8240	(GFC SWC) - Toilet Cubicle
C8250	(GFC SWC) - MEP Install Final fittings/cable laying
Staircases	
C1430	(GFC Stair) - Wall - paint
C1450	(GFC Stair) - MEP - Degree 2
C1460	(GFC Stair) - Nosing Tile and Install Aluminium Extrusion
C1470	(GFC Stair) - MEP - Degree 3
MEP Install	
C3980	GFC - MEP small power + lighting wiring and AFA wiring
C4010	GFC - MEP - final fix at Ceiling/walls
C4030	GFC - MEP - Install final fittings Toilets
Localised T&C of GF Zone C	
C4060	GFC - Stage 1 MEP T&C for FSD Inspection
C4061	GFC - FSD Inspection 1 : Basement including staircases to G/F
C4090	GFC - Stage 2 MEP T&C for final FSD inspection
C4091	GFC - PCB - FSD Inspection 4: Row 4 cabins (2nos) all floors
C4100	GFC - FSD Final Inspection (GF Zone C)
C4110	GFC - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
C4120	GFC - Stage 4 MEP T&C : SCADA fine tuning
C4125	GFC - Toilets and PD risers complete : Toilets Commissioning
Ground Floor - Zone A (North)	
Critical Dates	
A13590	GF Zone A - Target for BOH Fire Services Inspection
A23330	GF Zone A - Target to complete all works to Degree 3
Offices	
A11040	(GFA Office) - Floor - Raised Floor support frame (176m²) @45m/d
A11060	(GFA Office) - Door - Perm Door & Ironmongary (32 No) @8/d
A11070	(GFA Office) - Floor Raised Floor Final (176m²) @100/d
A11080	(GFA Office) - Ceiling - Al false ceiling (423m²) @75m/d
A11400	(GFA Office) - MEP - Final Fix at Ceiling/walls
A18170	(GFA Office) - Floor Tiling (305m²) @100/d
A18180	(GFA Office) - Epoxy Floor Coating (25m²)@100/d
Lobbys and Corridors	
A11290	(GFA Lob) - Floor - Screed (146m²) @120m/d
A11330	(GFA Lob) - Floor - Tile (158m²) @100/d
A11350	(GFA Lob) - Ceiling - FRR false ceiling (143m²) @75m/d
A11360	(GFA Lob) - Ceiling - Air Grill
A11370	(GFA Lob) - Wall -Skirting
A11380	(GFA Lob) - MEP - Final fix at ceiling/walls
Public Toilets (1 x Male, 1 x Female and 2 x Disabled)	
A11160	(GFA PWC) - Cement Sheet (Wall Panel)
A11170	(GFA PWC) - Wall Stone
A11180	(GFA PWC) - Wall - Tile grout
A11190	(GFA PWC) - Ceiling - hangers (104m) @15/d
A11200	(GFA PWC) - Floor - Tile (149m²) @100/d
A11210	(GFA PWC) - Furniture/Joinary
A11220	(GFA PWC) - Ceiling - false ceiling (104m²) @75/d
A11230	(GFA PWC) - Wall - Skirting
A11240	(GFA PWC) - Alum. Wall panel



Actual Work

Remaining Work

Critical Remaining Work

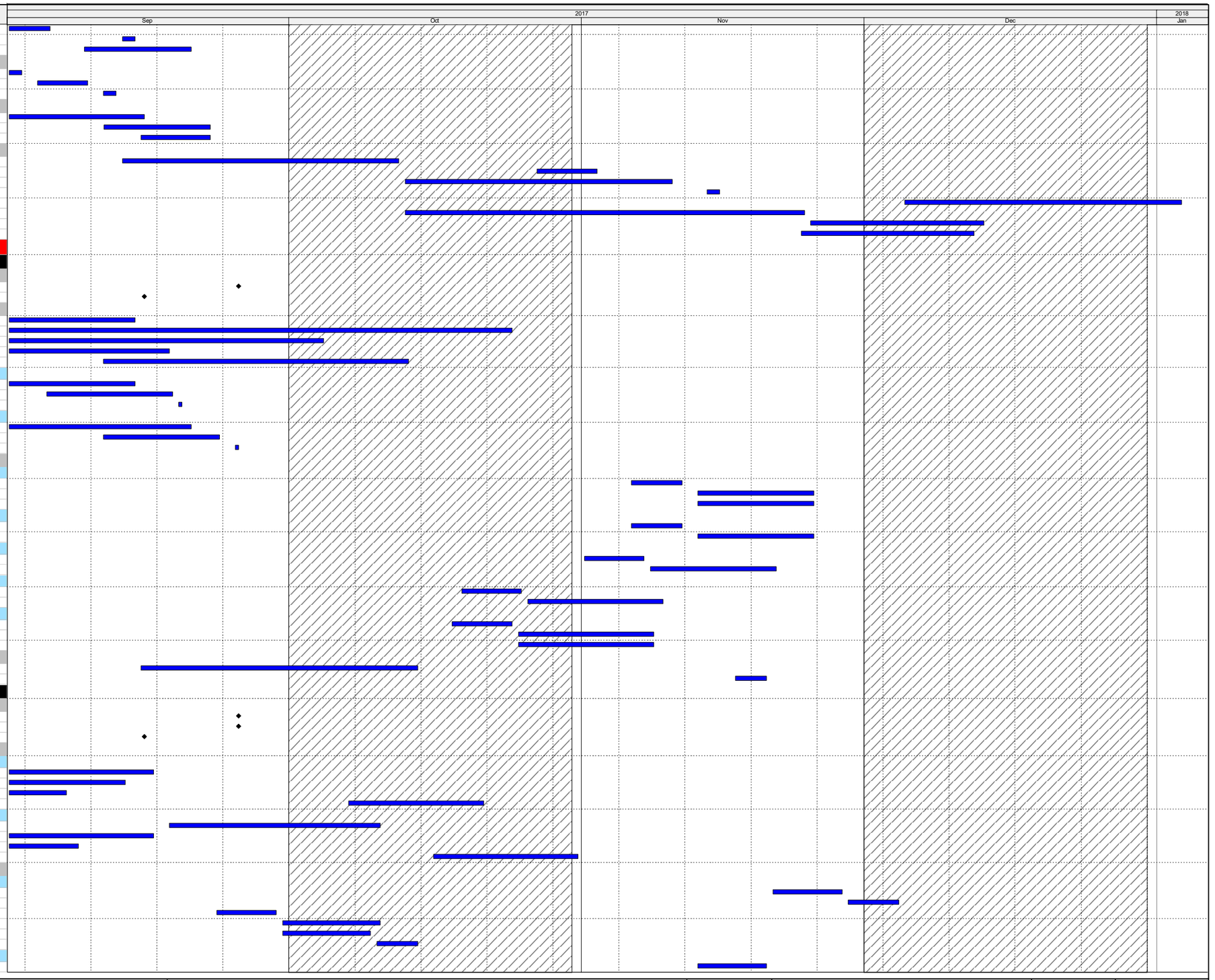
◆ ◆ Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
A11250	(GFA PWC) - MEP Install Final fittings/cable laying
A11260	(GFA PWC) - Door - Perm. Door & Ironmongary (2 No) @8/d
A11270	(GFA PWC) - Toilet Cubicle
Staircases	
A11450	(GFA Stair) - MEP - Degree 2
A11460	(GFA Stair) - Nosing Tile and Install Aluminium Extrusion
A11470	(GFA Stair) - MEP - Degree 3
MEP Install	
A12860	GFA - MEP small power + lighting wiring and AFA wiring
A12890	GFA - MEP - final fix at Ceiling/walls
A12910	GFA - MEP - Install final fittings Toilets
Localised T&C of GF Zone A	
A12940	GFA - Stage 1 MEP T&C for FSD Inspection
A12941	GFA - FSD Inspection 1 : Basement including staircases to G/F
A12970	GFA - Stage 2 MEP T&C for final FSD inspection
A12971	GFA - PCB - FSD Inspection 4: Row 4 cabins (2nos) all floors
A12980	GFA - FSD Final Inspection (GF Zone A)
A12990	GFA - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
A13000	GFA - Stage 4 MEP T&C : SCADA fine tuning
A13001	GFA - Toilets and PD risers complete : Toilets Commissioning
Ground Floor - Front of House	
South Arrivals Hall	
Critical Dates	
A13760	GF Zone H - FOH Fire Services Inspection
A13810	GF South - Access for Field Equipment Installation
Installation	
H1210	(GF-FOH-S) - Smoke Curtain - South
H1250	(GF-FOH-S) - Internal Glazing (Sinobest) -FoH
H1280	(GF-FOH-S) - Kiosk_Booth_Binnades
H1310	(GF-FOH-S) - Floor Tiles (5000m²) @ 290m/d
H13940	(GF-FOH-S) - Install Signage and Related Armature
Vertical Shutters	
A19310	(GF-FOH-S) - Vertical Shutters
A19340	(GF-FOH-S) - Control and Wiring
A19390	(GF-FOH-S) - Self Test
Security Shutters	
H1260	(GF-FOH-S) - Security Shutters
H1390	(GF-FOH-S) - Control and Wiring
H1400	(GF-FOH-S) - Self Test
Water Feature South	
Water Feature WX10/WN16	
WF1230	(GF-FOH-S) - Water Feature Waterproofing - South (GL H-J) (600m²)
WF1260	(GF-FOH-S) - Water Feature Tiling - South (GL H-J) (600m²)
WF1500	(GF-FOH-S) - Construct Planters (X 3)
Water Feature WX11/WN17	
WF1410	(GF-FOH-S) - Water Feature Waterproofing - South (GL H-J) (670m²)
WF1420	(GF-FOH-S) - Water Feature Tiling - South (GL H-J) (670m²)
Water Feature WX12/WN18	
WF1430	(GF-FOH-S) - Water Feature Waterproofing - South (GL H-J) (670m²)
WF1440	(GF-FOH-S) - Water Feature Tiling - South (GL H-J) (670m²)
Water Feature WX13/WN19	
WF1450	(GF-FOH-S) - Water Feature Waterproofing - South (GL H-J) (670m²)
WF1460	(GF-FOH-S) - Water Feature Tiling - South (GL H-J) (670m²)
Water Feature WX14/WN20	
WF1470	(GF-FOH-S) - Water Feature Waterproofing - South (GL H-J) (600m²)
WF1480	(GF-FOH-S) - Water Feature Tiling - South (GL H-J) (600m²)
WF1490	(GF-FOH-S) - Construct Planters (X 3)
Localised T&C	
H1300	(GF-FOH-S) - Stage 1 MEP T&C for FSD Inspection
H1320	(GF-FOH-S) - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Middle Arrivals Hall	
Critical Dates	
A13770	GF Zone F - FOH Fire Services Inspection
A13780	GF Zone D - FOH Fire Services Inspection
A13830	GF Middle - Access for Field Equipment Installation
Installation	
East	
F5030	(GF-FOH-ME) - Smoke Curtain - Middle East
F5040	(GF-FOH-ME) - Ceiling Grid & fix false ceiling tile (stage 1) MEP tiles 950m/ @200m/d
F5080	(GF-FOH-ME) - Floor Tiles (1474m²) @ 290m/d
H13950	(GF-FOH-ME) - Install Signage and Related Armature
West	
D5030	(GF-FOH-MW) - Smoke Curtain - Middle West
D5040	(GF-FOH-MW) - Ceiling Grid & fix false ceiling tile (stage 1) MEP tiles 950m/d @200m/d
D5080	(GF-FOH-MW) - Floor Tiles (1474m²) @ 290m/d
H13960	(GF-FOH-MW) - Install Signage and Related Armature
Water Feature Middle	
Gridline D-E	
WF1250	(GF-FOH-ME) - Water Feature Waterproofing - Middle (GL D-E) (2100m²)
WF1290	(GF-FOH-ME) - Water Feature Tiling - Middle (GL D-E) (2100m²)
WF1310	(GF-FOH-ME) - Water Feature Waterproofing - East (GL D-E) (1475m²)
WF1320	(GF-FOH-ME) - Water Feature Tiling - East (GL D-E) (1475m²)
WF1330	(GF-FOH-ME) - Water Feature Waterproofing - West (GL D-E) (1475m²)
WF1340	(GF-FOH-ME) - Water Feature Tiling - West (GL D-E) (1475m²)
Gridline F-G	
WF1240	(GF-FOH-ME) - Water Feature Waterproofing - Middle (GL F-G) (2100m²)



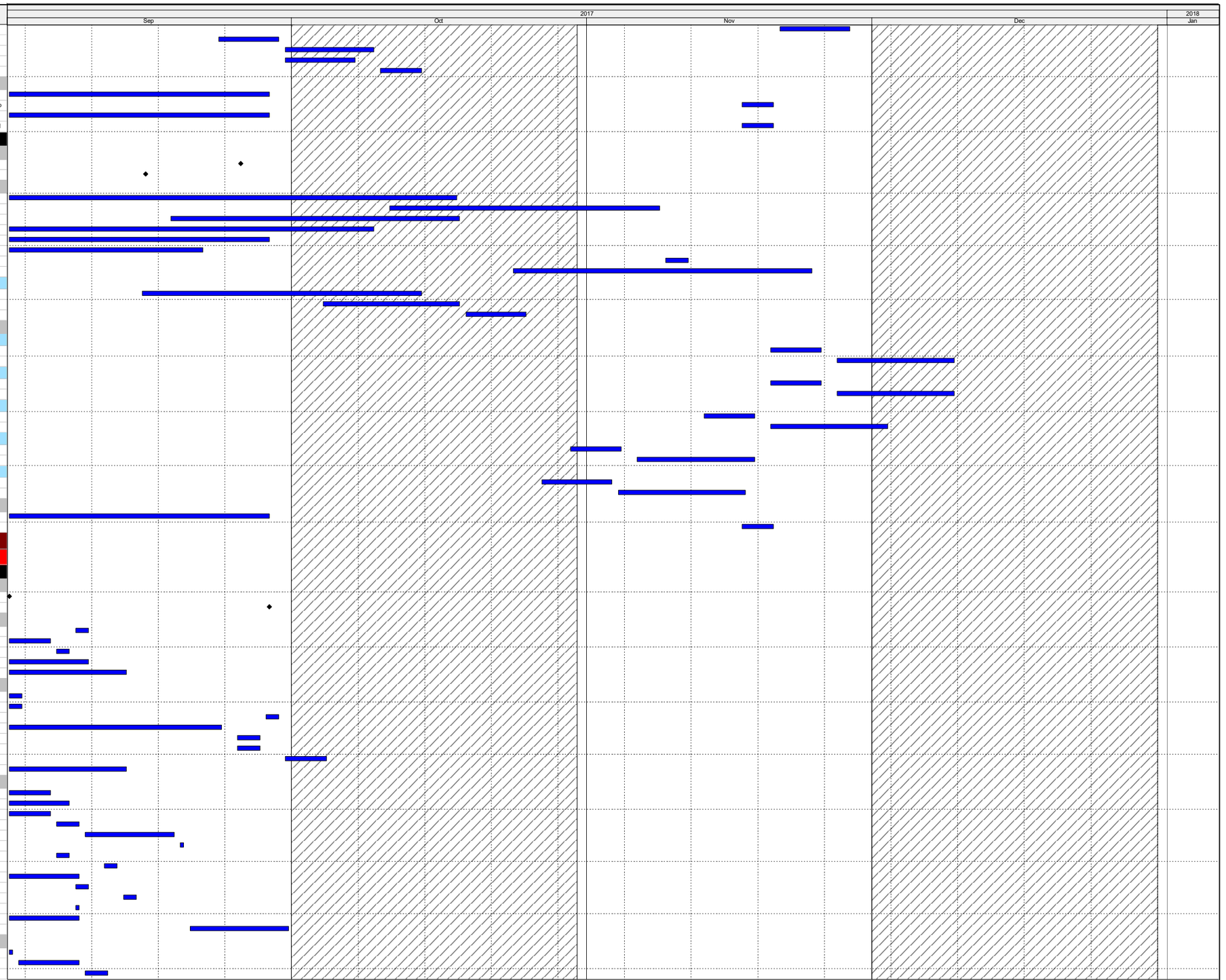
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
WF1280	(GF-FOH-ME) - Water Feature Tiling - Middle (GL F-G) (2100m²)
WF1350	(GF-FOH-ME) - Water Feature Waterproofing - East (GL F-G) (1475m²)
WF1360	(GF-FOH-ME) - Water Feature Waterproofing - West (GL F-G) (1475m²)
WF1370	(GF-FOH-ME) - Water Feature Tiling - East (GL F-G) (1475m²)
WF1380	(GF-FOH-ME) - Water Feature Tiling - West (GL F-G) (1475m²)
Localised T&C	
D5070	(GF-FOH-MW) - Stage 1 MEP T&C for FSD Inspection West
D5090	(GF-FOH-MW) - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Contro
F5070	(GF-FOH-ME) - Stage 1 MEP T&C for FSD Inspection
F5090	(GF-FOH-ME) - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
North Arrivals Hall	
Critical Dates	
A13790	GF Zone B - FOH Fire Services Inspection
A13850	GF North - Access for Field Equipment Installation
Installation	
B3020	(GF-FOH-N) - Internal Glazing (Sinobest) -FoH
B3040	(GF-FOH-N) - Smoke Curtain - North
B3050	(GF-FOH-N) - Ceiling Grid & fix false ceiling tile (stage 1) MEP tiles @200m/d
B3090	(GF-FOH-N) - Kiosk_Booth_Binnacle
B3100	(GF-FOH-N) - Stage 1 MEP T&C for FSD Inspection
B3110	(GF-FOH-N) - Floor Tiles (5000m²) @ 290m/d
B3120	(GF-FOH-N) - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
H13970	(GF-FOH-N) - Install Signage and Related Armature
Security Shutters	
B3060	(GF-FOH-N) - Security Shutters
B3190	(GF-FOH-N) - Control and Wiring
B3220	(GF-FOH-N) - Self Test
Water Feature North	
Water Feature WX1/WN1	
WF1270	(GF-FOH-N) - Water Feature Waterproofing - North (GL B-C) (600m²)
WF1300	(GF-FOH-N) - Water Feature Tiling - North (GL B-C) (600m²)
Water Feature WX2/WN2	
WF1510	(GF-FOH-N) - Water Feature Waterproofing - North (GL B-C) (670m²)
WF1520	(GF-FOH-N) - Water Feature Tiling - North (GL B-C) (670m²)
Water Feature WX3/WN3	
WF1530	(GF-FOH-N) - Water Feature Waterproofing - North (GL B-C) (670m²)
WF1540	(GF-FOH-N) - Water Feature Tiling - North (GL B-C) (670m²)
Water Feature WX4/WN4	
WF1550	(GF-FOH-N) - Water Feature Waterproofing - North (GL B-C) (670m²)
WF1560	(GF-FOH-N) - Water Feature Tiling - North (GL B-C) (670m²)
Water Feature WX5/WN5	
WF1570	(GF-FOH-N) - Water Feature Waterproofing - North (GL B-C) (600m²)
WF1580	(GF-FOH-N) - Water Feature Tiling - North (GL B-C) (600m²)
Localised T&C	
B1055	(GF-FOH-N) - Stage 1 MEP T&C for FSD Inspection
B1091	(GF-FOH-N) - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Mezzanine Floor	
Back of House	
Mezz Floor - Zone J (South)	
Critical Dates	
A13620	MF Zone J - Target for BOH Fire Services Inspection
A23340	MF Zone J - Target to complete all works to Degree 3
Offices	
J1540	(MFJ Office) - Floor - Tiling (31m²) @100/d
J1560	(MFJ Office) - Door - Perm Door & Ironmongary (19 No) @8/d
J1570	(MFJ Office) - Floor Epoxy Coating (33m²)@100/d
J1891	(MFG Office) - Ceiling - Al false ceiling (495m²) @75m/d
J1900	(MFJ Office) - MEP - Final Fix at Ceiling/walls
Lobbys and Corridors	
J1810	(MFJ Lob) - MEP - Main ducts and trunking
J1820	(MFJ Lob) - Ceiling - hangers (146m) @15/d
J1830	(MFJ Lob) - Floor - Tile (146m²) @100/d
J1840	(MFJ Lob) - MEP - Cable laying/high lvl detectors
J1850	(MFJ Lob) - Ceiling - FRR false ceiling (146m²) @75m/d
J1860	(MFJ Lob) - Ceiling - Air Grill
J1870	(MFJ Lob) - Wall -Skirting
J1880	(MFJ Lob) - MEP - Final fix at ceiling/walls
Staff Toilet (1 x Male, 1 x Female, 1 x Disabled)	
J1630	(MFJ SWC) - MEP high level works
J1640	(MFJ SWC) - Wall Furring and GMS Subframe
J1650	(MFJ SWC) - MEP Installation of concealed services
J1660	(MFJ SWC) - Cement Sheet (Wall Panel)
J1670	(MFJ SWC) - Wall Stone
J1680	(MFJ SWC) - Wall - Tile grout
J1690	(MFJ SWC) - Ceiling - hangers (40.6m) @15/d
J1700	(MFJ SWC) - Floor - Tile (43m²) @100/d
J1710	(MFJ SWC) - Furniture/Joinary
J1720	(MFJ SWC) - Ceiling - false ceiling (40.62m²) @75/d
J1730	(MFJ SWC) - Wall -Skirting
J1740	(MFJ SWC) - Alum. Wall panel
J1750	(MFJ SWC) - MEP Install Final fittings/cable laying
J1770	(MFJ SWC) - Toilet Cubicle
Staircases	
J1950	(MFJ Stair) - MEP - Degree 2
J1960	(MFJ Stair) - Nosing Tile and Install Aluminium Extrusion
J1970	(MFJ Stair) - MEP - Degree 3



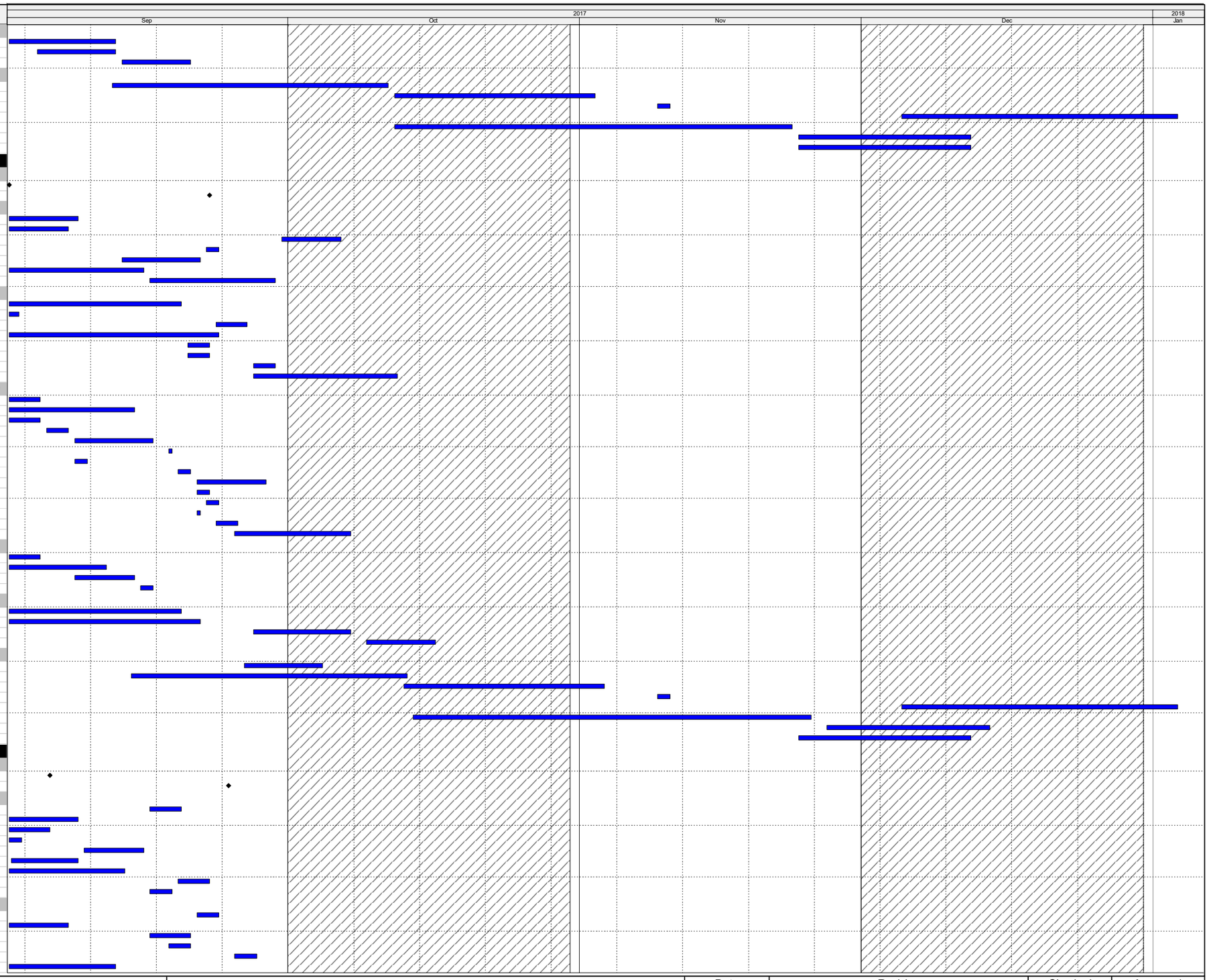
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
MEP Install	
J2980	MFJ - MEP small power + lighting wiring and AFA wiring
J3010	MFJ - MEP - final fix at Ceiling/walls
J3030	MFJ - MEP - Install final fittings Toilets
Localised T&C of MF Zone J	
J3060	MFJ - Stage 1 MEP T&C critical rooms and AHU
J3090	MFJ - Stage 2 MEP T&C for FSD inspection
J3091	MFJ - PCB - FSD Inspection 2: Row 2 cabins (2nos) all floors
J3100	MFJ - FSD Final Inspection (MF Zone J)
J3110	MFJ - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
J3120	MFJ - Stage 4 MEP T&C : SCADA fine tuning
J3125	MFJ - Toilets and PD risers complete : Toilets Commissioning
Mezz Floor - Zone G (South)	
Critical Dates	
A13640	MF Zone G - Target for BOH Fire Services Inspection
A23350	MF Zone G - Target to complete all works to Degree 3
Offices	
G1540	(MFG Office) - Floor - Tiles (507m²) @100/d
G1550	(MFG Office) - Ceiling Hangers (495m) @15/d
G1560	(MFG Office) - Door - Perm Door & Ironmongary (17 No) @8/d
G1570	(MFG Office) - Epoxy Floor Coating (59m²)@100/d
G1580	(MFG Office) - Ceiling - Al false ceiling (495m²) @75m/d
G1890	(MFG Office) - MEP high level works complete ready for ceiling grid
G1900	(MFG Office) - MEP - Final Fix at Ceiling/walls
Lobbys and Corridors	
G1810	(MFG Lob) - MEP - Main ducts and trunking
G1820	(MFG Lob) - Ceiling - hangers (149m) @15/d
G1830	(MFG Lob) - Floor - Tile (149m²) @100/d
G1840	(MFG Lob) - MEP - Cable laying/high lvl detectors
G1850	(MFG Lob) - Ceiling - FRR false ceiling (149m²) @75m/d
G1860	(MFG Lob) - Ceiling - Air Grill
G1870	(MFG Lob) - Wall -Skirting
G1880	(MFG Lob) - MEP - Final fix at ceiling/walls
Staff Toilet (1 x Male, 1 x Female, 2 x Disabled, 1 x Male Showers, 2 x Female Sho	
G1630	(MFG SWC) - MEP high level works
G1640	(MFG SWC) - Wall Furring and GMS Subframe
G1650	(MFG SWC) - MEP Installation of consealed services
G1660	(MFG SWC) - Cement Sheet (Wall Panel)
G1670	(MFG SWC) - Wall Stone
G1680	(MFG SWC) - Wall - Tile grout
G1690	(MFG SWC) - Ceiling - hangers (25.4m) @15/d
G1700	(MFG SWC) - Floor - Tile (27.1m²) @100/d
G1710	(MFG SWC) - Furniture/Joinary
G1720	(MFG SWC) - Ceiling - false ceiling (25.46m²) @75/d
G1730	(MFG SWC) - Wall -Skirting
G1740	(MFG SWC) - Alum. Wall panel
G1760	(MFG SWC) - Door - Perm. Door & Ironmongary (7 No) @8/d
G1770	(MFG SWC) - Toilet Cubicle
Staircases	
G1920	(MFG Stair) - MEP - Degree 1
G1950	(MFG Stair) - MEP - Degree 2
G1960	(MFG Stair) - Nosing Tile and Install Aluminium Extrusion
G1970	(MFG Stair) - MEP - Degree 3
MEP Install	
G3300	MFG - MEP First fix duct and trunking
G3320	MFG - MEP small power + lighting wiring and AFA wiring
G3350	MFG - MEP - final fix at Ceiling/walls
G3370	MFG - MEP - Install final fittings Toilets
Localised T&C of MF Zone G	
G1750	(MFG SWC) - MEP Install Final fittings/cable laying
G3400	MFG - Stage 1 MEP T&C critical rooms and AHU
G3430	MFG - Stage 2 MEP T&C for FSD inspection
G3431	MFG - PCB - FSD Inspection 2: Row 2 cabins (2nos) all floors
G3440	MFG - FSD Final Inspection (MF Zone G)
G3450	MFG - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
G3460	MFG - Stage 4 MEP T&C : SCADA fine tuning
G3540	MFG - Toilets and PD risers complete : Toilets Commissioning
Mezz Floor - Zone D (Middle)	
Critical Dates	
A13650	MF Zone D - Target for BOH Fire Services Inspection
A23360	MF Zone D - Target to complete all works to Degree 3
Offices	
D1540	(MFD Office) - Floor - Raised Floor support frame (99.76m²) @45m/d
D1550	(MFD Office) - Ceiling Hangers (314m) @15/d
D1560	(MFD Office) - Door - Perm Door & Ironmongary (23 No) @8/d
D1570	(MFD Office) - Floor Raised Floor Final (99.76m²) @100/d
D1580	(MFD Office) - Ceiling - Al false ceiling (314m²) @75m/d
D1890	(MFD Office) - MEP high level works complete ready for ceiling grid
D1900	(MFD Office) - MEP - Final Fix at Ceiling/walls
D8070	(MFD Office) - Floor Tiling (261m²) @100/d
D8080	(MFD Office) - Epoxy Floor Coating (92m²)@100/d
Lobbys and Corridors	
D1830	(MFD Lob) - Floor - Tile (180m²) @100/d
D1840	(MFD Lob) - MEP - Cable laying/high lvl detectors
D1850	(MFD Lob) - Ceiling - FRR false ceiling (179m²) @75m/d
D1860	(MFD Lob) - Ceiling - Air Grill
D1870	(MFD Lob) - Wall -Skirting
D1880	(MFD Lob) - MEP - Final fix at ceiling/walls



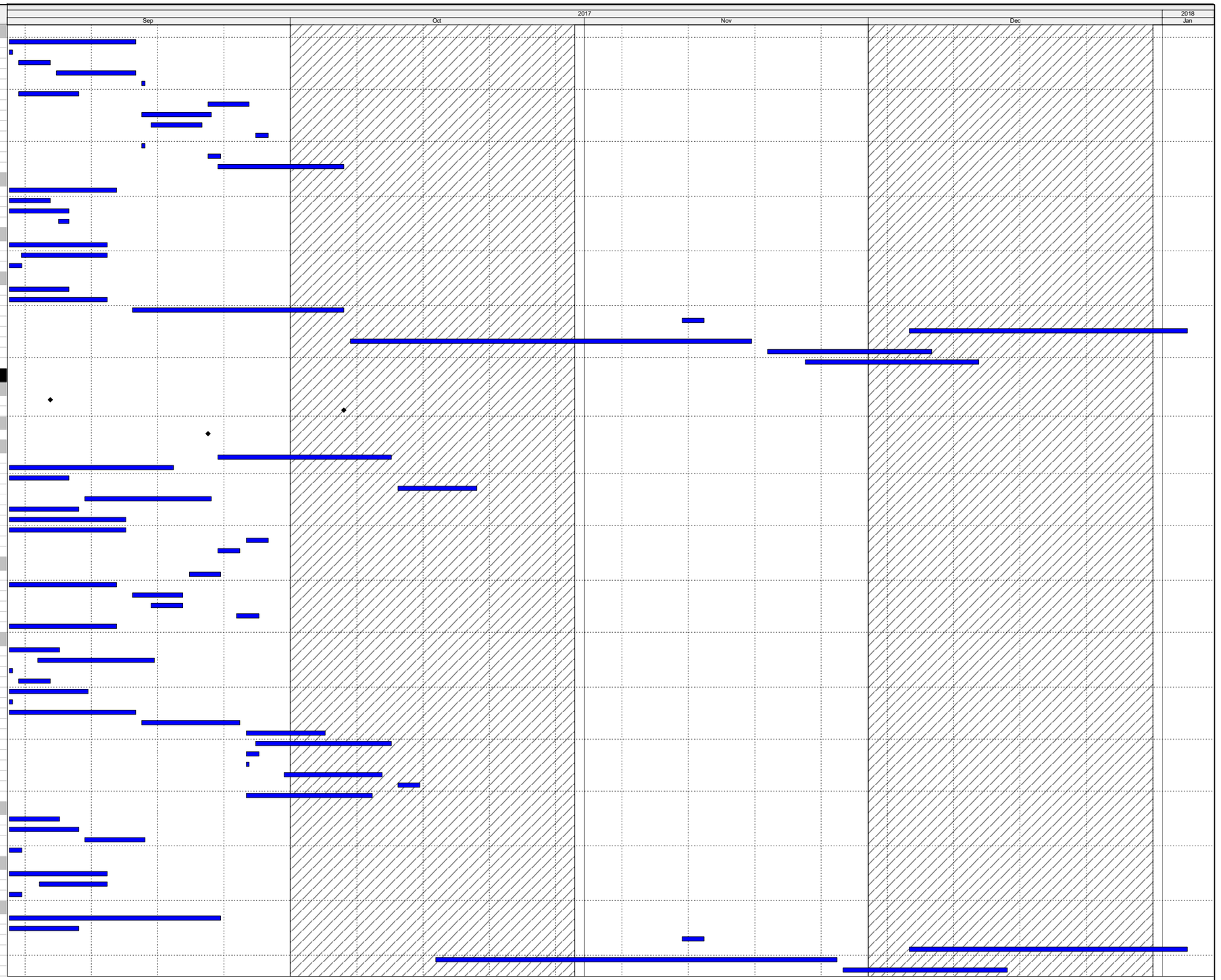
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
Staff Toilet (2 x Male, 2 x Female, 1 x Disabled)	
D1640	(MFD SWC) - Wall Furring and GMS Subframe
D1650	(MFD SWC) - MEP Installation of consealed services
D1660	(MFD SWC) - Cement Sheet (Wall Panel)
D1670	(MFD SWC) - Wall Stone
D1680	(MFD SWC) - Wall - Tile grout
D1690	(MFD SWC) - Ceiling - hangers (283m) @15/d
D1700	(MFD SWC) - Floor - Tile (286m²) @100/d
D1710	(MFD SWC) - Furniture/Joinary
D1720	(MFD SWC) - Ceiling - false ceiling (283m²) @75/d
D1730	(MFD SWC) - Wall -Skirting
D1740	(MFD SWC) - Alum. Wall panel
D1760	(MFD SWC) - Door - Perm. Door & Ironmongary (5 No) @8/d
D1770	(MFD SWC) - Toilet Cubicle
Staircases	
D1930	(MFD Stair) - Wall - paint
D1950	(MFD Stair) - MEP - Degree 2
D1960	(MFD Stair) - Nosing Tile and Install Aluminium Extrusion
D1970	(MFD Stair) - MEP - Degree 3
MEP Install	
D3180	MFD - MEP small power + lighting wiring and AFA wiring
D3210	MFD - MEP - final fix at Ceiling/walls
D3230	MFD - MEP - Install final fittings Toilets
Localised T&C of MF Zone D	
D1750	(MFD SWC) - MEP Install Final fittings/cable laying
D3260	MFD - Stage 1 MEP T&C critical rooms and AHU
D3290	MFD - Stage 2 MEP T&C for final FSD inspection
D3291	MFD - PCB - FSD Inspection 3: Row 3 cabins (2nos) all floors
D3300	MFD - FSD Final Inspection (MF Zone D)
D3310	MFD - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
D3320	MFD - Stage 4 MEP T&C : SCADA fine tuning
D3325	MFD - Toilets and PD risers complete : Toilets Commissioning
Mezz Floor - Zone E (Middle)	
Critical Dates	
A13660	MF Zone E - Target for BOH Fire Services Inspection
A23370	MF Zone E - Target to complete all works to Degree 3
Critical ELV Rooms	
A14040	EU - Complete Wet Trades FM200 Room (04 E 003)
Offices	
E1540	(MFE Office) - Floor - Raised Floor support frame (637m²) @45m/d
E1550	(MFE Office) - Ceiling Hangers (838m) @15/d
E1560	(MFE Office) - Door - Perm Door & Ironmongary (39 No) @8/d
E1570	(MFE Office) - Floor Raised Floor Final (637m²) @100/d
E1580	(MFE Office) - Ceiling - Al false ceiling (838m²) @75m/d
E1890	(MFE Office) - MEP high level works complete ready for ceiling grid
E1900	(MFE Office) - MEP - Final Fix at Ceiling/walls
E1900a	(MFE Office) - MEP Final Fix FS Related items
E8240	(MFE Office) - Floor Tiling (210m²) @100/d
E8250	(MFE Office) - Epoxy Floor Coating (34.5m²)@100/d
Lobbys and Corridors	
E1830	(MFE Lob) - Floor - Tile (264m²) @100/d
E1840	(MFE Lob) - MEP - Cable laying/high M detectors
E1850	(MFE Lob) - Ceiling - FRR false ceiling (264m²) @75m/d
E1860	(MFE Lob) - Ceiling - Air Grill
E1870	(MFE Lob) - Wall -Skirting
E1880	(MFE Lob) - MEP - Final fix at ceiling/walls
Staff Toilet (3 x Male, 3 x Female, 1 x Disabled, 2 x Male Showers, 2 x Female Sho	
E1620	(MFE SWC) - Wall - Plaster
E1640	(MFE SWC) - Wall Furring and GMS Subframe
E1650	(MFE SWC) - MEP Installation of consealed services
E1660	(MFE SWC) - Cement Sheet (Wall Panel)
E1670	(MFE SWC) - Wall Stone
E1680	(MFE SWC) - Wall - Tile grout
E1690	(MFE SWC) - Ceiling - hangers (697m) @15/d
E1700	(MFE SWC) - Floor - Tile (702m²) @100/d
E1710	(MFE SWC) - Furniture/Joinary
E1720	(MFE SWC) - Ceiling - false ceiling (697m²) @75/d
E1730	(MFE SWC) - Wall -Skirting
E1740	(MFE SWC) - Alum. Wall panel
E1750	(MFE SWC) - MEP Install Final fittings/cable laying
E1760	(MFE SWC) - Door - Perm. Door & Ironmongary (11 No) @8/d
E1770	(MFE SWC) - Toilet Cubicle
Staircases	
E1930	(MFE Stair) - Wall - paint
E1950	(MFE Stair) - MEP - Degree 2
E1960	(MFE Stair) - Nosing Tile and Install Aluminium Extrusion
E1970	(MFE Stair) - MEP - Degree 3
MEP Install	
E4180	MFE - MEP small power + lighting wiring and AFA wiring
E4210	MFE - MEP - final fix at Ceiling/walls
E4230	MFE - MEP - Install final fittings Toilets
Localised T&C of MF Zone E	
E4260	MFE - Stage 1 MEP T&C critical rooms and AHU
E4290	MFE - Stage 2 MEP T&C for final FSD inspection
E4291	MFE - PCB - FSD Inspection 3: Row 3 cabins (2nos) all floors
E4300	MFE - FSD Final Inspection (MF Zone E)
E4310	MFE - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
E4320	MFE - Stage 4 MEP T&C : SCADA fine tuning



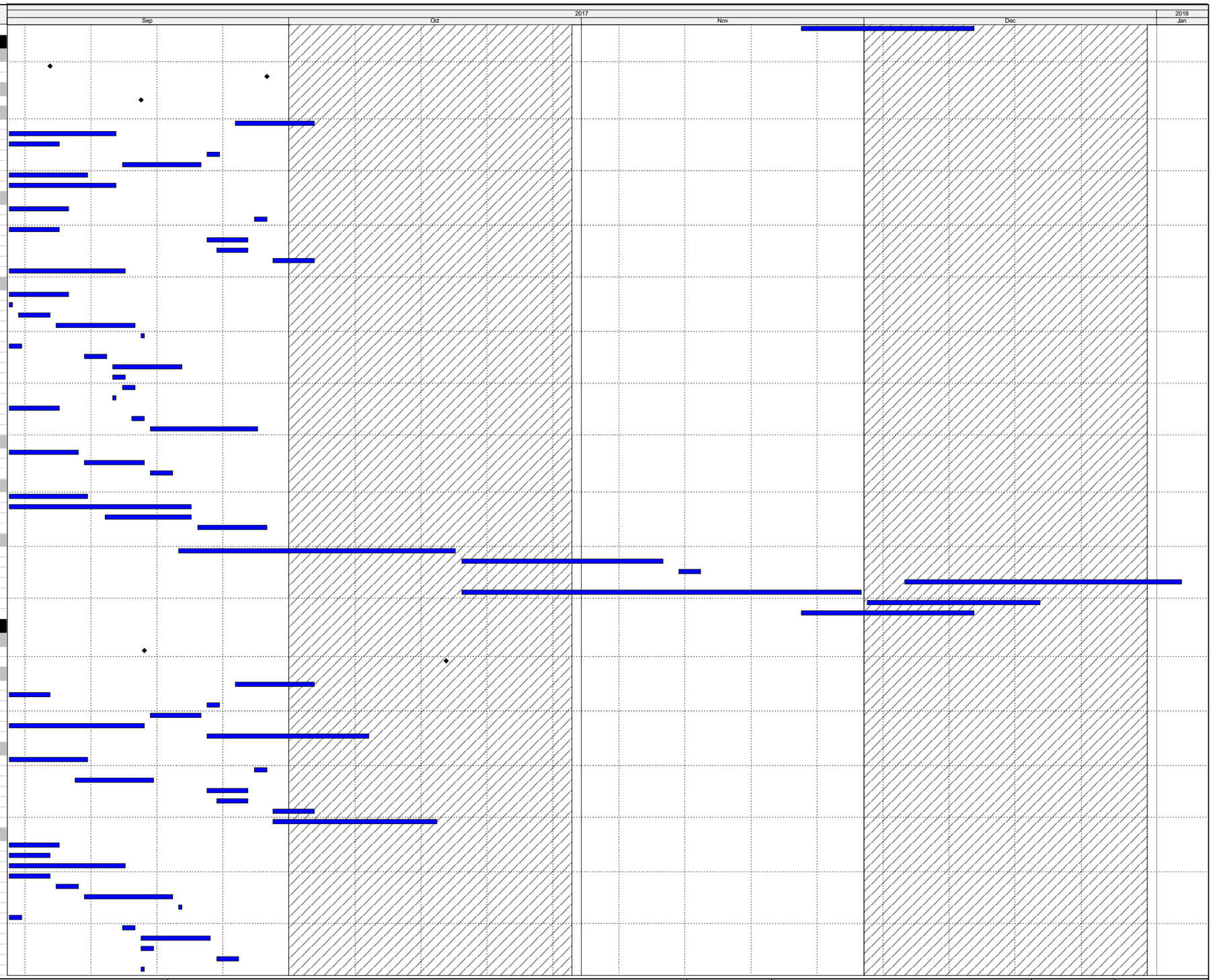
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
E4325	MFE - Toilets and PD risers complete : Toilets Commissioning
Mezz Floor - Zone F (Middle)	
Critical Dates	
A13670	MF Zone F - Target for BOH Fire Services Inspection
A23380	MF Zone F - Target to complete all works to Degree 3
Critical ELV Rooms	
A14070	C - Complete Wet Trades Meeting Room (04 F 015)
Offices	
F1540	(MFF Office) - Floor - Tiling (577m²) @100/d
F1550	(MFF Office) - Ceiling Hangers (505m) @15/d
F1560	(MFF Office) - Door - Perm Door & Ironmongary (28 No) @8/d
F1570	(MFF Office) - Epoxy Floor Coating (35.5m²)@100/d
F1580	(MFF Office) - Ceiling - Al false ceiling (505m²) @75m/d
F1890	(MFF Office) - MEP high level works complete ready for ceiling grid
F1900	(MFF Office) - MEP Final Fix at Ceiling/walls
Lobbys and Corridors	
F1810	(MFF Lob) - MEP - Main ducts and trunking
F1830	(MFF Lob) - Floor - Tile (168.2m²) @100/d
F1840	(MFF Lob) - MEP - Cable laying/high M detectors
F1850	(MFF Lob) - Ceiling - FRR false ceiling (168m²) @75m/d
F1860	(MFF Lob) - Ceiling - Air Grill
F1870	(MFF Lob) - Wall -Skirting
F1880	(MFF Lob) - MEP - Final fix at ceiling/walls
Staff Toilet (1 x Male, 1 x Female, 1 x Disabled)	
F1640	(MFF SWC) - Wall Furring and GMS Subframe
F1650	(MFF SWC) - MEP Installation of consealed services
F1660	(MFF SWC) - Cement Sheet (Wall Panel)
F1670	(MFF SWC) - Wall Stone
F1680	(MFF SWC) - Wall - Tile grout
F1690	(MFF SWC) - Ceiling - hangers (36.5m) @15/d
F1700	(MFF SWC) - Floor - Tile (37.34m²) @100/d
F1710	(MFF SWC) - Furniture/Joinary
F1720	(MFF SWC) - Ceiling - false ceiling (35.5m²) @75/d
F1730	(MFF SWC) - Wall -Skirting
F1740	(MFF SWC) - Alum. Wall panel
F1750	(MFF SWC) - MEP Install Final fittings/cable laying
F1760	(MFF SWC) - Door - Perm. Door & Ironmongary (3 No) @8/d
F1770	(MFF SWC) - Toilet Cubicle
Staircases	
F1950	(MFF Stair) - MEP - Degree 2
F1960	(MFF Stair) - Nosing Tile and Install Aluminium Extrusion
F1970	(MFF Stair) - MEP - Degree 3
MEP Install	
F4160	MFF - MEP First fix duct and trunking
F4180	MFF - MEP small power + lighting wiring and AFA wiring
F4210	MFF - MEP - final fix at Ceiling/walls
F4230	MFF - MEP - Install final fittings Toilets
Localised T&C of MF Zone F	
F4260	MFF - Stage 1 MEP T&C critical rooms and AHU
F4290	MFF - Stage 2 MEP T&C for final FSD inspection
F4291	MFF - PCB - FSD Inspection 3: Row 3 cabins (2nos) all floors
F4300	MFF - FSD Final Inspection (MF Zone F)
F4310	MFF - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
F4320	MFF - Stage 4 MEP T&C : SCADA fine tuning
F4325	MFF - Toilets and PD risers complete : Toilets Commissioning
Mezz Floor - Zone C (North)	
Critical Dates	
A13680	MF Zone C - Target for BOH Fire Services Inspection
A23390	MF Zone C - Target to complete all works to Degree 3
Offices	
C1540	(MFC Office) - Floor - Tiling (538m²) @100/d
C1560	(MFC Office) - Door - Perm Door & Ironmongary (22 No) @8/d
C1570	(MFC Office) - Epoxy Floor Coating (31.5m²)@100/d
C1580	(MFC Office) - Ceiling - Al false ceiling (302m²) @75m/d
C1890	(MFC Office) - MEP high level works complete ready for ceiling grid
C1900	(MFC Office) - MEP Final Fix at Ceiling/walls
Lobbys and Corridors	
C1810	(MFC Lob) - MEP - Main ducts and trunking
C1830	(MFC Lob) - Floor - Tile (172m²) @100/d
C1840	(MFC Lob) - MEP - Cable laying/high M detectors
C1850	(MFC Lob) - Ceiling - FRR false ceiling (172m²) @75m/d
C1860	(MFC Lob) - Ceiling - Air Grill
C1870	(MFC Lob) - Wall -Skirting
C1880	(MFC Lob) - MEP - Final fix at ceiling/walls
Staff Toilet/Changing Rooms (2 x Male, 2 x Female, 1 x Disabled, 2 shower rooms	
C1620	(MFC SWC) - Wall - Plaster
C1630	(MFC SWC) - MEP high level works
C1640	(MFC SWC) - Wall Furring and GMS Subframe
C1650	(MFC SWC) - MEP Installation of consealed services
C1660	(MFC SWC) - Cement Sheet (Wall Panel)
C1670	(MFC SWC) - Wall Stone
C1680	(MFC SWC) - Wall - Tile grout
C1690	(MFC SWC) - Ceiling - hangers (40.5m) @15/d
C1700	(MFC SWC) - Floor - Tile (43.2m²) @100/d
C1710	(MFC SWC) - Furniture/Joinary
C1720	(MFC SWC) - Ceiling - false ceiling (40.5m²) @75/d
C1730	(MFC SWC) - Wall -Skirting
C1740	(MFC SWC) - Alum. Wall panel



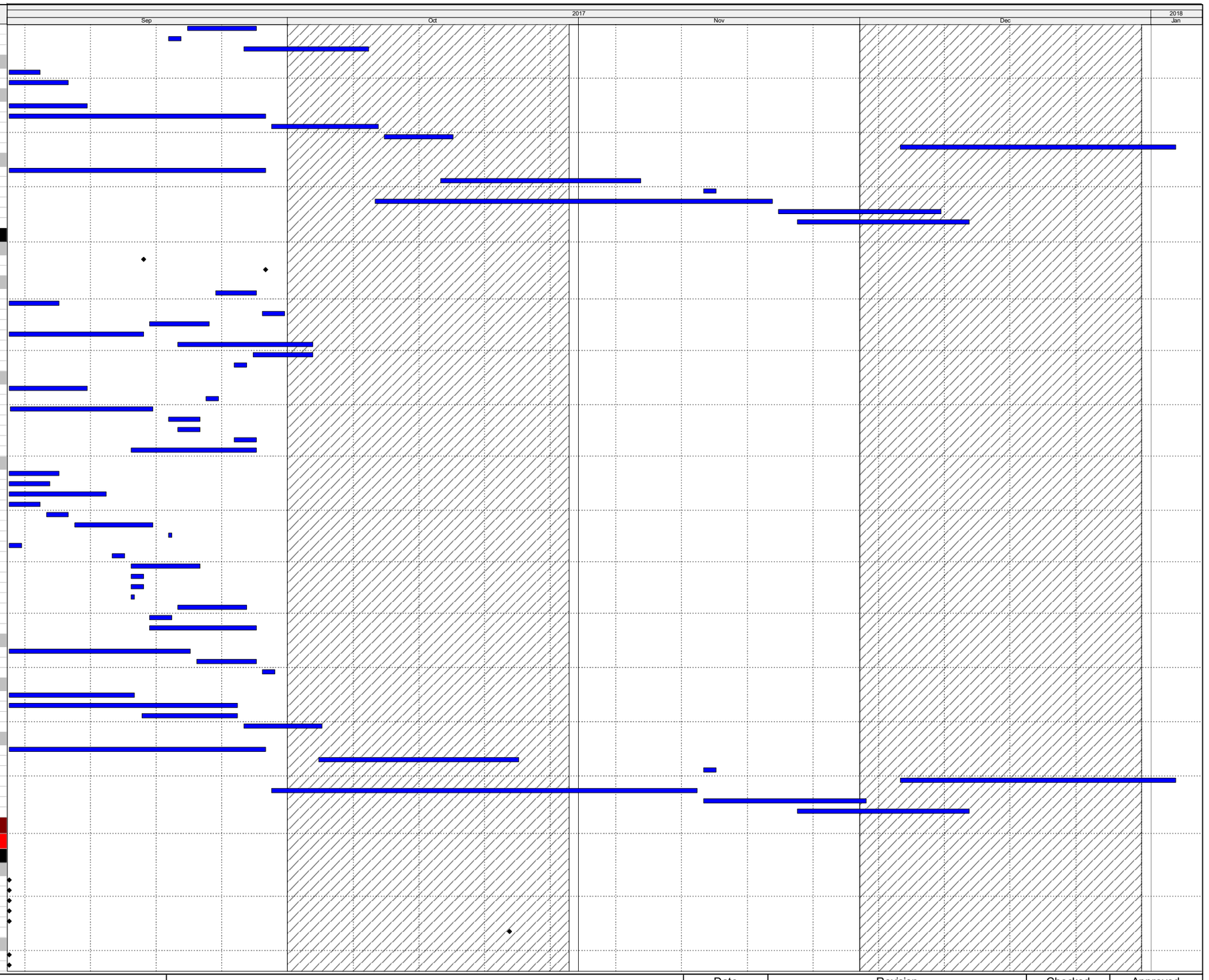
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
C1750	(MFC SWC) - MEP Install Final fittings/cable laying
C1760	(MFC SWC) - Door - Perm. Door & Ironmongary (7 No) @8/d
C1770	(MFC SWC) - Toilet Cubicle
Staircases	
C1910	(MFC Stair) - Floor - Screed @60m/d
C1960	(MFC Stair) - Nosing Tile and Install Aluminium Extrusion
MEP Install	
C4360	MFC - MEP First fix duct and trunking
C4380	MFC - MEP small power + lighting wiring and AFA wiring
C4410	MFC - MEP - final fix at Ceiling/walls
C4430	MFC - MEP - Install final fittings Toilets
C4500	MFC - FSD Final Inspection (MF Zone C)
Localised T&C of MF Zone C	
C4460	MFC - Stage 1 MEP T&C critical rooms and AHU
C4490	MFC - Stage 2 MEP T&C for final FSD inspection
C4491	MFC - PCB - FSD Inspection 4: Row 4 cabins (2nos) all floors
C4510	MFC - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
C4520	MFC - Stage 4 MEP T&C : SCADA fine tuning
C8291	MFC - Toilets and PD risers complete : Toilets Commissioning
Mezz Floor - Zone A (North)	
Critical Dates	
A13630	MF Zone A - Target for BOH Fire Services Inspection
A23400	MF Zone A - Target to complete all works to Degree 3
Offices	
A11540	(MFA Office) - Floor - Raised Floor support frame (103.2m²) @45m/d
A11560	(MFA Office) - Door - Perm Door & Ironmongary (32 No) @8/d
A11570	(MFA Office) - Floor Raised Floor Final (103.2m²) @100/d
A11580	(MFA Office) - Ceiling - Al false ceiling (365m²) @75m/d
A11890	(MFA Office) - MEP high level works complete ready for ceiling grid
A11900	(MFA Office) - MEP Final Fix at Ceiling/walls
A18190	(MFA Office) - Floor Tiling (327m²) @100/d
A18200	(MFA Office) - Epoxy Floor Coating (82.98m²)@100/d
Lobbys and Corridors	
A11810	(MFA Lob) - MEP - Main ducts and trunking
A11830	(MFA Lob) - Floor - Tile (195m²) @100/d
A11840	(MFA Lob) - MEP - Cable laying/high M detectors
A11850	(MFA Lob) - Ceiling - FRR false ceiling (195m²) @75m/d
A11860	(MFA Lob) - Ceiling - Air Grill
A11870	(MFA Lob) - Wall -Skirting
A11880	(MFA Lob) - MEP - Final fix at ceiling/walls
Staff Toilet (2 x Male, 2 x Female, 1 x Disabled, 1 x ImmD Directors)	
A11620	(MFA SWC) - Wall - Plaster
A11630	(MFA SWC) - MEP high level works
A11640	(MFA SWC) - Wall Furring and GMS Subframe
A11650	(MFA SWC) - MEP Installation of consealed services
A11660	(MFA SWC) - Cement Sheet (Wall Panel)
A11670	(MFA SWC) - Wall Stone
A11680	(MFA SWC) - Wall - Tile grout
A11690	(MFA SWC) - Ceiling - hangers (49.2m) @15/d
A11700	(MFA SWC) - Floor - Tile (51.6m²) @100/d
A11710	(MFA SWC) - Furniture/Joinary
A11720	(MFA SWC) - Ceiling - false ceiling (49.2m²) @75/d
A11730	(MFA SWC) - Wall -Skirting
A11740	(MFA SWC) - Alum. Wall panel
A11750	(MFA SWC) - MEP Install Final fittings/cable laying
A11760	(MFA SWC) - Door - Perm. Door & Ironmongary (6 No) @8/d
A11770	(MFA SWC) - Toilet Cubicle
Staircases	
A11950	(MFA Stair) - MEP - Degree 2
A11960	(MFA Stair) - Nosing Tile and Install Aluminium Extrusion
A11970	(MFA Stair) - MEP - Degree 3
MEP Install	
A13040	MFA - MEP First fix duct and trunking
A13060	MFA - MEP small power + lighting wiring and AFA wiring
A13090	MFA - MEP - final fix at Ceiling/walls
A13110	MFA - MEP - Install final fittings Toilets
Localised T&C of MF Zone A	
A13140	MFA - Stage 1 MEP T&C critical rooms and AHU
A13170	MFA - Stage 2 MEP T&C for FSD inspection
A13171	MFA - PCB - FSD Inspection 4: Row 4 cabins (2nos) all floors
A13180	MFA - FSD Final Inspection (MF Zone A)
A13190	MFA - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
A13200	MFA - Stage 4 MEP T&C : SCADA fine tuning
A8290	MFA - Toilets and PD risers complete : Toilets Commissioning
First Floor	
Back of House	
First Floor - Zone J (South)	
Critical Dates	
A13690	FF Zone J - Target for BOH Fire Services Inspection
A14210	EU - Complete Wet Trades COMMUNICATION EQUIPMENT ROOM (05 J 035)
A14220	EU - Complete Wet Trades COMPUTER EQUIPMENT ROOM (05 J 030)
A14230	EU - Complete Wet Trades CENTRAL APPARATUS ROOM (05 J 029)
A14240	EU - Complete Wet Trades CSRR (05 J 001)
A23410	FF Zone J - Target to complete all works to Degree 3
Critical ELV Rooms	
A14180	C - Complete Wet Trades Shared Command Hall (MOM) (05 J 016)
A14190	C - Complete Wet Trades STORE ROOM (05 J 004)



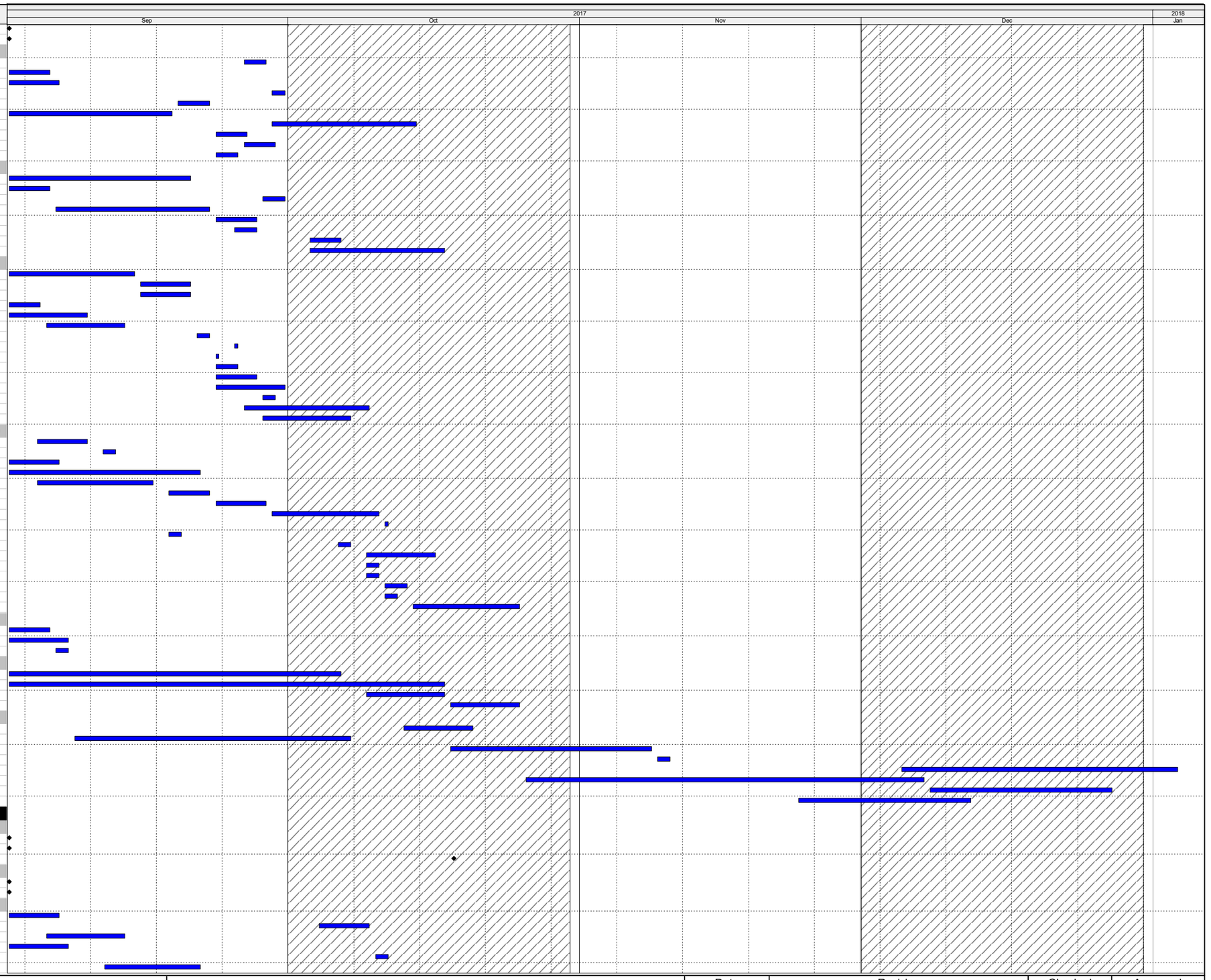
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
A14200	C - Complete Wet Trades Conference Room (Share 1.1) (05 J 021)
A14250	EU - Complete Wet Trades FM200 (05 J 040)
Offices	
J2040	(FFJ Office) - Floor - Raised Floor support frame (67m²) @45m/d
J2050	(FFJ Office) - Ceiling Hangers (180m) @15/d
J2060	(FFJ Office) - Door - Perm Door & Ironmongary (30 No) @8/d
J2070	(FFJ Office) - Floor Raised Floor Final (67m²) @100/d
J2080	(FFJ Office) - Ceiling - Al false ceiling (180m²) @75m/d
J2390	(FFJ Office) - MEP high level works complete ready for ceiling grid
J2400	(FFJ Office) - MEP Final Fix at Ceiling/walls
J2400a	(FFJ Office) - MEP Final Fix FS Related items
J9070	(FFJ Office) - Floor Tiling (284m²) @100/d
J9080	(FFJ Office) - Epoxy Floor Coating (52m²)@100/d
Lobbys and Corridors	
J2310	(FFJ Lob) - MEP - Main ducts and trunking
J2320	(FFJ Lob) - Ceiling - hangers (169m) @15/d
J2330	(FFJ Lob) - Floor - Tile (183m²) @100/d
J2340	(FFJ Lob) - MEP - Cable laying/high lvl detectors
J2350	(FFJ Lob) - Ceiling - FRR false ceiling (169m²) @75m/d
J2360	(FFJ Lob) - Ceiling - Air Grill
J2370	(FFJ Lob) - Wall -Skirting
J2380	(FFJ Lob) - MEP - Final fix at ceiling/walls
Public Toilets (1 x Male, 1 x Female, 2 x Disabled)	
J6040	(FFJ PWC) - Wall Furring and GMS Subframe
J6050	(FFJ PWC) - Ceiling - hangers (208m) @15/d
J6060	(FFJ PWC) - MEP Installation of consealed services
J6070	(FFJ PWC) - Cement Sheet (Wall Panel)
J6080	(FFJ PWC) - MEP high level works
J6090	(FFJ PWC) - Wall Stone
J6100	(FFJ PWC) - Floor - Tile (45m²) @100/d
J6110	(FFJ PWC) - Wall - Tile grout
J6120	(FFJ PWC) - Alum. Wall panel
J6130	(FFJ PWC) - Wall -Skirting
J6140	(FFJ PWC) - Ceiling - false ceiling (208m²) @75/d
J6150	(FFJ PWC) - Furniture/Joinary
J6160	(FFJ PWC) - Door - Perm. Door & Ironmongary (4 No) @8/d
J6170	(FFJ PWC) - Toilet Cubicle
J6180	(FFJ PWC) - MEP Install Final fittings/cable laying
Staff Toilet (2 x Male, 2 x Female, 2 x Unisex, 1 x Male Abultion, 1 x Female Abultio	
J2090	(FFJ SWC) - Waterproofing
J2100	(FFJ SWC) - Floor -Screed (42.2m²) @120m/d
J2120	(FFJ SWC) - Wall - Plaster
J2130	(FFJ SWC) - MEP high level works
J2140	(FFJ SWC) - Wall Furring and GMS Subframe
J2150	(FFJ SWC) - MEP Installation of consealed services
J2160	(FFJ SWC) - Cement Sheet (Wall Panel)
J2170	(FFJ SWC) - Wall Stone
J2180	(FFJ SWC) - Wall - Tile grout
J2190	(FFJ SWC) - Ceiling - hangers (37.6m) @15/d
J2200	(FFJ SWC) - Floor - Tile (42m²) @100/d
J2210	(FFJ SWC) - Furniture/Joinary
J2220	(FFJ SWC) - Ceiling - false ceiling (37.6m²) @75/d
J2230	(FFJ SWC) - Wall -Skirting
J2240	(FFJ SWC) - Alum. Wall panel
J2260	(FFJ SWC) - Door - Perm. Door & Ironmongary (8 No) @8/d
J2270	(FFJ SWC) - Toilet Cubicle
Staircases	
J2450	(FFJ Stair) - MEP - Degree 2
J2460	(FFJ Stair) - Nosing Tile and Install Aluminium Extrusion
J2470	(FFJ Stair) - MEP - Degree 3
MEP Install	
J3160	FFJ - MEP First fix duct and trunking
J3180	FFJ - MEP small power + lighting wiring and AFA wiring
J3210	FFJ - MEP final fix at Ceiling/walls
J3230	FFJ - MEP - Install final fittings Toilets
Localised T&C of 1F Zone J	
J2250	(FFJ SWC) - MEP Install Final fittings/cable laying
J3260	FFJ - Stage 1 MEP T&C critical rooms and AHU
J3290	FFJ - Stage 2 MEP T&C for FSD inspection
J3291	FFJ - PCB - FSD Inspection 2: Row 2 cabins (2nos) all floors
J3300	FFJ - FSD Final Inspection (FF Zone J)
J3310	FFJ - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
J3320	FFJ - Stage 4 MEP T&C : SCADA fine tuning
J3325	FFJ - Toilets and PD risers complete : Toilets Commissioning
First Floor - Zone G (South)	
Critical Dates	
A13710	FF Zone G - Target for BOH Fire Services Inspection
A14290	EU - Complete Wet Trades CSRR (05 G 004)
A23420	FF Zone G - Target to complete all works to Degree 3
Critical ELV Rooms	
A14280	C - Complete Wet Trades Briefing Room (05 G 016)
A14300	EU - Complete Wet Trades FM200 (05 G 005)
Offices	
G4130	(FFG Office) - Wall - skim coat/paint
G4230	(FFG Office) - Floor - Raised Floor support frame (109.29m²) @45m/d
G4280	(FFG Office) - Ceiling Hangers (418m) @15/d
G4360	(FFG Office) - Door - Perm Door & Ironmongary (30 No) @8/d
G4370	(FFG Office) - Floor Raised Floor Final (109.29m²) @100/d
G4430	(FFG Office) - MEP high level works complete ready for ceiling grid



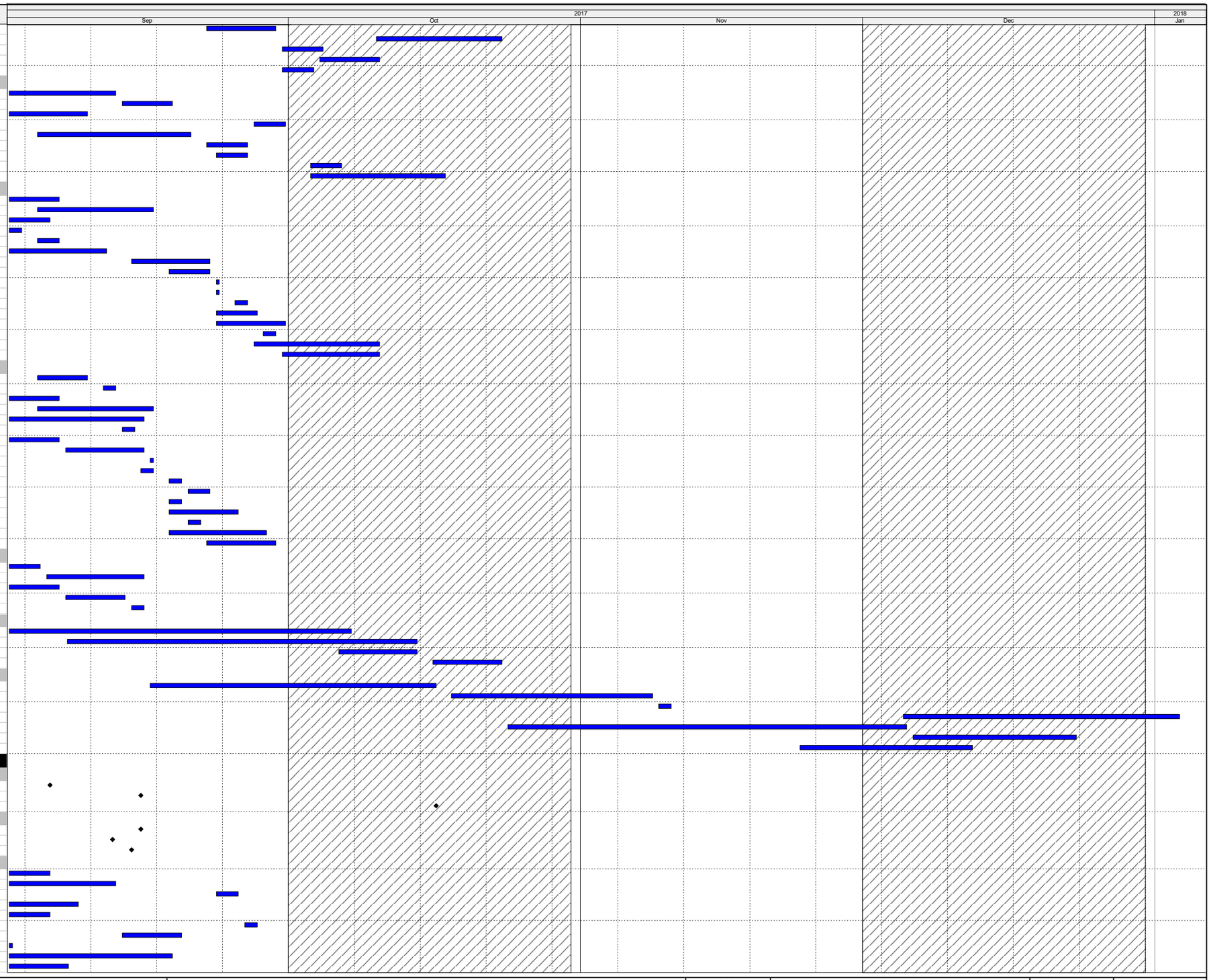
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
G4450	(FFG Office) - Ceiling - Al false ceiling (418m²) @75m/d
G4470	(FFG Office) - MEP Final Fix at Ceiling/walls
G4470a	(FFG Office) - MEP Final Fix FS Related items
G8040	(FFG Office) - Floor Tiling (365m²) @100/d
G8050	(FFG Office) - Epoxy Floor Coating (47.5m²)@100/d
Lobbys and Corridors	
G4080	(FFG Lob) - Wall - skim coat/paint
G4120	(FFG Lob) - Ceiling - hangers (188m) @15/d
G4160	(FFG Lob) - MEP - Main ducts and trunking
G4200	(FFG Lob) - Floor - Tile (202m²) @100/d
G4220	(FFG Lob) - MEP - Cable laying/high M detectors
G4310	(FFG Lob) - Ceiling - FRR false ceiling (188m²) @75m/d
G4320	(FFG Lob) - Ceiling - Air Grill
G4340	(FFG Lob) - Wall -Skirting
G4410	(FFG Lob) - MEP - Final fix at ceiling/walls
Public Toilets (1 x Male, 1 x Female, 1 x Disabled)	
G6010	(FFG PWC) - Wall - Plaster
G6040	(FFG PWC) - Wall Furring and GMS Subframe
G6050	(FFG PWC) - Ceiling - hangers (162m) @15/d
G6060	(FFG PWC) - MEP Installation of consealed services
G6070	(FFG PWC) - Cement Sheet (Wall Panel)
G6080	(FFG PWC) - MEP high level works
G6090	(FFG PWC) - Wall Stone
G6100	(FFG PWC) - Floor - Tile (397m²) @100/d
G6110	(FFG PWC) - Wall - Tile grout
G6120	(FFG PWC) - Alum. Wall panel
G6130	(FFG PWC) - Wall -Skirting
G6140	(FFG PWC) - Ceiling - false ceiling (162m²) @75/d
G6150	(FFG PWC) - Furniture/Joinary
G6160	(FFG PWC) - Door - Perm. Door & Ironmongary (3 No) @8/d
G6170	(FFG PWC) - Toilet Cubicle
G6180	(FFG PWC) - MEP Install Final fittings/cable laying
Staff Toilet (1 x Male, 1 x Female, 1 x Disabled)	
G4020	(FFG SWC) - Waterproofing
G4050	(FFG SWC) -Floor -Screed (21.58m²) @120m/d
G4090	(FFG SWC) -Wall - Plaster
G4140	(FFG SWC) -Wall Furring and GMS Subframe
G4180	(FFG SWC) -MEP high level works
G4190	(FFG SWC) -Ceiling - hangers (19.6m) @15/d
G4210	(FFG SWC) -Cement Sheet (Wall Panel)
G4250	(FFG SWC) -Wall Stone
G4260	(FFG SWC) -Wall - Tile grout
G4300	(FFG SWC) -Floor - Tile (22m²) @100/d
G4330	(FFG SWC) -Wall -Skirting
G4350	(FFG SWC) -Alum. Wall panel
G4380	(FFG SWC) -Ceiling - false ceiling (19.67m²) @75/d
G4390	(FFG SWC) -Furniture/Joinary
G4400	(FFG SWC) -Door - Perm. Door & Ironmongary (3 No) @8/d
G4420	(FFG SWC) -Toilet Cubicle
G4440	(FFG SWC) -MEP Install Final fittings/cable laying
Staircases	
G4070	(FFG Stair) - MEP - Degree 1
G4110	(FFG Stair) - Wall - paint
G4240	(FFG Stair) - MEP - Degree 2
G4270	(FFG Stair) - Nosing Tile and Install Aluminium Extrusion
G4290	(FFG Stair) - MEP - Degree 3
MEP Install	
G3070	FFG - MEP First fix duct and trunking
G3090	FFG - MEP small power + lighting wiring and AFA wiring
G3120	FFG - MEP - final fix at Ceiling/walls
G3140	FFG - MEP - Install final fittings Toilets
Localised T&C of 1F Zone G	
G3170	FFG - Stage 1 MEP T&C critical rooms and AHU
G3200	FFG - Stage 2 MEP T&C for FSD inspection
G3201	FFG - PCB - FSD Inspection 2: Row 2 cabins (2nos) all floors
G3210	FFG - FSD Final Inspection (FF Zone G)
G3220	FFG - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
G3230	FFG - Stage 4 MEP T&C : SCADA fine tuning
G3235	FFG - Toilets and PD risers complete : Toilets Commissioning
First Floor - Zone D (Middle)	
Critical Dates	
A13720	FF Zone D - Target for BOH Fire Services Inspection
A14340	EU - Complete Wet Trades CSRR (05 D 050)
A23430	FF Zone D - Target to complete all works to Degree 3
Critical ELV Rooms	
A14310	MC - Complete Wet Trades ELV Room (05 D 014)
A14320	MC - Complete Wet Trades CCTV CONTROL ROOM (DEPARTURE) (05 D 024)
A14330	C - Complete Wet Trades CUSTOM EXAMINATION CUBICLE (05 D 027)
Offices	
D2010	(FFD Office) - Door - Subframe (15 No) @8/d
D2030	(FFD Office) - Wall - skim coat/paint
D2040	(FFD Office) - Floor - Raised Floor support frame (24m²) @45m/d
D2050	(FFD Office) - Ceiling Hangers (319m) @15/d
D2060	(FFD Office) - Door - Perm Door & Ironmongary (15 No) @8/d
D2070	(FFD Office) - Floor Raised Floor Final (24m²) @100/d
D2080	(FFD Office) - Ceiling - Al false ceiling (319m²) @75m/d
D2080a	(FFD Office) - MEP Final Fix FS Related items
D2390	(FFD Office) - MEP high level works complete ready for ceiling grid
D2400	(FFD Office) - MEP Final Fix at Ceiling/walls



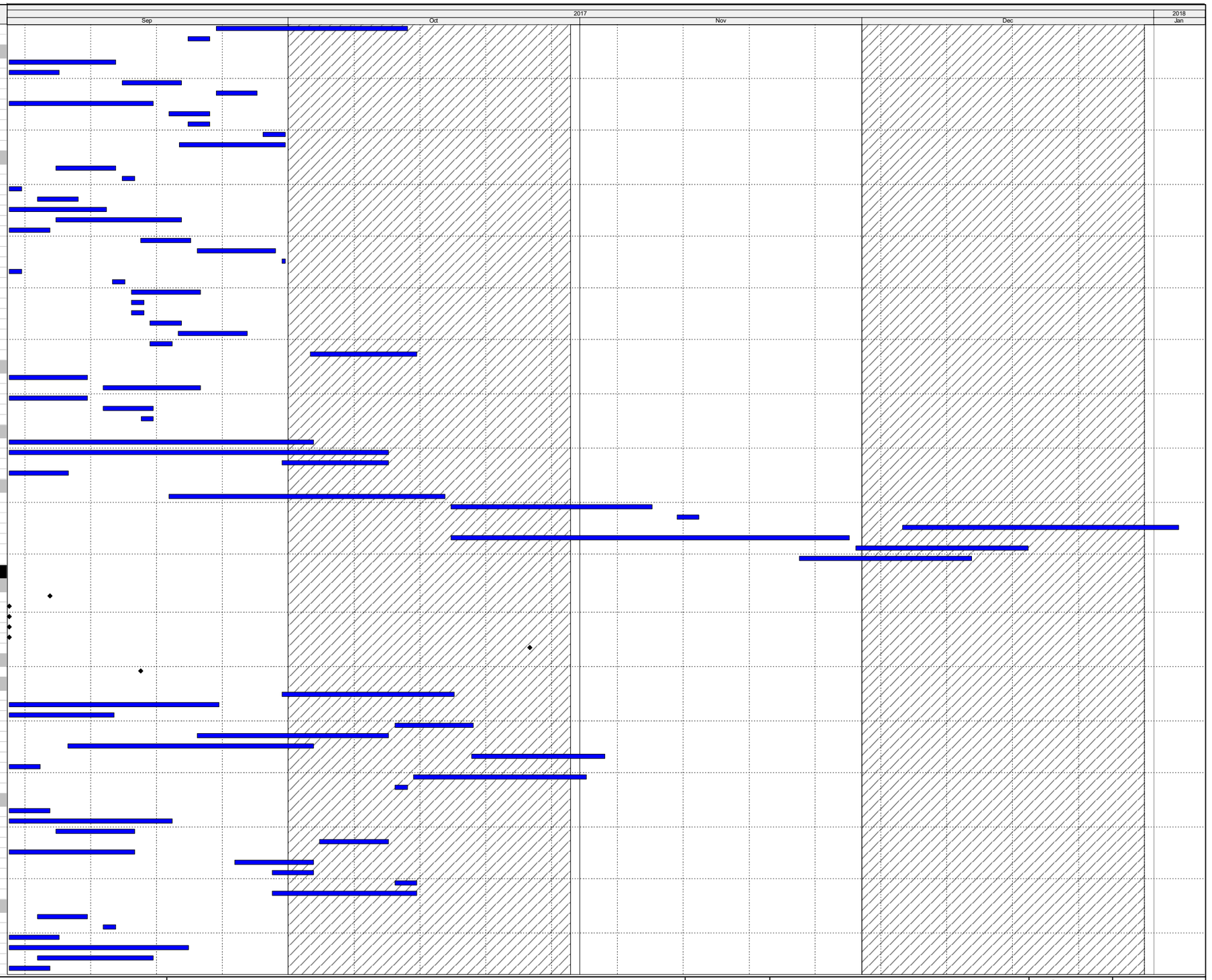
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
D8090	(FFD Office) - Floor Tiling (1489m²) @100/d
D8100	(FFD Office) - Epoxy Floor Coating (102m²)@100/d
Lobbys and Corridors	
D2300	(FFD Lob) - Wall - skim coat/paint
D2310	(FFD Lob) - MEP - Main ducts and trunking
D2320	(FFD Lob) - Ceiling - Hangers (257m) @15/d
D2330	(FFD Lob) - Floor - Tile (258m²) @100/d
D2340	(FFD Lob) - MEP - Cable laying/high M detectors
D2350	(FFD Lob) - Ceiling - FRR false ceiling (257m²) @75m/d
D2360	(FFD Lob) - Ceiling - Air Grill
D2370	(FFD Lob) - Wall -Skirting
D2380	(FFD Lob) - MEP - Final fix at ceiling/walls
Staff Toilet (1 x Male, 1 x Female, 1 x Disabled)	
D2090	(FFD SWC) -Waterproofing
D2100	(FFD SWC) -Floor -Screed (37.8m²) @120m/d
D2110	(FFD SWC) -Door - Subframe (3 No) @8/d
D2120	(FFD SWC) -Wall - Plaster
D2130	(FFD SWC) -MEP high level works
D2140	(FFD SWC) -Wall Furring and GMS Subframe
D2150	(FFD SWC) -MEP Installation of consealed services
D2160	(FFD SWC) -Cement Sheet (Wall Panel)
D2170	(FFD SWC) -Wall Stone
D2180	(FFD SWC) -Wall - Tile grout
D2190	(FFD SWC) -Ceiling - hangers (30.3m) @15/d
D2200	(FFD SWC) -Floor - Tile (37.8m²) @100/d
D2210	(FFD SWC) -Furniture/Joinary
D2220	(FFD SWC) -Ceiling - false ceiling (30.36m²) @75/d
D2230	(FFD SWC) -Wall -Skirting
D2240	(FFD SWC) -Alum. Wall panel
D2250	(FFD SWC) -MEP Install Final fittings/cable laying
D2260	(FFD SWC) -Door - Perm. Door & Ironmongary (3 No) @8/d
D2270	(FFD SWC) -Toilet Cubicle
Staircases	
D2420	(FFD Stair) - MEP - Degree 1
D2430	(FFD Stair) - Wall - paint
D2450	(FFD Stair) - MEP - Degree 2
D2460	(FFD Stair) - Nosing Tile and Install Aluminium Extrusion
D2470	(FFD Stair) - MEP - Degree 3
MEP Install	
D3360	FFD - MEP First fix duct and trunking
D3380	FFD - MEP small power + lighting wiring and AFA wiring
D3410	FFD - MEP - final fix at Ceiling/walls
D3430	FFD - MEP - Install final fittings Toilets
Localised T&C of 1F Zone D	
D3460	FFD - Stage 1 MEP T&C critical rooms and AHU
D3490	FFD - Stage 2 MEP T&C for final FSD inspection
D3491	FFD - PCB - FSD Inspection 3: Row 3 cabins (2nos) all floors
D3500	FFD - FSD Final Inspection (FF Zone D)
D3510	FFD - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
D3520	FFD - Stage 4 MEP T&C : SCADA fine tuning
D3525	FFD - Toilets and PD risers complete : Toilets Commissioning
First Floor - Zone E (Middle)	
Critical Dates	
A13730	FF Zone E - Target for BOH Fire Services Inspection
A14360	EU - Complete Wet Trades Main Server Room (05 E 025)
A14420	EU - Complete Wet Trades UPS Room For Server Room (05 E 024)
A22047	EU - Complete Wet Trades NER Room (05 E 044)
A22057	EU - Complete Wet Trades CCTV Control Room (05 E 033)
A23440	FF Zone E - Target to complete all works to Degree 3
Critical ELV Rooms	
A14370	C - Complete Wet Trades Meeting Room (05 E 055)
Offices	
E2040	(FFE Office) - Floor - Raised Floor support frame (635m²) @45m/d
E2050	(FFE Office) - Ceiling Hangers (1125m) @15/d
E2060	(FFE Office) - Door - Perm Door & Ironmongary (73 No) @8/d
E2070	(FFE Office) - Floor Raised Floor Final (635m²) @100/d
E2080	(FFE Office) - Ceiling - Al false ceiling (1125m²) @75m/d
E2390	(FFE Office) - MEP high level works complete ready for ceiling grid
E2400	(FFE Office) - MEP Final Fix at Ceiling/walls
E2400a	(FFE Office) - MEP Final Fix FS Related items
E8260	(FFE Office) - Floor Tiling (1342m²) @100/d
E8270	(FFE Office) - Epoxy Floor Coating (56m²)@100/d
Lobbys and Corridors	
E2290	(FFE Lob) - Floor Screeding (409m²) @120m/d
E2310	(FFE Lob) - MEP - Main ducts and trunking
E2320	(FFE Lob) - Ceiling - hangers (410m) @15/d
E2330	(FFE Lob) - Floor - Tile (410m²) @100/d
E2340	(FFE Lob) - MEP - Cable laying/high M detectors
E2350	(FFE Lob) - Ceiling - FRR false ceiling (410m²) @75m/d
E2360	(FFE Lob) - Ceiling - Air Grill
E2370	(FFE Lob) - Wall -Skirting
E2380	(FFE Lob) - MEP - Final fix at ceiling/walls
Staff Toilet (1 x Male, 1 x Female, 3 x Disabled)	
E2090	(FFE SWC) -Waterproofing
E2100	(FFE SWC) -Floor -Screed (59.7m²) @120m/d
E2120	(FFE SWC) -Wall - Plaster
E2130	(FFE SWC) -MEP high level works
E2140	(FFE SWC) -Wall Furring and GMS Subframe
E2150	(FFE SWC) -MEP Installation of consealed services



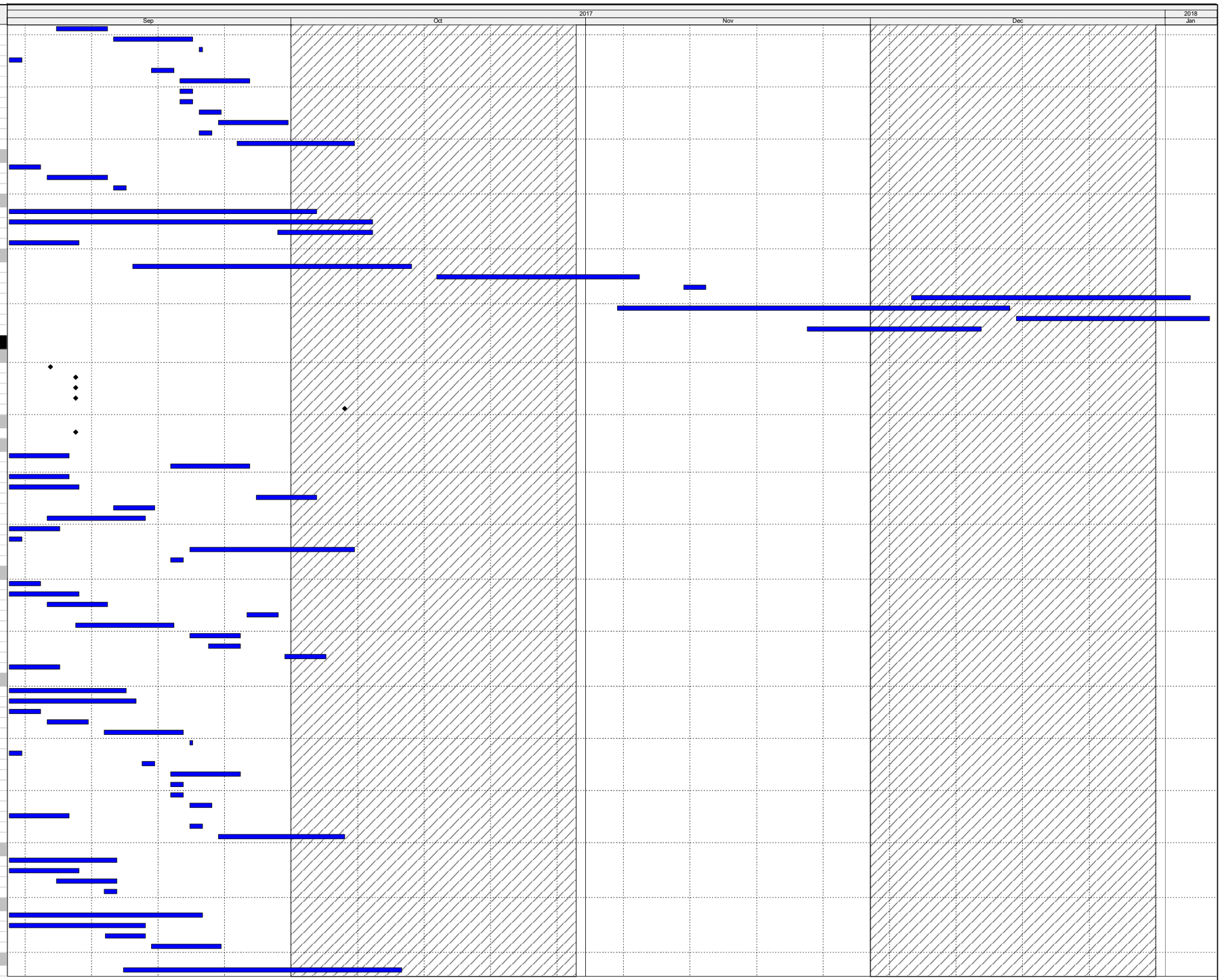
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
E2160	(FFE SWC) -Cement Sheet (Wall Panel)
E2170	(FFE SWC) -Wall Stone
E2180	(FFE SWC) -Wall - Tile grout
E2190	(FFE SWC) -Ceiling - hangers (42m) @15/d
E2200	(FFE SWC) -Floor - Tile (60m²) @100/d
E2210	(FFE SWC) -Furniture/Joinary
E2220	(FFE SWC) -Ceiling - false ceiling (42m²) @75/d
E2230	(FFE SWC) -Wall -Skirting
E2240	(FFE SWC) -Alum. Wall panel
E2250	(FFE SWC) -MEP Install Final fittings/cable laying
E2260	(FFE SWC) -Door - Perm. Door & Ironmongary (5 No) @8/d
E2270	(FFE SWC) -Toilet Cubicle
Staircases	
E2450	(FFE Stair) - MEP - Degree 2
E2460	(FFE Stair) - Nosing Tile and Install Aluminium Extrusion
E2470	(FFE Stair) - MEP - Degree 3
MEP Install	
E4360	FFE - MEP First fix duct and trunking
E4380	FFE - MEP small power + lighting wiring and AFA wiring
E4410	FFE - MEP - final fix at Ceiling/walls
E4430	FFE - MEP - Install final fittings Toilets
Localised T&C of 1F Zone E	
E4460	FFE - Stage 1 MEP T&C critical rooms and AHU
E4490	FFE - Stage 2 MEP T&C for final FSD inspection
E4491	FFE - PCB - FSD Inspection 3: Row 3 cabins (2nos) all floors
E4500	FFE - FSD Final Inspection (FF Zone E)
E4510	FFE - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
E4520	FFE - Stage 4 MEP T&C : SCADA fine tuning
E4525	FFE - Toilets and PD risers complete : Toilets Commissioning
First Floor - Zone F (Middle)	
Critical Dates	
A13740	FF Zone F - Target for BOH Fire Services Inspection
A14470	C - Complete Wet Trades ELV Room (05 F 055)
A14520	EU - Complete Wet Trades TD AVRS Room (05 F 024)
A22067	C - Complete Wet Trades TCIR Computer Room (05 F 053)
A23450	FF Zone F - Target to complete all works to Degree 3
Critical ELV Rooms	
A14500	EU - Complete Wet Trades Meeting Room (05 F 001)
Offices	
F2020	(FFF Office) - Floor Screed (1249m²) @120m/d
F2040	(FFF Office) - Floor - Raised Floor support frame (336m²) @45m/d
F2050	(FFF Office) - Ceiling Hangers (277m) @15/d
F2060	(FFF Office) - Door - Perm Door & Ironmongary (42 No) @8/d
F2070	(FFF Office) - Floor Raised Floor Final (336m²) @100/d
F2080	(FFF Office) - Ceiling - Al false ceiling (277m²) @75m/d
F2390	(FFF Office) - MEP high level works complete ready for ceiling grid
F2400	(FFF Office) - MEP Final Fix at Ceiling/walls
F2400a	(FFF Office) - MEP Final Fix FS Related items
F8060	(FFF Office) - Floor Tiling (1249m²) @100/d
F8070	(FFF Office) - Epoxy Floor Coating (35m²)@100/d
Lobbys and Corridors	
F2290	(FFF Lob) - Floor Screeding (239m²) @120m/d
F2310	(FFF Lob) - MEP - Main ducts and trunking
F2320	(FFF Lob) - Ceiling - hangers (239m) @15/d
F2330	(FFF Lob) - Floor - Tile (239m²) @100/d
F2340	(FFF Lob) - MEP - Cable laying/high lvl detectors
F2350	(FFF Lob) - Ceiling - FRR false ceiling (239m²) @75m/d
F2360	(FFF Lob) - Ceiling - Air Grill
F2370	(FFF Lob) - Wall -Skirting
F2380	(FFF Lob) - MEP - Final fix at ceiling/walls
Staff Toilet (1 x Male, 1 x Female, 1 x Disabled)	
F2130	(FFF SWC) -MEP high level works
F2140	(FFF SWC) -Wall Furring and GMS Subframe
F2150	(FFF SWC) -MEP Installation of consealed services
F2160	(FFF SWC) -Cement Sheet (Wall Panel)
F2170	(FFF SWC) -Wall Stone
F2180	(FFF SWC) -Wall - Tile grout
F2190	(FFF SWC) -Ceiling - hangers (16.7m) @15/d
F2200	(FFF SWC) -Floor - Tile (21m²) @100/d
F2210	(FFF SWC) -Furniture/Joinary
F2220	(FFF SWC) -Ceiling - false ceiling (16.7m²) @75/d
F2230	(FFF SWC) -Wall -Skirting
F2240	(FFF SWC) -Alum. Wall panel
F2250	(FFF SWC) -MEP Install Final fittings/cable laying
F2260	(FFF SWC) -Door - Perm. Door & Ironmongary (3 No) @8/d
F2270	(FFF SWC) -Toilet Cubicle
Staircases	
F2430	(FFF Stair) - Wall - paint
F2450	(FFF Stair) - MEP - Degree 2
F2460	(FFF Stair) - Nosing Tile and Install Aluminium Extrusion
F2470	(FFF Stair) - MEP - Degree 3
MEP Install	
F4360	FFF - MEP First fix duct and trunking
F4380	FFF - MEP small power + lighting wiring and AFA wiring
F4410	FFF - MEP - final fix at Ceiling/walls
F4430	FFF - MEP - Install final fittings Toilets
Localised T&C of 1F Zone F	
F4460	FFF - Stage 1 MEP T&C critical rooms and AHU



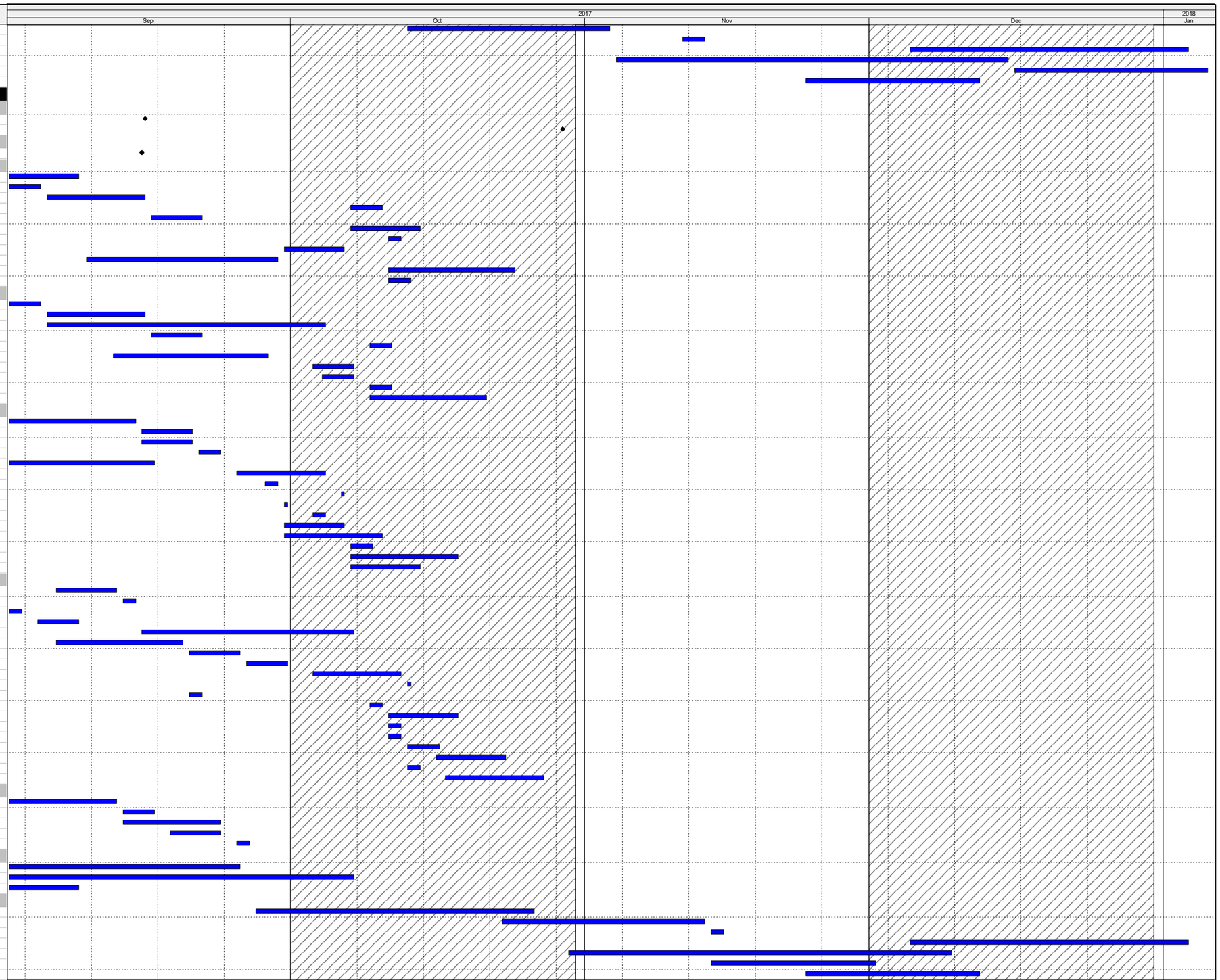
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
F4490	FFF - Stage 2 MEP T&C for final FSD inspection
F4491	FFF - PCB - FSD Inspection 3: Row 3 cabins (2nos) all floors
F4500	FFF - FSD Final Inspection (FF Zone F)
F4510	FFF - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
F4520	FFF - Stage 4 MEP T&C : SCADA fine tuning
F4525	FFF - Toilets and PD risers complete : Toilets Commissioning
First Floor - Zone C (North)	
Critical Dates	
A13750	FF Zone C - Target for BOH Fire Services Inspection
A23460	FF Zone C - Target to complete all works to Degree 3
Critical ELV Rooms	
C14540	MC - Complete Wet Trades ELV Room (05 C 011)
Offices	
C2010	(FFC Office) - Door - Subframe (38 No) @8/d
C2020	(FFC Office) - Floor Screed (204m²) @120m/d
C2030	(FFC Office) - Wall - skim coat/paint
C2040	F(FFC Office) - Floor Tiling (219m²) @100/d
C2050	(FFC Office) - Ceiling Hangers (193m) @15/d
C2060	(FFC Office) - Door - Perm Door & Ironmongary (38 No) @8/d
C2070	(FFC Office) - Epoxy Floor Coating (36.25m²)@100/d
C2080	(FFC Office) - Ceiling - Al false ceiling (193m²) @75m/d
C2390	(FFC Office) - MEP high level works complete ready for ceiling grid
C2400	(FFC Office) - MEP Final Fix at Ceiling/walls
C2400a	(FFC Office) - MEP Final Fix FS Related items
Lobbys and Corridors	
C2290	(FFC Lob) - Floor Screeding (196m²) @120m/d
C2300	(FFC Lob) - Wall - skim coat/paint
C2310	(FFC Lob) - MEP - Main ducts and trunking
C2320	(FFC Lob) - Ceiling - hangers (182m) @15/d
C2330	(FFC Lob) - Floor - Tile (196m²) @100/d
C2340	(FFC Lob) - MEP - Cable laying/high M detectors
C2350	(FFC Lob) - Ceiling - FRR false ceiling (182m²) @75m/d
C2360	(FFC Lob) - Ceiling - Air Grill
C2370	(FFC Lob) - Wall -Skirting
C2380	(FFC Lob) - MEP - Final fix at ceiling/walls
Public Toilets (1 x Male, 1 x Female, 2 x Disabled)	
C8310	(FFC PWC) -Wall Furring and GMS Subframe
C8320	(FFC PWC) -Ceiling - hangers (212m) @15/d
C8330	(FFC PWC) -MEP Installation of consealed services
C8340	(FFC PWC) -Cement Sheet (Wall Panel)
C8350	(FFC PWC) -MEP high level works
C8360	(FFC PWC) -Wall Stone
C8370	(FFC PWC) -Floor - Tile (45m²) @100/d
C8380	(FFC PWC) -Wall - Tile grout
C8390	(FFC PWC) -Alum. Wall panel
C8400	(FFC PWC) -Wall -Skirting
C8410	(FFC PWC) -Ceiling - false ceiling (212m²) @75/d
C8420	(FFC PWC) -Furniture/Joinary
C8430	(FFC PWC) -Door - Perm. Door & Ironmongary (3 No) @8/d
C8440	(FFC PWC) -Toilet Cubicle
C8450	(FFC PWC) -MEP Install Final fittings/cable laying
Staff Toilet (1 x Male, 1 x Female, 1 x Disabled)	
C2090	(FFC SWC) -Waterproofing
C2100	(FFC SWC) -Floor -Screed (40m²) @120m/d
C2110	(FFC SWC) -Door - Subframe (3 No) @8/d
C2120	(FFC SWC) -Wall - Plaster
C2130	(FFC SWC) -MEP high level works
C2140	(FFC SWC) -Wall Furring and GMS Subframe
C2150	(FFC SWC) -MEP Installation of consealed services
C2160	(FFC SWC) -Cement Sheet (Wall Panel)
C2170	(FFC SWC) -Wall Stone
C2180	(FFC SWC) -Wall - Tile grout
C2190	(FFC SWC) -Ceiling - hangers (18.5m) @15/d
C2200	(FFC SWC) -Floor - Tile (20.4m²) @100/d
C2210	(FFC SWC) -Furniture/Joinary
C2220	(FFC SWC) -Ceiling - false ceiling (18.5m²) @75/d
C2230	(FFC SWC) -Wall -Skirting
C2240	(FFC SWC) -Alum. Wall panel
C2250	(FFC SWC) -MEP Install Final fittings/cable laying
C2260	(FFC SWC) -Door - Perm. Door & Ironmongary (3 No) @8/d
C2270	(FFC SWC) -Toilet Cubicle
Staircases	
C2430	(FFC Stair) - Wall - paint
C2440	(FFC Stair) - Handrail
C2450	(FFC Stair) - MEP - Degree 2
C2460	(FFC Stair) - Nosing Tile and Install Aluminium Extrusion
C2470	(FFC Stair) - MEP - Degree 3
MEP Install	
C4560	FFC - MEP First fix duct and trunking
C4580	FFC - MEP small power + lighting wiring and AFA wiring
C4630	FFC - MEP - Install final fittings Toilets
Localised T&C of 1F Zone C	
C4660	FFC - Stage 1 MEP T&C critical rooms and AHU
C4690	FFC - Stage 2 MEP T&C for final FSD inspection
C4691	FFC - PCB - FSD Inspection 4: Row 4 cabins (2nos) all floors
C4700	FFC - FSD Final Inspection (FF Zone C)
C4710	FFC - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
C4720	FFC - Stage 4 MEP T&C : SCADA fine tuning
C4725	FFC - Toilets and PD risers complete : Toilets Commissioning



