

Ramboll Hong Kong Limited  
21st Floor, BEA Harbour View Centre  
56 Gloucester Road  
Wan Chai, Hong Kong

**Attn:**  
**Mr. Raymond Dai – Independent Environmental Checker**

**Contract No. HY/2013/04 Hong Kong-Zhuhai-Macao Bridge (HZMB) Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II (Southern Portion)**

**Our Reference**

TC/GC/bw/T355861/02/  
02/L090

**Quarterly EM&A Report for October 2017 to December 2017**

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

26 February 2018

**By Email**

Dear Sir,

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F +852 2827 1823  
mottmac.hk

In accordance with Section 16.4 of the updated EM&A Manual for Hong Kong Boundary Crossing Facilities (Version 1.0) covering the captioned contract, we are pleased to submit the certified Quarterly EM&A Report for October 2017 to December 2017 for your verification.

Yours faithfully  
For MOTT MACDONALD HONG KONG LIMITED



Gary Chow  
Environmental Team Leader

Encl.

cc.  
AECOM – Mr. Alfred Cheng (By Email)  
China State Construction Engineering (Hong Kong) Ltd. – Mr. Xavier Lam / Mr. Billy Lao (By Email)

26 February 2018

By Fax (3468 2076) and By Post

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

Attention: Mr. Alfred Cheng

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/2013/04 – HZMB HKBCF – Infrastructure Works Stage II  
(Southern Portion)  
Quarterly EM&A Report for October 2017 to December 2017**

Reference is made to the Environmental Team's submission of the Quarterly Environmental Monitoring & Audit Report for October 2017 to December 2017 certified by the ET Leader (ET's ref.: "TC/GC/bw/T355861/02/02/L090" dated 26 February 2018) and provided to us via e-mail on 26 February 2018.

We are pleased to inform you that we have no adverse comment on the captioned Quarterly EM&A Report for October 2017 to December 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 Environ Hong Kong Limited

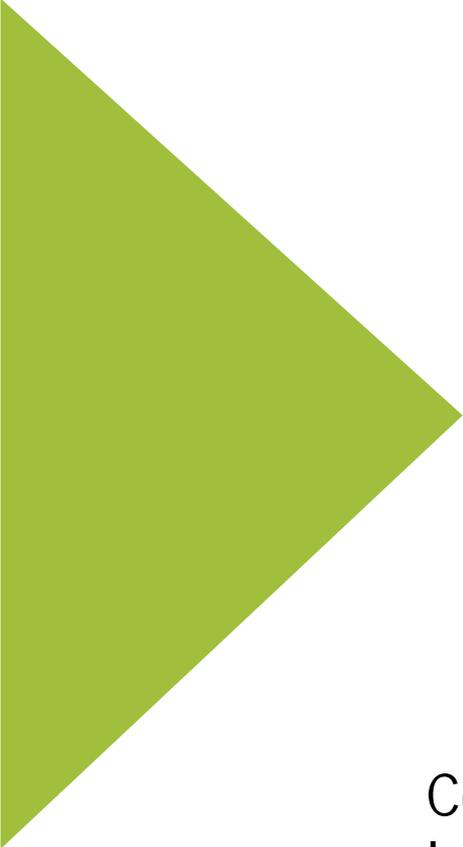