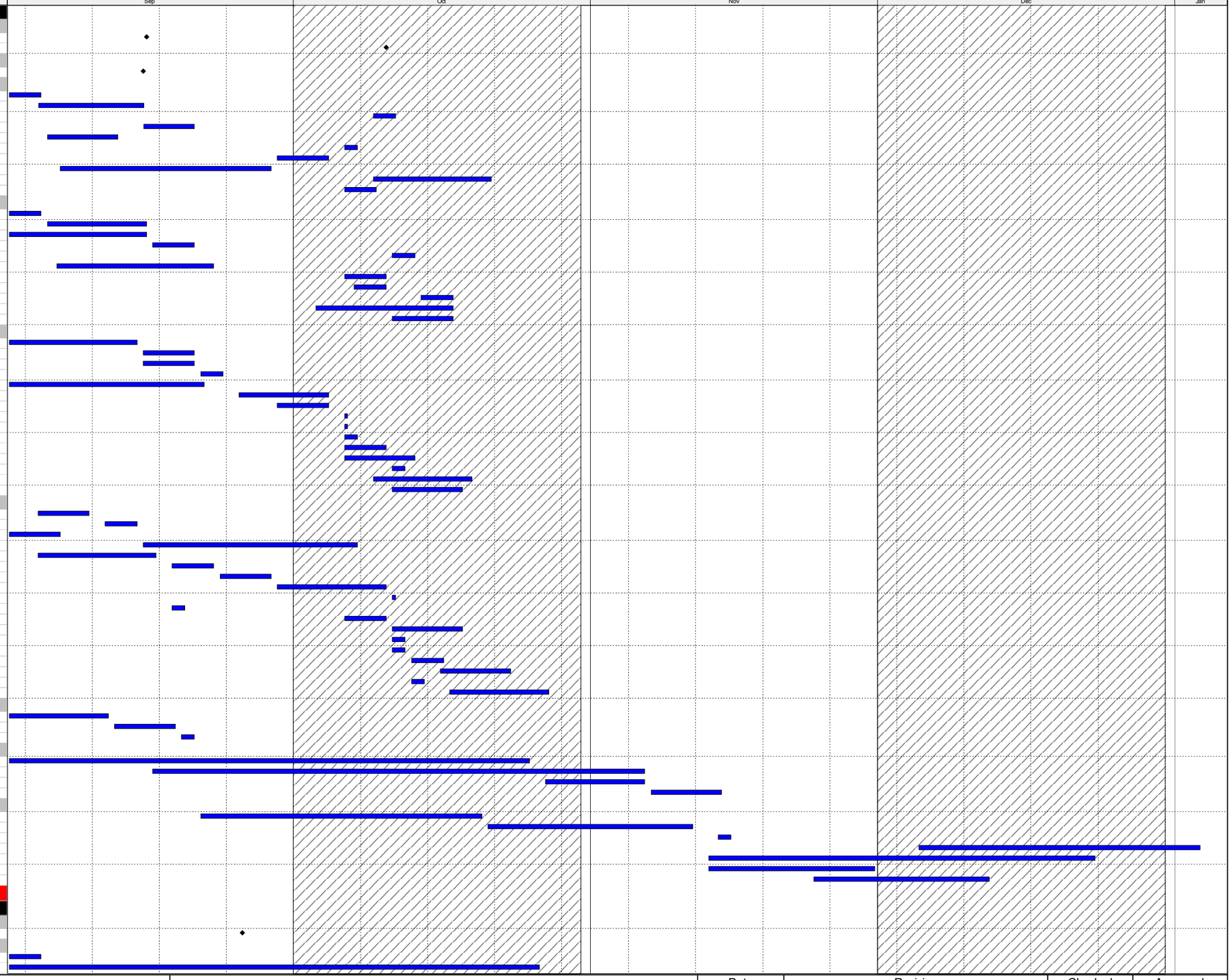
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
First Floor - Zone A (North)	
Critical Dates	
A13700	FF Zone A - Target for BOH Fire Services Inspection
A23470	FF Zone A - Target to complete all works to Degree 3
Critical ELV Rooms	
A14550	MC - Complete Wet Trades ELV Room (05 A 011)
Offices	
A12020	(FFA Office) - Floor Screed (192m²) @120m/d
A12030	(FFA Office) - Wall - skim coat/paint
A12040	(FFA Office) - Floor - Tiling (192m²) @100/d
A12050	(FFA Office) - Ceiling Hangers (171m) @15/d
A12060	(FFA Office) - Door - Perm Door & Ironmongary (32 No) @8/d
A12070	(FFA Office) - Epoxy Floor Coating (46.7m²)@100/d
A12080	(FFA Office) - Ceiling - Al false ceiling (171m²) @75m/d
A12390	(FFA Office) - MEP high level works complete ready for ceiling grid
A12400	(FFA Office) - MEP Final Fix at Ceiling/walls
A12400a	(FFA Office) - MEP Final Fix FS Related items
Lobbys and Corridors	
A12290	(FFA Lob) - Floor Screeding (189m²) @120m/d
A12300	(FFA Lob) - Wall - skim coat/paint
A12310	(FFA Lob) - MEP - Main ducts and trunking
A12320	(FFA Lob) - Ceiling - hangers (175m) @15/d
A12330	(FFA Lob) - Floor - Tile (189m²) @100/d
A12340	(FFA Lob) - MEP - Cable laying/high lvl detectors
A12350	(FFA Lob) - Ceiling - FRR false ceiling (175m²) @75m/d
A12360	(FFA Lob) - Ceiling - Air Grill
A12370	(FFA Lob) - Wall - Skirting
A12380	(FFA Lob) - MEP - Final fix at ceiling/walls
A12380a	(FFA Lob) - MEP - Final fix at ceiling/walls for FSD
Public Toilets (1 x Male, 1 x Female, 1 x Disabled, 1 x Baby Care Room)	
A1045	(FFA PWC) - Wall Furring and GMS Subframe
A1055	(FFA PWC) - Ceiling - hangers (212m) @15/d
A1065	(FFA PWC) - MEP Installation of consealed services
A1075	(FFA PWC) - Cement Sheet (Wall Panel)
A1085	(FFA PWC) - MEP high level works
A1095	(FFA PWC) - Wall Stone
A1105	(FFA PWC) - Floor - Tile (247m²) @100/d
A1115	(FFA PWC) - Wall - Tile grout
A1125	(FFA PWC) - Alum. Wall panel
A1135	(FFA PWC) - Wall - Skirting
A1145	(FFA PWC) - Ceiling - false ceiling (212m²) @75/d
A1155	(FFA PWC) - Furniture/Joinary
A1165	(FFA PWC) - Door - Perm. Door & Ironmongary (4 no) @8/d
A1175	(FFA PWC) - Toilet Cubicle
A1185	(FFA PWC) - MEP Install Final fittings/cable laying
Staff Toilet (2 x Male, 2 x Female, 2 x Disabled, 1 x Male Showers, 1 x Female Sho	
A12090	(FFA SWC) - Waterproofing
A12100	(FFA SWC) - Floor -Screed (247m²) @120m/d
A12120	(FFA SWC) - Wall - Plaster
A12130	(FFA SWC) - MEP high level works
A12140	(FFA SWC) - Wall Furring and GMS Subframe
A12150	(FFA SWC) - MEP Installation of consealed services
A12160	(FFA SWC) - Cement Sheet (Wall Panel)
A12170	(FFA SWC) - Wall Stone
A12180	(FFA SWC) - Wall - Tile grout
A12190	(FFA SWC) - Ceiling - hangers (18.9m) @15/d
A12200	(FFA SWC) - Floor - Tile (247m²) @100/d
A12210	(FFA SWC) - Furniture/Joinary
A12220	(FFA SWC) - Ceiling - false ceiling (18.91m²) @75/d
A12230	(FFA SWC) - Wall - Skirting
A12240	(FFA SWC) - Alum. Wall panel
A12250	(FFA SWC) - MEP Install Final fittings/cable laying
A12260	(FFA SWC) - Door - Perm. Door & Ironmongary (8 No) @8/d
A12270	(FFA SWC) - Toilet Cubicle
Staircases	
A12450	(FFA Stair) - MEP - Degree 2
A12460	(FFA Stair) - Nosing Tile and Install Aluminium Extrusion
A12470	(FFA Stair) - MEP - Degree 3
MEP Install	
A13240	FFA - MEP First fix duct and trunking
A13260	FFA - MEP small power + lighting wiring and AFA wiring
A13290	FFA - MEP - final fix at Ceiling/walls
A13310	FFA - MEP - Install final fittings Toilets
Localised T&C of 1F Zone A	
A13340	FFA - Stage 1 MEP T&C critical rooms and AHU
A13370	FFA - Stage 2 MEP T&C for final FSD inspection
A13371	FFA - PCB - FSD Inspection 4: Row 4 cabins (2nos) all floors
A13380	FFA - FSD Final Inspection (FF Zone A)
A13390	FFA - Stage 3 MEP T&C : Non FS T&C(MVAC air balance,lighting control,small pwr P&D Sys)
A13400	FFA - Stage 4 MEP T&C : SCADA fine tuning
A13405	FFA - Toilets and PD risers complete : Toilets Commissioning
Front of House	
South Departure Hall	
Critical Dates	
A13610	FF Zone H - FOH Fire Services Inspection
Installation	
H1340	(FOH-FF-S) - Floor screed (5000m²) @300m²/d
H1350	(FOH-FF-S) - Internal Glazing (Sinobest) -FoH



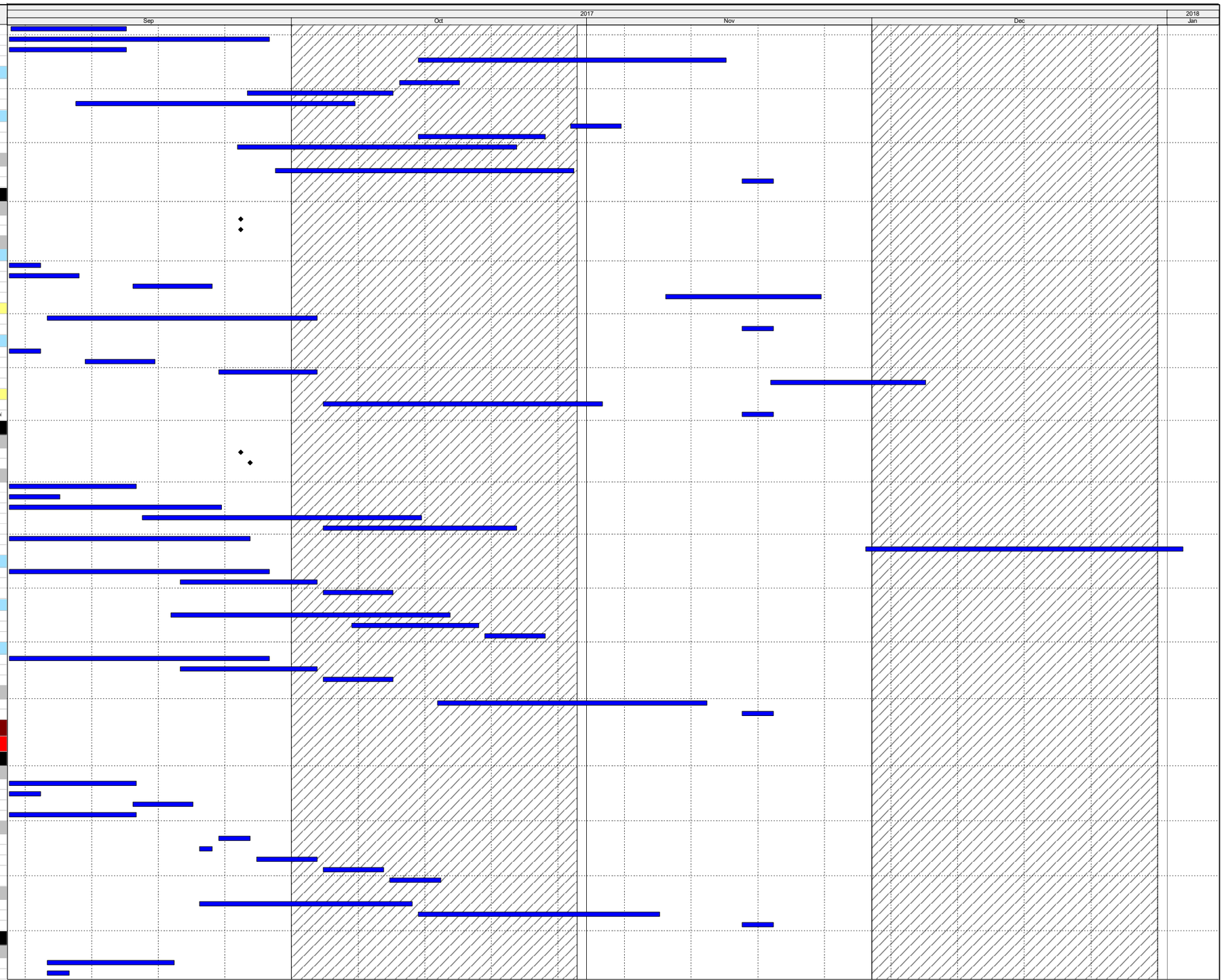
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
H1360	(FOH-FF-S) - Floor Tiles (5000m²) @290m²/d
H1370	(FOH-FF-S) - Lateral Fire Shutters
H1380	(FOH-FF-S) - Kiosk_Booth_Binnacle
H13980	(FOH-FOH-S) - Install Signage and Related Armature
Vertical Fire Shutters	
B3260	(FF-FOH-S) - Self Test
B3270	(FF-FOH-S) - Control and Wiring
B3280	(FF-FOH-S) - Vertical Fire Shutters
Security Shutters	
B3230	(FF-FOH-S) - Self Test
B3240	(FF-FOH-S) - Control and Wiring
B3250	(FF-FOH-S) - Security Shutters
MEP Completions from Paul Evans Programme	
H1111	(FF-FOH-S) - Stage 1 MEP T&C for FSD Pre-inspection
H1190	(FF-FOH-S) - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Middle Departure Hall	
Critical Dates	
A13560	FF Zone F - FOH Fire Services Inspection
A13570	FF Zone D - FOH Fire Services Inspection
Installation	
East	
F6000	(FOH-FF-ME) - MEP Floor Trunking
F6010	(FOH-FF-ME) - Floor screed (950m²) @300m²/d
F6020	(FOH-FF-ME) - Floor Tiles (950m²) @290m²/d
H13990	(FOH-FOH-ME) - Install Signage and Related Armature
MEP Completions	
E4620	(FOH-FF-ME) - Stage 1 MEP T&C for FSD Pre-inspection East
E4630	(FOH-FF-ME) - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
West	
D6000	(FOH-FF-MW) - MEP Floor Trunking
D6010	(FOH-FF-MW) - Floor screed (950m²) @300m²/d
D6020	(FOH-FF-MW) - Floor Tiles (950m²) @290m²/d
H14000	(FOH-FOH-MW) - Install Signage and Related Armature
MEP Completions	
E4599	(FOH-FF-MW) - Stage 1 MEP T&C for FSD Pre-inspection West
E4600	(FOH-FF-MW) - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
North Departure Hall	
Critical Dates	
A13600	FF Zone B - FOH Fire Services Inspection
A13900	FF North - C3 Conduit Installation for Field Equipment
Installation	
B3130	(FOH-FF-N) - MEP Floor Trunking
B3140	(FOH-FF-N) - Floor screed (5000m²) @300m²/d
B3150	(FOH-FF-N) - Internal Glazing (Sinobest) -FoH
B3160	(FOH-FF-N) - Smoke Curtain - Kiosk 1/F
B3170	(FOH-FF-N) - Floor Tiles (5000m²) @290m²/d
B3180	(FOH-FF-N) - Kiosk_Booth_Binnacle
H14010	(FOH-FF-N) - Install Signage and Related Armature
Vertical Fire Shutters	
B3330	(FF-FOH-N) - Vertical Fire Shutters
B3340	(FF-FOH-N) - Control and Wiring
B3350	(FF-FOH-N) - Self Test
Security Shutters	
B3300	(FF-FOH-N) - Security Shutters
B3310	(FF-FOH-N) - Control and Wiring
B3320	(FF-FOH-N) - Self Test
Lateral Fire Shutters	
B3200	(FOH-FF-N) - Lateral Fire Shutters
B3210	(FOH-FF-N) - Control and Wiring
B3290	(FOH-FF-N) - Self Test
MEP Completions	
B2990	(FOH-FF-N) - Stage 1 MEP T&C for FSD Pre-inspection
E4610	(FOH-FF-N) - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Cabin Roof	
Back of House	
Zone J (South)	
Misc Metalworks	
J2530	Cabin J - Aluminium Solar Louvres
J2540	Cabin J - Installation of Cat ladder
J2550	Cabin J - Fall arrest system
J2580	Cabin J - Balustrade
ABWF Works	
A18050	Cabin J - Complete Type P1 Wall Masonary Painting (510m²) @170m²/d
A18160	Cabin J - Complete Type P1 Ceiling Masonary Painting (176m²) @250m²/d
J2490	Cabin J - Waterproofing (ind rectification) 1000m² @200m/d
J2500	Cabin J - Floor - Screed (1000m²) @250m/d
J2510	Cabin J - Floor - Tile (1000m²) @250m/d
MEP	
J2512	Cabin J - MEP - Installation of Fans
J2581	Cabin J - MEP T&C fans for VAC and smoke control
J2585	Cabin J - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Zone G (South)	
Misc Metalworks	
G2530	Cabin G - Aluminium Solar Louvres
G2540	Cabin G - Installation of Cat ladder



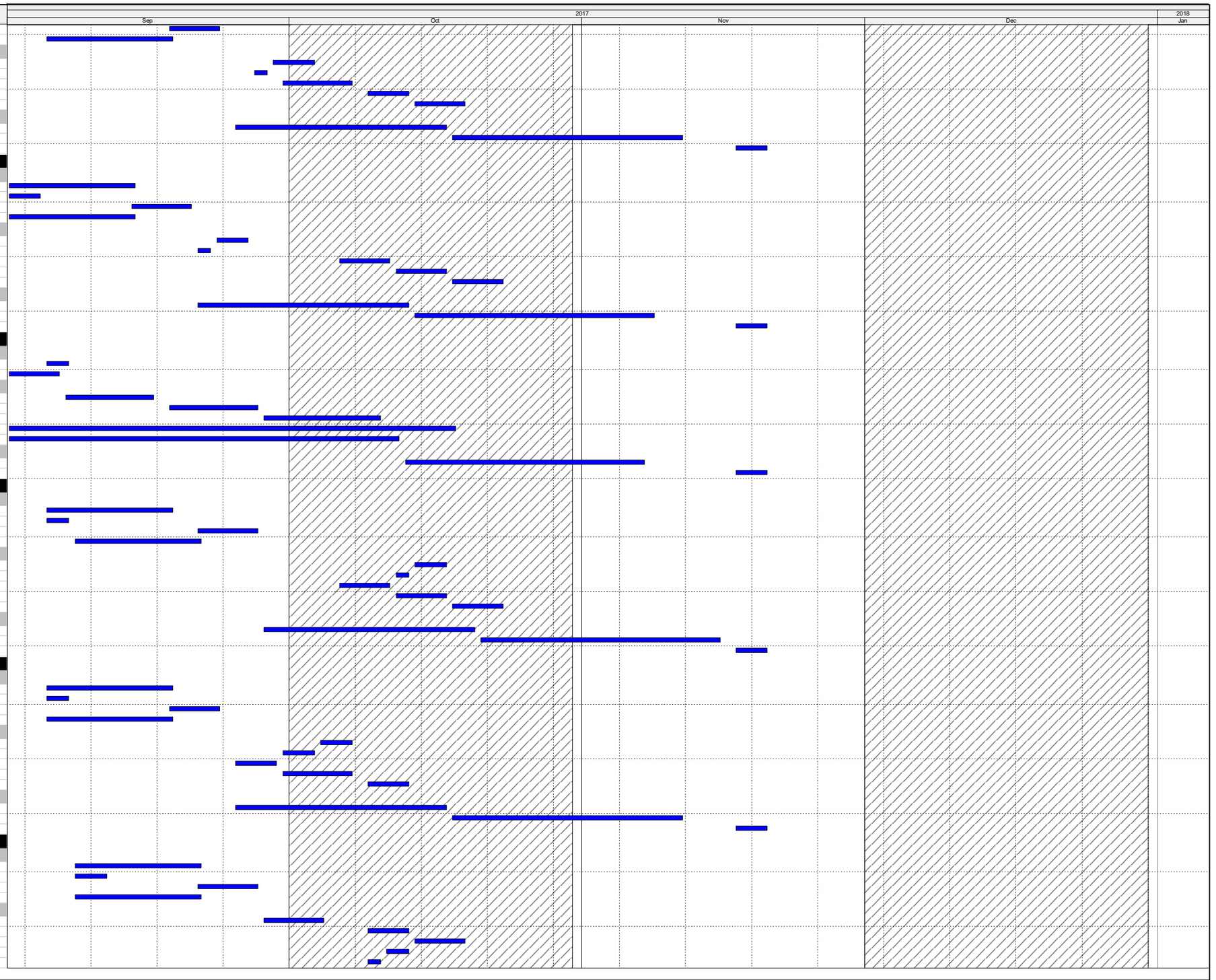
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
G2550	Cabin G - Fall arrest system
G2580	Cabin G - Balustrade
ABWF Works	
A18060	Cabin G - Complete Type P1 Wall Masonary Painting (510m²) @170m²/d
A18150	Cabin G - Complete Type P1 Ceiling Masonary Painting (176m²) @250m²/d
G2490	Cabin G - Waterproofing (incl rectification) 1000m² @200m/d
G2500	Cabin G - Floor - Screed (1000m²) @250m/d
G2510	Cabin G - Floor - Tile (1000m²) @250m/d
MEP	
G2515	Cabin G - MEP - Installation of Fans
G2582	Cabin G - MEP T&C fans for VAC and smoke contrl
G2585	Cabin G - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Zone D (Middle)	
Misc Metalworks	
D2530	Cabin D - Aluminium Solar Louvres
D2540	Cabin D - Installation of Cat ladder
D2550	Cabin D - Fall arrest system
D2580	Cabin D - Balustrade
ABWF Works	
A18070	Cabin D - Complete Type P1 Wall Masonary Painting (510m²) @170m²/d
A18140	Cabin D - Complete Type P1 Ceiling Masonary Painting (176m²) @250m²/d
D2490	Cabin D - Waterproofing (incl rectification) 1000m² @200m/d
D2500	Cabin D - Floor - Screed (1000m²) @250m/d
D2510	Cabin D - Floor - Tile (1000m²) @250m/d
MEP	
D2581	Cabin D - MEP - Installation of Fans
D2582	Cabin D - MEP T&C fans for VAC and smoke contrl
D2585	Cabin D - CB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Zone E (Middle)	
Misc Metalworks	
E2540	Cabin E - Installation of Cat ladder
E2550	Cabin E - Fall arrest system
ABWF Works	
E2490	Cabin E - Waterproofing (incl rectification) 1800m² @200m/d
E2500	Cabin E - Floor - Screed (1800m²) @250m/d
E2510	Cabin E - Floor - Tile (1800m²) @250m/d
E2630	Cabin E - Service Column - ABWF
E2640	Cabin E - Service Column - MEP
MEP	
E4545	Cabin E - MEP T&C fans for VAC and smoke control
E4550	Cabin E - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Zone F (Middle)	
Misc Metalworks	
F2530	Cabin F - Aluminium Solar Louvres
F2540	Cabin F - Installation of Cat ladder
F2550	Cabin F - Fall arrest system
F2580	Cabin F - Balustrade
ABWF Works	
A18080	Cabin F - Complete Type P1 Wall Masonary Painting (510m²) @170m²/d
A18130	Cabin F - Complete Type P1 Ceiling Masonary Painting (176m²) @250m²/d
F2490	Cabin F - Waterproofing (incl rectification) 1000m² @200m/d
F2500	Cabin F - Floor - Screed (1000m²) @250m/d
F2510	Cabin F - Floor - Tile (1000m²) @250m/d
MEP	
F4530	Cabin F - MEP - Installation of Fans
F4535	Cabin F - MEP T&C fans for VAC and smoke control
F4540	Cabin F - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Zone C (North)	
Misc Metalworks	
C2530	Cabin C - Aluminium Solar Louvres
C2540	Cabin C - Installation of Cat ladder
C2550	Cabin C - Fall arrest system
C2580	Cabin C - Balustrade
ABWF Works	
A18090	Cabin C - Complete Type P1 Wall Masonary Painting (510m²) @170m²/d
A18120	Cabin C - Complete Type P1 Ceiling Masonary Painting (176m²) @250m²/d
C2490	Cabin C - Waterproofing (incl rectification) 1000m² @200m/d
C2500	Cabin C - Floor - Screed (1000m²) @250m/d
C2510	Cabin C - Floor - Tile (1000m²) @250m/d
MEP	
C2583	Cabin C - MEP - Installation of Fans
C2584	Cabin C - MEP T&C fans for VAC and smoke contrl
C2585	Cabin C - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Zone A (North)	
Misc Metalworks	
A12530	Cabin A - Aluminium Solar Louvres
A12540	Cabin A - Installation of Cat ladder
A12550	Cabin A - Fall arrest system
A12580	Cabin A - Balustrade
ABWF Works	
A12490	Cabin A - Waterproofing (incl rectification) 1000m² @200m/d
A12500	Cabin A - Floor - Screed (1000m²) @250m/d
A12510	Cabin A - Floor - Tile (1000m²) @250m/d
A18100	Cabin A - Complete Type P1 Wall Masonary Painting (510m²) @170m²/d
A18110	Cabin A - Complete Type P1 Ceiling Masonary Painting (176m²) @250m²/d



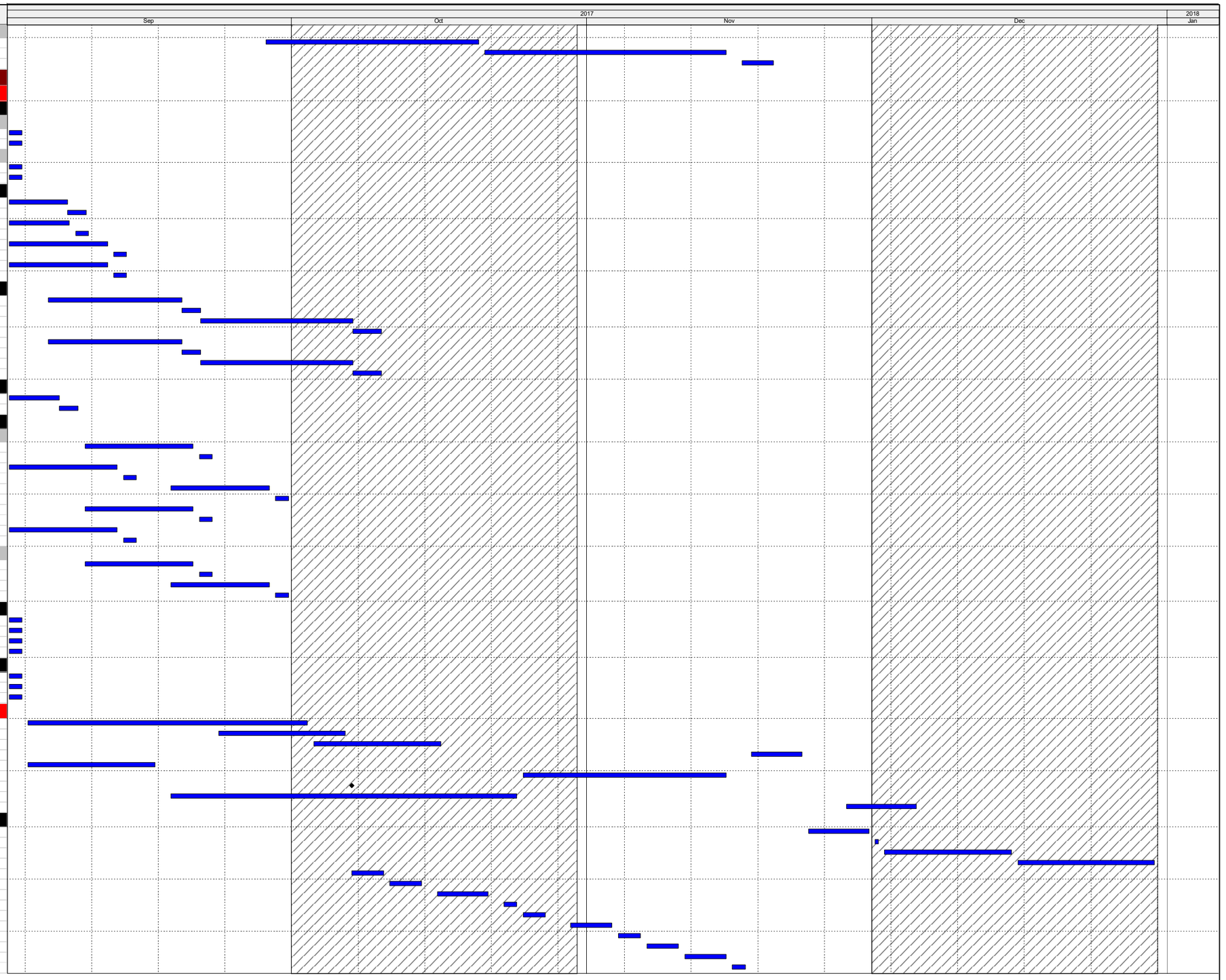
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
	MEP
A13424	Cabin A - MEP - Installation of Fans
A13425	Cabin A - MEP T&C fans for VAC and smoke control
A13430	Cabin A - PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
	Misc Steelwork - 29 May 2017
	Misc Steelwork Offshore Fabrication and Delivery
	External Staircases
	Staircase 3
A18730	EST - Delivery of Staircase to Cabin 3 (S06)
A18850	EST - Delivery of Staircase to Cabin 3 (S05)
	Staircase 6
A18790	EST - Delivery of Staircase to Cabin 6 (S12)
A18910	EST - Delivery of Staircase to Cabin 6 (S11)
	Covered Walkway
A18920	COW - Fabrication of Covered Walkways East side of SDO
A18930	COW - Delivery of Covered Walkways East side of SDO
A18940	COW - Fabrication of Covered Walkways West side of SDO
A18950	COW - Delivery of Covered Walkways West side of SDO
A18960	COW - Fabrication of Covered Walkways East side of Northern PTI
A18970	COW - Delivery of Covered Walkways East side of Northern PTI
A18980	COW - Fabrication of Covered Walkways West side of Northern PTI
A18990	COW - Delivery of Covered Walkways West side of Northern PTI
	Barrier Screens
A19000	BAS - Fabrication of Barrier Screens East SDO
A19010	BAS - Delivery of Barrier Screens East SDO
A19020	BAS - Fabrication of Barrier Screens West SDO
A19030	BAS - Delivery of Barrier Screens West SDO
A19040	BAS - Fabrication of Barrier Screens East Void SDO
A19050	BAS - Delivery of Barrier Screens East Void SDO
A19060	BAS - Fabrication of Barrier Screens West Void SDO
A19070	BAS - Delivery of Barrier Screens West Void SDO
	Entrance Canopy
A19080	ENC - Fabrication of additional Entrance Canopy for Zone A Public Toilet
A19090	ENC - Delivery of additional Entrance Canopy for Zone A Public Toilet
	Delivery Hatches and Smoke Vents
	Delivery Hatches
A19100	DHS - Fabrication of East Delivery Hatch 01C060
A19110	DHS - Delivery of East Delivery Hatch 01C060
A19140	DHS - Fabrication of East Delivery Hatch 01F038
A19150	DHS - Delivery of East Delivery Hatch 01F038
A19160	DHS - Fabrication of West Delivery Hatch 01A036
A19170	DHS - Delivery of West Delivery Hatch 01A036
A19200	DHS - Fabrication of West Delivery Hatch 01D045
A19210	DHS - Delivery of West Delivery Hatch 01D045
A19220	DHS - Fabrication of West Delivery Hatch 01G051
A19230	DHS - Delivery of West Delivery Hatch 01G051
	Smoke Vents
A19120	DHS - Fabrication of East Smoke Vents
A19130	DHS - Delivery of East Smoke Vents
A19180	DHS - Fabrication of West Smoke Vents
A19190	DHS - Delivery of West Smoke Vents
	Eastern Vertical Circulation
A18550	EVC - Delivery of Staircase S-42, S-43
A18570	EVC - Delivery of Passenger Lift L-09 steel
A18590	EVC - Delivery of Canopies
A18610	EVC - Delivery of Escalator E-01, E-02 steel
	Western Vertical Circulation
A18630	WVC - Delivery of Staircase S-40, S-41
A18650	WVC - Delivery of Passenger Lift, L-08 steel
A18670	WVC - Delivery of Canopies
	Eastern Vertical Circulation
A16640	EVC - Installation of EVC Staircases
A16710	EVC - Installation of Liftshaft 9 Steel Frame
A16720	EVC - Installation of Steel Canopy over EVC
A18380	EVC - Installation of Liftshaft Glazing
A19240	EVC - Installation of Escalator Steel E-01, E-02
LS1120	EVC - Escalator - T&C Escalator - T&C
LS1860	EVC - Access to Lift Contractor
LS1900	EVC - Installation Escalator E-01, E-02
MEP-02-50339	EVC - E&M : Final Commissioning (Perm Power)
	Lift Installation
A21450	EVC - Testing, Commissioning and Adjustment
A21460	EVC - LE 5 and Test Report Submission
A21470	EVC - EMSD onsite Inspection
A21480	EVC - Anticipate and Issuance of Lift Cert (Form 6)
LS2690	EVC - Setting out, Hoisting of Equipment
LS2700	EVC - Install Machine and Controller (Incl Wiring)
LS2710	EVC - Install Car Counterweight, Assemble Car, Fix Sheathed Cables
LS2720	EVC - Startup Inspection Mode Test (Low Speed)
LS2730	EVC - Fixing Guide Rail Bracket and Guide Rails
LS2740	EVC - Fixing Landing Sill and Architraves
LS2750	EVC - Fixing Push Buttons and Indicate Base Box
LS2760	EVC - Fixing Landing Door header and Doors
LS2770	EVC - Lift Shaft Trunking and and Wiring lightning and buffers
LS2780	EVC - Electrical Accessories, Cleaning,Painting and CCTV Installation



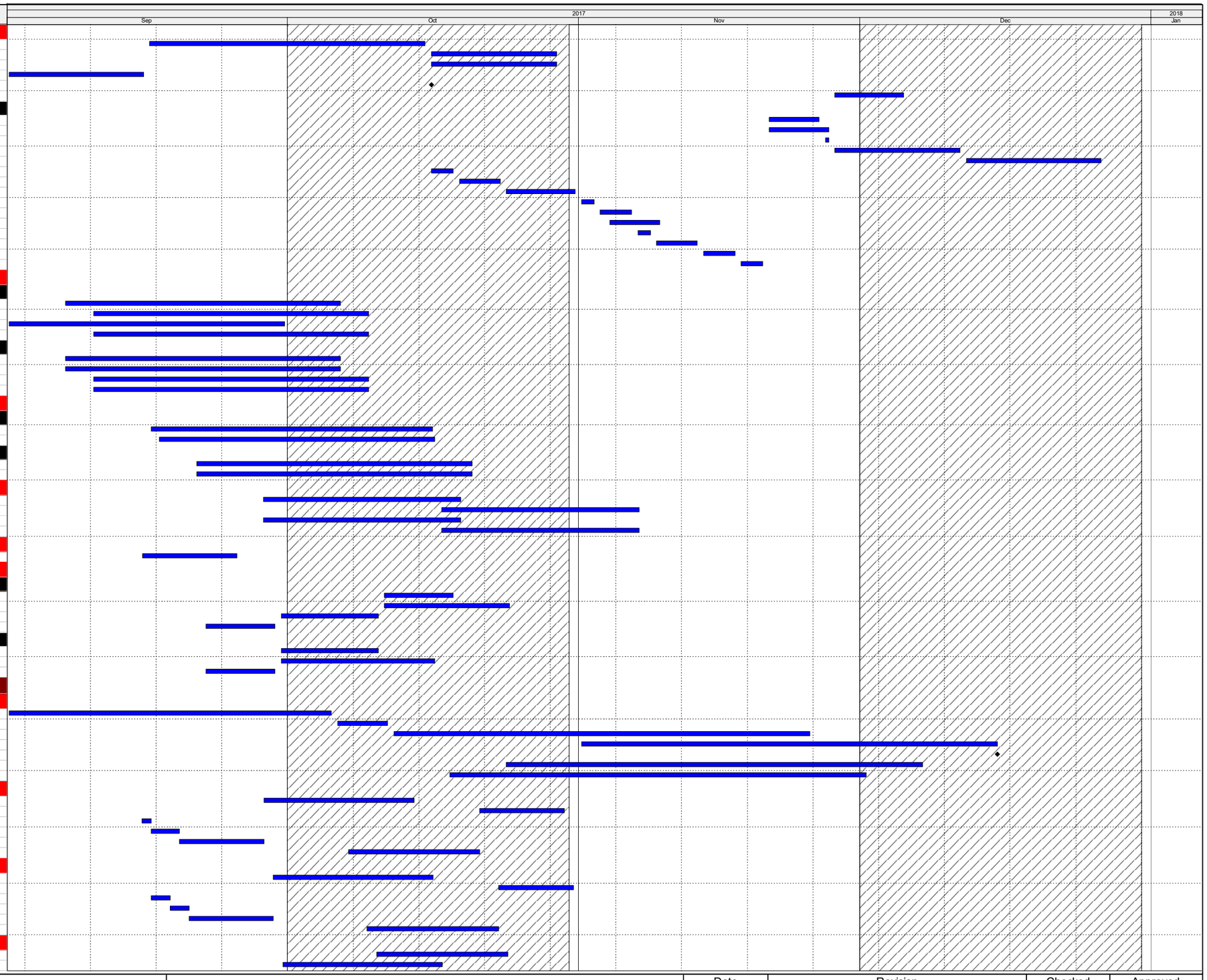
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
Western Vertical Circulation	
A16650	WVC - Installation of WVC Staircases
A16730	WVC - Installation of Liftshaft 8 Steel Frame
A16740	WVC - Installation of Steel Canopy over WVC
A18230	WVC - Completion of WVC RC Works
LS1880	WVC - Access to Lift Contractor
MEP-02-50353	WVC - E&M : Final Commissioning (Perm Power)
Lift Installation	
A18370	WVC - Installation of Liftshaft Glazing
A21490	WVC - Testing, Commissioning and Adjustment
A21500	WVC - LE 5 and Test Report Submission
A21510	WVC - EMSD onsite Inspection
A21520	WVC - Anticipate and Issuance of Lift Cert (Form 6)
LS2790	WVC - Setting out, Hoisting of Equipment
LS2800	WVC - Install Machine and Controller (Incl Wiring)
LS2810	WVC - Install Car Counterweight, Assemble Car, Fix Sheathed Cables
LS2820	WVC - Startup Inspection Mode Test (Low Speed)
LS2830	WVC - Fixing Guide Rail Bracket and Guide Rails
LS2840	WVC - Fixing Landing Sill and Architraves
LS2850	WVC - Fixing Push Buttons and Indicate Base Box
LS2860	WVC - Fixing Landing Door header and Doors
LS2870	WVC - Lift Shaft Trunking and and Wiring lightning and buffers
LS2880	WVC - Electrical Accessories, Cleaning,Painting and CCTV Installation
External Staircases	
Southern Side	
A16750	Erect Steel Staircase to Cabin 2 (S18)
A16760	Erect Steel Staircase to Cabin 3 (S06)
A16780	Erect Steel Staircase to Cabin 5 (S26)
A16790	Erect Steel Staircase to Cabin 6 (S12)
Northern Side	
A16860	Erect Steel Staircase to Cabin 1 (S31)
A16870	Erect Steel Staircase to Cabin 2 (S17)
A16880	Erect Steel Staircase to Cabin 3 (S05)
A16910	Erect Steel Staircase to Cabin 6 (S11)
Covered Walkway	
Southern Drop Off	
A16670	Erect Covered Walkways East side of SDO
A16800	Erect Covered Walkways West side of SDO
North PTI	
A16680	Erect Covered Walkways East side of Northern PTI
A16810	Erect Covered Walkways West side of Northern PTI
Barrier Screens	
A18470	Install Barrier Screens East SDO
A18480	Install Barrier Screens West SDO
A18490	Install Barrier Screens East Void SDO
A18500	Install Barrier Screens West Void SDO
Entrance Canopy	
A18390	Installation of additional Entrance Canopy for Zone A Public Toilet
Delivery Hatches and Smoke Vents	
West	
A18420	West - Installation of Delivery Hatch 01A036
A18430	West - Installation of Smoke Vents
A18450	West - Installation of Delivery Hatch 01D045
A18460	West - Installation of Delivery Hatch 01G051
East	
A18400	East - Installation of Delivery Hatch 01C060
A18410	East - Installation of Smoke Vents
A18440	East - Installation of Delivery Hatch 01F038
SDO Deck Works	
Decking Works	
PCB-16-2170	DOA - Occupation of Drop Off deck by the JV
PCB-16-2180	DOA - Relocation of JV office
PCB-16-550	DOA - Road and Drainage works (Upper deck)
PCB-16-770	DOA - Cleaning and Snagging (Upper deck)
PCB-16-850	Complete Section VII - Elevated drop-off area
PCB-16-910	DOA - Road Markings and Signage (Upper deck)
PCB-16-930	DOA - Kurbing and Pedestrian Walkways (Upper deck)
South PTI COB06	
PCB-05-1530	OGB(S) - ABWF Works
PCB-05-1540	OGB(S) - T&C, Final Inspection
PCB-05-1560	OGB(S) - Site Suvey and Setting out
PCB-05-1580	OGB(S) - Construct Ground Slab
PCB-05-1590	OGB(S) - Construct Steel Columns & Roof
PCB-05-1610	OGB(S) - MEP Works
South PTI COB07	
PCB-05-1720	OGB(S) - ABWF Works
PCB-05-1730	OGB(S) - T&C, Final Inspection
PCB-05-1750	OGB(S) - Site Suvey and Setting out
PCB-05-1770	OGB(S) - Construct Ground Slab
PCB-05-1780	OGB(S) - Construct Steel Columns & Roof
PCB-05-1800	OGB(S) - MEP Works
South PTI COB08	
PCB-05-1700	OGB(S) - MEP Works
PCB-05-1810	OGB(S) - ABWF Works



Actual Work

Remaining Work

Critical Remaining Work

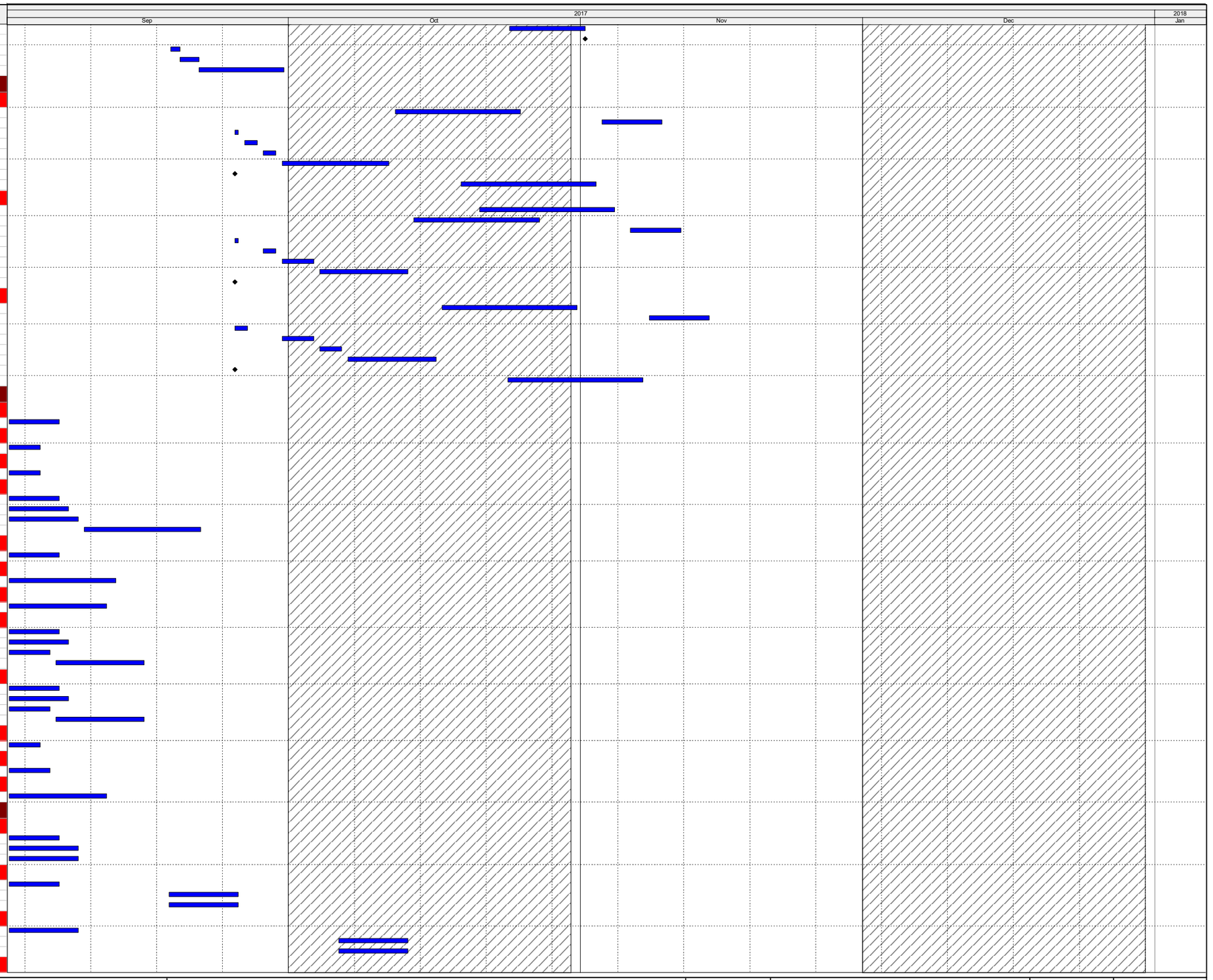
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
PCB-05-1820	OGB(S) - T&C, Final Inspection
PCB-05-1830	Completion of Section VII - Guard Booths (Contract 770 days +263 days)
PCB-05-1840	OGB(S) - Site Suvey and Setting out
PCB-05-1860	OGB(S) - Construct Ground Slab
PCB-05-1870	OGB(S) - Construct Steel Columns & Roof
North PTI Guard Booths	
North PTI COB03	
PCB-05-1620	OGB(N) - ABWF Works
PCB-05-1630	OGB(N) - T&C, Final Inspection
PCB-05-1640	OGB(N) - Site Suvey and Setting out
PCB-05-1650	OGB(N) - Construct Footings
PCB-05-1660	OGB(N) - Construct Ground Slab
PCB-05-1670	OGB(N) - Construct Steel Columns & Roof
PCB-05-1680	Comence Northern OGB's
PCB-05-1710	OGB(N) - MEP Works
North PTI COB04	
PCB-05-1950	OGB(N) - MEP Works
PCB-05-2040	OGB(N) - ABWF Works
PCB-05-2050	OGB(N) - T&C, Final Inspection
PCB-05-2060	OGB(N) - Site Suvey and Setting out
PCB-05-2070	OGB(N) - Construct Footings
PCB-05-2080	OGB(N) - Construct Ground Slab
PCB-05-2090	OGB(N) - Construct Steel Columns & Roof
PCB-05-2100	Complete Northern Facade and NFB Piers
North PTI COB05	
PCB-05-1880	OGB(N) - ABWF Works
PCB-05-1890	OGB(N) - T&C, Final Inspection
PCB-05-1900	OGB(N) - Site Suvey and Setting out
PCB-05-1910	OGB(N) - Construct Footings
PCB-05-1920	OGB(N) - Construct Ground Slab
PCB-05-1930	OGB(N) - Construct Steel Columns & Roof
PCB-05-1940	Complete Northern Facade and NFB Piers
PCB-05-2110	OGB(N) - MEP Works
Facade - Curtain Wall - 2 Jun 2017	
Zone 1 South - Double Bow	
A16950	DBT - Installation of Glazing Panels (360 No)
Zone 1 East - Corner Double Bow	
A16990	DBT - Installation of Glazing Panels (38 No)
Zone 1 West - Corner Double Bow	
A17030	DBT - Installation of Glazing Panels (38 No)
Zone 2 West - Double Bow	
A17200	DBT - Truss Installation (3.No)
A17210	DBT - Welding of top Brackets
A17220	DBT - NDT and Survey
A17230	DBT - Installation of Glazing Panels (76 No)
Zone 2 East - Double Bow	
A17270	DBT - Installation of Glazing Panels (76 No)
Zone 3 East - Single Bow	
A17310	SBT - Installation of Glazing Panels (74 No)
Zone 3 West - Single Bow	
A17350	SBT - Installation of Glazing Panels (74 No)
Zone 3 West - Double Bow	
A17360	DBT - Truss Installation (3.No)
A17370	DBT - Welding of top Brackets
A17380	DBT - NDT and Survey
A17390	DBT - Installation of Glazing Panels (76 No)
Zone 3 East - Double Bow	
A17400	DBT - Truss Installation (3.No)
A17410	DBT - Welding of top Brackets
A17420	DBT - NDT and Survey
A17430	DBT - Installation of Glazing Panels (76 No)
Zone 3 East - Corner Double Bow	
A17470	DBT - Installation of Glazing Panels (38 No)
Zone 3 West - Corner Double Bow	
A17510	DBT - Installation of Glazing Panels (38 No)
Zone 3 North - Double Bow	
A17550	DBT - Installation of Glazing Panels (360 No)
Facade - Window Wall	
Cabin 1	
A17570	WW - Installation of FF Type C Glazed Window Wall Units (47 No) (Zone G)
A23480	WW - Installation of FF Type D Glazed Window Wall Units (24 No) (Zone G)
A23490	WW - Installation of FF Type E Glazed Window Wall Units (174 No) (Zone G)
Cabin 2	
A17590	WW - Installation of FF Type C Glazed Window Wall Units (47 No) (Zone D)
A23500	WW - Installation of FF Type D Glazed Window Wall Units (24 No) (Zone D)
A23510	WW - Installation of FF Type E Glazed Window Wall Units (174 No) (Zone D)
Cabin 3	
A17610	WW - Installation of FF Type C Glazed Window Wall Units (47 No) (Zone A)
A23520	WW - Installation of FF Type D Glazed Window Wall Units (24 No) (Zone A)
A23530	WW - Installation of FF Type E Glazed Window Wall Units (174 No) (Zone A)
Cabin 4	



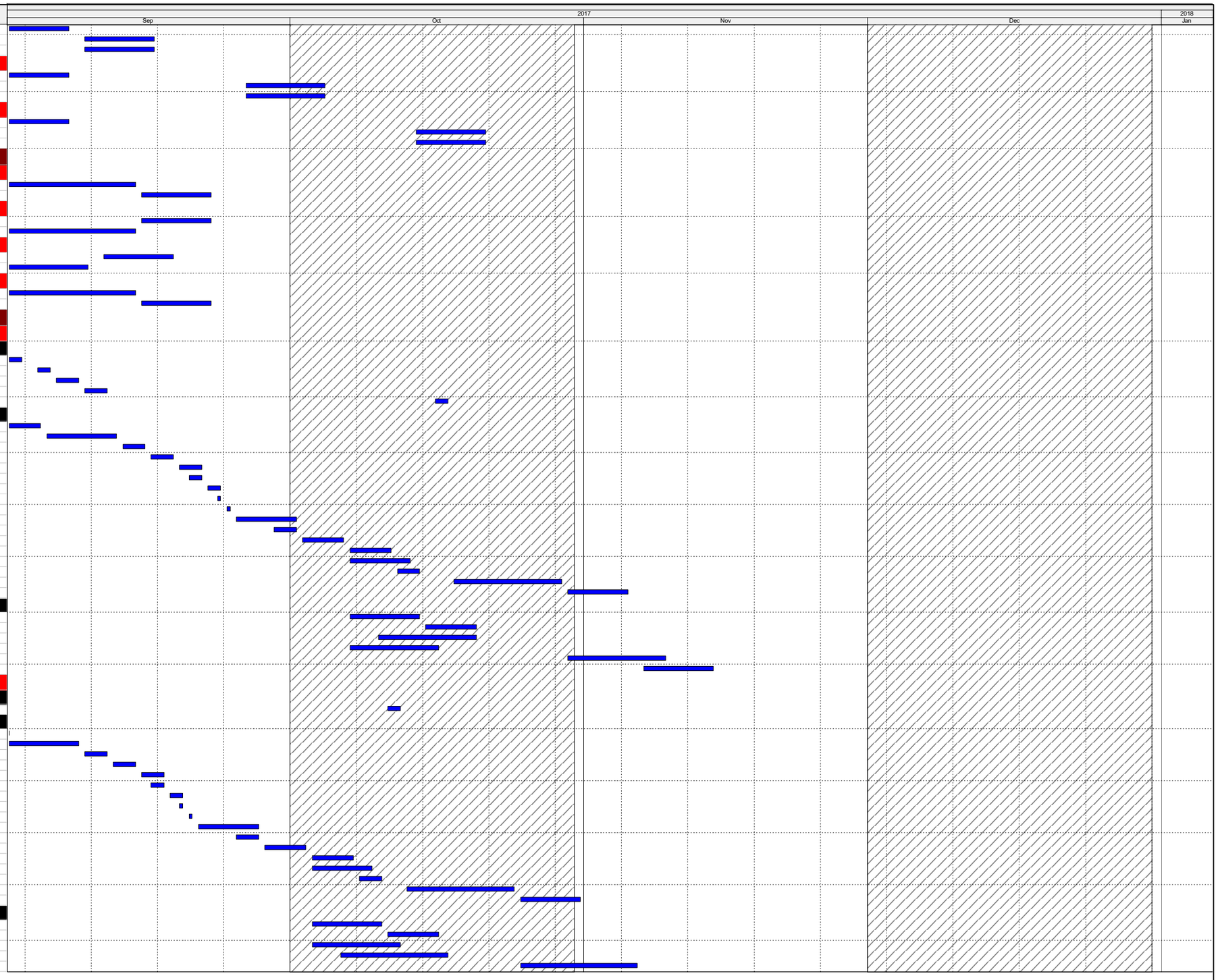
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
A17630	WW - Installation of FF Type C Glazed Window Wall Units (47 No) (Zone J)
A23540	WW - Installation of FF Type D Glazed Window Wall Units (24 No) (Zone J)
A23550	WW - Installation of FF Type E Glazed Window Wall Units (174 No) (Zone J)
Cabin 5	
A17650	WW - Installation of FF Type C Glazed Window Wall Units (47 No) (Zone F)
A23560	WW - Installation of FF Type D Glazed Window Wall Units (18 No) (Zone F)
A23570	WW - Installation of FF Type E Glazed Window Wall Units (174 No) (Zone F)
Cabin 6	
A17670	WW - Installation of FF Type C Glazed Window Wall Units (47 No) (Zone C)
A23580	WW - Installation of FF Type D Glazed Window Wall Units (25 No) (Zone C)
A23590	WW - Installation of FF Type E Glazed Window Wall Units (174 No) (Zone C)
Internal Footbridges - From Dashboard	
Footbridge FB7 (South-East)	
FB0960	Construct Double Slab under Footbridge FB7 and FB8
FB1020	Cure and Strip Double Slab under Footbridge FB7 and FB8
Footbridge FB12 (North-East)	
FB1000	Cure and Strip Double Slab under Footbridge FB11 and FB12
FB970	Construct Double Slab under Footbridge FB11 and FB12
Footbridge FB5 (South-West)	
FB1010	Cure and Strip Double Slab under Footbridge FB5 and FB6
FB960	Construct Double Slab under Footbridge FB5 and FB6
Footbridge FB9 (North-West)	
FB980	Construct Double Slab under Footbridge FB9 and FB10
FB990	Cure and Strip Double Slab under Footbridge FB9 and FB10
Southern Footbridges - From PW 16 August 2017	
Footbridge FB1	
Traffic Gantry	
A22770	FB1 - Megashore Installation
A22780	FB1 - Working Platform for I-Beam Platform
A22790	FB1 - I Beam Platform Erection
A22800	FB1 - Removal of working platform
A22810	FB1 - Gantry Removal
RC	
A22520	FB1 - Falsework Installation
A22530	FB1 - Formwork Soffit / Working Deck Installation
A22540	FB1 - Bearing Installation
A22550	FB1 - Fix Rebar bottom section
A22560	FB1 - Install PT Anchors and HDPE Ducts and tendons
A22570	FB1 - Install Steel Void Formwork Installation
A22580	FB1 - Fix Second Rebar up to base
A22590	FB1 - Install cast in Items (Facade, MEP & Balustrade)
A22600	FB1 - Cast Footbridge
A22610	FB1 - Gain 7 Day Strength
A22620	FB1 - Install Post Tention Strands and set up for PT works
A22630	FB1 - Post Tensioning Works (Stress and Grout)
A22640	FB1 - Removal of Formwork
A22650	FB1 - Seal up Temporary Slab Openings at PT locations
A22660	FB1 - Removal of Falsework
FB1090	FB1 - Construct Double Slab under FB1
FB1100	FB1 - Cure and Strip Double Slab under FB1
ABWF/MEP	
PCB-16-2340	FB1 - Complete Installation of remaining glazed sealed units in Southern Curtain Wall
PCB-16-2370	FB1 - Erect glass balustrade and complete remaining works
PCB-16-2380	FB1 - Install Automatic Doors On FB1
PCB-16-2390	FB1 - Screeding and Tiling
PCB-16-2520	FB1- Install Automatic Doors under FB1
PCB-16-2530	FB1 - Erect glass balustrade and complete remaining works under FB1
Footbridge FB2	
Traffic Gantry	
A22760	FB2 - Gantry Removal
RC	
A22370	FB2 - Falsework Installation
A22380	FB2 - Formwork Soffit / Working Deck Installation
A22390	FB2 - Bearing Installation
A22400	FB2 - Fix Rebar bottom section
A22410	FB2 - Install PT Anchors and HDPE Ducts and tendons
A22420	FB2 - Install Steel Void Formwork Installation
A22430	FB2 - Fix Second Rebar up to base
A22440	FB2 - Install cast in Items (Facade, MEP & Balustrade)
A22450	FB2 - Cast Footbridge
A22460	FB2 - Gain 7 Day Strength
A22470	FB2 - Install Post Tention Strands and set up for PT works
A22480	FB2 - Post Tensioning Works (Stress and Grout)
A22490	FB2 - Removal of Formwork
A22500	FB2 - Seal up Temporary Slab Openings at PT locations
A22510	FB2 - Removal of Falsework
FB1050	FB2 - Construct Double Slab under FB2
FB1060	FB2 - Cure and Strip Double Slab under FB2
ABWF/MEP	
PCB-16-2220	FB2 - Complete Installation of remaining glazed sealed units in Southern Curtain Wall
PCB-16-2250	FB2 - Erect glass balustrade and complete remaining works
PCB-16-2400	FB2 - Screeding and Tiling
PCB-16-2410	FB2 - Install Automatic Doors on FB2
PCB-16-2500	FB2- Install Automatic Doors under FB2



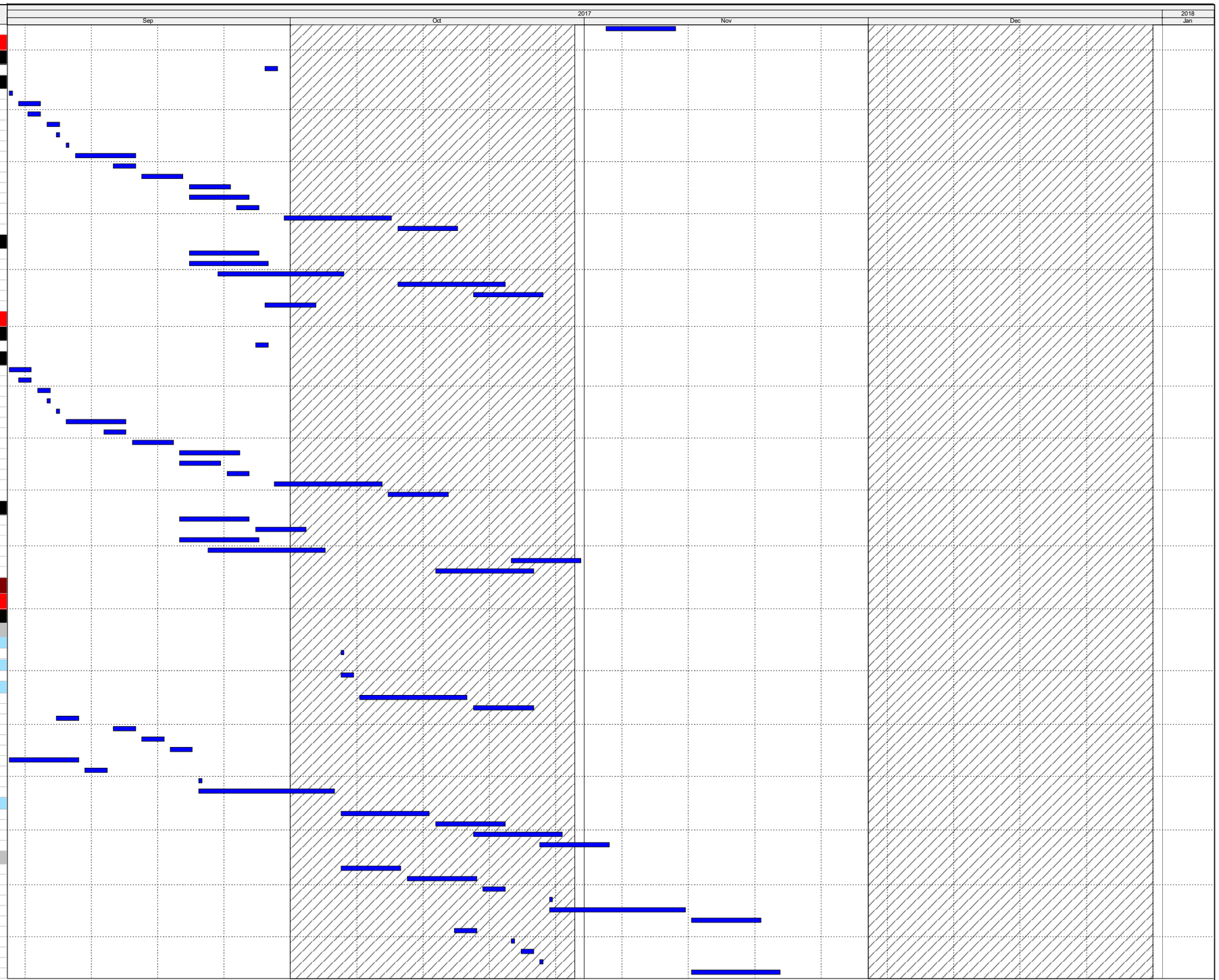
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
PCB-16-2510	FB2 - Erect glass balustrade and complete remaining works under FB2
Footbridge FB3	
Traffic Gantry	
A22710	FB3 - Gantry Removal
RC	
A22250	FB3 - Fix Rebar bottom section
A22260	FB3 - Install PT Anchors and HDPE Ducts and tendons
A22270	FB3 - Install Steel Void Formwork Installation
A22280	FB3 - Fix Second Rebar up to base
A22290	FB3 - Install cast in Items (Facade, MEP & Balustrade)
A22300	FB3 - Cast Footbridge
A22310	FB3 - Gain 7 Day Strength
A22320	FB3 - Install Post Tention Strands and set up for PT works
A22330	FB3 - Post Tensioning Works (Stress and Grout)
A22340	FB3 - Removal of Formwork
A22350	FB3 - Seal up Temporary Slab Openings at PT locations
A22360	FB3 - Removal of Falsework
FB1030	FB3 - Construct Double Slab under FB3
FB1040	FB3 - Cure and Strip Double Slab under FB3
ABWF/MEP	
PCB-16-2190	FB3 - Complete Installation of remaining glazed sealed units in Southern Curtain Wall
PCB-16-2420	FB3 - Screeding and Tiling
PCB-16-2430	FB3- Install Automatic Doors FB3 on FB3
PCB-16-2480	FB3- Install Automatic Doors under FB3
PCB-16-2490	FB3 - Erect glass balustrade and complete remaining works under FB3
PCB-16-840	FB3 - Erect glass balustrade and complete remaining works
Footbridge FB4	
Traffic Gantry	
A22860	FB4 - Gantry Removal
RC	
A22110	FB4 - Install PT Anchors and HDPE Ducts and tendons
A22120	FB4 - Install Steel Void Formwork Installation
A22130	FB4 - Fix Second Rebar up to base
A22140	FB4 - Install cast in Items (Facade, MEP & Balustrade)
A22150	FB4 - Cast Footbridge
A22160	FB4 - Gain 7 Day Strength
A22170	FB4 - Install Post Tention Strands and set up for PT works
A22180	FB4 - Post Tensioning Works (Stress and Grout)
A22190	FB4 - Seal up Temporary Slab Openings at PT locations
A22200	FB4 - Removal of Formwork
A22210	FB4 - Removal of Falsework
FB1070	FB4 - Construct Double Slab under FB4
FB1080	FB4 - Cure and Strip Double Slab under FB4
ABWF/MEP	
PCB-16-2280	FB4 - Complete Installation of remaining glazed sealed units in Southern Curtain Wall
PCB-16-2310	FB4 - Erect glass balustrade and complete remaining works
PCB-16-2440	FB4 - Screeding and Tiling
PCB-16-2450	FB4- Install Automatic Doors on FB4
PCB-16-2460	FB4 - Erect glass balustrade and complete remaining works under FB4
PCB-16-2470	FB4- Install Automatic Doors under FB4
Northern Footbridges - From Dashboard	
Footbridge FB16	
North Footbridge FB16	
Stage 1 - PCB to P1	
Traffic Gantry 1	
A22910	FB16 S1 - Gantry Removal
Traffic Gantry 2	
A22950	FB16 S1 - Gantry Removal
RC Works	
FB1110	Construct Double Slab under Footbridge FB16
FB1120	Cure and Strip Double Slab under Footbridge FB16
FB1910	FB16 S1 - Bearing Installation (4 No)
FB1920	FB16 S1 - Internal Steel Void Formwork Installation
FB1930	FB16 S1 - Rebar Fixing Top Section
FB1940	FB16 S1 - Install Cast In Items
FB920	FB16 S1 - Formwork Erection
FB930	FB16 S1 - Rebar Fixing Bottom Section
FB940	FB16 S1 - Concreting
FB950	FB16 S1 - Cure and Strip Footbridge FB16
ABWF/MEP	
FB1890	FB16 S1 - Complete Remaining Facade Glazing and Automatic Doors On FB16
FB1900	FB16 S1 - Install Balustrade and complete finishes
FB2230	FB16 S1 - Complete Remaining Facade Glazing and Automatic Doors Under FB16
FB2240	FB16 S1 - Install Balustrade and complete finishes Under FB16
Stage 2 - P1 to PTI Abutment	
FB1280	FB16 S2 - Falsework Erection
FB1290	FB16 S2 - Formwork Erection
FB1300	FB16 S2 - Rebar Fixing Bottom Section
FB1310	FB16 S2 - Concreting
FB1320	FB16 S2 - Cure and Strip Footbridge FB16
FB1880	FB16 S2 - Install Balustrade and complete finishes
FB2070	FB16 S2 - Bearing Installation (4 No)
FB2080	FB16 S2 - Internal Steel Void Formwork Installation
FB2090	FB16 S2 - Rebar Fixing Top Section
FB2100	FB16 S2 - Install Cast In Items
PCB-03-2890	FB16 S2 - Complete at Grade works under bridge footprint



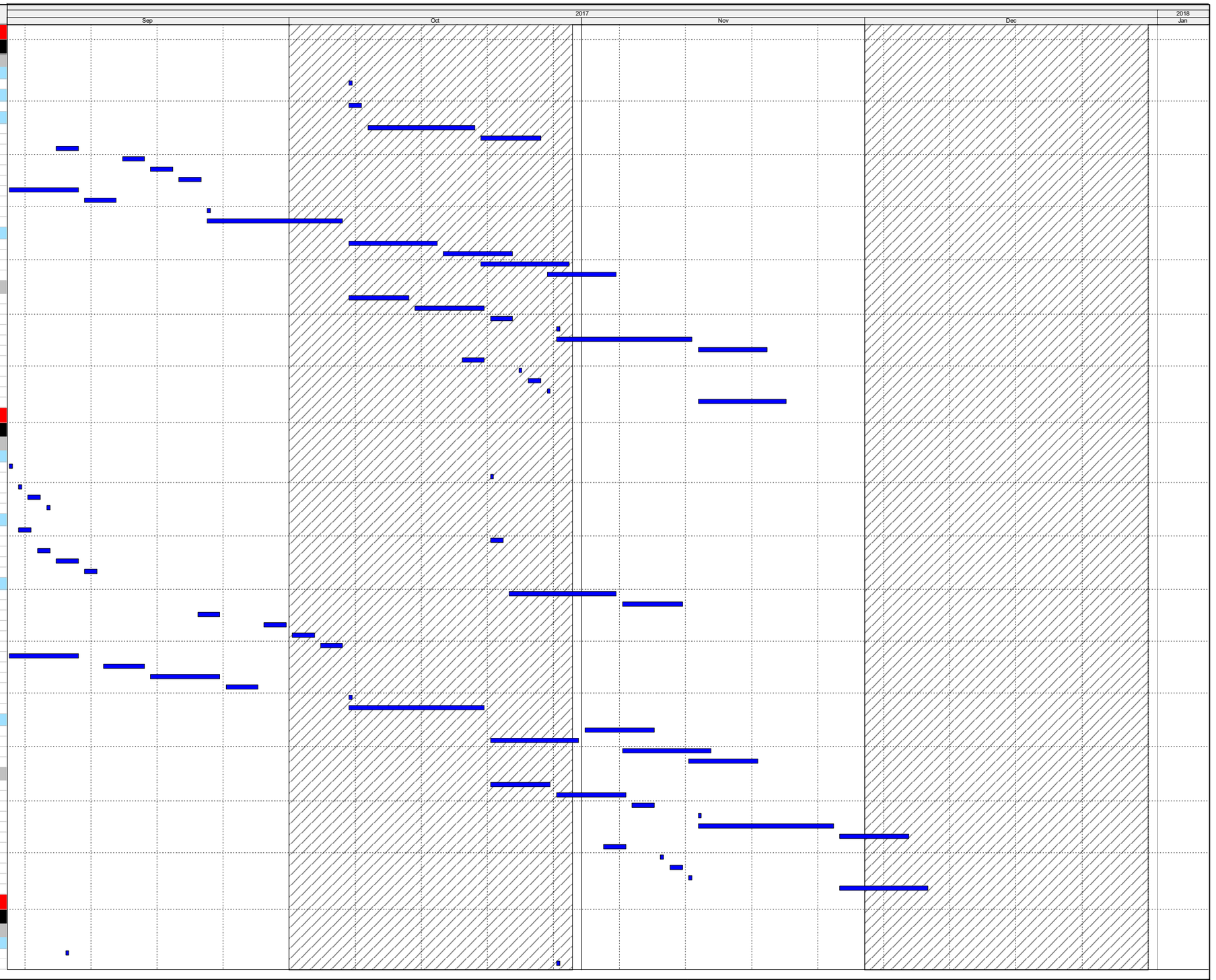
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
Footbridge FB15	
North Footbridge FB15	
Stage 1 - PCB to P1	
Traffic Gantry 1	
A22980	FB15 S1 - Gantry Removal
Traffic Gantry 2	
A23130	FB15 S1 - Gantry Removal
RC Works	
FB1130	Construct Double Slab under Footbridge FB15
FB1140	Cure and Strip Double Slab under Footbridge FB15
FB1950	FB15 S1 - Bearing Installation (4 No)
FB1960	FB15 S1 - Internal Steel Void Formwork Installation
FB1970	FB15 S1 - Rebar Fixing Top Section
FB1980	FB15 S1 - Install Cast In Items
FB860	FB15 S1 - Formwork Erection
FB870	FB15 S1 - Rebar Fixing Bottom Section
FB880	FB15 S1 - Concreting
FB890	FB15 S1 - Cure and Strip Footbridge FB15
ABWF/MEP	
FB1750	FB15 S1 - Complete Remaining Facade Glazing and Automatic Doors On FB15
FB1760	FB15 S1 - Install Balustrade and complete finishes
FB2250	FB15 S1 - Complete Remaining Facade Glazing and Automatic Doors Under FB15
FB2260	FB15 S1 - Install Balustrade and complete finishes Under FB15
Stage 2 - P1 to PTI Abutment	
FB1400	FB15 S2 - Falsework Erection
FB1410	FB15 S2 - Formwork Erection
FB1420	FB15 S2 - Rebar Fixing Bottom Section
FB1430	FB15 S2 - Concreting
FB1440	FB15 S2 - Cure and Strip Footbridge FB15
FB1770	FB15 S2 - Install Balustrade and complete finishes
FB2110	FB15 S2 - Bearing Installation (4 No)
FB2120	FB15 S2 - Internal Steel Void Formwork Installation
FB2130	FB15 S2 - Rebar Fixing Top Section
FB2140	FB15 S2 - Install Cast In Items
PCB-03-3150	FB15 S2 - Complete at Grade works under bridge footprint
Footbridge FB14	
North Footbridge FB14	
Stage 1 - PCB to P1	
Traffic Gantry 1	
A23020	FB14 S1 - Megashore Installation
A23030	FB14 S1 - Gantry Removal
A23040	FB14 S1 - Working Platform for I Beam Platform
A23050	FB14 S1 - I Beam Platform Erection
A23060	FB14 S1 - Removal of Working Platform
Traffic Gantry 2	
A23170	FB14 S1 - Megashore Installation
A23180	FB14 S1 - Gantry Removal
A23190	FB14 S1 - Working Platform for I Beam Platform
A23200	FB14 S1 - I Beam Platform Erection
A23210	FB14 S1 - Removal of Working Platform
RC Works	
FB1150	Construct Double Slab under Footbridge FB14
FB1160	Cure and Strip Double Slab under Footbridge FB14
FB1990	FB14 S1 - Bearing Installation (4 No)
FB2000	FB14 S1 - Internal Steel Void Formwork Installation
FB2010	FB14 S1 - Rebar Fixing Top Section
FB2020	FB14 S1 - Install Cast In Items
FB780	FB14 S1 - Prepare Ground
FB790	FB14 S1 - Falsework Erection
FB800	FB14 S1 - Formwork Erection
FB810	FB14 S1 - Rebar Fixing Bottom Section
FB820	FB14 S1 - Concreting
FB830	FB14 S1 - Cure and Strip Footbridge FB14
ABWF/MEP	
FB1790	FB14 S1 - Install Balustrade and complete finishes
FB1800	FB14 S1 - Complete Remaining Facade Glazing and Automatic Doors on FB14
FB2270	FB14 S1 - Complete Remaining Facade Glazing and Automatic Doors Under FB14
FB2280	FB14 S1 - Install Balustrade and complete finishes Under FB14
Stage 2 - P1 to PTI Abutment	
FB1520	FB14 S2 - Falsework Erection
FB1530	FB14 S2 - Formwork Erection
FB1540	FB14 S2 - Rebar Fixing
FB1550	FB14 S2 - Concreting
FB1560	FB14 S2 - Cure and Strip Footbridge FB14
FB1860	FB14 S2 - Install Balustrade and complete finishes
FB2150	FB14 S2 - Bearing Installation (4 No)
FB2160	FB14 S2 - Internal Steel Void Formwork Installation
FB2170	FB14 S2 - Rebar Fixing Top Section
FB2180	FB14 S2 - Install Cast In Items
PCB-03-3890	FB14 S2 - Complete at Grade works under bridge footprint
Footbridge FB13	
North Footbridge FB13	
Stage 1 - PCB to P1	
Traffic Gantry 1	
A23070	FB13 S1 - Megashore Installation
A23080	FB13 S1 - Gantry Removal



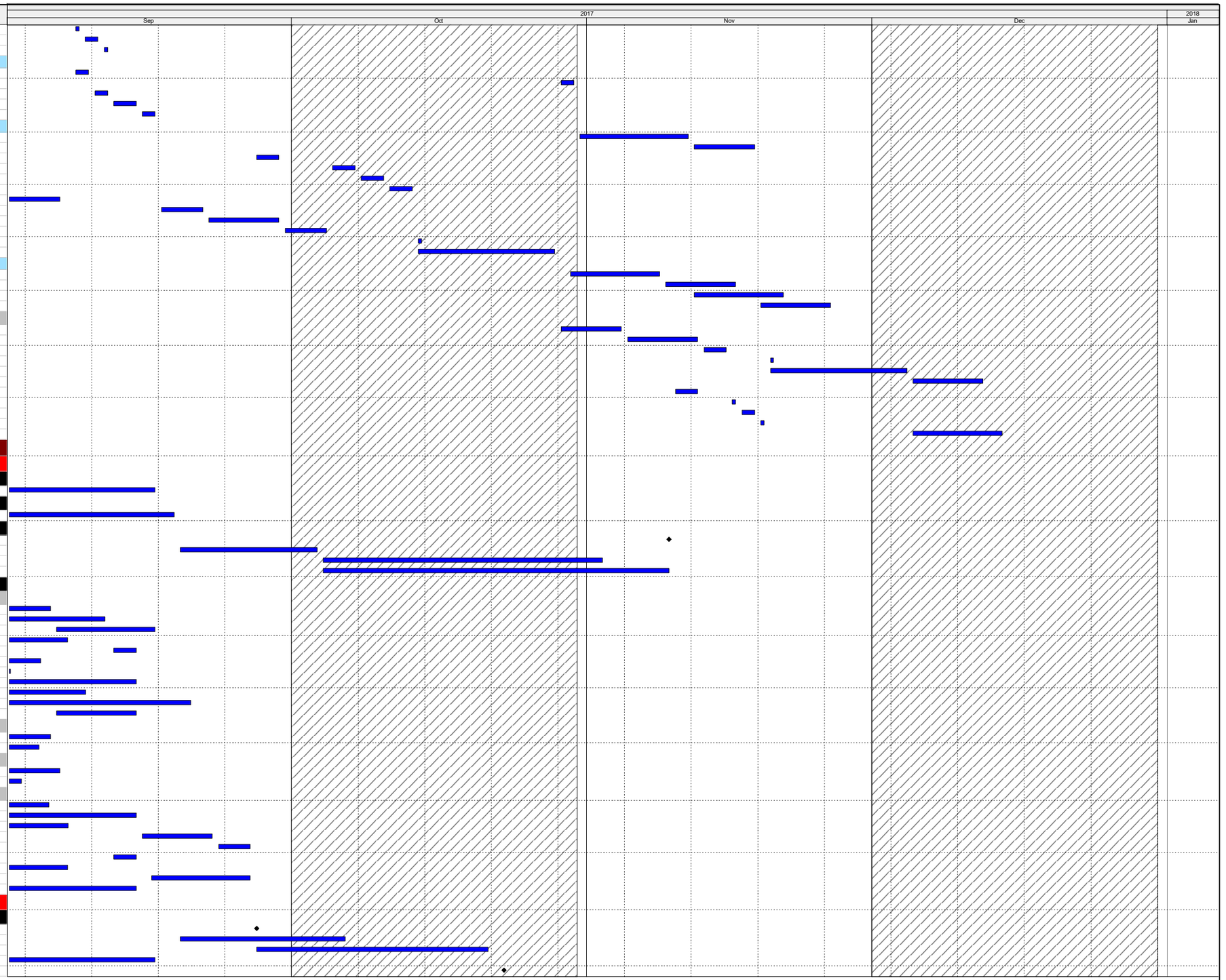
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
A23090	FB13 S1 - Working Platform for I Beam Platform
A23100	FB13 S1 - I Beam Platform Erection
A23110	FB13 S1 - Removal of Working Platform
Traffic Gantry 2	
A23220	FB13 S1 - Megashore Installation
A23230	FB13 S1 - Gantry Removal
A23240	FB13 S1 - Working Platform for I Beam Platform
A23250	FB13 S1 - I Beam Platform Erection
A23260	FB13 S1 - Removal of Working Platform
RC Works	
FB1170	Construct Double Slab under Footbridge FB13
FB1180	Cure and Strip Double Slab under Footbridge FB13
FB2030	FB13 S1 - Bearing Installation (4 No)
FB2040	FB13 S1 - Internal Steel Void Formwork Installation
FB2050	FB13 S1 - Rebar Fixing Top Section
FB2060	FB13 S1 - Install Cast In Items
FB720	FB13 S1 - Prepare Ground
FB730	FB13 S1 - Falsework Erection
FB740	FB13 S1 - Formwork Erection
FB750	FB13 S1 - Rebar Fixing Bottom Section
FB760	FB13 S1 - Concreting
FB770	FB13 S1 - Cure and Strip Footbridge FB13
ABWF/MEP	
FB1810	FB13 S1 - Complete Remaining Facade Glazing and Automatic Doors On FB13
FB1820	FB13 S1 - Install Balustrade and complete finishes
FB2290	FB13 S1 - Complete Remaining Facade Glazing and Automatic Doors Under FB13
FB2300	FB13 S1 - Install Balustrade and complete finishes Under FB13
Stage 2 - P1 to PTI Abutment	
FB1640	FB13 S2 - Falsework Erection
FB1650	FB13 S2 - Formwork Erection
FB1660	FB13 S2 - Rebar Fixing
FB1670	FB13 S2 - Concreting
FB1680	FB13 S2 - Cure and Strip Footbridge FB13
FB1830	FB13 S2 - Install Balustrade and complete finishes
FB2190	FB13 S2 - Bearing Installation (4 No)
FB2200	FB13 S2 - Internal Steel Void Formwork Installation
FB2210	FB13 S2 - Rebar Fixing Top Section
FB2220	FB13 S2 - Install Cast In Items
PCB-03-3920	FB13 S2 - Complete at Grade works under bridge footprint
Seawater Pumphouse	
ABWF & BS / MEP / E&M Works	
Basement Level	
PCB-13A-700	SWP - Building Services Installation in Basement (Incl FS)
Ground Floor Level	
PCB-13A-530	SWP - Building Services Installation in Ground Floor
External	
PCB-13A-200	Completion of Section III - Seawater pumping station
PCB-13A-610	SWP - Installation of Louvers and Metalworks in Ground Floor
PCB-13A-690	SWP - Roof Waterproofing, Screeding, Insulation board , Tiling
PCB-13A-710	SWP - External Render/Tiling to Pump House
Installation Works	
Mechanical Works at Basement	
A21540	SWP - Installation of Pipe Supports
A21550	SWP - Installation of SW Pipes and Fittings
A21560	SWP - Hydraulic Testing of SW Pipes
A21580	SWP - Installation of Platform
A21590	SWP - Installation of Motors
A21600	SWP - Installation of ABS
A21610	SWP - Installation of TBS Backwash Pipes
A21620	SWP - Installation of ABS Backwash pipes
A21630	SWP - Installation of dosing pipes and H2 Pipes
A21650	SWP - Installation of Electrochlorinator
A21660	SWP - Installation of Biocide System
Mechanical Works at Wetwell 1	
A21670	SWP - Installation of Penstock
A21680	SWP - Installation of TBS
Mechanical Works at Wetwell 2	
A21710	SWP - Installation of Penstock
A21720	SWP - Installation of TBS
Electrical Works	
A21700	SWP - Cable Trays and Trunking
A21740	SWP - Cabling
A21750	SWP - Pumps
A21760	SWP - TBS (Including Level Sensors)
A21770	SWP - ABS
A21780	SWP - Penstocks
A21790	SWP - Biocide System
A21800	SWP - Electrochlorinator
A21810	SWP - Cable Containment for cables from PCB to SWP
Testing and Commissioning	
Seawater Pumps	
MEP-13A-1201	SWP - Temporary Power for Commissioning for Seawater Pump
MEP-13A-1202	SWP - Pre-Commissioning Works for Seawater Pump/network
MEP-13A-1204	SWP - Commissioning Works for Seawater Pump/network (Temp Power)
MEP-13A-1259	SWP - Cable laying from PCB to Seawater Pumphouse
MEP-13A-1260	SWP - Permanent Power for Commissioning for Seawater Pump available



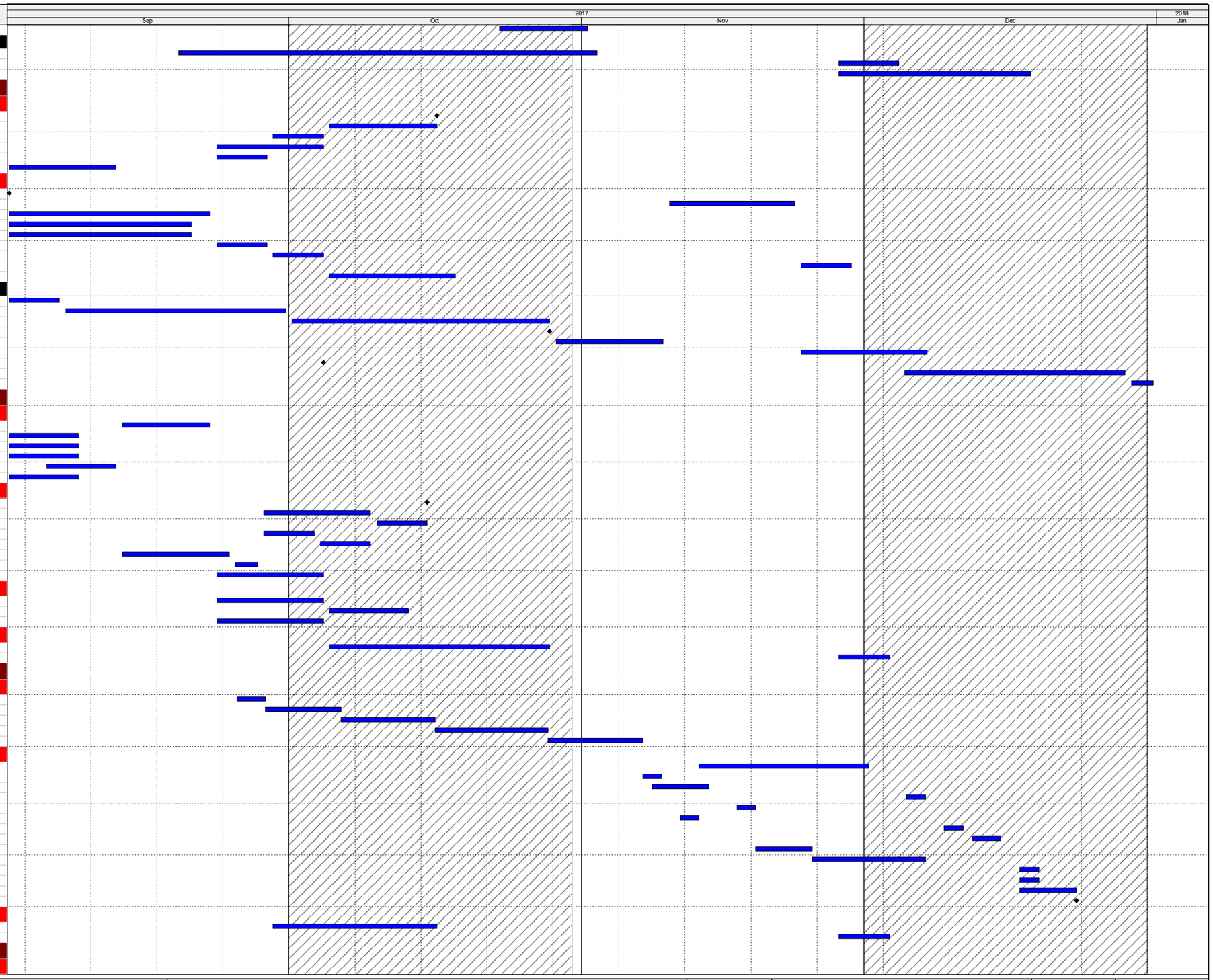
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
MEP-13A-1261	SWP - Commissioning Works for Seawater Pump/network (Perm Power)
Building T&C	
MEP-13A-1203	SWP - Commissioning Works (FS,MVAC & BS Rdy for FSD Inspection)
MEP-13A-1245	PCB - FSD Inspection 6: Ancillary buildings (SWPH,GSB,RFU,PTI Toilets)
MEP-13A-1250	SWP - Commissioning Works (Balance non FS related)
Generator Set Building	
ABWF	
PCB-07-1010	Completion of Section VIII - Generator Set Building
PCB-07-1030	GSB - Installation of Steel Louvers and Frames
PCB-07-1070	GSB - Install Mild Steel Doors
PCB-07-1080	GSB - Install Stainless Steel Facade Greenery System
PCB-07-1090	GSB - Internal Waterproofing Membrane and Painting
PCB-07-1100	GSB - Screeding and Epoxy Floor Covering
MEP	
GB1000	GSB - General building plan approved
GB1070	GSB - FSD(Vent)/FS Inspection - Genset Bdg
GB1110	GSB - MEP Works
GB1120	GSB - Installation of Gensets and terminations
GB1125	GSB - Installation of Power cabling to LV Switchrooms
GB1130	GSB - Generator Set Building Commissioning (temp power)
GB1140	GSB - Generator Set Building Commissioning (Perm power)
GB1150	GSB - Genset Full Test - Genset Bldg (No FS Genset)
GB1170	GSB - Notification Period (GEN)
Statutory Submissions	
GB1010	GSB - Submission to EPD (Air) - Genset Bdg
GB1020	GSB - EPD Issue Permit - Genset Bdg
GB1040	GSB - FSD Submission and Approval - Genset Bdg
GB1050	GSB - Genset Ready for DG Inspection - Genset Bdg
GB1060	GSB - Notify FSD for DG Inspection - Genset Bdg
GB1080	GSB - DG Licence Issued - Genset Bdg
GB1160	GSB - Submission of Form 314 & 501 (FS) (by FS S/C and AP) (GEN)
GB1180	GSB - FSD Inspection Period (GEN)
GB1190	GSB - Issue of Fire Certificate (GEN) same time as PCB buiding
Refuse Collection Point	
RC Structures	
PCB-06-1120	RCP - Cure and Strip Roof Floor
PCB-06-1130	RCP - Construct Columns to +13.9mPD x 8
PCB-06-1140	RCP - Construct Columns to +10.15mPD x 8
PCB-06-1150	RCP - Construct Walls to +13.9mPD
PCB-06-1160	RCP - Construct Roof Slab at +13.9mPD
PCB-06-130	RCP - Construct Walls to +10.15mPD
ABWF & BS / MEP / E&M Works	
PCB-06-1010	Completion of Section VIII - Refuse Collection Point
PCB-06-1020	RCP - Installation of Steel Louvers and Frames
PCB-06-1050	RCP - Final Painting (3 Coats)
PCB-06-1060	RCP - Roller Shutter Header Box Installation
PCB-06-1070	RCP - Roller Shutter Steel Curtain Installation
PCB-06-1080	RCP - Install Stainless Steel Facade Greenery System
PCB-06-1090	RCP - Install Mild Steel Doors
PCB-06-1110	RCP - BS/MEP/E&M Works
Roof Finishes	
PCB-06-1030	RCP - Leveling Screed, Waterproofing, Concrete Pavers
PCB-06-1040	RCP - Screeding and Granite Tiles
PCB-06-1100	RCP - Install Drainage Pipework
Testing and Commissioning	
PCB-06-1112	RCP - T&C, Final Inspection
PCB-061115	PCB - FSD Inspection 6: Ancillary buildings (SWPH,RFU,PTI Toilets)
Public Toilets at PTI	
RC Structures	
PCB-04-110	PT - Open cut for Raft Foundation
PCB-04-120	PT - Construct Raft Footing
PCB-04-130	PT - Construct Ground Floor Slab
PCB-04-140	PT - Construct Wall & Roof floor
PCB-04-260	PT - Cure and Strip Roof Floor
ABWF & BS Works	
PCB-04-150	PT - E&M installation works
PCB-04-170	PT - Steel frame for Blockwall installation
PCB-04-180	PT - Blockwall Installation
PCB-04-190	PT - Screeding Works
PCB-04-200	PT - Rendering
PCB-04-210	PT - Ceiling Painting
PCB-04-220	PT - Wall Tiling
PCB-04-230	PT - Floor Skirting and Tiling
PCB-04-240	PT - Sanitaryware Installation
PCB-04-250	PT - Plumbing and drainage connections
PCB-04-270	PT - Install Doors and Windows
PCB-04-280	PT - Final Painting
PCB-04-290	PT - Snagging and remedials
PCB-05-1510	Completion of Section VIII - Public Toilet (Contract 950 days +263 days)
Testing and Commissioning	
PCB-04-1500	PT - T&C, Final Inspection
PCB-04-1520	PCB - FSD Inspection 6: Ancillary buildings (SWPH,RFU,PTI Toilets)
Landscaping - 9 July 17	
General	



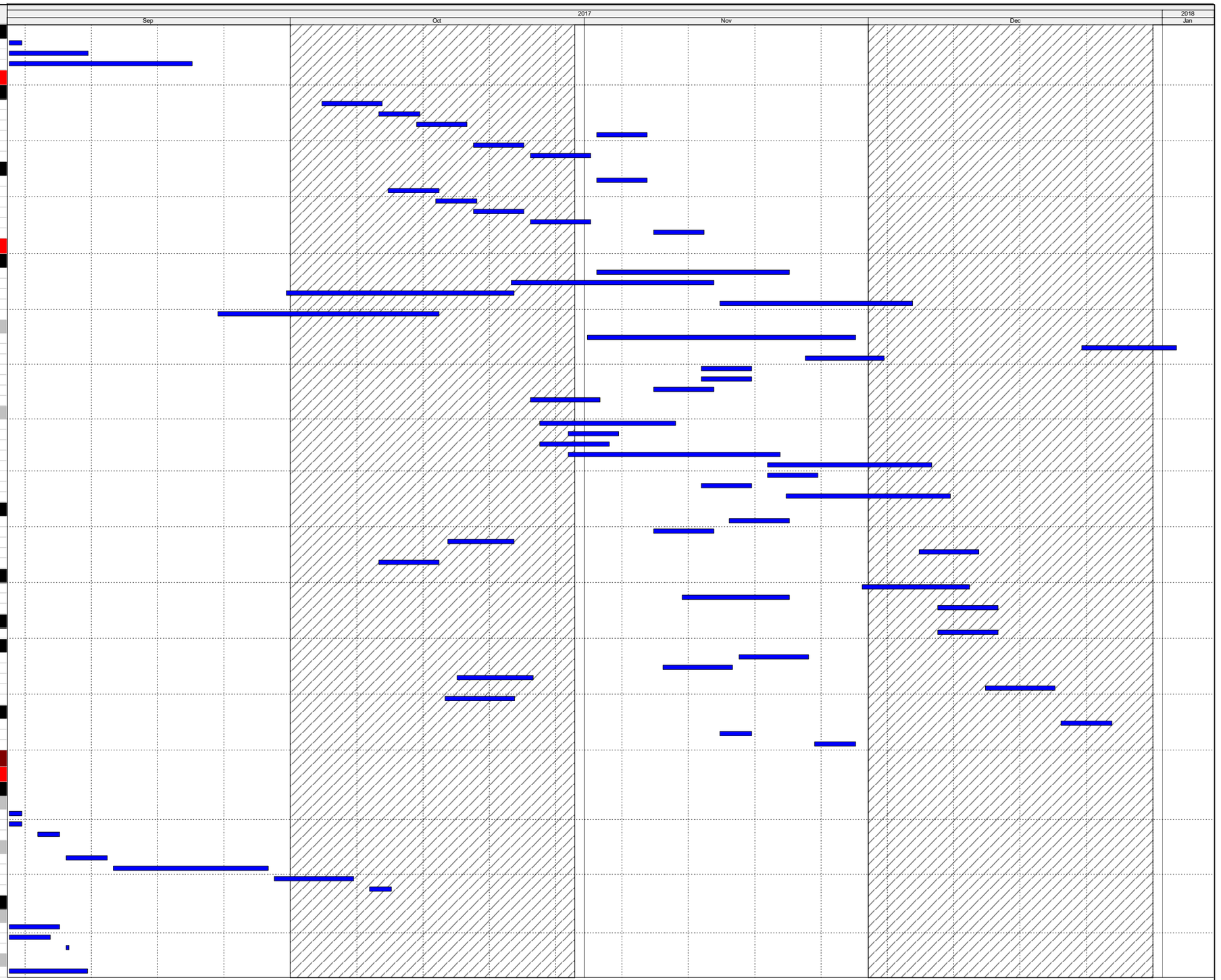
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
Mock-ups	
LS1360	Mock-up of GRC for approval
LS1430	Mock-up of Vertical Green Cable System for approval
LS1440	Tree Selection with Architect
Soft Landscaping	
Preperation Works	
LS1450	Preparation works (inclu soiling, fertilizer, mulching etc) (South)
LS1460	Preparation works (inclu soiling, fertilizer, mulching etc)(East GL J to F)
LS1470	Preparation works (inclu soiling, fertilizer, mulching etc) (West GL J to F)
LS1480	Preparation works (inclu soiling, fertilizer, mulching etc) (North)
LS1490	Preparation works (inclu soiling, fertilizer, mulching etc) (East GL F to C)
LS1500	Preparation works (inclu soiling, fertilizer, mulching etc) (West GL F to C)
Planting Works	
LS1510	Planting (West GL F to C)
LS1520	Planting (South)
LS1530	Planting (East GL J to F)
LS1540	Planting (West GL J to F)
LS1550	Planting (East GL F to C)
LS1560	Planting (North)
Hard Landscaping	
Paving and Kerb	
LS1570	Complete Roads, Kerbs and Pavers (West GL F to C)
LS1590	Complete Roads, Kerbs and Pavers (East GL J to F)
LS1600	Complete Roads, Kerbs and Pavers (West GL J to F)
LS1610	Complete Roads, Kerbs and Pavers (North)
LS1620	Complete Roads, Kerbs and Pavers (East GL F to C)
South	
LS1580	Complete Concrete Pavers C2 (2500m²)
LS2890	Complete Concrete Pavers C1 (600m²) (West)
LS2900	Complete Concrete Pavers C1 (750m²) (East)
LS2910	Complete Concrete Pavers P1 (100m²) (FB1)
LS2920	Complete Concrete Pavers P1 (200m²) (FB2)
LS2930	Complete Concrete Pavers P1 (200m²) (FB3)
LS2940	Complete Concrete Pavers P1 (100m²) (FB4)
North	
LS2950	Complete Concrete Pavers C1 (1200m²) (East)
LS2960	Complete Concrete Pavers P1 (200m²) (FB15)
LS2970	Complete Concrete Pavers P1 (100m²) (FB16)
LS2980	Complete Concrete Pavers C1 (2000m²)
LS2990	Complete Concrete Pavers C1 (1600m²) (West)
LS3000	Complete Concrete Pavers P1 (100m²) (FB13)
LS3010	Complete Concrete Pavers P1 (200m²) (FB14)
LS3020	Complete Concrete Pavers C1 (1600m²) Strip
Railing/Fencing, Traffic Sign	
LS1630	Railing/Fencing, Traffic Sign (West GL F to C)
LS1650	Railing/Fencing, Traffic Sign (East GL J to F)
LS1660	Railing/Fencing, Traffic Sign (West GL J to F)
LS1670	Railing/Fencing, Traffic Sign (North)
LS1680	Railing/Fencing, Traffic Sign (East GL F to C)
GRC Benches	
LS1690	GRC Benches under SDO (GL J)
LS1700	GRC Benches at Wall Planter 2 (North East)
LS1710	GRC Benches at Wall Planter 1 (North West)
Recycle Bin and Litter Bin	
LS1720	Recycle and Litter Bin Installation
Bitumen Carriageway	
LS1730	Bitumen Carriageway (West GL F to C)
LS1770	Bitumen Carriageway (East GL J to F)
LS1780	Bitumen Carriageway (West GL J to F)
LS1790	Bitumen Carriageway (North)
LS1800	Bitumen Carriageway (East GL F to C)
Road Marking	
LS1740	Road Marking (North)
LS1820	Road Marking (East)
LS1830	Road Marking (West)
Underground Drainage & Utilities	
External Utility Works (Horace)	
SOUTH (Row 1)	
Drainage/sewerage works in Row 1 East (5 manhole, IL+3.6mPD)	
A19360	R1S - Manhole construction (6 Manhole, 2 MH/4d)
A19370	R1S - Pipe laying (DN100,60m, 15m/d, 2 days for testing)
A19380	R1S - Backfilling (7 layers, 2 layer/d)
Drainage/sewerage works in Row 1 West (5 manhole, IL+3.6mPD)	
A19400	R1S - Excavation works & SRT (300cu.m)
A19410	R1S - Manhole construction (8 Manhole, 2 MH/4d)
A19420	R1S - Pipe laying (DN100-60m, DN900-5m, DN200-10m, 15m/d, 2 days for testing)
A19430	R1S - Backfilling (7 layers, 2 layer/d)
EAST	
Drainage works in Row 2 East (M76A.1 to M76A.2, lowest IL+3.2mPD)	
A19450	R2E - Manhole construction (8 Manhole, 2 MH/4d)
A19460	R2E - Pipe laying (DN100-60m, DN900-5m, DN200-10m, 15m/d, 2 days for testing)
A19470	R2E - Backfilling (7 layers, 2 layer/d)
Sewerage works in Row 2 East (FMH302 to FMH304, lowest IL+3.7mPD)	
A19480	R2E - Manhole construction (5 Manhole, 2 MH/4d)



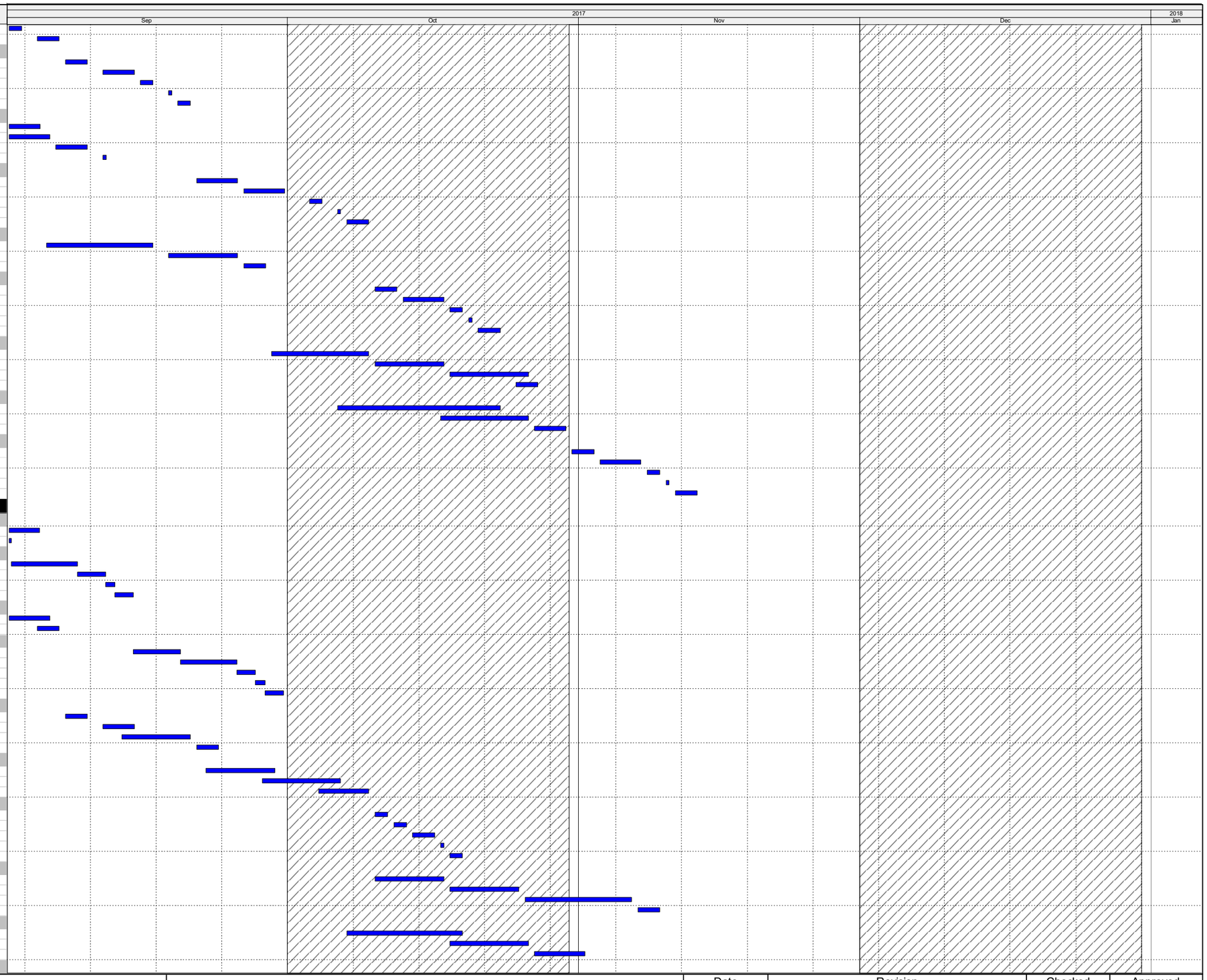
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
A19490	R2E - Pipe laying (DN300-80m, 2 days for testing)
A19500	R2E - Backfilling (5 layers, 2 layer/d)
Water Main Fresh & Flush Row 2 East D06 CH0.00 to CH77	
A21010	R2E - Excavation (300cu.m)
A21020	R2E - Pipe Laying
A21030	R2E - Pressure Test
A21040	R2E - Bend Block
A21050	R2E - Backfilling
Drainage works in Row 3 East (M76A.1 to STMH-07, lowest IL+3.66mPD)	
A19510	R3E - Excavation works & SRT (288cu.m)
A19520	R3E - Manhole construction (2 Manhole, 2 MH/4d)
A19530	R3E - Pipe laying (DN900-18m,15m/d, 2 days for testing)
A19540	R3E - Backfilling (2 layers, 2 layer/d)
Water Main Fresh & Flush Row 3 East CH EI CH0.00 to CH95.986	
A21051	R3E - Excavation (300cu.m)
A21052	R3E - Pipe Laying Row 3
A21053	R3E - Pressure Test Row 3
A21054	R3E - Bend Block Row 3
A21055	R3E - Backfilling Row 3
Sewerage works in Row 3 East (FMH302 to FTMH-06, lowest IL+4.15mPD)	
A19550	R3E - Manhole construction (5 Manhole, 2 MH/4d)
A19560	R3E - Pipe laying (DN300-80m, 2 days for testing)
A19570	R3E - Backfilling (5 layers, 2 layer/d)
Water Main Fresh & Flush Row 3 East D06 CH77 to CH139.478	
A21056	R3E - Excavation (300cu.m)
A21057	R3E - Pipe Laying Row 3
A21058	R3E - Pressure Test Row 3
A21059	R3E - Bend Block Row 3
A21060	R3E - Backfilling Row 3
Drainage works in Row 4 East (STMH-06 to M75A.A3, lowest IL+3.218mPD)	
A19580	R4E - Excavation works & SRT (1425cu.m)
A19590	R4E - Manhole construction (3 Manhole, 2 MH/4d)
A19600	R4E - Pipe laying (DN900-40m, DN105-45m, 15m/d, 2 days for testing)
A19610	R4E - Backfilling (5 layers, 2 layer/d)
Sewerage works in Row 4 East (FTMH-05 to FMH204, lowest IL+1.7mPD)	
A19620	R4E - Manhole construction (7 Manhole, 2 MH/4d)
A19630	R4E - Pipe laying (DN300-115m, 2 days for testing)
A19640	R4E - Backfilling (3 layers, 2 layer/d)
Water Main Fresh & Flush Row 4 East D06 CH139.478 to CH260.883	
A21061	R4E - Excavation (300cu.m)
A21062	R4E - Pipe Laying Row 4
A21063	R4E - Pressure Test Row 4
A21064	R4E - Bend Block Row 4
A21065	R4E - Backfilling Row 4
WEST	
Sewerage works in Row 2 West (FMH006 to FMH010, lowest IL+1.971mPD)	
A19810	R2W - Pipe laying (DN300-90m, 2 days for testing)
A19820	R2W - Backfilling (3 layers, 2 layer/d)
Water Main Fresh & Flush Row 2 West D07 CHA0.00 to CH200	
A21067	R2W - Pipe Laying
A21068	R2W - Pressure Test
A21069	R2W - Bend Block
A21070	R2W - Backfilling
Drainage works in Row 2 West (M72A.1 to M72A.3, lowest IL+3.19mPD)	
A19840	R2W - Pipe laying (DN300-47m, 15m/d, 2 days for testing)
A19850	R2W - Backfilling (7 layers, 2 layer/d)
Water Main Fresh & Flush Row 2 West D05 CH293.278 to CH181.799-1	
A21071	R2W - Excavation (300cu.m)
A21072	R2W - Pipe Laying
A21073	R2W - Pressure Test
A21074	R2W - Bend Block
A21075	R2W - Backfilling
Sewerage works in Row 3 West (FMH006 to FMH004, lowest IL+2.55mPD)	
A19860	R3W - Excavation works & SRT (1075cu.m)
A19870	R3W - Manhole construction (2 Manhole, 2 MH/4d)
A19880	R3W - Pipe laying (DN300-60m, 2 days for testing)
A19890	R3W - Backfilling (5 layers, 2 layer/d)
Drainage works in Row 3 West (M72A.3 to M72A.4, lowest IL+2.97mPD)	
A19900	R3W - Manhole construction (3 Manhole, 2 MH/4d)
A19910	R3W - Pipe laying (DN300-20m, DN900-55m,15m/d, 2 days for testing)
A19920	R3W - Backfilling (9 layers, 2 layer/d)
Water Main Fresh & Flush Row 3 West CH07 0.00 to 27.635	
A21076	R3W - Excavation (300cu.m)
A21077	R3W - Pipe Laying
A21078	R3W - Pressure Test
A21079	R3W - Bend Block
A21080	R3W - Backfilling
Drainage works in Row 4 West (M72A.4 to M72A.8, lowest IL+2.051mPD)	
A19930	R4W - Excavation works & SRT (1425cu.m)
A19940	R4W - Manhole construction (3 Manhole, 2 MH/4d)
A19950	R4W - Pipe laying (DN1200-85m, DN900-30m, 15m/d, 2 days for testing)
A19960	R4W - Backfilling (5 layers, 2 layer/d)
Sewerage works in Row 4West (FMH004 to FMH001B, lowest IL+2.778mPD)	
A19970	R4W - Manhole construction (5 Manhole, 2 MH/4d)
A19980	R4W - Pipe laying (DN300-100m, 2 days for testing)
A19990	R4W - Backfilling (9 layers, 2 layer/d)
Water Main Fresh & Flush Row 4 West D05 CH1181.799 to CH119.629	



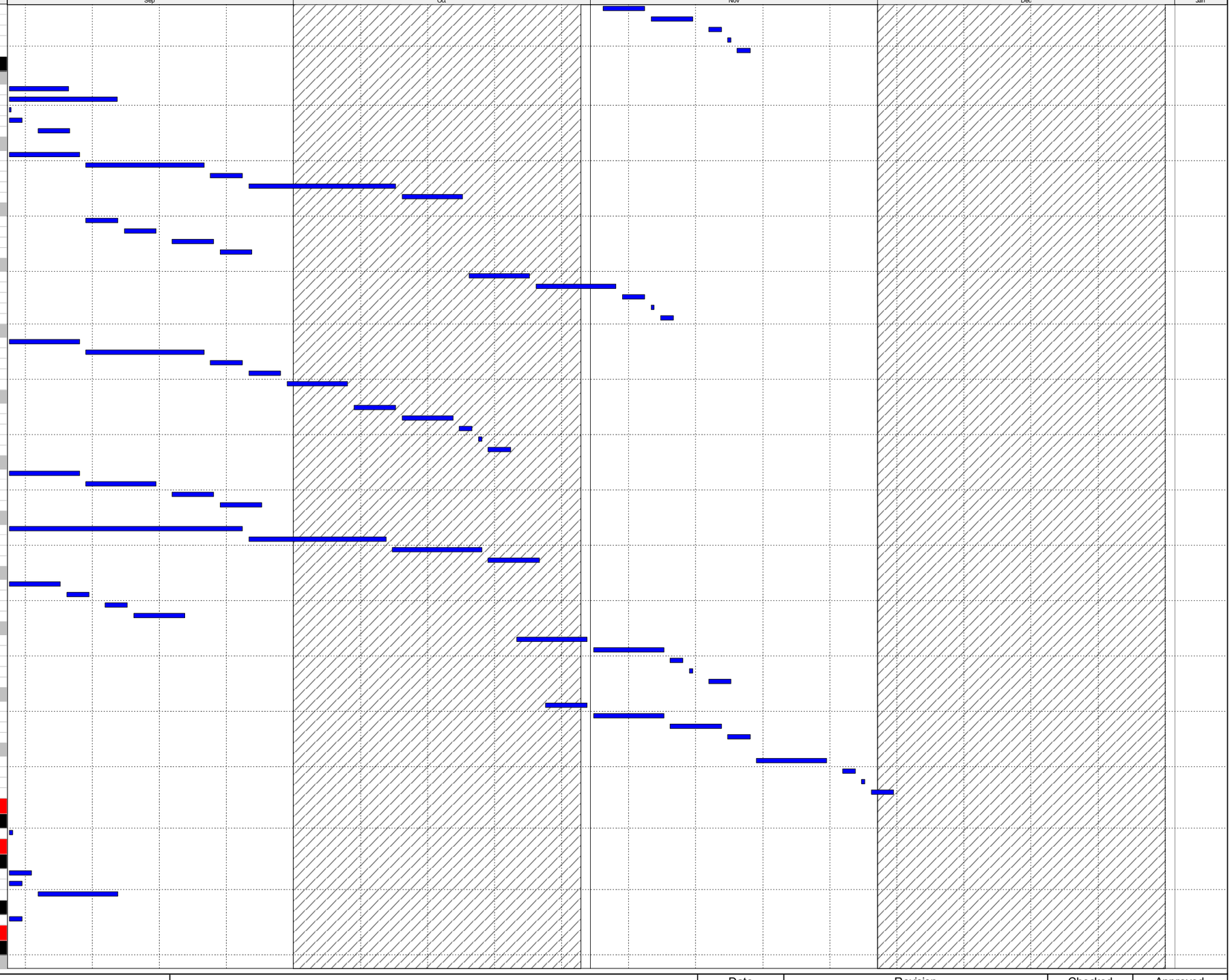
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
A21081	R4W - Excavation (300cu.m)
A21082	R4W - Pipe Laying
A21083	R4W - Pressure Test
A21084	R4W - Bend Block
A21085	R4W - Backfilling
NORTH (Row 5)	
Drainage works in Row 5 East (M75A.5 to M64A.3.1, lowest IL+1.45mPD)	
A20210	R5E - Excavation works & SRT (1200cu.m)
A20220	R5E - Manhole construction (5 Manhole, 2 MH/4d)
A20230	R5E - Box-culvert connection
A20240	R5E - Pipe laying (DN1050-50m, 15m/d, 2 days for testing)
A20250	R5E - Backfilling (10 layers, 2 layer/d)
Drainage works in Row 5 East (M65A.1 to M76A.13, lowest IL+0.67mPD)	
A20260	R5E - Excavation works & SRT (4480cu.m)
A20270	R5E - Manhole construction (6 Manhole, 2 MH/4d)
A20280	R5E - Box-culvert connection
A20290	R5E - Pipe laying (DN750-160m, 15m/d, 2 days for testing)
A20300	R5E - Backfilling (14 layers, 2 layer/d)
Sewerage works in Row 5 East (FTMH-04 to FMH202, lowest IL+3mPD)	
A20310	R5E - Excavation works & SRT(450cu.m)
A20320	R5E - Manhole construction (2 Manhole, 2 MH/4d)
A20330	R5E - Pipe laying (DN300-45m, 2 days for testing)
A20340	R5E - Backfilling (6 layers, 2 layer/d)
Water Main Fresh & Flush Row 5 East CH A0.00 to CHA200	
A21086	R5E - Excavation (300cu.m)
A21087	R5E - Pipe Laying
A21088	R5E - Pressure Test
A21089	R5E - Bend Block
A21090	R5E - Backfilling
Drainage works in Row 5 West (M72A.8 to M76A.16 , lowest IL+0.827mPD)	
A20000	R5W - Excavation works & SRT (1200cu.m)
A20010	R5W - Manhole construction (3 Manhole, 2 MH/4d)
A20020	R5W - Box-culvert connection
A20030	R5W - Pipe laying (DN1200-45m, 15m/d, 2 days for testing)
A20040	R5W - Backfilling (10 layers, 2 layer/d)
Water Main Fresh & Flush Row 5 West D05 CH119.629 to CH0.00	
A21091	R5W - Excavation (300cu.m)
A21092	R5W - Pipe Laying
A21093	R5W - Pressure Test
A21094	R5W - Bend Block
A21095	R5W - Backfilling
Drainage works in Row 5 West (STMH-01 to M72A.4, lowest IL+2.00mPD)	
A20050	R5W - Excavation works & SRT (1440cu.m)
A20060	R5W - Manhole construction (3 Manhole, 2 MH/4d)
A20070	R5W - Pipe laying (DN900-60m, 15m/d, 2 days for testing)
A20080	R5W - Backfilling (9 layers, 2 layer/d)
Drainage works in Row 5 West (M76A.15 to M38A.A9, lowest IL+0.89mPD)	
A20090	R5W - Excavation works & SRT (4200cu.m)
A20100	R5W - Manhole construction (5 Manhole, 2 MH/4d)
A20110	R5W - Pipe laying (DN1200-120m, 15m/d, 2 days for testing)
A20120	R5W - Backfilling (12 layers, 2 layer/d)
Drainage works in Row 5 West (M76A.16 to M39A.6, lowest IL+0.863mPD)	
A20130	R5W - Excavation works & SRT (980cu.m)
A20140	R5W - Manhole construction (2 Manhole, 2 MH/4d)
A20150	R5W - Pipe laying (DN1200-35m, 15m/d, 2 days for testing)
A20160	R5W - Backfilling (12 layers, 2 layer/d)
Water Main Fresh & Flush Row 5 West CHA200 to CHA347.530	
A21096	R5W - Excavation (300cu.m)
A21097	R5W - Pipe Laying
A21098	R5W - Pressure Test
A21099	R5W - Bend Block
A21100	R5W - Backfilling
Sewerage works in Row 5 West (FMH001B to FMH001D, lowest IL+4.123mPD)	
A20170	R5W - Excavation works & SRT(480cu.m)
A20180	R5W - Manhole construction (3 Manhole, 2 MH/4d)
A20190	R5W - Pipe laying (DN300-60m, 2 days for testing)
A20200	R5W - Backfilling (6 layers, 2 layer/d)
Water Main Fresh & Flush Row 5 West CHA200 to CHA355.95	
A21102	R5W - Pipe Laying
A21103	R5W - Pressure Test
A21104	R5W - Bend Block
A21105	R5W - Backfilling
EAST	
Underground Fuel Storage Tanks (5000L) E	
A21990	Construct pipe trench from tank to PCB
WEST	
Underground Fuel Storage Tanks (5000L) D	
A16340	UFT - Construct top slab and manhole
A16350	UFT - Backfill and reinstate the area
A22021	UFT - Construct pipe trench from tank to PCB
Underground Fuel Storage Tanks (5000L) B	
A16600	UFT - Backfill and reinstate the area
External Utility Works (Lody / Dan Lam)	
SOUTH (Row 1)	
Drainage/sewerage works in Row 1 East (5 manhole, IL+3.6mPD)	



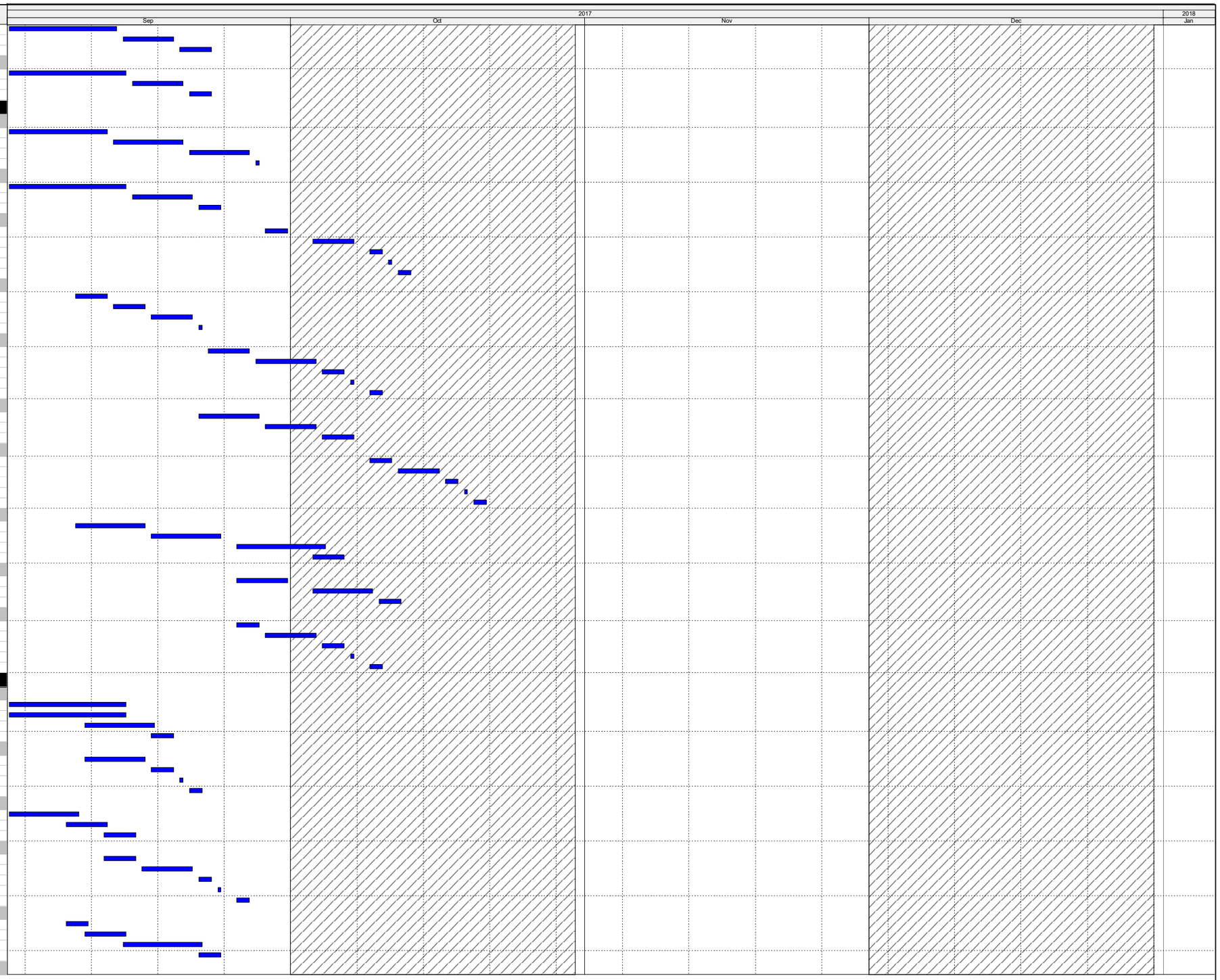
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
A21812	R1S - Manhole construction (6 Manhole, 2 MH/4d)
A21813	R1S - Pipe laying (DN100,60m, 15m/d, 2 days for testing)
A21814	R1S - Backfilling (7 layers, 2 layer/d)
Drainage/sewerage works in Row 1 West (5 manhole, IL+3.6mPD)	
A21816	R1S - Manhole construction (8 Manhole, 2 MH/4d)
A21817	R1S - Pipe laying (DN100-60m, DN900-5m, DN200-10m, 15m/d, 2 days for testing)
A21818	R1S - Backfilling (7 layers, 2 layer/d)
EAST	
Drainage works in Row 2 East (M76A.1 to M76A.2, lowest IL+3.2mPD)	
A21819	R2E - Excavation works & SRT (1536cu.m)
A21820	R2E - Manhole construction (8 Manhole, 2 MH/4d)
A21821	R2E - Pipe laying (DN100-60m, DN900-5m, DN200-10m, 15m/d, 2 days for testing)
A21822	R2E - Backfilling (7 layers, 2 layer/d)
Sewerage works in Row 2 East (FMH302 to FMH304, lowest IL+3.7mPD)	
A21823	R2E - Manhole construction (5 Manhole, 2 MH/4d)
A21824	R2E - Pipe laying (DN300-80m, 2 days for testing)
A21825	R2E - Backfilling (5 layers, 2 layer/d)
Water Main Fresh & Flush Row 2 East D06 CH0.00 to CH77	
A21896	R2E - Excavation (300cu.m)
A21897	R2E - Pipe Laying
A21898	R2E - Pressure Test
A21899	R2E - Bend Block
A21900	R2E - Backfilling
Drainage works in Row 3 East (M76A.1 to STMH-07, lowest IL+3.66mPD)	
A21826	R3E - Excavation works & SRT (288cu.m)
A21827	R3E - Manhole construction (2 Manhole, 2 MH/4d)
A21828	R3E - Pipe laying (DN900-18m,15m/d, 2 days for testing)
A21829	R3E - Backfilling (2 layers, 2 layer/d)
Water Main Fresh & Flush Row 3 East CHEI CH0.00 to CH95.986	
A21901	R3E - Excavation (300cu.m)
A21902	R3E - Pipe Laying Row 3
A21903	R3E - Pressure Test Row 3
A21904	R3E - Bend Block Row 3
A21905	R3E - Backfilling Row 3
Sewerage works in Row 3 East (FMH302 to FTMH-06, lowest IL+4.15mPD)	
A21830	R3E - Manhole construction (5 Manhole, 2 MH/4d)
A21831	R3E - Pipe laying (DN300-80m, 2 days for testing)
A21832	R3E - Backfilling (5 layers, 2 layer/d)
Water Main Fresh & Flush Row 3 East D06 CH77 to CH139.478	
A21906	R3E - Excavation (300cu.m)
A21907	R3E - Pipe Laying Row 3
A21908	R3E - Pressure Test Row 3
A21909	R3E - Bend Block Row 3
A21910	R3E - Backfilling Row 3
Drainage works in Row 4 East (STMH-06 to M75A.A3, lowest IL+3.218mPD)	
A21833	R4E - Excavation works & SRT (1425cu.m)
A21834	R4E - Manhole construction (3 Manhole, 2 MH/4d)
A21835	R4E - Pipe laying (DN900-40m, DN105-45m, 15m/d, 2 days for testing)
A21836	R4E - Backfilling (5 layers, 2 layer/d)
Sewerage works in Row 4 East (FTMH-05 to FMH204, lowest IL+1.7mPD)	
A21837	R4E - Manhole construction (7 Manhole, 2 MH/4d)
A21838	R4E - Pipe laying (DN300-115m, 2 days for testing)
A21839	R4E - Backfilling (3 layers, 2 layer/d)
Water Main Fresh & Flush Row 4 East D06 CH139.478 to CH260.883	
A21911	R4E - Excavation (300cu.m)
A21912	R4E - Pipe Laying Row 4
A21913	R4E - Pressure Test Row 4
A21914	R4E - Bend Block Row 4
A21915	R4E - Backfilling Row 4
WEST	
Sewerage works in Row 2 West (FMH006 to FMH010, lowest IL+1.971mPD)	
A21840	R2W - Excavation works & SRT (2700cu.m)
A21841	R2W - Manhole construction (5 Manhole, 2 MH/4d)
A21842	R2W - Pipe laying (DN300-90m, 2 days for testing)
A21843	R2W - Backfilling (3 layers, 2 layer/d)
Water Main Fresh & Flush Row 2 West D07 CHA0.00 to CH200	
A21916	R2W - Pipe Laying
A21917	R2W - Pressure Test
A21918	R2W - Bend Block
A21919	R2W - Backfilling
Drainage works in Row 2 West (M72A.1 to M72A.3, lowest IL+3.19mPD)	
A21844	R2W - Manhole construction (4 Manhole, 2 MH/4d)
A21845	R2W - Pipe laying (DN300-47m, 15m/d, 2 days for testing)
A21846	R2W - Backfilling (7 layers, 2 layer/d)
Water Main Fresh & Flush Row 2 West D05 CH293.278 to CH181.799-1	
A21920	R2W - Excavation (300cu.m)
A21921	R2W - Pipe Laying
A21922	R2W - Pressure Test
A21923	R2W - Bend Block
A21924	R2W - Backfilling
Sewerage works in Row 3 West (FMH006 to FMH004, lowest IL+2.55mPD)	
A21847	R3W - Excavation works & SRT (1075cu.m)
A21848	R3W - Manhole construction (2 Manhole, 2 MH/4d)
A21849	R3W - Pipe laying (DN300-60m, 2 days for testing)
A21850	R3W - Backfilling (5 layers, 2 layer/d)
Drainage works in Row 3 West (M72A.3 to M72A.4, lowest IL+2.97mPD)	



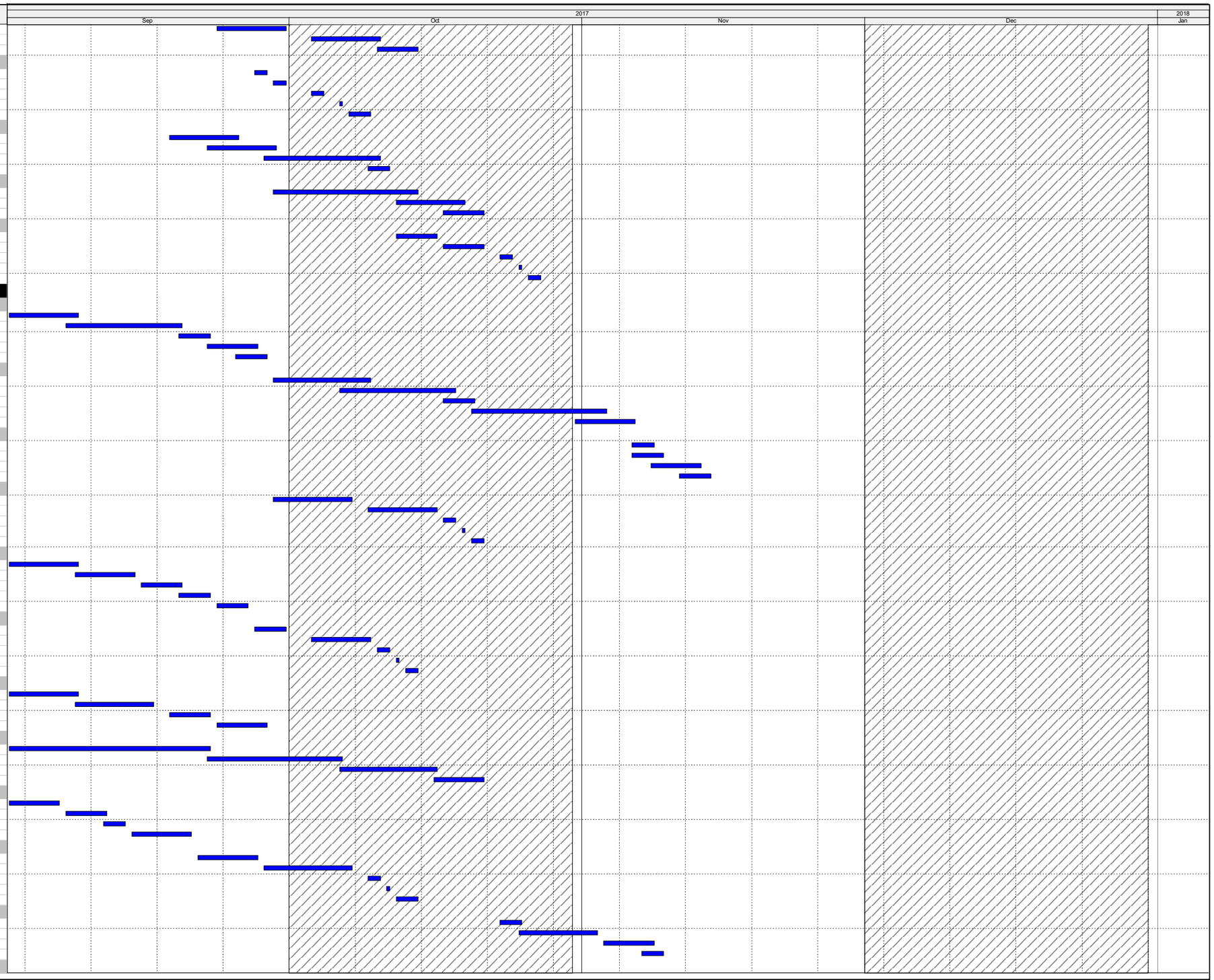
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
A21851	R3W - Manhole construction (3 Manhole, 2 MH/4d)
A21852	R3W - Pipe laying (DN300-20m, DN900-55m,15m/d, 2 days for testing)
A21853	R3W - Backfilling (9 layers, 2 layer/d)
Water Main Fresh & Flush Row 3 West CH07 0.00 to 27.635	
A21925	R3W - Excavation (300cu.m)
A21926	R3W - Pipe Laying
A21927	R3W - Pressure Test
A21928	R3W - Bend Block
A21929	R3W - Backfilling
Drainage works in Row 4 West (M72A.4 to M72A.8, lowest IL+2.051mPD)	
A21854	R4W - Excavation works & SRT (1425cu.m)
A21855	R4W - Manhole construction (3 Manhole, 2 MH/4d)
A21856	R4W - Pipe laying (DN1200-85m, DN900-30m, 15m/d, 2 days for testing)
A21857	R4W - Backfilling (5 layers, 2 layer/d)
Sewerage works in Row 4West (FMH004 to FMH001B, lowest IL+2.778mPD)	
A21858	R4W - Manhole construction (5 Manhole, 2 MH/4d)
A21859	R4W - Pipe laying (DN300-100m, 2 days for testing)
A21860	R4W - Backfilling (9 layers, 2 layer/d)
Water Main Fresh & Flush Row 4 West D05 CH1181.799 to CH119.629	
A21930	R4W - Excavation (300cu.m)
A21931	R4W - Pipe Laying
A21932	R4W - Pressure Test
A21933	R4W - Bend Block
A21934	R4W - Backfilling
NORTH (Row 5)	
Drainage works in Row 5 East (M75A.5 to M64A.3.1, lowest IL+1.45mPD)	
A21882	R5E - Excavation works & SRT (1200cu.m)
A21883	R5E - Manhole construction (5 Manhole, 2 MH/4d)
A21884	R5E - Box-culvert connection
A21885	R5E - Pipe laying (DN1050-50m, 15m/d, 2 days for testing)
A21886	R5E - Backfilling (10 layers, 2 layer/d)
Drainage works in Row 5 East (M65A.1 to M76A.13, lowest IL+0.67mPD)	
A21887	R5E - Excavation works & SRT (4480cu.m)
A21888	R5E - Manhole construction (6 Manhole, 2 MH/4d)
A21889	R5E - Box-culvert connection
A21890	R5E - Pipe laying (DN750-160m, 15m/d, 2 days for testing)
A21891	R5E - Backfilling (14 layers, 2 layer/d)
Sewerage works in Row 5 East (FTMH-04 to FMH202, lowest IL+3mPD)	
A21892	R5E - Excavation works & SRT(450cu.m)
A21893	R5E - Manhole construction (2 Manhole, 2 MH/4d)
A21894	R5E - Pipe laying (DN300-45m, 2 days for testing)
A21895	R5E - Backfilling (6 layers, 2 layer/d)
Water Main Fresh & Flush Row 5 East CH A0.00 to CHA200	
A21935	R5E - Excavation (300cu.m)
A21936	R5E - Pipe Laying
A21937	R5E - Pressure Test
A21938	R5E - Bend Block
A21939	R5E - Backfilling
Drainage works in Row 5 West (M72A.8 to M76A.16 , lowest IL+0.827mPD)	
A21861	R5W - Excavation works & SRT (1200cu.m)
A21862	R5W - Manhole construction (3 Manhole, 2 MH/4d)
A21863	R5W - Box-culvert connection
A21864	R5W - Pipe laying (DN1200-45m, 15m/d, 2 days for testing)
A21865	R5W - Backfilling (10 layers, 2 layer/d)
Water Main Fresh & Flush Row 5 West D05 CH119.629 to CH0.00	
A21940	R5W - Excavation (300cu.m)
A21941	R5W - Pipe Laying
A21942	R5W - Pressure Test
A21943	R5W - Bend Block
A21944	R5W - Backfilling
Drainage works in Row 5 West (STMH-01 to M72A.4, lowest IL+2.00mPD)	
A21866	R5W - Excavation works & SRT (1440cu.m)
A21867	R5W - Manhole construction (3 Manhole, 2 MH/4d)
A21868	R5W - Pipe laying (DN900-60m, 15m/d, 2 days for testing)
A21869	R5W - Backfilling (9 layers, 2 layer/d)
Drainage works in Row 5 West (M76A.15 to M38A.A9, lowest IL+0.89mPD)	
A21870	R5W - Excavation works & SRT (4200cu.m)
A21871	R5W - Manhole construction (5 Manhole, 2 MH/4d)
A21872	R5W - Pipe laying (DN1200-120m, 15m/d, 2 days for testing)
A21873	R5W - Backfilling (12 layers, 2 layer/d)
Drainage works in Row 5 West (M76A.16 to M39A.6, lowest IL+0.863mPD)	
A21874	R5W - Excavation works & SRT (980cu.m)
A21875	R5W - Manhole construction (2 Manhole, 2 MH/4d)
A21876	R5W - Pipe laying (DN1200-35m, 15m/d, 2 days for testing)
A21877	R5W - Backfilling (12 layers, 2 layer/d)
Water Main Fresh & Flush Row 5 West CHA200 to CHA347.530	
A21945	R5W - Excavation (300cu.m)
A21946	R5W - Pipe Laying
A21947	R5W - Pressure Test
A21948	R5W - Bend Block
A21949	R5W - Backfilling
Sewerage works in Row 5 West (FMH001B to FMH001D, lowest IL+4.123mPD)	
A21878	R5W - Excavation works & SRT(480cu.m)
A21879	R5W - Manhole construction (3 Manhole, 2 MH/4d)
A21880	R5W - Pipe laying (DN300-60m, 2 days for testing)
A21881	R5W - Backfilling (6 layers, 2 layer/d)
Water Main Fresh & Flush Row 5 West CHA200 to CHA355.95	



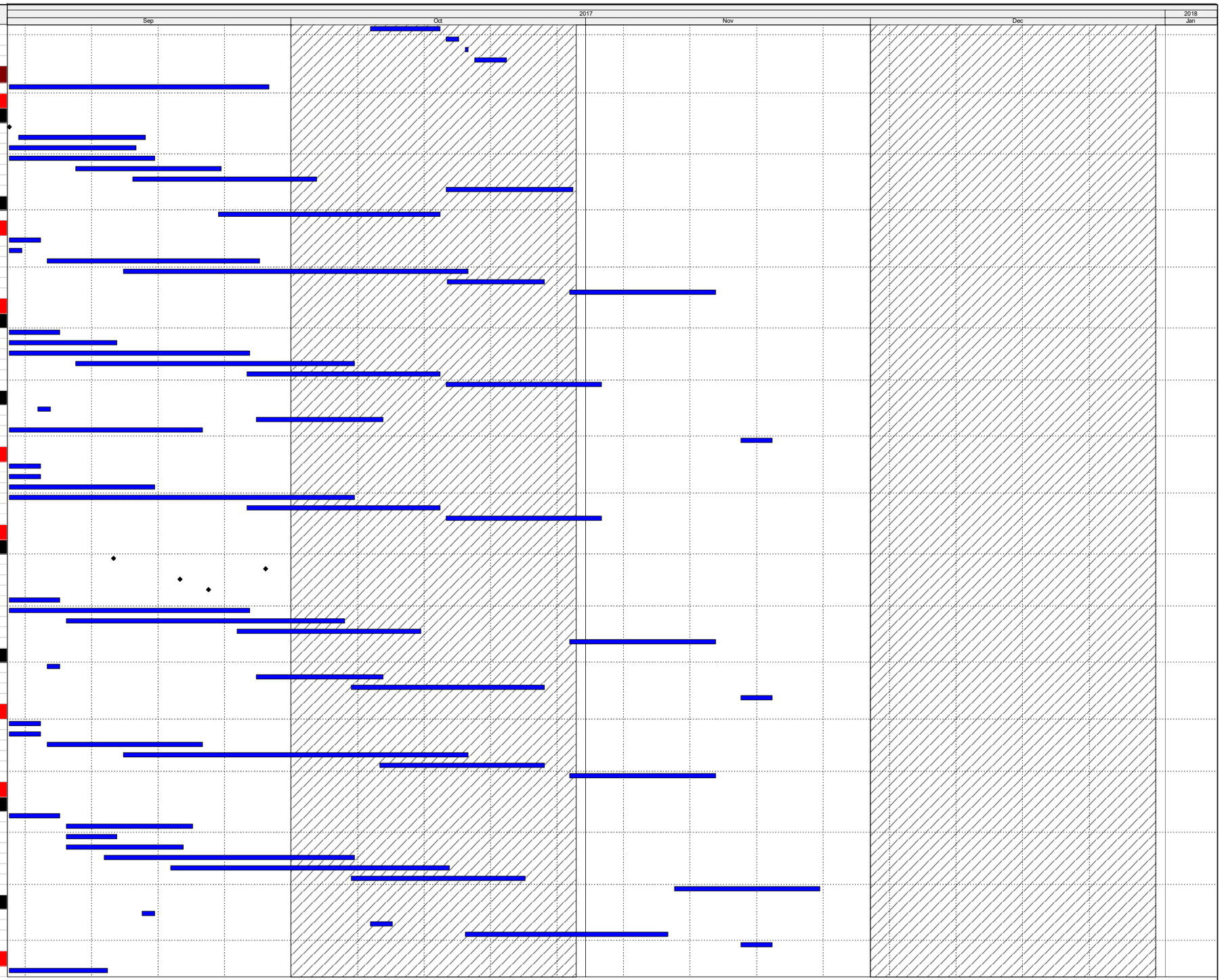
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
A21950	R5W - Pipe Laying
A21951	R5W - Pressure Test
A21952	R5W - Bend Block
A21953	R5W - Backfilling
High Level Works	
HL1790	Install Vertical Tripods and connect High level drainage Works
Roof Row 1	
Install	
HL1019	Material available for Eretion of Row 1 (15th August)
HL1020	Erect hanging scaffold Row 1
HL1030	Install Cable containment connections
HL1040	Wiring Row 1
HL1050	Baffle installation Row 1
HL1060	Install Lighting post baffle installation Row 1
HL1070	Dismantle hanging scaffold Row 1
T&C	
HL1075	T&C lighting control system (South section) Row 1 - Non FS
Roof Infill 1/2	
HL1090	Roof Drainage @ Infill with Cherry Picker Infill 1/2
HL1100	Install FS Sprinkler connections Infill 1/2
HL1110	Erect hanging scaffold Infill1/2
HL1120	Baffle installation Infill 1/2
HL1130	Install Lighting post baffle installation Infill 1/2
HL1140	Dismantle hanging scaffold Infill 1/2
Roof Row 2	
Install	
HL1200	Install Lightning pre baffle installation Row 2
HL1210	Install Cable containment connections
HL1220	Wiring Row 2 to Central Column
HL1230	Baffle installation Row 2
HL1240	Install Lighting post baffle installation Row 2
HL1250	Dismantle hanging scaffold Row 2
T&C	
HL1255a	Final FS pipe hydraulic test
HL1255b	T&C Static roof system, subsidiary valve and AFA interfacing/Smoke control
HL1255c	T&C lighting control system (south section)
HL1256	PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Roof Infill 2/3	
HL1270	Roof Drainage @ Infill with Cherry Picker Infill 2/3
HL1280	Install FS Sprinkler connections Infill 2/3
HL1290	Erect hanging scaffold Infill 2/3
HL1300	Baffle installation Infill 2/3
HL1310	Install Lighting post baffle installation Infill 2/3
HL1320	Dismantle hanging scaffold Infill 2/3
Roof Row 3	
Install	
HL1360	South East Quarter Ready for MEP (Row 2, Row 3, Infills 1/2,2/3 SW)
HL1370	South East Quarter Ready for MEP (Row 2, Row 3, Infills 1/2,2/3 SE)
HL1380	North East Quarter Ready for MEP (Row 3, Row 4, Infills 3/4, 4/5 NW)
HL1390	North West Quarter Ready for MEP(Row 3, Row 4, Infills 3/4, 4/5 NE)
HL1400	Install Lightning pre baffle installation Row 3
HL1420	Wiring Row 3 to Central Column
HL1430	Baffle installation Row 3
HL1440	Install Lighting post baffle installation Row 3
HL1450	Dismantle hanging scaffold Row 3
T&C	
HL1455a	Final FS pipe hydraulic test
HL1455b	T&C Static roof system, subsidiary valve and AFA interfacing/Smoke control
HL1455c	T&C lighting control system (south section)
HL1456	PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Roof Infill 3/4	
HL1470	Roof Drainage @ Infill with Cherry Picker Infill 3/4
HL1480	Install FS Sprinkler connections Infill 3/4
HL1490	Erect hanging scaffold Infill 3/4
HL1500	Baffle installation Infill 3/4
HL1510	Install Lighting post baffle installation Infill 3/4
HL1520	Dismantle hanging scaffold Infill 3/4
Roof Row 4	
Install	
HL1540	Erect hanging scaffold Row 4
HL1550	Erect hanging scaffold towers
HL1580	Install Lightning pre baffle installation Row 4
HL1590	Install Cable containment connections
HL1600	Wiring Row 4 to Central Column
HL1610	Baffle installation Row 4
HL1620	Install Lighting post baffle installation Row 4
HL1630	Dismantle hanging scaffold Row 4
T&C	
HL1635a	Final FS pipe hydraulic test
HL1635b	T&C Static roof system, subsidiary valve and AFA interfacing/Smoke control
HL1635c	T&C lighting control system (North section)
HL1635e	PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
Roof Infill 4/5	
HL1650	Roof Drainage @ Infill with Cherry Picker Infill 4/5



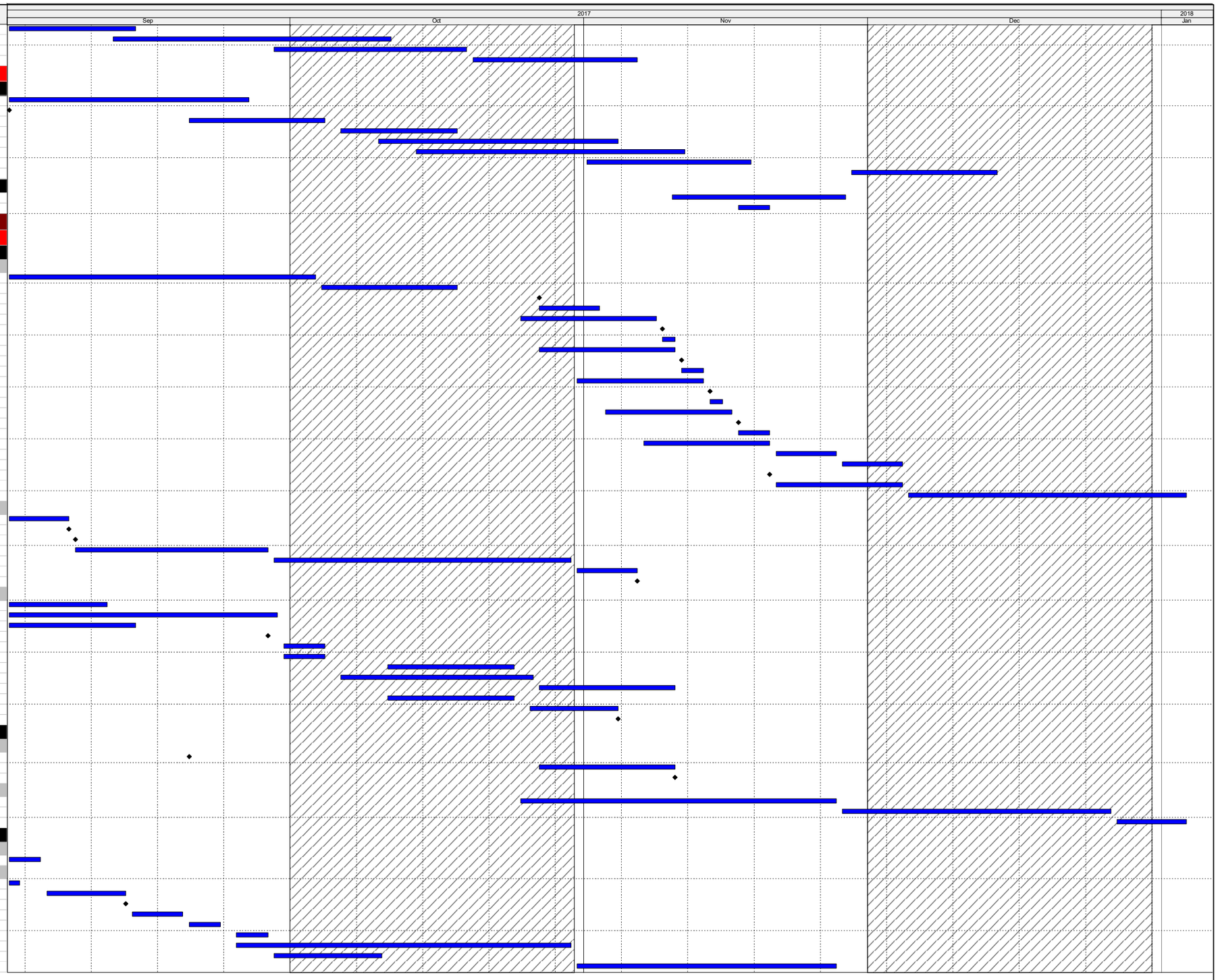
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
HL1660	Install FS Sprinkler connections Infill 4/5
HL1680	Baffle installation Infill 4/5
HL1690	Install Lighting post baffle installation Infill 4/5
HL1700	Dismantle hanging scaffold Infill 4/5
Roof Row 5	
Install	
HL1720	Wiring Row 5 to Central Column Roll up
HL1729	Material available for Erection of Row 5
HL1730	Erect hanging scaffold Row 5
HL1740	Install Cable containment connections
HL1750	Wiring Row 5
HL1760	Baffle installation Row 5
HL1770	Install Lighting post baffle installation Row 5
HL1780	Dismantle hanging scaffold Row 5
T&C	
HL1785a	T&C lighting control system (North section) Row 5 - Non FS
HL1785b	PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control
System Commissioning	
Major Systems	
Fire Services	
FS Submissions	
FS1020	PCB - Final update 314 drgs to match approved FSD GBP's + prepare F501
FS1070	F501/F314 submission prior to inspection
FS1070a	PCB - All works complete ready for FSD Inspection 1
FS1070b	PCB - FSD Inspection 1: Basement including staircases to G/F -T&C
FS1071	F501/F314 submission prior to inspection
FS1071a	PCB - All works complete ready for FSD Inspection 2
FS1071b	PCB - FSD Inspection 2: Row 2 cabins (2nos) all floors -T&C
FS1072	F501/F314 submission prior to inspection
FS1072a	PCB - All works complete ready for FSD Inspection 3
FS1072c	PCB - FSD Inspection 3: Row 3 cabins (2nos) all floors -T&C
FS1073	F501/F314 submission prior to inspection
FS1073c	PCB - All works complete ready for FSD Inspection 4
FS1073d	PCB - FSD Inspection 4: Row 4 cabins (2nos) all floors -T&C
FS1074	F501/F314 submission prior to inspection
FS1074d	PCB - All works ready for FSD Inspection 5
FS1074e	PCB - FSD Inspection 5: G/F and 1/F public concourse areas : VAC+Smoke Control -T&C
FS1075	F501/F314 submission prior to inspection
FS1075e	PCB - All works ready for FSD Inspection 6 -T&C
FS1075f	PCB - FSD Inspection 6: Ancillary buildings (SWPH,RFU,PTI Toilets) -T&C
FS1085	PCB - Inspection 1 to 5 complete, ready for final wrap up
FS1090	F501/F314 submission prior to inspection
FS1100a	PCB - FSD Inspection Period Final wrap up with EVA include re-inspections as required -T&C
Application for water connection (FS)	
FS1160	PCB(FS) - Submit WWO 46 Part 1 and 2 to WSD (By P/D S/C to WSD) Ready Install
FS1170	PCB(FS) - C3 portion FS water main complete and ready
FS1180	PCB(FS) - Submit Form WWO 46 Part 4 for Fire Services Water(by FS S/C to WSD)
FS1190	PCB(FS) - Notification Period
FS1200	PCB(FS) - WSD Inspection and water sampling
FS1220	PCB(FS) - Fire Services water supply connected
FS1230	PCB(FS) - Issue Water Certificate FS
Installation	
FS2120	B/F Lvl - Final fix install Droppers at ceiling locations
FS2130	PCB FS Pump Rm : Initial TC FS "Wet" Sys external to plant room on temp power -T&C
FS2140	PCB FS Dry System (AFA) Intial T&C (with temp power) -T&C
FS2141	PCB(FS) - Power On for FS Control System
FS2150	PCB FS Final T&C FS "Wet" System (With Perm Power) -T&C
FS2160	PCB FS Dry system (AFA) Final T&C (with Perm power) -T&C
FS2170	PCB(All) - FS & Smoke control : Hot smoke test trial run -T&C
FS2180	PCB(All) - FS Interface Test with other BS System (EAS, shutter,lifts,PAS etc) -T&C
FS2190	PCB(All) - Smoke control T&C Interfacing -T&C
FS2200	PCB(All) - MVAC : FS VAC Control T&C (Initial with temp power, perm power) -T&C
FS2210	Final Interface Test with FS Genset -T&C
FS2220	All systems tested & ready for FSD inspection
Lifts	
Lifts PCB (Fire Lifts 7 Nos)	
LS1052	PCB - Perm Power On (Lifts and Escalators)
LS1080	PCB - Fireman Lift Certificate (Use Permit Cap. 618)
LS1090	PCB - Ready for FSD Inspection
Other (non FS Lift/Escalator)	
LS1130	Escalator - Form LE5 Submission & Notification period Escalator
LS1140	Escalator - EMSD Inspection escalator
LS1150	Escalator - Certificate (Use Permit Cap. 618)
Electrical Submains	
CLP (By CLP)	
PS1015	PCB(BF) - CLP Inspection and Progressive Energisation of Transformers
LV Submains	
PS1060	PCB(BF) - Main/Submain Installation (Mains cabling/busduct) - balance
PS1090	PCB(BF) - Meter Installation to Transformers
PS1110	PCB(BF) - Projected 'earliest' CLP Rdy to power to LVSB
PS1129	PCB(BF) - Latest date CLP power to LVSB Stage 1 enable Lifts T&C
PS1130	PCB(BF) - Latest date CLP power to LVSB Stage 2 remaining
PS1140	PCB(BF) - Progressive power LVSB (Essential) to submains (all areas)
PS1150	PCB(BF) - Progressive power on from LVSB(Normal) to Submains
PS1160	PCB(BF) - Final Subcircuit T&C power on (Essential)
PS1170	PCB(BF) - Final subcircuit T&C/power on (normal)



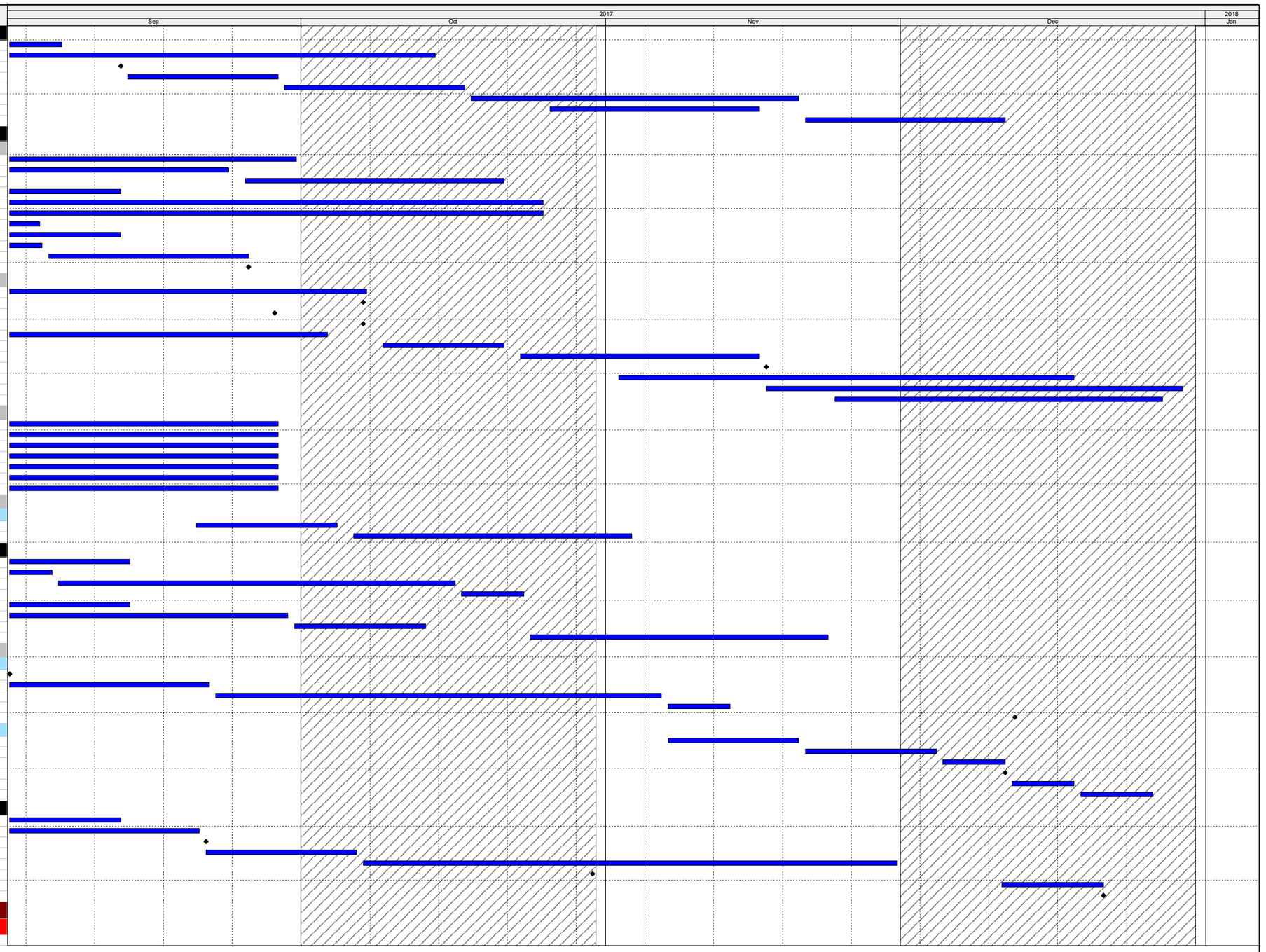
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

Activity ID	Activity Name
Generator sets inside PCB	
GS1040	PCB - FSD Submission and Approval DG submission (genset)
GS1112	Genset early pre-comm start up (using day tank below exempted quantity -T&C
GS1125	PCB - Genset Ready for DG Inspection - PCB
GS1130	PCB - Notify FSD for DG Inspection - PCB
GS1135	PCB - FSD(Vent)/FS Inspection(s) - PCB (allow 1 reinspection)
GS1139	PCB - DG Licence Issued - Permit to fill fuel tank
GS1830	PCB - Genset Full Test - PCB FS Genset -T&C
GS1840	PCB - Genset Full Test - PCB Non FS Genset -T&C
MVAC - Chilled Water Plantroom	
Chiller Plantroom	
MS2040	PCB (BF) - CHW pipework flush & chem clean -T&C
MS2080	Sectional flushing & Chem clean pipework B/F upto GF bypass loops -T&C
MS2090	Sectional flushing & chem clean pipework - balance of CHW pipework (cabin locations etc) -T&C
MS2110	CHW pipework Insulation and cladding at chiller Plant Room
MS2120	CHW Pipework insulation and cladding - main distribution from Chiller Plant to AHU
MS2130	CHW Pipework Insulation and Cladding - at AHU rooms
MS2170	Final fix electrical (power and controls) at Chiller plant room
MS2200	Final Fix incl final termination - SCADA field controls & instruments
MS2210	Finalise SCADA chiller sequence programming and GUI
MS2220	Upload SCADA sofware at site to local chiller DDC panels
MS2230	SCADA system for chiller plan - ready to commence initial T&C
Chiller Start-up and Final T&C	
MS3010	Prelim/initial T&C for chiller plant (prior to main perm power on) -T&C
MS3020	Seawater supply to Chiller available
MS3030	Perm Power to Chiller available
MS3040	Permanent power & seawater supply to chillers available
MS3050	WWO 46 Chiller /Water Connection
MS3060	Initial Chiller/Pump precomm check & start-up -T&C
MS3070	Chilled water system balancing -T&C
MS3080	CHW water for air cond available
MS3090	PCB (BF) - Chiller & pumps : Final commissioning including BMS controls -T&C
MS3100	Progressive perm. chilled water available for air conditioning
MS3110	PCB (BF) - Final System fine tuning with SCADA -T&C
Outside Chiller Plantroom	
MS3150	Pipework insulation and cladding J
MS3190	Pipework insulation and cladding G
MS3230	Pipework insulation and cladding D
MS3270	Pipework insulation and cladding E
MS3310	Pipework insulation and cladding F
MS3350	Pipework insulation and cladding A
MS3390	Pipework insulation and cladding C
Statutory Submissions & Inspections	
IAQ Certification	
MEP-02-10250	PCB - IAQ Test
MEP-02-10260	PCB - IAQ Submission and approval
P&D Major Systems	
PD1030	PD Plantroom - Hydraulic test for pipework at BF
PD1050	PD Plantroom - Cable containment
PD1060	PD Plantroom - Wiring work
PD1070	PD Plantroom - cable test/termination
PD1125	Basement Lvl - Hydraulic Test (Plumbing)
PD1140	Basement Lvl - Install sump pumps and final connection to pipe
PD1150	Basement Lvl - Electrical installation incl cable for sump pumps
PD1155	PD Plantroom - Self T&C (pump status & control /water tank signal/valve signal etc) -T&C
Statutory Submissions and Inspections	
Plumbing WWO 46 Part IV	
MEP-02-10326	PCB(P&D) - Submit WWO 46 Part 4 to WSD (By P/D S/C to WSD)
MEP-02-10327	PCB(P&D) - Notification Period
MEP-02-10328	PCB(P&D) - WSD's Inspection and water sampling
MEP-02-10329	PCB(P&D) - Water Supply connected
MEP-02-10330	PCB(P&D) - Issue Water Certificate
Drainage	
MEP-02-10140	Application: Request Inspection (By Underground Drainage S/C & Builder to DSD
MEP-02-10150	Last manhole connection
MEP-02-10160	Notification by DSD for handover inspection
MEP-02-10170	DSD Inspection
MEP-02-10180	Submit As Built record to DSD
MEP-02-10190	DSD Issue Completion Advice
Water Feature	
WF1030	WF Plant Room - hydraulic test for pipework within the pumproom
WF1050	WF Plant Room - Cable containment/wiring/terminations
WF1060	WF Plant Room - Energisation (Temp power)
WF1070	WF Plant Room - Self T&C (pump status & control /water tank signal/valve signal etc) -T&C
WF1120	PCB WF Pump Rm : Initial TC (with temp power) external to plant room -T&C
WF1140	PCB(WF) - Power On for WF Plant Room
WF1150	PCB (WF) Final T&C WF System (With Perm Power and water connection) -T&C
WF1220	Water Feature complete and running
Commissioning PCB	
Beam Plus	
MEP-02-10237	Beam Plus - Monitoring and Reports



Actual Work
Remaining Work
Critical Remaining Work
Milestone

Three Month Rolling Programme

HKMZB HKBCF - Passenger Clearance Building

Date	Revision	Checked	Approved

APPENDIX D

Event and Action Plan

Event/Action Plan for Air Quality Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurement s to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

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

Event / Action Plan for Construction Noise Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	1. Notify IEC and Contractor; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5 Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level	1. Inform IEC, ER, EPD and Contractor; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Water Quality Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	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. Repeat measurement on next day of exceedance to confirm findings.	1. Check monitoring data submitted by ET and Contractor's working methods; 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.	1. Confirm receipt of notification of non-compliance 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.	1. Inform the ER and confirm notification of the non-compliance 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; 5. Implement the agreed mitigation measures. 6. Amend working methods if appropriate.
Action level being exceeded by two or more consecutive sampling days	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.	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.	1. Confirm receipt of notification of non-compliance 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.	1. Inform the Engineer and confirm notification of the non-compliance 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	ACTION			
	ET	IEC	ER	CONTRACTOR
Limit level being exceeded by one sampling day	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.	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.	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.	1. Inform the ER and confirm notification of the non-compliance 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	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.	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.	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.	1. Inform the ER and confirm notification of the non-compliance 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 Dolphin Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	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.	1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and finding with the ET and the Contractor.	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.	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	ACTION			
	ET	IEC	ER	CONTRACTOR
Limit Level	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.	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.	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.	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.

APPENDIX E

Implementation Schedule for Environmental Mitigation Measures (EMIS)

Contract No. HY/2013/01 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Implementation Schedule for Environmental Mitigation Measures

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

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S5.5.6.2	A2	• Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)	√ √ √ √ √ √
S5.5.6.4	A3	The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	Control construction dust	Contractor	All construction sites	Construction stage	To control the dust impact	√
S5.5.6.5	A4	Engineer to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the contractor's attention to the relevant latest Practice Notes issued by EPD.	Control construction dust	Engineer	All construction sites	Design Stage	Air Pollution Control (Construction Dust) Regulation	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S5.5.6.5	A5	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period.	Contractor	Selected representative dust monitoring station	Construction stage	• Air Pollution Control (Construction Dust) Regulation •To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)	√ (The dust monitoring works (Station AMS6) under EM&A programme for the Contract is covered by Contract No. HY/2011/03. Monitoring stations AMS2, AMS3B and AMS7 for the Contract are covered by Contract No. HY/2013/01)
S5.5.7.1	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant: • Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system; • All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; • Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system; • The materials which may generate airborne dusty emissions should be wetted by water spray system; • All receiving hoppers should be enclosed on three sides up to 3m above unloading point; • All conveyor transfer points should be totally enclosed; • All access and route roads within the premises should be paved and wetted; and • Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body.	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period.	Contractor	Selected representative dust monitoring station	Construction stage	• Air Pollution Control (Construction Dust) Regulation •To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)	N/A
S5.5.2.7	A7	The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point: • All road surface within the barging facilities will be paved; • Dust enclosures will be provided for the loading ramp; • Vehicles will be required to pass through designated wheels wash facilities; and • Continuous water spray at the loading points.	Control construction dust	Contractor	All construction sites	Construction stage	Air Pollution Control (Construction Dust) Regulation	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Construction Noise (Air borne)								
S6.4.10	N1	1) Use of good site practices to limit noise emissions by considering the following: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; • material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	Control construction airborne noise by means of good site practices	Contractor	All construction sites	Construction stage	Noise Control Ordinance	√ √ √ √ √ √
S6.4.11	N2	2) Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites	Construction stage	• Noise Control Ordinance • Annex 5, TM-EIA	N/A
S6.4.12	N3	3) Install movable noise barriers (typically density @14kg/m^2), acoustic mat or full enclosure close to noisy plants including air compressor, generators, saw.	Screen the noisy plant items to be used at all construction sites	Contractor	For plant items listed in Appendix 6D of the EIA report at all construction sites	Construction stage	• Noise Control Ordinance • Annex 5, TM-EIA • 75dB(A) for residential premises • The movable barrier should achieve at least 5dB(A) and the full enclosure should be designed to achieve 10dB(A)	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S6.4.13	N4	4) Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	Reduce the noise levels of plant items	Contractor	For plant items listed in Appendix 6D of the EIA report at all construction sites	Construction stage	• Noise Control Ordinance & its TM • Annex 5, TM-EIA	√
S6.4.14	N5	5) Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction stage	• Noise Control Ordinance • Annex 5, TM-EIA	√
S6.4.14	N6	6) Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction stage	• Noise Control Ordinance • Annex 5, TM-EIA • 75dB(A) for residential premises	√ (ET of Contract No. HY/2013/01 is responsible conducting monitoring for entire HKBCF)
Sediment								t
S7.3	S1	1) The requirements as recommended in ETWB TC 34/2002 Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.	Develop sediment disposal arrangement	Engineer	All construction sites	Design stage	• Waste Disposal Ordinance • ETW B TC 34/2002	N/A .
Waste Management (Construction Waste)								
S8.3.8	WM1	*Construction and Demolition Material* The following mitigation measures should be implemented in handling the waste: • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; • Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; and	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	• Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETW BTC 19/2005	√ √ √ √ √

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S8.3.8	WM1	• Implement an enhanced Waste Management Plan similar to ETW BTC (Works) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. • In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	•	√ √
S8.3.9-S8.3.11	WM2	*C&D Waste* • Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage. • The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	• Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETWB TC 19/2005	√ √
S8.2.12-S8.3.15	WM3	*Chemical Waste* • Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. • The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated.	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	• Waste Disposal (Chemical Waste) General) Regulation • Code of Practice on the Packaging, Labelling and Storage of Chemical Waste	√ √ √

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S8.2.12-S8.3.15	WM3	• Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD.	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage		√
S8.3.16	WM4	*Sewage* • Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state, which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.	Proper handling of sewage from worker to avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance	√
S8.3.17	WM5	*General Refuse* • General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. • A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. • Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. • Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminum cans, plastic bottles etc., should be provided. • Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance	√ √ √ √ √

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Water Quality (Construction Phase)								
S.9.11.1.7	W1	Mitigation during the marine works to reduce impacts to within acceptable levels have been recommended and will comprise a series of measures that restrict the method and sequencing of backfilling, as well as protection measures. Details of the measures are provided below: • Reclamation filling for the Project shall not proceed until at least 200m of leading seawall at the reclamation area formed above +2.2mPD, unless otherwise agreement was obtained from EPD, except for the 300m gaps for marine access. All underwater filling works shall be carried out behind seawalls to avoid dispersion of suspended solids outside the Project limit;	To control construction water quality	Contractor	During filling	Construction stage	TM-EIAO	√
S.9.11.1.7	W1	• Except for the filling of the cellular structures, not more than 15% public fill shall be used for reclamation filling below +2.5mPD during construction of the seawall; • After the seawall is completed except for the 300m marine access as indicated in the EPs, not more than 30% public fill shall be used for reclamation filling below +2.5mPD, unless otherwise agreement from EPD was obtained; • Upon completion of 200m leading seawall, no more than a total of 60 filling barge trips per day shall be made with a cumulative maximum daily filling rate of 60,000 m3 for HKBCF and TMCLKL southern landfall reclamation during the filling operation; and • Upon completion of the whole section of seawall except for the 300m marine access as indicated in the EPs, no more than a total of 190 filling barge trips per day shall be made with a cumulative maximum daily filling rate of 190,000 m3 for the remaining filling operations for HKBCF and TMCLKL southern landfall reclamation. • Floating type perimeter silt curtains shall be around the HKBCF site before the commencement of marine works. Staggered layers of silt curtain shall be provided to prevent sediment loss at navigation accesses. The length of each staggered layers shall be at least 200m; • Single layer silt curtain to be applied around the North-east airport water intake; • The silt-curtains should be maintained in good condition to ensure the sediment plume generated from filling be confined effectively within the site boundary; • The filling works shall be scheduled to spread the works evenly over a working day; • Cellular structure shall be used for seawall construction; • A layer of geotextile shall be placed on top of the seabed before any filling activities take place inside the cellular structures to form the seawall;	To control construction water quality	Contractor	During filling	Construction stage	TM-EIAO	√ √ √ √ √ √ √ √ √ √ √

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S.9.11.1.7	W1	• The conveyor belts shall be fitted with windboards and conveyor release points shall be covered with curtain to prevent any spillage of filling materials onto the surrounding waters; and • An additional layer of silt curtain shall be installed near the active stone column installation points. A layer of geotextile with stone blanket on top shall be placed on the seabed prior to stone column installation works.	To control construction water quality	Contractor	During filling	Construction stage	TM-EIAO	√ √
S.9.11.1.7	W2	<u>Land Works</u> General construction activities on land should also be governed by standard good working practice. Specific measures to be written into the works contracts should include: • wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters;	To control construction water quality	Contractor	Land-based works areas	Construction stage	TM-EIAO	√
S.9.11.1.7	W2	• sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided; • storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks; • silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm; • temporary access roads should be surfaced with crushed stone or gravel; • rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities; • measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system; • open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms; • manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers; • discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;	To control construction water quality	Contractor	Land-based works areas	Construction stage	TM-EIAO	√ √ √ √ √ √ √ √

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S9.11.1.7	W2	• all vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit; • wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain; • the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel; • wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects; • vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal; • the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately; • waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance; • all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and • surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.	To control construction water quality	Contractor	Land-based works areas	Construction stage	TM-EIAO	√ √ √ √ √ √ √ √ √
S.9.14	W3	• Implement a water quality monitoring programme.	To control water quality	Contractor	Selected representative water quality monitoring station	Construction stage	• TM-EIAO • Water Pollution Control Ordinance	√ (ET of ContractNo. HY/2013/01 is responsible conducting monitoring for entire HKBCF)

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Ecology (Construction Phase)								
S10.7	E1	• Install silt curtain during the construction • Limit works fronts • Construct seawall prior to reclamation filling where practicable • Good site practices • Strict enforcement of no marine dumping • Site runoff control • Spill response plan	Prevent Sedimentation from Land-based works areas	Contractor	Seawall, reclamation area	During construction	TM-Water	√ √ √ √ √ √ √
S10.7	E2	• Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater.	Prevent Sedimentation from Land-based works areas	Contractor	Land-based works areas	During construction	TM-Water	√
S10.7	E3	• Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time	Prevent disturbance to terrestrial fauna and habitats	Contractor	Land-based works areas	During construction	TM-Water	√
S10.7	E4	• Dolphin Exclusion Zone • Dolphin Watching plan	Minimise marine traffic disturbance on dolphins	Contractor	Marine Works	During construction	TM-Water	√ √
S10.7	E5	• Decouple compressors and other equipment on working vessels • Proposal on design and implementation of acoustic decoupling measures applied during reclamation works • Avoidance of percussive piling	Minimise marine traffic disturbance on dolphins	Contractor	Marine Works	During construction	TM-Water	√ √ √
S10.7	E6	• Control vessel speed • Skipper training • Predefined and regular routes for working vessels; avoid Brother Islands.	Minimise marine traffic disturbance on dolphins	Contractor	Marine Traffic	During construction	TM-Water	√ √ √
S10.7	E7	• Vessel based dolphin monitoring	Minimise marine traffic disturbance on dolphins	Contractor	Northeast and Northwest Lantau	During construction	TM-Water	√ (ET of Contract No.HY/2013/01 is responsible conducting monitoring for entire HKBCF.)
Fisheries								
S11.7	F1	• Reduce re-suspension of sediments • Limit works fronts • Good site practices • Strict enforcement of no marine dumping • Spill response plan	Minimise impacts on marine water quality impacts	Marine Department	Seawall, reclamation area	During operation		√ √ √ √ √
S11.7	F2	• Install silt-grease trap in the drainage system collecting surface runoff	Minimise impacts on marine water quality impacts	Marine Department	Reclamation area	During operation		√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S11.7	F4	• Maritime Oil Spill Response Plan (MOSRP); • Contingency plan.	Minimise impacts on marine water quality impacts	Marine Department	HKBCF	During operation		N/A
Landscape & Visual (Detailed Design Phase)								
S14.3.3.1	LV1	General design measures include: • Roadside planting and planting along the edge of the HKBCF Island is proposed; • Transplanting of mature trees in good health and amenity value where appropriate and reinstatement of areas disturbed during construction by compensatory hydro-seeding and planting; • Protection measures for the trees to be retained during construction activities; • Optimizing the sizes and spacing of the bridge columns; Fine-tuning the location of the bridge columns to avoid visually-sensitive locations; • Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed; • Providing planting area around peripheral of HKBCF for tree planting screening effect; • Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline;	Minimise visual & landscape impact	Detailed designer	HKBCF	Design Stage		N/A
S14.3.3.1	LV1	• For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF; and • Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF.	Minimise visual & landscape impact	Detailed designer	HKBCF	Design Stage		N/A

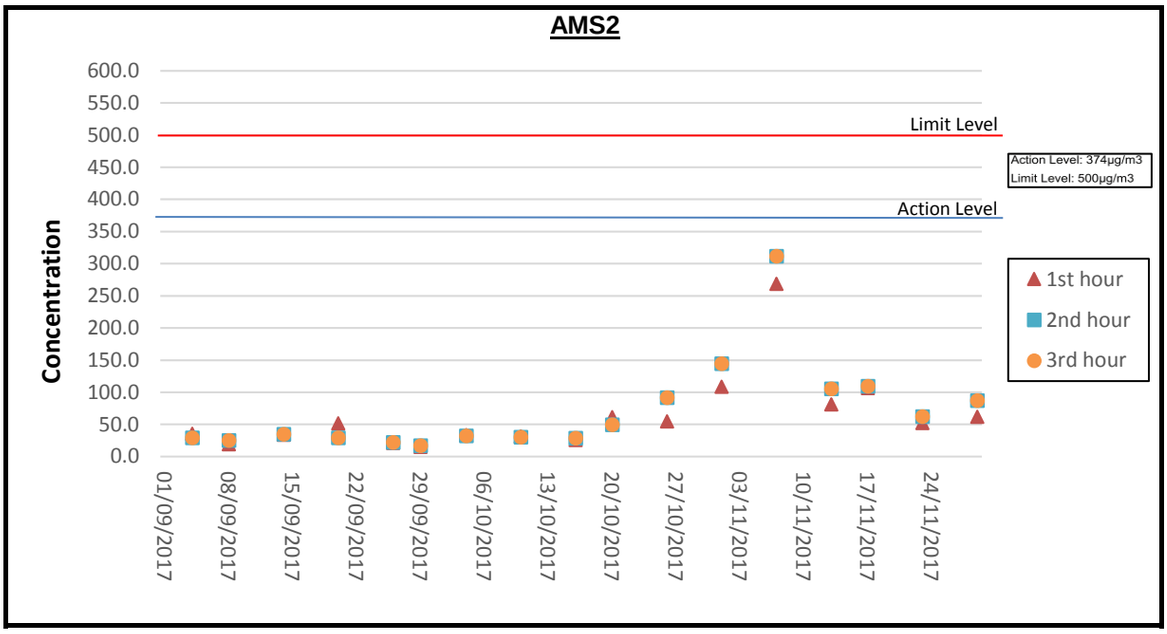
EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Landscape & Visual (Construction Phase)								
S14.3.3.3	LV2	Mitigate both Landscape and Visual Impacts • Grass-hydroseed bare soil surface and stock pile areas. • Add planting strip and automatic irrigation system if appropriate at some portions of bridge footbridge to screen bridge and traffic. • Not applicable as this is for HKLR. • 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. • Vegetation reinstatement and upgrading to disturbed areas • Maximizing new tree shrub and other vegetation planting to compensate tree felled and vegetation removed • Providing planting area around peripheral of HKBCF for tree planting screening effect; • Plant salt-tolerant native and shrubs etc along the planter strip at affected seawall. • Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt “natural-look” by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enchance “natural-look” of the new coastline.	Minimise visual & landscape impact	Contractor	HKBCF	Construction stage		N/A
S14.3.3.3	LV3	<u>Mitigate Visual Impacts</u> • V1.Minimize time for construction activities during construction period. • V2.Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKBCF construction.						√ N/A
EM&A								
S15.2.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	Control EM&A Performance	Project Proponent	All construction sites		• EIAO Guidance Note No.4/2002 • TM-EIAO	√

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

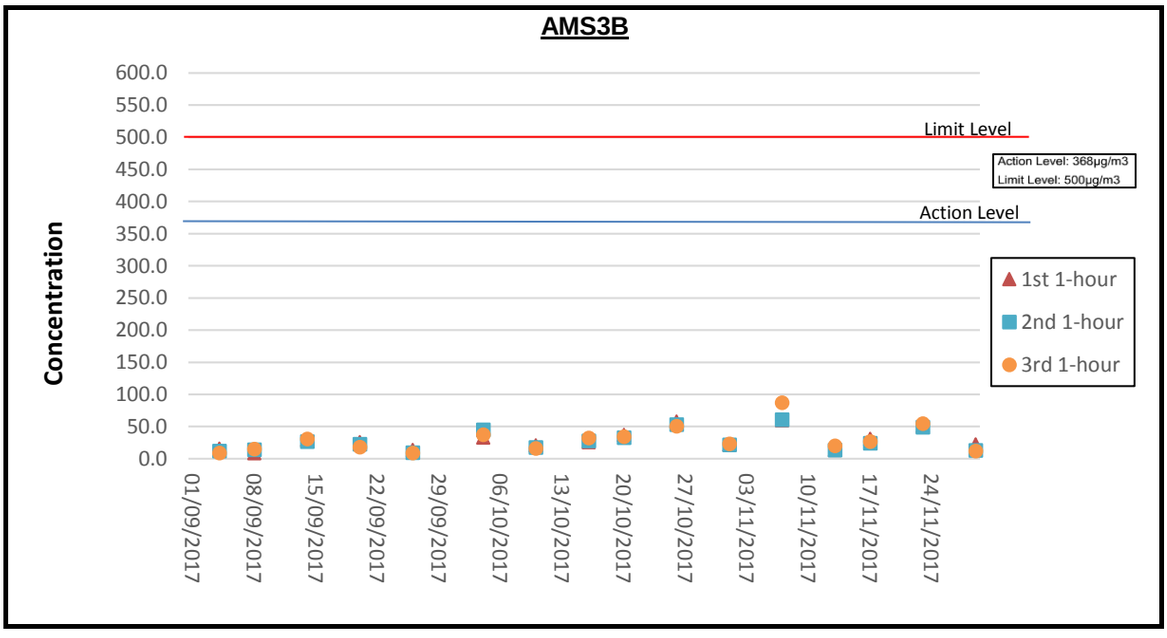
Legends: √ = Implemented; X = Not implemented; N/A = Not applicable

APPENDIX F

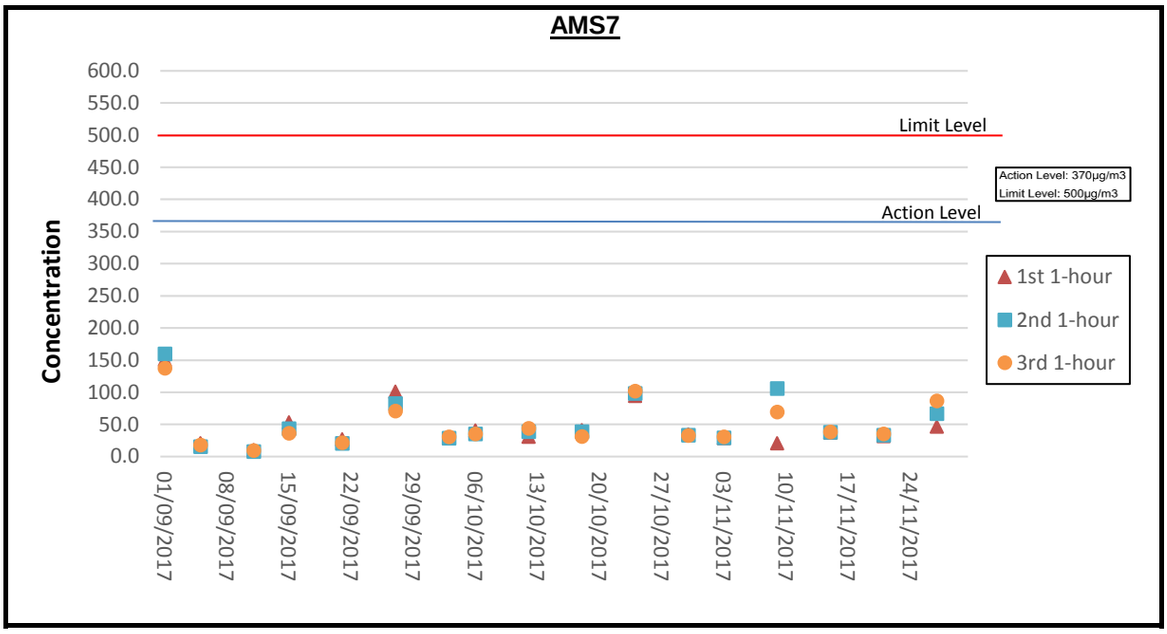
Graphical Plot (Air Quality, Noise and Water Quality)



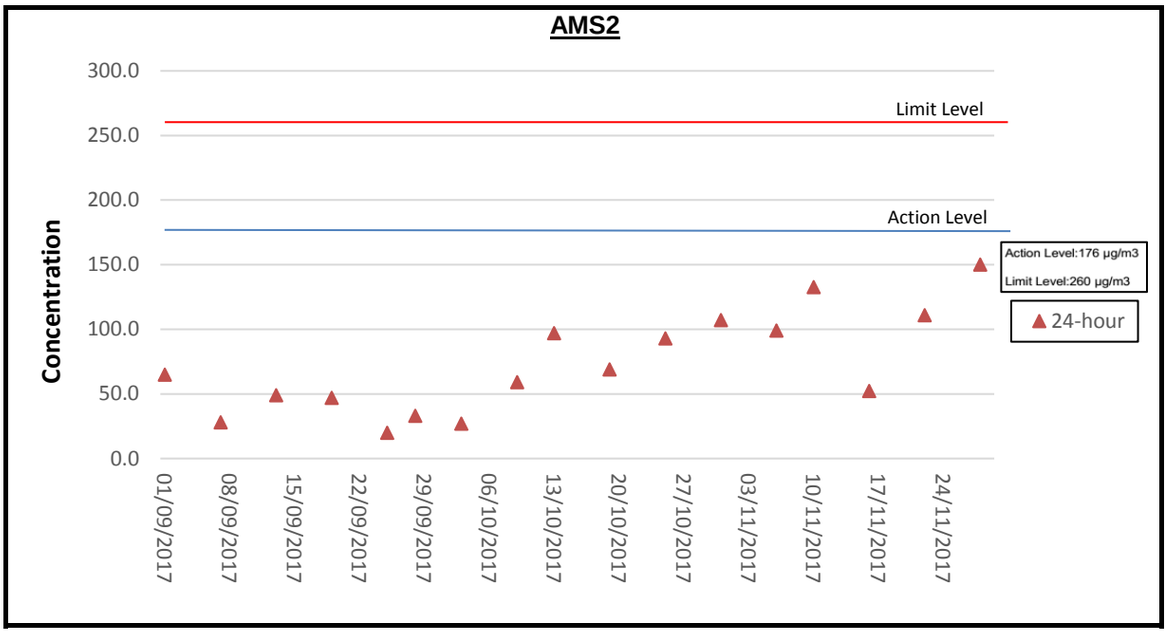
Remark: The air quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



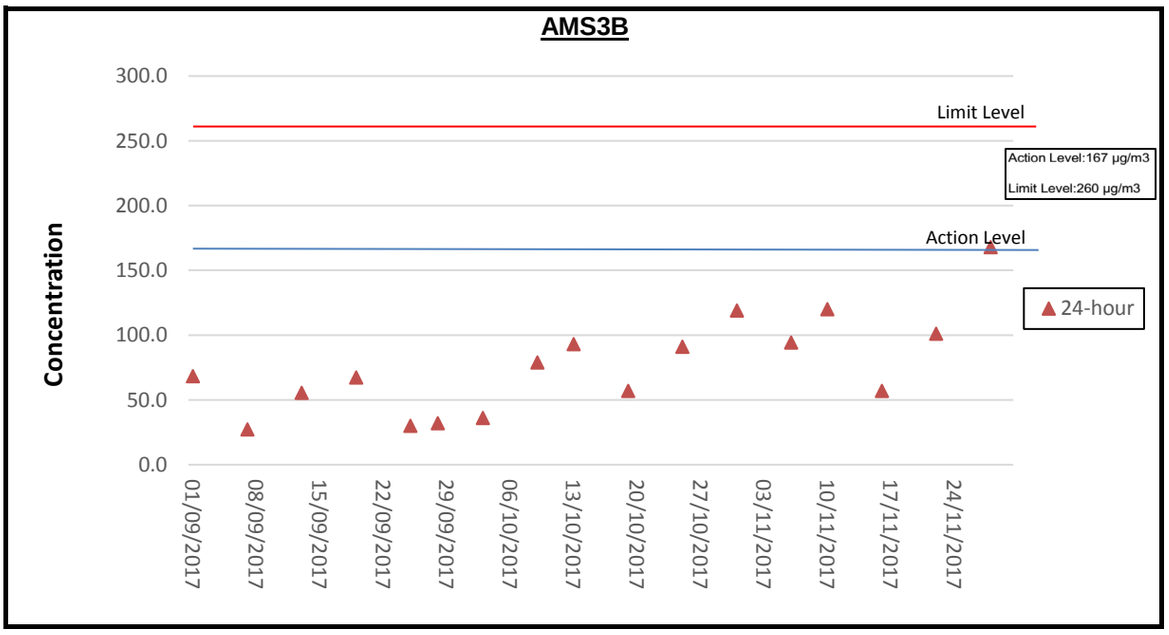
Remark: The air quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



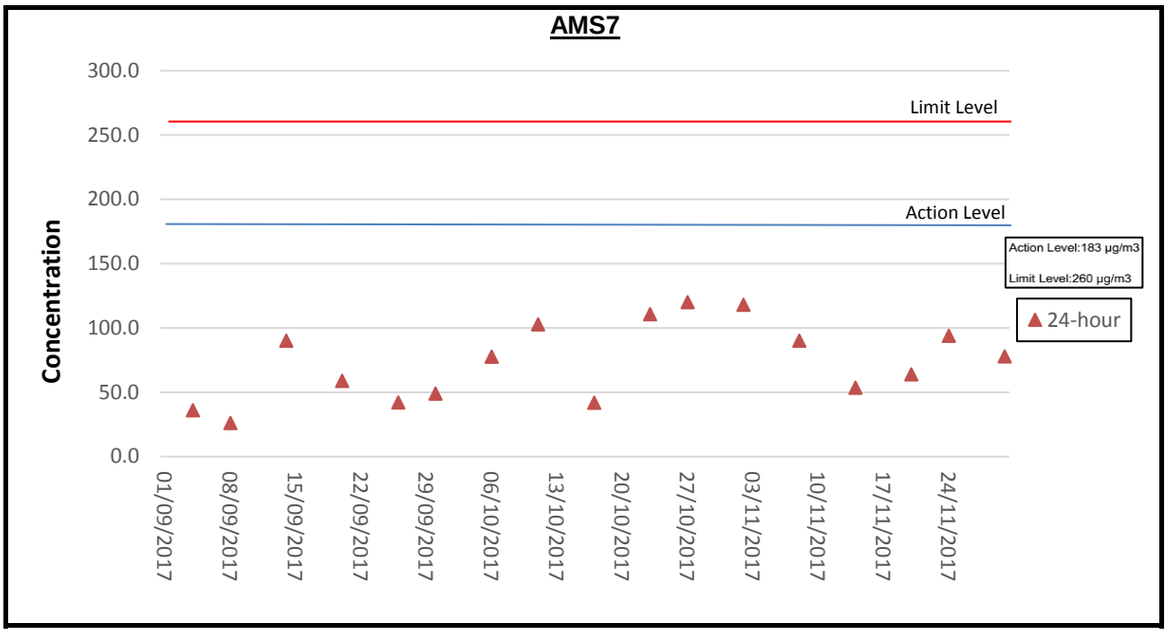
Remark: The air quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



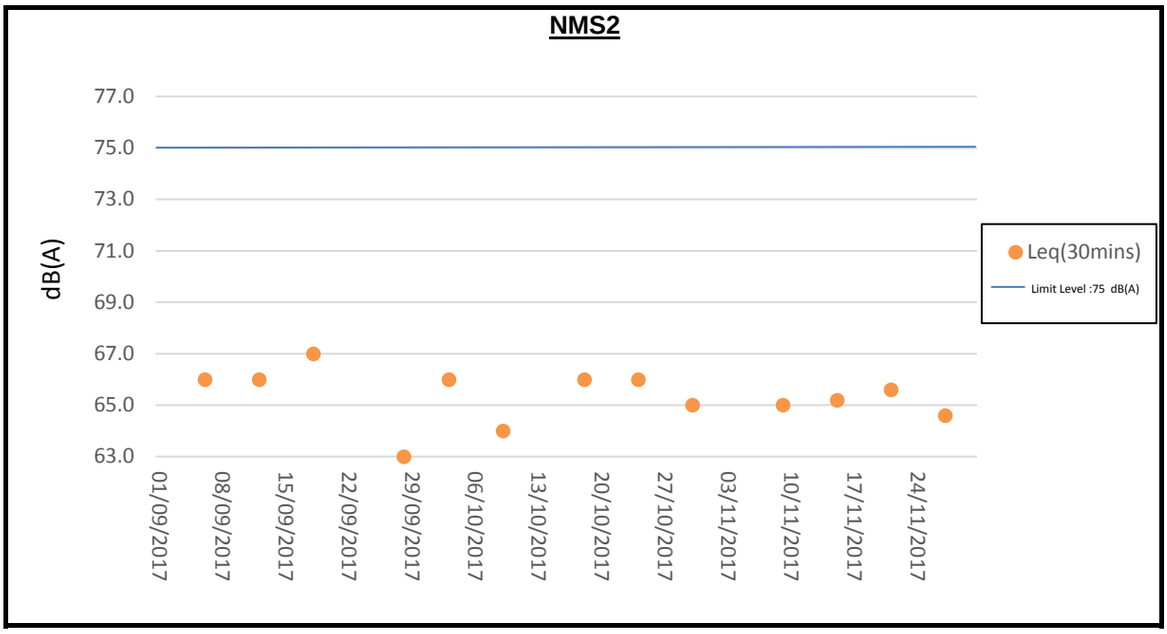
Remark: The air quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results from for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



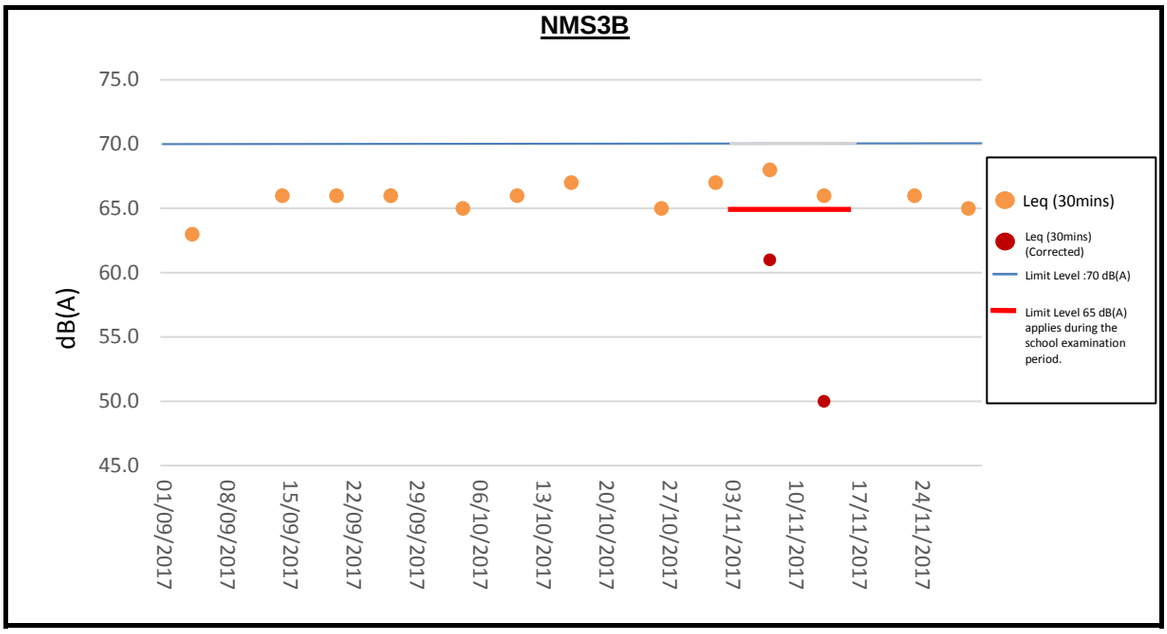
Remark: The air quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



Remark: The air quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



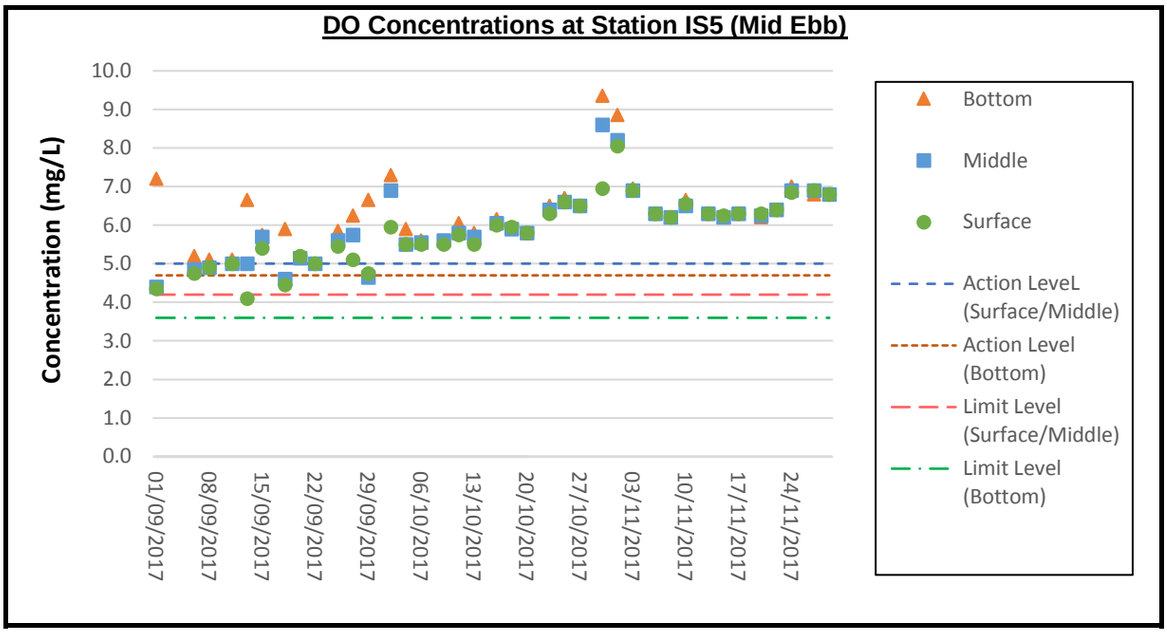
Remark: The noise monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



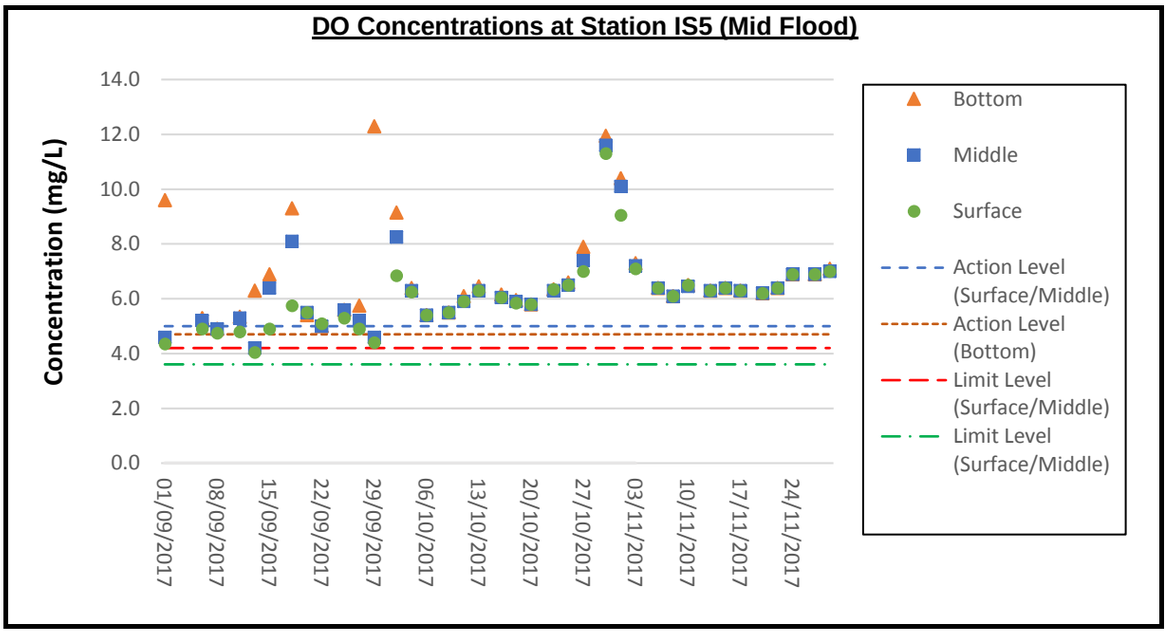
Remark: The noise monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.

The measured noise level was 67.5 dB(A) on 7 Nov 2017 at Station NMS3B, which exceeded the noise level of 65dB(A) during examination period and it was higher than the baseline level of 66.3 dB(A). Therefore, baseline correction was carried out and the corrected noise level which solely represent the noise level of Construction works are 61.3 dB(A). As such the EAP was not triggered.

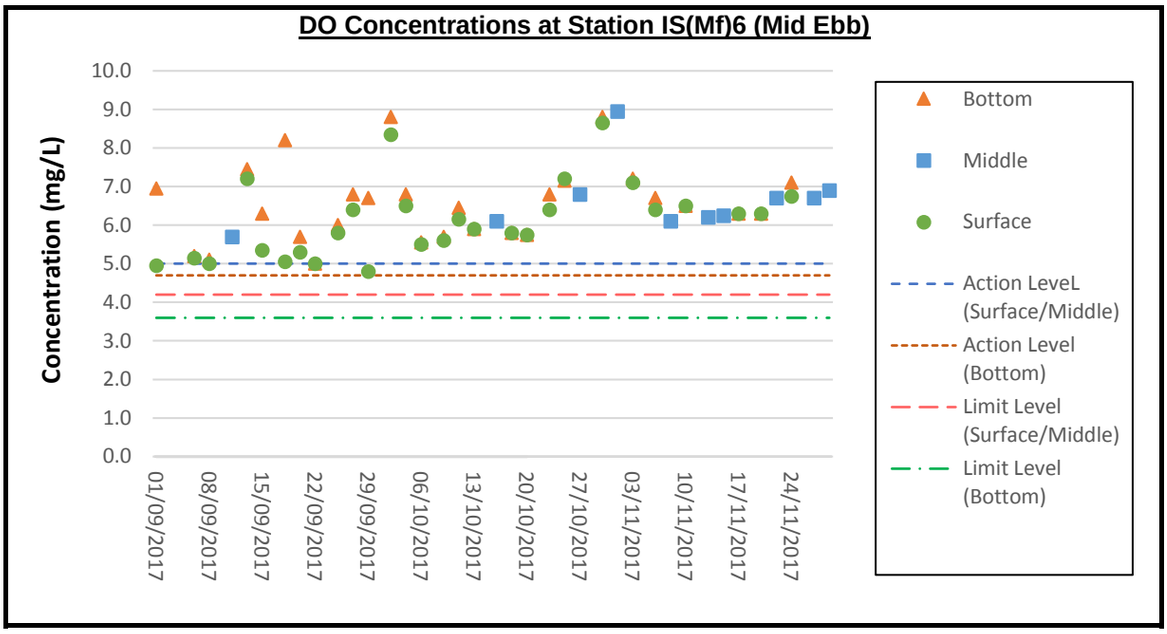
The measured noise level was 66.4 dB(A) on 7 Nov 2017 at Station NMS3B, which exceeded the noise level of 65dB(A) during examination period and it was higher than the baseline level of 66.3 dB(A). Therefore, baseline correction was carried out and the corrected noise level which solely represent the noise level of Construction works are 50.0 dB(A). As such the EAP was not triggered.



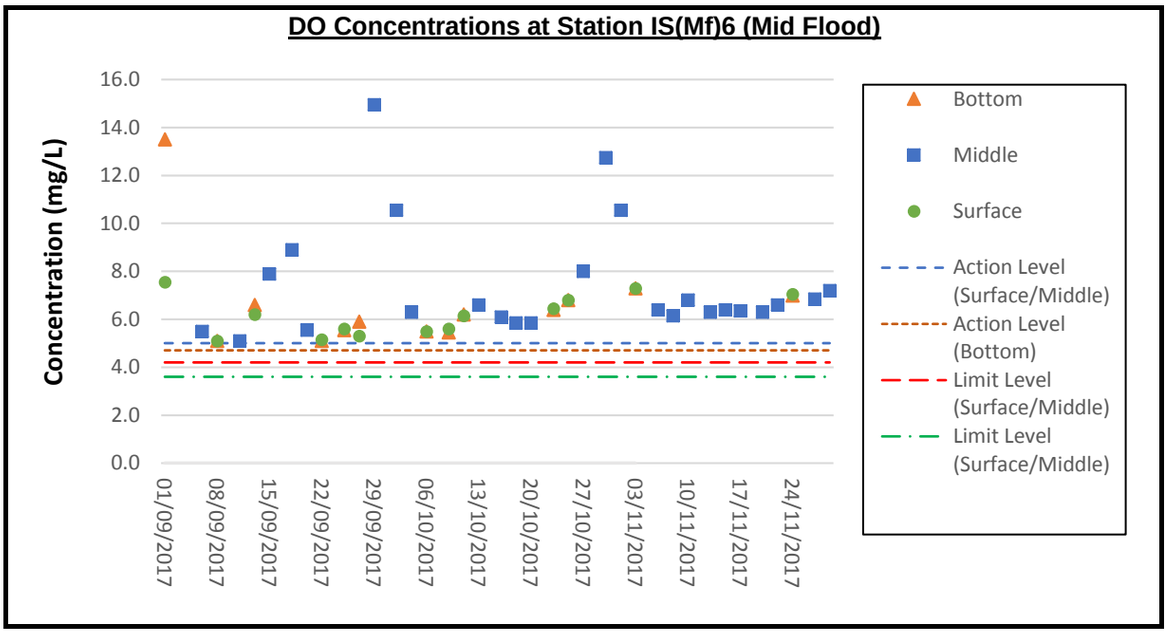
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



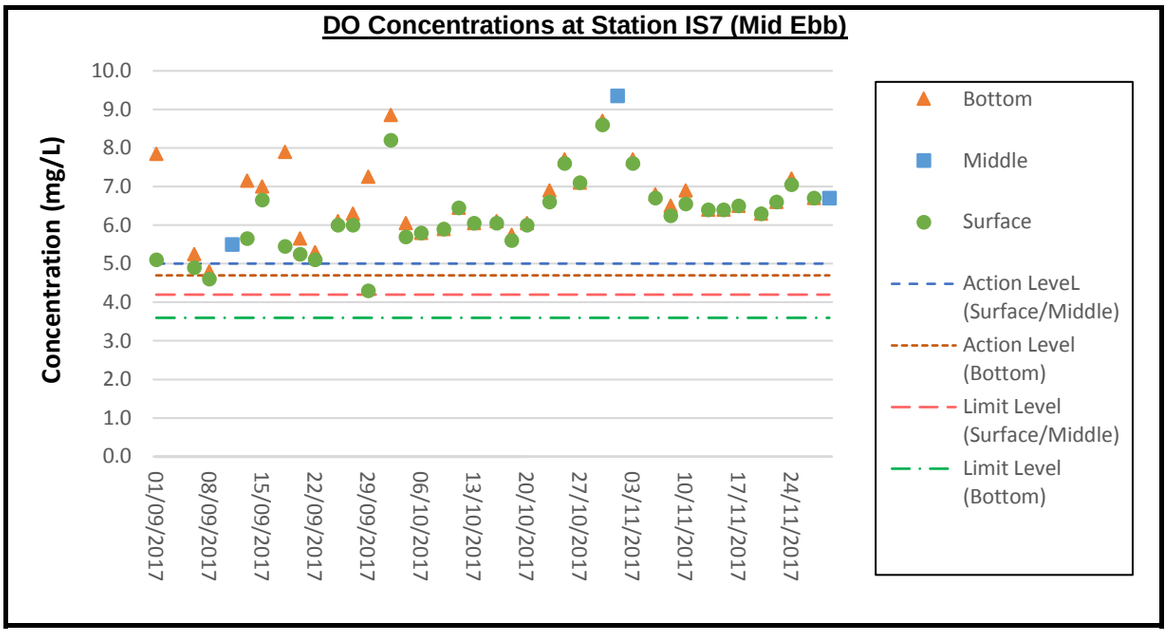
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



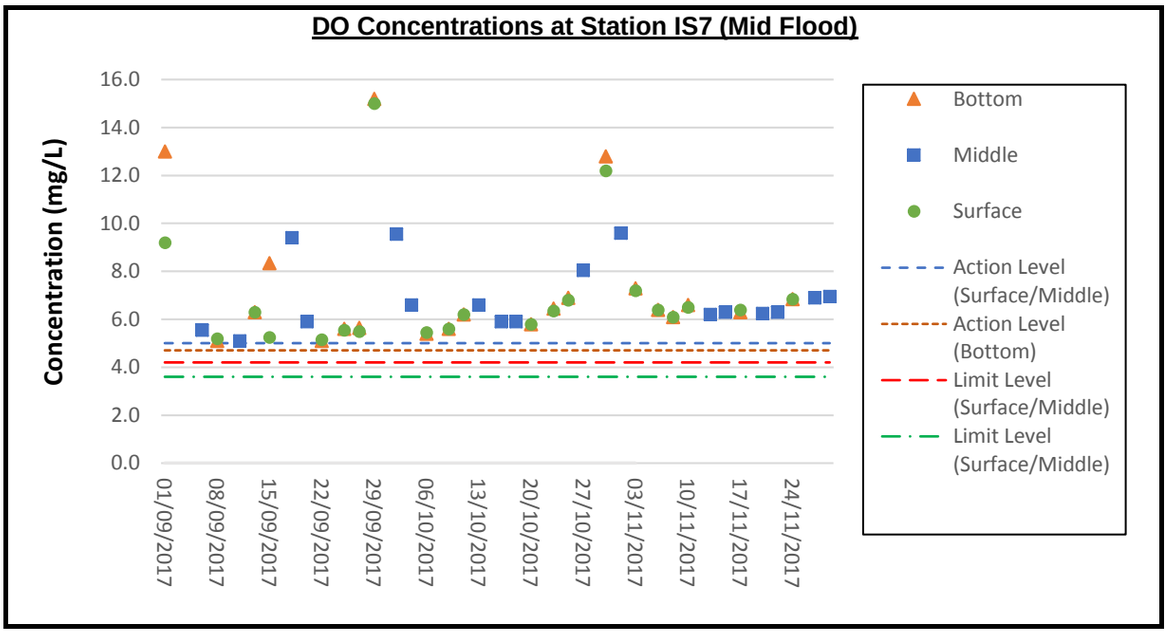
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



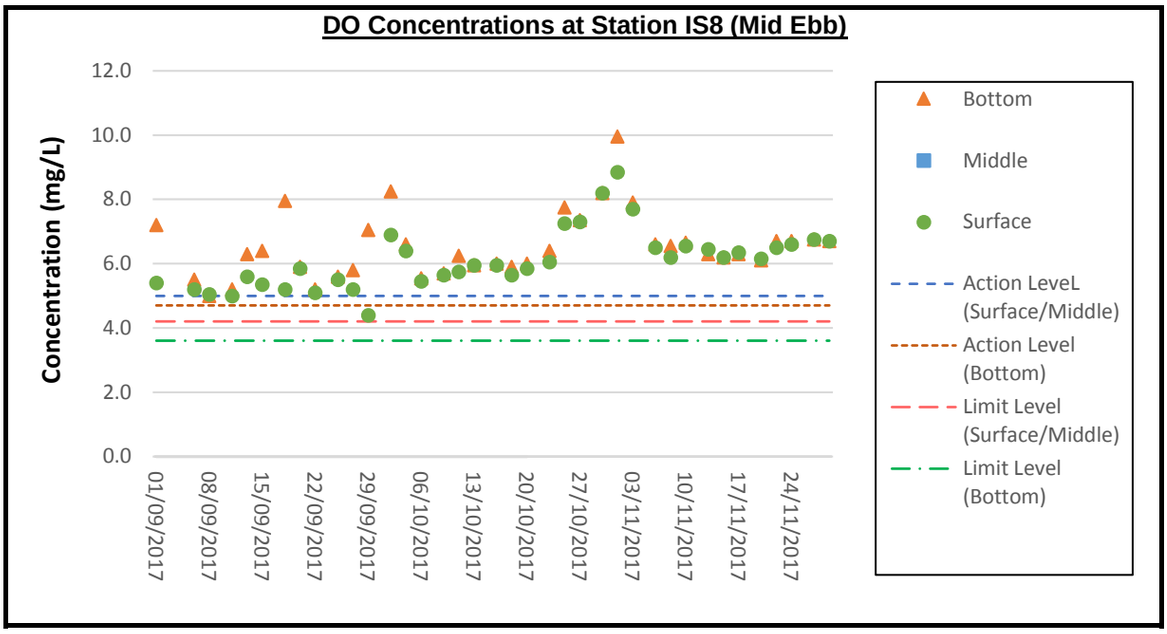
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



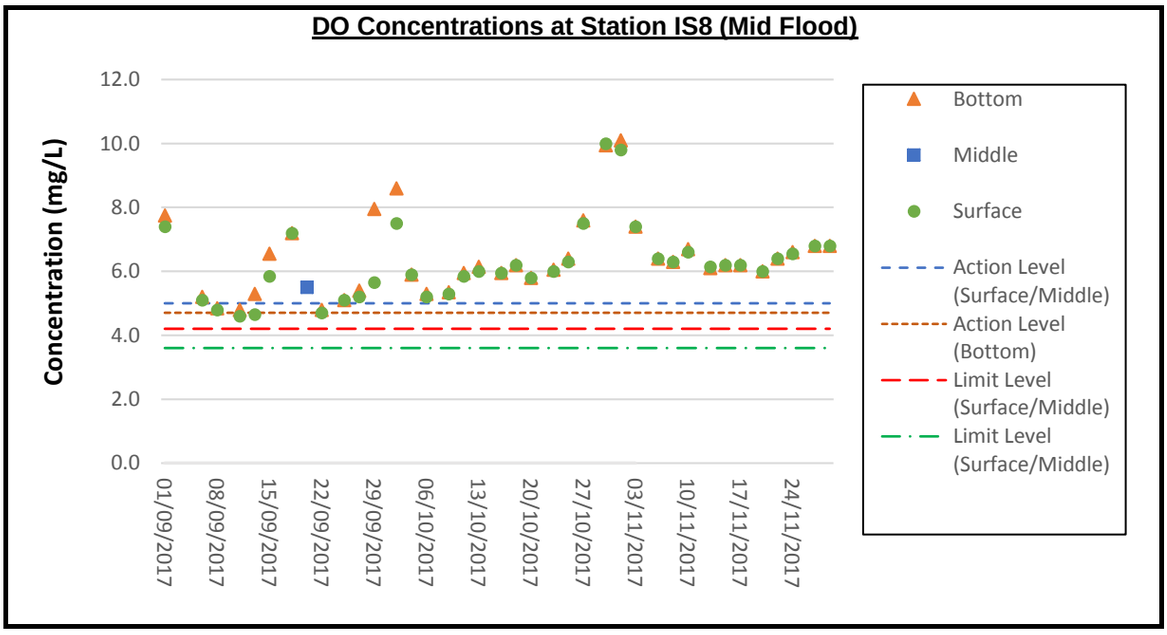
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



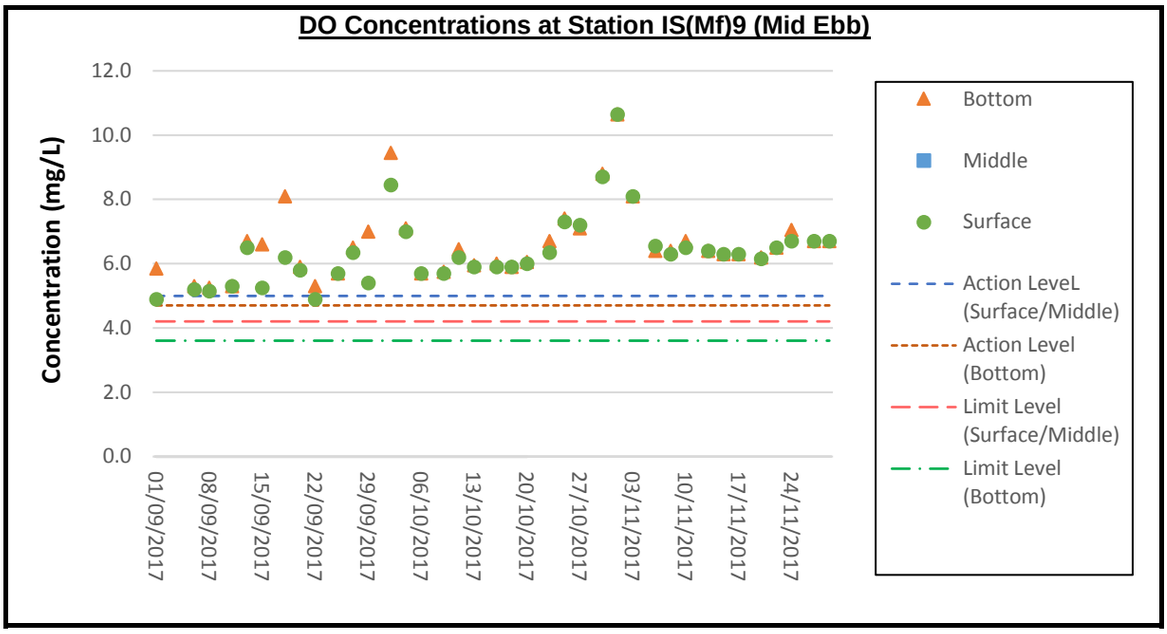
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



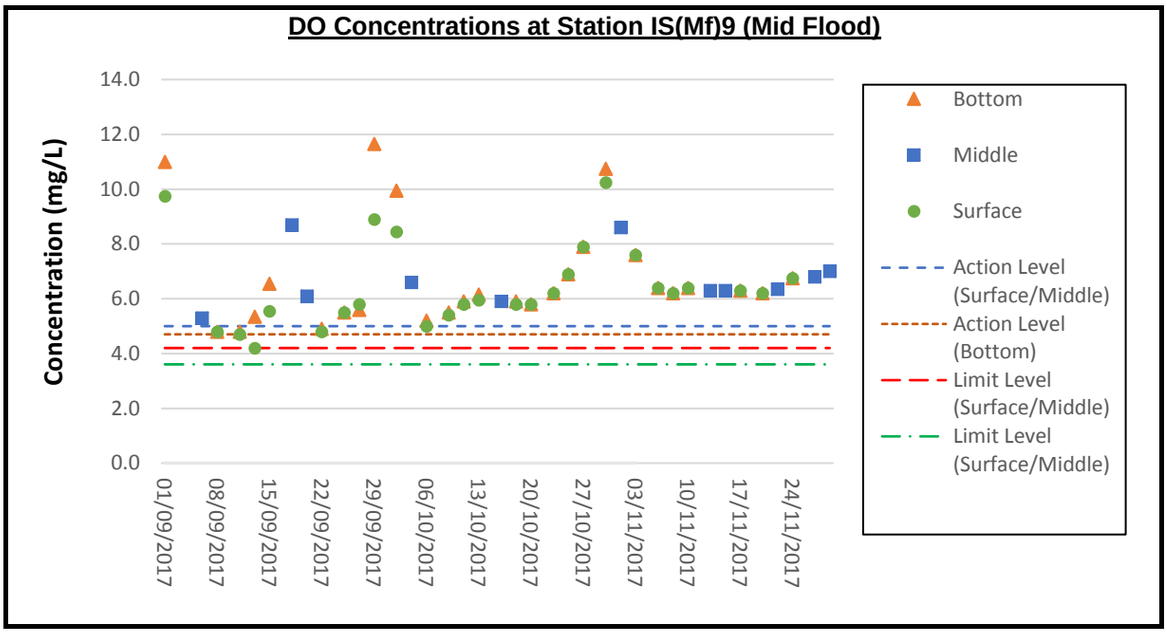
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



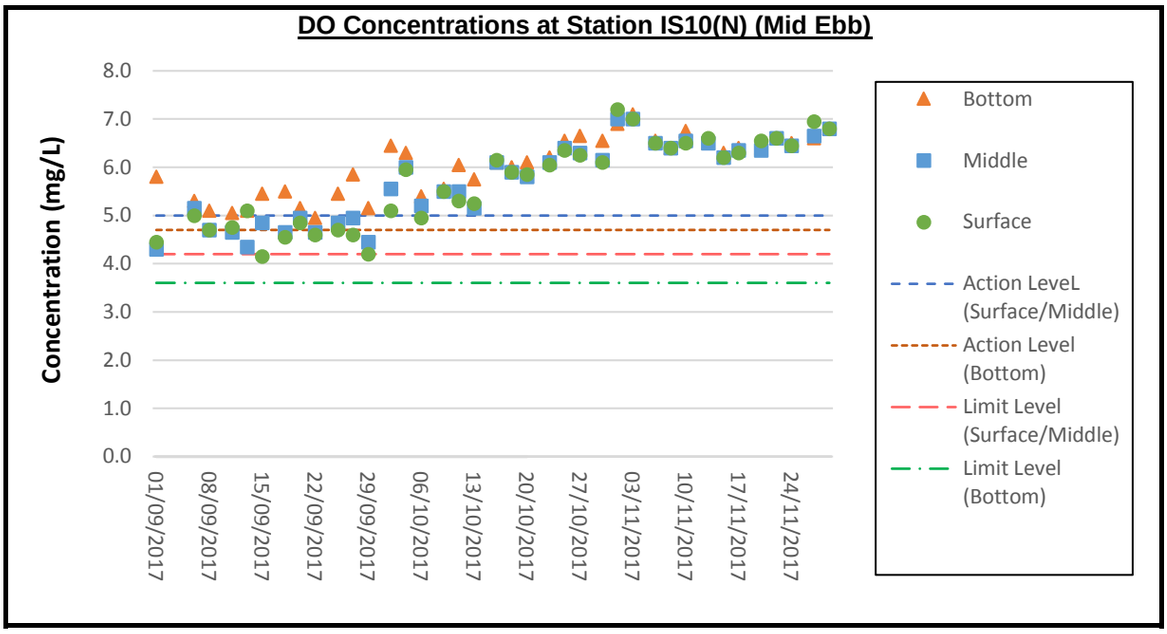
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



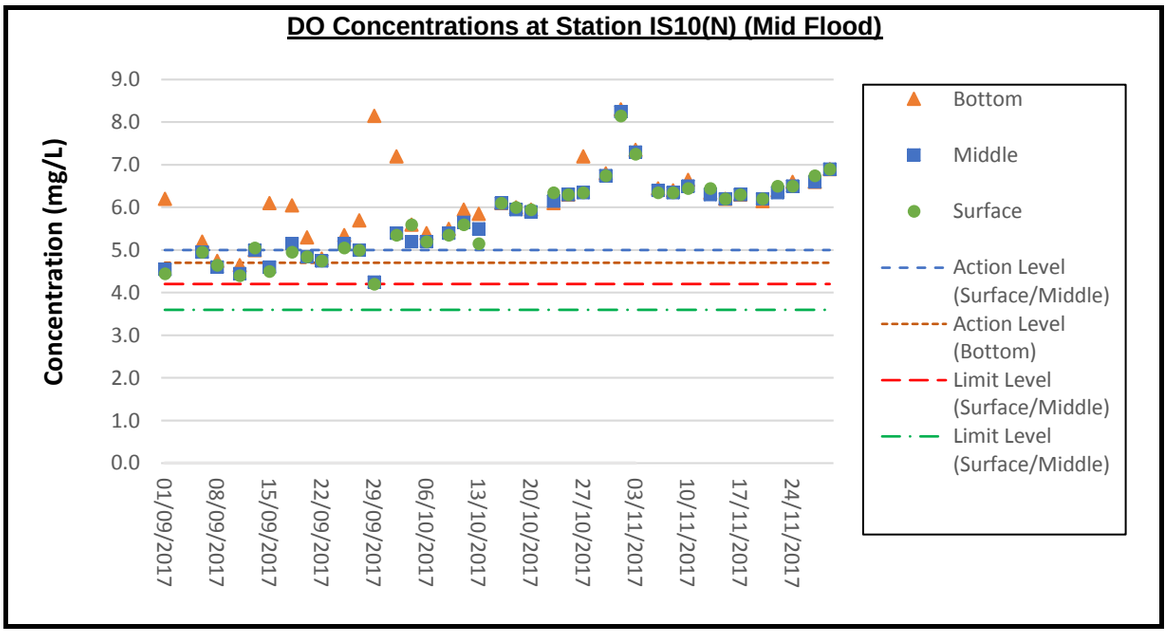
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



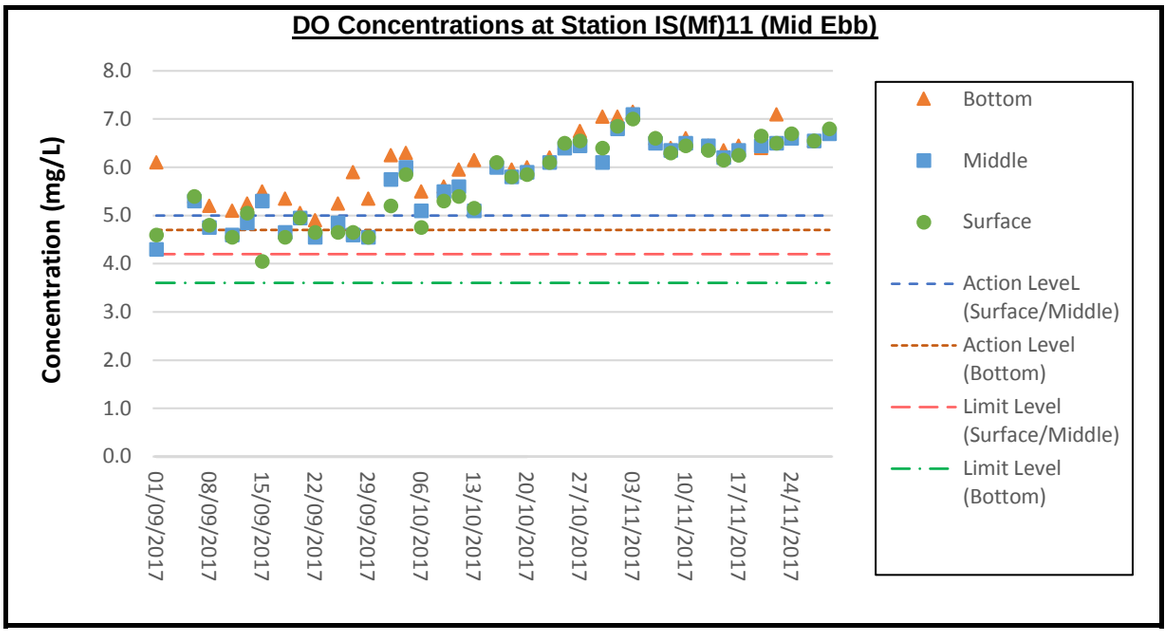
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



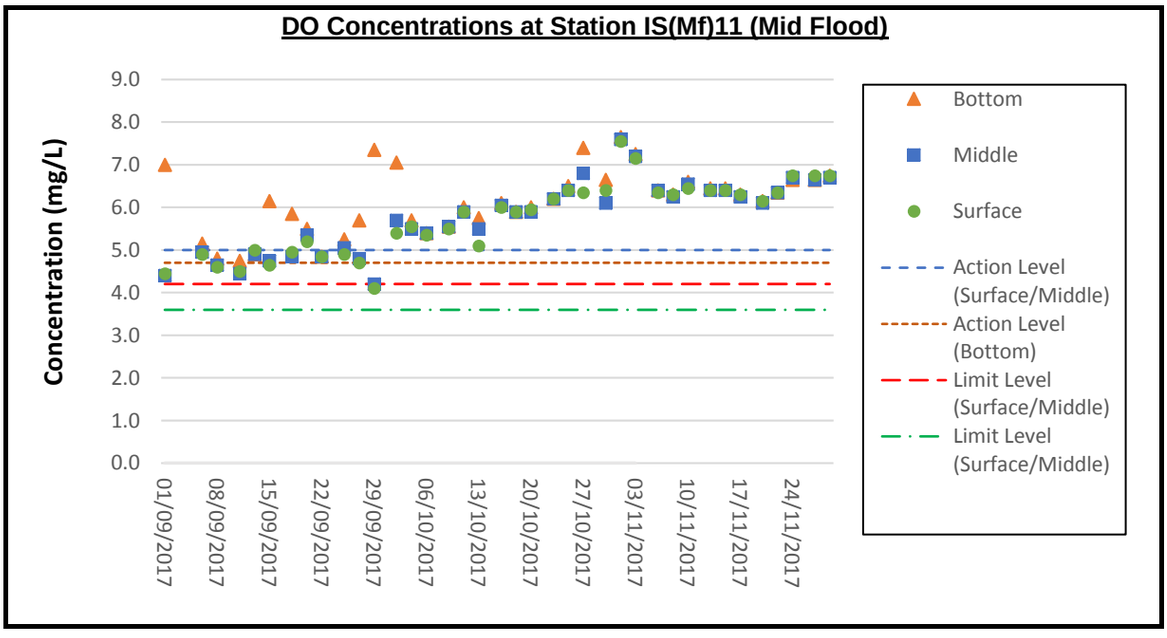
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



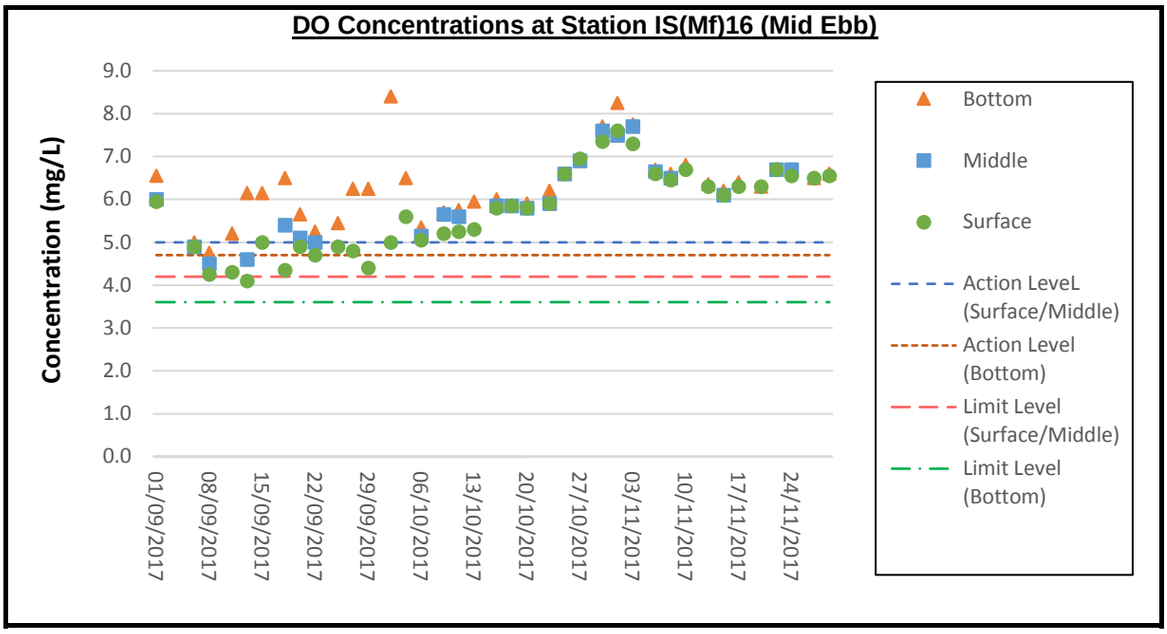
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



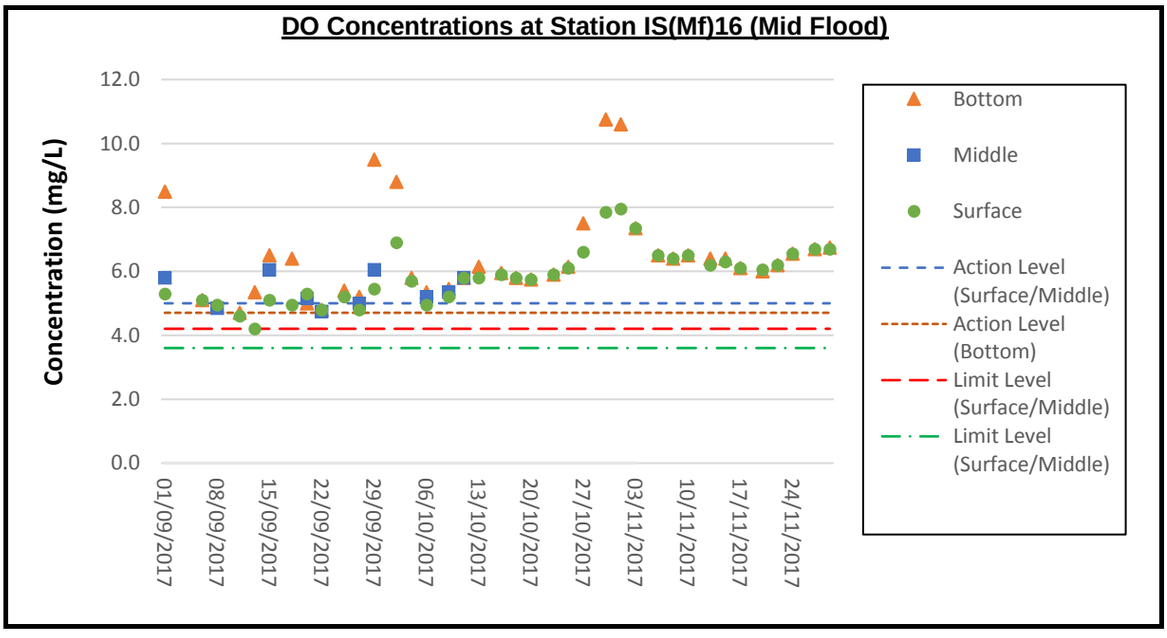
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



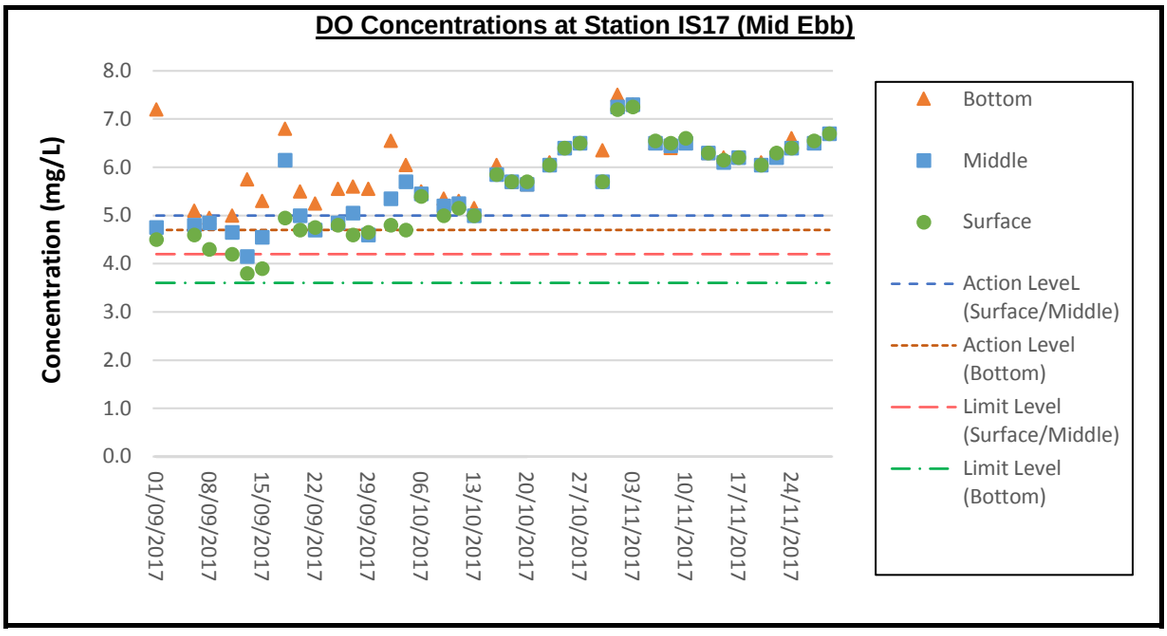
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



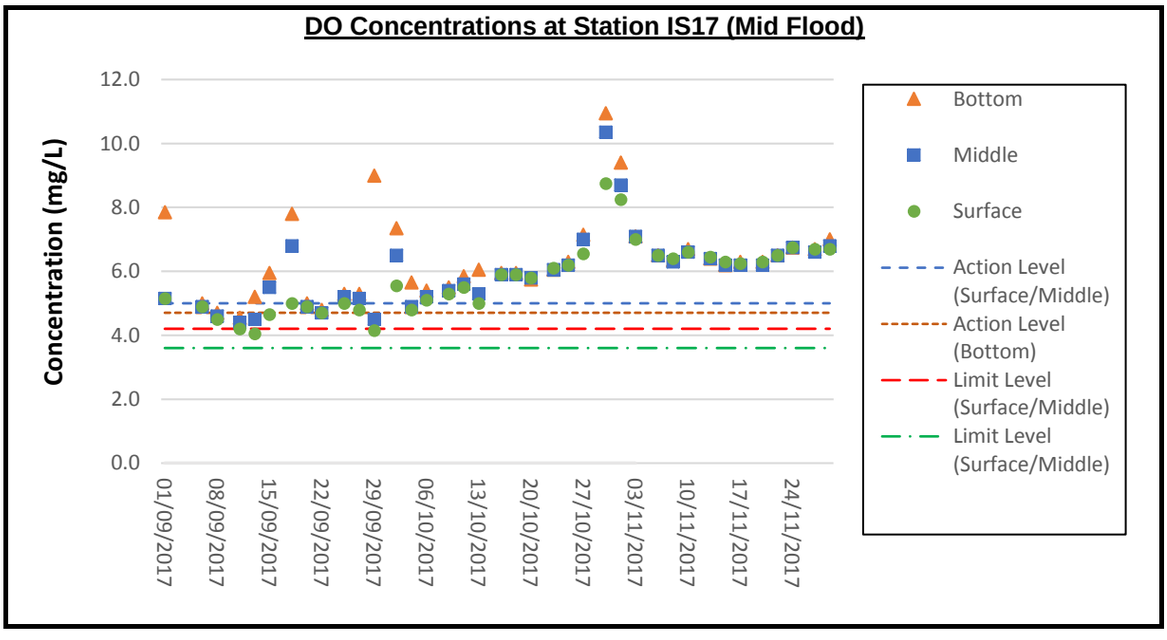
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



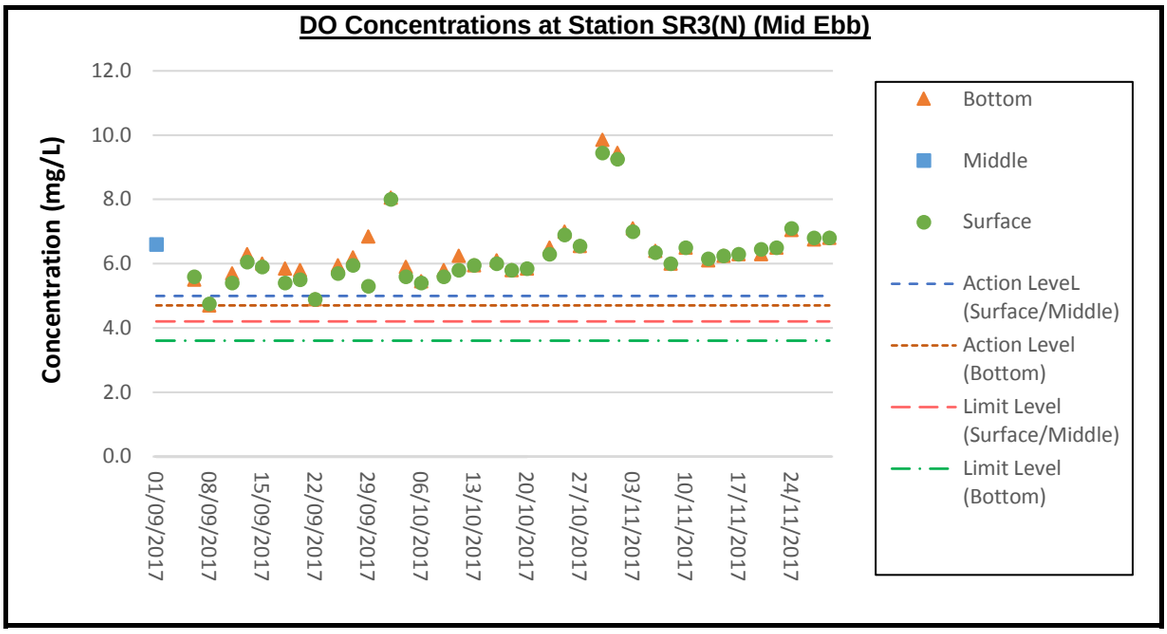
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



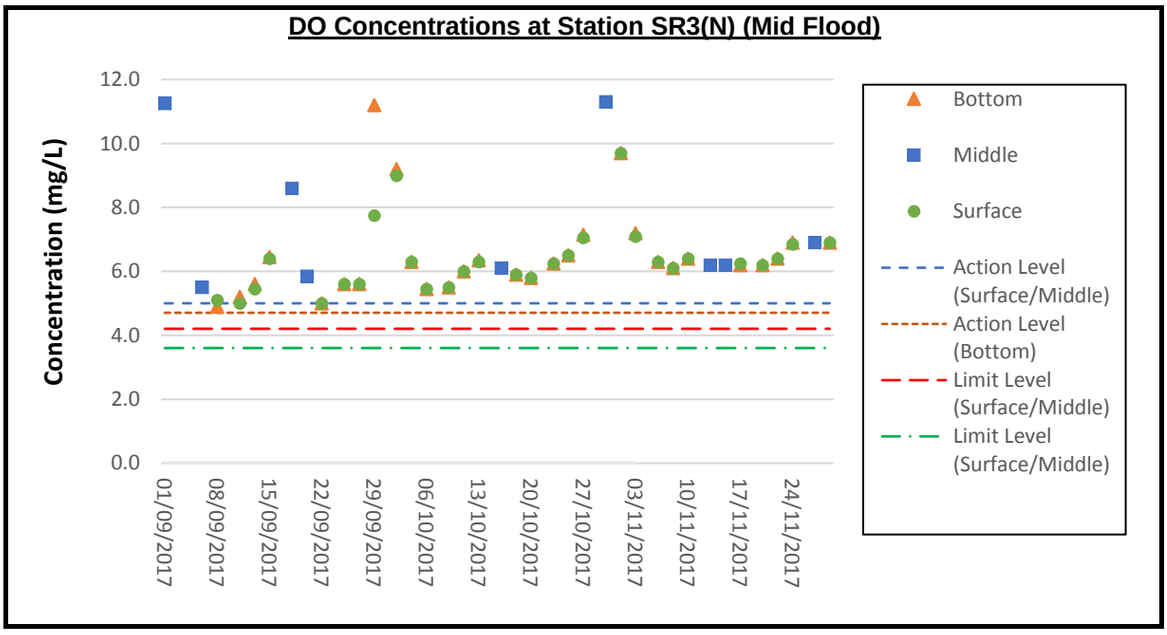
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



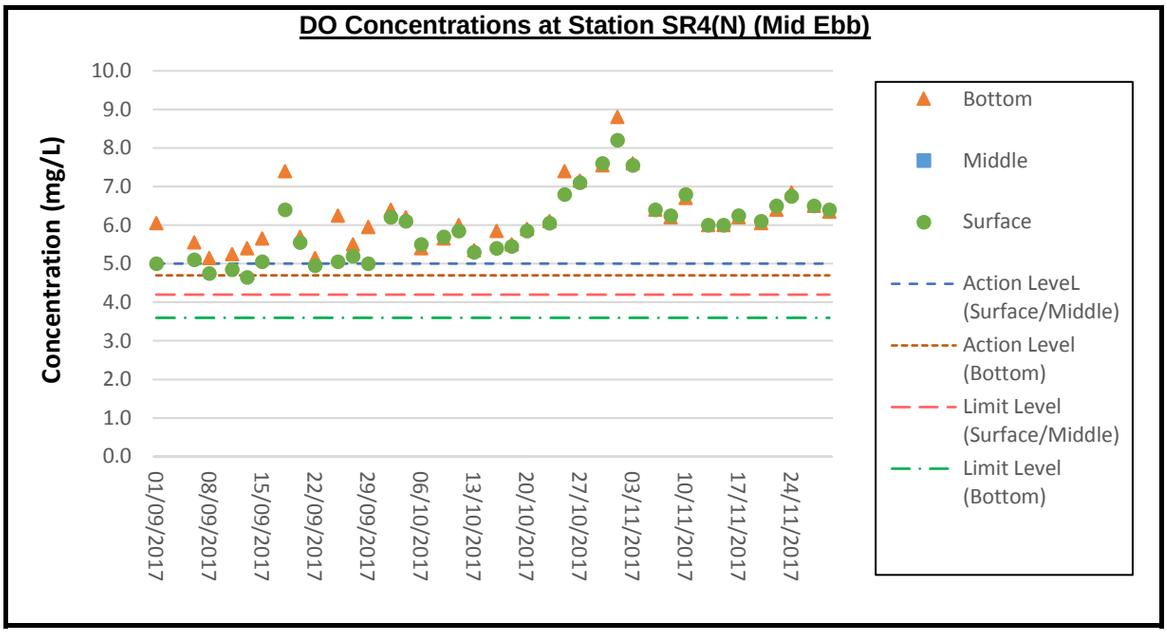
Remark: The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.



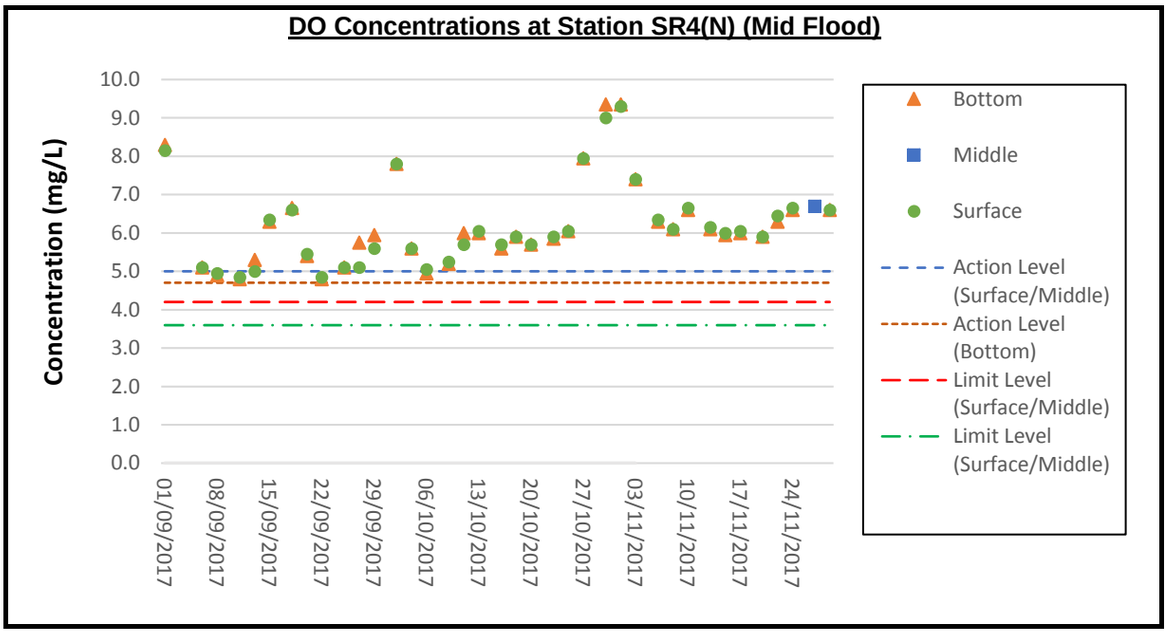
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



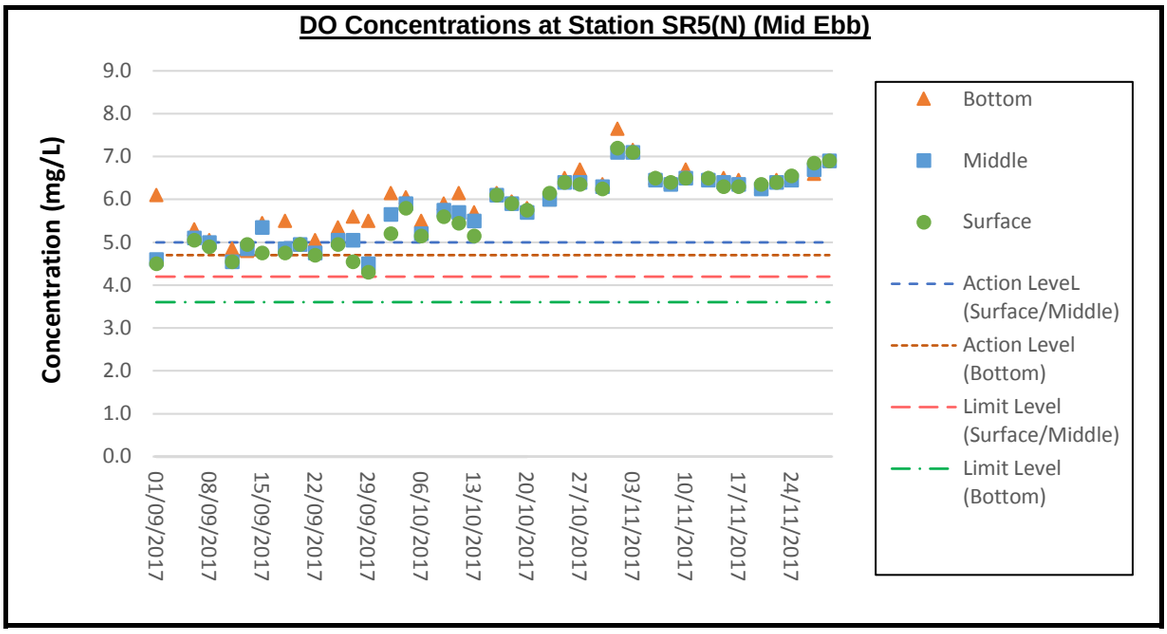
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



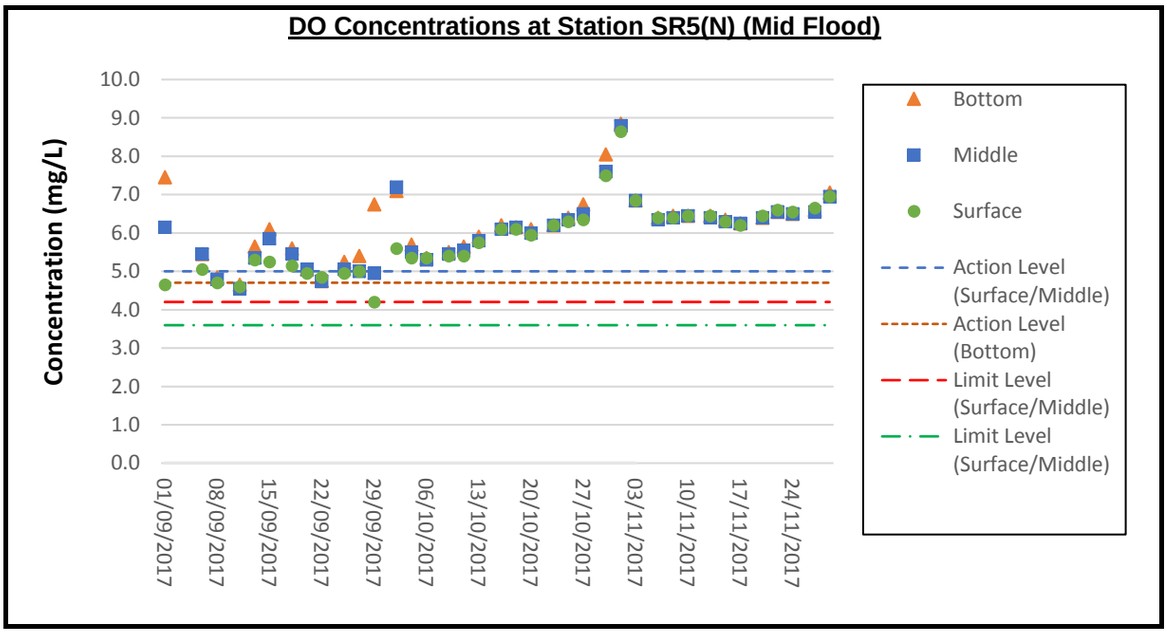
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



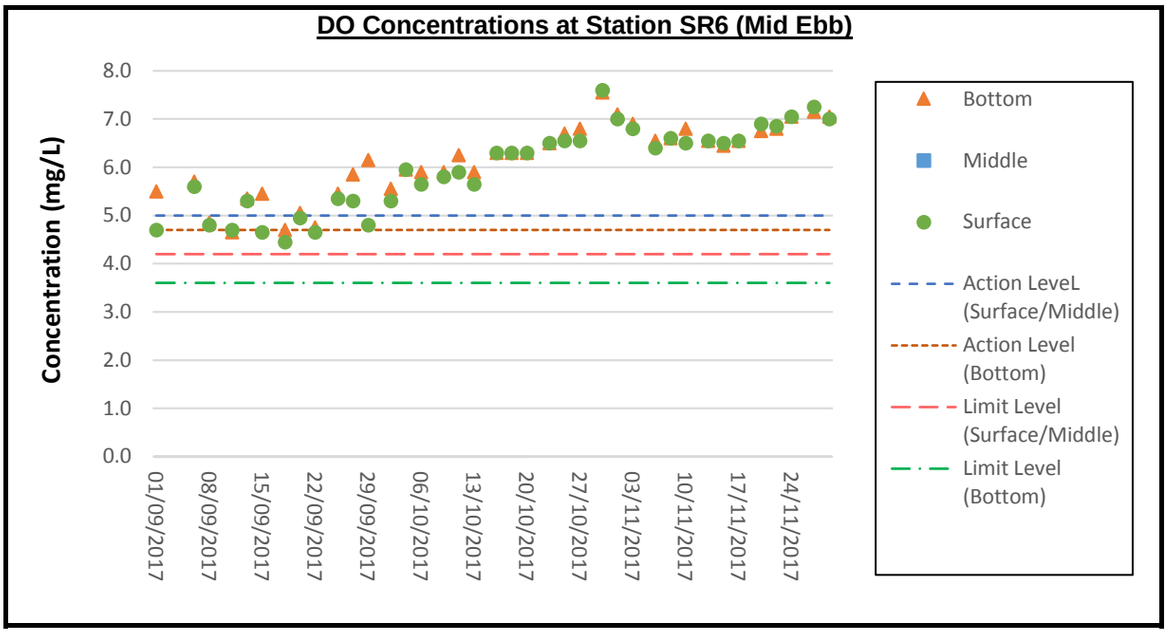
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



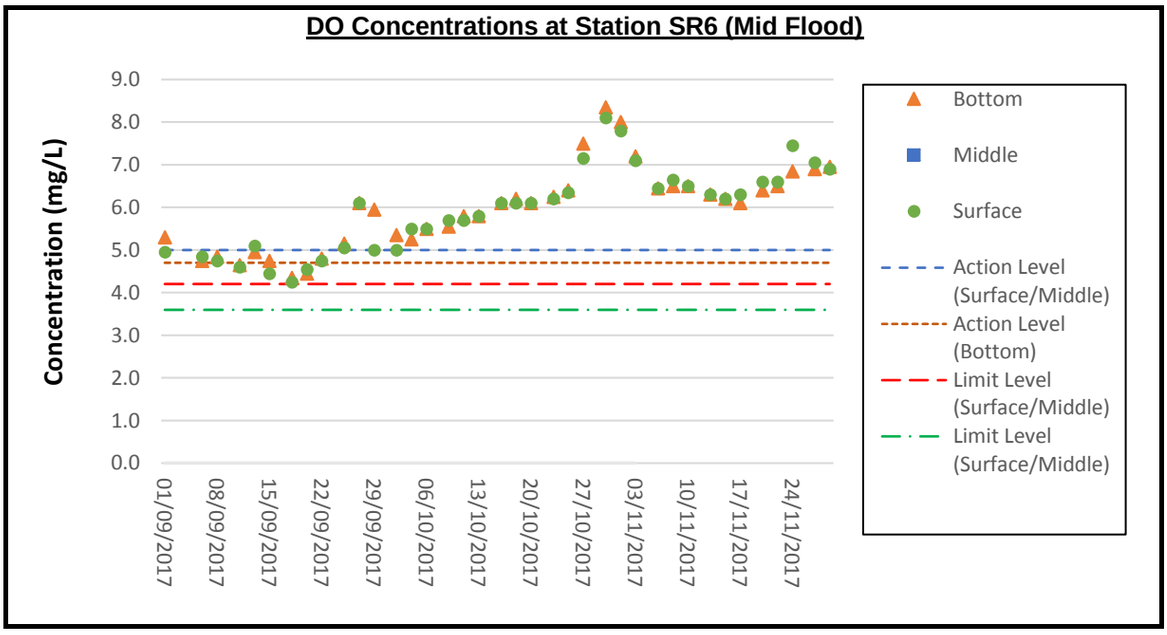
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



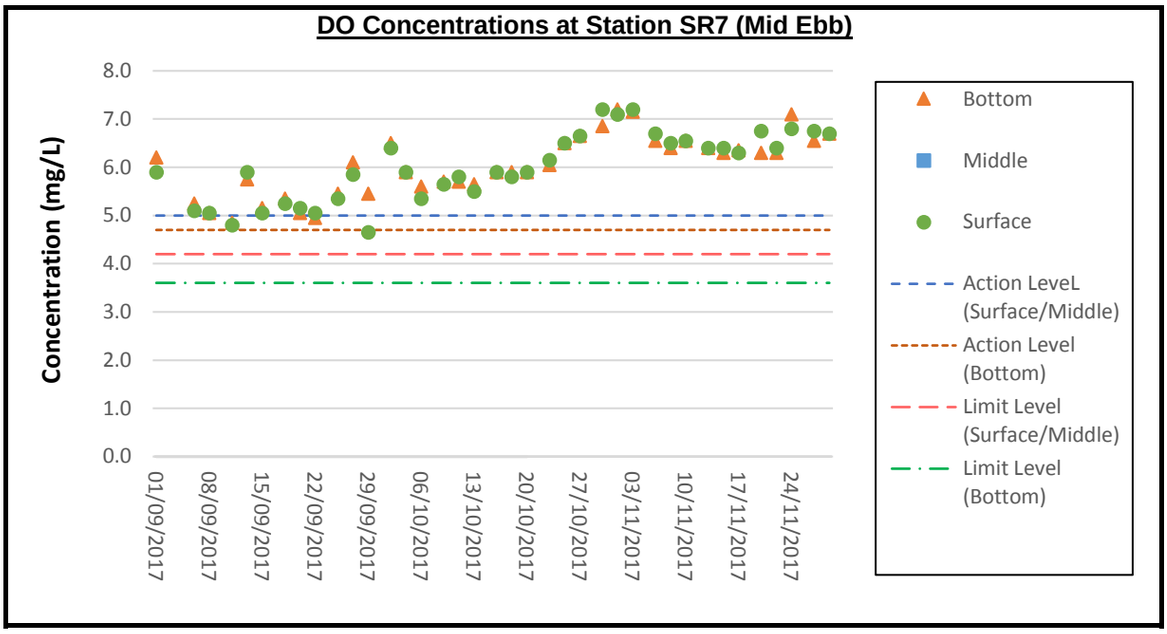
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



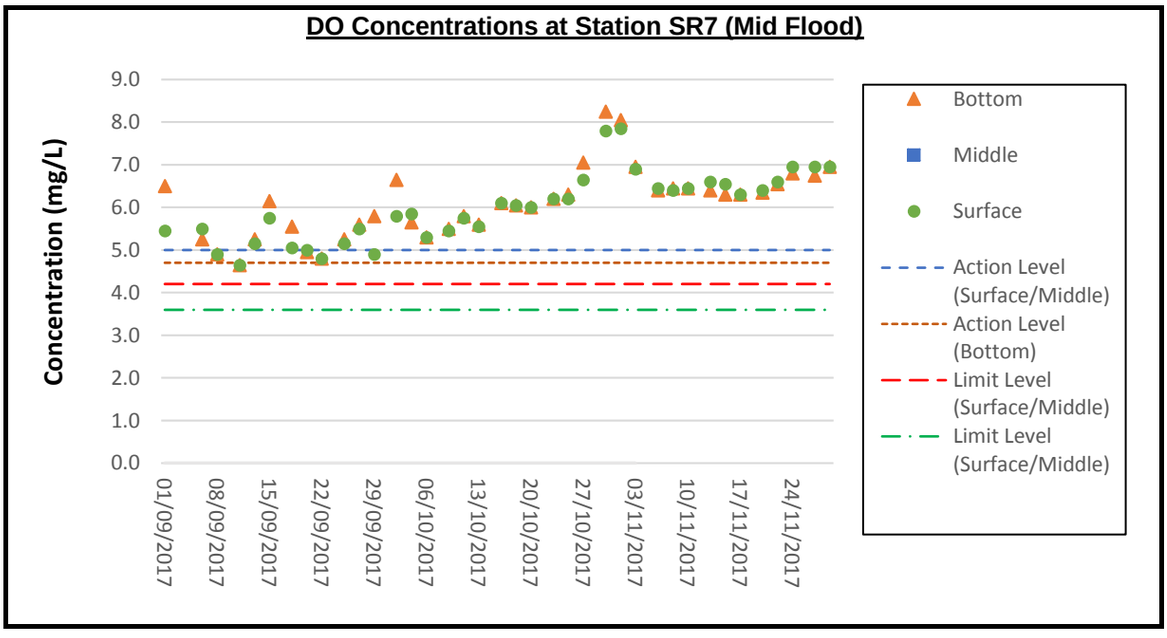
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



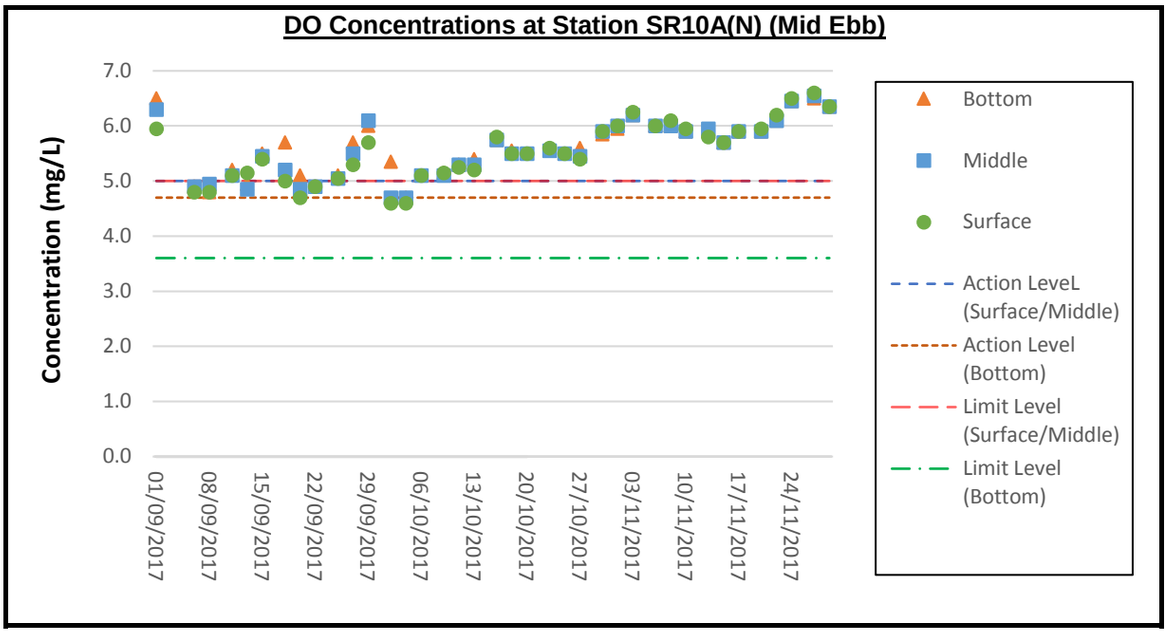
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



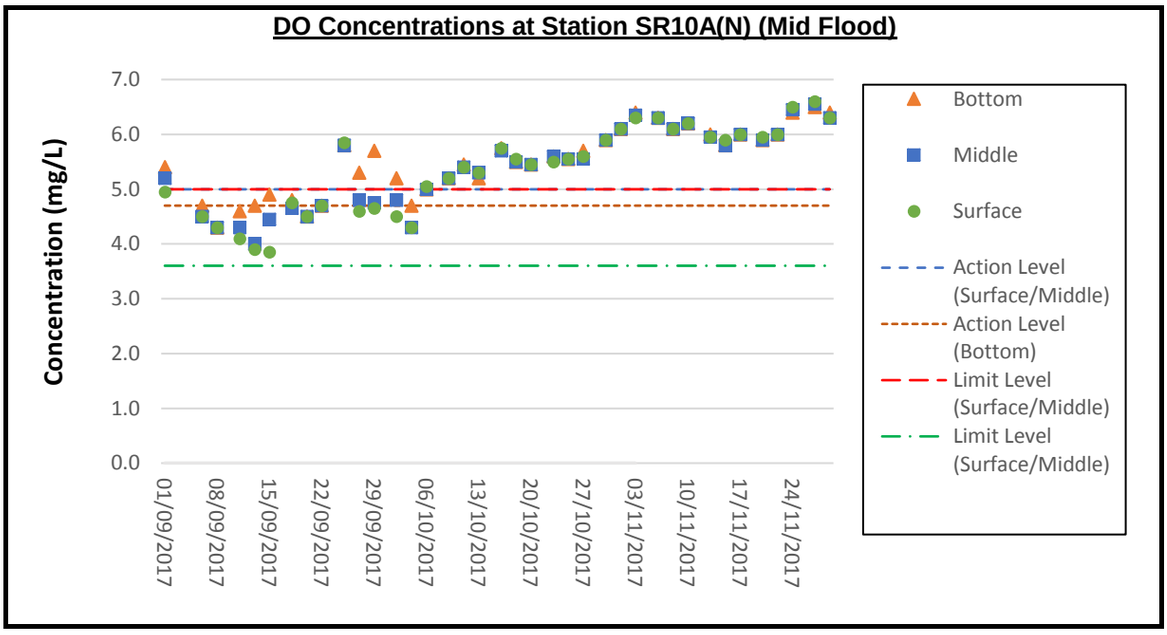
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



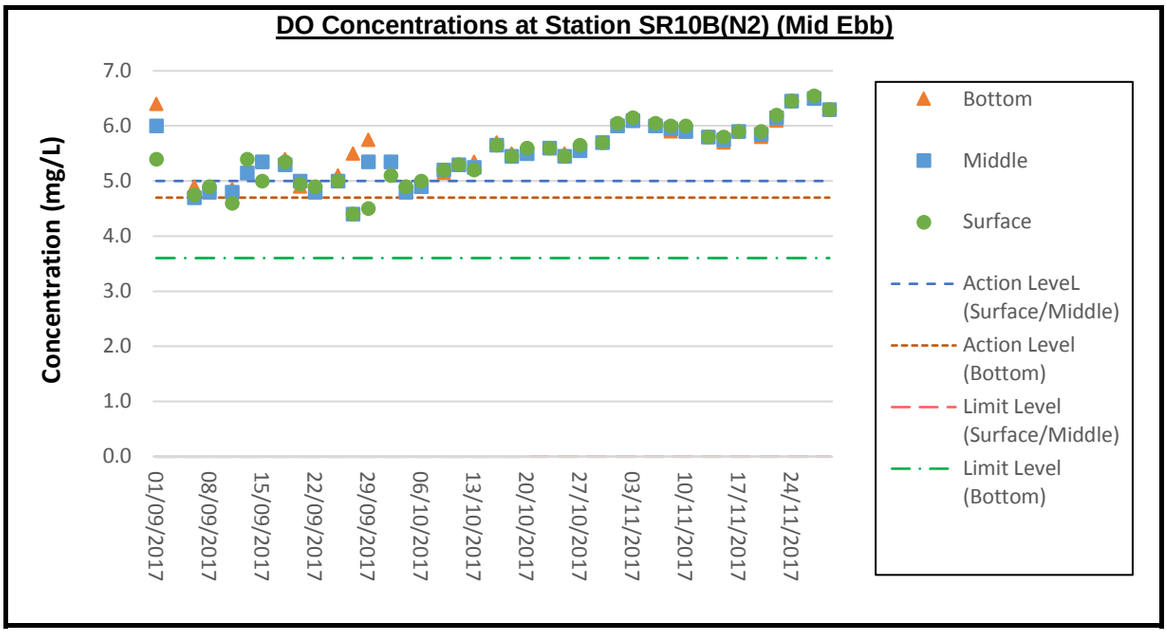
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



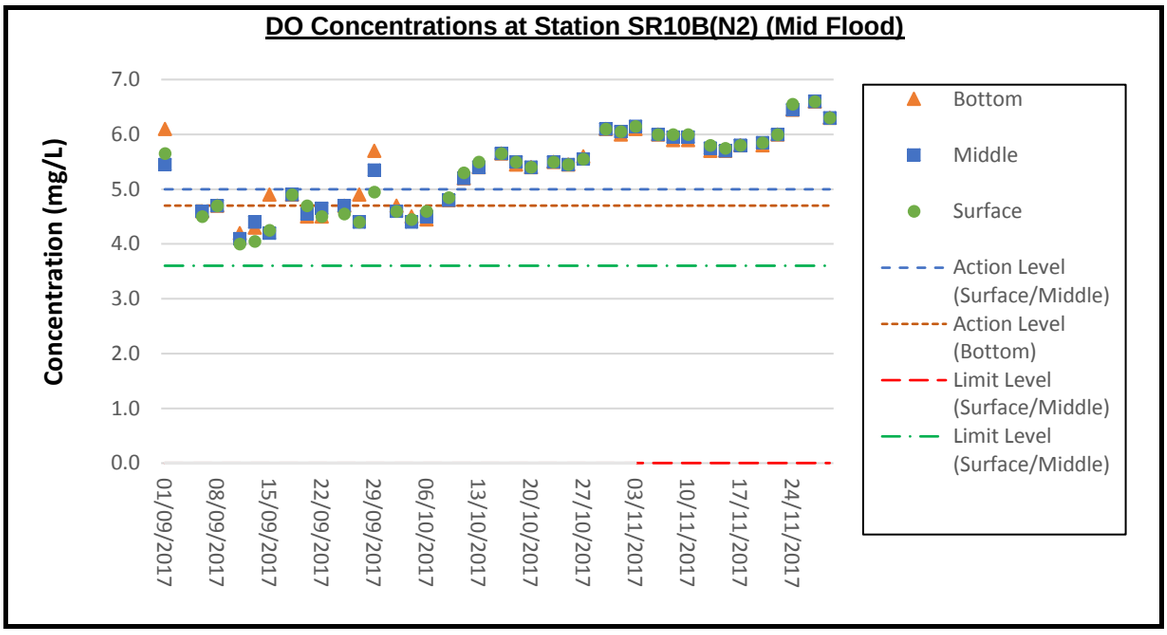
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



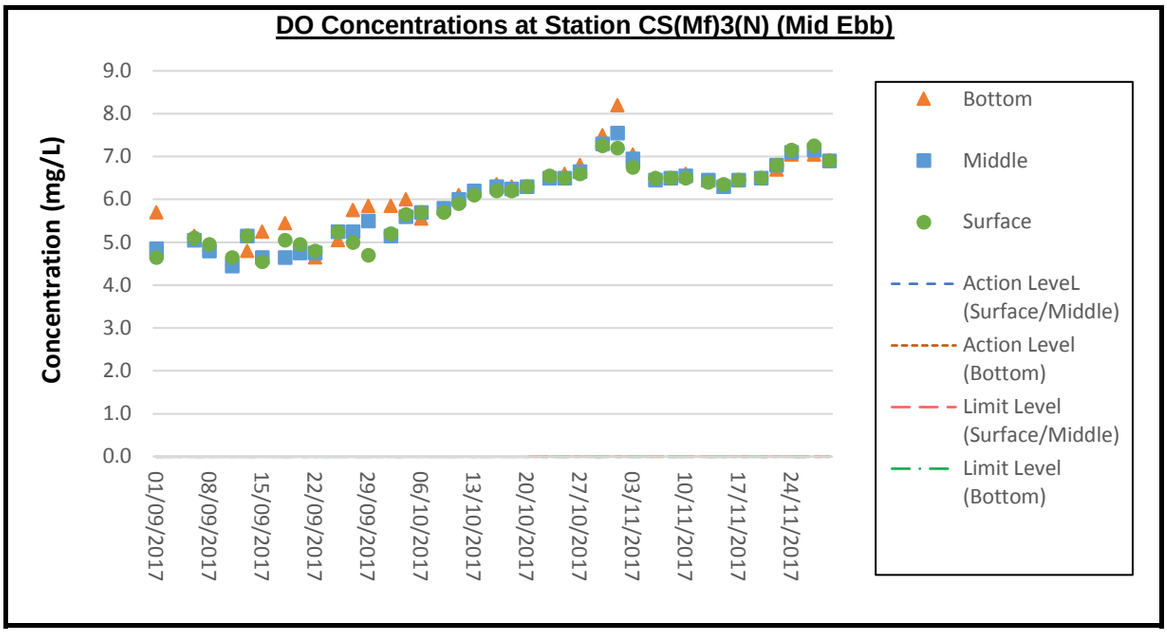
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



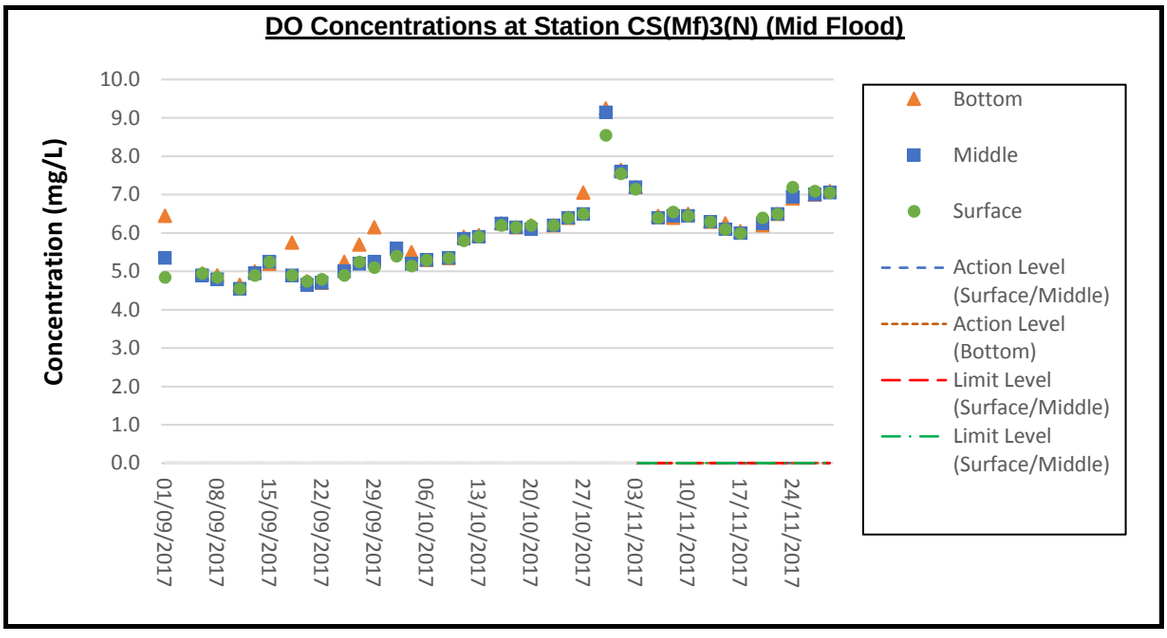
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



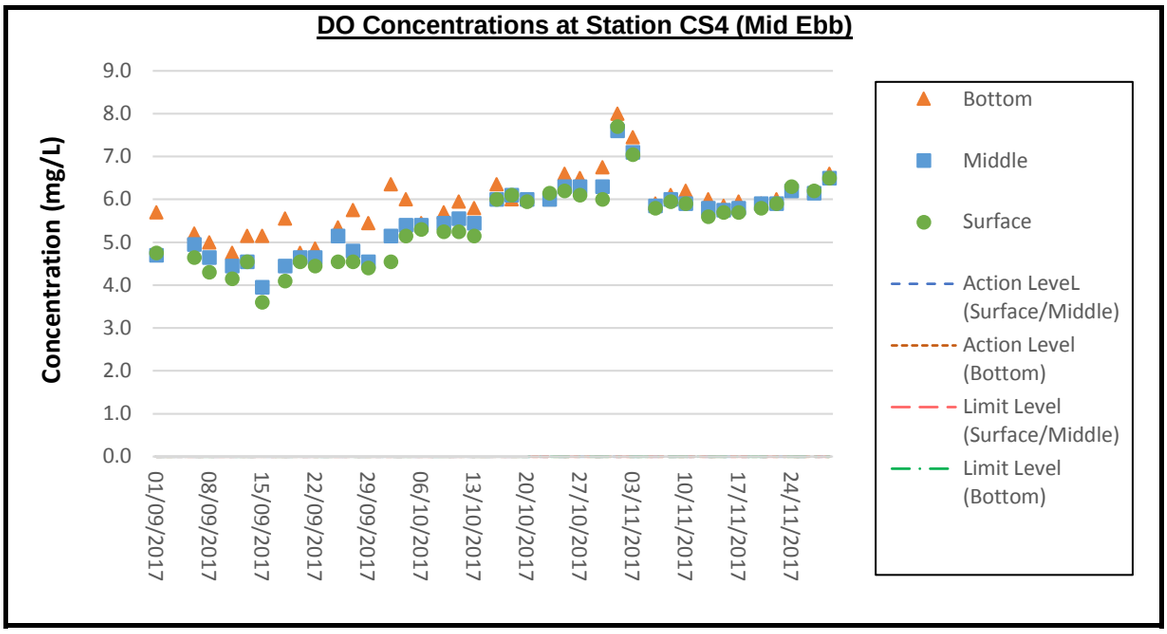
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



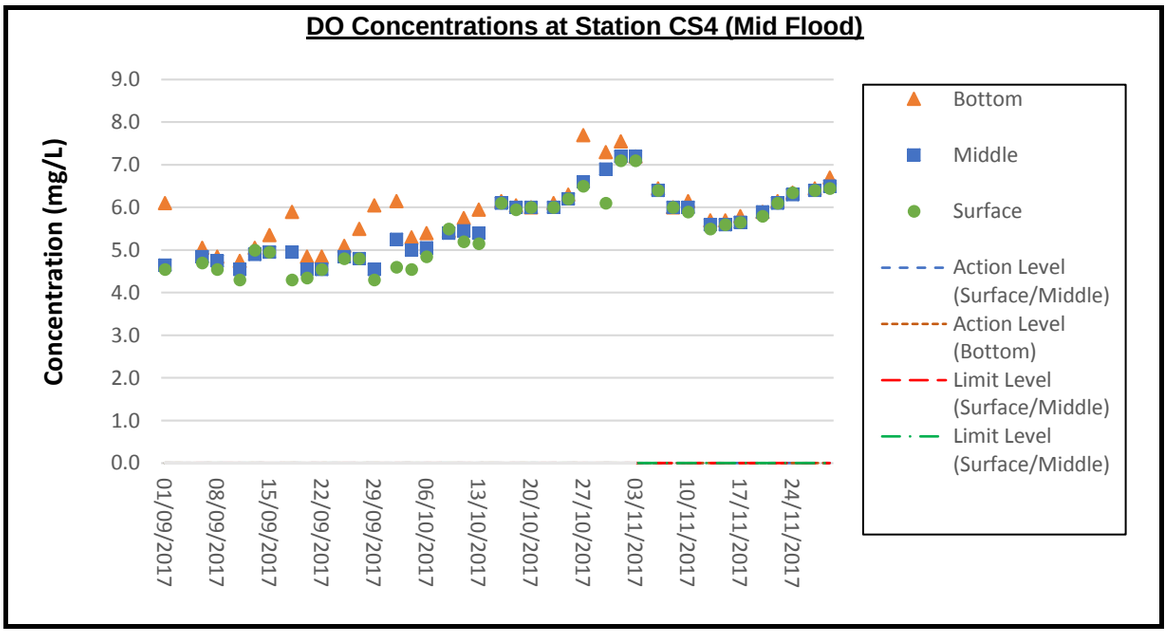
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



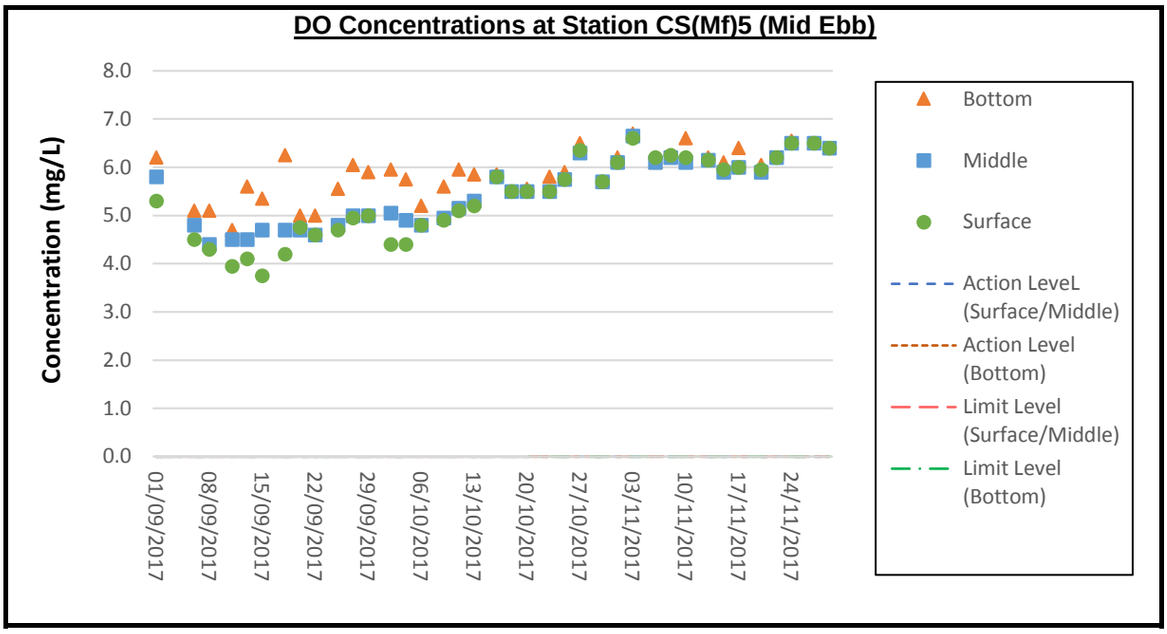
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



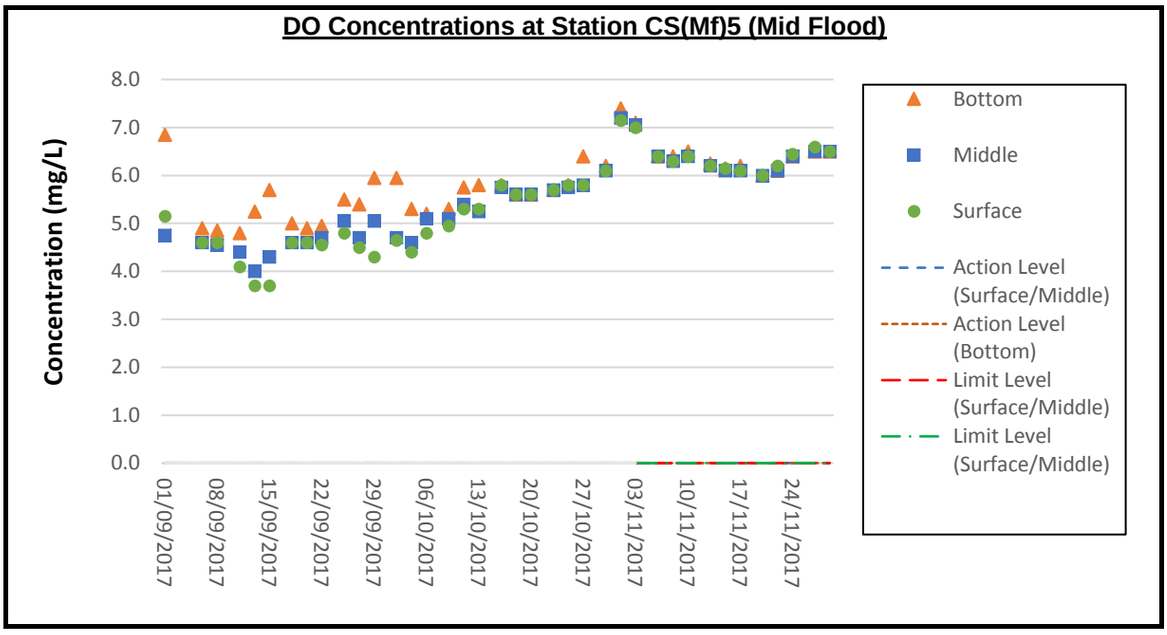
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



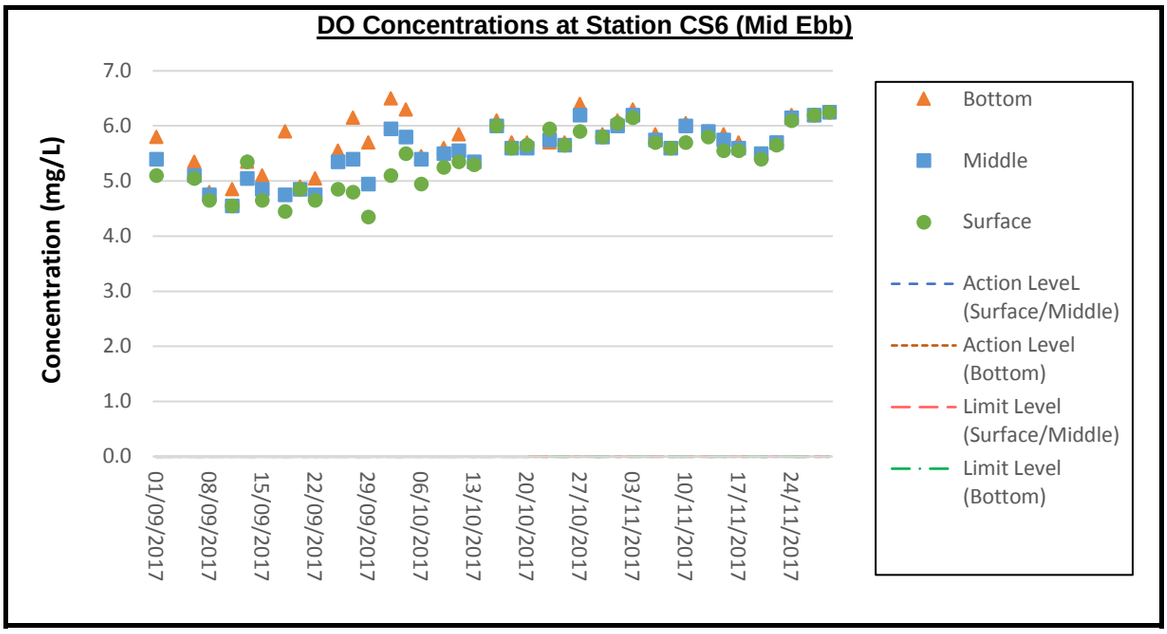
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



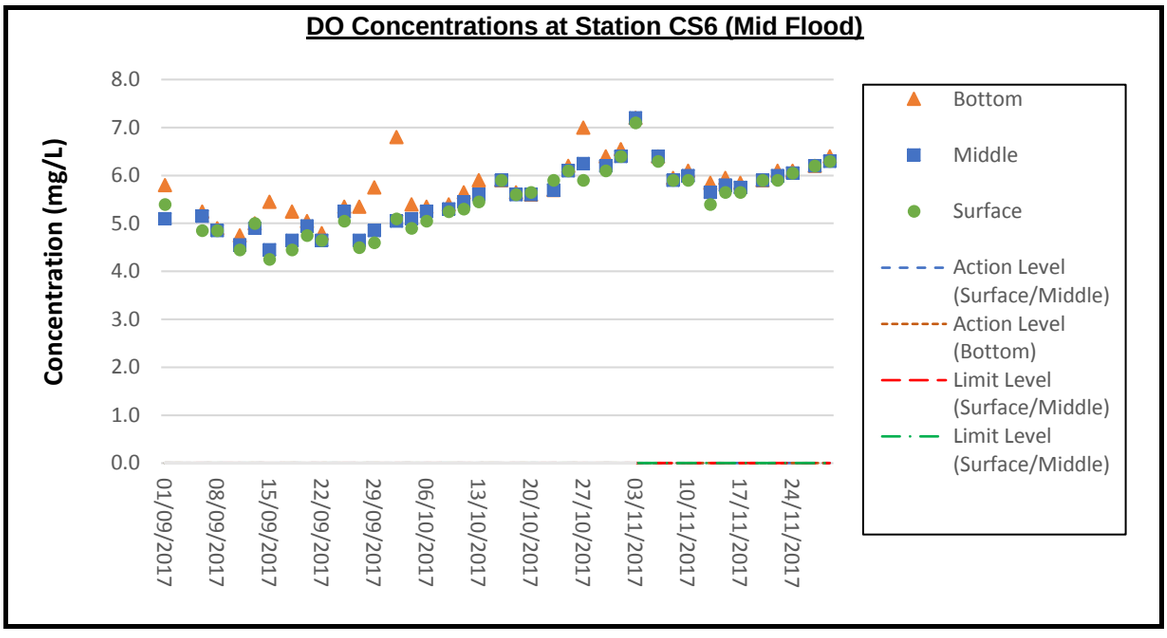
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



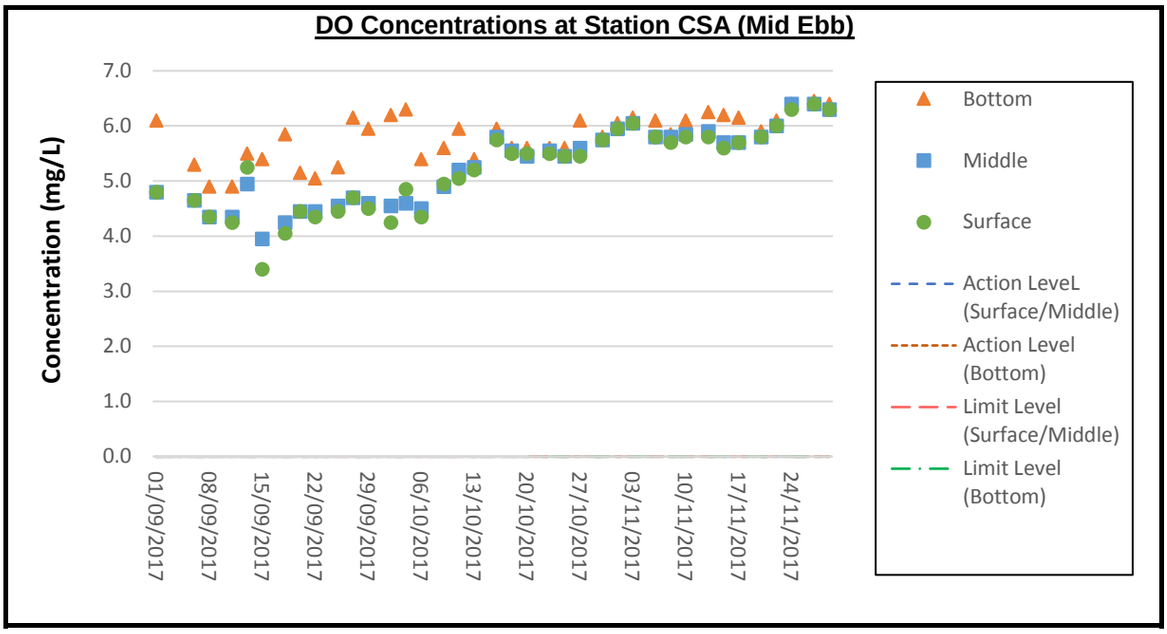
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



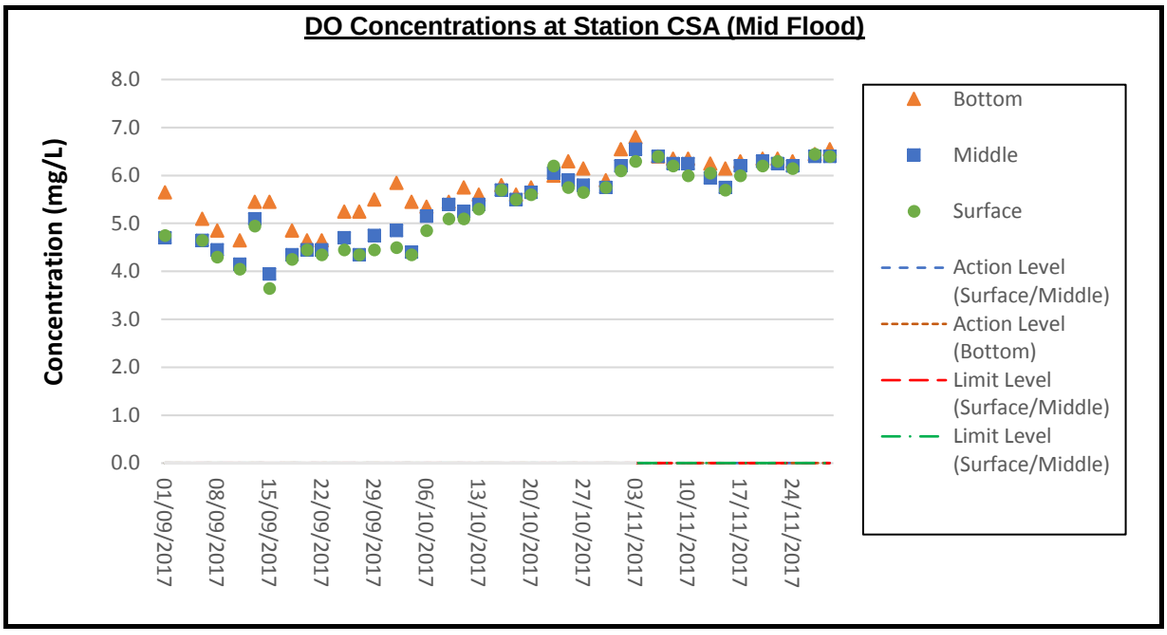
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



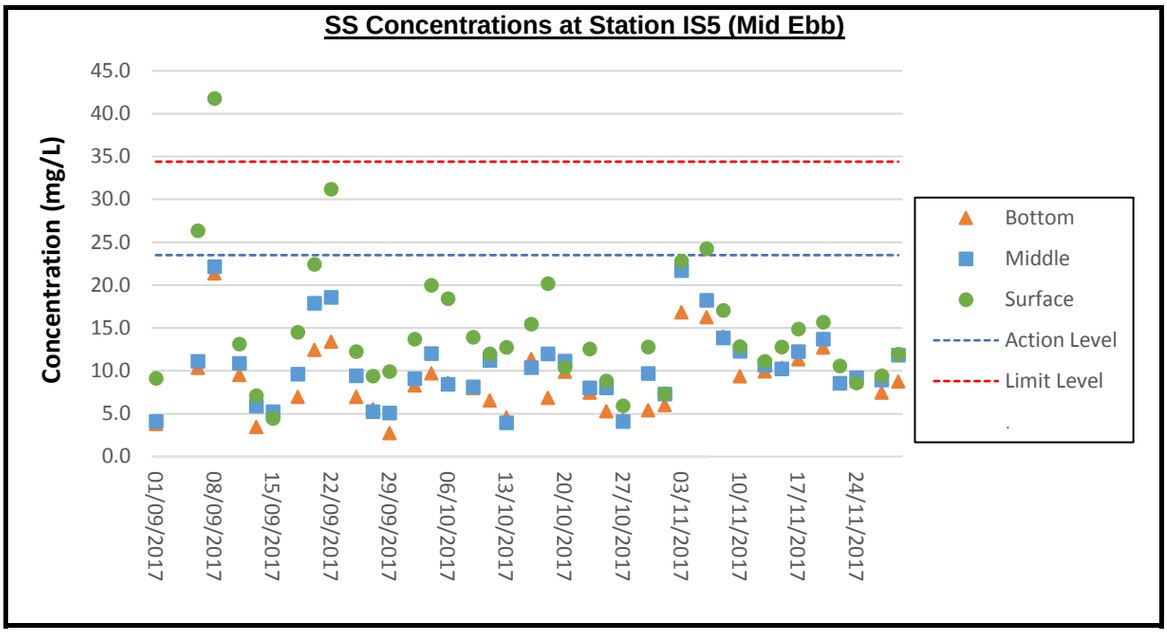
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



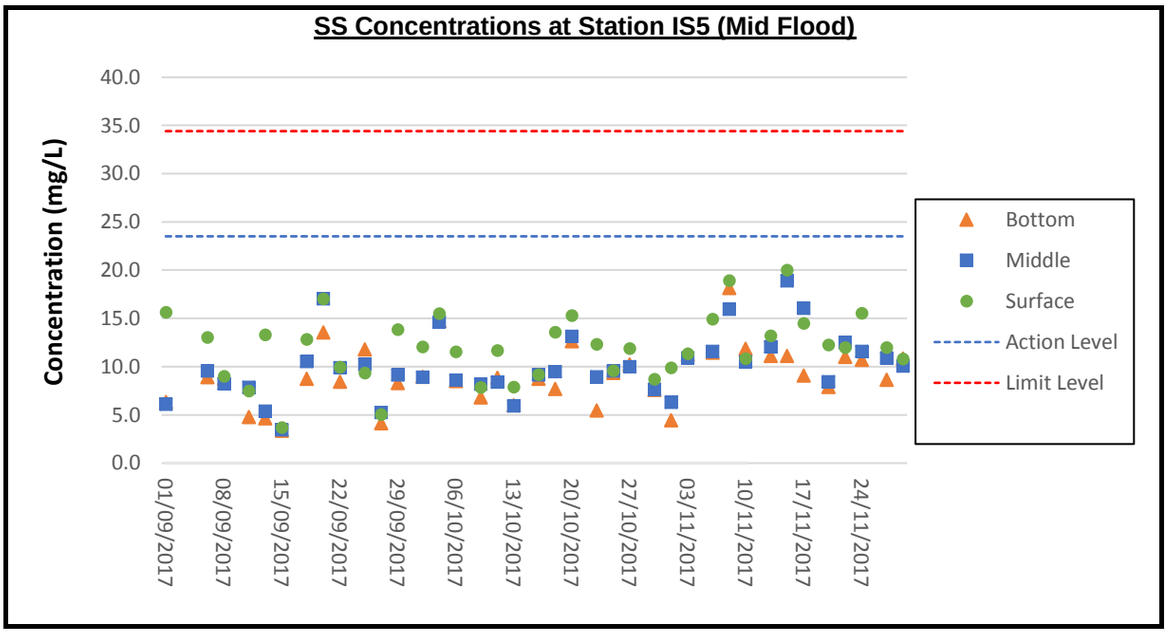
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



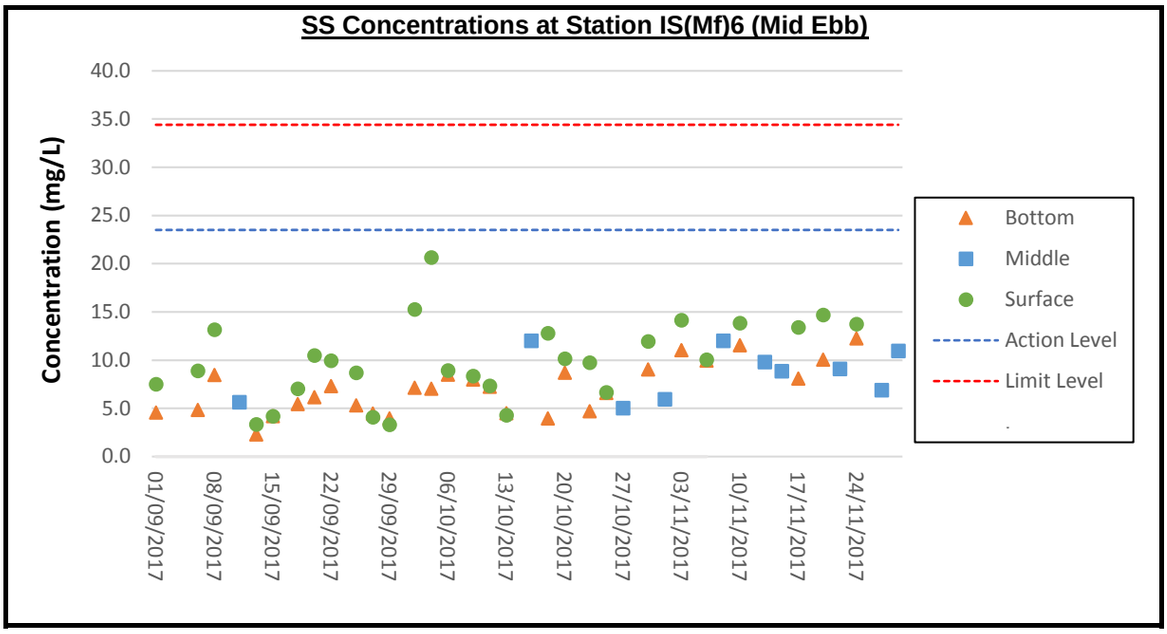
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



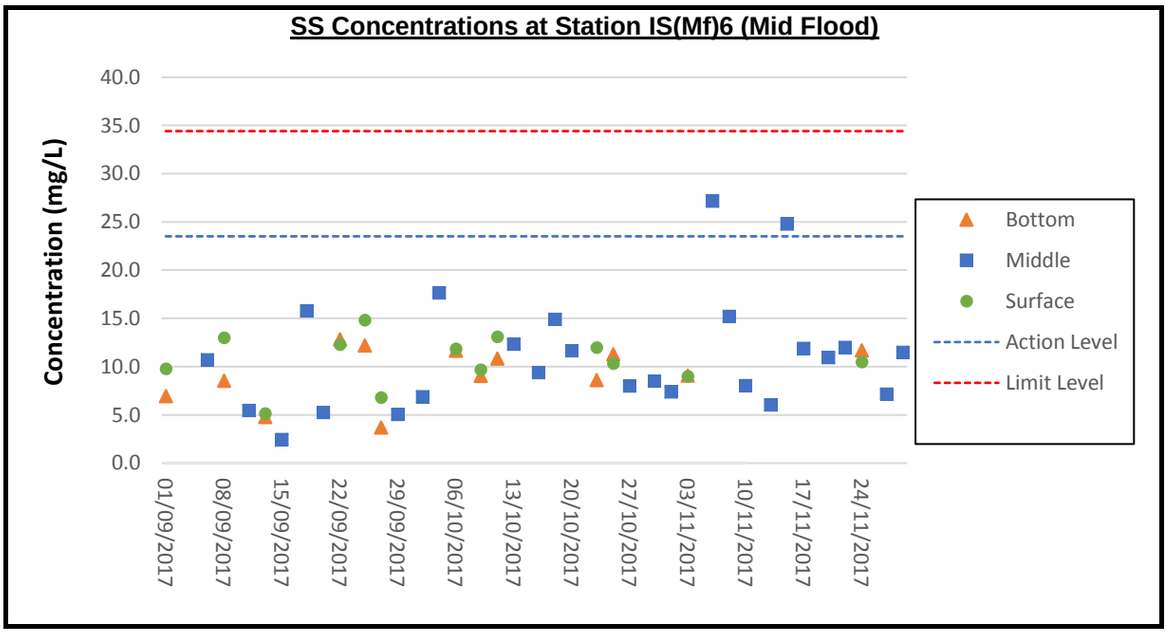
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



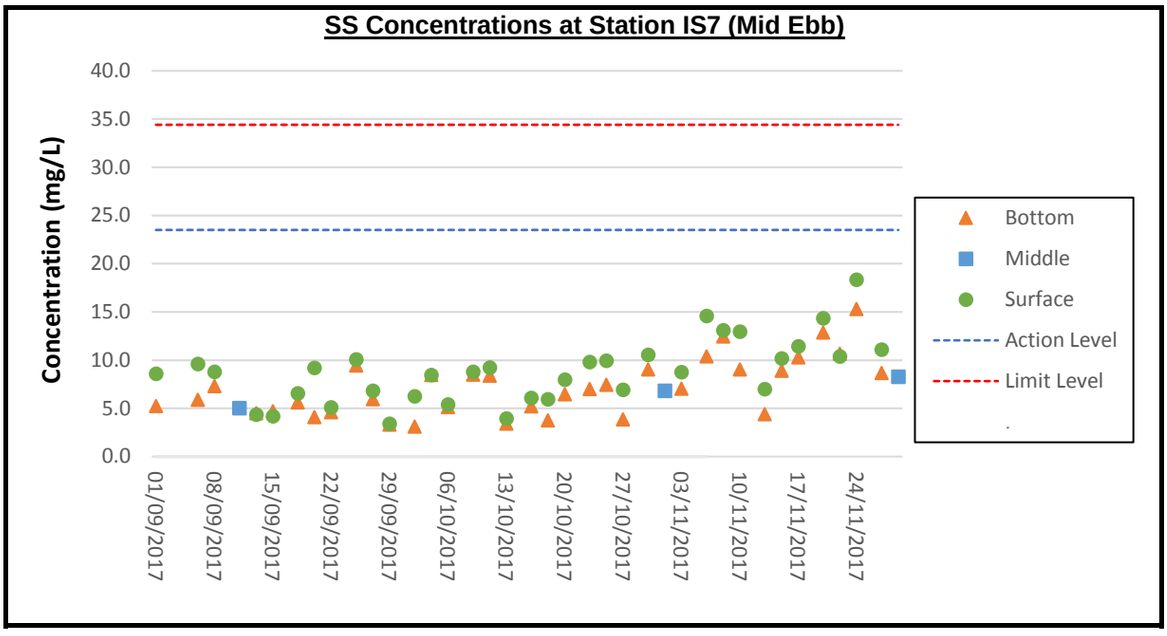
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



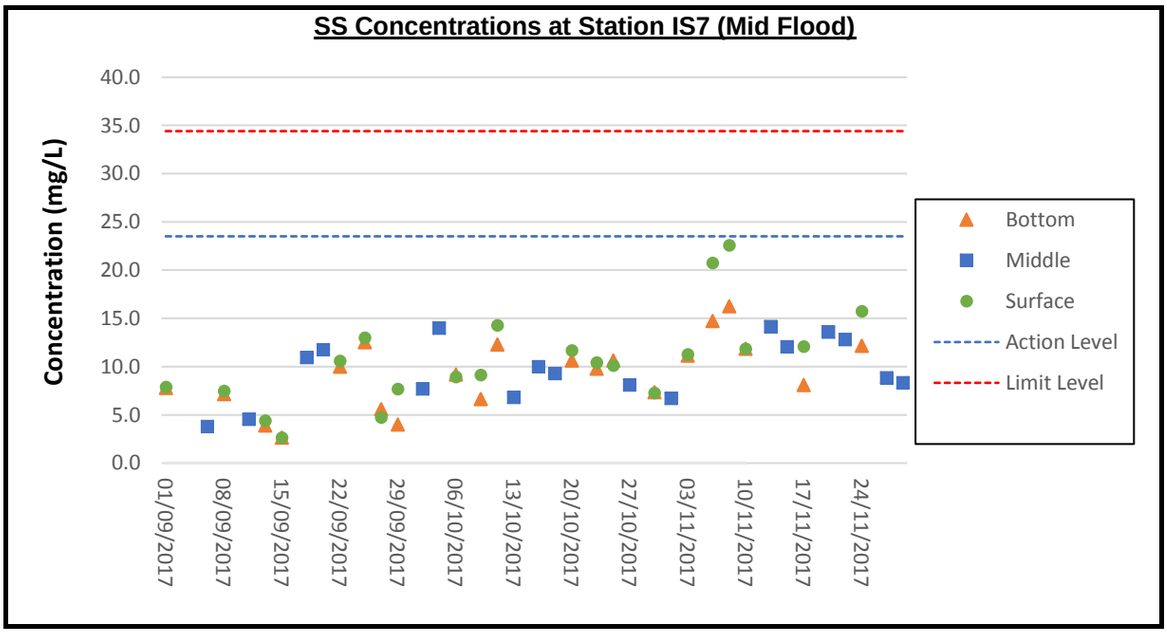
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



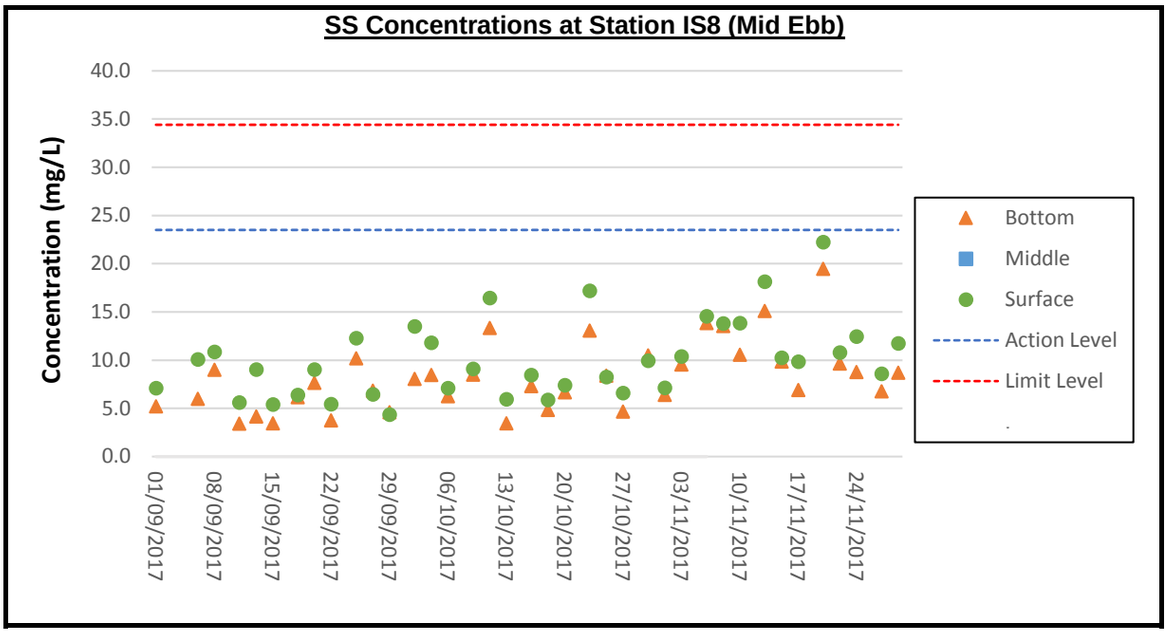
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



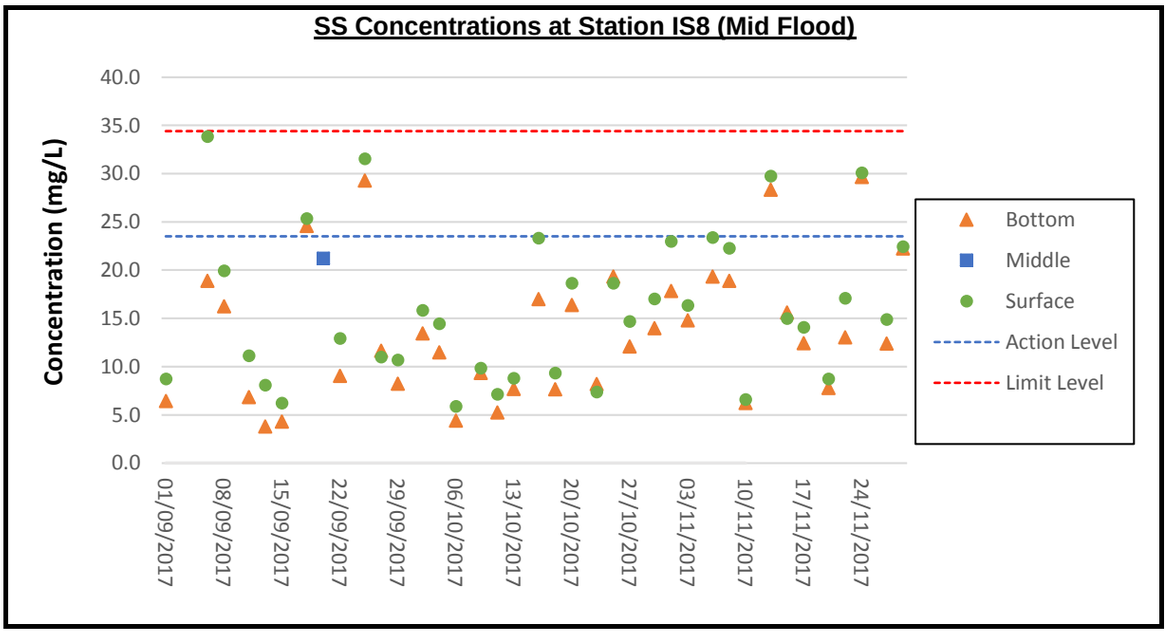
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



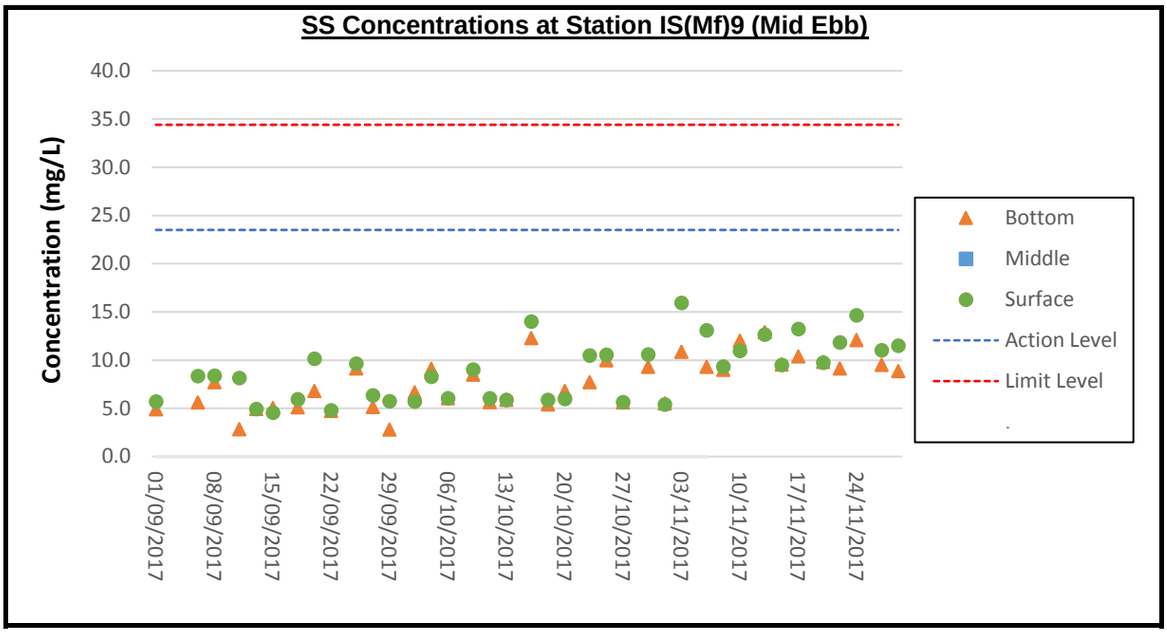
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



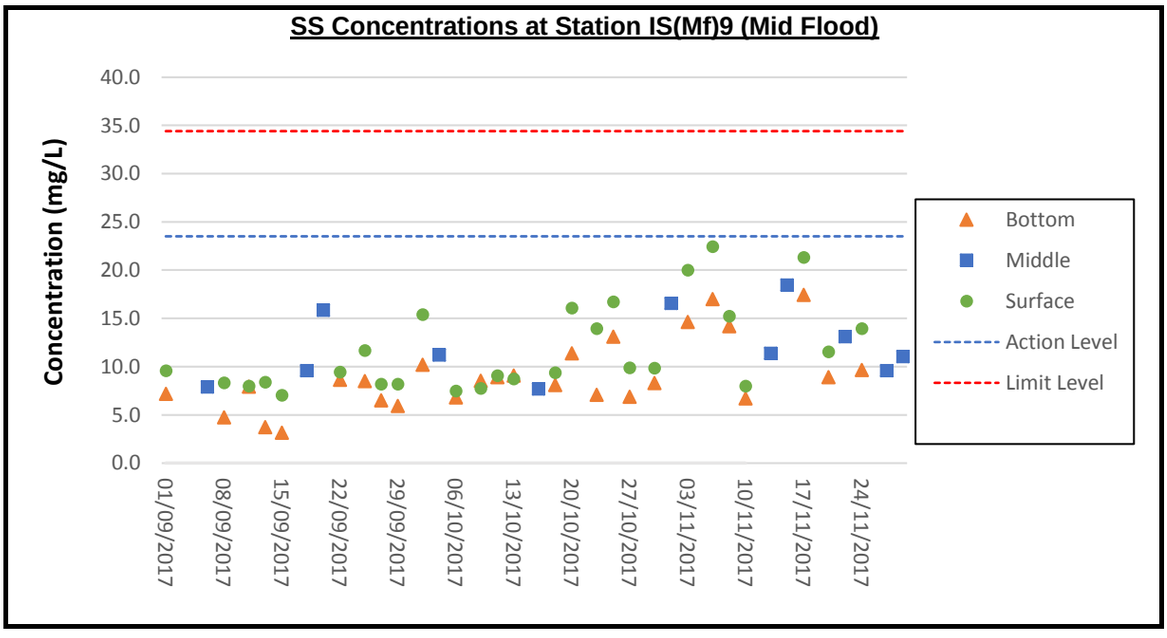
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



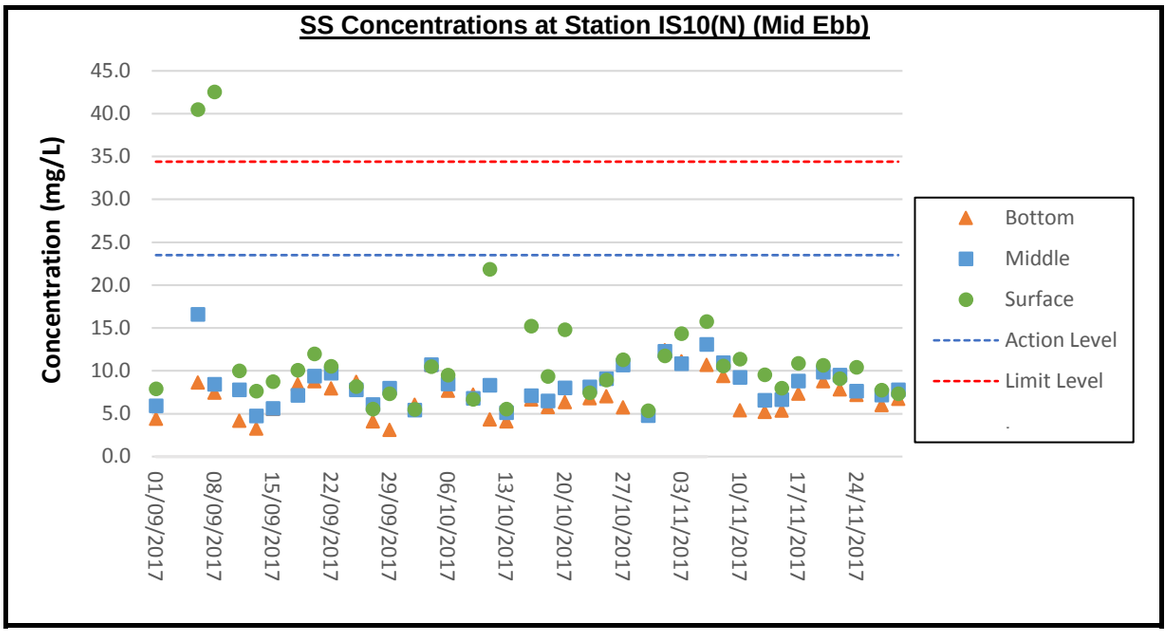
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



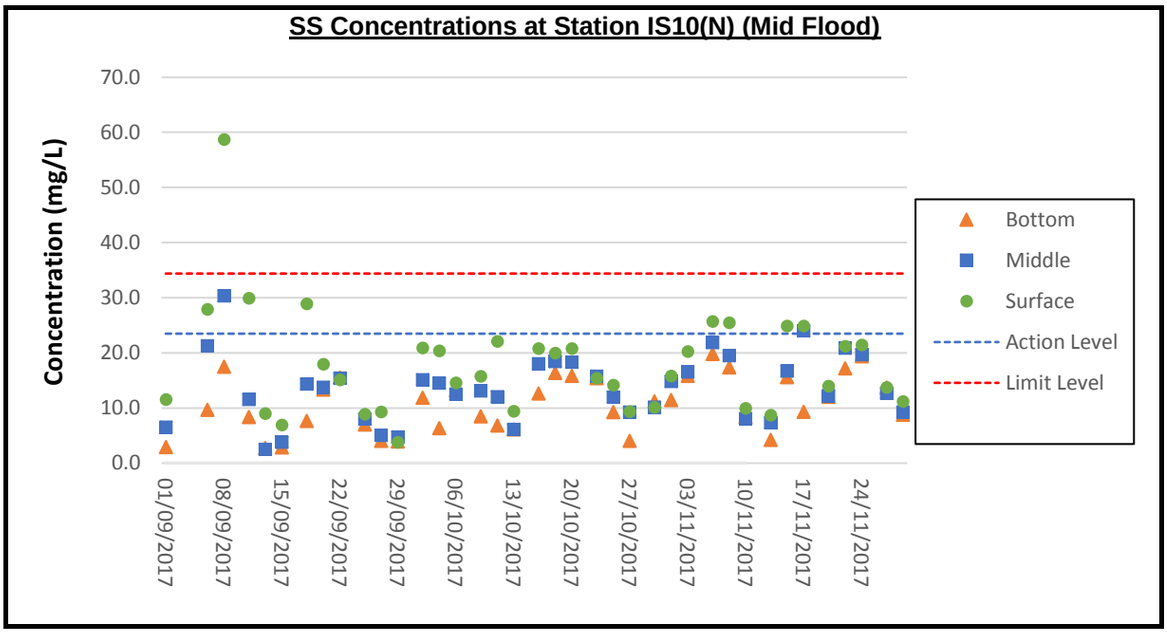
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



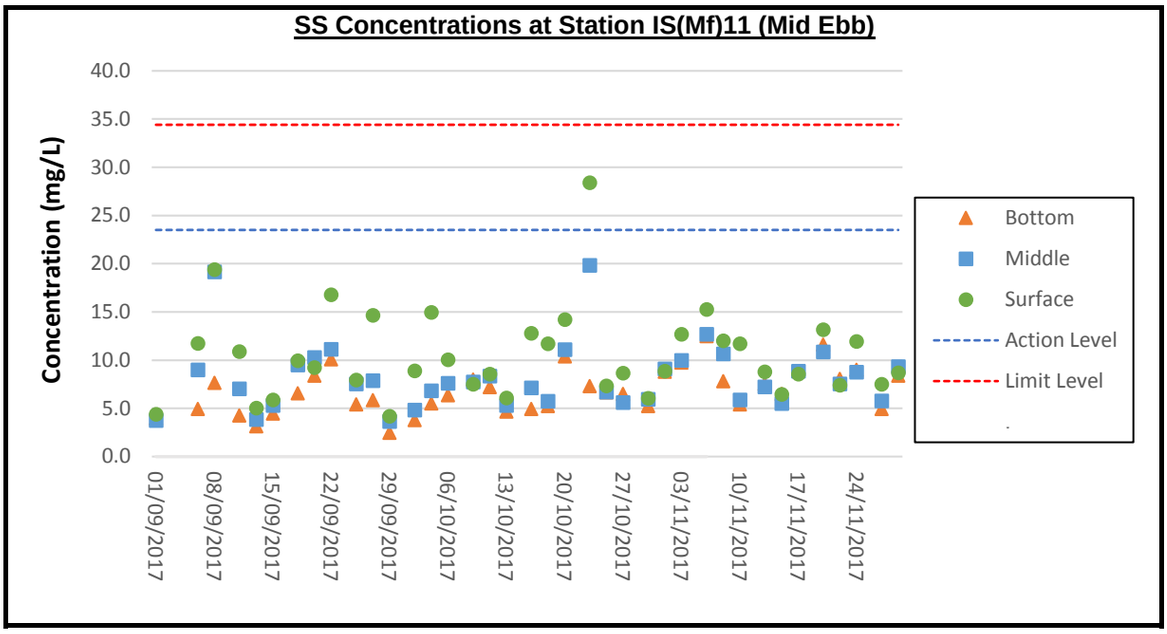
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



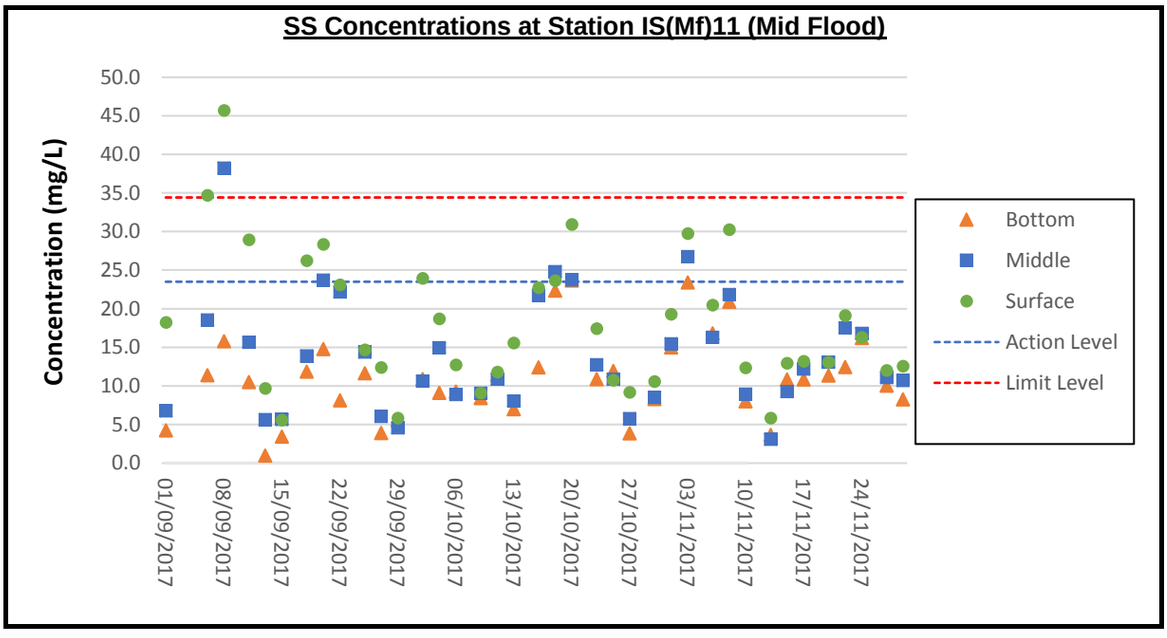
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



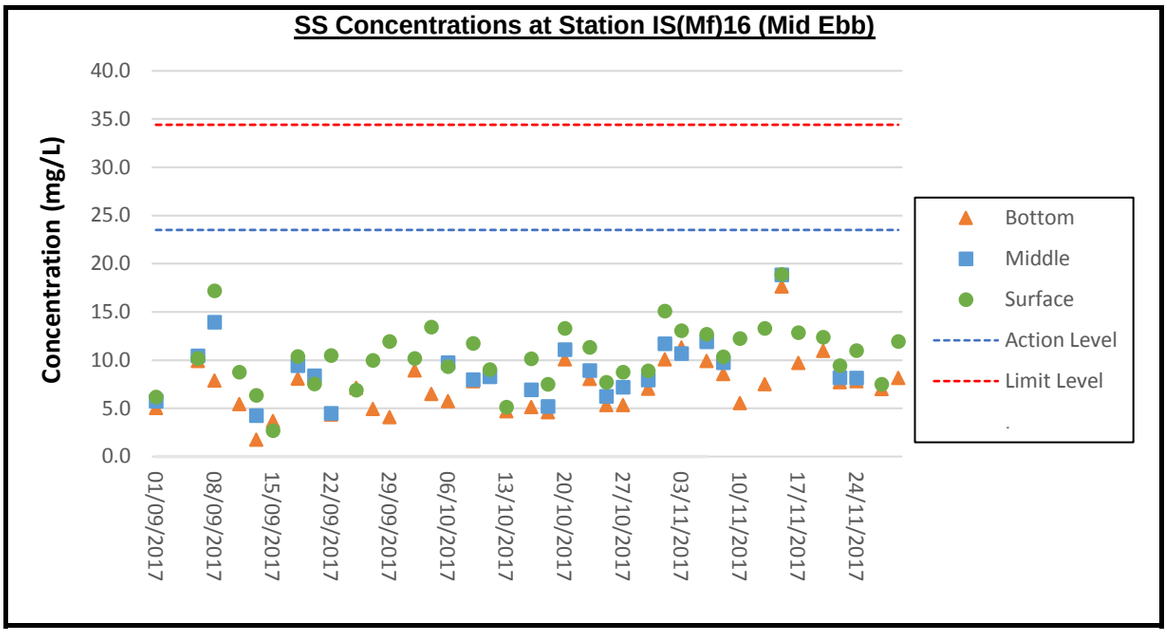
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



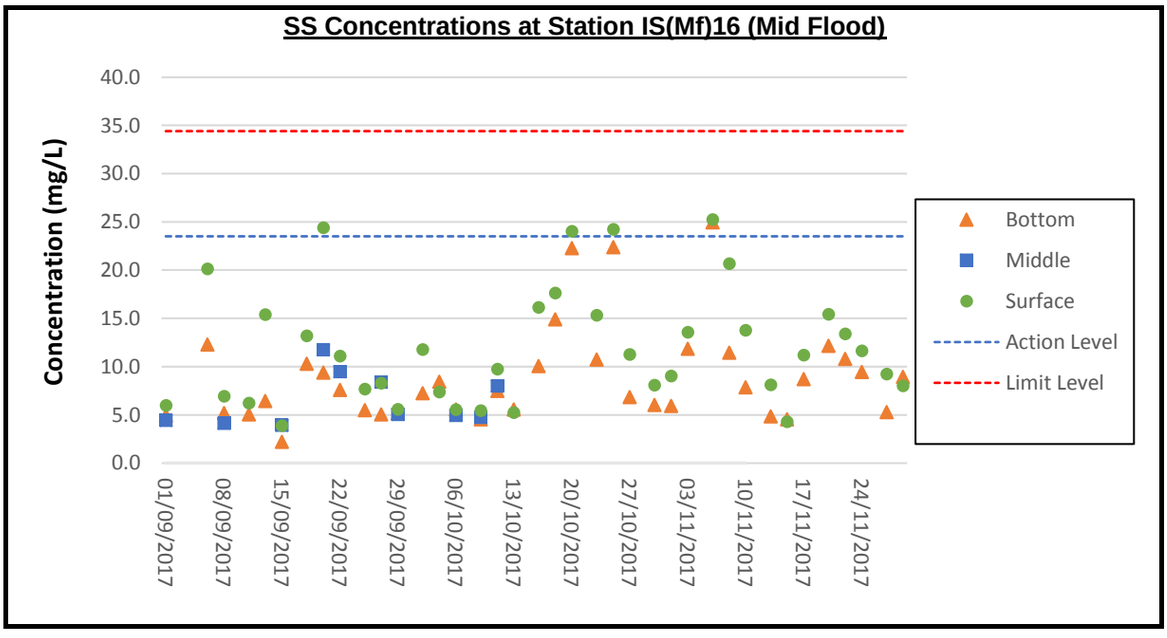
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



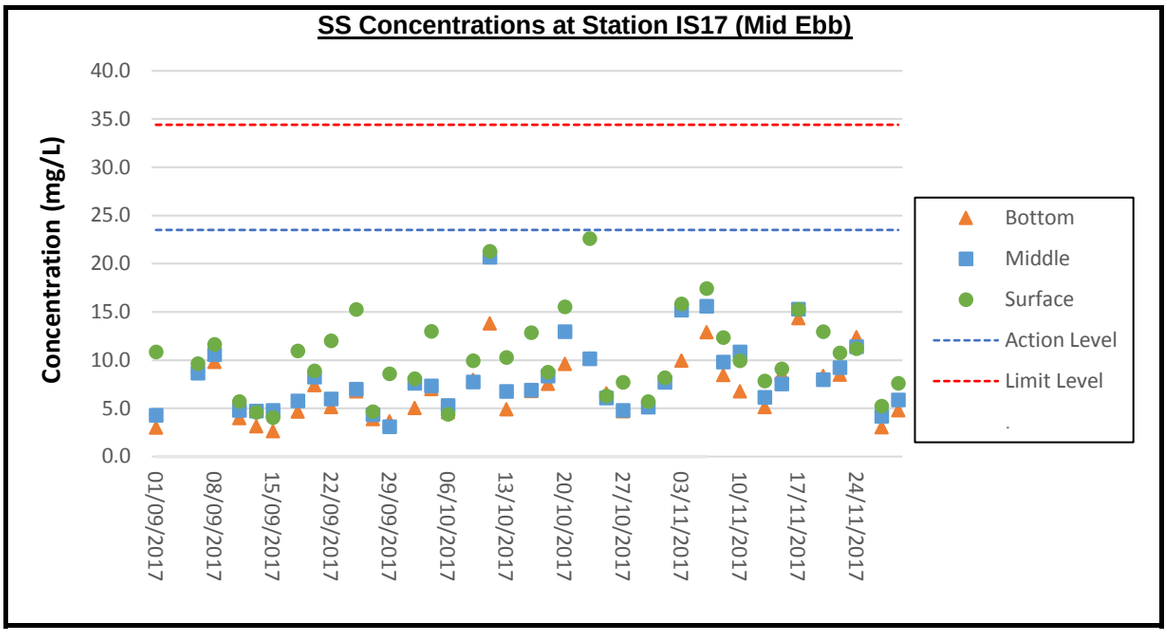
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



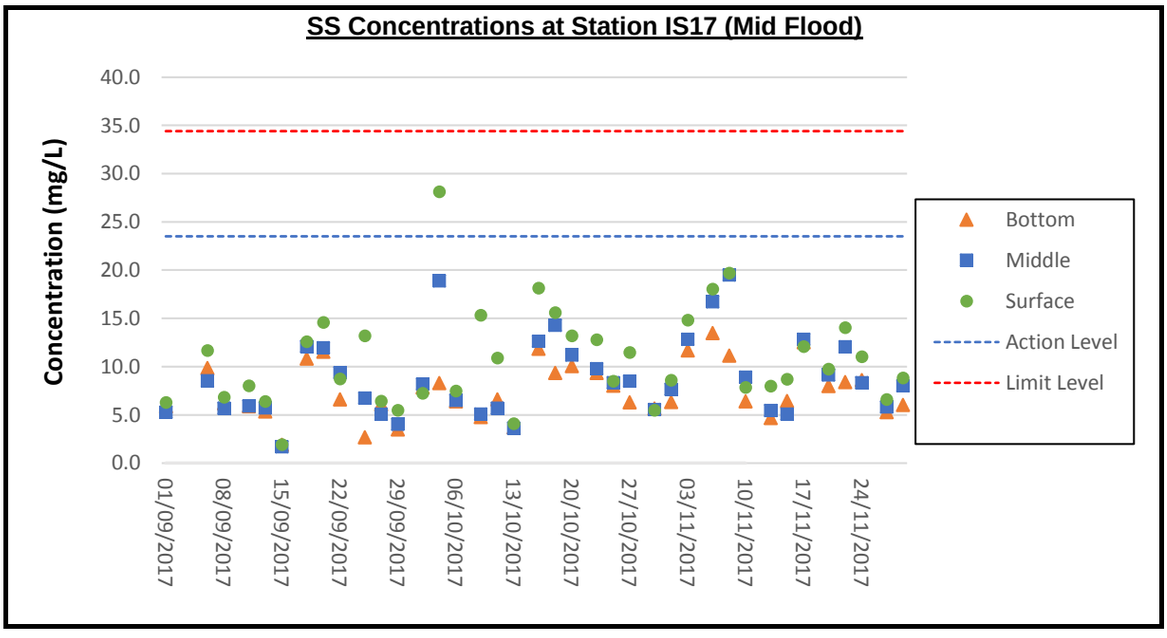
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



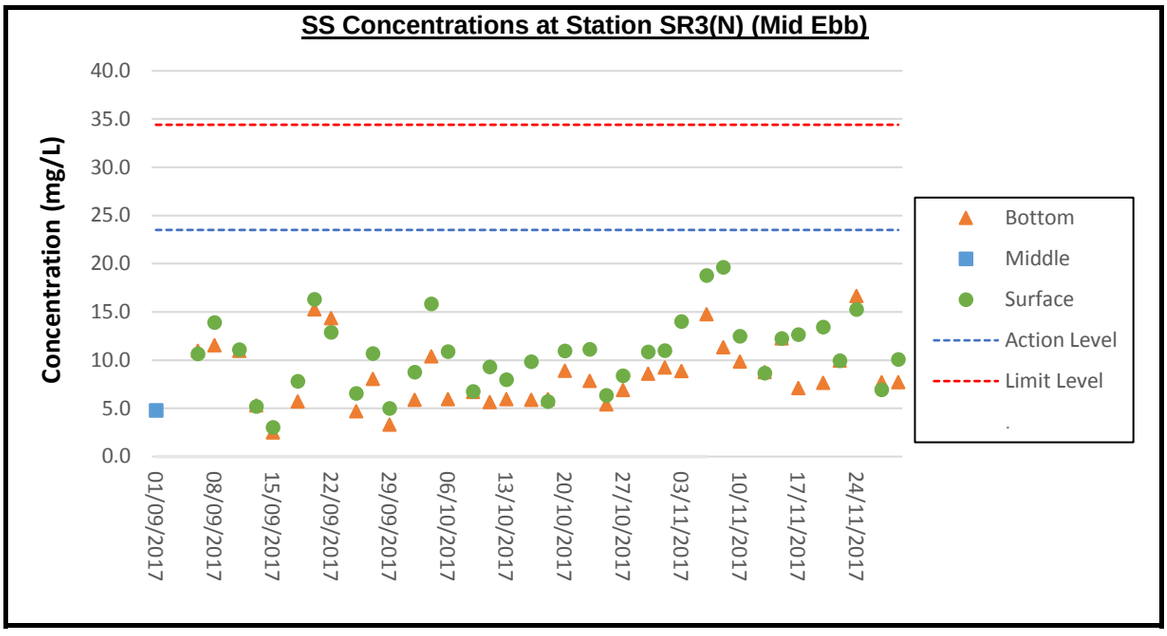
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



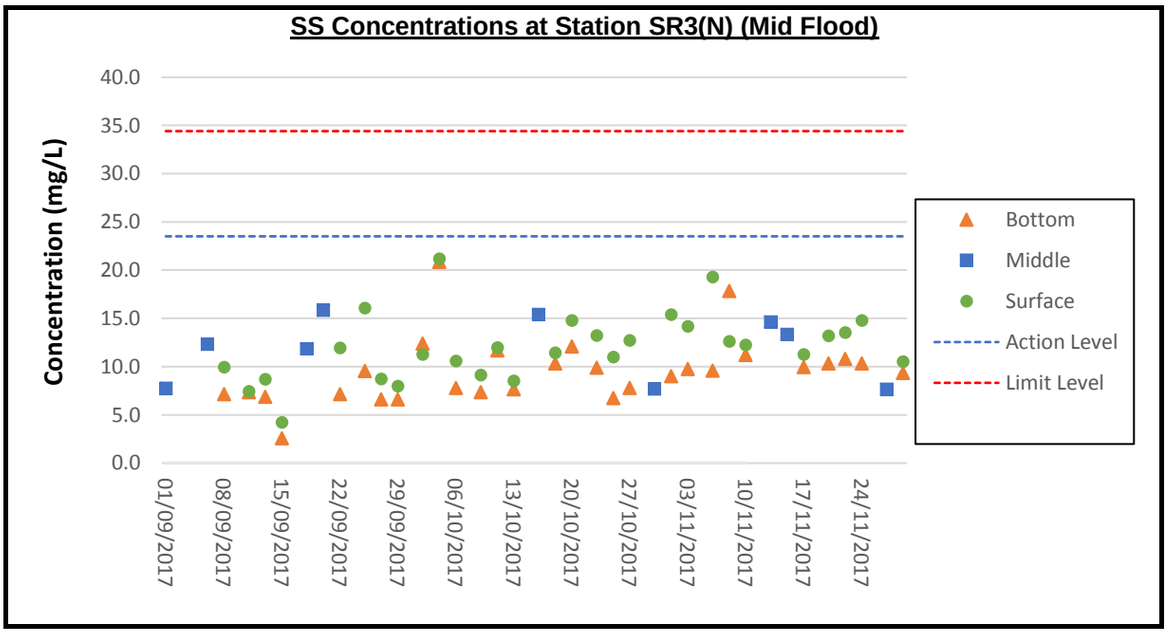
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



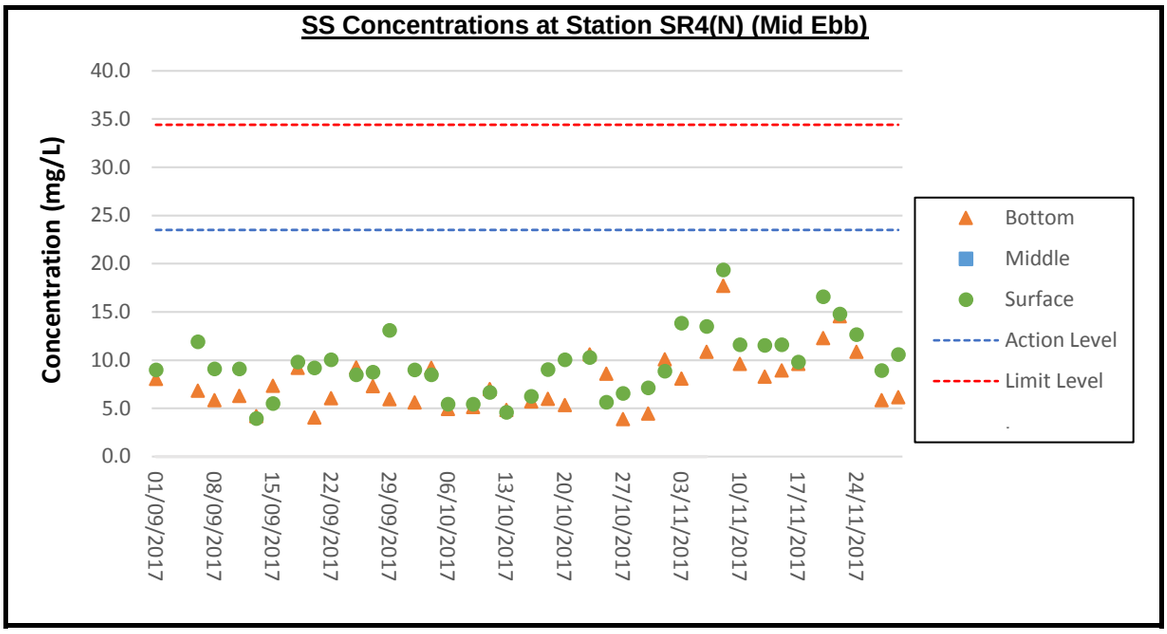
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



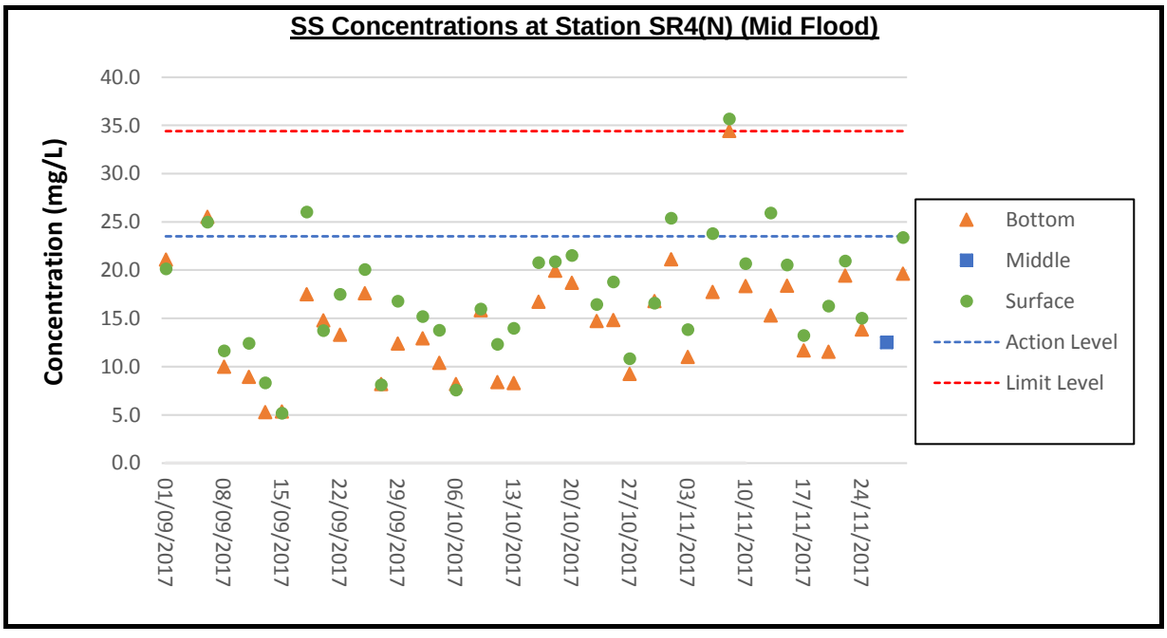
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



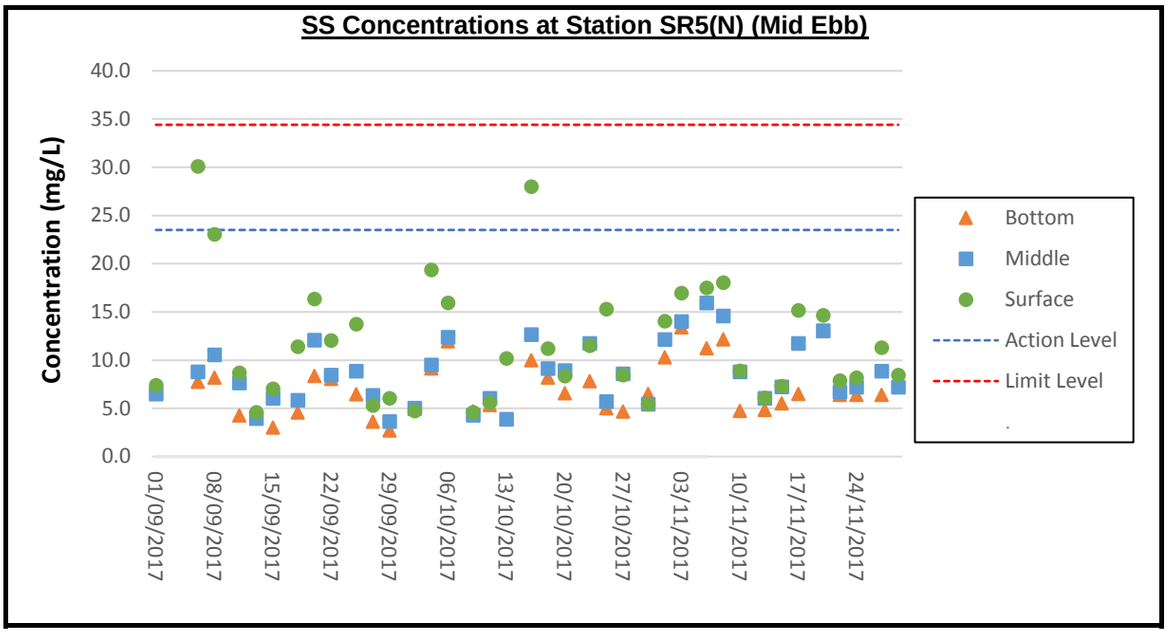
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



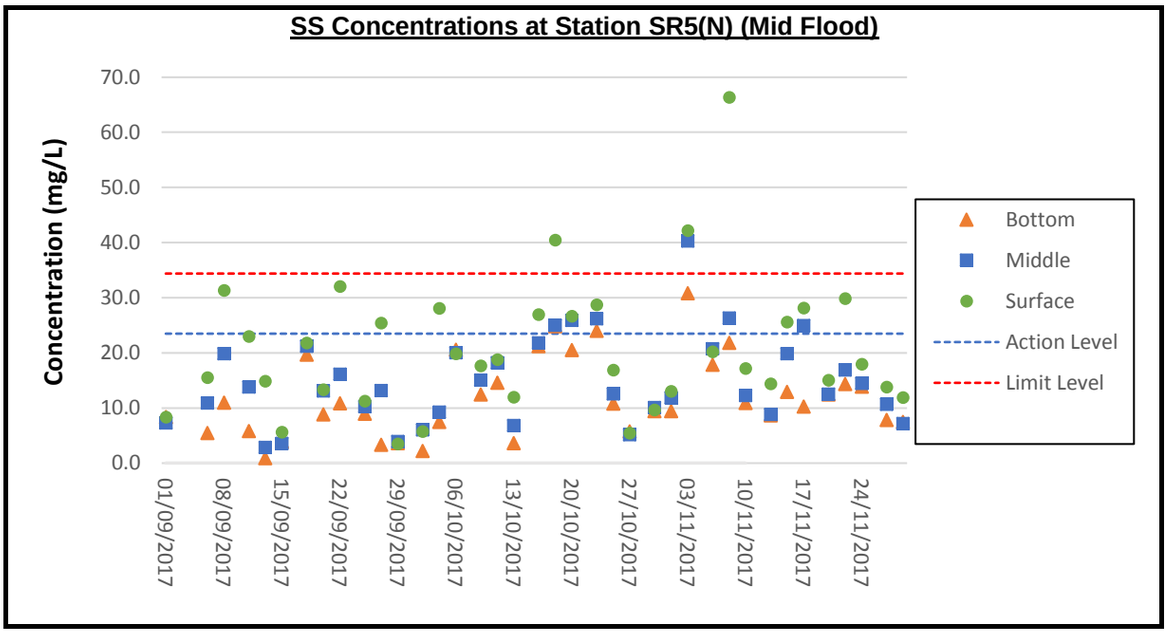
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



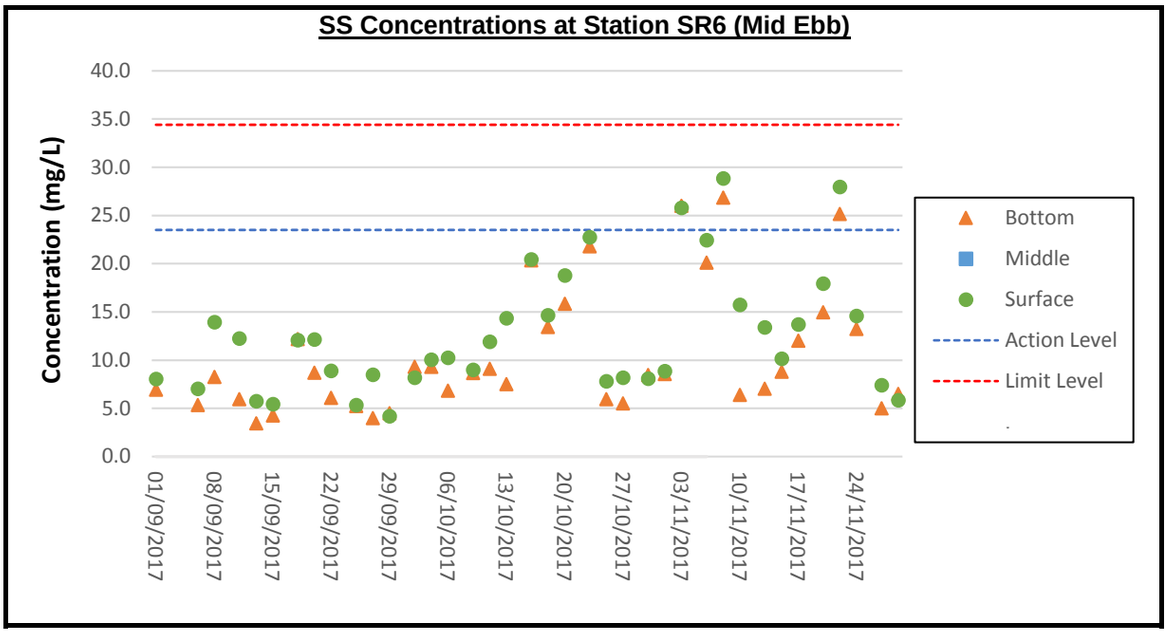
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



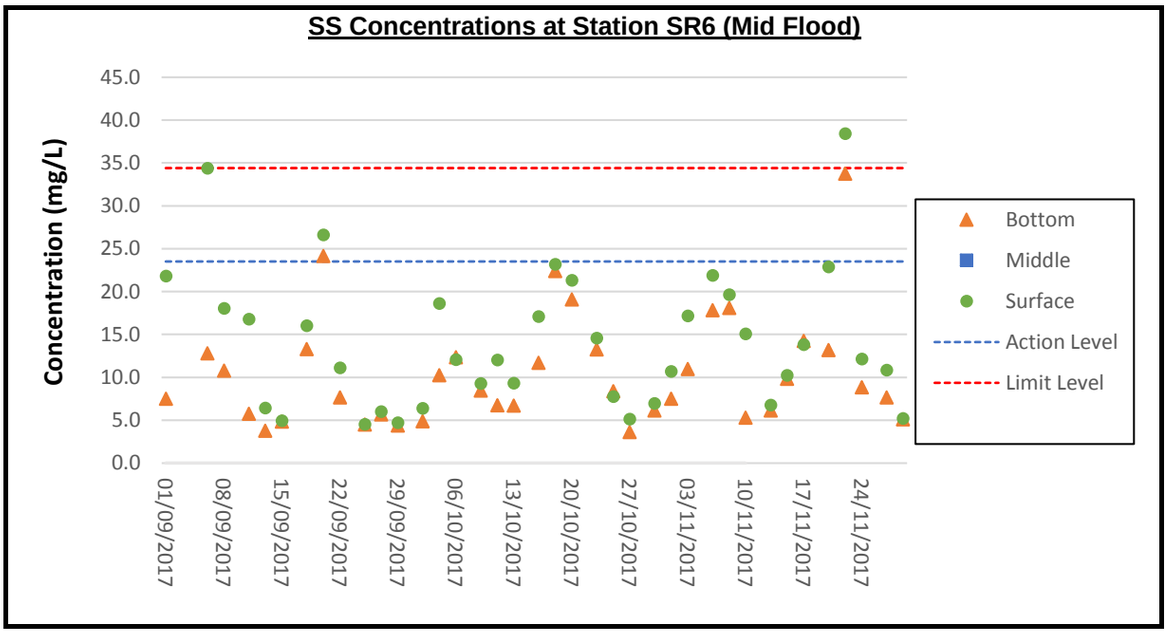
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



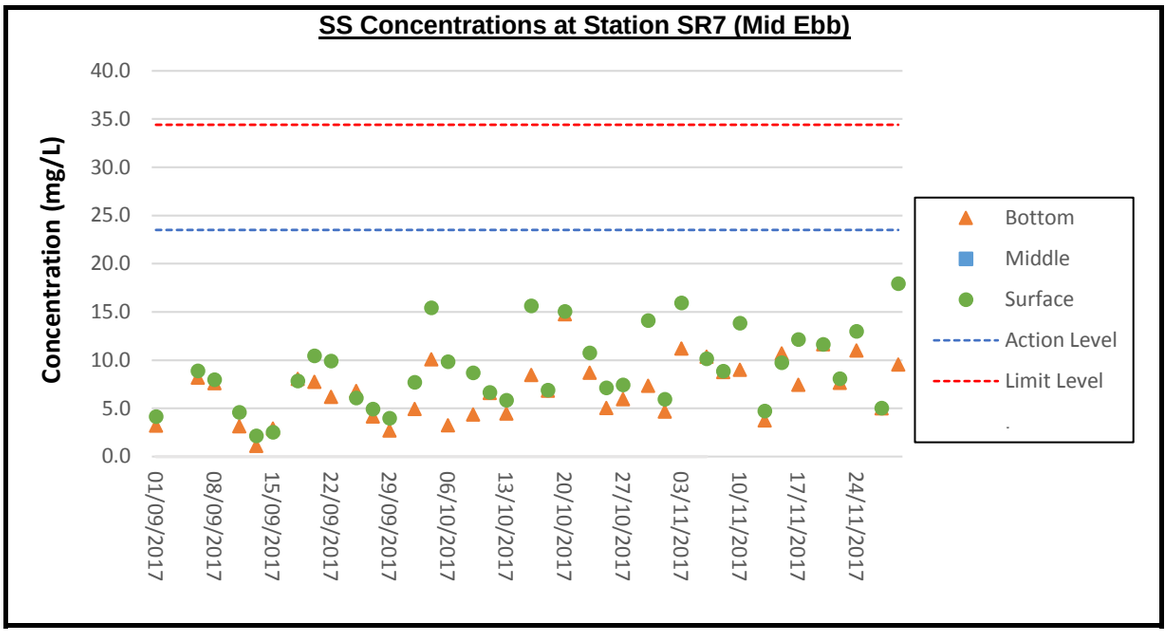
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



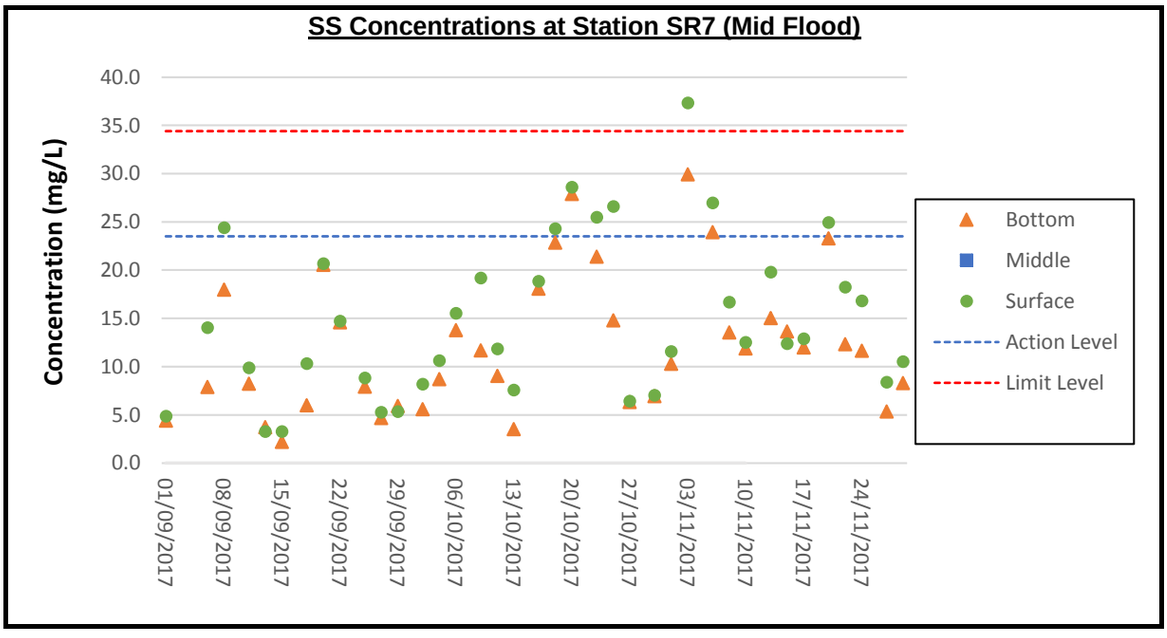
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



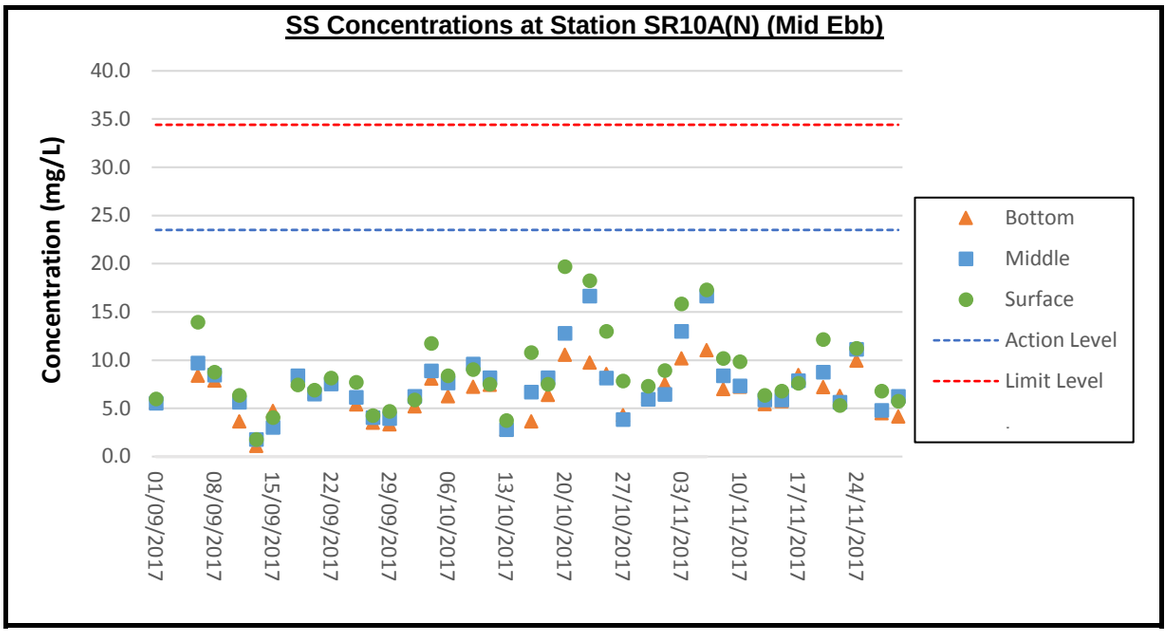
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



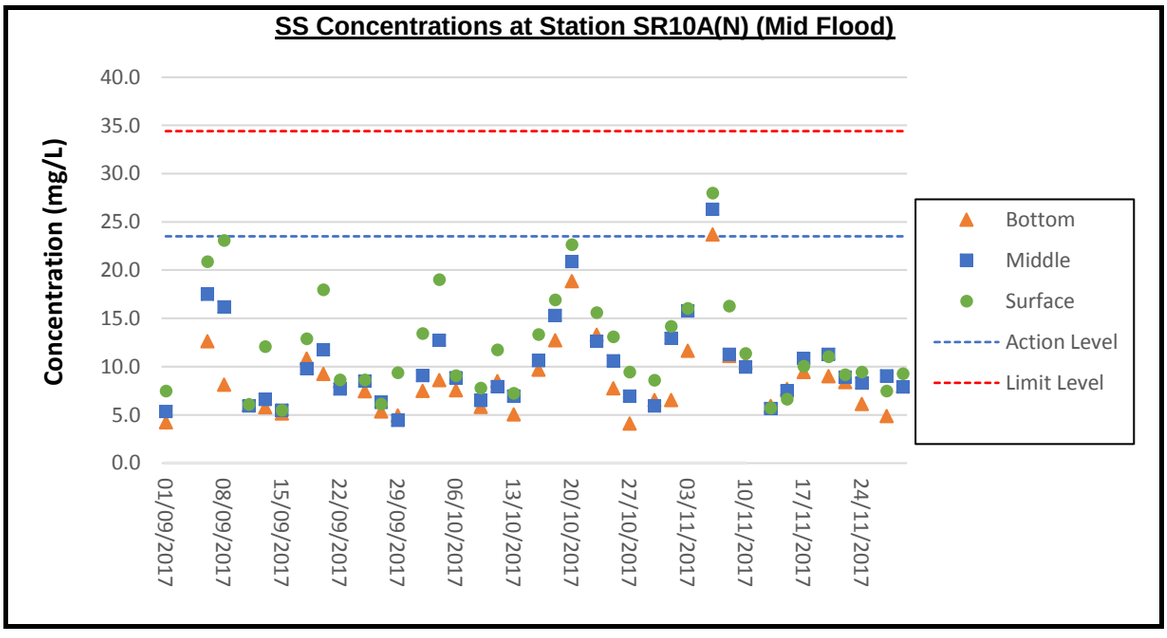
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



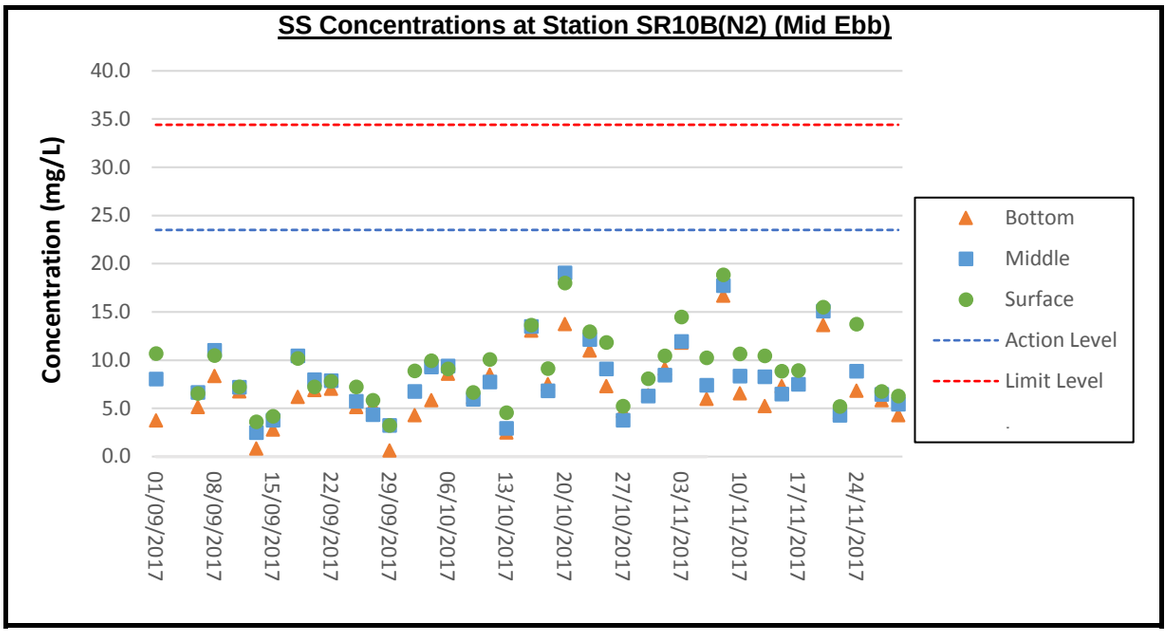
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



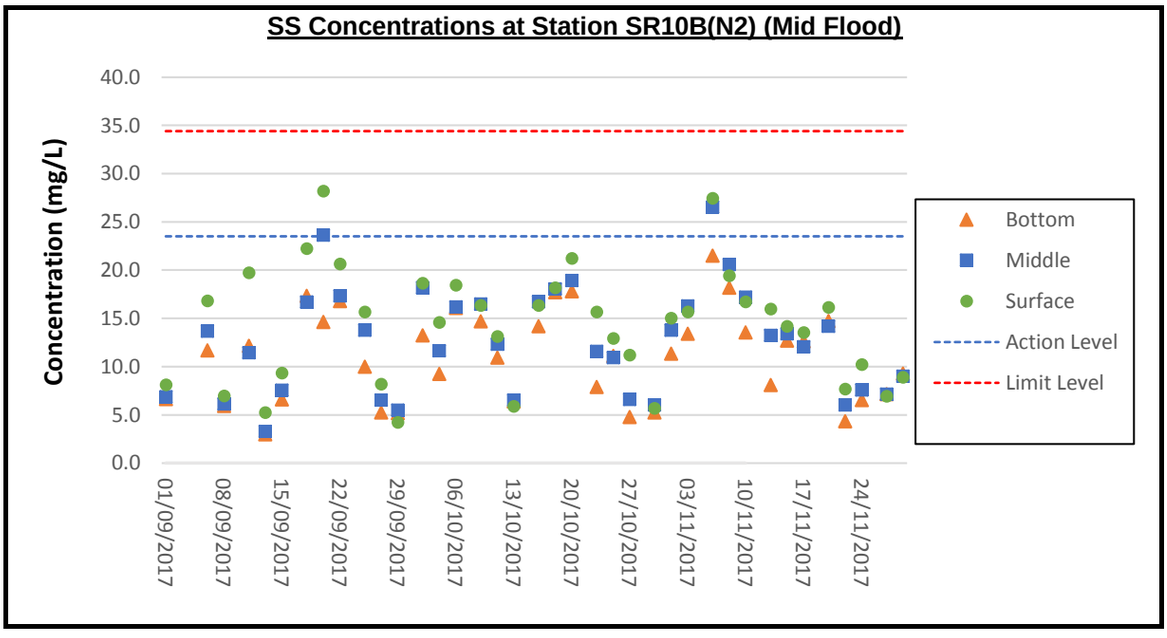
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



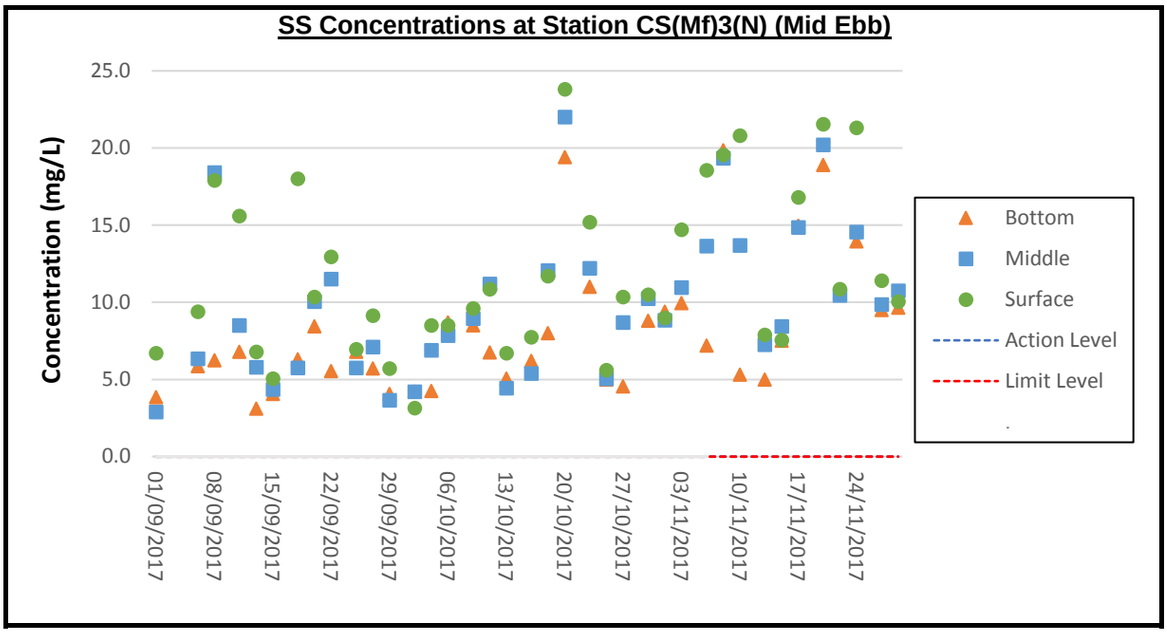
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



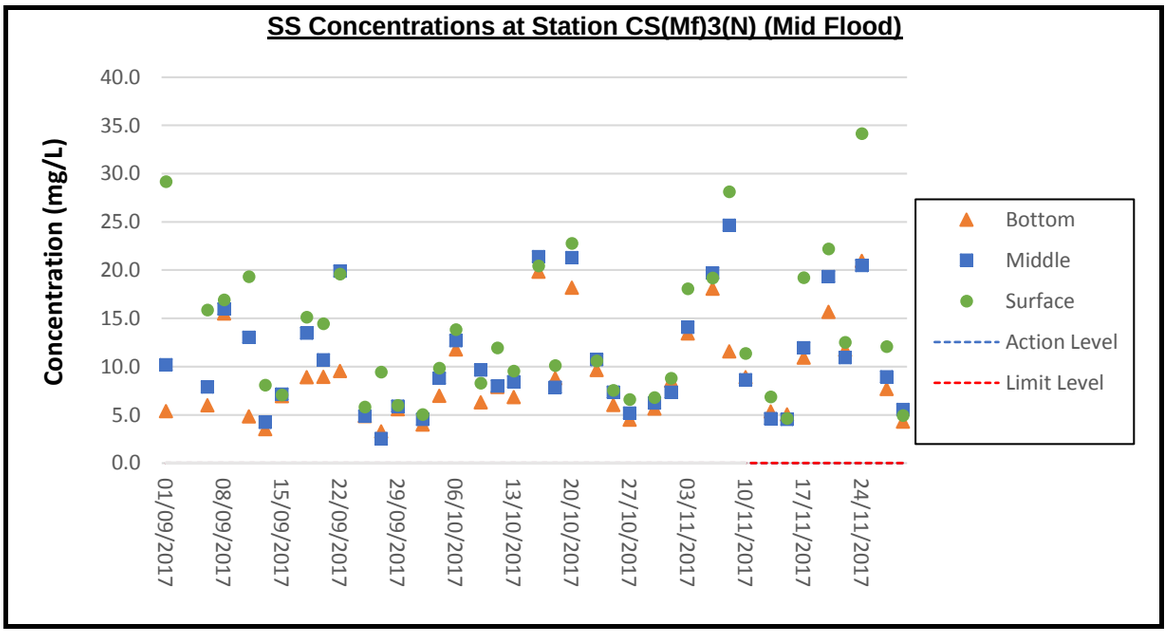
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



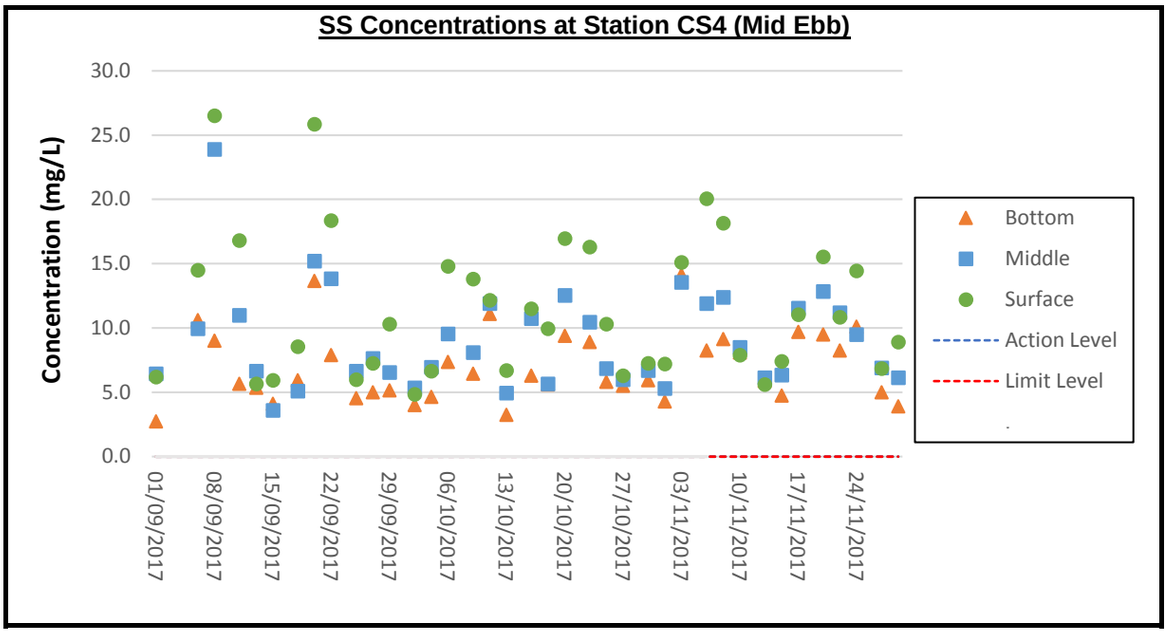
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



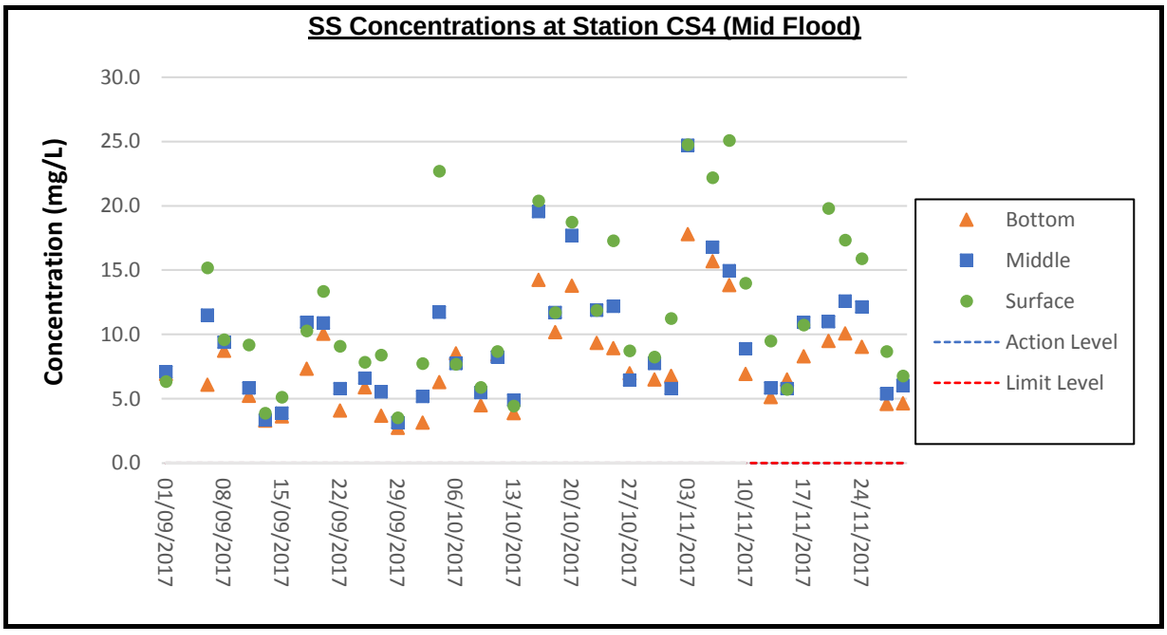
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



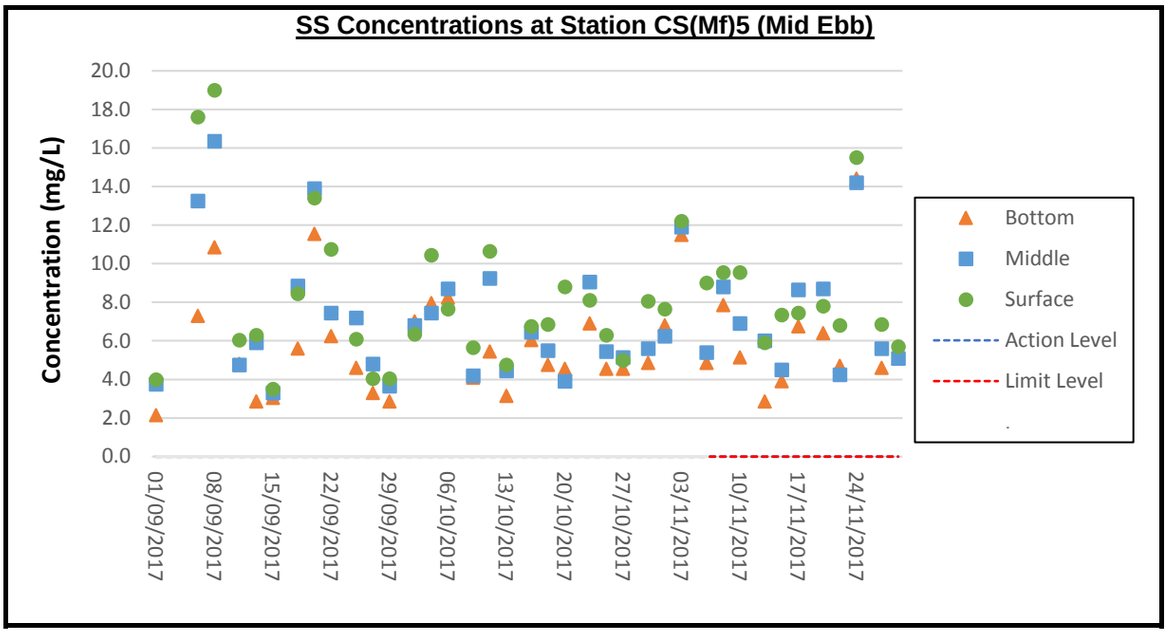
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



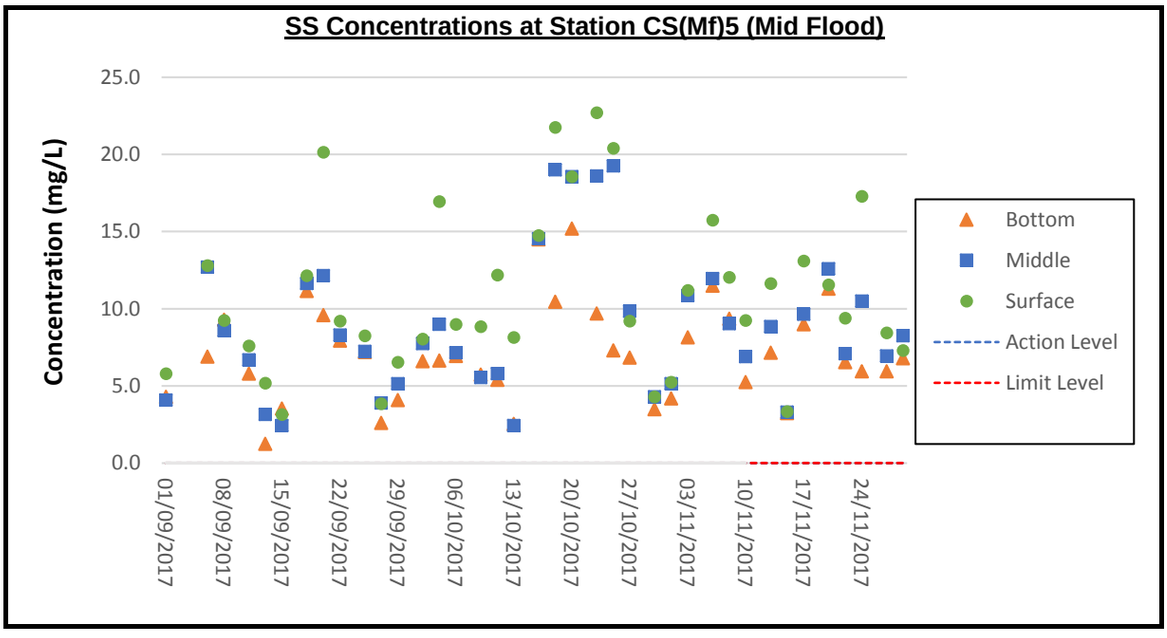
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



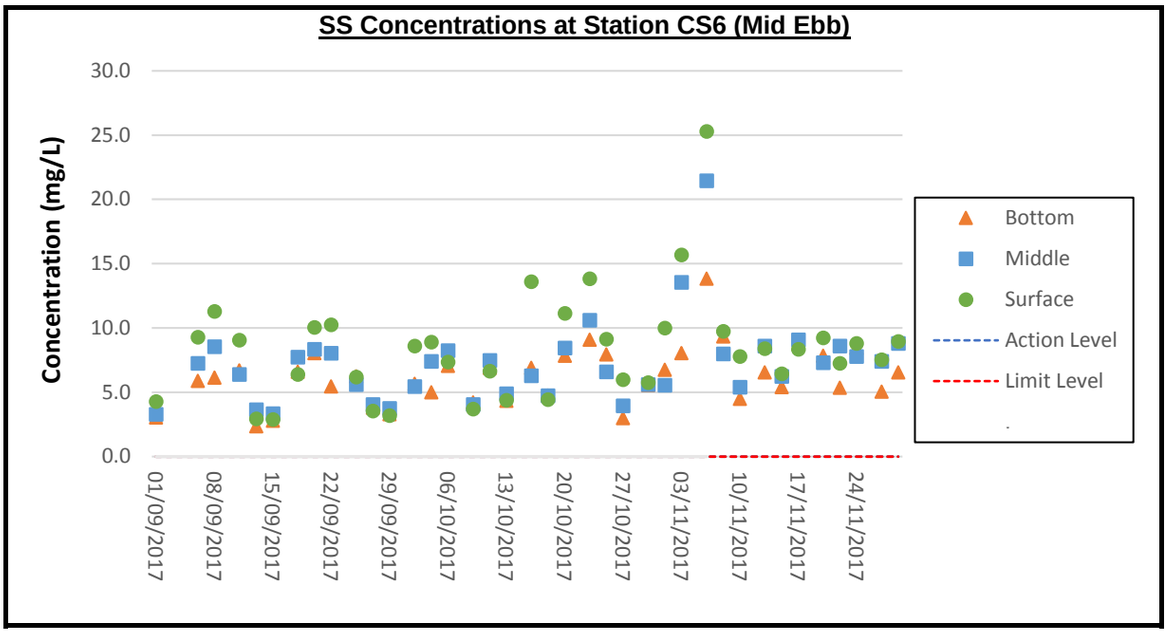
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



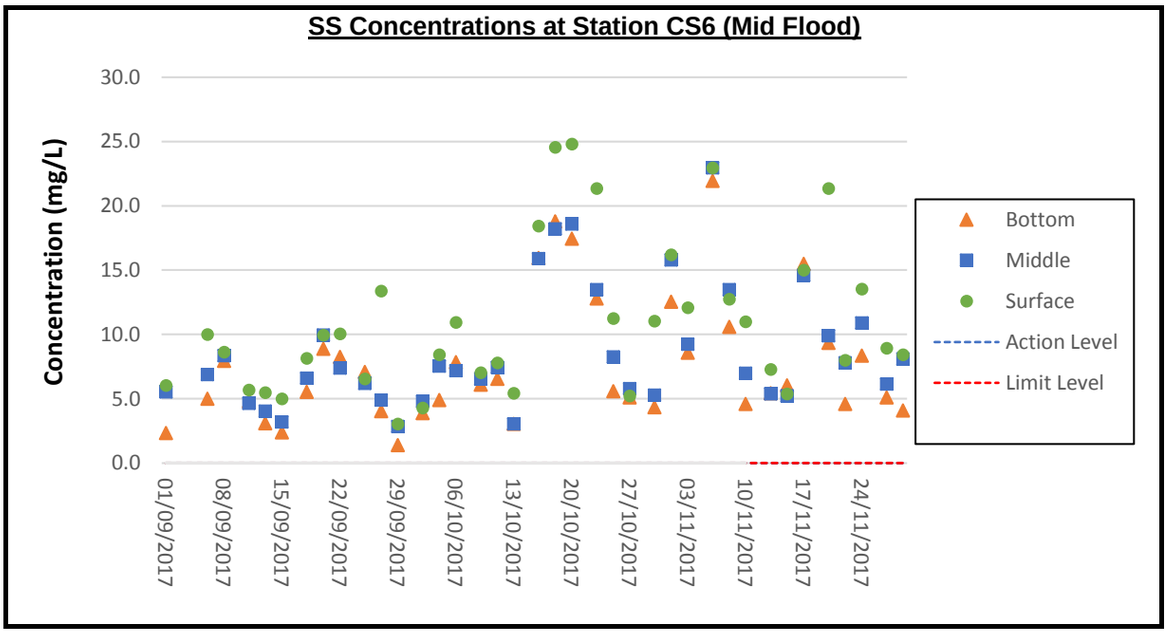
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



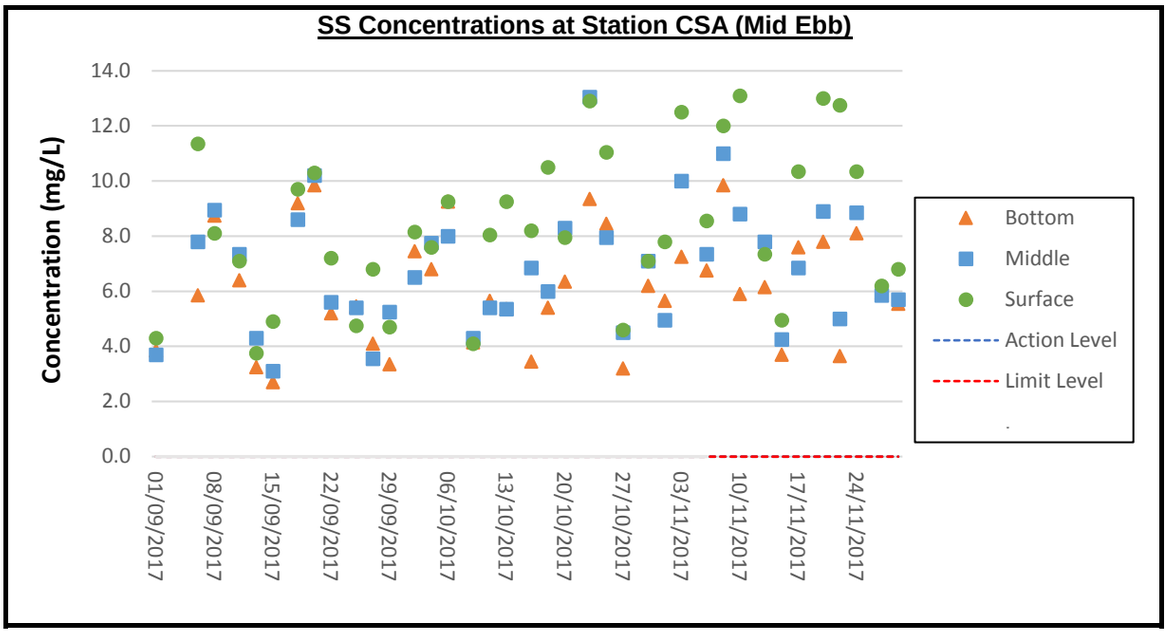
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



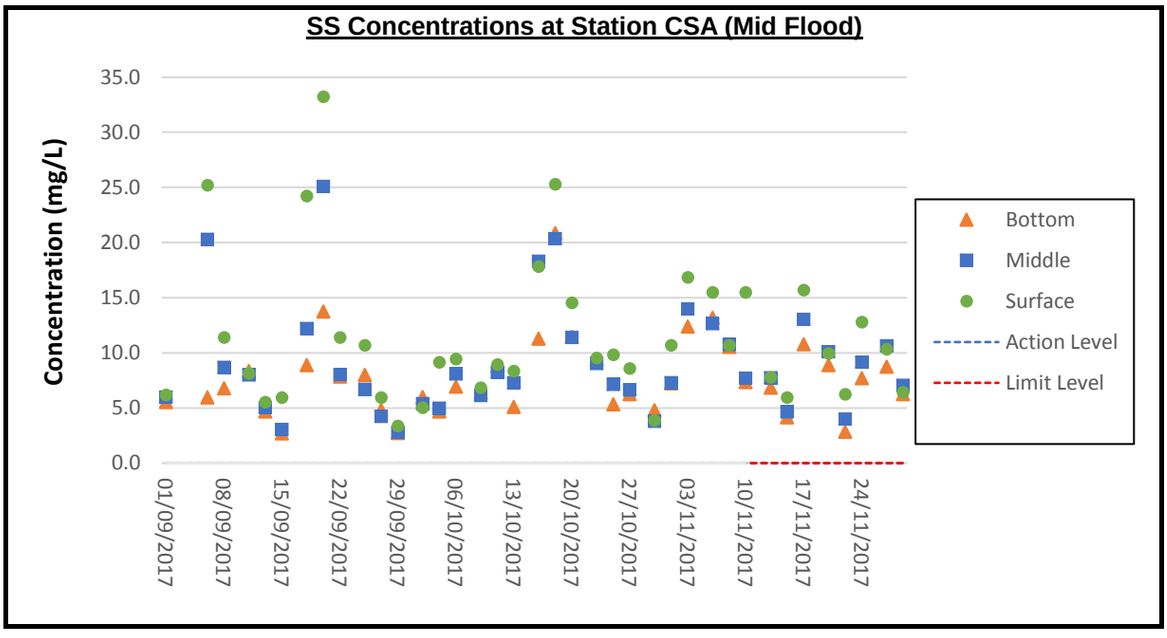
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



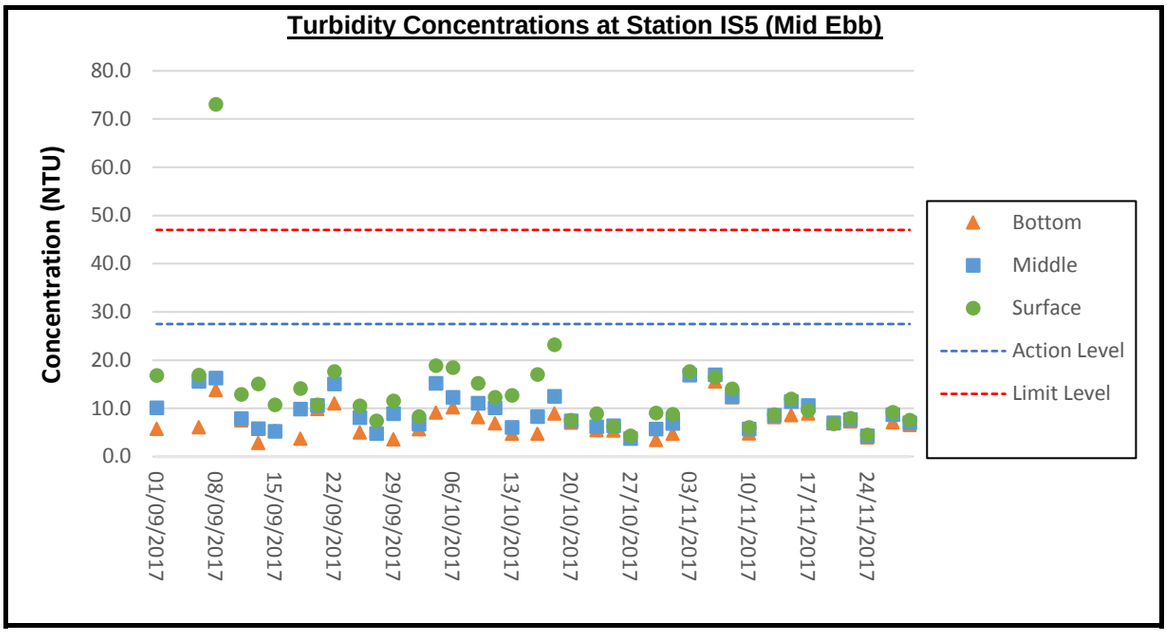
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



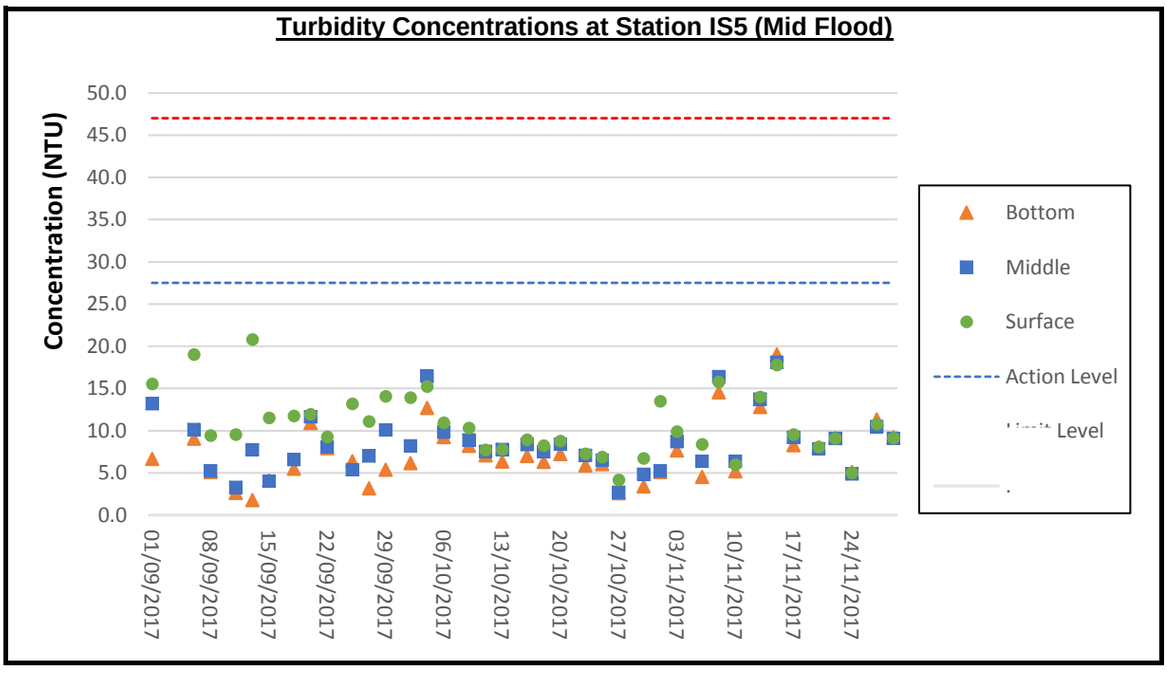
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



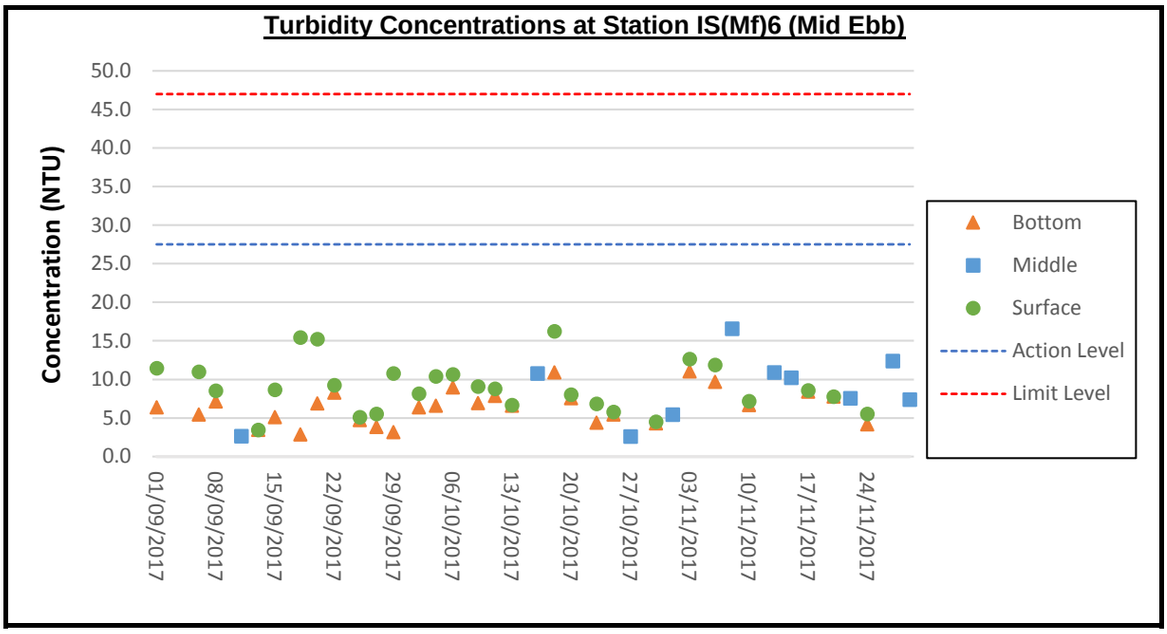
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



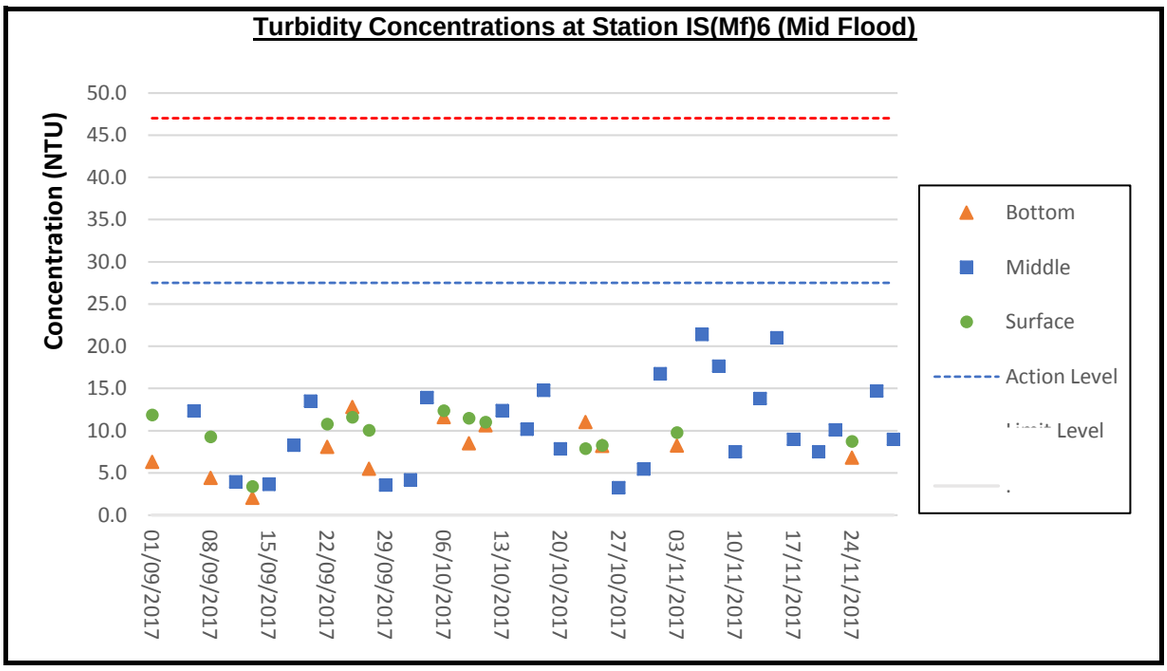
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



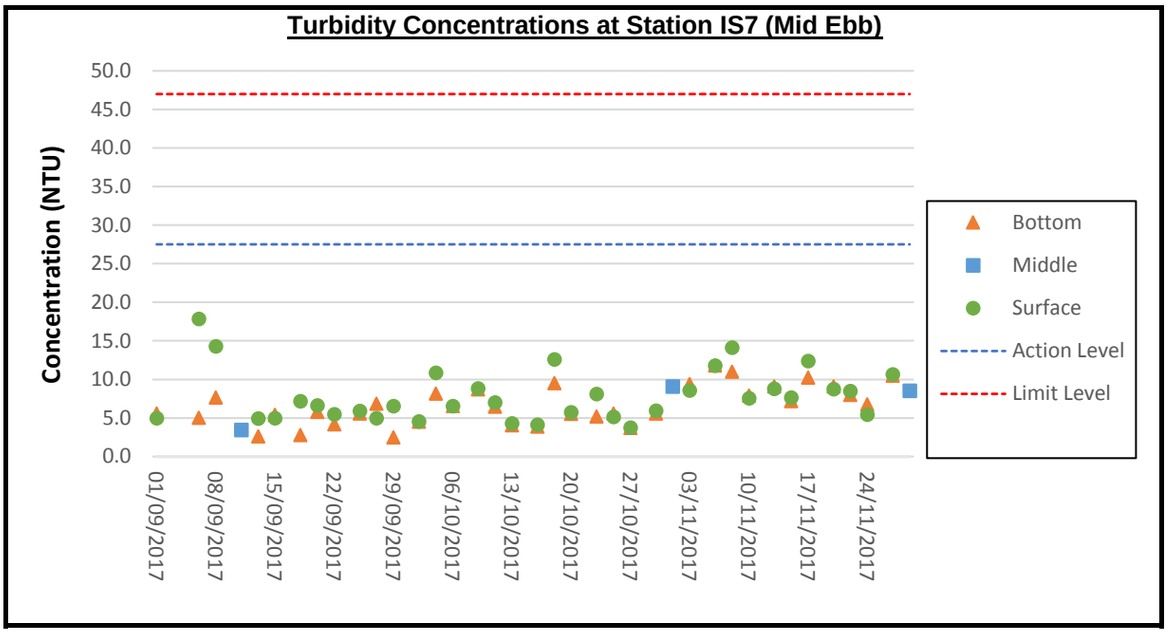
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



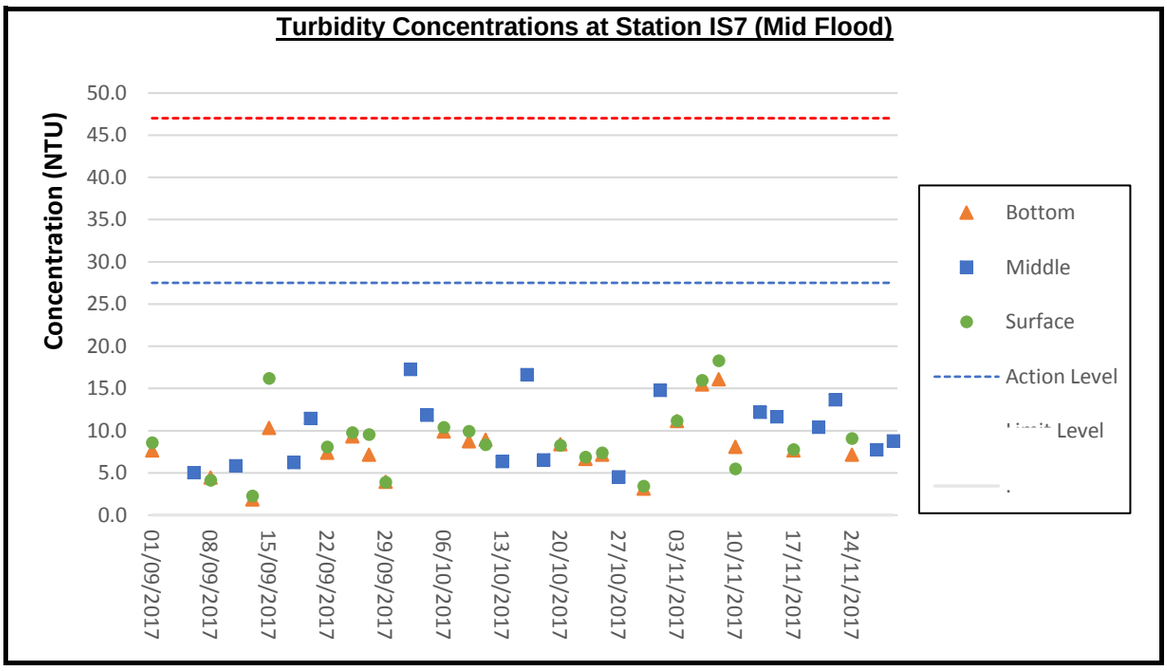
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



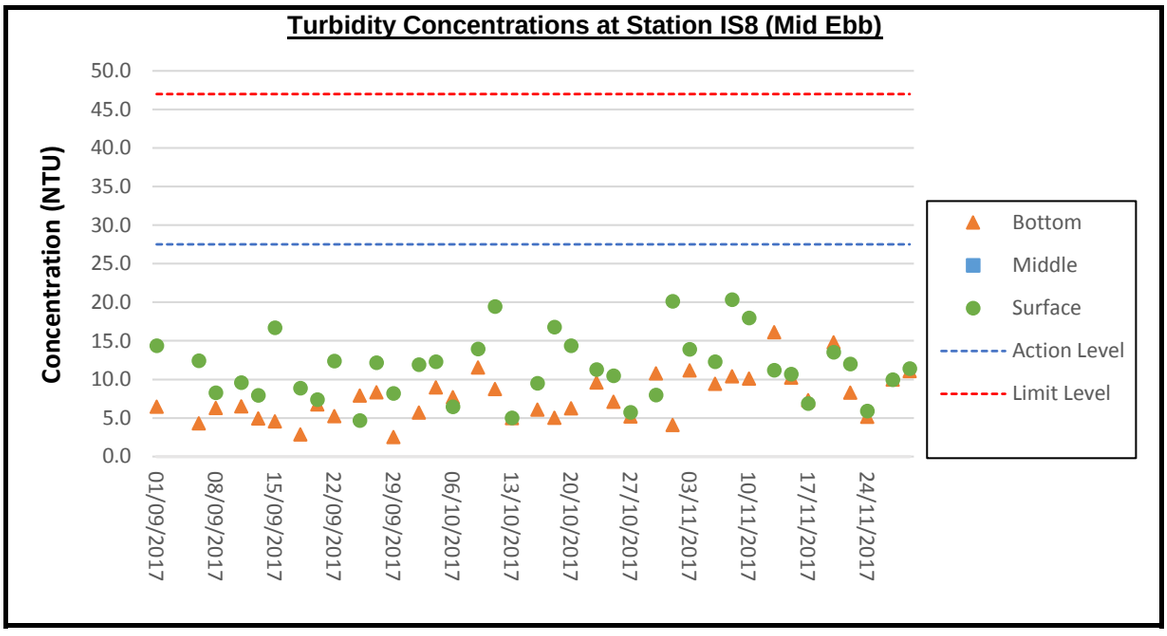
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



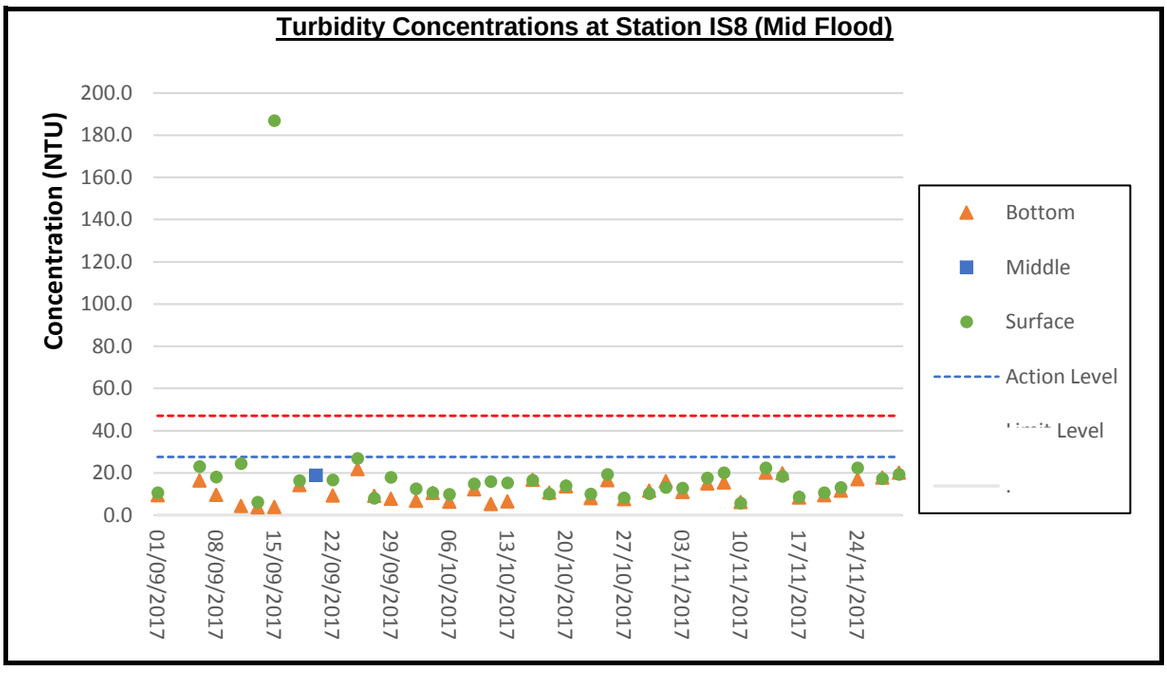
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



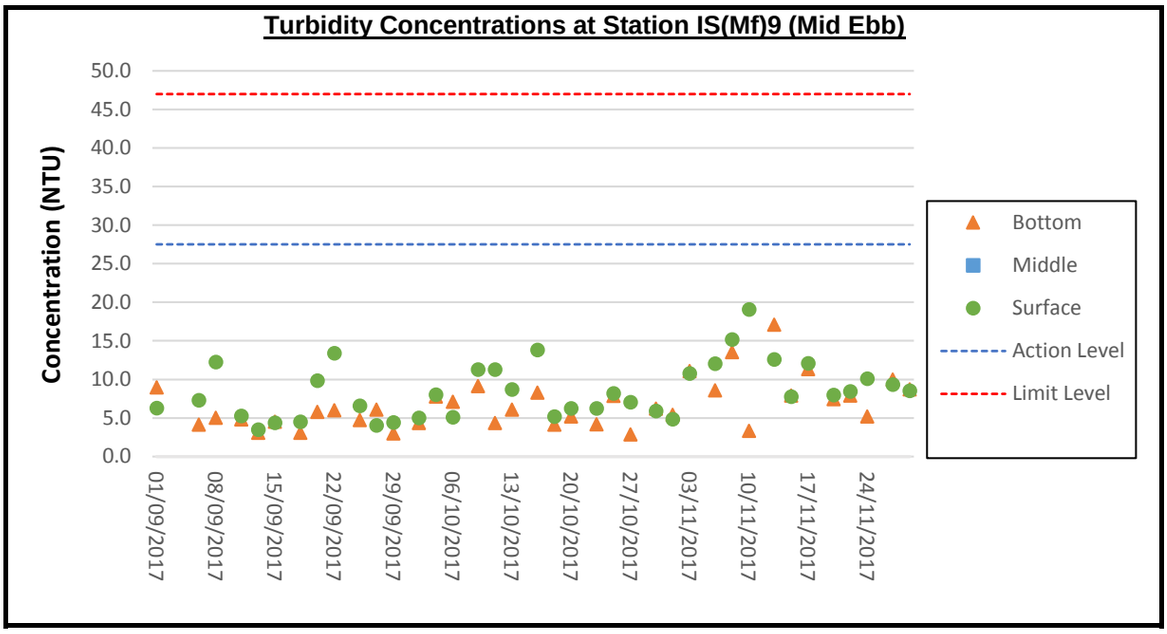
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



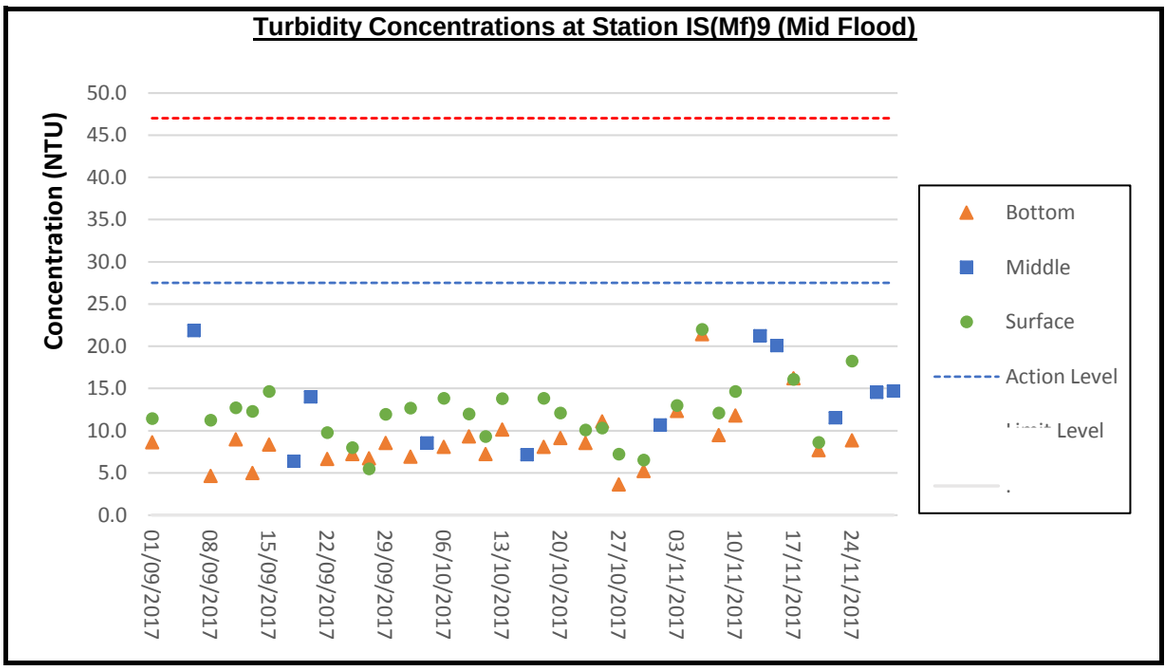
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



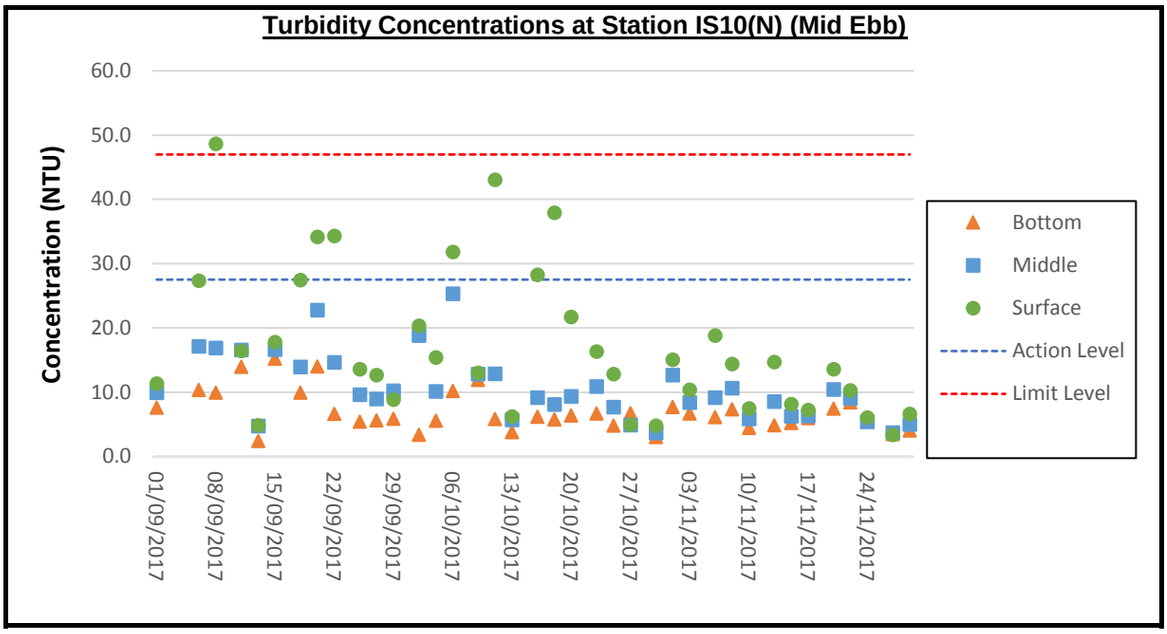
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



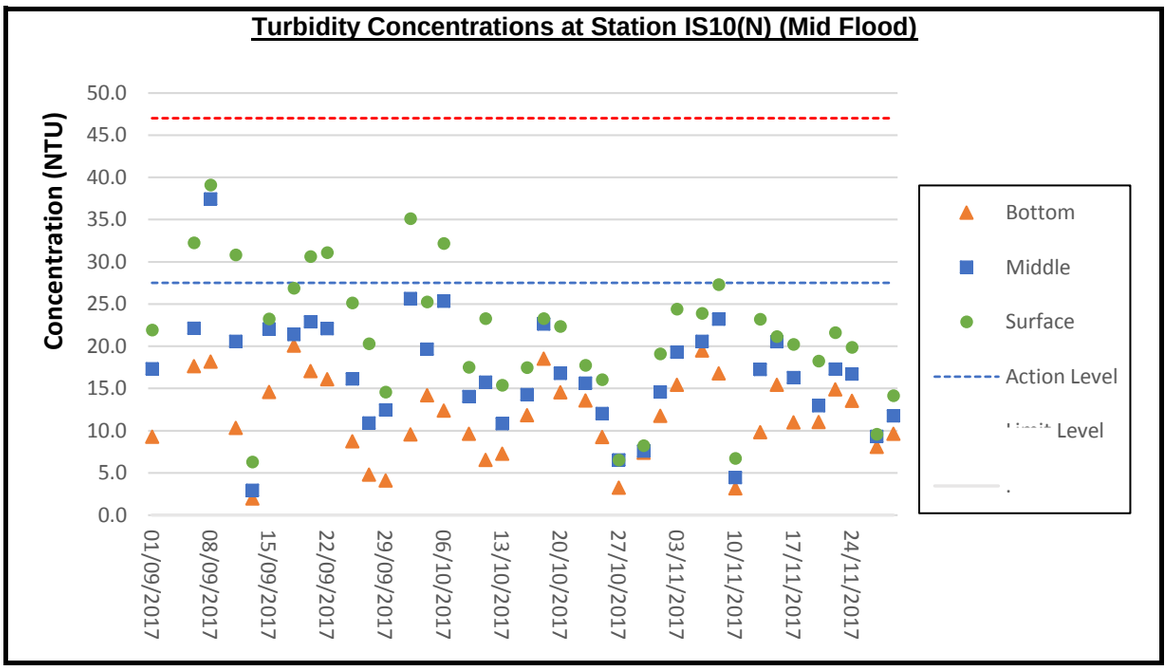
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



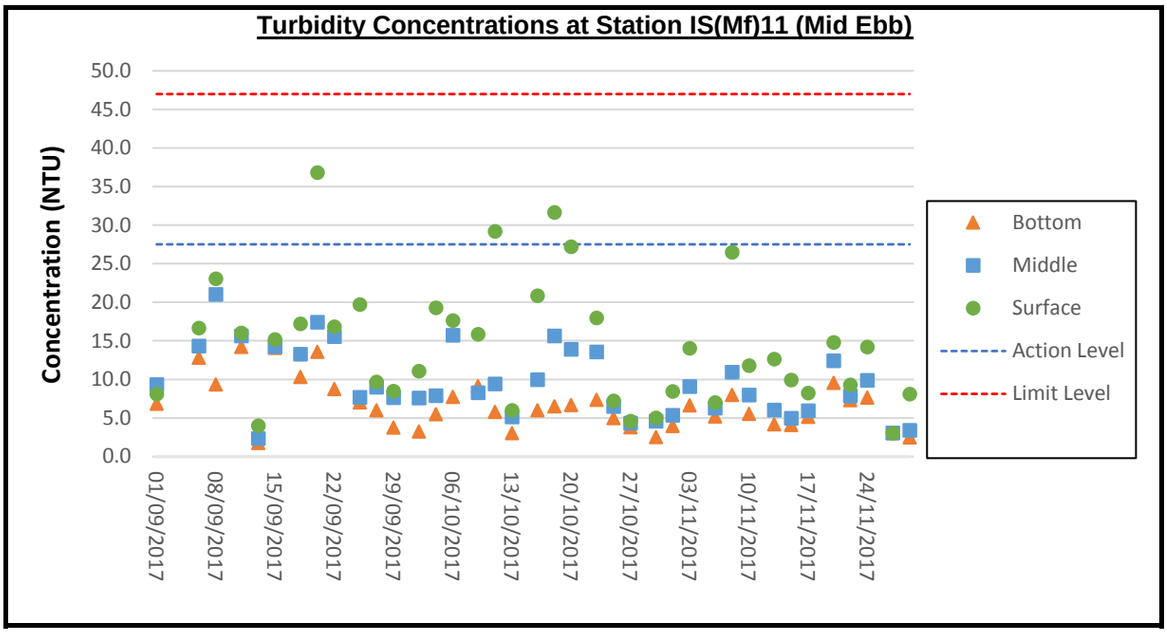
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



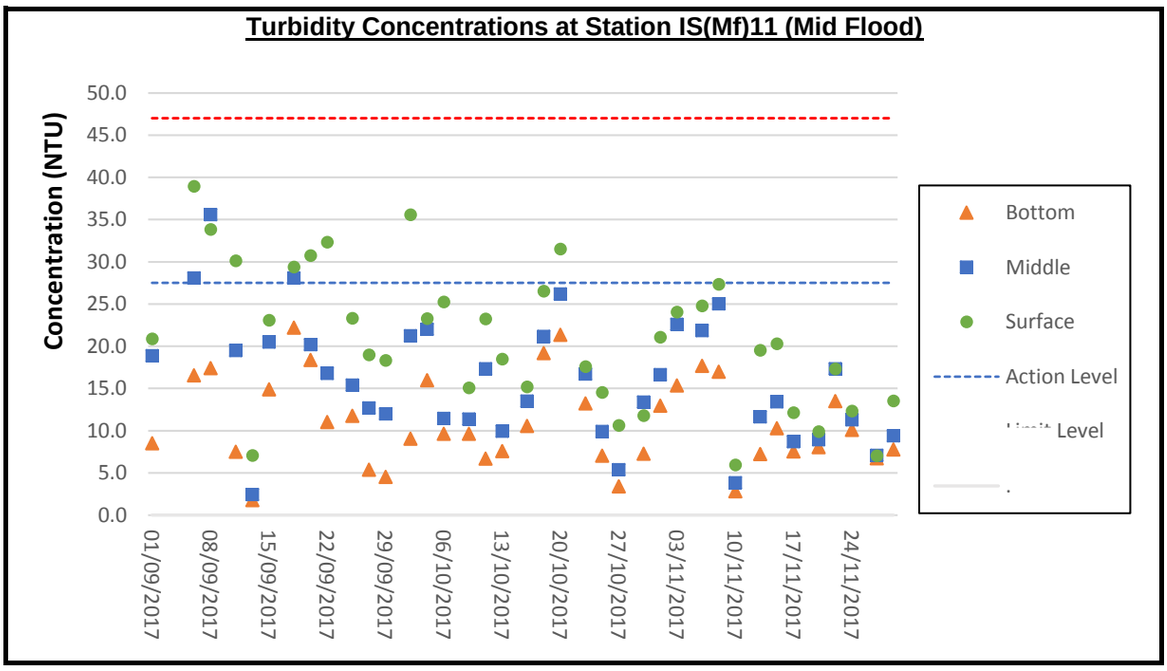
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



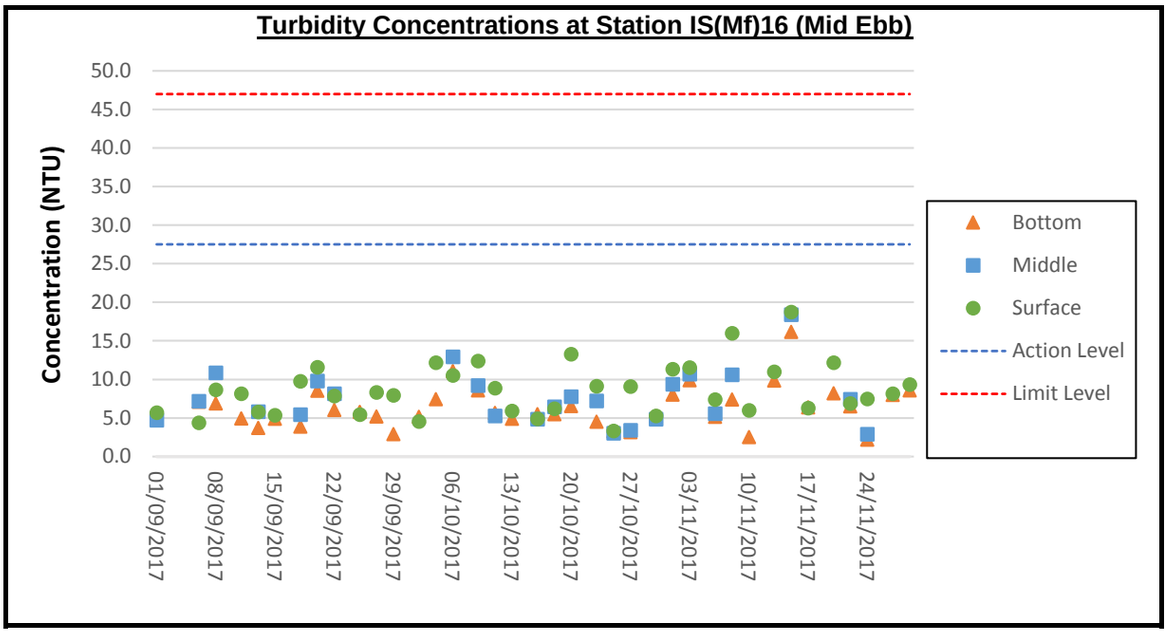
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



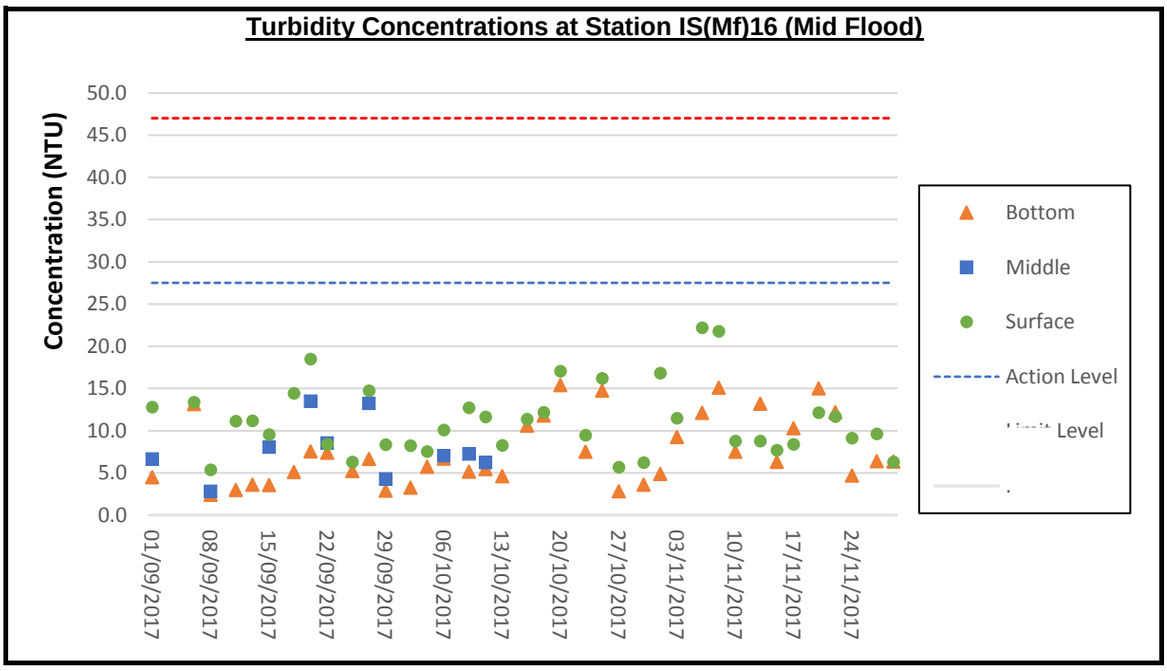
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



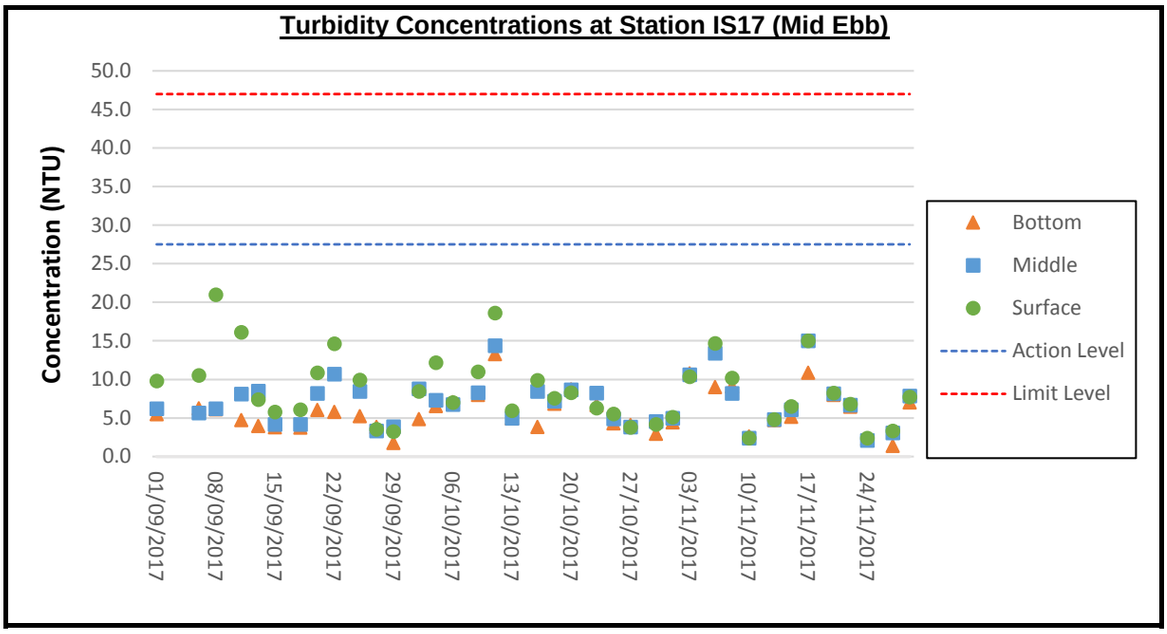
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



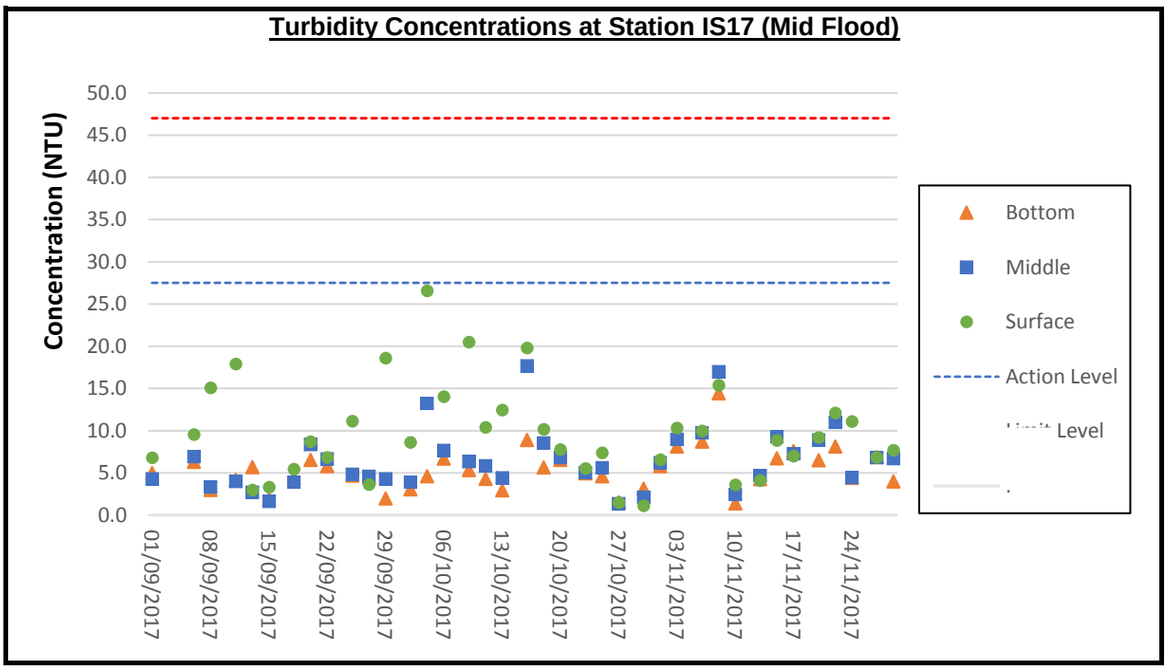
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



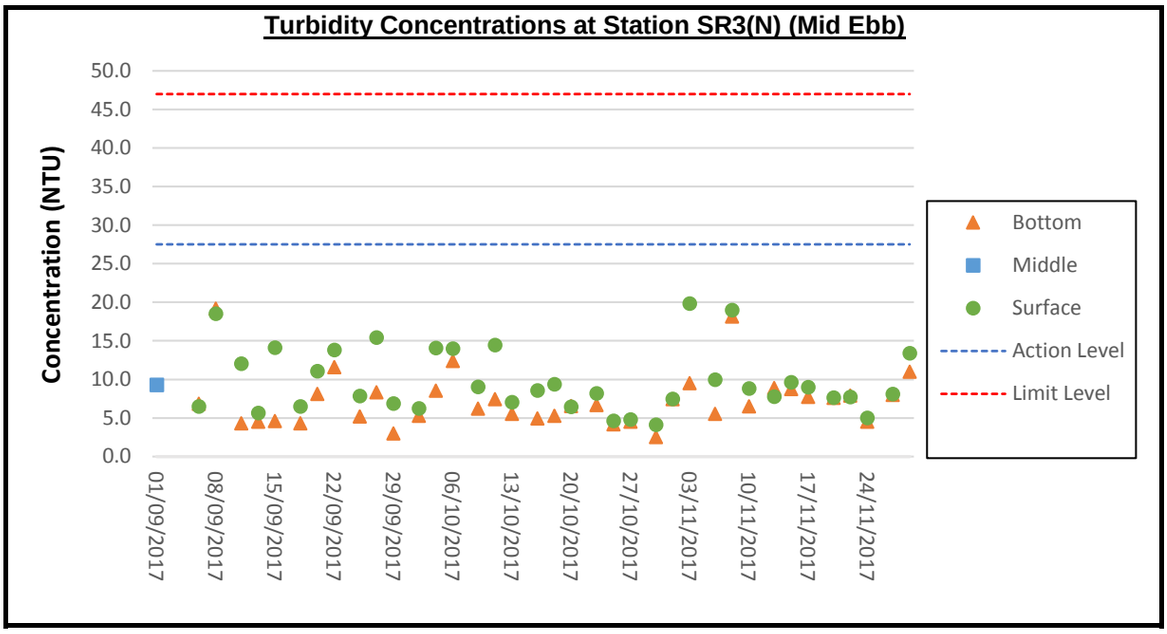
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



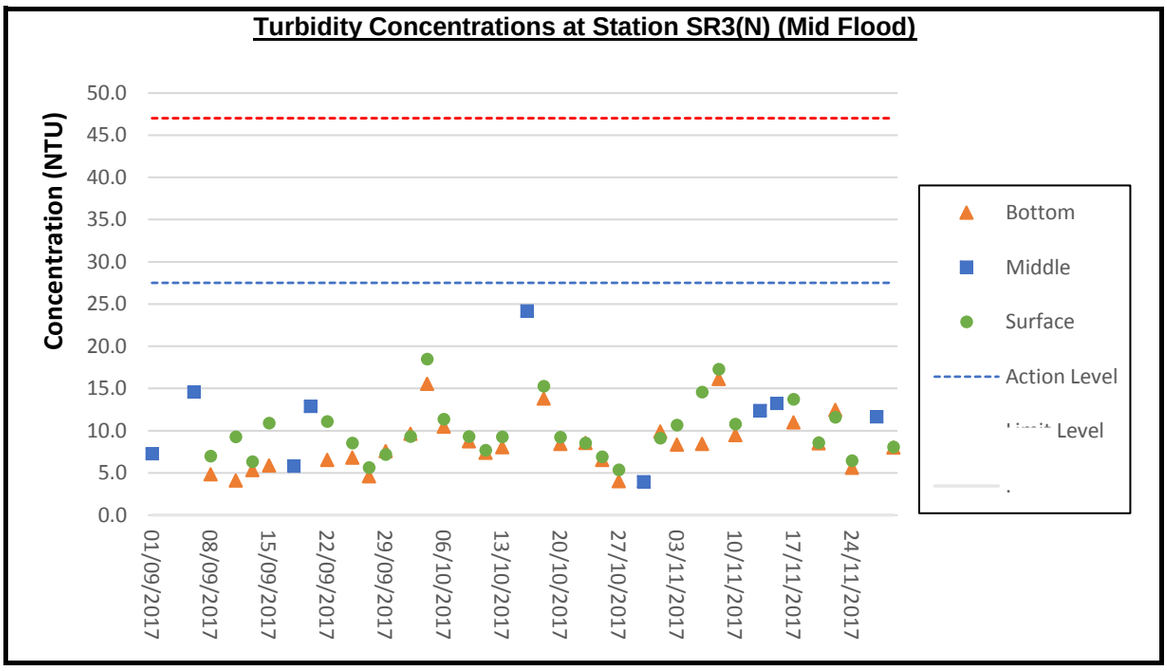
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



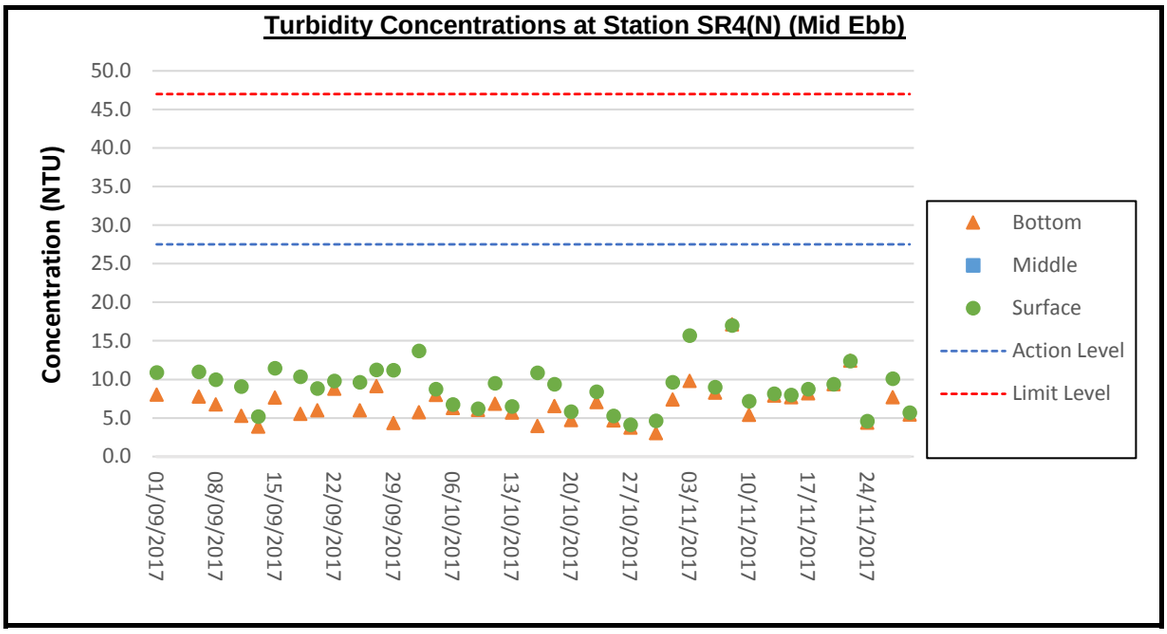
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



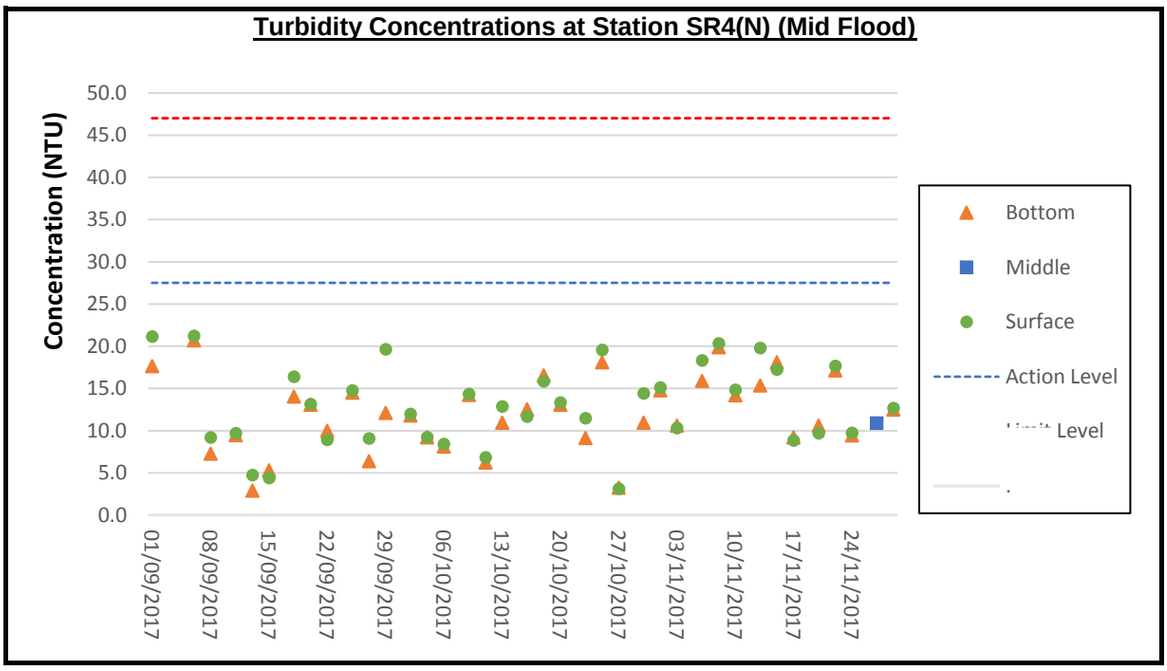
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



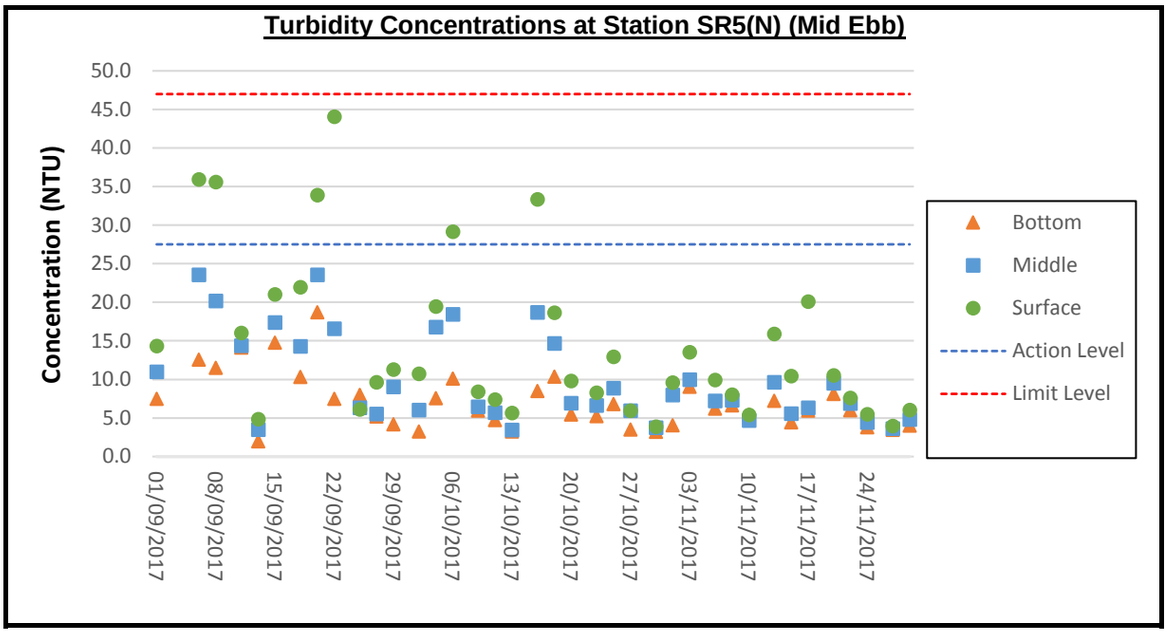
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



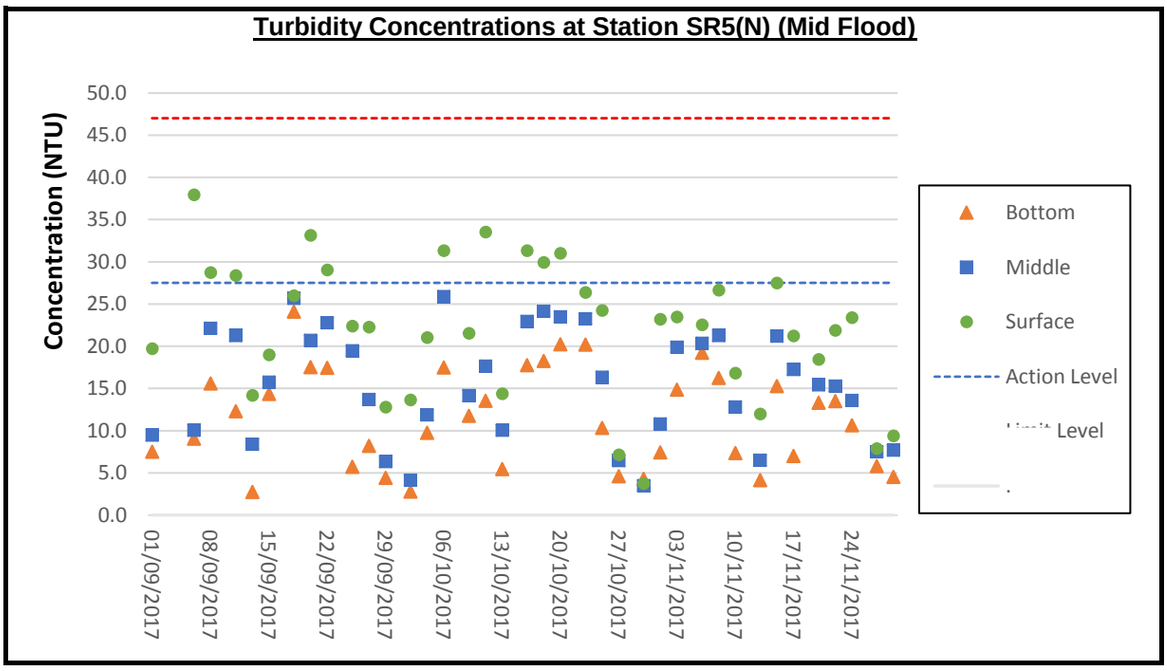
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



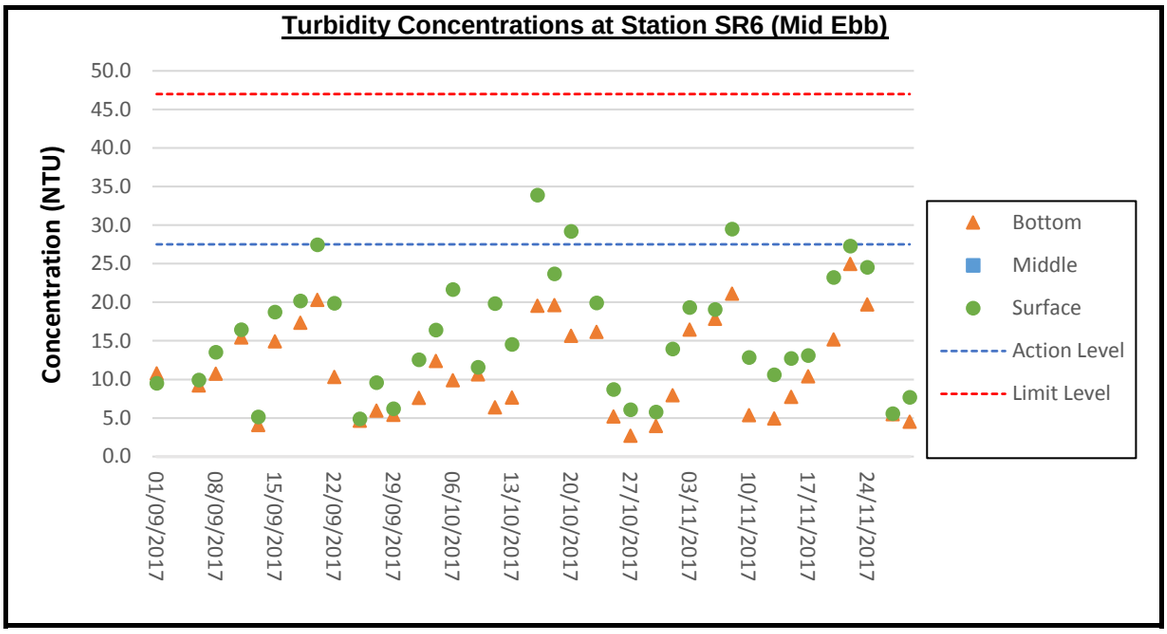
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



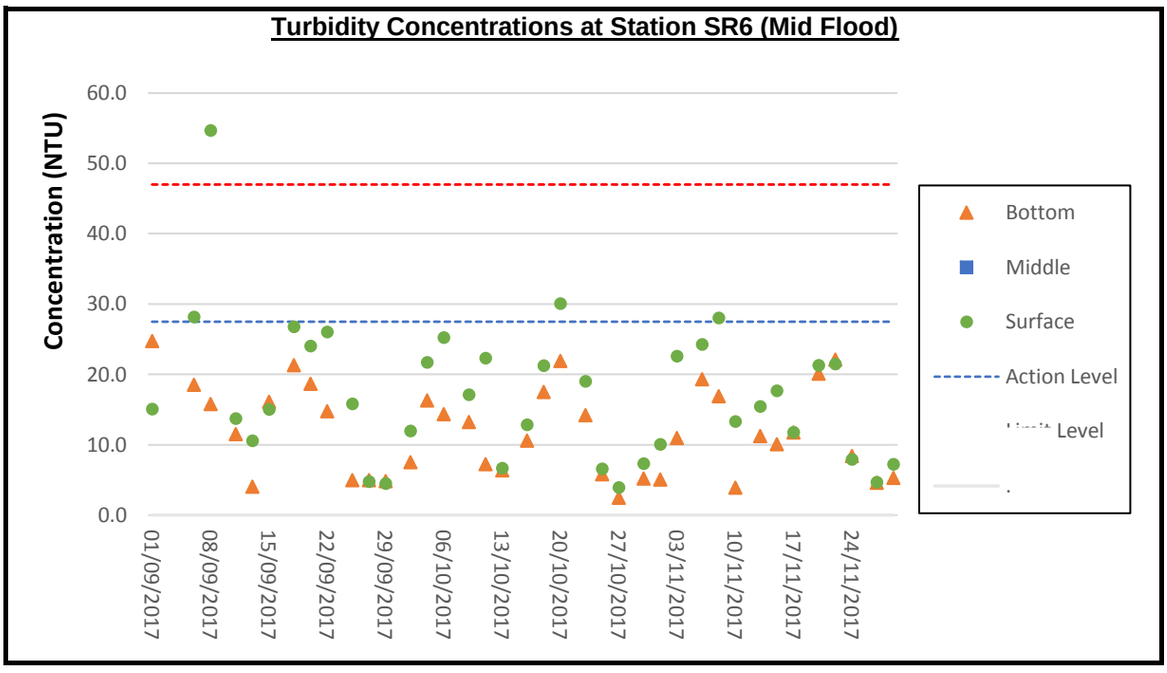
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



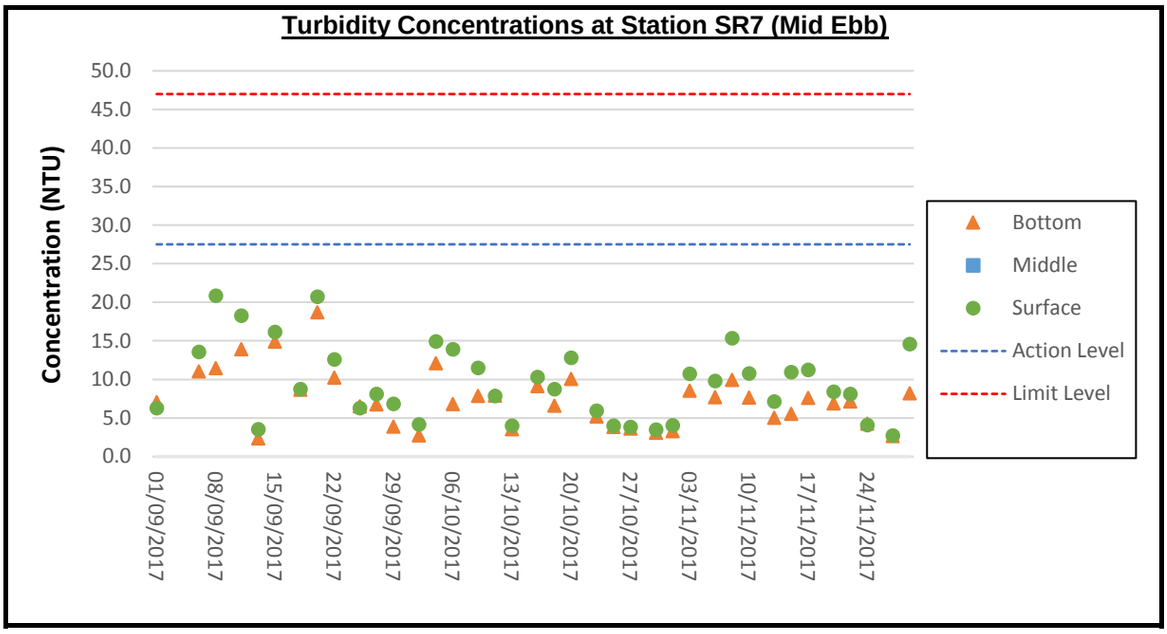
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



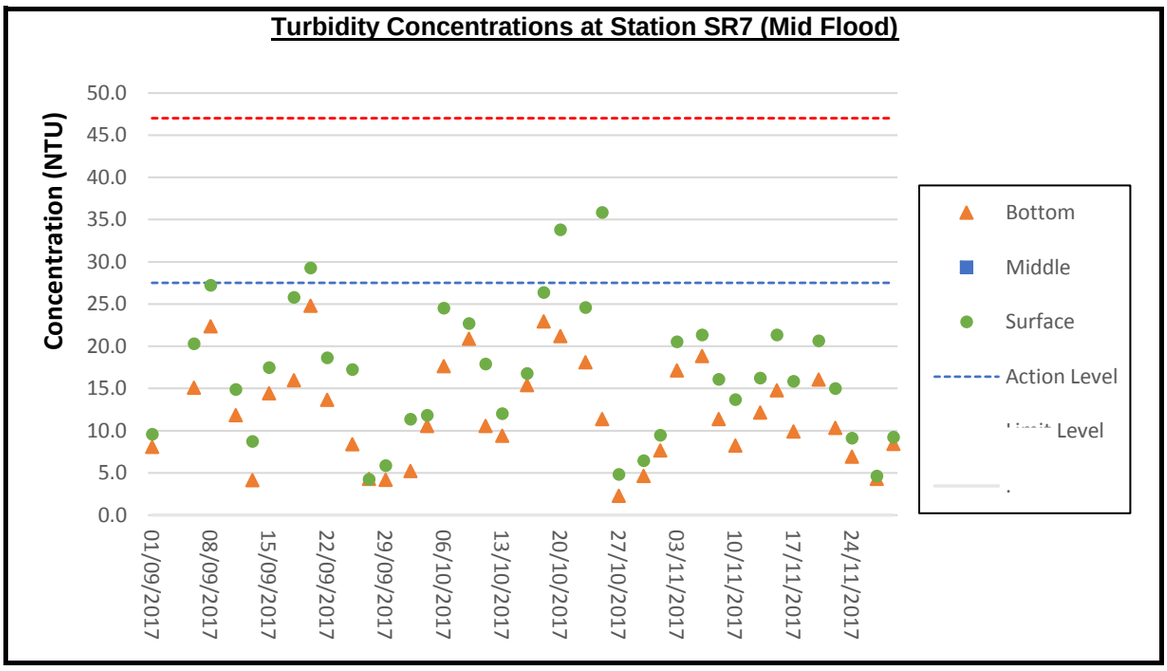
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



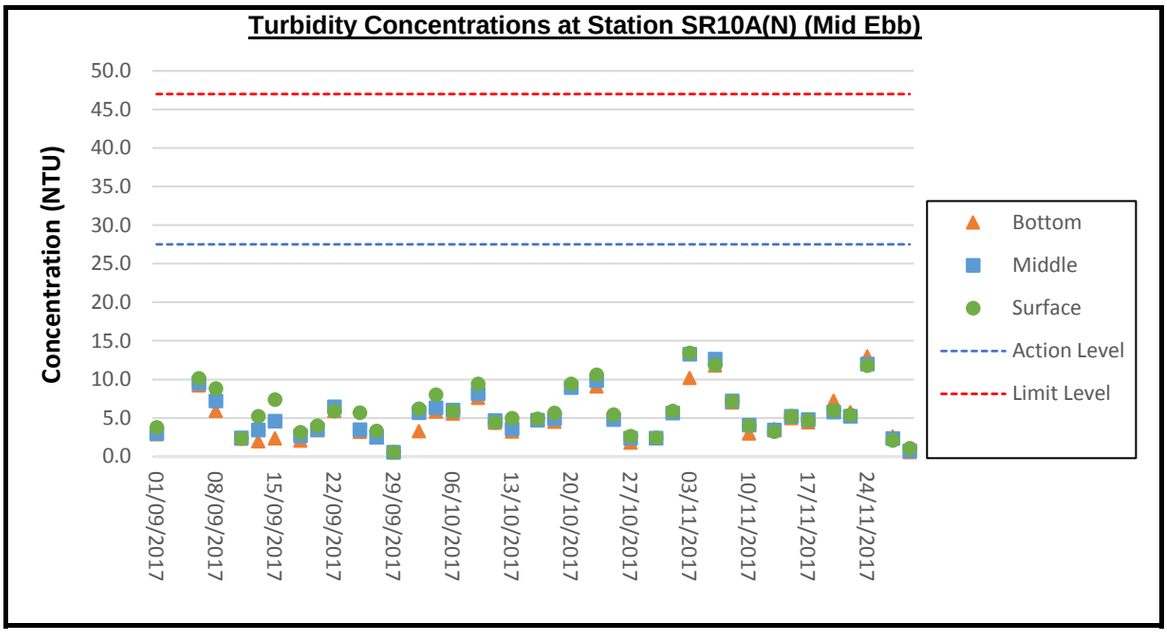
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



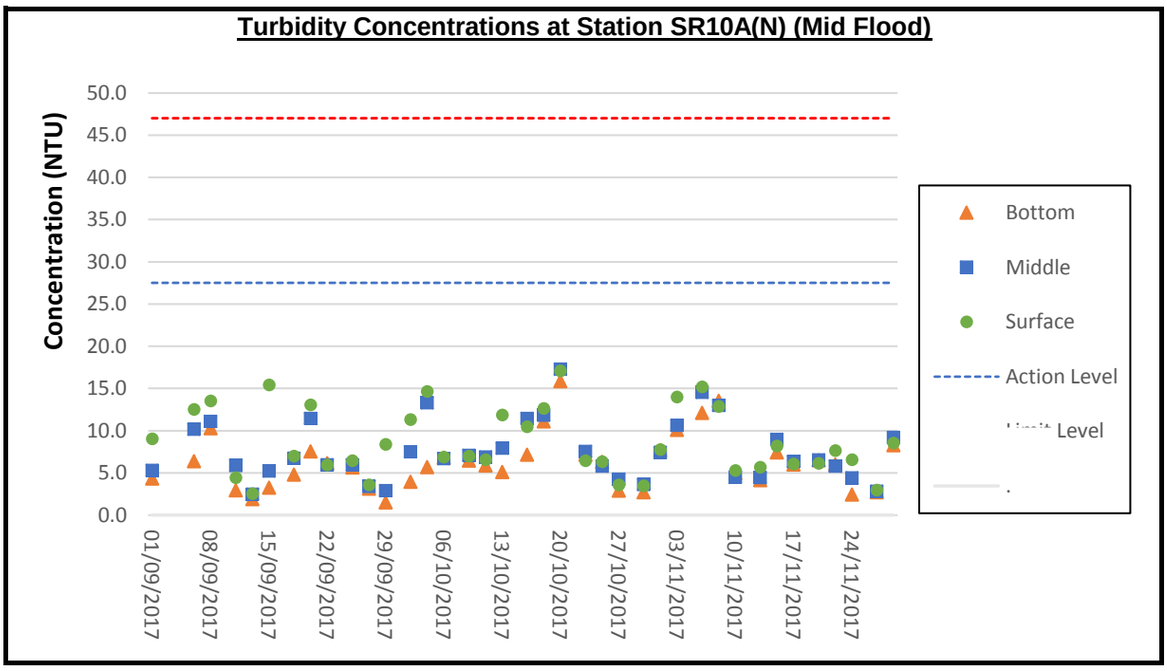
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



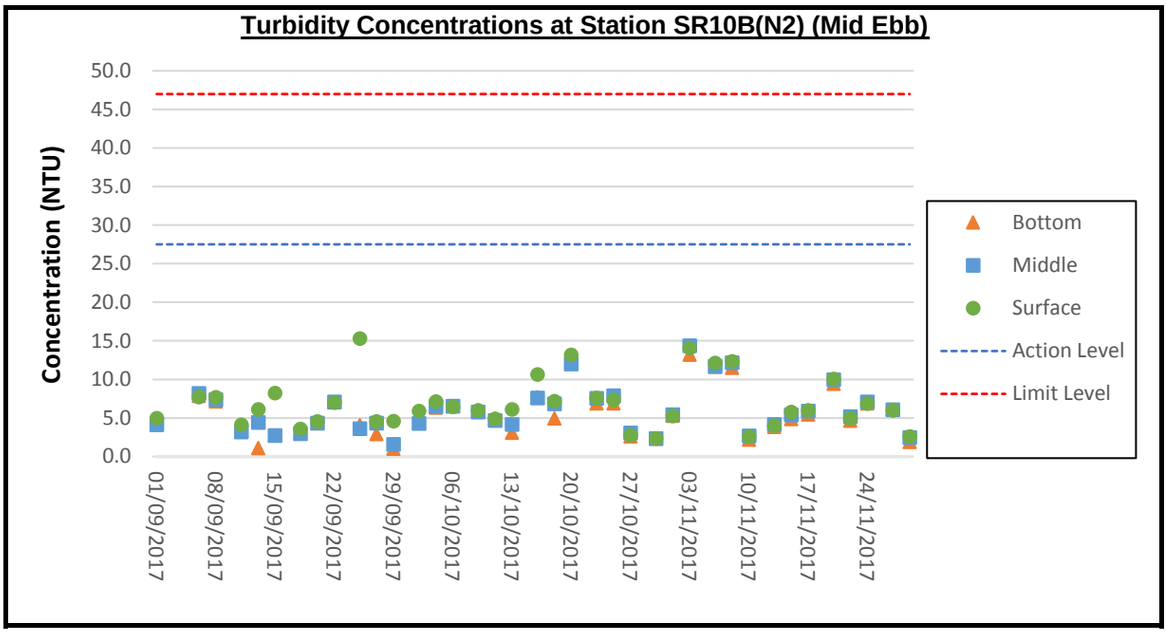
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



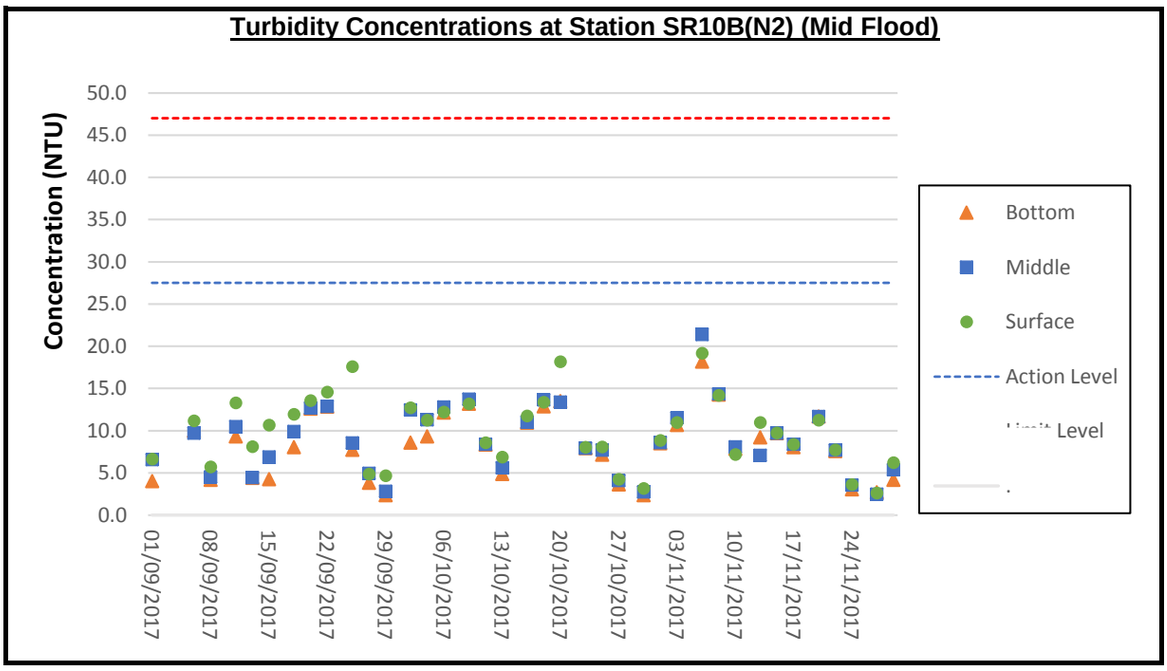
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



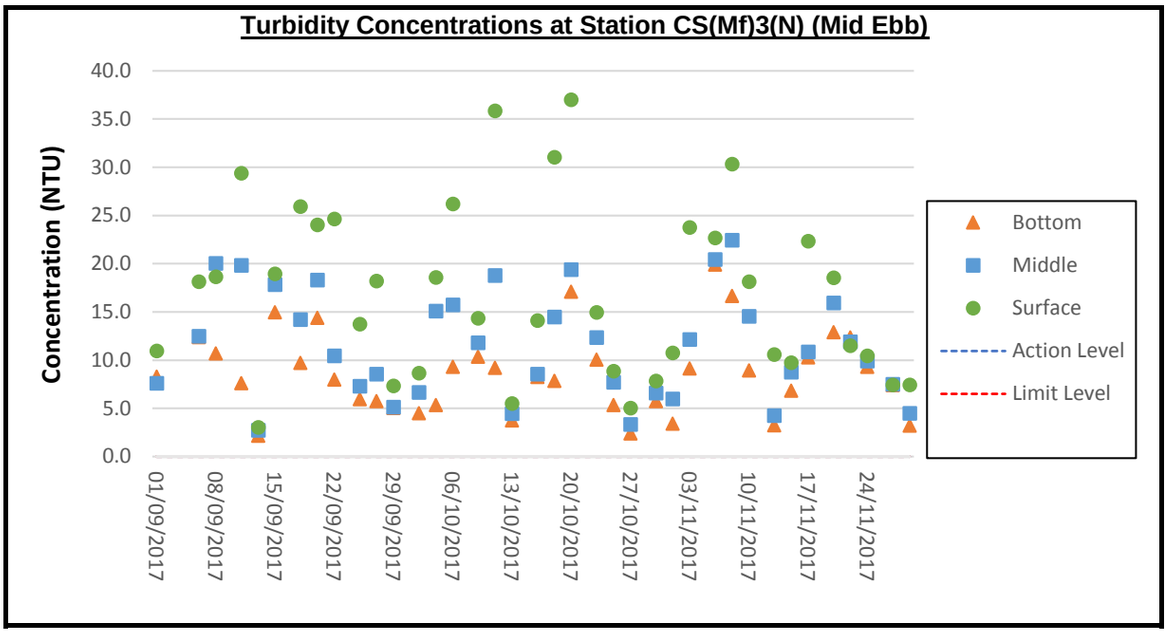
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



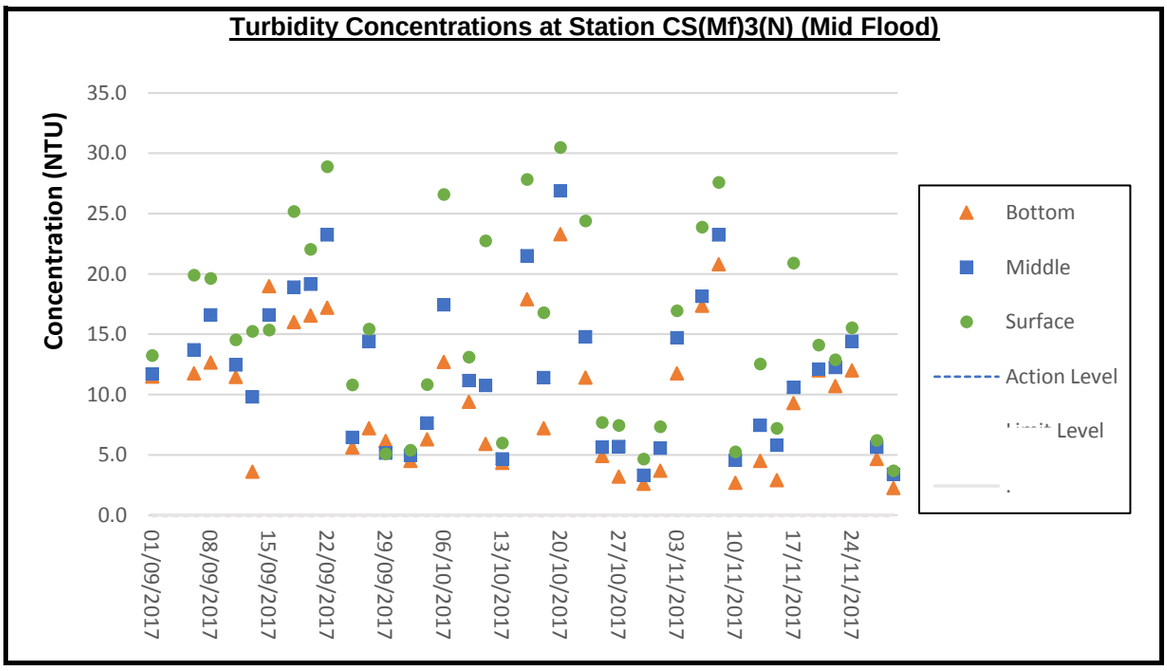
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



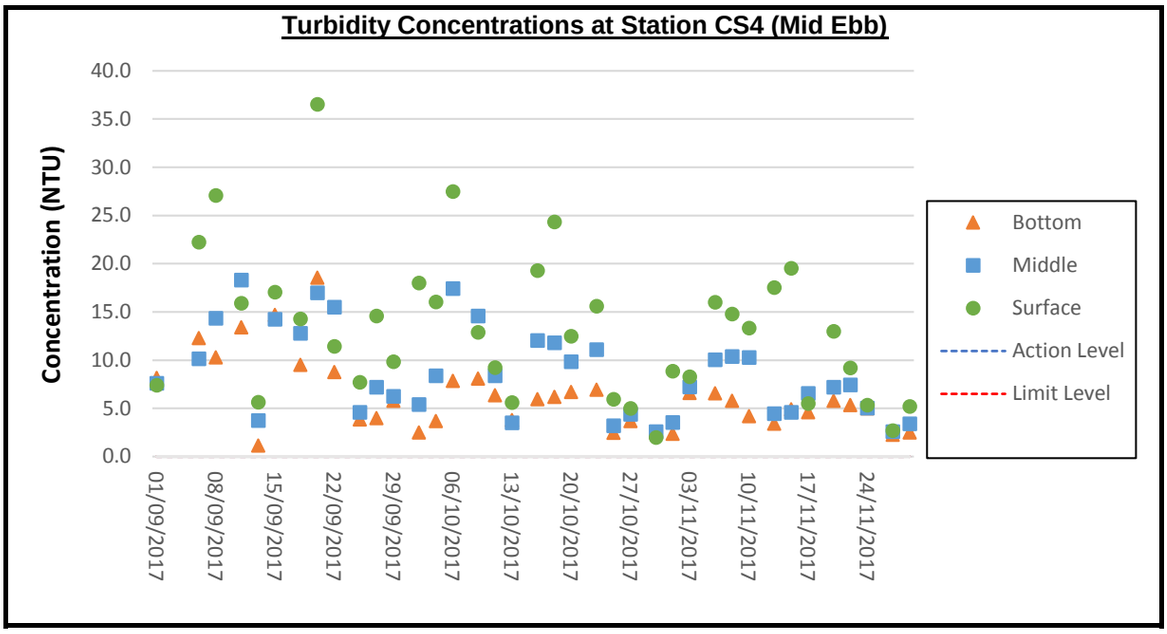
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



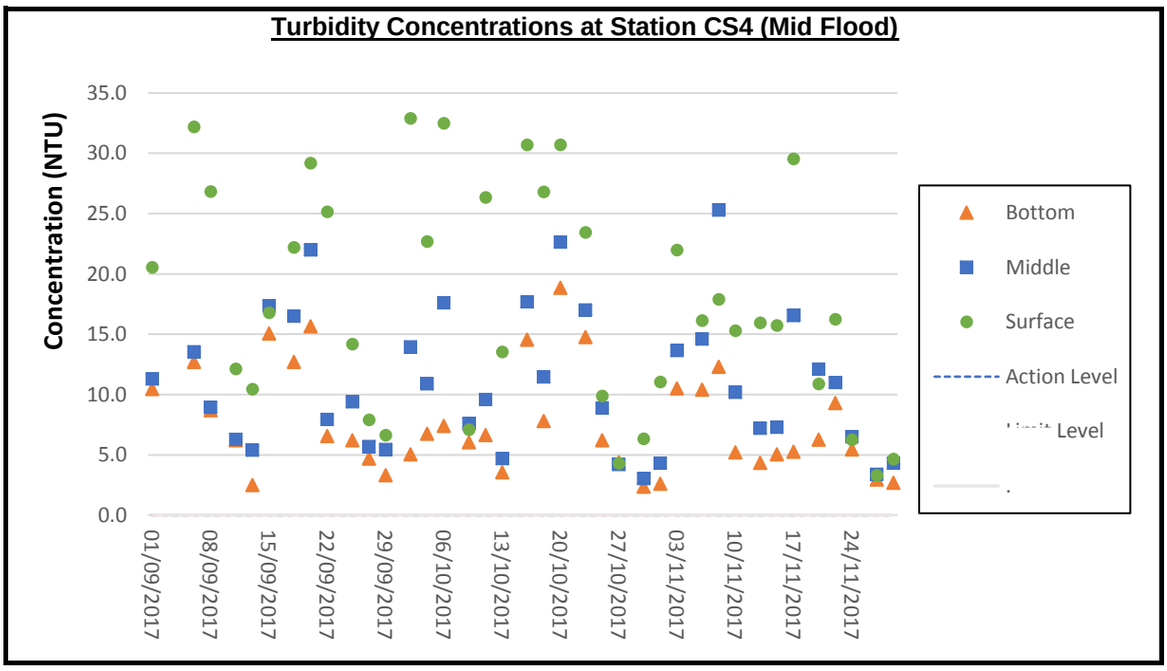
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



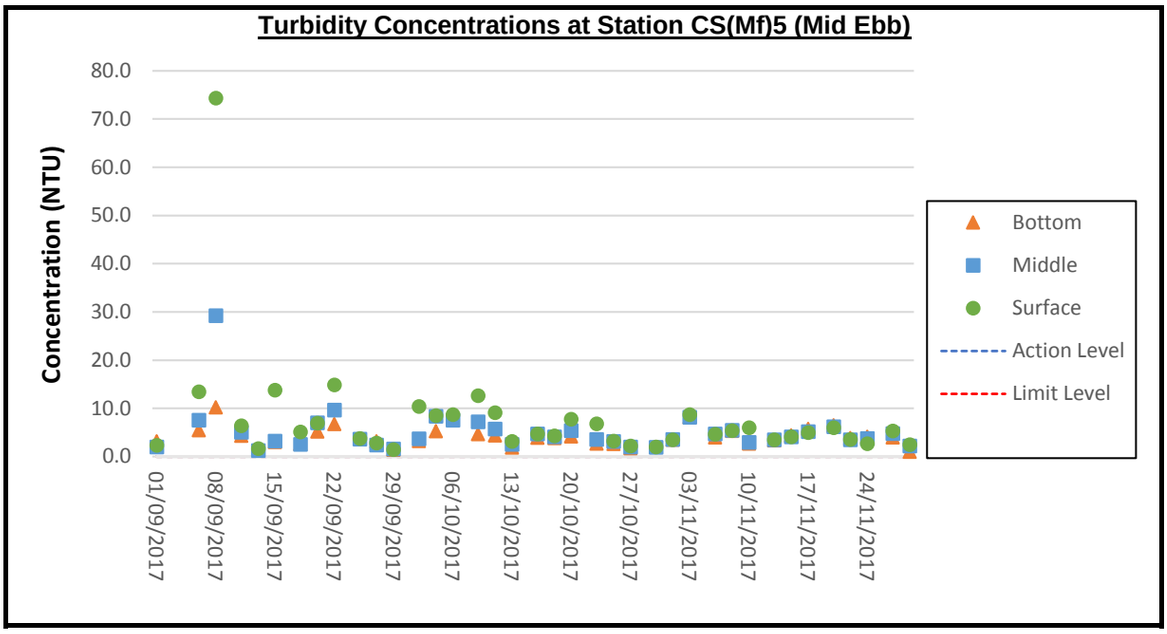
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



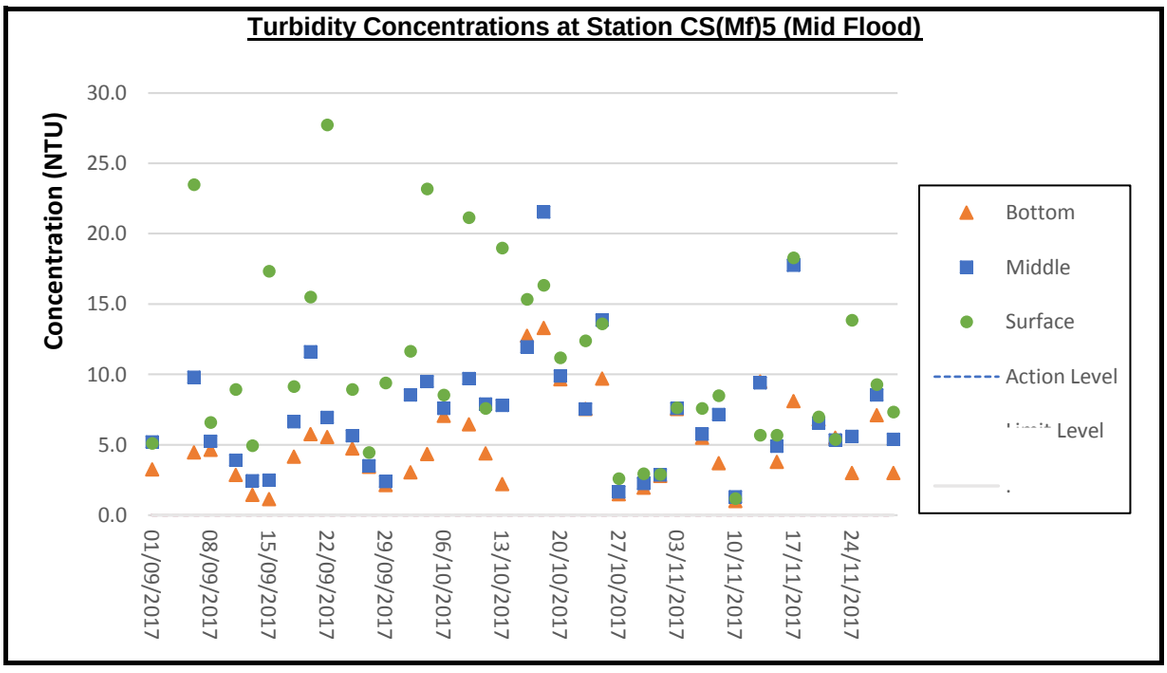
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



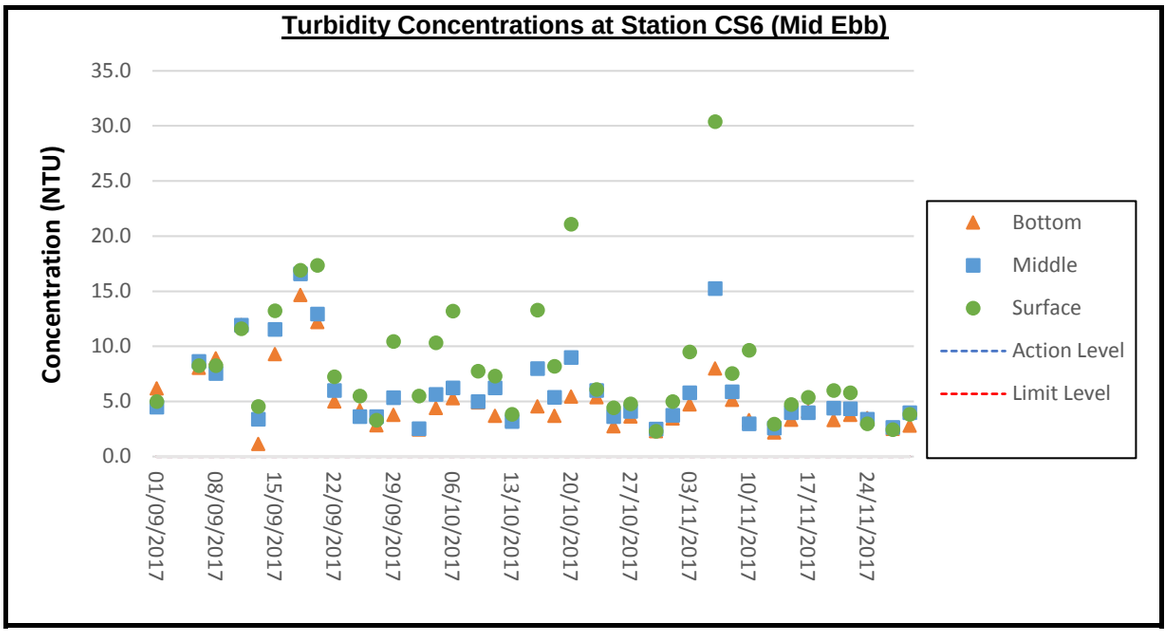
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



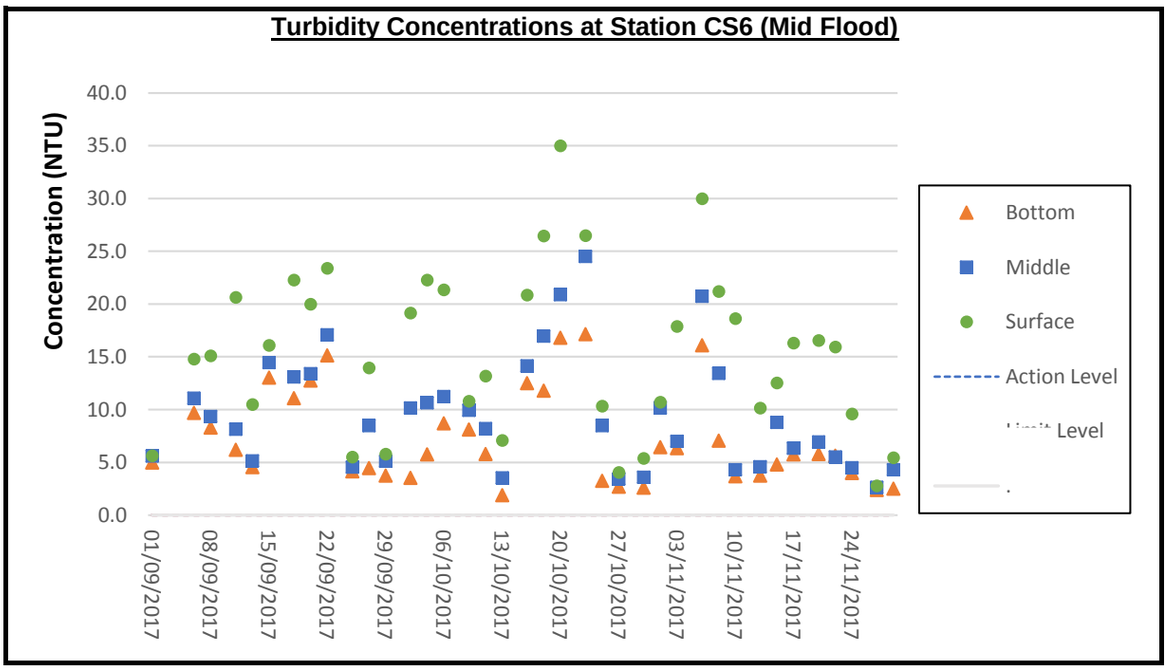
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



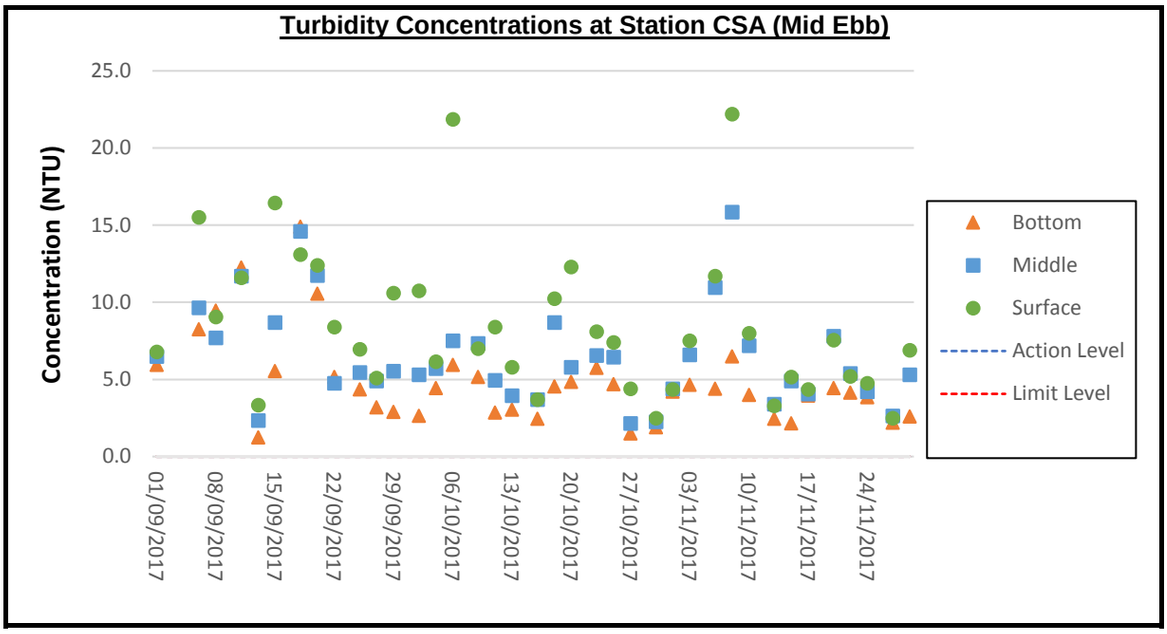
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



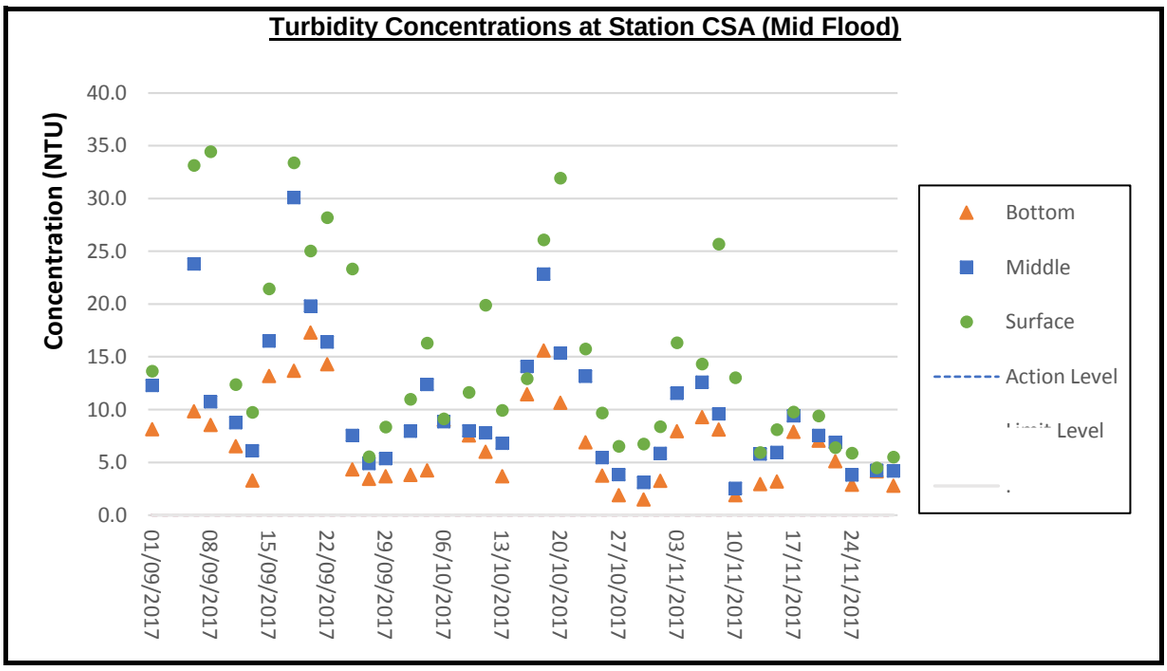
Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3



Remark: -The water quality monitoring before 1 September 2017 are conducted by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. Please refer the monitoring results for August 2017 in the published Monthly EM&A Report for Contract No. HY/2010/02.
- The water quality monitoring on 04 Sep 2017 was cancelled due to Typhoon Signal No.3

APPENDIX G

Site Audit Findings and Corrective Actions

Appendix F – Site Audit Findings and Corrective Actions

1.1.1 Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. During the reporting period, thirteen site inspections were carried out 6, 13, 20 and 27 September, 4, 11 18 and 25 October 2017 and 1, 8, 15, 22 and 29 November 2017.

1.1.2 Particular observations during the site inspections are described in the table below.

Date of Audit	Observations	Actions Taken by Contractor / Recommendation	Date of Observations Closed
30 August 2017	1. Chemical containers were observed without proper labels. A chemical container was observed without drip tray.	1. Proper labels were affixed to the chemical containers. The chemical containers were placed within the drip trays to prevent potential leakage.	6 September 2017
6 September 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
13 September 2017	1. Dusty materials were placed without cover on 1/F at Row 4 PCB Building. 2. More than 20 bags of cement were placed without cover on 1/F at Row 4 PCB Building. 3. General refuse was scattered on 1/F at Row 3 PCB Building.	1. Dusty materials were removed on 1/F at Row 4 PCB Building. 2. The cement bags were provided cover on 1/F at Row 4 PCB Building. 3. General refuse has been removed on 1/F at Row 3 PCB Building.	20 September 2017
20 September 2017	1. A chemical drum was found without drip tray on G/F at Row 4 PCB Building.	1. The chemical containers was placed within a drip tray to prevent potential leakage on G/F at Row 4 PCB Building.	27 September 2017
27 September 2017	1. Chemical drums were found without proper chemical labels on 1/F at Row 4 PCB Building.	1. Proper chemical labels were provided to the chemical drums at Row 4 PCB Building.	4 October 2017
4 October 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
11 October 2017	1. Unpaved road was observed dry near Row 5 PCB Building. 2. Bags of dusty materials were observed without proper cover on 1/F of Row	1. Unpaved road was observed wet near Row 5 PCB Building. 2. Bags of dusty materials were removed on 1/F of Row 4 PCB Building.	18 October 2017

Date of Audit	Observations	Actions Taken by Contractor / Recommendation	Date of Observations Closed
	4 PCB Building.		
18 October 2017	1. Concrete breaking was observed without water spraying on 1/F of Row 4 PCB Building.	1. Water spraying was provided to dusty operation on 1/F of Row 4 PCB Building.	25 October 2017
25 October 2017	1. A chemical drum was found on Row 5 of PCB Building.	1. A drip tray was provided to the chemical drum on G/F of Row 5 PCB Building.	1 November 2017
1 November 2017	1. Cement de-bagging and mixing processes were carried out without proper cover/ enclosure on 1/F of Row 3 PCB Building.	1. De-bagging, batching and mixing processes of cement were not observed on 1/F of Row 3 PCB Building.	8 November 2017
8 November 2017	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
15 November 2017	1. An environmental permit and a construction noise permit were not displayed at vehicular site entrances/ exits of construction site. 2. Non-road mobile machinery (a forklift) bears an inappropriate NRMM label on ground floor of Row 2 PCB Building.	1. Environmental permit and construction noise permit are displayed at site entrance. 2. The forklift is off site. A green NRMM label will be displayed on it if the forklift has to work on site again.	22 November 2017
22 November 2017	1. The chemical containers were found without drip tray at G/F of Row 3.	1. The chemical containers were removed at G/F of Row 3.	29 November 2017
29 November 2017	1. Chemical drums were found without chemical labels near the main gate.	1. The Contractor was reminded to provide proper labels for the chemical drums near the main gate.	Follow-up action undertaken by the Contractor will be inspected during the site inspection to be undertaken in December 2017.

APPENDIX H

Waste Flow Table

Name of Department: Highways Department

Contract No.: HY/2013/01

Leighton - Chun Wo Joint Venture

Monthly Summary Waste Flow Table for 2017

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	a.Total Quantity Generated (see Note 8)	b. Hard Rock and Large Broken Concrete (see Note 9)	c. Reused in the Contract	d. Reused in Other Projects	e. Disposed as Public Fill (see Note 10)	f. Imported Fill	g. Metals (see Note 5)	h. Paper / Cardboard Packaging (see Note 5)	i. Plastics (see Note 3) (see Note 5)	j. Chemical Waste	k. Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
January	0.046	0.046	0.000	0.000	0.046	0.000	55.920	1.564	0.000	0.000	0.707
February	0.364	0.364	0.000	0.000	0.364	0.000	56.790	1.785	0.000	0.000	0.625
March	0.957	0.957	0.000	0.000	0.957	3.152	85.350	1.477	0.000	0.000	0.813
April	0.487	0.487	0.000	0.000	0.487	30.030	144.450	1.412	0.000	0.090	0.709
May	1.807	1.807	0.000	0.000	1.807	0.000	46.300	0.000	0.000	0.000	0.737
June	3.140	3.140	0.000	0.000	3.140	0.000	117.810	0.000	0.000	0.000	0.595
Sub-total	6.801	6.801	0.000	0.000	6.801	33.182	506.620	6.238	0.000	0.090	4.186
July	1.780	1.780	0.000	0.000	1.780	0.000	177.660	2.856	0.000	0.800	0.664
August	1.190	1.190	0.000	0.000	1.190	0.000	21.140	1.168	0.000	0.000	0.740
September	0.679	0.679	0.000	0.000	0.679	0.000	36.090	1.516	0.000	0.000	1.015
October*	0.410	0.410	0.000	0.000	0.410	0.000	8.310	0.000	0.000	0.000	1.200
November	1.068	1.068	0.000	0.000	1.068	0.000	57.750	2.028	0.000	0.000	1.441
December											
Total	11.928	11.928	0.000	0.000	11.928	33.182	807.570	13.806	0.000	0.890	9.246

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

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

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

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

Notes: * The items (a) and (e) had been updated for October 2017. The updates on quantities of items (a) and (e) have been confirmed with the Contractor and RSS.

(1) The performance target are given in PS Clause 6(14)

(2) The waste flow table shall also include C&D materials that are not specified in the Contract to be imported for use at the Site

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

(4) The Contractor shall also submit the latest forecast of the amount of C&D materials expected to be generated from the Works, together with a break down of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m3.

(5) All recyclable materials, including metals, paper / cardboard packaging, plastics, etc. will be collected by registered collector for recycling.

(6) Conversion factors for reporting purpose:

in-situ: rock = 2.5 tonnes/m^3; soil = 2.0 tonnes/m^3

excavated: rock = 2.0 tonnes/m^3; soil = 1.8 tonnes/m^3; broken concrete and bitumen = 2.4 tonnes/m^3

C&D Waste = 0.9 tonnes/m^3; bentonite slurry = 2.8 tonnes/m^3

Diesel density: 0.8kg/l

(7) Numbers are rounded off to the nearest three decimal places

(8) The "Total Quantity Generated" equals to the sum of "Reuse in the Contract", "Reuse in Other Projects" and "Disposed as Public Fill"

(9) The "Hard Rock and Large Broken Concrete" were disposed as public fill

(10) The amount in "Disposed as Public Fill" included the "Hard Rock and Large Broken Concrete" disposed as public fill

APPENDIX I

Environmental Licenses and Permits

Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Date : November 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
1.	All Areas	29 Jul 2013	N/A	Environmental Permit for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities	EP-353/2009/G	6 Aug 2013	N/A	EPD	Superseded by EP-353/2009/H
2.	All Areas	16 Jan 2015	N/A	Environmental Permit for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities	EP-353/2009/H	19 Jan 2015	N/A	EPD	Superseded by EP-353/2009/I
3.	All Areas	30 Jun 2015	N/A	Environmental Permit for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities	EP-353/2009/I	17 Jul 2015	N/A	EPD	Superseded by EP-353/2009/J
4.	All Areas	18 Feb 2016	N/A	Environmental Permit for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities	EP-353/2009/J	25 Feb 2016	N/A	EPD	Superseded by EP-353/2009/K
5.	All Areas	24 Mar 2016	N/A	Environmental Permit for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities	EP-353/2009/K	11 Apr 2016	N/A	EPD	-
6.	All Areas	29 Apr 2014	H2620-LTR-EPD-AU-000006	**Billing Account** for disposal of construction waste	Billing Account No.: 7019944	16 May 2014	N/A	EPD	-

Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Date : November 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
7.	PCB	30 Apr 2014	H2620-LTR- EPD-000002	**Notification** that notifiable works are anticipated to commence (Form NA).	Acknowledge Receipt Ref. No. 373961	5 May 2014	N/A	EPD	-
8.	WA2	30 Apr 2014	H2620-LTR- EPD-000003	**Notification** that notifiable works are anticipated to commence (Form NA).	Acknowledge Receipt Ref. No. 373956	5 May 2014	N/A	EPD	-
9.	WA3	30 Apr 2014	H2620-LTR-EPD-AU-000001	**Notification** that notifiable works are anticipated to commence (Form NA).	Acknowledge Receipt Ref. No. 373962	5 May 2014	N/A	EPD	-
10.	PCB	30 May 2014	H2620-LTR-EPD-AU-000020	**Registration** as Chemical Waste Producer for disposal of spent batteries, used lubrication oil and surplus paint at PCB area	WPN: 5213-951-L2846-01	8 Jul 2014	N/A	EPD	-
11.	PCB	23 Jun 2014	In H2620-LTR-EPD-000017	**CNP** for the use of powered mechanical equipment for the purpose of carry out pre-drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0683-14	3 Jul 2014	29 Dec 2014	EPD	Superseded by GW-RS0908-14

Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Date : November 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
12.	WA2	2 Jul 2014	H2620-LTR-LCJ-AU-000280	**CNP** for the use of powered mechanical equipment for the purpose of carry out ER Office construction works from 19:00 to 23:00. (Non-designated area)	GW-RS0715-14	17 Jul 2014	15 Jan 2015	EPD	Superseded by GW-RS1034-14
13.	WA3	2 Jul 2014	H2620-LTR-LCJ-AU-000324	**CNP** for the use of powered mechanical equipment for the purpose of carry out construction of JV site office from 19:00 to 23:00. (Non-designated)	GW-RS0716-14	17 Jul 2014	15 Jan 2015	EPD	Expired
14.	PCB	23 Jun 2014	H2620-LTR- EPD-000527	**CNP** for the use of powered mechanical equipment for the purpose of carry out pre-drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0908-14	3 Sep 2014	22 Dec 2014	EPD	Superseded by GW-RS1044-14
15.	PCB	29 Sep 2014	H2620-LTR-EPD-AU-000034	**CNP** for the use of powered mechanical equipment for the purpose of carry out pre-drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS1044-14	29 Sep 2014	24 Dec 2014	EPD	Superseded by GW-RS1300-14

Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Date : November 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
16.	WA2	12 Sep 2014	H2620-LTR-EPD-AU-000032	**CNP** for the use of powered mechanical equipment for the purpose of carry out ER Office construction works from 19:00 to 23:00. (Non-designated area)	GW-RS1034-14	29 Sep 2014	28 Mar 2015	EPD	Expired
17.	WA4	17 Oct 2014	H2620-LTR-EPD-AU-000036	**CNP** for the use of powered mechanical equipment from 19:00 to 23:00. (Non-designated area)	GW-RW0814-14	20 Oct 2014	19 Apr 2015	EPD	Expired and replaced by GW-RW0171-15
18.	PCB	3 Nov 2014	H2620-LTR-EPD-AU-000040	**CNP** for the use of powered mechanical equipment for the purpose of carry out pre-drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS1300-14	17 Nov 2014	16 Feb 2015	EPD	Superseded by GW-RS0087-15
19.	PCB	12 Jan 2015	H2620-LTR-EPD-AU-000046	**CNP** for the use of powered mechanical equipment for the purpose of carry out pre-drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0087-15	26 Jan 2015	25 Apr 2015	EPD	Superseded by GW-RS0308-15

Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Date : November 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
20.	PCB	12 Mar 2015	H2620-LTR-EPD-AU-000051	**CNP** for the use of powered mechanical equipment for the purpose of carry out pre-drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0308-15	26 Mar 2015	25 Jun 2015	EPD	Superseded by GW-RS0476-15
21.	PCB	31 Jul 2014	H2620-LTR-EPD-AU-000038	**Water Discharge License** for construction works on PCB island	WT00020335-2014	13 Nov 2014	30 Nov 2019	EPD	-
22.	WA4	27 Mar 2015	H2620-LTR-EPD-AU-000054	**CNP** for the use of powered mechanical equipment from 19:00 to 23:00. (Non-designated area)	GW-RW0171-15	20 Apr 2015	19 Oct 2015	EPD	Superseded by GW-RW0351-15
23.	PCB	15 Apr 2015	H2620-LTR-EPD-AU-000057	**CNP** for the use of powered mechanical equipment for the purpose of carry out pre-drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0476-15	1 May 2015	31 Jul 2015	EPD	Superseded by GW-RS0685-15

Date : November 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
24.	PCB	9 Jun 2015	H2620-LTR-EPD-AU-000063	**CNP** for the use of powered mechanical equipment for the purpose of carry out pre-drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0685-15	1 Jul 2015	30 Sep 2015	EPD	Superseded by GW-RS0877-15
25.	WA4	29 Jun 2015	H2620-LTR-EPD-AU-000066	**CNP** for the use of powered mechanical equipment from 19:00 to 23:00. (Non-designated area)	GW-RW0351-15	17 Jul 2015	12 Jan 2016	EPD	Expired. Replaced by GW-RW0003-16
26.	PCB	27 Jul 2015	H2620-LTR-EPD-AU-000069	**CNP** for the use of powered mechanical equipment for the purpose of carry out pre-drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0877-15	10 Aug 2015	09 Nov 2015	EPD	Superseded by GW-RS1016-15
27.	PCB	2 Sep 2015	H2620-LTR-EPD-AU-000072	**CNP** for the use of powered mechanical equipment for the purpose of carry out pre-drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS1016-15	18 Sep 2015	17 Dec 2015	EPD	Superseded by GW-RS1195-15

Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Date : November 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
28.	PCB	22 Oct 2015	H2620-LTR-EPD-AU-000075	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS1195-15	9 Nov 2015	8 Feb 2016	EPD	Superseded by GW-RS1444-15
29.	PCB	17 Dec 2015	H2620-LTR-EPD-AU-000076	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS1444-15	31 Dec 2015	30 Mar 2016	EPD	Superseded by GW-RS0191-16
30.	WA4	24 Dec 2015	H2620-LTR-EPD-AU-000080	**CNP** for the use of powered mechanical equipment from 19:00 to 23:00. (Non-designated area)	GW-RW0003-16	13 Jan 2016	6 Jul 2016	EPD	Superseded by GW-RW0394-16
31.	PCB	17 Feb 2016	H2620-LTR-EPD-AU-000083	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0191-16	3 Mar 2016	2 Jun 2016	EPD	Superseded by GW-RS0543-16

Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Date : November 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
32.	PCB	18 May 2016	H2620-LTR-EPD-AU-000086	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0543-16	2 Jun 2016	1 Sep 2016	EPD	Superseded by GW-RS0879-16
33.	WA4	20 Jun 2016	H2620-LTR-EPD-AU-000089	**CNP** for the use of powered mechanical equipment from 19:00 to 23:00. (Non-designated area)	GW-RW0394-16	7 Jul 2016	6 Jan 2017	EPD	Superseded by GW-RW0742-16
34.	PCB	09 Aug 2016	H2620-LTR-EPD-AU-000092	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0879-16	23 Aug 2016	22 Dec 2016	EPD	Superseded by GW-RS1193-16
35.	PCB	16 Nov 2016	H2620-LTR-EPD-AU-000094	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS1193-16	30 Nov 2016	29 May 2017	EPD	Superseded by GW-RS0005-17
36.	WA4	17 Dec 2016	H2620-LTR-EPD-AU-000100	**CNP** for the use of powered mechanical equipment from 19:00 to 23:00. (Non-designated area)	GW-RW0742-16	7 Jan 2017	6 Jul 2017	EPD	Superseded by GW-RW0341-17

Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Date : November 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
37.	PCB	19 Dec 16	H2620-LTR-EPD-AU-000103	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0005-17	6 Jan 2017	5 Jul 2017	EPD	Superseded by GW-RS0461-17
38.	WA3	30 Dec 16	H2620-LTR-EPD-AU-000102	**CNP** for the use of powered mechanical equipment for the purpose of carry out construction of JV site office from 19:00 to 23:00. (Non-designated area)	GW-RS0015-17	12 Jan 2017	11 Jul 2017	EPD	Superseded by GW-RS0587-17
39.	PCB	12 May 17	H2620-LTR-EPD-AU-000106	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0461-17	25 May 2017	24 Nov 2017	EPD	Superseded by GW-RS0998-17
40.	WA3	22 Jun 17	H2620-LTR-EPD-AU-000113	**CNP** for the use of powered mechanical equipment for the purpose of carry out construction of JV site office from 19:00 to 23:00. (Non-designated)	GW-RS0587-17	12 Jul 2017	11 Jan 2018	EPD	-

Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Date : November 2017

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
41.	WA4	19 Jun 17	H2620-LTR-EPD-AU-000112	**CNP** for the use of powered mechanical equipment from 19:00 to 23:00. (Non-designated area)	GW-RW0341-17	10 Jul 2017	6 Jan 2018	EPD	-
42.	PCB	20 Oct 17	H2620-LTR-LCJ-EN-005050	**CNP** for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0998-17	15 Nov 17	12 May 18	EPD	-

APPENDIX J

Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions

Statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting period	0	0	0
From commencement date of contract to end of reporting period	10	0	0

APPENDIX K

Investigation Report

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170901DO_v1

Date of Notification: 5 September 2017 **Date of Investigation Report:** 6 October 2017

Works Inspected: Data collected from water sampling works on 1 September 2017 and the results were issued on 4 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)/ Turbidity (TURB)~~

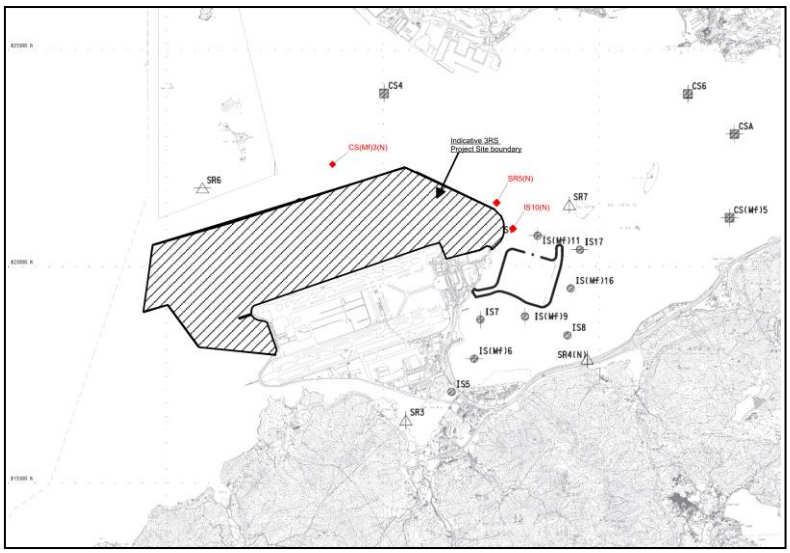
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS5	Bottom	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	**4.4**	**4.4**
DO	IS10(N)	Bottom			**4.5**	**4.5**
DO	IS(Mf)11	Bottom			**4.6**	**4.5**
DO	IS17	Bottom			**4.5**	5.2
DO	SR5(N)	Bottom			**4.5**	4.7

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.

Possible reason for Action and Limit Level Non-compliance:

On 1 September 2017, five AL exceedances of DO recorded at IS5, IS10(N), IS(Mf)11, IS17 and SR5(N) were recorded during mid-ebb tide and three AL exceedances of DO recorded at IS5, IS10(N) and IS(Mf)11 were recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 1 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedance was not related the Contract.

Actions taken/ to be taken:
As the exceedance was not related to the Contract, no immediate action are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau Title : ET Leader

Date : 6 October 2017

Copied to: Contractor and Engineer Representative

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170906DO_TURB_v3

Date of Notification: 11 September 2017 **Date of Investigation Report:** 9 October 2017

Works Inspected: Data collected from water sampling works on 6 September 2017 and the results were issued on 11 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)~~/ Turbidity (TURB)

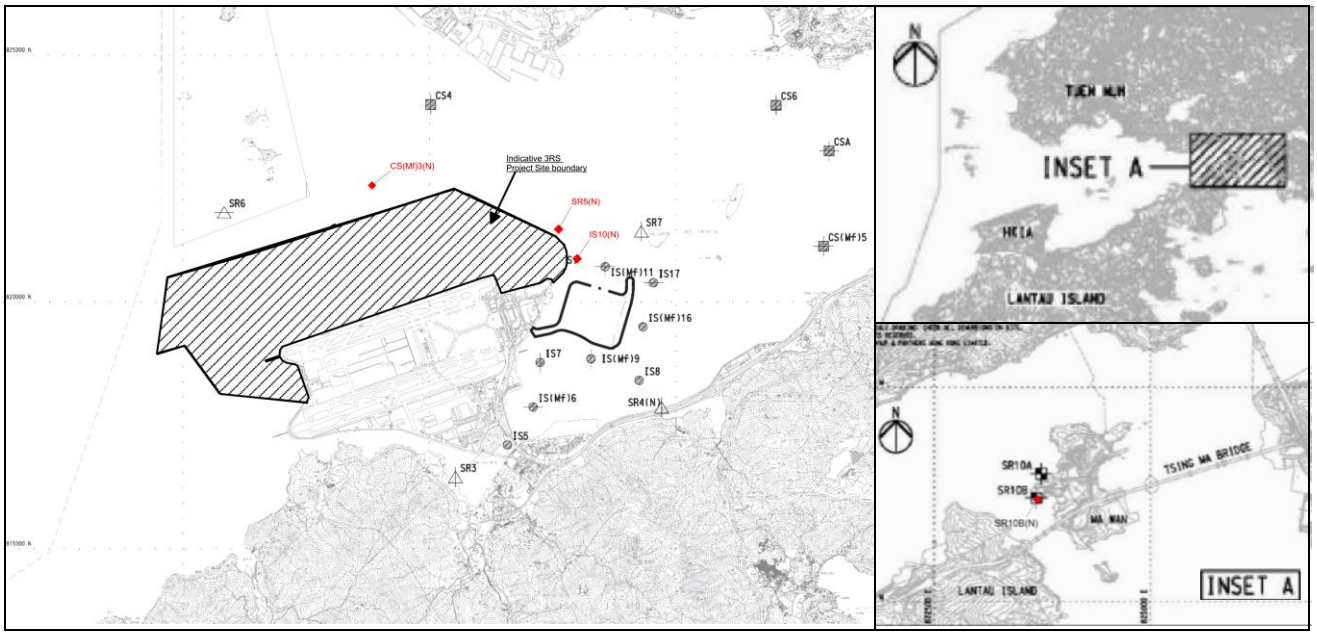
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS17	Bottom	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	**4.6**	4.9
	SR6	Surface and Middle			5.7	**4.8**
	SR10A	Surface and Middle			***4.9***	***4.6***
		Bottom			4.8	**4.5**
	SR10B(N)	Surface and Middle			***4.8***	***4.6***
		Bottom			4.8	**4.5**
PARAM	STATION	DEPTH	AL (NTU)	LL (NTU)	MEASURED AT MID-EBB TIDE (NTU)	MEASURED AT MID-FLOOD TIDE (NTU)
TURB	IS(Mf)11	Depth Average	27.5 and 120% (i.e. 17.6 for mid-ebb/18.7 for mid-flood) of upstream control station's turbidity at the same tide of the same day	47.0 and 130% (i.e. 19.0 for mid-ebb/20.2 for mid-flood) of upstream control station's turbidity at the same tide of the same day	14.6	**27.9**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action and Limit Level Non-compliance:

On 6 September 2017, one AL exceedance of DO recorded at IS17 was recorded during mid-ebb tide, three AL exceedances of DO recorded at SR6, SR10A, and SR10B(N) were recorded during mid-flood tide, two LL exceedances of DO recorded at SR10A and SR10B(N) were recorded during mid-ebb tide, two LL exceedances of DO recorded at SR10A and SR10B(N) were recorded during mid-flood tide and one AL exceedance of TURB recorded at IS(Mf)11 was recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 6 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau

Title : ET Leader

Date : 9 October 2017

Copied to : Contractor and Engineer Representative

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170906SS_v1

Date of Notification: 19 September 2017 **Date of Investigation Report:** 25 September 2017

Works Inspected: Data collected from water sampling works on 6 September 2017 and the results were issued on 15 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

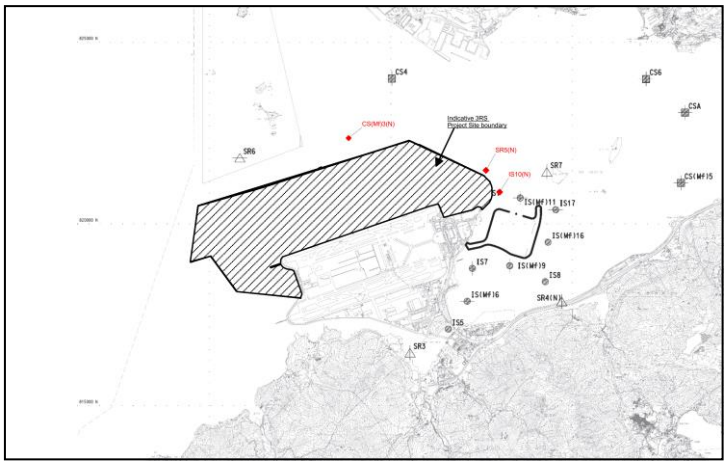
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS8	Depth Average	23.5 and 120% (i.e. 11.3 for mid-ebb/14.1 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 12.3 for mid-ebb/15.3 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	8.1	**26.4**
	SR4(N)				9.4	**25.3**
	SR6				6.2	**23.6**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action and Limit Level Non-compliance:

On 6 September 2017, three AL exceedances of SS recorded at IS8,SR4(N) and SR6 were recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 6 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau Title : ET Leader

Date : 25 September 2017

Copied to : Contractor and Engineer Representative

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170908DO_TURB_v3

Date of Notification: 13 September 2017 **Date of Investigation Report:** 9 October 2017

Works Inspected: Data collected from water sampling works on 8 September 2017 and the results were issued on 12 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)~~/ Turbidity (TURB)

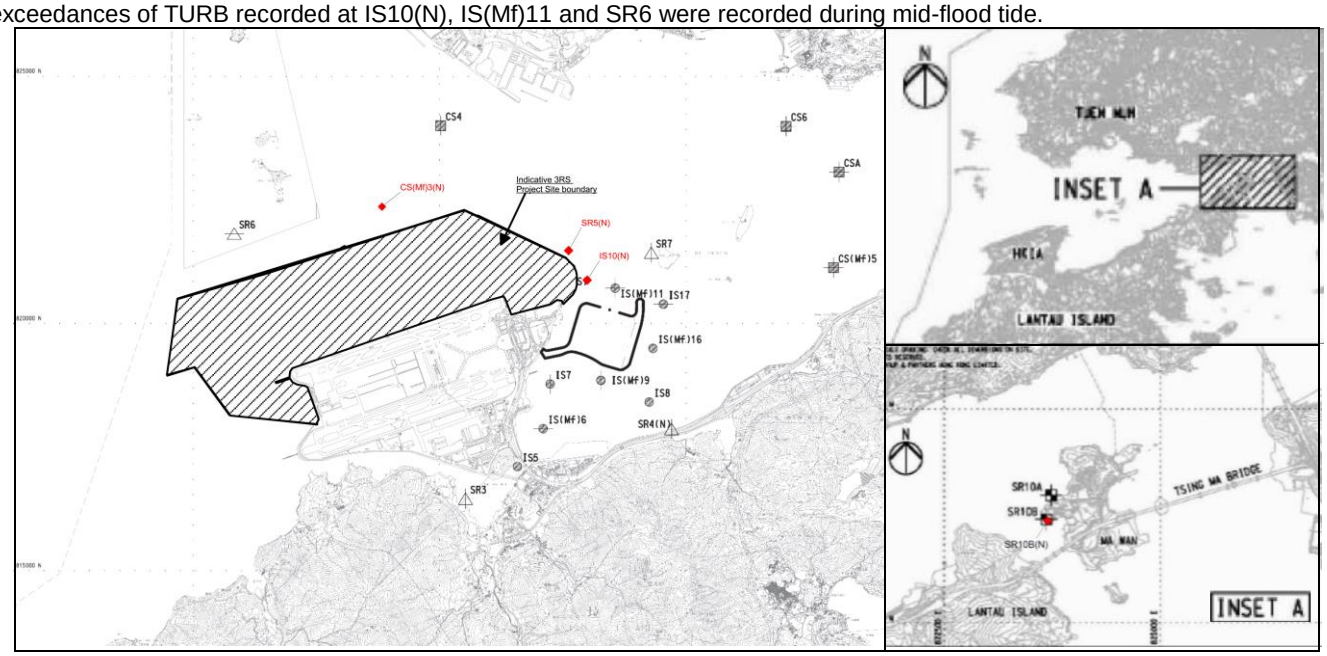
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS5	Surface and Middle	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	5.0	**4.9**
	IS7	Surface and Middle			**4.8**	5.1
		Bottom			**4.6**	5.2
	IS8	Surface and Middle			5.0	**4.9**
	IS(Mf)9	Surface and Middle			5.3	**4.8**
	IS10(N)	Surface and Middle			**4.9**	**4.7**
	IS(Mf)11	Surface and Middle			5.0	**4.7**
		Bottom			4.8	**4.6**
	IS(Mf)16	Surface and Middle			**4.6**	**4.9**
		Bottom			**4.3**	5.0
	IS17	Surface and Middle			**4.9**	**4.7**
		Bottom			**4.3**	**4.5**
	SR3	Surface and Middle			**4.7**	**4.9**
	SR4(N)	Surface and Middle			5.2	**4.9**
	SR5(N)	Surface and Middle			5.0	**4.8**
	SR6	Surface and Middle			**4.9**	**4.9**
	SR7	Surface and Middle			5.1	**4.9**
	SR10A	Surface and Middle			**4.9**	**4.3**
		Bottom			4.8	**4.3**
	SR10B(N)	Surface and Middle			**4.8**	**4.7**
PARAM	STATION	DEPTH	AL (NTU)	LL (NTU)	MEASURED AT MID-EBB TIDE (NTU)	MEASURED AT MID-FLOOD TIDE (NTU)
TURB	IS5	Depth Average	27.5 and 120% (i.e. 20.2 for mid-ebb/13.7 for mid-flood) of upstream control station's turbidity at the same tide of the same day	47.0 and 130% (i.e. 21.9 for mid-ebb/14.9 for mid-flood) of upstream control station's turbidity at the same tide of the same day	**34.4**	6.6
	IS10(N)				25.2	**31.6**
	IS(Mf)11				17.8	**29.0**
	SR6				12.2	**35.3**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action and Limit Level Non-compliance:

On 8 September 2017, nine AL exceedances of DO recorded at IS7, IS10(N), IS(Mf)16, IS17, SR3 and SR6 were recorded during mid-ebb tide, fifteen AL exceedances of DO recorded at IS5, IS8, IS(Mf)9, IS10(N), IS(Mf)11, IS(Mf)16, IS17, SR3, SR4(N), SR5(N), SR6, SR7 and SR10A were recorded during mid-flood tide, two LL exceedances of DO recorded at SR10A and SR10B(N) were recorded during mid-ebb tide, two LL exceedances of DO recorded at SR10A and SR10B(N) were recorded during mid-flood tide, one AL exceedance of TURB recorded at IS5 was recorded during mid-ebb tide and three AL exceedances of TURB recorded at IS10(N), IS(Mf)11 and SR6 were recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 8 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau

Title : ET Leader

Date : 9 October 2017

Copied to : Contractor and Engineer Representative

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170908SS

Date of Notification: 19 September 2017 **Date of Investigation Report:** 25 September 2017

Works Inspected: Data collected from water sampling works on 8 September 2017 and the results were issued on 18 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)~~/ Suspended Solid (SS)~~/ Turbidity (TURB)~~

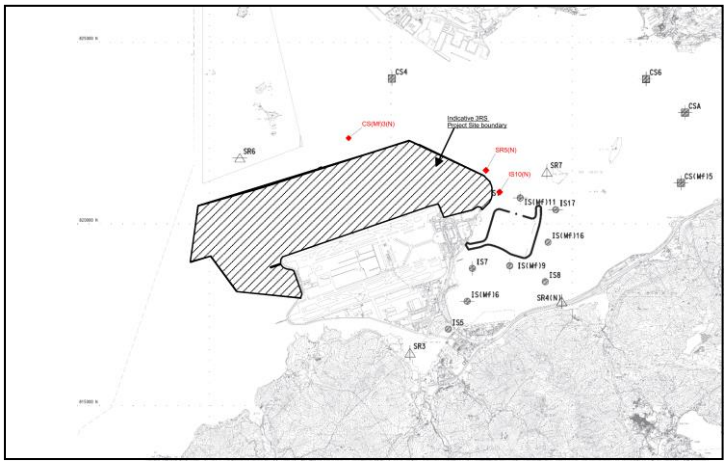
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS5	Depth Average	23.5 and 120% (i.e. 20.4 for mid-ebb/10.5 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 22.1 for mid-ebb/11.4 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	**28.4**	8.7
	IS10(N)				19.5	**<u>35.5</u>**
	IS(Mf)11				15.4	**33.2**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action and Limit Level Non-compliance:

On 8 September 2017, one AL exceedance of SS recorded at IS5 was recorded during mid-ebb tide. One AL exceedance of SS recorded at IS(Mf)11 and one LL exceedance of SS at IS10(N) were recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 8 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau Title : ET Leader

Date : 25 September 2017

Copied to : Contractor and Engineer Representative

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170911DO_v1

Date of Notification: 15 September 2017 **Date of Investigation Report:** 6 October 2017

Works Inspected: Data collected from water sampling works on 11 September 2017 and the results were issued on 14 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)/ Turbidity (TURB)~~

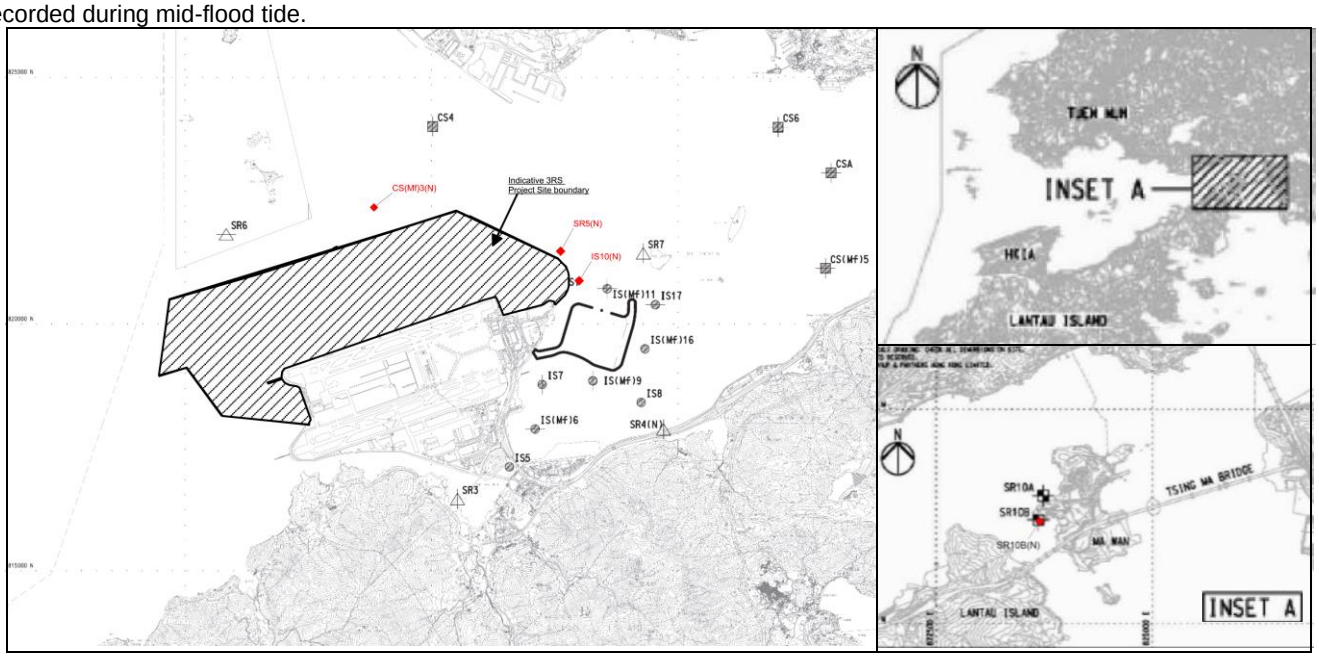
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS8	Surface and Middle	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	5.2	**4.8**
		Bottom			5.0	**4.6**
	IS(Mf)9	Surface and Middle			5.3	**4.8**
	IS10(N)	Surface and Middle			**4.9**	**4.6**
		Bottom			4.8	**4.4**
	IS(Mf)11	Surface and Middle			**4.9**	**4.6**
		Bottom			**4.6**	**4.5**
	IS(Mf)16	Surface and Middle			5.2	**4.7**
		Bottom			**4.3**	**4.6**
	IS17	Surface and Middle			**4.8**	**4.5**
		Bottom			**4.2**	**4.2**
	SR4(N)	Surface and Middle			5.3	**4.8**
	SR5(N)	Surface and Middle			**4.7**	**4.6**
		Bottom			**4.6**	**4.6**
	SR6	Surface and Middle			**4.7**	**4.7**
		Bottom			4.7	**4.6**
	SR7	Surface and Middle			**4.9**	**4.7**
	SR10A	Surface and Middle			5.2	**4.5**
		Bottom			5.1	**4.1**
	SR10B(N)	Surface and Middle			**4.8**	**4.2**
		Bottom			**4.6**	**4.0**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action and Limit Level Non-compliance:

On 11 September 2017, eleven AL exceedances of DO recorded at IS10(N), IS(Mf)11, IS(Mf)16, IS17, SR5(N), SR6, SR7and SR10B(N) were recorded during mid-ebb tide, nineteen AL exceedances of DO recorded at IS8, IS(Mf)9, IS10(N), IS(Mf)11, IS(Mf)16, IS17, SR4(N), SR5(N), SR6, SR10A and SR10B(N) were recorded during mid-flood tide. One LL exceedance of DO recorded at SR10B(N) was recorded during mid-ebb tide, two LL exceedances of DO recorded at SR10A and SR10B(N) were recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 11 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau

Title : ET Leader

Date : 6 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170913DO_v1

Date of Notification: 19 September 2017 **Date of Investigation Report:** 6 October 2017

Works Inspected: Data collected from water sampling works on 13 September 2017 and the results were issued on 18 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)/ Turbidity (TURB)~~

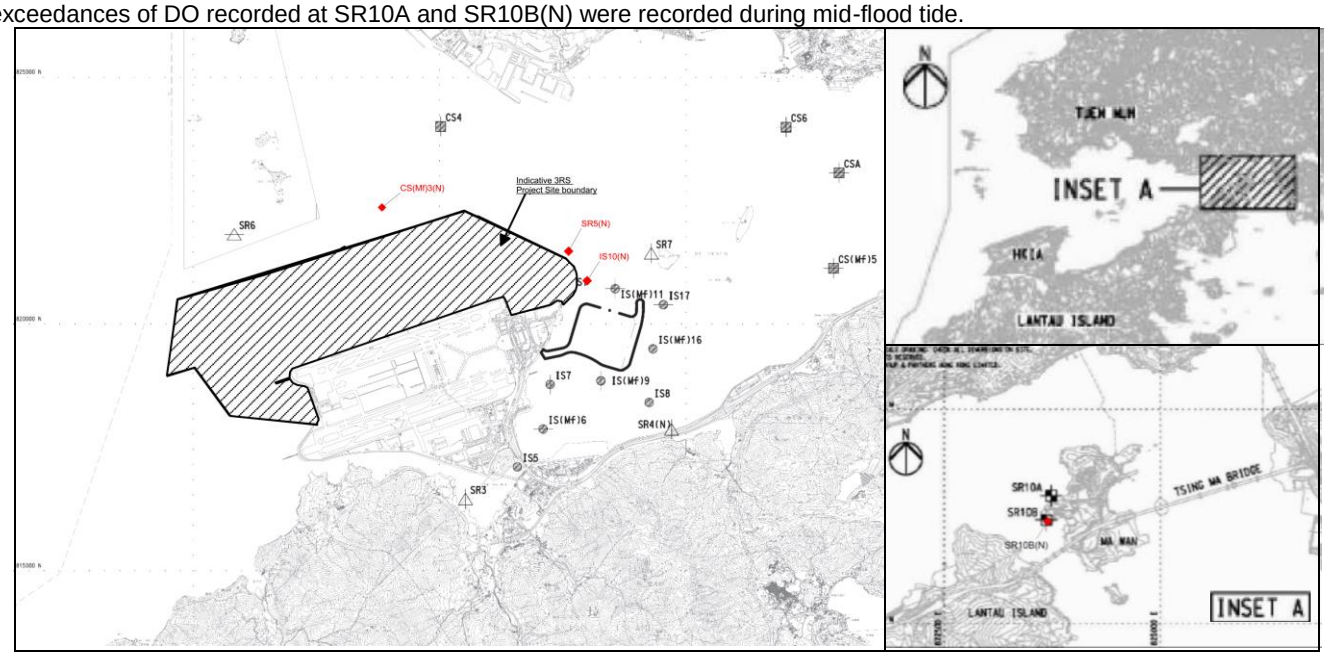
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS5	Bottom	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	**4.1**	**4.1**
	IS(Mf)9	Bottom			6.5	**4.2**
	IS10(N)	Surface and Middle			**4.7**	5.0
	IS(Mf)11	Surface and Middle			5.1	**4.9**
	IS(Mf)16	Bottom			**4.1**	**4.2**
	IS17	Surface and Middle			5.0	**4.9**
		Bottom			**3.8**	**4.1**
	SR5(N)	Surface and Middle			**4.8**	5.5
	SR10A	Surface and Middle			**<u>4.9</u>**	**<u>4.4</u>**
		Bottom			5.2	**3.9**
	SR10B(N)	Surface and Middle			5.2	**<u>4.4</u>**
		Bottom			5.4	**4.1**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action and Limit Level Non-compliance:

On 13 September 2017, five AL exceedances of DO recorded at IS5, IS10(N), IS(Mf)16, IS17 and SR5(N) were recorded during mid-ebb tide, eight AL exceedances of DO recorded at IS5, IS(Mf)9, IS(Mf)11, IS(Mf)16, IS17, SR10A and SR10B(N) were recorded during mid-flood tide. One LL exceedance of DO recorded at SR10A was recorded during mid-ebb tide, two LL exceedances of DO recorded at SR10A and SR10B(N) were recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 13 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau Title : ET Leader

Date : 6 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170915DO_TURB_v2

Date of Notification: 21 September 2017 **Date of Investigation Report:** 12 October 2017

Works Inspected: Data collected from water sampling works on 15 September 2017 and the results were issued on 19 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)~~/ Turbidity (TURB)

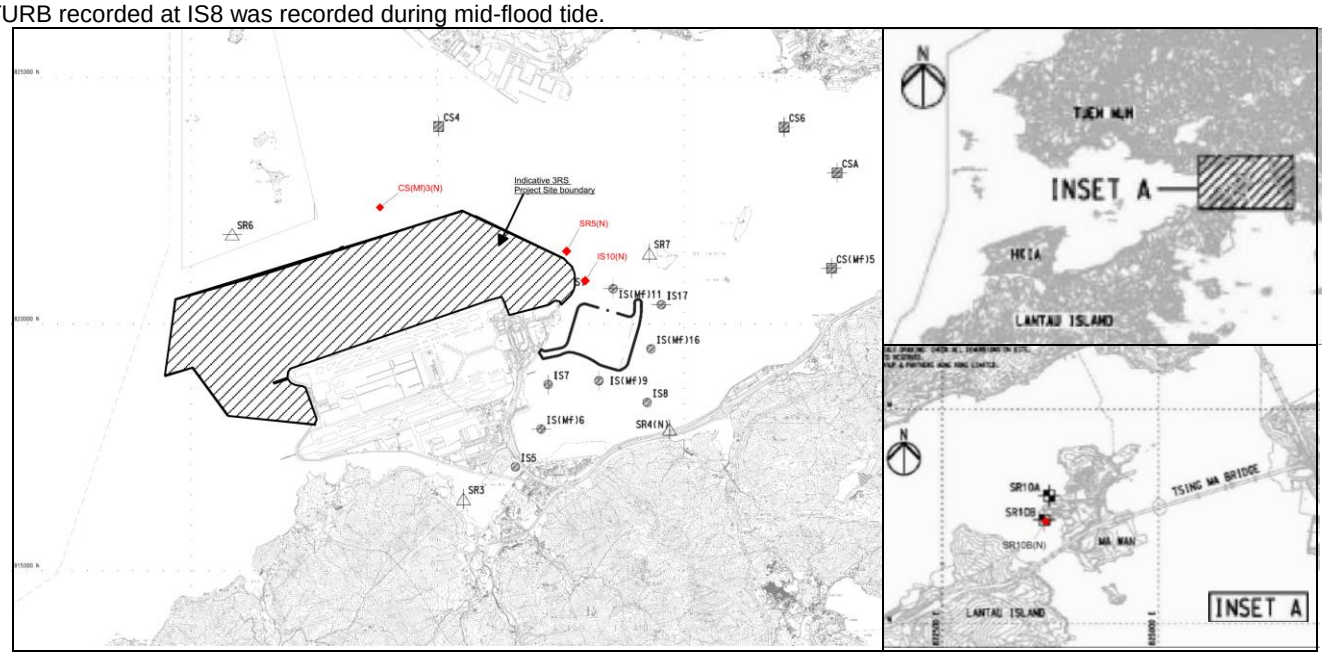
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS10(N)	Bottom	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	**4.2**	**4.5**
	IS(Mf)11	Surface and Middle			**4.1**	**4.7**
	IS17	Surface and Middle			**4.9**	5.7
		Bottom			**3.9**	4.7
	SR6	Surface and Middle			5.5	**4.8**
		Bottom			4.7	**4.5**
	SR10A	Surface and Middle			5.5	**<u>4.7</u>**
		Bottom			5.4	**3.9**
	SR10B(N)	Surface and Middle			5.4	**<u>4.6</u>**
		Bottom			5.0	**4.3**
TURB	IS8	Depth Average	27.5 and 120% (i.e. 19.6 for mid-ebb/15.4 for mid-flood) of upstream control station's turbidity at the same tide of the same day	47.0 and 130% (i.e. 21.2 for mid-ebb/16.7 for mid-flood) of upstream control station's turbidity at the same tide of the same day	10.6	**<u>95.4*</u>**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA
*The muddy water was observed due to 3 fast boats were moving around near the monitoring location during measurement period.

Possible reason for Action and Limit Level Non-compliance:

On 15 September 2017, four AL exceedances of DO recorded at IS10(N), IS(Mf)11 and IS17 were recorded during mid-ebb tide, six AL exceedances of DO recorded at IS10(N), IS(Mf)11, SR6, SR10A and SR10B(N) were recorded during mid-flood tide and two LL exceedances of DO recorded at SR10A and SR10B(N) were recorded during mid-flood tide. One AL exceedance of TURB recorded at IS8 was recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 15 September 2017. No site runoff within the Contract site has been observed. The muddy water was observed due to 3 fast boats were moving around near the monitoring station IS8 during measurement period. No observation photos were taken during measurement period.

Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau

Title : ET Leader

Date : 12 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170918DO_SS_v1

Date of Notification: 27 September 2017 **Date of Investigation Report:** 27 September 2017

Works Inspected: Data collected from water sampling works on 18 September 2017 and the results were issued on 27 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS)~~/ Turbidity (TURB)~~

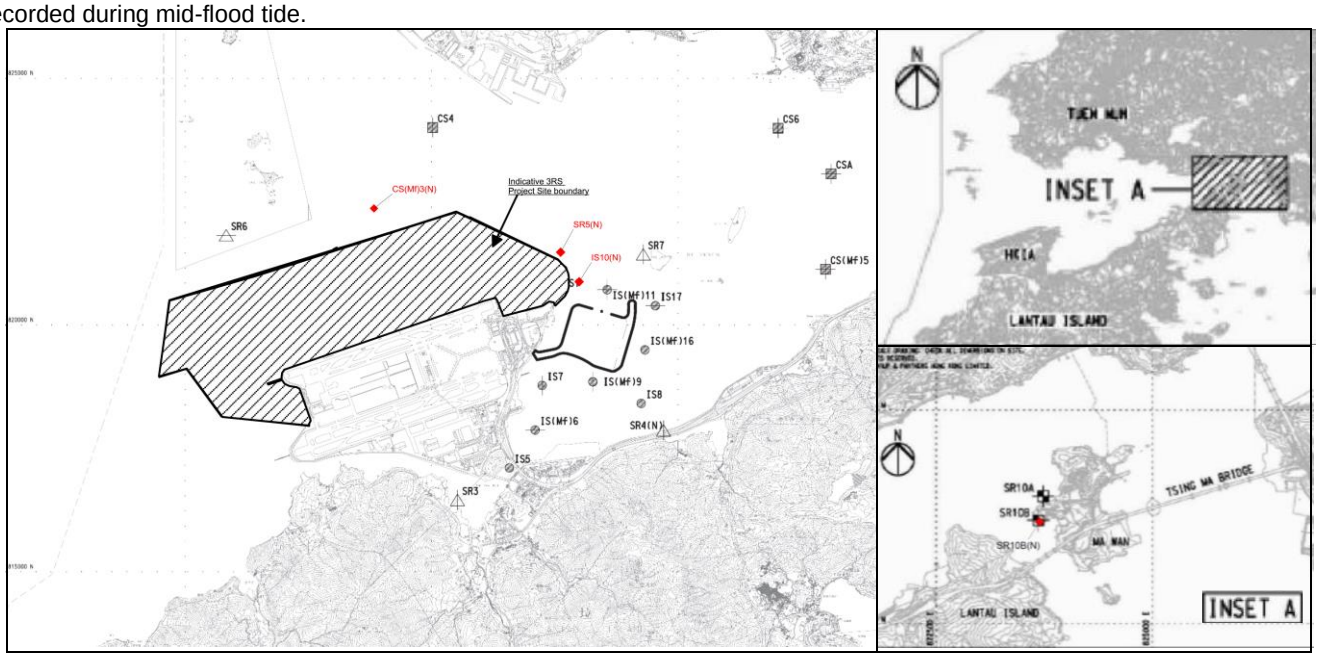
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS5	Bottom	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	**4.5**	5.8
	IS10(N)	Bottom			**4.6**	5.0
	IS(Mf)11	Bottom			**4.6**	5.0
	IS(Mf)16	Bottom			**4.4**	5.0
	SR6	Surface and Middle			**4.7**	**4.4**
		Bottom			**4.5**	**4.3**
	SR10A	Surface and Middle			5.5	**<u>4.7</u>**
	SR10B(N)	Surface and Middle			5.4	**<u>4.9</u>**
SS	IS8	Depth Average	23.5 and 120% (i.e. 9.9 for mid-ebb/13.4 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 10.8 for mid-ebb/14.5 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	6.3	**25.0**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action and Limit Level Non-compliance:

On 18 September 2017, six AL exceedances of DO recorded at IS5, IS10(N), IS(Mf)11, IS(Mf)16 and SR6 were recorded during mid-ebb tide, two AL exceedances of DO recorded at SR6 were recorded during mid-flood tide, two LL exceedances of DO recorded at SR10A and SR10B(N) were recorded during mid-flood tide and one AL exceedance of SS recorded at IS8 was recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 18 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau

Title : ET Leader

Date : 27 September 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170920DO_SS_v1

Date of Notification: 25 September 2017 **Date of Investigation Report:** 11 October 2017

Works Inspected: Data collected from water sampling works on 20 September 2017 and the results were issued on 29 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS)~~/ Turbidity (TURB)~~

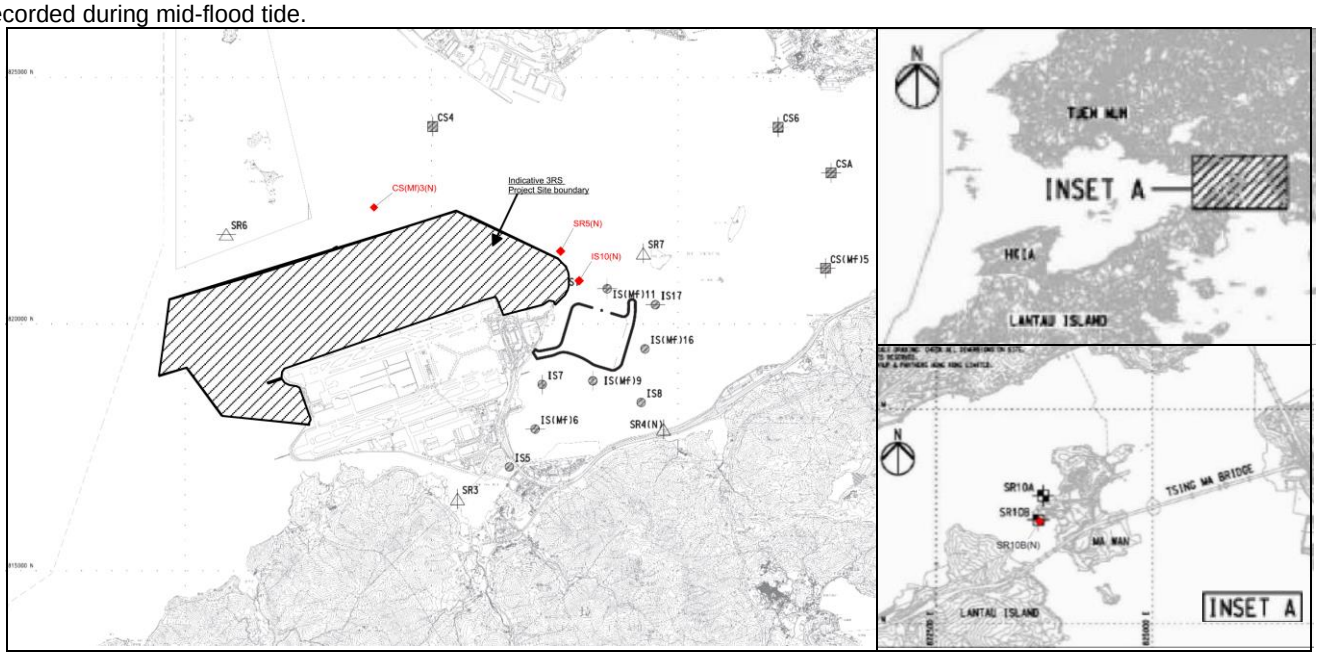
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	SR6	Surface and Middle	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	5.1	**4.5**
		Bottom			5.0	**4.6**
	SR10A	Surface and Middle			5.0	**<u>4.5</u>**
		Bottom			4.7	**4.5**
	SR10B(N)	Surface and Middle			5.0	**<u>4.5</u>**
SS	SR6	Depth Average	23.5 and 120% (i.e. 16.7 for mid-ebb/19.0 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 18.1 for mid-ebb/20.6 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	10.4	**25.4**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action and Limit Level Non-compliance:

On 20 September 2017, three AL exceedances of DO at SR6 and SR10A were recorded during mid-flood tide, two LL exceedances of DO at SR10A and SR10B(N) were recorded during mid-flood tide and one AL exceedance of SS at SR6 was recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 20 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau Title : ET Leader

Date : 11 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170922DO_v1

Date of Notification: 27 September 2017 **Date of Investigation Report:** 11 October 2017

Works Inspected: Data collected from water sampling works on 22 September 2017 and the results were issued on 26 September 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)/ Turbidity (TURB)~~

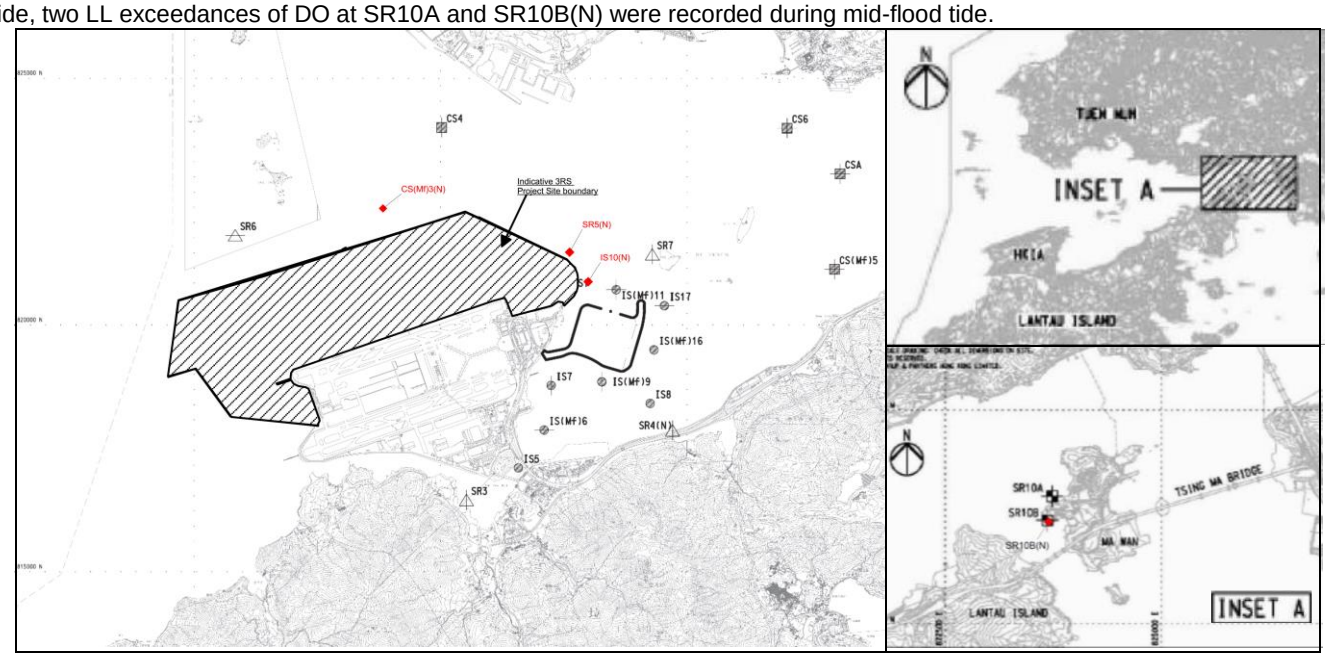
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS8	Surface and Middle	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	5.2	**4.8**
	IS(Mf)9	Surface and Middle			5.3	**4.9**
	IS10(N)	Surface and Middle			**4.8**	**4.8**
		Bottom			**4.6**	4.8
	IS(Mf)11	Surface and Middle			**4.7**	**4.9**
	IS(Mf)16	Surface and Middle			5.1	**4.8**
	IS17	Surface and Middle			5.0	**4.8**
	SR3	Surface and Middle			**4.9**	5.0
	SR4(N)	Surface and Middle			5.2	**4.8**
	SR5(N)	Surface and Middle			**4.9**	**4.8**
	SR6	Surface and Middle			**4.8**	**4.8**
	SR7	Surface and Middle			5.0	**4.8**
	SR10A	Surface and Middle			**<u>4.9</u>**	**<u>4.7</u>**
	SR10B(N)	Surface and Middle			**<u>4.8</u>**	**<u>4.6</u>**
		Bottom			4.9	**4.5**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.

Possible reason for Action and Limit Level Non-compliance:

On 22 September 2017, six AL exceedances of DO at IS10(N), IS(Mf)11, SR3, SR5(N) and SR6 were recorded during mid-ebb tide, two LL exceedances of DO at SR10A and SR10B(N) were recorded during mid-ebb tide. Eleven AL exceedances of DO at IS8, IS(Mf)9, IS10(N), IS(Mf)11, IS(Mf)16, IS17, SR4(N), SR5(N), SR6, SR7 and SR10B(N) were recorded during mid-flood tide, two LL exceedances of DO at SR10A and SR10B(N) were recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 22 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau

Title : ET Leader

Date : 11 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170925DO_SS_v1

Date of Notification: 3 October 2017 **Date of Investigation Report:** 11 October 2017

Works Inspected: Data collected from water sampling works on 25 September 2017 and the results were issued on 6 October 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS)~~/ Turbidity (TURB)~~

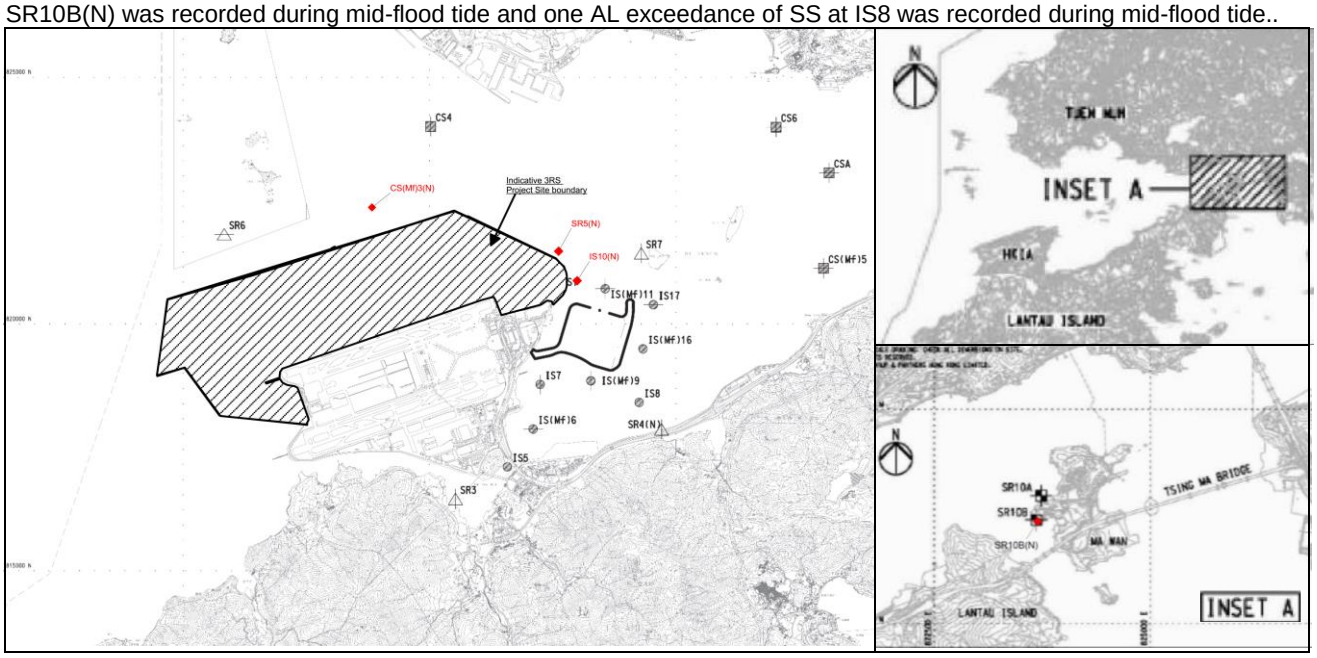
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	SR10B(N)	Surface and Middle	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	5.1	**<u>4.7</u>**
		Bottom			5.0	**4.6**
SS	IS8	Depth Average	23.5 and 120% (i.e. 7.3 for mid-ebb/9.1 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 7.9 for mid-ebb/9.8 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	11.3	**30.4**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action and Limit Level Non-compliance:

On 25 September 2017, one AL exceedance of DO at SR10B(N) was recorded during mid-flood tide, one LL exceedance of DO at SR10B(N) was recorded during mid-flood tide and one AL exceedance of SS at IS8 was recorded during mid-flood tide..



As confirmed by the Contractor, there were no marine transportation and marine-based work on 25 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau

Title : ET Leader

Date : 11 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170927DO_v1

Date of Notification: 4 October 2017 **Date of Investigation Report:** 10 October 2017

Works Inspected: Data collected from water sampling works on 27 September 2017 and the results were issued on 3 October 2017

Monitoring Location: Water Quality Monitoring Station

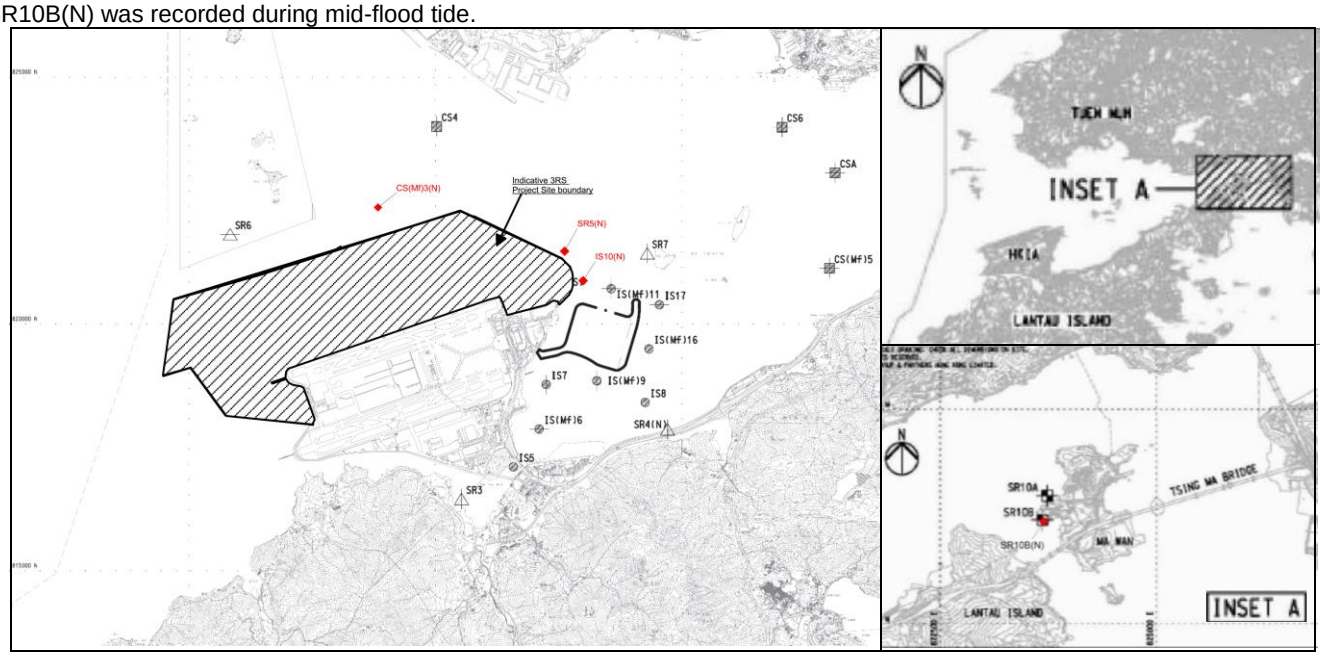
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS10(N)	Bottom	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	**4.6**	5.0
DO	IS17	Bottom			**4.6**	4.8
DO	SR5(N)	Bottom			**4.6**	5.0
DO	SR10A	Bottom			5.3	**4.6**
DO	SR10B(N)	Surface and Middle			5.0	**4.7**
		Bottom			**4.4**	**4.4**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.

Possible reason for Action and Limit Level Non-compliance:

On 27 September 2017, four AL exceedances of DO at IS10(N), IS17, SR5(N) and SR10B(N) were recorded during mid-ebb tide. Two AL exceedance of DO at SR10A and SR10B(N) were recorded during mid-flood tide, one LL exceedance of DO at SR10B(N) was recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 27 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau Title : ET Leader

Date : 10 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20170929DO_v3

Date of Notification: 9 October 2017 **Date of Investigation Report:** 17 October 2017

Works Inspected: Data collected from water sampling works on 29 September 2017 and the results were issued on 6 October 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)/ Turbidity (TURB)~~

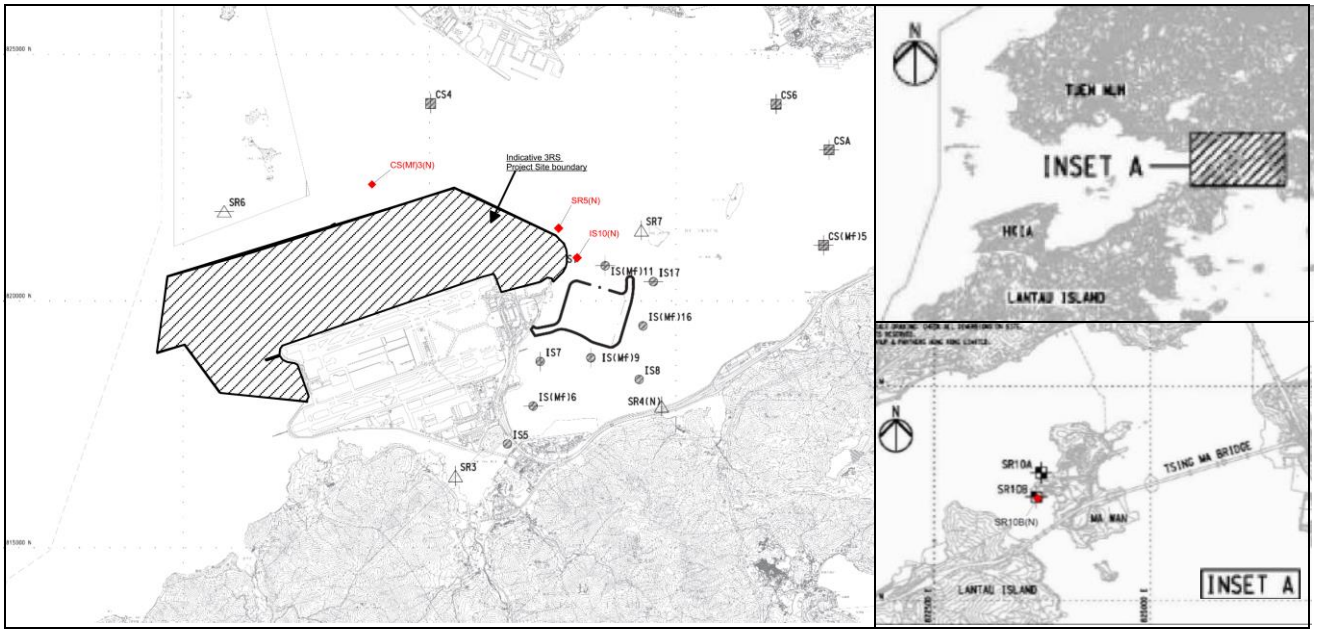
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS5	Bottom	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	4.8	**4.4**
	IS7	Bottom			**4.3**	15.0*
	IS8	Bottom			**4.4**	5.7
	IS10(N)	Surface and Middle			**4.8**	6.2
		Bottom			**4.2**	**4.2**
	IS(Mf)11	Bottom			**4.6**	**4.1**
	IS(Mf)16	Bottom			**4.4**	5.5
	IS17	Bottom			4.7	**4.2**
	SR5(N)	Bottom			**4.3**	**4.2**
	SR10B(N)	Bottom			**4.5**	5.0

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
* Red tide was observed by water sampling team near WQM stations SR3, IS5, IS(Mf)6, IS7 and IS(Mf)6 during mid-flood tide on 29 September 2017.

Possible reason for Action and Limit Level Non-compliance:

On 29 September 2017, eight AL exceedances of DO at IS7, IS8, IS10(N), IS(Mf)11, IS(Mf)16, SR5(N) and SR10B(N) were recorded during mid-ebb tide. Five AL exceedance of DO at IS5, IS10(N), IS(Mf)11, IS17 and SR5(N) were recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 29 September 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau Title : ET Leader

Date : 17 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171002DO_v1

Date of Notification: 10 October 2017 **Date of Investigation Report:** 20 October 2017

Works Inspected: Data collected from water sampling works on 2 October 2017 and the results were issued on 10 October 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)/ Turbidity (TURB)~~

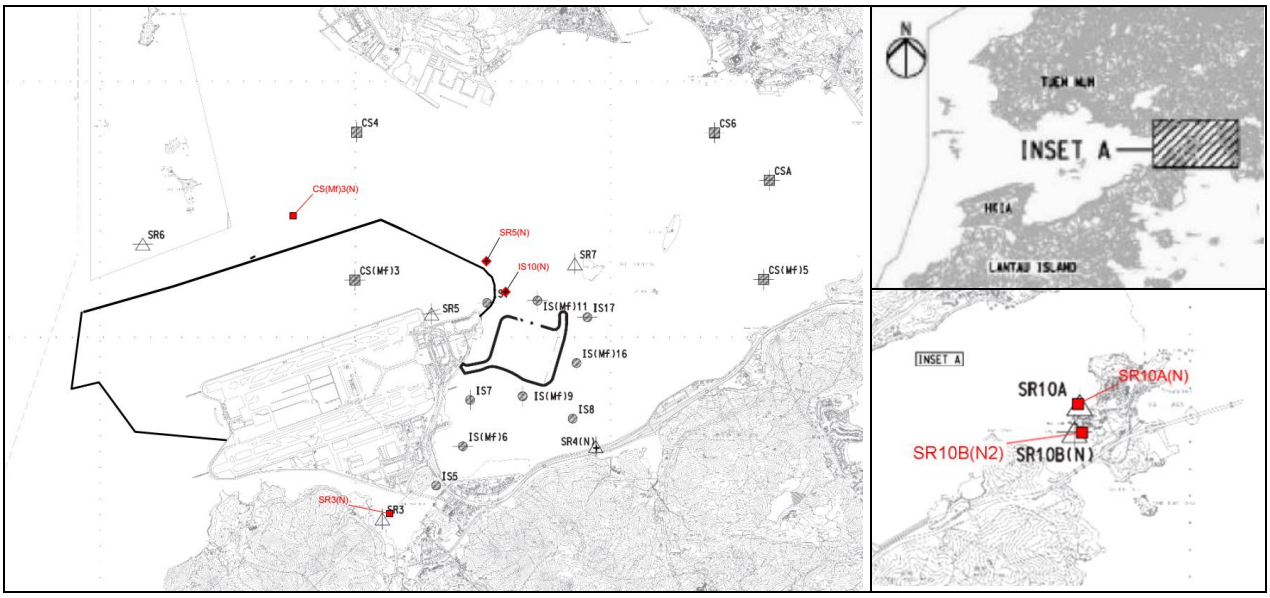
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	SR10A*	Bottom	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	**4.6**	**4.5**
	SR10B(N)*	Surface and Middle			5.4	**<u>4.7</u>**
	SR10B(N)*	Bottom			5.1	**4.6**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
* Monitoring stations SR3, SR10A and SR10B(N) were not available for water sampling due to safety reason, the monitoring stations were changed to tentative coordination.
(i.e. SR3(N): E810689 N816591, SR10A(N): E823644 N823484 and SR10B(N2): E823689 N823159)

Possible reason for Action and Limit Level Non-compliance:

On 2 October 2017, one AL exceedance of DO at SR10A was recorded during mid-ebb tide, two AL exceedances of DO at SR10A and SR10B(N) were recorded during mid-flood tide and one LL exceedance of DO at SR10B(N) was recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 2 October 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau

Title : ET Leader

Date : 20 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171004DO_v1

Date of Notification: 12 October 2017 **Date of Investigation Report:** 20 October 2017

Works Inspected: Data collected from water sampling works on 4 October 2017 and the results were issued on 9 October 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)/ Turbidity (TURB)~~

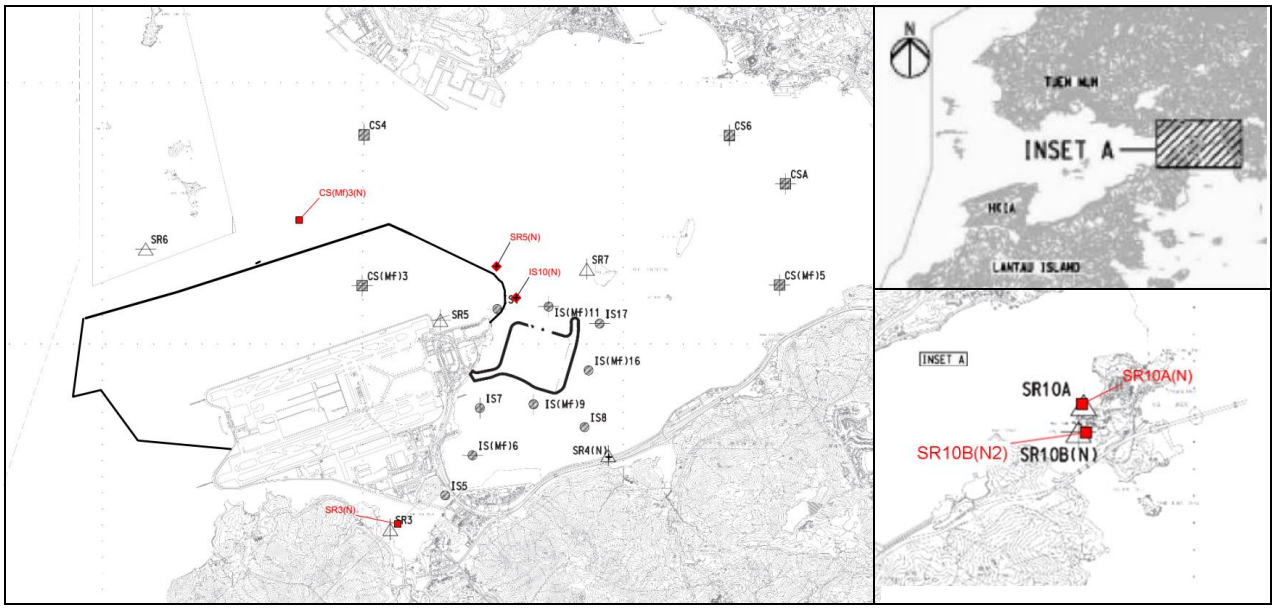
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	SR10A*#	Surface and Middle	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	**<u>4.7</u>**	**<u>4.5</u>**
	SR10A*#	Bottom			**4.6**	**4.3**
	SR10B(N)*	Surface and Middle			**<u>4.8</u>**	**<u>4.5</u>**
	SR10B(N)*	Bottom			4.9	**4.5**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
* Monitoring stations SR3, SR10A and SR10B(N) were not available for water sampling due to safety reason, the monitoring stations were changed to tentative coordination.
(i.e. SR3(N): E810689 N816591, SR10A(N): E823644 N823484 and SR10B(N2): E823689 N823159)
Location was changed due to fishing net installed in the vicinity (22^{o}21.1165'N; 114^{o}03.1185'E)

Possible reason for Action and Limit Level Non-compliance:

On 4 October 2017, one AL exceedance of DO at SR10A was recorded during mid-ebb tide, two AL exceedances of DO at SR10A and SR10B(N) were recorded during mid-flood tide, two LL exceedances of DO at SR10A and SR10B(N) were recorded during mid-ebb tide and two LL exceedances of DO at SR10A and SR10B(N) were recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 4 October 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau

Title : ET Leader

Date : 20 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171006DO_v2

Date of Notification: 11 October 2017 **Date of Investigation Report:** 26 October 2017

Works Inspected: Data collected from water sampling works on 6 October 2017 and the results were issued on 11 October 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)/ Turbidity (TURB)~~

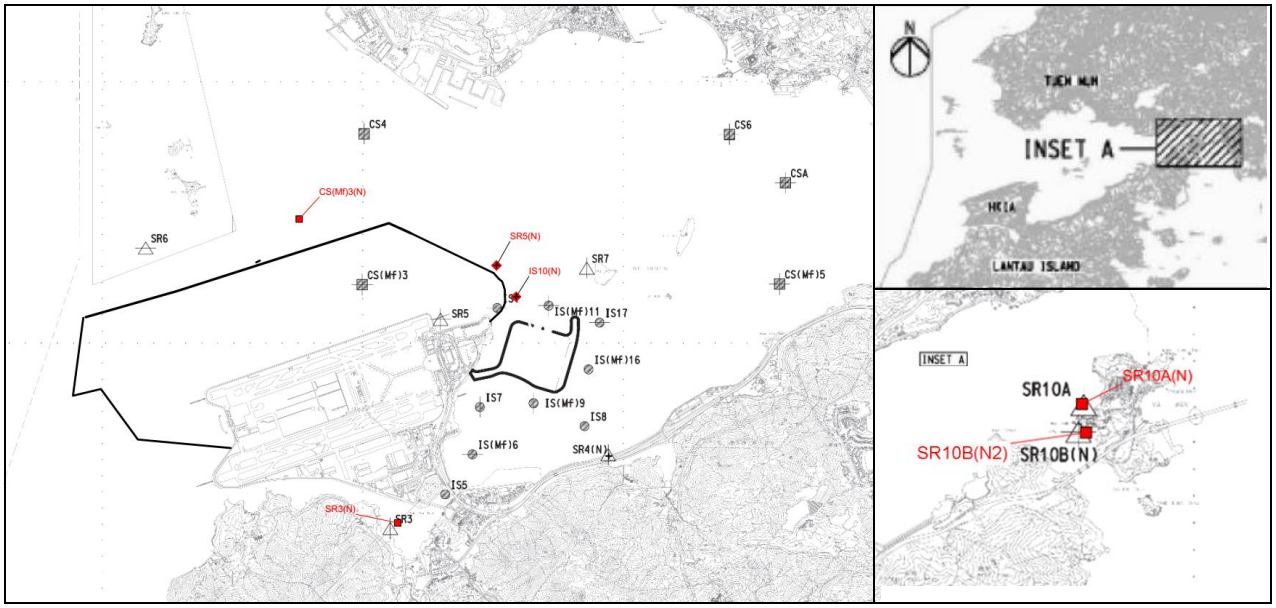
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	SR10B(N)*	Surface and Middle	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	**<u>4.9</u>**	**<u>4.5</u>**
	SR10B(N)*	Bottom			5.0	**4.6**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
* Monitoring stations SR3, SR10A and SR10B(N) were not available for water sampling due to safety reason, the monitoring stations were changed to tentative coordination.
(i.e. SR3(N): E810689 N816591, SR10A(N): E823644 N823484 and SR10B(N2): E823689 N823159)

Possible reason for Action and Limit Level Non-compliance:

On 6 October 2017, one AL exceedance of DO at SR10B(N) was recorded during mid-flood tide, one LL exceedance of DO at SR10B(N) was recorded during mid-ebb tide and one LL exceedance of DO at SR10B(N) was recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 6 October 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

As the exceedances were not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Reviewed by : Keith Chau

Title : ET Leader

Date : 26 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171009DO_v1

Date of Notification: 12 October 2017 **Date of Investigation Report:** 26 October 2017

Works Inspected: Data collected from water sampling works on 9 October 2017 and the results were issued on 12 October 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: Dissolved Oxygen (DO)/ ~~Suspended Solid (SS)/ Turbidity (TURB)~~

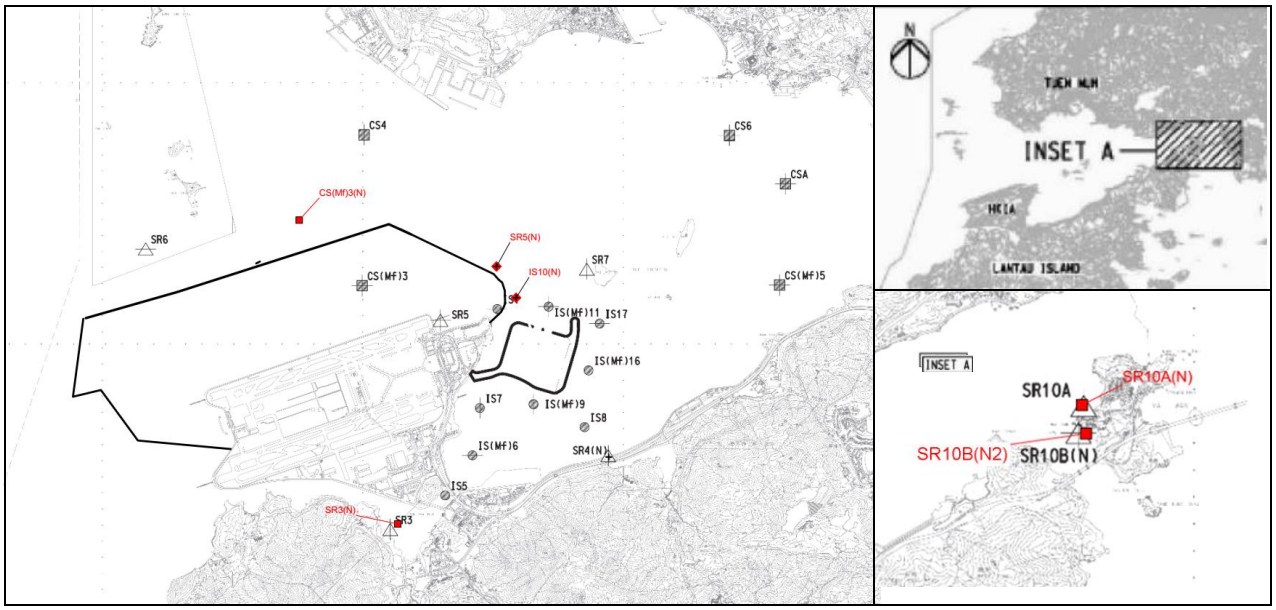
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	SR10B(N)*	Surface and Middle	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	5.2	**<u>4.8</u>**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
* Monitoring stations SR3, SR10A and SR10B(N) were not available for water sampling due to safety reason, the monitoring stations were changed to tentative coordination.
(i.e. SR3(N): E810689 N816591, SR10A(N): E823644 N823484 and SR10B(N2): E823689 N823159)

Possible reason for Action and Limit Level Non-compliance:

On 9 October 2017, one LL exceedance of DO at SR10B(N) was recorded during mid-flood tide.



As confirmed by the Contractor, there were no marine transportation and marine-based work on 9 October 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedance was not related to the Contract.

Actions taken/ to be taken:

As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	26 October 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	26 October 2017

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171018SS

Date of Notification: 27 October 2017 **Date of Investigation Report:** 30 October 2017

Works Inspected: Data collected from water sampling works on 18 October 2017 and the results were issued on 26 October 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

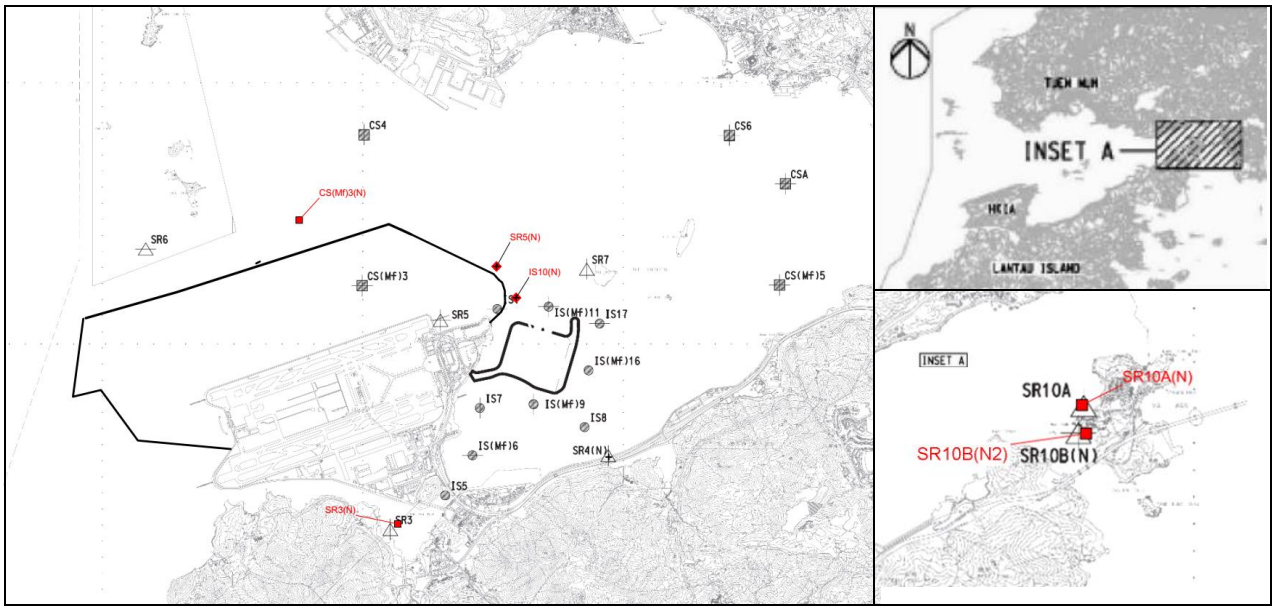
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	SR5(N)	Depth Average	23.5 and 120% (i.e. 10.6 for mid-ebb/23.9 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 11.5 for mid-ebb/25.9 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	9.5	**30.1**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action and Limit Level Non-compliance:

On 18 October 2017, one AL exceedance of SS at SR5(N) was recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 18 October 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	30 October 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	30 October 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171020SS

Date of Notification: 31 October 2017 **Date of Investigation Report:** 3 November 2017

Works Inspected: Data collected from water sampling works on 20 October 2017 and the results were issued on 30 October 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

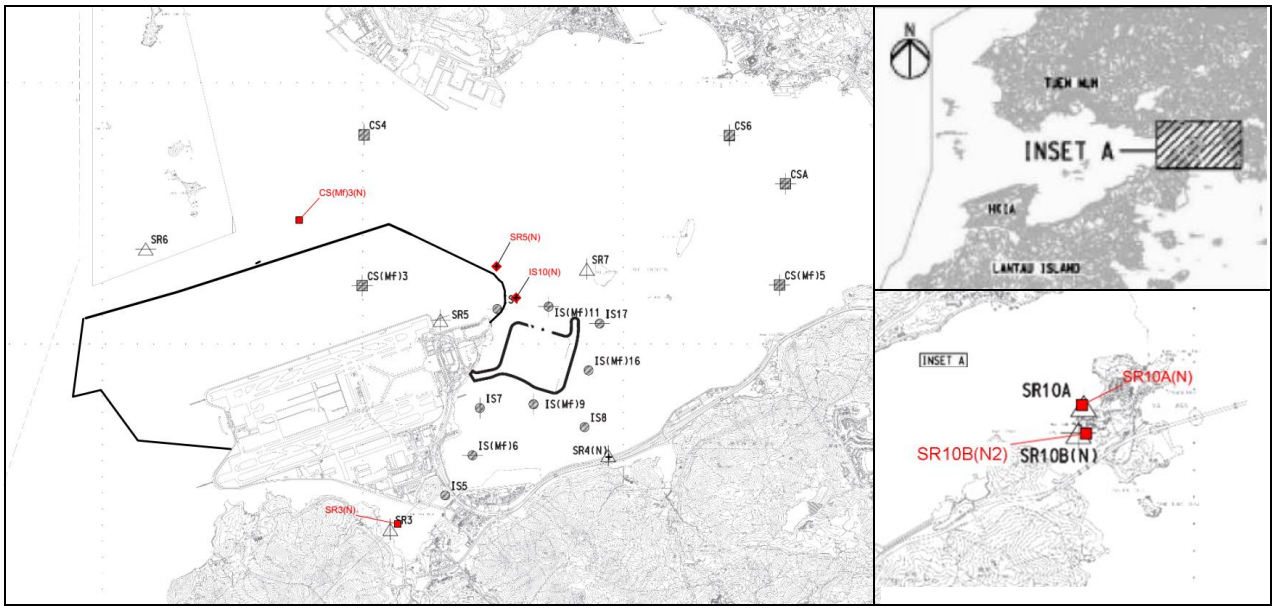
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS(Mf)11	Depth Average	23.5 and 120% (i.e. 20.8 for mid-ebb/20.1 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 22.6 for mid-ebb/21.8 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	11.9	**26.1**
	SR5(N)				8.0	**24.4**
	SR7				14.9	**28.3**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 20 October 2017, three AL exceedances of SS at IS(Mf)11, SR5(N) and SR7 were recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 20 October 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	3 November 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	3 November 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171023SS

Date of Notification: 1 November 2017 **Date of Investigation Report:** 6 November 2017

Works Inspected: Data collected from water sampling works on 23 October 2017 and the results were issued on 1 November 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

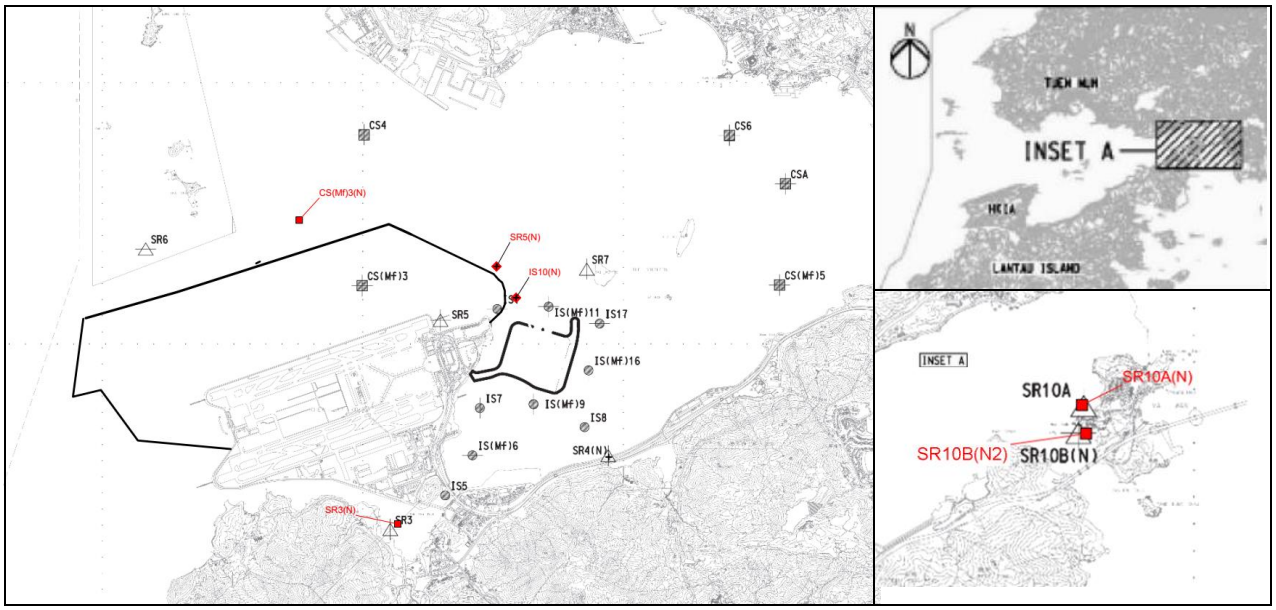
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	SR5(N)	Depth Average	23.5 and 120% (i.e. 14.8 for mid-ebb/16.9 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 16.0 for mid-ebb/18.3 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	10.4	**26.3**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 23 October 2017, one AL exceedance of SS at SR5(N) was recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 23 October 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	6 November 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	6 November 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171103SS

Date of Notification: 10 November 2017 **Date of Investigation Report:** 14 November 2017

Works Inspected: Data collected from water sampling works on 3 November 2017 and the results were issued on 10 November 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

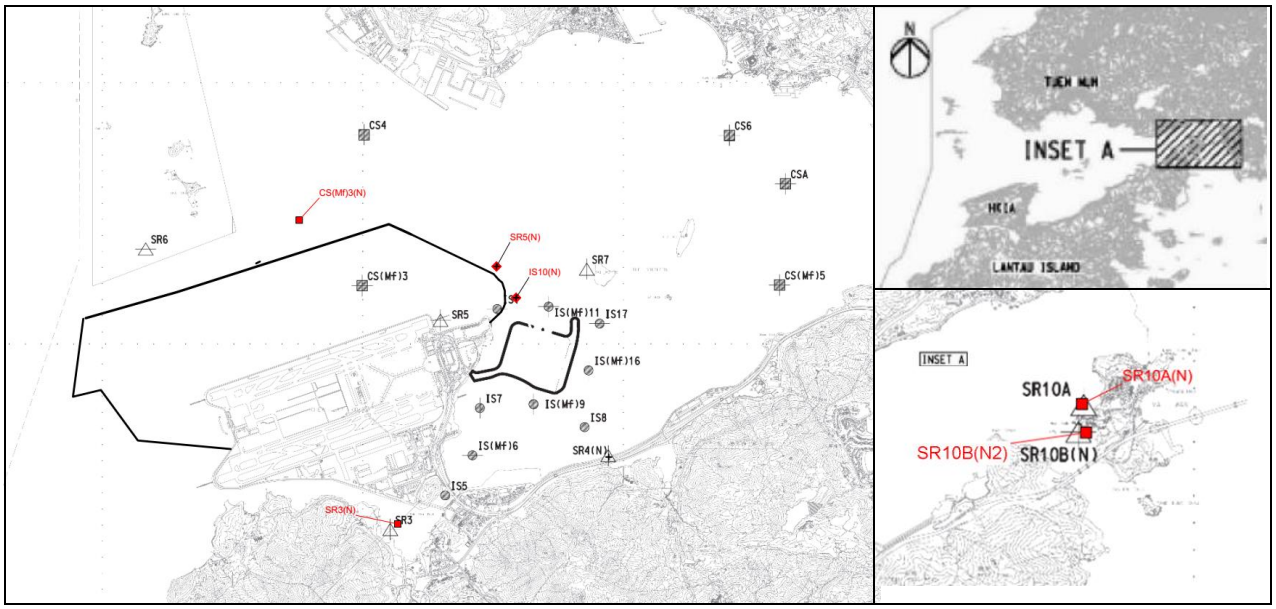
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS(Mf)11	Depth Average	23.5 and 120% (i.e. 15.7 for mid-ebb/13.8 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 17.0 for mid-ebb/14.9 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	10.8	**26.6**
	SR5(N)				14.8	**<u>37.8</u>**
	SR6				**25.9**	14.1
	SR7				13.6	**33.7**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 3 November 2017, one AL exceedance of SS at SR6 was recorded during mid-ebb tide. Two AL exceedances of SS at IS(Mf)11 and SR7 were recorded during mid-flood tide. One LL exceedance of SS at SR5(N) was recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 3 November 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	14 November 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	14 November 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171106SS

Date of Notification: 15 November 2017 **Date of Investigation Report:** 16 November 2017

Works Inspected: Data collected from water sampling works on 6 November 2017 and the results were issued on 14 November 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

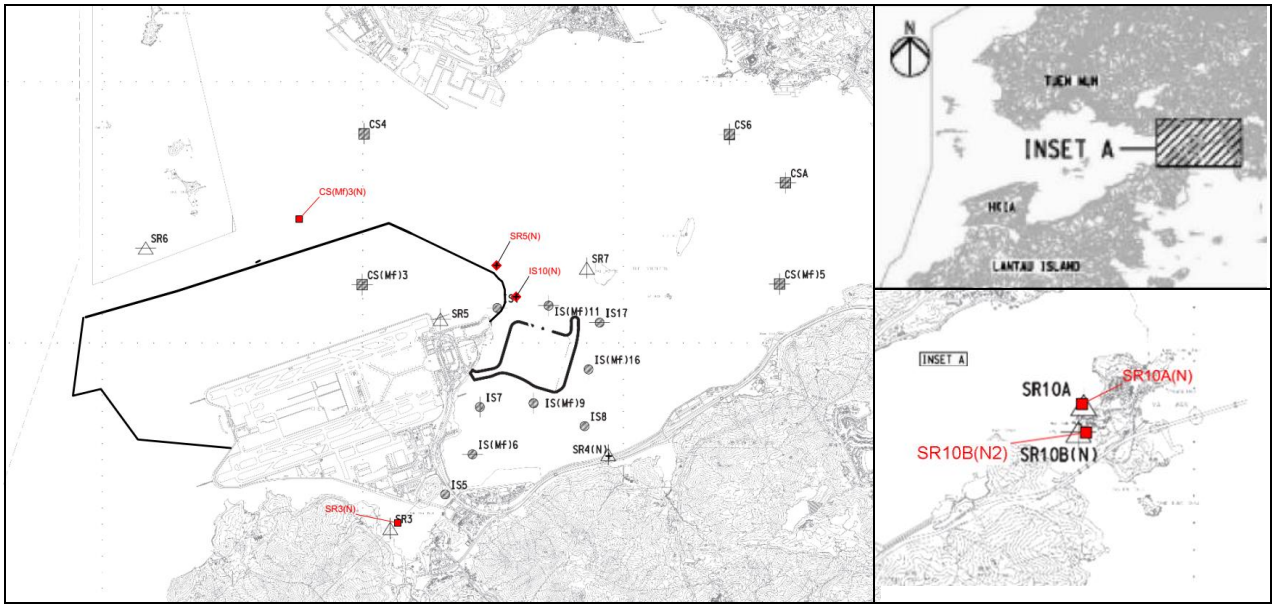
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS(Mf)6	Depth Average	23.5 and 120% (i.e. 15.9 for mid-ebb/19.8 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 17.2 for mid-ebb/21.4 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	10.0	**27.2**
	IS(Mf)16				11.5	**25.1**
	SR7				10.3	**25.5**
	SR10A				15.0	**26.0**
	SR10B(N)				7.9	**25.2**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 6 November 2017, five AL exceedances of SS at IS(Mf)6, IS(Mf)16, SR7, SR10A and SR10B(N) were recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 6 November 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	16 November 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	16 November 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171108SS

Date of Notification: 16 November 2017 **Date of Investigation Report:** 20 November 2017

Works Inspected: Data collected from water sampling works on 8 November 2017 and the results were issued on 16 November 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

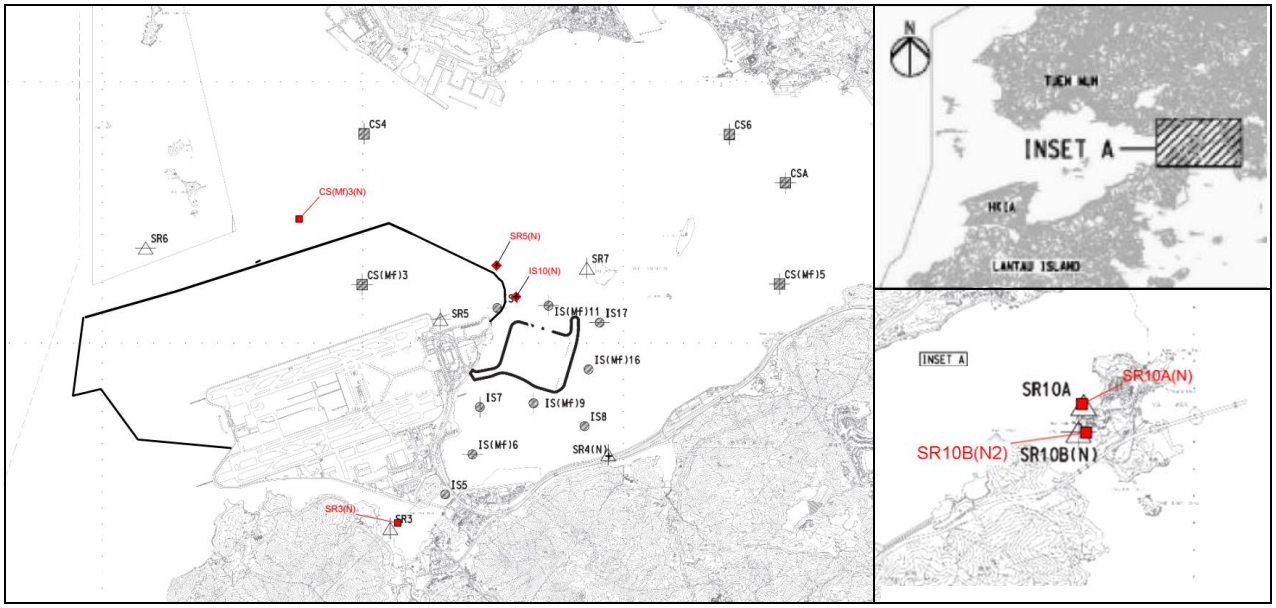
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS(Mf)11	Depth Average	23.5 and 120% (i.e. 19.7 for mid-ebb/13.2 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 21.3 for mid-ebb/14.3 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	10.2	**24.3**
	SR4(N)				18.5	**<u>35.1</u>**
	SR5(N)				14.9	**<u>38.2</u>**
	SR6				**27.9**	18.9

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 8 November 2017, one AL exceedance of SS at IS(Mf)11 was recorded during mid-flood tide. One AL exceedance of SS at SR6 was recorded during mid-ebb tide. Two LL exceedances of SS at SR4(N) and SR5(N) were recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 8 November 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	20 November 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	20 November 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171113SS

Date of Notification: 22 November 2017 **Date of Investigation Report:** 24 November 2017

Works Inspected: Data collected from water sampling works on 13 November 2017 and the results were issued on 22 November 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

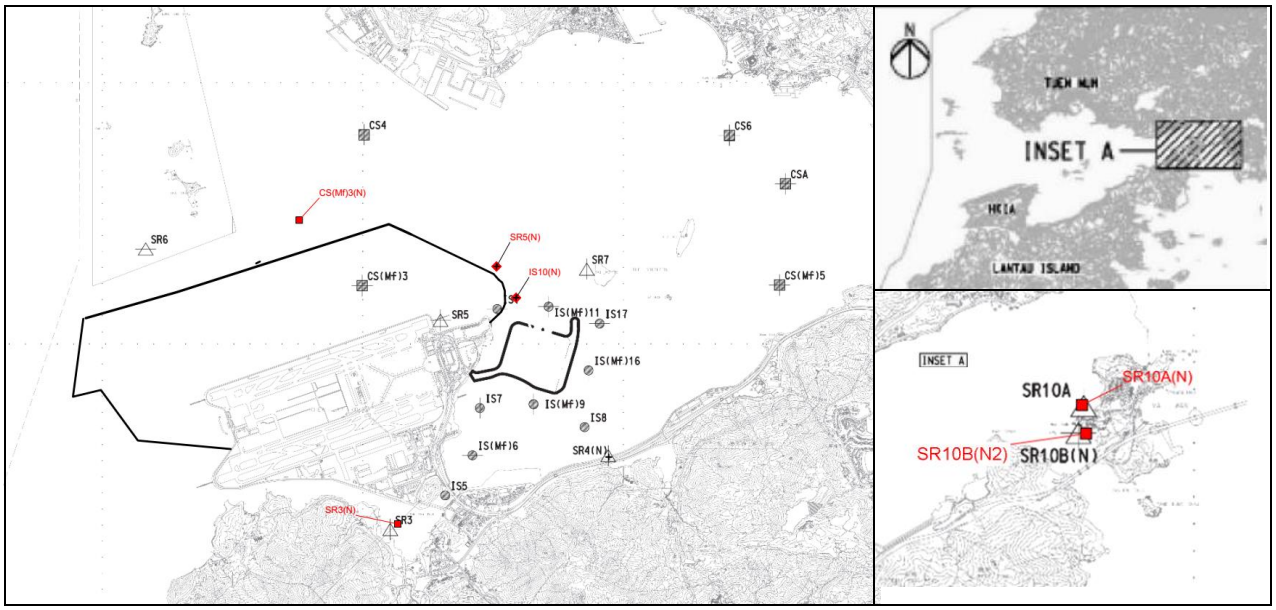
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS8	Depth Average	23.5 and 120% (i.e. 7.6 for mid-ebb/9.1 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 8.2 for mid-ebb/9.9 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	16.6	**29.1**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 13 November 2017, one AL exceedance of SS at IS8 was recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 13 November 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	24 November 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	24 November 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171115SS

Date of Notification: 22 November 2017 **Date of Investigation Report:** 24 November 2017

Works Inspected: Data collected from water sampling works on 15 November 2017 and the results were issued on 22 November 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

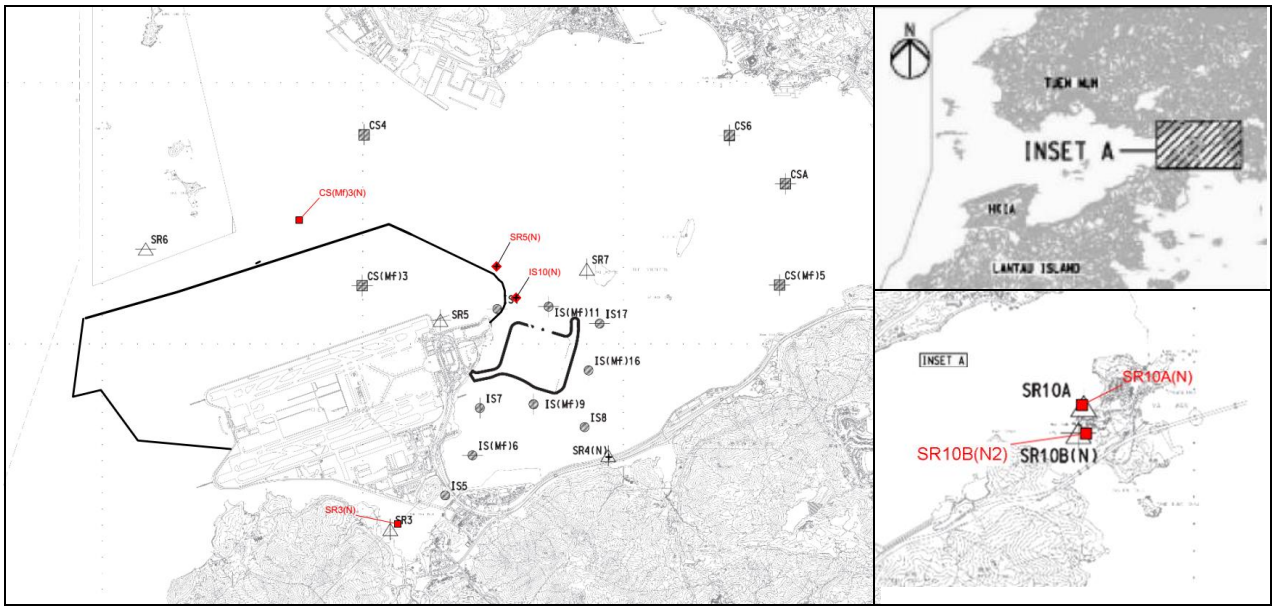
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS(Mf)6	Depth Average	23.5 and 120% (i.e. 8.4 for mid-ebb/5.5 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 9.1 for mid-ebb/6.0 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	8.9	**24.8**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 15 November 2017, one AL exceedance of SS at IS(Mf)6 was recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 15 November 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	24 November 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	24 November 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171120SS

Date of Notification: 28 November 2017 **Date of Investigation Report:** 30 November 2017

Works Inspected: Data collected from water sampling works on 20 November 2017 and the results were issued on 28 November 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

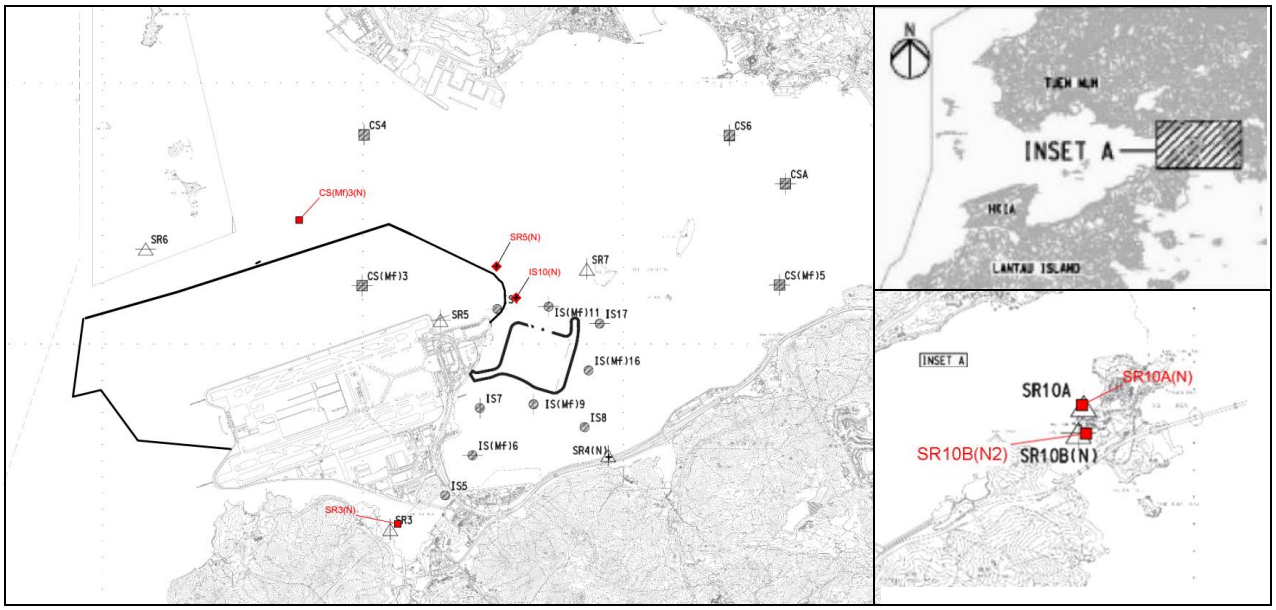
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	SR7	Depth Average	23.5 and 120% (i.e. 19.7 for mid-ebb/14.0 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 21.4 for mid-ebb/15.2 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	11.7	**24.1**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 20 November 2017, one AL exceedance of SS at SR7 was recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 20 November 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	30 November 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	30 November 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171122SS

Date of Notification: 30 November 2017 **Date of Investigation Report:** 6 December 2017

Works Inspected: Data collected from water sampling works on 22 November 2017 and the results were issued on 29 November 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

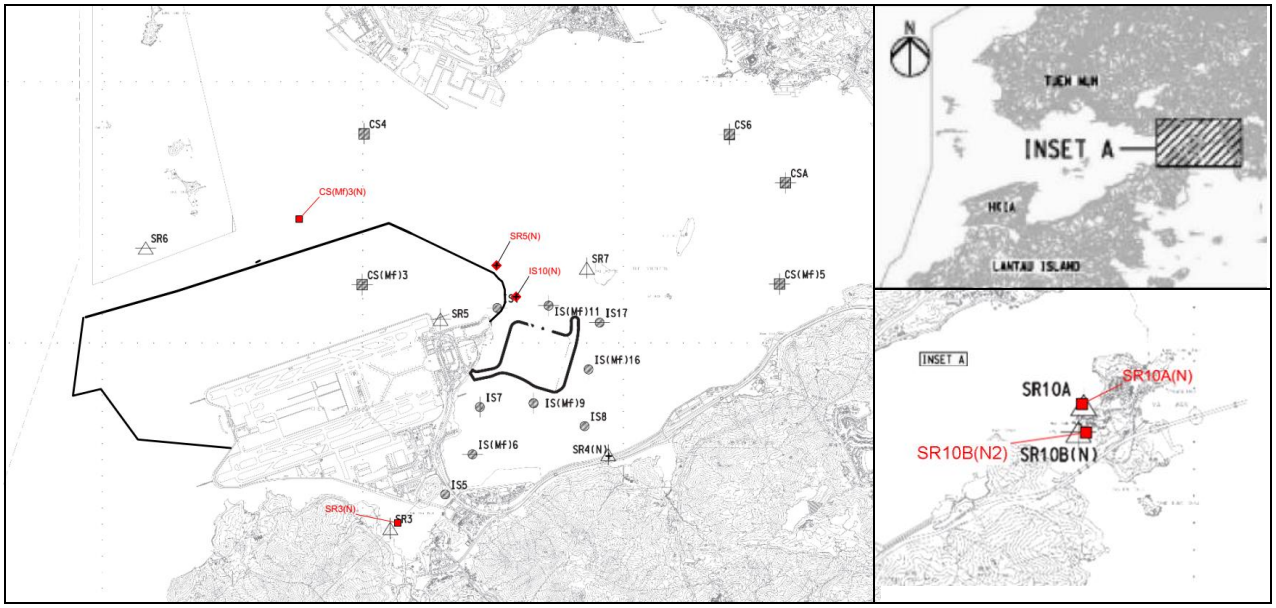
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	SR6	Depth Average	23.5 and 120% (i.e. 12.5 for mid-ebb/7.5 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 13.5 for mid-ebb/8.2 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	**26.6**	**<u>36.1</u>**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
<u>Bold with underline</u> means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 22 November 2017, one AL exceedance of SS at SR6 was recorded during mid-ebb tide and one LL exceedance of SS at SR6 was recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 22 November 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:
As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	6 December 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	6 December 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171124SS_v1

Date of Notification: 1 December 2017 **Date of Investigation Report:** 7 December 2017

Works Inspected: Data collected from water sampling works on 24 November 2017 and the results were issued on 1 December 2017

Monitoring Location: Water Quality Monitoring Station

Parameter: ~~Dissolved Oxygen (DO)/~~ Suspended Solid (SS)~~/ Turbidity (TURB)~~

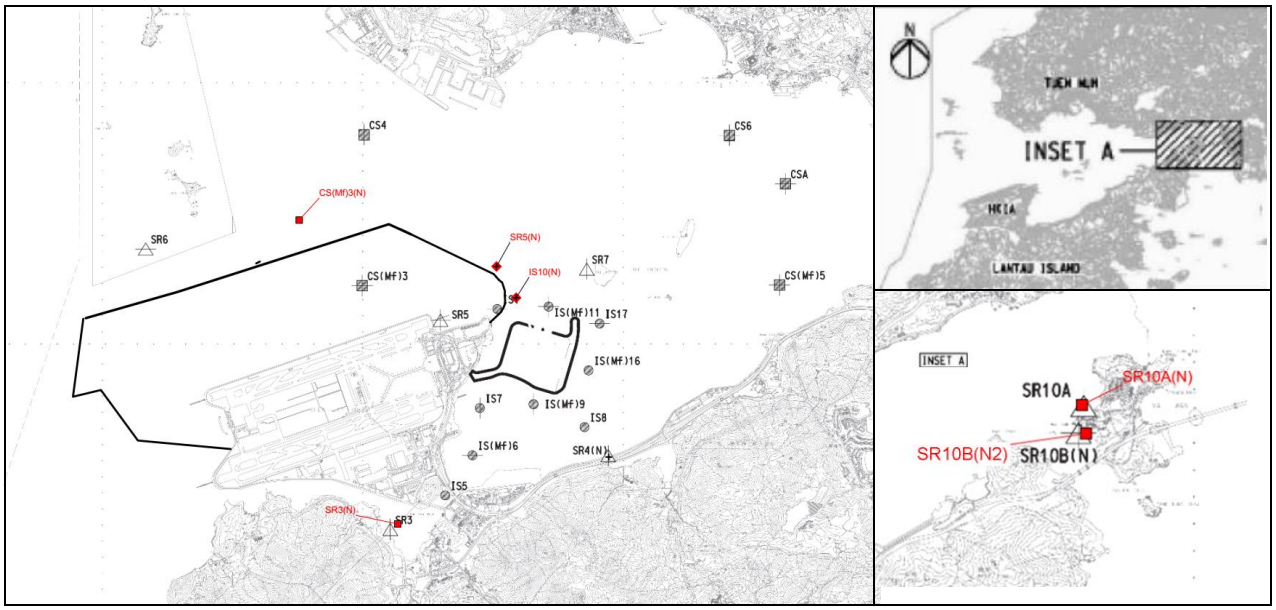
Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS8	Depth Average	23.5 and 120% (i.e. 16.8 for mid-ebb/12.8 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 18.2 for mid-ebb/13.9 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	10.6	**29.9**

Notes:
AL means Action Level.
LL means Limit Level.
Bold means AL exceedances.
Bold with underline means LL exceedances.
Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4
Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA

Possible reason for Action / Limit Level Non-compliance:

On 24 November 2017, one AL exceedance of SS at IS8 was recorded during mid-flood tide.



As confirmed by the Contractor, there was no marine transportation and marine-based work on 24 November 2017. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

As the exceedance was not related to the Contract, no immediate actions are required. However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	7 December 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	7 December 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Notifications of Environmental Quality Limits Exceedances Notification No.: 20171128_Air_24hr_v2

Date of Notification: 6 December 2017 **Date of Investigation Report:** 13 December 2017

Date of Environmental Quality Limit Exceedance: 28 November 2017 and the results were issued on 6 December 2017

Monitoring Location: AMS3B – Site Boundary of Site Office Area at Work Area WA2

Monitoring Date: 28 November 2017 **Start Time:** 08:00

Action & Limit Level (AL & LL) / Measured Level:

PARAMETER	STATION	AL ($\mu g/m^3$)	LL ($\mu g/m^3$)	MEASURED LEVEL, $\mu g/m^3$
24-hr TSP	AMS3B – Site Boundary of Site Office Area at Works Area WA2	167	260	***168***

Notes: ***Bold Italic*** means AL exceedance
Bold Italic with underline means LL exceedance

Possible reason for Action / Limit Level Non-compliance:

On 28 November 2017, one AL exceedance of 24-hr TSP at AMS3B was recorded.

Based on the information form the Contractor, the construction works undertaken on 28 and 29 November 2017 are shown as below:

- Waterproofing
- Backfilling
- Formwork and falsework stripping
- Pipework and ductwork installation
- Hanger rods for cable container
- Wet trade works
- Dry trade works
- MEP High Level Containment
- Removal of temporary works
- Window wall glazing
- Heat exchanger installation
- Curtain wall glazing
- Hanging scaffolding removal
- Footbridge construction
- Refuse collection point
- Southern toilet
- MISC steelwork
- Lift installation
- Escalator Installation
- Glazed lift installation
- Road & Kerbing
- Testing and commissioning works
- Water features and planters

The Contractor confirmed that the mitigation measures according to Water Spraying Plan in November 2017 (Appendix A) are implemented to avoid dust emission. Photos of haul road condition and dust suppression are included in Appendix A. The Contractor has provided the guideline to remind the site vehicles travel within speed limit of 8km/hr. According to the site inspection conducted on 29 November 2017, no dusty activities and dry condition in haul road were observed in the site area.

The Air Quality Health Index (AQHI) of Tung Chung station with the wind data from the on-site wind station are shown in Appendix B. The hourly AQHI of Tung Chung Station ranged 3 to 8 (Low to Very High) on 28 and 29 November 2017 during monitoring period. According to the wind data at on-site wind station, no prevailing wind direction was found in the monitoring period. The PCB site of HKBCF is far away from AMS3B (more than 1km). No potential dust source was observed near the monitoring station at AMS3B during the monitoring period.

Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

The Water Spraying Plan including the information of watering schedule, routing of trucks of for watering and the location of water filling, was prepared and submitted to RE and ENPO. The Contractor was also reminded to implement all necessary mitigation as specified in EIA (Section 5.5.6.3), EM&A Manual (EM&A Log Ref: A3), EMP, Method Statements, General and Particular Specifications of this Project to minimize the potential dust impact during construction activities.

Prepared by:	Evan Wong	Title:	Environmental Team Representative
Signature:		Date:	13 December 2017
Checked by:	Keith Chau	Title:	Environmental Team Leader
Signature:		Date:	13 December 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO

Appendix A

Leighton - Chun Wo Joint Venture

Contract No. HY/2013/01
Hong Kong – Zhuhai – Macao – Bridge
Boundary Crossing Facility – Passenger Clearance Building

Water Truck License Plate Number: TH7681

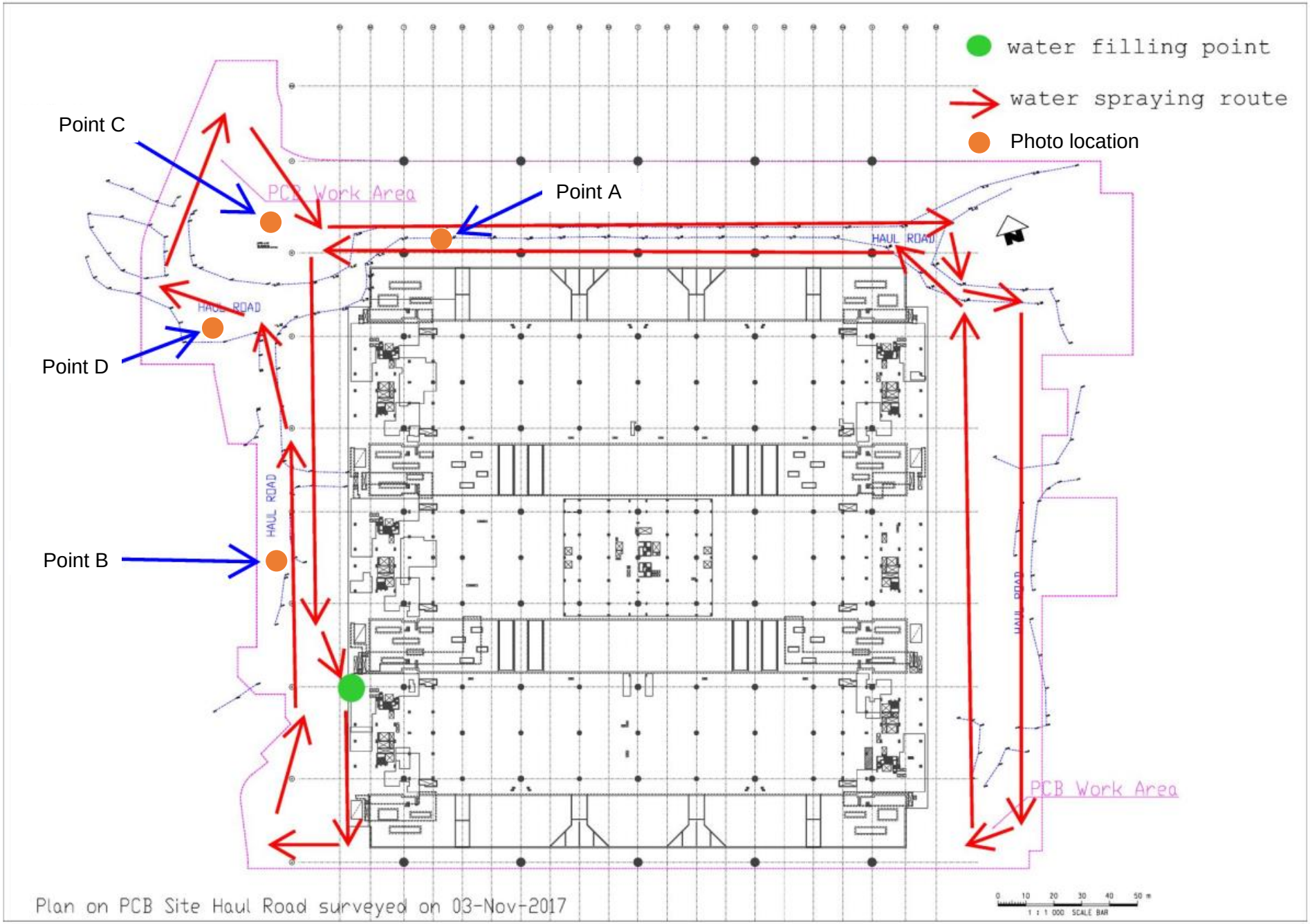
Capacity of Water Truck: 18000L

Volume of water / distance travelled = 11.4L/m

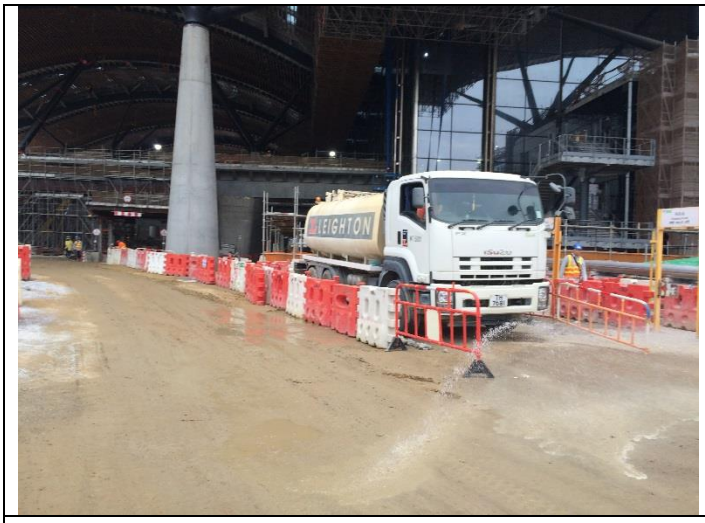
Water Truck could spray 18000L in one 50 minutes trip.

Planned Schedule of Watering Spraying by Water Truck

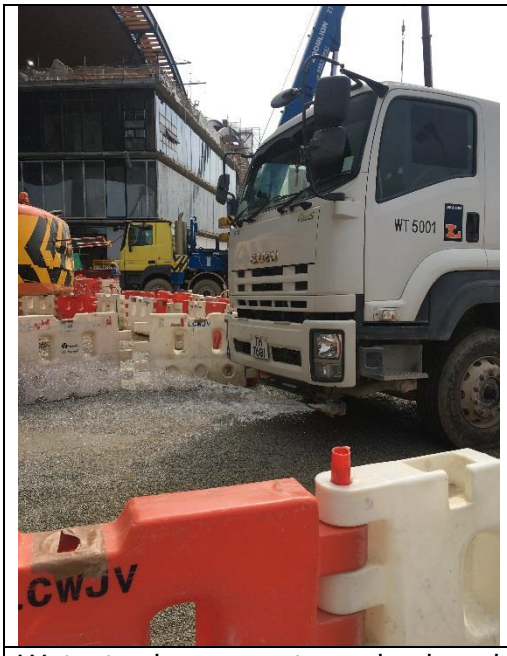
Cycle	Time of water spraying
1	08:00 – 09:15
2	09:15 – 10:30
3	10:30 – 11:45
4	13:00 – 14:15
5	14:15 – 15:30
6	15:30 – 16:45
7	16:45 – 18:00
8	18:00 – 19:00


water filling point
water spraying route
Photo location
Point C
Point A
Point D
Point B
PCB Work Area
HAUL ROAD
HAUL ROAD
HAUL ROAD
HAUL ROAD
PCB Work Area
Plan on PCB Site Haul Road surveyed on 03-Nov-2017

Water spraying record on 28 Nov 2017

	
Water truck spray water on haul road (Point A)	Haul road is wet (Point A)
	
Haul road is wet (Point B)	

Water spraying record on 29 Nov 2017

	
Water truck spray water on haul road (Point C)	Haul road is wet (Point C)
	
Haul road is wet (Point D)	

Appendix B

Date	Hour	AQHI at Tung Chung Station	Average Wind Speed (m/s) #	Average Wind Direction #
2017/11/28	8	3	0	---
2017/11/28	9	3	0	---
2017/11/28	10	3	0	---
2017/11/28	11	4	0	---
2017/11/28	12	4	0	E
2017/11/28	13	4	0	---
2017/11/28	14	5	0	---
2017/11/28	15	5	0	---
2017/11/28	16	7	0	WNW
2017/11/28	17	5^	0	---
2017/11/28	18	6^	0	---
2017/11/28	19	8	0	---
2017/11/28	20	7	0	E
2017/11/28	21	6	0	---
2017/11/28	22	6	0	---
2017/11/28	23	6	0	---
2017/11/29	0	5	0	---
2017/11/29	1	5	0	---
2017/11/29	2	4	0	---
2017/11/29	3	4	0	---
2017/11/29	4	4	0	---
2017/11/29	5	3^	0	---
2017/11/29	6	3^	0	SSE
2017/11/29	7	3	0	SSE
2017/11/29	8	3	0.4	ENE

Remark:

^ The data collection for calculation of AQHI was affected due to station or equipment maintenance, the data of a most similar station was adopted.

#- The related wind data is obtained from the on-site wind station.

N.A. - Not available.

Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building
Notification of Environmental Quality Limit Exceedance Notification No.: 201709-201711D

Date of Notification: 4 March 2019

Works Inspected: Not Applicable

Monitoring Location: NEL & NWL

Parameter: Ecology (Chinese White Dolphin Monitoring)

Action & Limit Levels			**Monitoring Results**
	North Lantau Social Cluster		The quarter of September 2017 – November 2017
	Action Level (AL)	Limit Level (LL)	
Northeast Lantau (NEL)	STG < 4.2 & ANI < 15.5	NEL: (STG < 2.4 & ANI <8.9) and NWL: (STG < 3.9 & ANI <17.9)	***STG = 0; ANI = 0***
Northwest Lantau (NWL)	STG < 6.9 & ANI < 31.3		***STG = 1.41; ANI =3.65***

Notes:
1. STG means quarterly encounter rate of number of dolphin sightings.
2. ANI means quarterly encounter rate of total number of dolphins.
3. For North Lantau Social Cluster, AL will be triggered if either NEL or NWL falls below the criteria; LL will be triggered if both NEL and NWL fall below the criteria.
4. ***Bold Italic*** means AL exceedances.
5. ***Bold Italic with underline*** means LL exceedances

Possible reason for Action / Limit Level Non-compliance:
One Limit Level exceedance of dolphin monitoring was recorded during quarterly monitoring (September – November 2017). The ETL informed IEC, ENPO, ER and Contractor via email on 7 December 2017.
According to information provided by ER, the marine based works undertaken during the quarterly were shown as below:
Contract No.: HY/2013/01
- Seawater intake seawall reinstatement and
- Seawater outfall pipe laying.

There is no evidence showing the current LL non-compliance directly related to the construction works of Contract No. HY/2013/01 (the Contract). The working vessels under the Contract have been travelling from source to destination in accordance with the Marine Travel Route to minimize impacts on Chinese White Dolphin (CWD). In addition, the fundamental principle is that the routes will not go through the dolphin hotspots near Brothers Marine Park.

Contract No.: HY/2013/02
- No marine based works.

Contract No.: HY/2013/03
- Box Culvert B outfall construction with cofferdams.

Contract No.: HY/2013/04
- Construction of temp steel cofferdam for Outfall construction at Box C and D.

Actions taken/ to be taken:

1. Statistical data analysis has been repeated to confirm findings;
2. All available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A have been reviewed;
3. Identification of source of impact was carried out;
4. The ETL informed IEC, ENPO, ER and Contractor have been informed of findings on 7 December 2017;
5. Monitoring data have been checked;
6. Repeated review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary;
7. After investigation, there was no evidence that indicated that the reduced number of dolphins in NWL and NEL was related solely to Project works. It was also concluded the contributed of impacted due to the HZMB works as a whole (or individual nor separate).

Recommendations/ mitigation measures/ actions if necessary:

All dolphin protective measures are fully and properly implemented in accordance with the EM&A Manual.

Contract No.: HY/2013/01
According to information from ER, silt curtain was installed.

Contract No.: HY/2013/02
According to information from ER, silt curtain was removed on 5 September 2017.

Contract No.: HY/2013/03
According to information from ER, silt curtain was installed.

Contract No.: HY/2013/04
According to information from ER, silt curtain was installed.

Based on section 10.2.19 of the Updated EM&A Manual (for Hong Kong Boundary Crossing Facilities)(version 1.0) that verification by IEC on 4 January 2012, the travelling speed of vessels must not exceed 10 knots within the boundaries of the Sha Chau/Lung Kwu Chau Marine Park appears to be effective in protecting the dolphins from vessel collisions. The Contractor will continue to provide training for Captains of construction vessels working in the West Lantau waters and near the Brothers Marine Park should undergo training to learn about local dolphins and porpoises. They should be trained to be aware of the protocol for "dolphin friendly" vessel operation. All working vessels should be required to use regular travel routes, in order to minimize the chance of vessel collision. And the routes would not go through the dolphin hotspot near Brothers Marine Park.

A meeting was held on 7 March 2018 with attendance of representative of ENPO, Resident Site Staff (RSS), Environmental Team (ET) and dolphin specialist for Contract Nos. HY/2013/01, HY/2011/03, HY/2011/09, HY/2012/07, HY/2012/08, to discuss the issues regarding to dolphin exceedance for the quarter September- November 2017.

In the meeting, it was concluded that the Hong Kong-Zhuhai-Macao Bridge (HZMB) works is one of the contributing factors affecting the dolphins. It was also concluded the contribution of impacts due to the HZMB works as a whole (or individual marine contracts) cannot be quantified nor separate from the other stress factors.

It was reminded that the ETs shall keep reviewing the implementation status of the dolphin related mitigation measures and remind the contractor to ensure the relevant measures were fully implemented.

It was recommended that the marine works of HZMB projects should be completed as soon as possible so as to reduce the overall duration of impacts and allow the dolphins population to recover as early as possible.

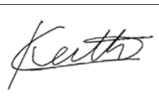
It was also recommended that the marine works footprint (e.g., reduce the size of peripheral silt curtain) and vessels for the marine works should be reduced as much as possible, and vessels idling / mooring in other part of the North Lantau shall be avoided whenever possible.

The marine travel route will shift along the edge of Brothers Marine Park (BMP) as much as practical under the Regular Marine Travel Route Plan. It was noted that even though marine vessels may moor within the mooring site of BMP, commercial activities including loading / unloading / transshipment are not allowed except a permit is obtained. The HZMB works vessels were recommended to avoid the BMP.

Prepared by: Ruby Law — Title: ET Representative (up to 31 October 2018)

Date: 4 March 2019

Reviewed by: Keith Chau — Title: ET Leader (up to 31 October 2018)



Date : 4 March 2019

Copied to: IEC/ENPO, Contractor and Engineer Representative

APPENDIX L

Dolphin Monitoring Results

CONTRACT NO. HY/2013/01
Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Dolphin Monthly Monitoring

First Quarterly Progress Report (September-November 2017)
submitted to Leighton – Chun Wo Joint Venture

Submitted by
Samuel K.Y. Hung, Ph.D., Hong Kong Cetacean Research Project

January 18, 2018

1. Introduction

1.1. For the Hong Kong-Zhuhai-Macao Bridge (HZMB) Hong Kong Boundary Crossing Facilities (HKBCF), the construction of the Passenger Clearance Building (PCB) requires the contractor (i.e. Leighton – Chun Wo Joint Venture) and the associated environmental team to conduct monthly line-transect vessel surveys for the Chinese White Dolphins to cover the Northwest (NWL) and Northeast Lantau (NEL) survey areas under the Environmental Monitoring and Audit (EM&A) programme.

1.2. In August 2017, Hong Kong Cetacean Research Project (HKCRP) has been commissioned by the contractor to conduct regular dolphin monitoring study in order to collect data on Chinese White Dolphins during the construction phase (i.e. impact period) of the HKBCF-PCB project, and to analyze the collected survey data to monitor distribution, encounter rate, activities and occurrence of dolphin calves. Photo-identification will also be collected from individual Chinese White Dolphins to examine their individual ranging patterns.

1.3. From the monitoring results, any changes in dolphin occurrence within the study area will be examined for possible causes, and appropriate actions and additional mitigation measures will be recommended as necessary.

1.4. This report is the first quarterly progress report under the HKBCF construction phase dolphin monitoring programme submitted to Leighton – Chun Wo Joint Venture, summarizing the results of the surveys findings during the period of September to November 2017.

1.5. Notably, throughout the present quarterly progress report, the previous monitoring data obtained under Contract No. HY/2011/03 (i.e. HKLR03) are referenced and compared to the present quarterly monitoring data collected for the HKBCF-PCB project, as both HKBCF-PCB and HKLR03 project data was collected by the same HKCRP survey team, to ensure 100% consistency in monitoring methodology including vessel survey method as well as various analyses. On the contrary, the previous monitoring data collected under HZMB HKBCF-Reclamation Works contract (Contract No. HY/2010/02) was from a different survey team that have adopted different survey methodology (e.g. two observers and one data recorder under HKBCF-Reclamation Works contract, as compared to one primary observer and one data recorder under HKLR03 and HKBCF-PCB contract). Therefore, we cannot ensure that such HKBCF monitoring data under that contract can be directly comparable to the HKBCF-PCB monitoring data, and would rather use the previous HKLR03 monitoring data instead for comparison with the present quarterly findings.

2. Monitoring Methodology

2.1. Vessel-based Line-transect Survey

2.1.1. According to the requirement of the updated EM&A manual, dolphin monitoring programme should cover all transect lines in NEL and NWL survey areas (see Figure 1) twice per month throughout the entire construction period. The co-ordinates of all transect lines are shown in Table 1.

Table 1 Co-ordinates of transect lines

Line No.		Easting	Northing		Line No.		Easting	Northing
1	Start Point	804671	815456		13	Start Point	816506	819480
1	End Point	804671	831404		13	End Point	816506	824859
2	Start Point	805476	820800		14	Start Point	817537	820220
2	End Point	805476	826654		14	End Point	817537	824613
3	Start Point	806464	821150		15	Start Point	818568	820735
3	End Point	806464	822911		15	End Point	818568	824433
4	Start Point	807518	821500		16	Start Point	819532	821420
4	End Point	807518	829230		16	End Point	819532	824209

5	Start Point	808504	821850		17	Start Point	820451	822125
5	End Point	808504	828602		17	End Point	820451	823671
6	Start Point	809490	822150		18	Start Point	821504	822371
6	End Point	809490	825352		18	End Point	821504	823761
7	Start Point	810499	822000		19	Start Point	822513	823268
7	End Point	810499	824613		19	End Point	822513	824321
8	Start Point	811508	821123		20	Start Point	823477	823402
8	End Point	811508	824254		20	End Point	823477	824613
9	Start Point	812516	821303		21	Start Point	805476	827081
9	End Point	812516	824254		21	End Point	805476	830562
10	Start Point	813525	821176		22	Start Point	806464	824033
10	End Point	813525	824657		22	End Point	806464	829598
11	Start Point	814556	818853		23	Start Point	814559	821739
11	End Point	814556	820992		23	End Point	814559	824768
12	Start Point	815542	818807		24	Start Point	805476	815900
12	End Point	815542	824882		24	End Point	805476	819100

2.1.2. The survey team used standard line-transect methods (Buckland et al. 2001) to conduct the systematic vessel surveys, and followed the same technique of data collection that has been adopted over the last 19 years of marine mammal monitoring surveys in Hong Kong developed by HKCRP (see Hung 2017). For each monitoring vessel survey, a 15-m inboard vessel with an open upper deck (about 4.5 m above water surface) was used to make observations from the flying bridge area.

2.1.3. Two experienced observers (a data recorder and a primary observer) made up the on-effort survey team, and the survey vessel transited different transect lines at a constant speed of 13-15 km per hour. The data recorder searched with unaided eyes and filled out the datasheets, while the primary observer searched for dolphins and porpoises continuously through 7 x 50 *Fujinon* marine binoculars. Both observers searched the sea ahead of the vessel, between 270^{o} and 90^{o} (in relation to the bow, which is defined as 0^{o}). One to two additional experienced observers were available on the boat to work in shift (i.e. rotate every 30 minutes) in order to minimize fatigue of the survey team members. All observers were experienced in small cetacean survey techniques and identifying local

cetacean species.

2.1.4. During on-effort survey periods, the survey team recorded effort data including time, position (latitude and longitude), weather conditions (Beaufort sea state and visibility), and distance traveled in each series (a continuous period of search effort) with the assistance of a handheld GPS (*Garmin eTrex Legend*).

2.1.5. Data including time, position and vessel speed were also automatically and continuously logged by handheld GPS throughout the entire survey for subsequent review.

2.1.6. When dolphins were sighted, the survey team would end the survey effort, and immediately record the initial sighting distance and angle of the dolphin group from the survey vessel, as well as the sighting time and position. Then the research vessel was diverted from its course to approach the animals for species identification, group size estimation, assessment of group composition, and behavioural observations. The perpendicular distance (PSD) of the dolphin group to the transect line was later calculated from the initial sighting distance and angle.

2.1.7. Survey effort being conducted along the parallel transect lines that were perpendicular to the coastlines (as indicated in Figure 1) was labeled as “primary” survey effort, while the survey effort conducted along the connecting lines between parallel lines was labeled as “secondary” survey effort. According to HKCRP long-term dolphin monitoring data, encounter rates of Chinese white dolphins deduced from effort and sighting data collected along primary and secondary lines were similar in NEL and NWL survey areas. Therefore, both primary and secondary survey effort were presented as on-effort survey effort in this report.

2.2. Photo-identification Work

2.2.1. When a group of Chinese White Dolphins were sighted during the line-transect survey, the survey team would end effort and approach the group slowly from the side and behind to take photographs of them. Every attempt was made to photograph every dolphin in the group, and even photograph both sides of the dolphins, since the colouration and markings on both sides may not be symmetrical.

2.2.2. One to two professional digital cameras (*Canon* EOS 7D and/or 60D models), each equipped with long telephoto lenses (100-400 mm zoom), were available on board for researchers to take sharp, close-up photographs of dolphins as they surfaced. The images were shot at the highest available resolution and stored on Compact Flash memory cards for downloading onto a computer.

2.2.3. All digital images taken in the field were first examined, and those containing potentially identifiable individuals were sorted out. These photographs would then be examined in greater detail, and were carefully compared to the existing Chinese White Dolphin photo-identification catalogue maintained by HKCRP since 1995.

2.2.4. Chinese White Dolphins can be identified by their natural markings, such as nicks, cuts, scars and deformities on their dorsal fin and body, and their unique spotting patterns were also used as secondary identifying features (Jefferson 2000).

2.2.5. All photographs of each individual were then compiled and arranged in chronological order, with data including the date and location first identified (initial sighting), re-sightings, associated dolphins, distinctive features, and age classes entered into a computer database.

2.3. Data analysis

2.3.1. Distribution Analysis – The line-transect survey data was integrated with the Geographic Information System (GIS) in order to visualize and interpret different spatial and temporal patterns of dolphin distribution using sighting positions. Location data of dolphin groups were plotted on map layers of Hong Kong using a desktop GIS (ArcView© 3.1) to examine their distribution patterns in details. The dataset was also stratified into different subsets to examine distribution patterns of dolphin groups with different categories of group sizes, young calves and activities.

2.3.2. Encounter rate analysis – Encounter rates of Chinese white dolphins (number of on-effort sightings per 100 km of survey effort, and total number of dolphins sighted on-effort per 100 km of survey effort) were calculated in NEL and NWL survey areas in relation to the amount of survey effort conducted during each month of monitoring survey. Dolphin encounter rates were calculated in two ways for comparisons with the HZMB baseline monitoring results as well as to AFCD long-term marine mammal monitoring results.

Firstly, for the comparison with the HZMB baseline monitoring results, the encounter rates were calculated using primary survey effort alone, and only data collected under Beaufort 3 or below condition would be used for encounter rate analysis. The average encounter rate of sightings (STG) and average encounter rate of dolphins (ANI) were deduced based on the encounter rates from six events during the present quarter (i.e. six sets of line-transect surveys in North Lantau), which was also compared with the one deduced from the six events during the baseline period (i.e. six sets of line-transect surveys in North Lantau).

Secondly, the encounter rates were calculated using both primary and secondary survey effort collected under Beaufort 3 or below condition as in AFCD long-term monitoring study. The encounter rate of sightings and dolphins were deduced by dividing the total number of on-effort sightings (STG) and total number of dolphins (ANI) by the amount of survey effort for the present quarterly period.

2.3.3. Quantitative grid analysis on habitat use – To conduct quantitative grid analysis of habitat use, positions of on-effort sightings of Chinese White Dolphins collected during the quarterly impact phase monitoring period were plotted onto 1-km^2 grids among NWL and NEL survey areas on GIS. Sighting densities (number of on-effort sightings per km^2) and dolphin densities (total number of dolphins from on-effort sightings per km^2) were then calculated for each 1 km by 1 km grid with the aid of GIS.

Sighting density grids and dolphin density grids were then further normalized with the amount of survey effort conducted within each grid. The total amount of survey effort spent on each grid was calculated by examining the survey coverage on each line-transect survey to determine how many times the grid was surveyed during the study period. For example, when the survey boat traversed through a specific grid 50 times, 50 units of survey effort were counted for that grid. With the amount of survey effort calculated for each grid, the sighting density and dolphin density of each grid were then normalized (i.e. divided by the unit of survey effort).

The newly-derived unit for sighting density was termed SPSE, representing the number of on-effort **s**ightings **p**er 100 units of **s**urvey **e**ffort. In addition, the derived unit for actual dolphin density was termed DPSE, representing the number of **d**olphins **p**er 100 units of **s**urvey **e**ffort. Among the 1-km^2 grids that were partially covered by land, the percentage of sea area was calculated using GIS tools, and their SPSE and DPSE values were adjusted accordingly. The following formulae were used to estimate SPSE and DPSE in each 1-km^2 grid within the study area:

$$SPSE = ((S / E) \times 100) / SA\%$$
$$DPSE = ((D / E) \times 100) / SA\%$$

where S = total number of on-effort sightings
D = total number of dolphins from on-effort sightings
E = total number of units of survey effort
SA% = percentage of sea area

2.3.4. Behavioural analysis – When dolphins were sighted during vessel surveys, their behaviour was observed. Different activities were categorized (i.e. feeding, milling/resting, traveling, socializing) and recorded on sighting datasheets. This data was then input into a separate database with sighting information, which can be used to determine the distribution of behavioural data with a desktop GIS. Distribution of sightings of dolphins engaged in different activities and behaviours would then be plotted on GIS and carefully examined to identify important areas for different activities of the dolphins.

2.3.5. Ranging pattern analysis – Location data of individual dolphins that occurred during the 3-month impact phase monitoring period were obtained from the dolphin sighting database and photo-identification catalogue. To deduce home ranges for individual dolphins using the fixed kernel methods, the program Animal Movement Analyst Extension, was loaded as an extension with ArcView© 3.1 along with another extension Spatial Analyst 2.0. Using the fixed kernel method, the program calculated kernel density estimates based on all sighting positions, and provided an active interface to display kernel density plots. The kernel estimator then calculated and displayed the overall ranging area at 95% UD level.

3. Monitoring Results

3.1. Summary of survey effort and dolphin sightings

3.1.1. During the period of September to November 2017, six sets of systematic line-transect vessel surveys were conducted for the HKBCF project to cover all transect lines in NWL and NEL survey areas twice per month.

3.1.2. From these surveys, a total of 790.3 km of survey effort was collected, with 97.9% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility). Among the two areas, 289.9 km and 500.4 km of survey effort were conducted in NEL and NWL survey areas respectively.

3.1.3. The total survey effort conducted on primary lines was 574.2 km, while the effort on secondary lines was 216.1 km. Survey effort conducted on both primary and secondary lines were considered as on-effort survey data. A summary table of the survey effort is shown in Appendix I.

3.1.4. During the six sets of monitoring surveys in September to November 2017, six groups of 25 Chinese White Dolphins were sighted, with the summary table of the dolphin sightings

shown in Appendix II. All dolphin sightings were made during on-effort search, while five of the six on-effort dolphin sightings were made on primary lines. In addition, all dolphin groups were sighted in NWL, and no dolphin was sighted at all in NEL.

3.2. Distribution

3.2.1. Distribution of dolphin sightings made during monitoring surveys in September to November 2017 is shown in Figure 1. Five of the four sightings were made at the northwest portion of the North Lantau region, mainly within the Sha Chau and Lung Kwu Chau Marine Park (Figure 1). One dolphin group was also sighted at the southwestern end of NWL survey area, or near the HKLR09 alignment. On the contrary, the dolphins were completely absent from the central and eastern portions of North Lantau waters, similar to the consistent findings of HKLR03 surveys in recent years (Figure 1).

3.2.2. All dolphin sightings were located far away from the HKBCF and HKLR03 reclamation sites as well as along the alignment and Tuen Mun-Chek Lap Kok Link (TMCLKL) (Figure 1). However, one sighting was made near the alignment of HKLR09 as mentioned above.

3.2.3. Sighting distribution of dolphins during the present impact phase monitoring period (September to November 2017) was drastically different from the one during the baseline monitoring period (Figure 1). In the present quarter, dolphins have disappeared from the NEL region, which was in stark contrast to their frequent occurrence around the Brothers Islands, near Shum Shui Kok and in the vicinity of HKBCF reclamation site during the baseline period (Figure 1).

3.2.4. On the other hand, dolphin occurrence in NWL waters was also noticeably different between the baseline and impact phase periods. During the present impact monitoring period, dolphins were seldom sighted here, and mainly at the northwestern end of the area, which was in stark contrast with their frequent occurrences throughout the entire survey area during the baseline period (Figure 1).

3.3. Encounter rate

3.3.1. During the present three-month study period, the encounter rates of Chinese White Dolphins deduced from the survey effort and on-effort sighting data from the primary transect lines under favourable conditions (Beaufort 3 or below) for each set of the surveys in NEL and NWL are shown in Table 2. The average encounter rates deduced from the six sets of surveys were also compared with the ones deduced from the baseline monitoring period (September – November 2011) (Table 3).

3.3.2. To facilitate the comparison with the AFCD long-term monitoring results, the encounter rates were also calculated for the present quarter using both primary and secondary survey effort. The encounter rates of sightings (STG) and dolphins (ANI) in NWL were 1.2 sightings and 5.2 dolphins per 100 km of survey effort respectively, while the encounter rates of sightings (STG) and dolphins (ANI) in NEL were both nil for this quarter.

Table 2. Dolphin encounter rates (sightings per 100 km of survey effort) during September-November 2017

SURVEY AREA	DOLPHIN MONITORING DATES	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)	Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)
		Primary Lines Only	Primary Lines Only
Northeast Lantau	Set 1 (5 & 14 Sep 2017)	0.0	0.0
	Set 2 (21 & 25 Sep 2017)	0.0	0.0
	Set 3 (6 & 12 Oct 2017)	0.0	0.0
	Set 4 (17 & 19 Oct 2017)	0.0	0.0
	Set 5 (6 & 14 Nov 2017)	0.0	0.0
	Set 6 (23 & 28 Nov 2017)	0.0	0.0
Northwest Lantau	Set 1 (5 & 14 Sep 2017)	3.4	11.9
	Set 2 (21 & 25 Sep 2017)	3.3	8.3
	Set 3 (6 & 12 Oct 2017)	0.0	0.0
	Set 4 (17 & 19 Oct 2017)	0.0	0.0
	Set 5 (6 & 14 Nov 2017)	1.7	1.7
	Set 6 (23 & 28 Nov 2017)	0.0	0.0

3.3.3. In NEL, the average dolphin encounter rates (both STG and ANI) in the present three-month impact monitoring period were both zero with no on-effort sighting being made, and such extremely low occurrence of dolphins in NEL have also been consistently recorded in recent years of HZMB monitoring (Table 4).

Table 3. Comparison of average dolphin encounter rates from impact monitoring period (September – November 2017) and baseline monitoring period (September – November 2011) (Note: encounter rates deduced from the baseline monitoring period have been recalculated based only on survey effort and on-effort sighting data made along the primary transect lines under favourable conditions; ± denotes the standard deviation of the average encounter rates)

	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)		**Encounter rate (ANI)** (no. of dolphins from all on-effort sightings per 100 km of survey effort)	
	September – November 2017	**September – November 2011**	**September – November 2017**	**September – November 2011**
Northeast Lantau	0.0	6.0 ± 5.05	0.0	22.2 ± 26.81
Northwest Lantau	1.4 ± 1.65	9.9 ± 5.85	3.7 ± 5.17	44.7 ± 29.85

Table 4. Comparison of average dolphin encounter rates in Northeast Lantau survey area from the same autumn quarters of HKLR03 and HKBCF impact monitoring period and baseline monitoring period (September-November 2011) (Note: encounter rates deduced from the baseline monitoring period have been recalculated based only on survey effort and on-effort sighting data made along the primary transect lines under favourable conditions; ± denotes the standard deviation of the average encounter rates)

	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)	**Encounter rate (ANI)** (no. of dolphins from all on-effort sightings per 100 km of survey effort)
September-November 2011 (Baseline)	**6.0 ± 5.05**	**22.2 ± 26.81**
September-November 2013 (HKLR03 Impact*)	1.0 ± 1.59	3.8 ± 6.49
September-November 2014 (HKLR03 Impact*)	0.00	0.00
September-November 2015 (HKLR03 Impact*)	0.00	0.00
September-November 2016 (HKLR03 Impact*)	0.00	0.00
September-November 2017 (HKBCF Impact)	**0.00**	**0.00**

* As explained in Section 1.5, the previous monitoring data from Contract No. HY/2011/03 (i.e. HKLR03) were adopted for comparison with the baseline and present HKBCF impact monitoring period

3.3.4. On the other hand, the average dolphin encounter rates (STG and ANI) in NWL during the present impact phase monitoring period (reductions of 85.7% and 91.8% respectively) were only very small fractions of the ones recorded during the three-month baseline period, indicating a dramatic decline in dolphin usage of this survey area as well during the present impact phase period (Table 5).

3.3.5. During the same autumn quarters (with comparison to past HKLR03 monitoring data), dolphin encounter rates in NWL during autumn 2017 was similar to the previous autumn period in and 2016, but was much lower than the ones in the summer periods of 2013, 2014 and 2015 (Table 5). Such temporal trend should be closely monitored in the upcoming monitoring quarters whether the dolphin occurrence would continue to increase as the construction activities of HZMB works have been mostly completed in coming months.

Table 5. Comparison of average dolphin encounter rates in Northwest Lantau survey area from all quarters of HKLR03 and HKBCF impact monitoring period and baseline monitoring period (September-November 2011) (Note: encounter rates deduced from the baseline monitoring period have been recalculated based only on survey effort and on-effort sighting data made along the primary transect lines under favourable conditions; ± denotes the standard deviation of the average encounter rates)

	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)	**Encounter rate (ANI)** (no. of dolphins from all on-effort sightings per 100 km of survey effort)
September-November 2011 (Baseline)	**9.9 ± 5.85**	**44.7 ± 29.85**
September-November 2013 (HKLR03 Impact*)	8.0 ± 1.10	32.5 ± 26.51
September-November 2014 (HKLR03 Impact*)	5.1 ± 4.40	20.5 ± 15.10
September-November 2015 (HKLR03 Impact*)	3.9 ± 1.57	21.1 ± 17.19
September-November 2016 (HKLR03 Impact*)	2.9 ± 1.98	10.9 ± 10.98
September-November 2017 (HKBCF Impact)	**3.1 ± 1.91**	**10.4 ± 9.66**

* As explained in Section 1.5, the previous monitoring data from Contract No. HY/2011/03 (i.e. HKLR03) were adopted for comparison with the baseline and present HKBCF impact monitoring period

3.3.6. A two-way ANOVA with repeated measures and unequal sample size was conducted to examine whether there were any significant differences in the average encounter rates between the baseline and impact monitoring periods. The two variables that were examined included the two periods (baseline and impact phases) and two locations (NEL and NWL).

3.3.7. For the comparison between the baseline period and the present quarter, the p-values for the differences in average dolphin encounter rates of STG and ANI were 0.0025 and 0.0156 respectively. If the alpha value is set at 0.05, significant differences were detected between the baseline and present quarter in both the average dolphin encounter rates of STG and ANI.

3.3.8. As indicated in both dolphin distribution patterns and encounter rates, dolphin usage has been significantly reduced in both NEL and NWL survey areas during the present quarterly period, and such low occurrence of dolphins has also been consistently documented in past HZMB dolphin monitoring studies.

3.3.9. The dramatic decline in dolphin usage of North Lantau region raises serious concern, as the timing of the decline in dolphin usage in North Lantau waters coincided well with the construction schedule of the HZMB-related projects (Hung 2017). Apparently there was no sign of recovery of dolphin usage even though most of the marine works associated with the HZMB construction have been completed.

3.4. Group size

3.4.1. Group size of Chinese White Dolphins ranged from one to 12 individuals per group in North Lantau region during September to November 2017. The average dolphin group sizes from these three months were compared with the ones deduced from the baseline period in September to November 2011, as shown in Table 6.

Table 6. Comparison of average dolphin group sizes from impact monitoring period (September-November 2017) and baseline monitoring period (September-November 2011) (Note: ± denotes the standard deviation of average group size)

	Average Dolphin Group Size	
	September – November 2017	**September – November 2011**
Overall	4.2 ± 4.17 (n = 6)	3.7 ± 3.13 (n = 66)
Northeast Lantau	---	3.2 ± 2.16 (n = 17)
Northwest Lantau	4.2 ± 4.17 (n = 6)	3.9 ± 3.40 (n = 49)

3.4.2. The average dolphin group size in NWL waters during September to November 2017 was slightly higher than the one recorded during the three-month baseline period, but it should also be noted that the sample size of six dolphin groups in the present quarter was very small when compared to the 66 groups sighted during the baseline period (Table 6).

3.4.3. Notably, four of the six dolphin groups were composed of 1-4 individuals only, while there was one medium-sized group with five dolphins, and another large group with 12 dolphins (Appendix II).

3.4.4. Distribution of the larger dolphin groups with five individuals or more per group during the present quarter is shown in Figure 3, with comparison to the one in baseline period. The medium-sized group with 5 dolphins was located to the west of the airport near the HKLR09 alignment, while the large group of 12 dolphins was sighted adjacent to the west

of Lung Kwu Chau (Figure 2). Such distribution pattern was very different from the baseline period, when the larger dolphin groups were frequently sighted and evenly distributed in NWL waters, with a few also sighted in NEL waters (Figure 2).

3.5. Habitat use

3.5.1. From September to November 2017, the three of the six grids with high dolphin densities were located to the west of Lung Kwu Chau, north of Sha Chau and near the HKLR09 alignment (Figures 3a and 3b). Notably, all grids near HKBCF/HKLR03 reclamation sites as well as TMCLKL alignment did not record any presence of dolphins at all during on-effort search in the present quarterly period (Figures 3a and 3b).

3.5.2. However, it should be emphasized that the amount of survey effort collected in each grid during the three-month period was fairly low (6-12 units of survey effort for most grids), and therefore the habitat use pattern derived from the three-month dataset should be treated with caution. A more complete picture of dolphin habitat use pattern should be examined when more survey effort for each grid will be collected throughout the impact phase monitoring programme.

3.5.3. When compared with the habitat use patterns during the baseline period, dolphin usage in NEL and NWL has drastically diminished in both areas during the present impact monitoring period (Figure 4). During the baseline period, many grids between Siu Mo To and Shum Shui Kok in NEL recorded moderately high to high dolphin densities, which was in stark contrast to the complete absence of dolphins there during the present impact phase period (Figure 4).

3.5.4. The density patterns were also very different in NWL between the baseline and impact phase monitoring periods, with high dolphin usage throughout the area during the baseline period. In contrast, only several grids with high dolphin densities were located near Lung Kwu Chau and Sha Chau during the present impact phase period (Figure 4).

3.6. Mother-calf pairs

3.6.1. During the present quarterly period, no young calf was sighted at all among the six groups of dolphins.

3.7. Activities and associations with fishing boats

3.7.1. One of the six dolphin groups (i.e. the large group located just to the west of Lung Kwu Chau; Figure 5) were engaged in socializing activity, while the rest of the groups were not engaged in feeding, traveling or milling/resting activity during the three-month study period.

3.7.2. When compared to the baseline period, distribution of various dolphin activities during the present impact phase monitoring period was drastically different with very rare occurrence of such activities in the present quarter (Figure 5).

3.7.3. Notably, none of the six groups was associated with any operating fishing vessel during the present impact phase period.

3.8. Summary of photo-identification works

3.8.1. From September to November 2017, over 1,000 digital photographs of Chinese White Dolphins were taken during the impact phase monitoring surveys for the photo-identification work.

3.8.2. In total, 18 individuals sighted 19 times altogether were identified (see summary table in Appendix III and photographs of identified individuals in Appendix IV). All of these re-sightings were made in NWL.

3.8.3. Among the 18 individuals, only one individual (i.e. CH34) was re-sighted twice, while the rest were only re-sighted once during the three-month period (Appendix III).

3.8.4. Notably, ten of these 18 individuals (i.e. CH34, NL12, NL49, NL104, NL136, NL182, NL202, NL320, NL321 and WL05) were also sighted in Northwest Lantau during the HKLR03 monitoring surveys conducted concurrently in the same three-month period. Moreover, six individuals (i.e. CH34, NL12, NL49, NL182, NL317, and WL05) were also sighted in West Lantau waters during the HKLR09 monitoring surveys from September to November 2017, showing their extensive individual movements across different survey areas.

3.9. Individual range use

3.9.1. Ranging patterns of the 18 individuals identified during the three-month study period were determined by fixed kernel method, and are shown in Appendix V.

3.9.2. All identified dolphins sighted in the present quarter were utilizing NWL waters only, but have completely avoided NEL waters where many of them have utilized as their core areas in the past (Appendix V). This is in stark contrary to the extensive movements between NEL and NWL survey areas observed in the earlier impact monitoring quarters as well as the baseline period.

3.9.3. On the other hand, some individuals (NL12, NL182 and WL05) consistently utilized North Lantau waters in the past have extended their range use to WL during the present

quarter.

3.9.4. In the upcoming quarters, individual range use and movements should be continuously monitored to examine whether there has been any consistent shifts of individual home ranges from North Lantau to West or Southwest Lantau, as such shift could possibly be related to the HZMB-related construction works (see Hung 2017).

4. Conclusion

4.1. During the present quarter of dolphin monitoring, no adverse impact from the activities of this construction project on Chinese White Dolphins was noticeable from general observations.

4.2. Although dolphins seldom occurred in the area of HKBCF construction in the past and during the baseline monitoring period, it is apparent that dolphin usage has been dramatically reduced in North Lantau waters in recent years, and many individuals have shifted away from this once-important habitat for the dolphins.

4.3. It is critical to continuously monitor the dolphin usage in North Lantau region in the upcoming quarters, to determine whether the dolphins are continuously affected by the various construction activities in relation to the HZMB-related works, and whether there is any sign of recovery when the construction works have been completed.

5. References

Buckland, S. T., Anderson, D. R., Burnham, K. P., Laake, J. L., Borchers, D. L., and Thomas, L. 2001. Introduction to distance sampling: estimating abundance of biological populations. Oxford University Press, London.

Hung, S. K. 2008. Habitat use of Indo-Pacific humpback dolphins (*Sousa chinensis*) in Hong Kong. Ph.D. dissertation. University of Hong Kong, Hong Kong, 266 p.

Hung, S. K. 2017. Monitoring of Marine Mammals in Hong Kong waters: final report (2016-17). An unpublished report submitted to the Agriculture, Fisheries and Conservation Department, 162 pp.

Jefferson, T. A. 2000. Population biology of the Indo-Pacific hump-backed dolphin in Hong Kong waters. Wildlife Monographs 144:1-65.

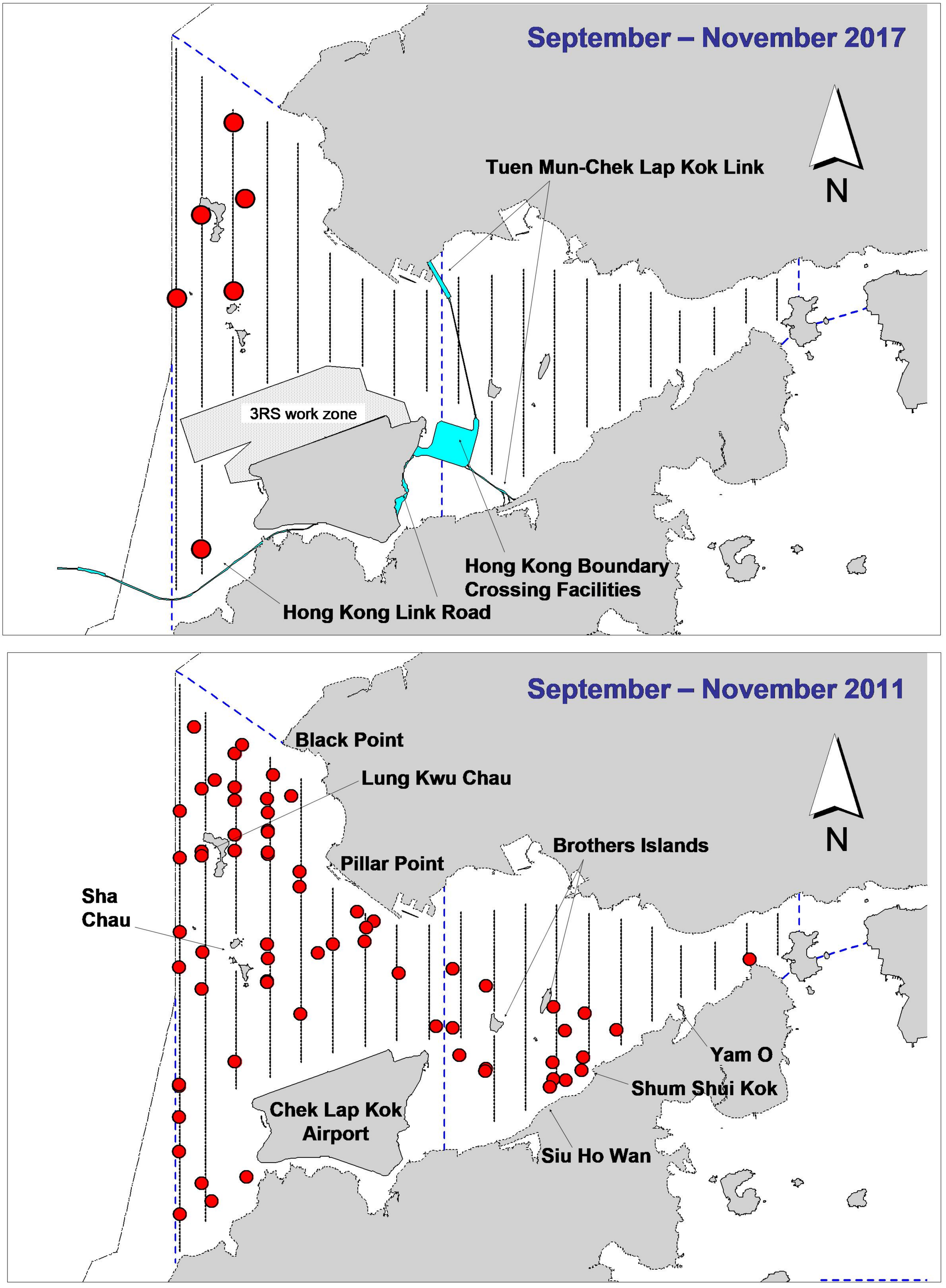


Figure 1. Distribution of Chinese white dolphin sighting in Northwest and Northeast Lantau during HKBCF impact phase (top) and baseline monitoring surveys (bottom)

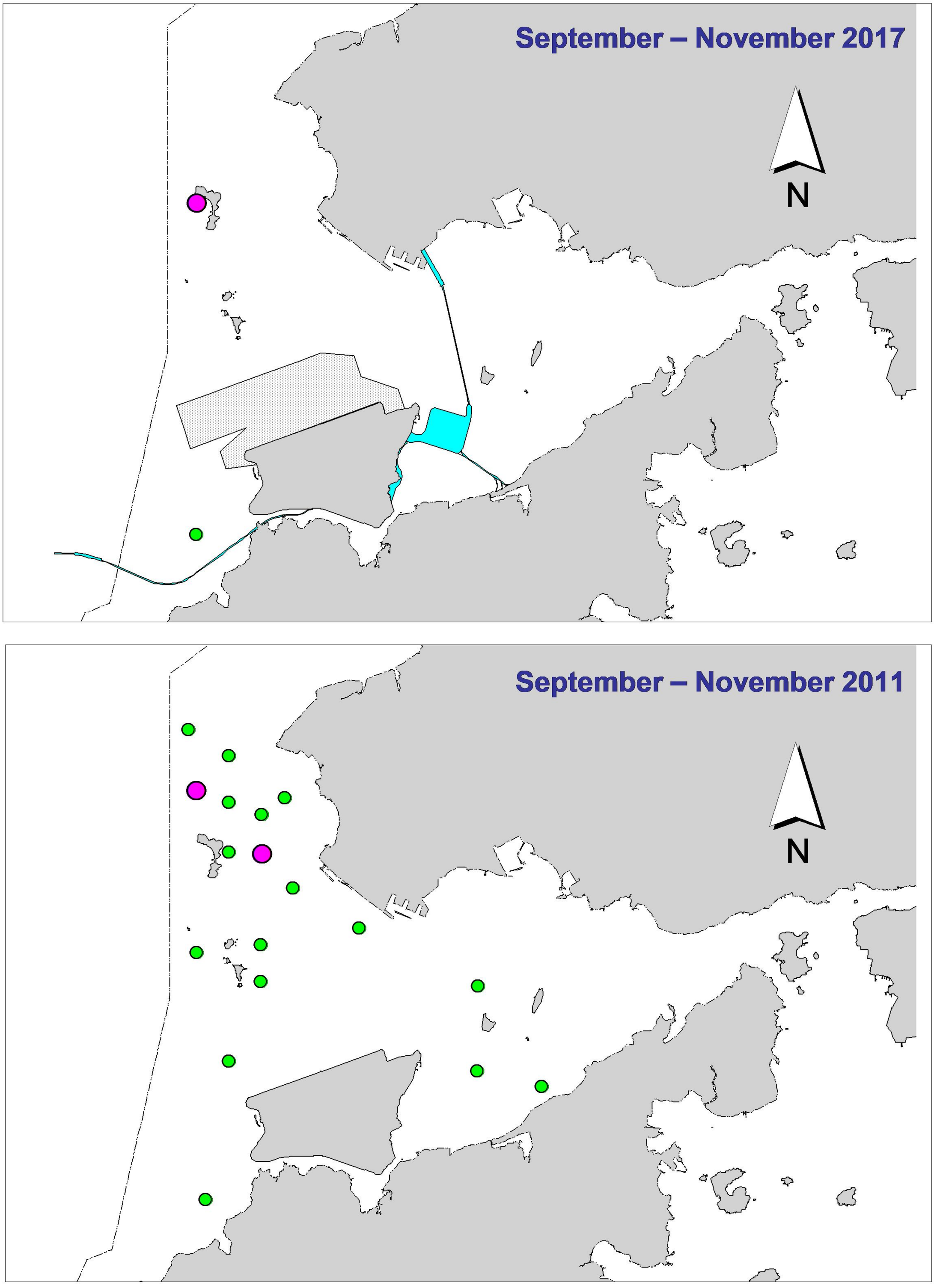


Figure 2. Distribution of Chinese white dolphins with larger group sizes during HKBCF impact phase (top) and baseline monitoring surveys (bottom) (green dots: group sizes of 5 or more; purple dots: group sizes of 10 or more)

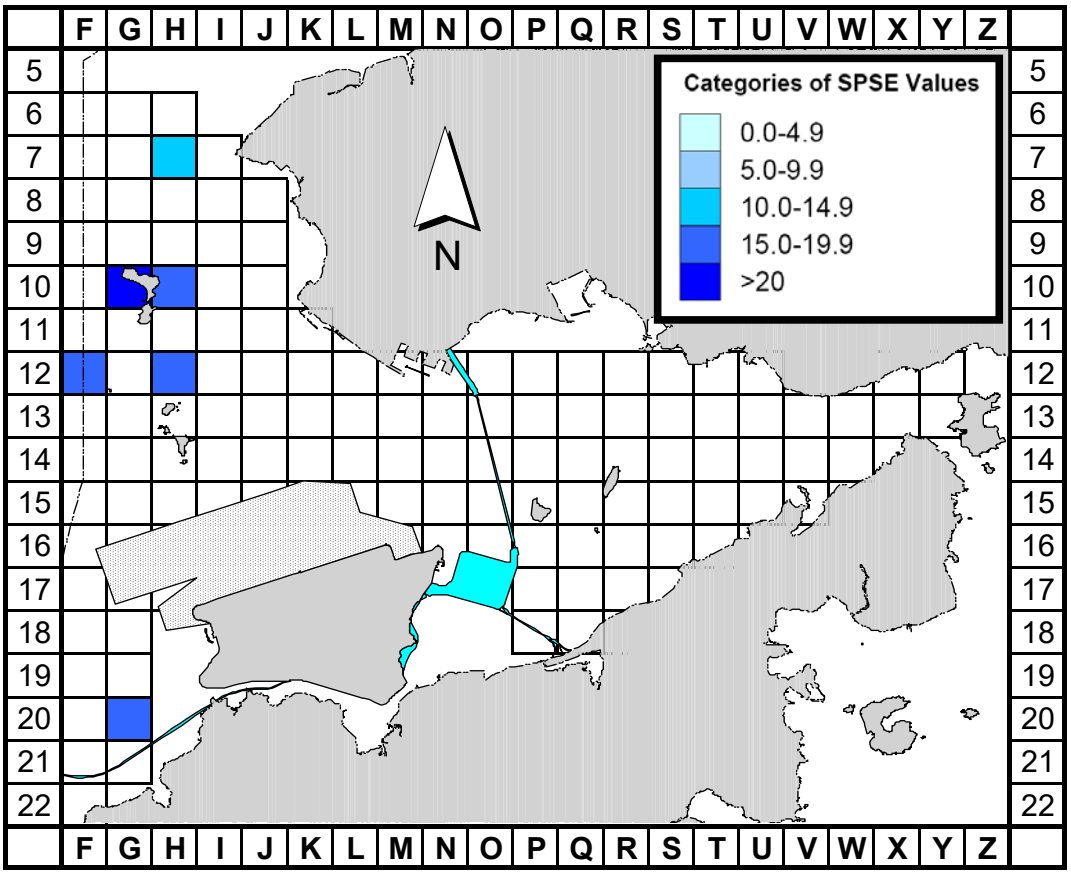


Figure 3a. Sighting density of Chinese white dolphins with corrected survey effort per km^2 in Northeast and Northwest Lantau survey areas, using data collected during HKBCF impact monitoring period monitoring period (Sep-Nov 17) (SPSE = no. of on-effort sightings per 100 units of survey effort)

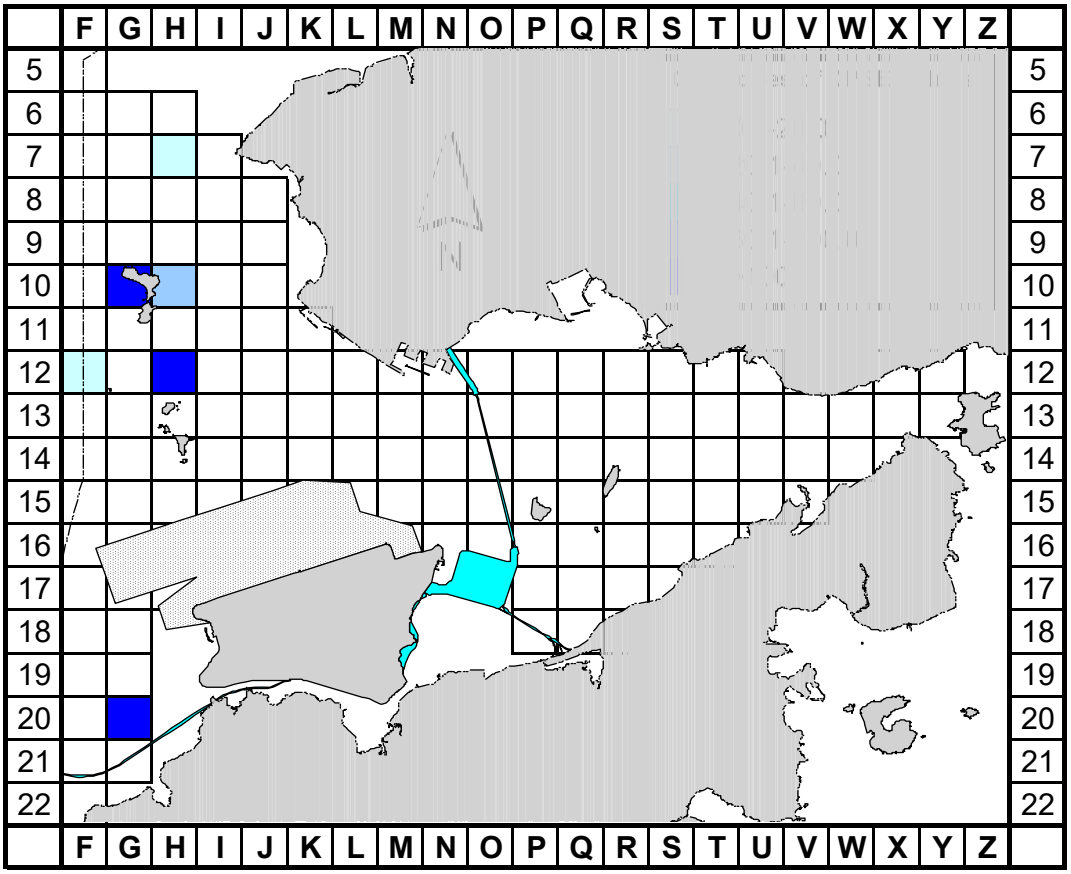


Figure 3b. Density of Chinese white dolphins with corrected survey effort per km^2 in Northeast and Northwest Lantau survey areas, using data collected during HKBCF impact monitoring period (Sep-Nov 17) (DPSE = no. of dolphins per 100 units of survey effort)

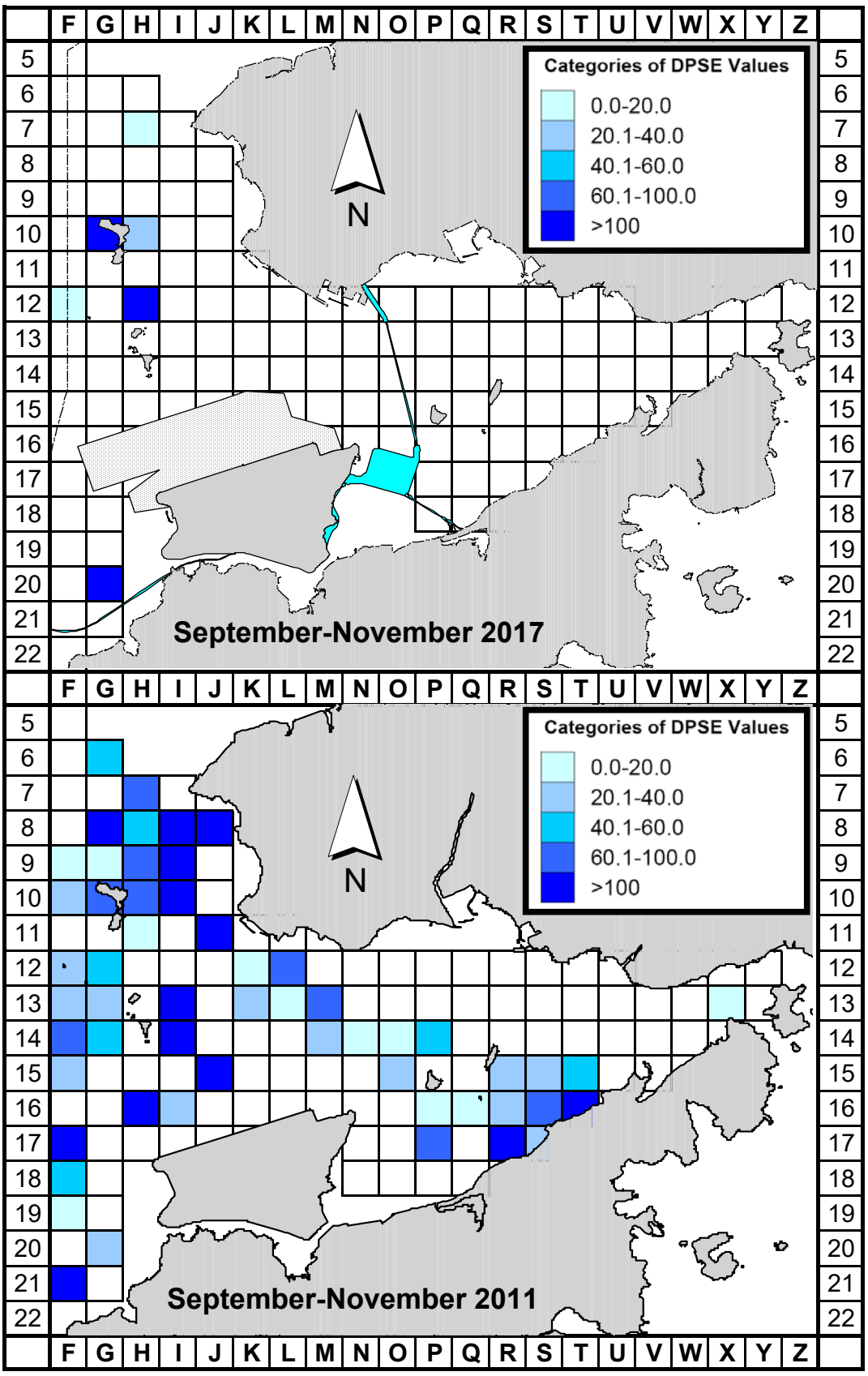


Figure 4. Comparison of density of Chinese white dolphins with corrected survey effort per km^2 in Northwest and Northeast Lantau survey area between the HKBCF impact monitoring period September-November 2017) and baseline monitoring period (September-November 2011) (DPSE = no. of dolphins per 100 units of survey effort)

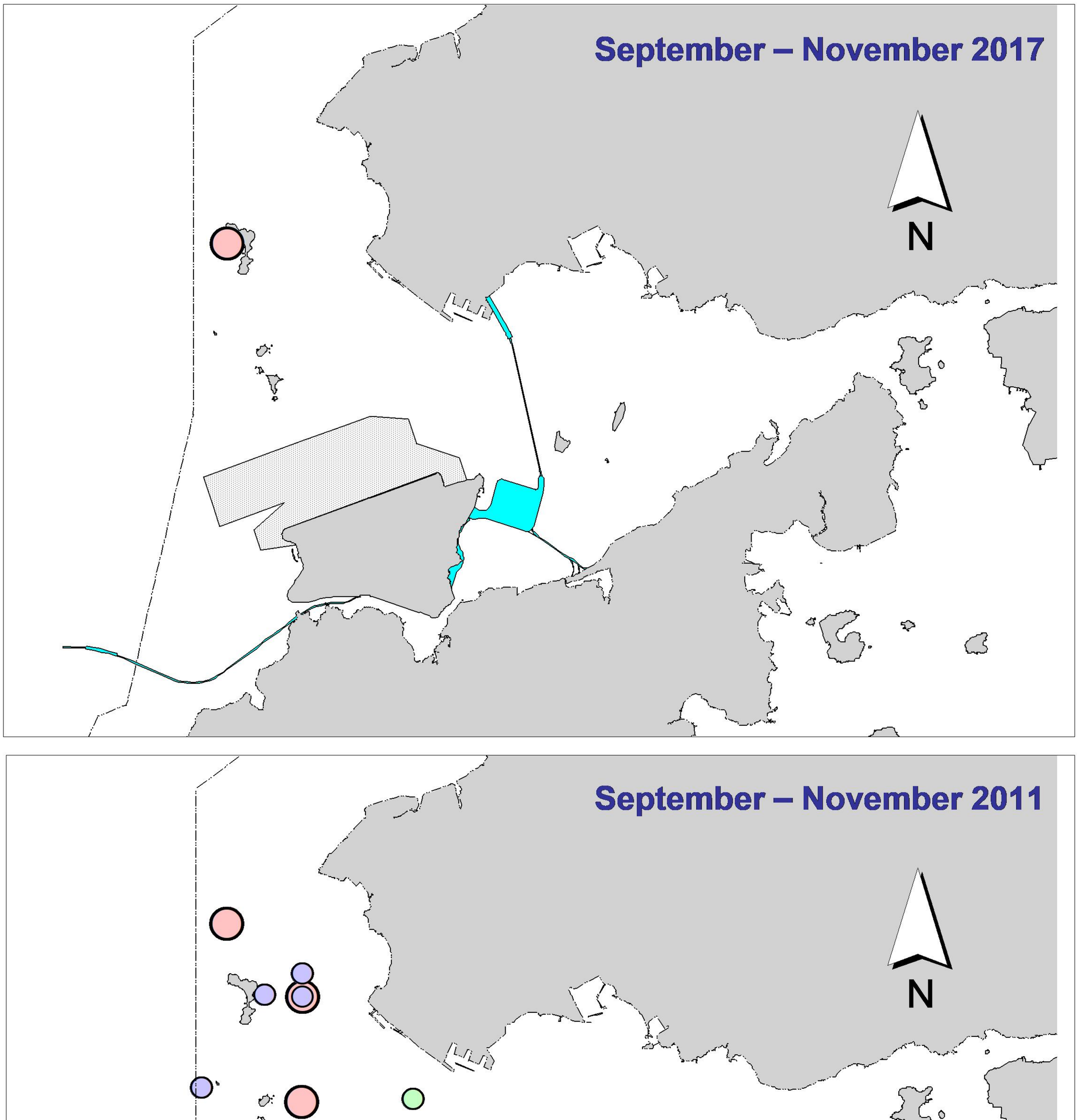


Figure 5. Distribution of Chinese white dolphins engaged in feeding (purple dots), socializing (pink dots) and traveling (green dots) activities during HKBCF impact phase (top) and baseline monitoring surveys (bottom)

Annex I. HKBCF Survey Effort Database (September-November 2017)

(Abbreviations: BEAU = Beaufort Sea State; P = Primary Line Effort; S = Secondary Line Effort)

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
5-Sep-17	NW LANTAU	2	16.02	AUTUMN	STANDARD36826	HKBCF	P
5-Sep-17	NW LANTAU	3	8.63	AUTUMN	STANDARD36826	HKBCF	P
5-Sep-17	NW LANTAU	2	6.47	AUTUMN	STANDARD36826	HKBCF	S
5-Sep-17	NW LANTAU	3	4.47	AUTUMN	STANDARD36826	HKBCF	S
5-Sep-17	NE LANTAU	2	21.92	AUTUMN	STANDARD36826	HKBCF	P
5-Sep-17	NE LANTAU	3	13.97	AUTUMN	STANDARD36826	HKBCF	P
5-Sep-17	NE LANTAU	2	10.56	AUTUMN	STANDARD36826	HKBCF	S
5-Sep-17	NE LANTAU	3	1.85	AUTUMN	STANDARD36826	HKBCF	S
14-Sep-17	NW LANTAU	2	9.06	AUTUMN	STANDARD36826	HKBCF	P
14-Sep-17	NW LANTAU	3	25.07	AUTUMN	STANDARD36826	HKBCF	P
14-Sep-17	NW LANTAU	2	5.67	AUTUMN	STANDARD36826	HKBCF	S
14-Sep-17	NW LANTAU	3	6.90	AUTUMN	STANDARD36826	HKBCF	S
21-Sep-17	NW LANTAU	1	10.28	AUTUMN	STANDARD36826	HKBCF	P
21-Sep-17	NW LANTAU	2	24.36	AUTUMN	STANDARD36826	HKBCF	P
21-Sep-17	NW LANTAU	1	1.22	AUTUMN	STANDARD36826	HKBCF	S
21-Sep-17	NW LANTAU	2	12.10	AUTUMN	STANDARD36826	HKBCF	S
21-Sep-17	NE LANTAU	2	23.33	AUTUMN	STANDARD36826	HKBCF	P
21-Sep-17	NE LANTAU	3	4.20	AUTUMN	STANDARD36826	HKBCF	P
21-Sep-17	NE LANTAU	2	7.47	AUTUMN	STANDARD36826	HKBCF	S
21-Sep-17	NE LANTAU	3	0.90	AUTUMN	STANDARD36826	HKBCF	S
25-Sep-17	NE LANTAU	2	6.73	AUTUMN	STANDARD36826	HKBCF	P
25-Sep-17	NE LANTAU	3	2.11	AUTUMN	STANDARD36826	HKBCF	P
25-Sep-17	NE LANTAU	2	2.36	AUTUMN	STANDARD36826	HKBCF	S
25-Sep-17	NW LANTAU	2	8.74	AUTUMN	STANDARD36826	HKBCF	P
25-Sep-17	NW LANTAU	3	16.74	AUTUMN	STANDARD36826	HKBCF	P
25-Sep-17	NW LANTAU	2	3.18	AUTUMN	STANDARD36826	HKBCF	S
25-Sep-17	NW LANTAU	3	7.54	AUTUMN	STANDARD36826	HKBCF	S
6-Oct-17	NW LANTAU	2	15.46	AUTUMN	STANDARD36826	HKBCF	P
6-Oct-17	NW LANTAU	3	19.54	AUTUMN	STANDARD36826	HKBCF	P
6-Oct-17	NW LANTAU	2	7.20	AUTUMN	STANDARD36826	HKBCF	S
6-Oct-17	NW LANTAU	3	6.20	AUTUMN	STANDARD36826	HKBCF	S
6-Oct-17	NE LANTAU	2	16.90	AUTUMN	STANDARD36826	HKBCF	P
6-Oct-17	NE LANTAU	3	18.40	AUTUMN	STANDARD36826	HKBCF	P
6-Oct-17	NE LANTAU	2	7.60	AUTUMN	STANDARD36826	HKBCF	S
6-Oct-17	NE LANTAU	3	6.40	AUTUMN	STANDARD36826	HKBCF	S
12-Oct-17	NW LANTAU	2	19.17	AUTUMN	STANDARD36826	HKBCF	P
12-Oct-17	NW LANTAU	3	6.73	AUTUMN	STANDARD36826	HKBCF	P
12-Oct-17	NW LANTAU	2	5.59	AUTUMN	STANDARD36826	HKBCF	S
12-Oct-17	NW LANTAU	3	4.33	AUTUMN	STANDARD36826	HKBCF	S
17-Oct-17	NW LANTAU	2	11.40	AUTUMN	STANDARD36826	HKBCF	P
17-Oct-17	NW LANTAU	3	14.40	AUTUMN	STANDARD36826	HKBCF	P
17-Oct-17	NW LANTAU	2	3.90	AUTUMN	STANDARD36826	HKBCF	S
17-Oct-17	NW LANTAU	3	6.90	AUTUMN	STANDARD36826	HKBCF	S
17-Oct-17	NE LANTAU	2	36.66	AUTUMN	STANDARD36826	HKBCF	P
17-Oct-17	NE LANTAU	2	12.04	AUTUMN	STANDARD36826	HKBCF	S
19-Oct-17	NW LANTAU	2	13.37	AUTUMN	STANDARD36826	HKBCF	P
19-Oct-17	NW LANTAU	3	17.70	AUTUMN	STANDARD36826	HKBCF	P
19-Oct-17	NW LANTAU	4	1.20	AUTUMN	STANDARD36826	HKBCF	P
19-Oct-17	NW LANTAU	2	7.63	AUTUMN	STANDARD36826	HKBCF	S
19-Oct-17	NW LANTAU	3	10.20	AUTUMN	STANDARD36826	HKBCF	S

Annex I. (cont'd)

(Abbreviations: BEAU = Beaufort Sea State; P = Primary Line Effort; S = Secondary Line Effort)

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
6-Nov-17	NW LANTAU	2	10.92	AUTUMN	STANDARD36826	HKBCF	P
6-Nov-17	NW LANTAU	3	21.13	AUTUMN	STANDARD36826	HKBCF	P
6-Nov-17	NW LANTAU	2	7.10	AUTUMN	STANDARD36826	HKBCF	S
6-Nov-17	NW LANTAU	3	4.45	AUTUMN	STANDARD36826	HKBCF	S
6-Nov-17	NE LANTAU	1	4.96	AUTUMN	STANDARD36826	HKBCF	P
6-Nov-17	NE LANTAU	2	28.51	AUTUMN	STANDARD36826	HKBCF	P
6-Nov-17	NE LANTAU	3	2.80	AUTUMN	STANDARD36826	HKBCF	P
6-Nov-17	NE LANTAU	1	2.40	AUTUMN	STANDARD36826	HKBCF	S
6-Nov-17	NE LANTAU	2	7.23	AUTUMN	STANDARD36826	HKBCF	S
6-Nov-17	NE LANTAU	3	1.00	AUTUMN	STANDARD36826	HKBCF	S
14-Nov-17	NW LANTAU	2	12.06	AUTUMN	STANDARD36826	HKBCF	P
14-Nov-17	NW LANTAU	3	14.63	AUTUMN	STANDARD36826	HKBCF	P
14-Nov-17	NW LANTAU	2	4.60	AUTUMN	STANDARD36826	HKBCF	S
14-Nov-17	NW LANTAU	3	5.11	AUTUMN	STANDARD36826	HKBCF	S
23-Nov-17	NW LANTAU	3	16.80	AUTUMN	STANDARD36826	HKBCF	P
23-Nov-17	NW LANTAU	4	10.19	AUTUMN	STANDARD36826	HKBCF	P
23-Nov-17	NW LANTAU	2	1.00	AUTUMN	STANDARD36826	HKBCF	S
23-Nov-17	NW LANTAU	3	6.61	AUTUMN	STANDARD36826	HKBCF	S
23-Nov-17	NW LANTAU	4	4.40	AUTUMN	STANDARD36826	HKBCF	S
23-Nov-17	NE LANTAU	2	18.00	AUTUMN	STANDARD36826	HKBCF	P
23-Nov-17	NE LANTAU	3	17.50	AUTUMN	STANDARD36826	HKBCF	P
23-Nov-17	NE LANTAU	4	0.70	AUTUMN	STANDARD36826	HKBCF	P
23-Nov-17	NE LANTAU	2	6.00	AUTUMN	STANDARD36826	HKBCF	S
23-Nov-17	NE LANTAU	3	7.40	AUTUMN	STANDARD36826	HKBCF	S
28-Nov-17	NW LANTAU	2	21.36	AUTUMN	STANDARD36826	HKBCF	P
28-Nov-17	NW LANTAU	3	12.50	AUTUMN	STANDARD36826	HKBCF	P
28-Nov-17	NW LANTAU	2	10.14	AUTUMN	STANDARD36826	HKBCF	S

Annex II. HKBCF Chinese White Dolphin Sighting Database (September-November 2017)

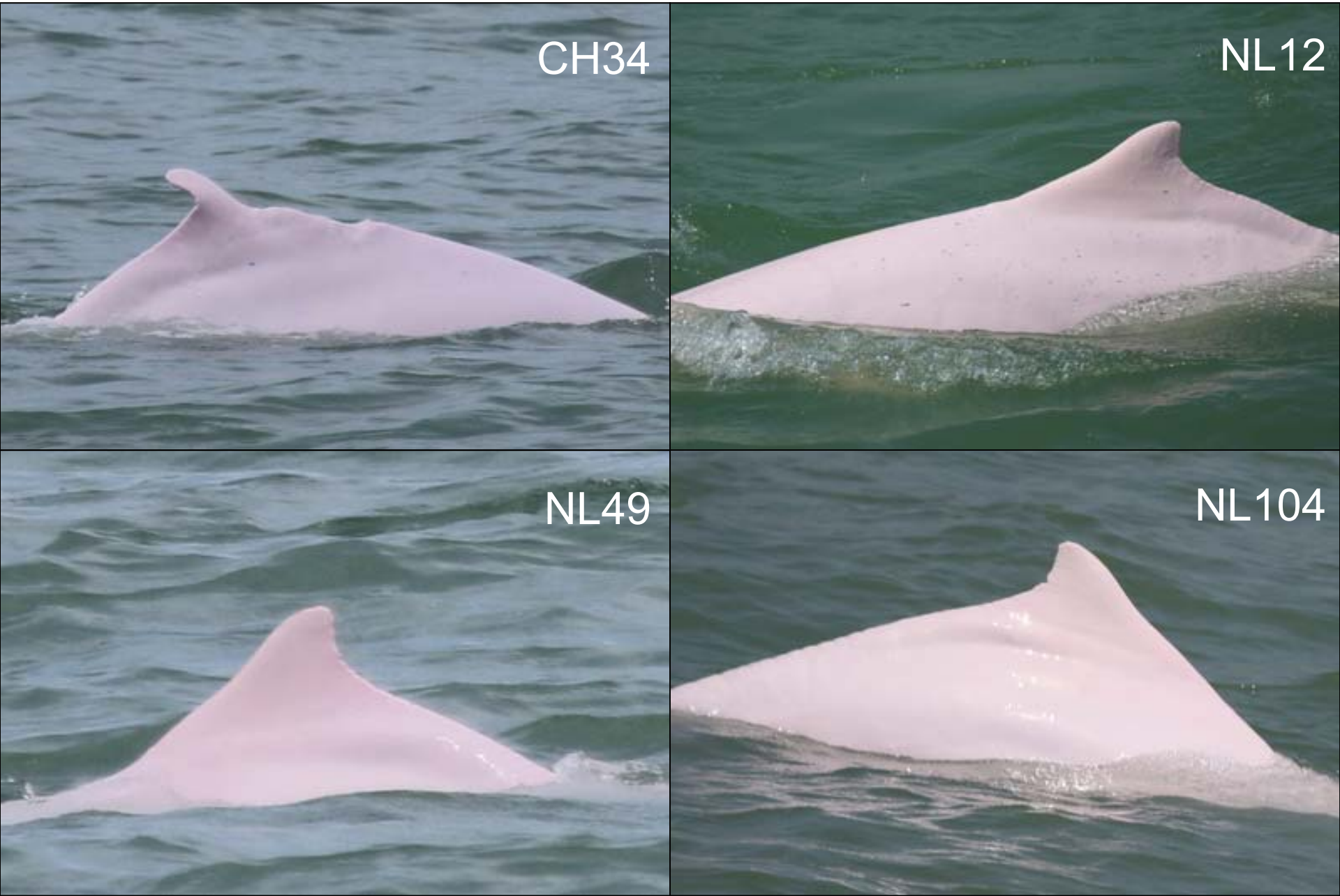
(Abberviations: STG# = Sighting Number; HRD SZ = Dolphin Herd Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance; BOAT ASSOC. = Fishing Boat Association; P/S: Sighting Made on Primary/Secondary Lines)

DATE	STG #	TIME	HRD SZ	AREA	BEAU	PSD	EFFORT	TYPE	NORTHING	EASTING	SEASON	BOAT ASSOC.	P/S
5-Sep-17	1	1014	5	NW LANTAU	2	101	ON	HKBCF	816642	805426	AUTUMN	NONE	P
5-Sep-17	2	1214	2	NW LANTAU	2	670	ON	HKBCF	826960	806796	AUTUMN	NONE	P
21-Sep-17	1	1054	1	NW LANTAU	1	796	ON	HKBCF	824041	804659	AUTUMN	NONE	P
21-Sep-17	2	1200	4	NW LANTAU	2	73	ON	HKBCF	824247	806431	AUTUMN	NONE	P
12-Oct-17	1	1158	12	NW LANTAU	2	460	ON	HKBCF	826486	805415	AUTUMN	NONE	S
6-Nov-17	1	1133	1	NW LANTAU	2	285	ON	HKBCF	829220	806451	AUTUMN	NONE	P

Annex III. Individual dolphins identified during HKBCF monitoring surveys in September - November 2017

ID#	DATE	STG#	AREA
CH34	05/09/17	1	NW LANTAU
	06/11/17	1	NW LANTAU
NL12	12/10/17	1	NW LANTAU
NL49	05/09/17	1	NW LANTAU
NL104	12/10/17	1	NW LANTAU
NL136	05/09/17	1	NW LANTAU
NL182	12/10/17	1	NW LANTAU
NL202	05/09/17	2	NW LANTAU
NL233	12/10/17	1	NW LANTAU
NL259	05/09/17	1	NW LANTAU
NL280	12/10/17	1	NW LANTAU
NL302	21/09/17	2	NW LANTAU
NL317	12/10/17	1	NW LANTAU
NL320	12/10/17	1	NW LANTAU
NL321	12/10/17	1	NW LANTAU
WL05	05/09/17	1	NW LANTAU
WL15	21/09/17	2	NW LANTAU
WL188	12/10/17	1	NW LANTAU
WL278	21/09/17	2	NW LANTAU

Annex IV. Eighteen individual dolphins that were identified during September to November 2017 under HKBCF impact phase monitoring surveys



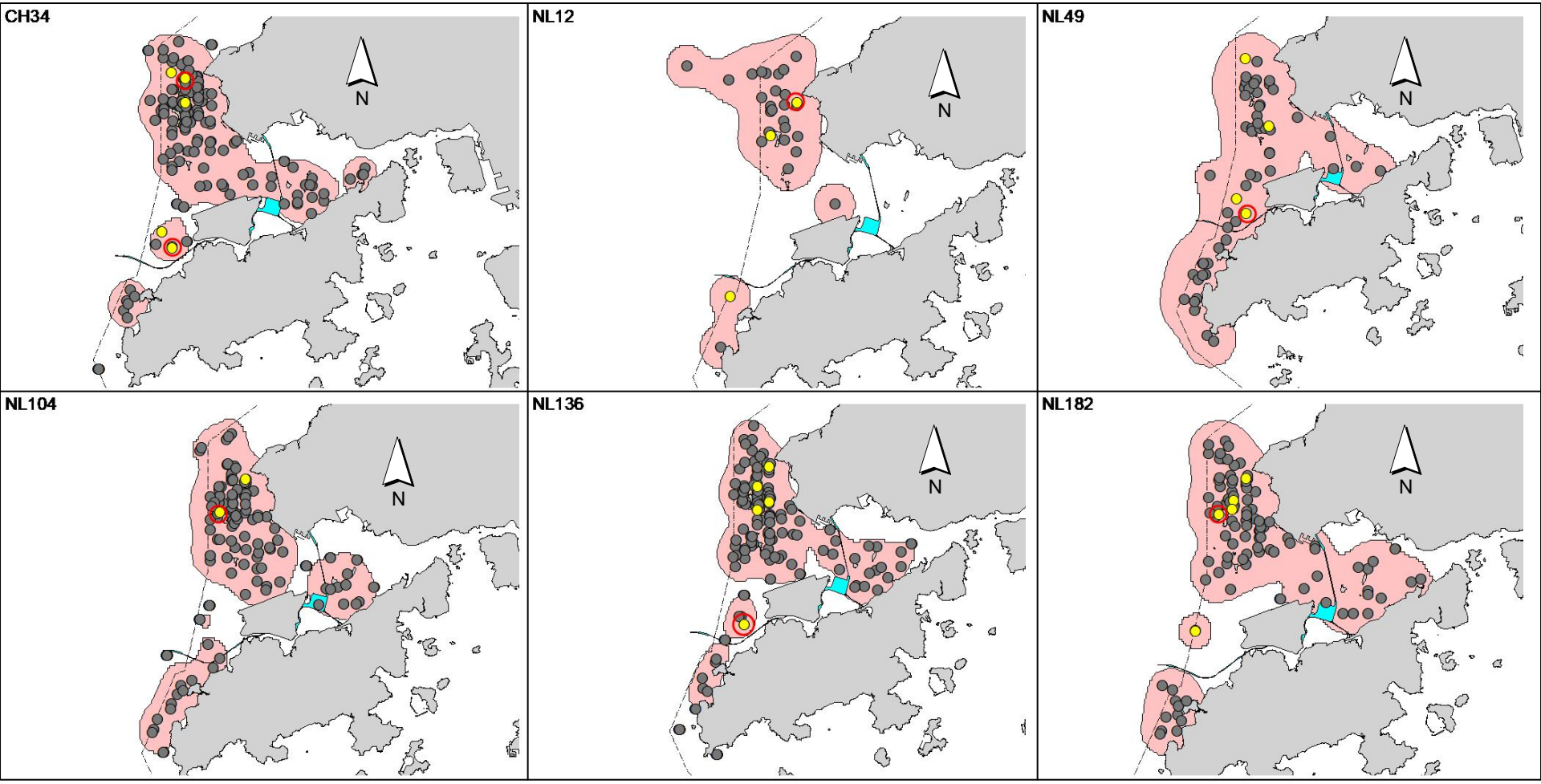
Annex IV. (cont'd)

Annex IV. (cont'd)

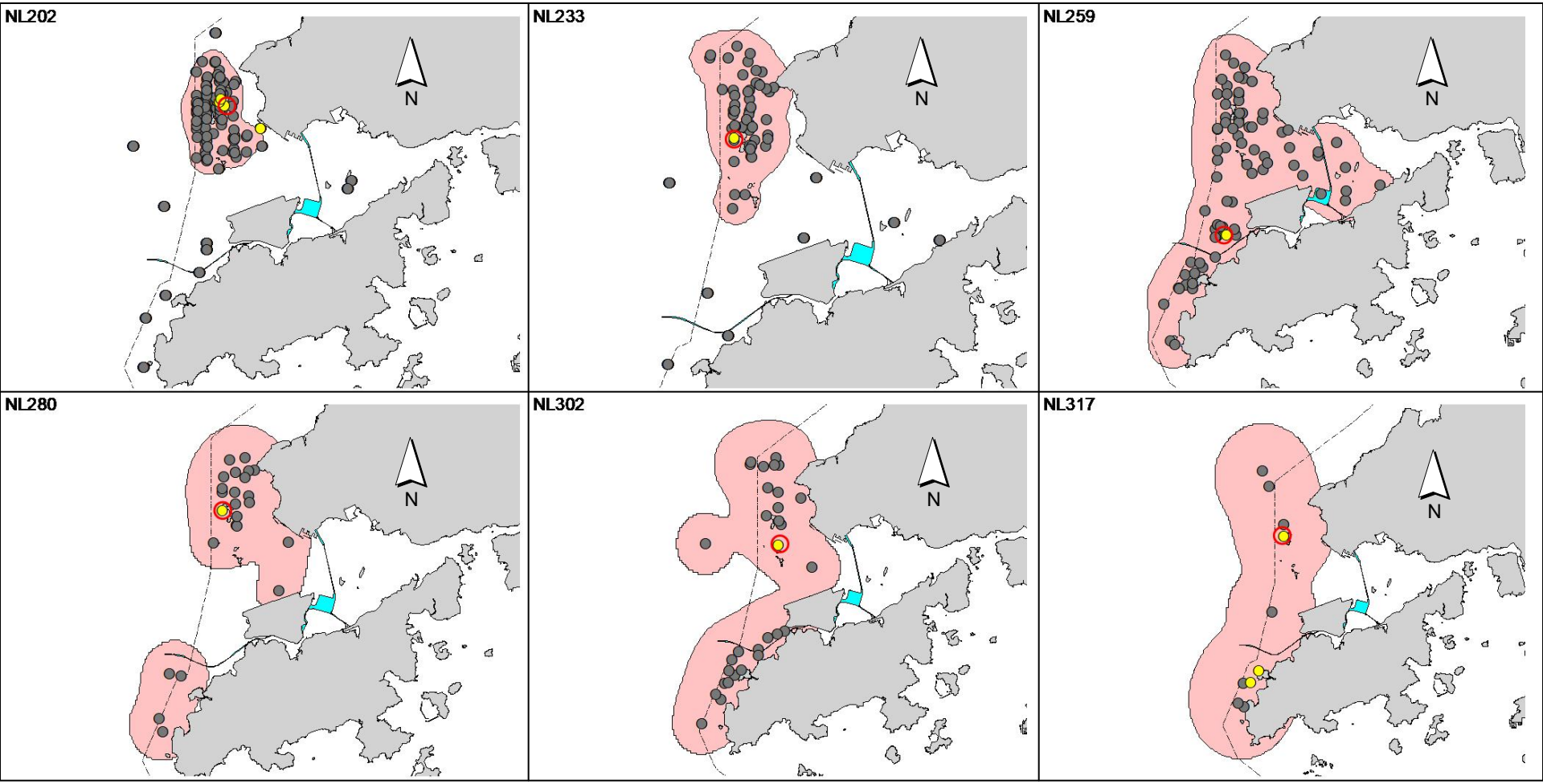
Annex IV. (cont'd)

Annex IV. (cont'd)

Annex V. Ranging patterns (95 % kernel ranges) of 18 individual dolphins that were sighted during HKBCF impact phase monitoring period (note: yellow dots with red circles indicate sightings made in September – November 2017 during HKBCF monitoring surveys; other yellow dots indicate the ones made during HKLR03 & HKLR09 monitoring surveys)



Annex V. (cont'd)



Annex V. (cont'd)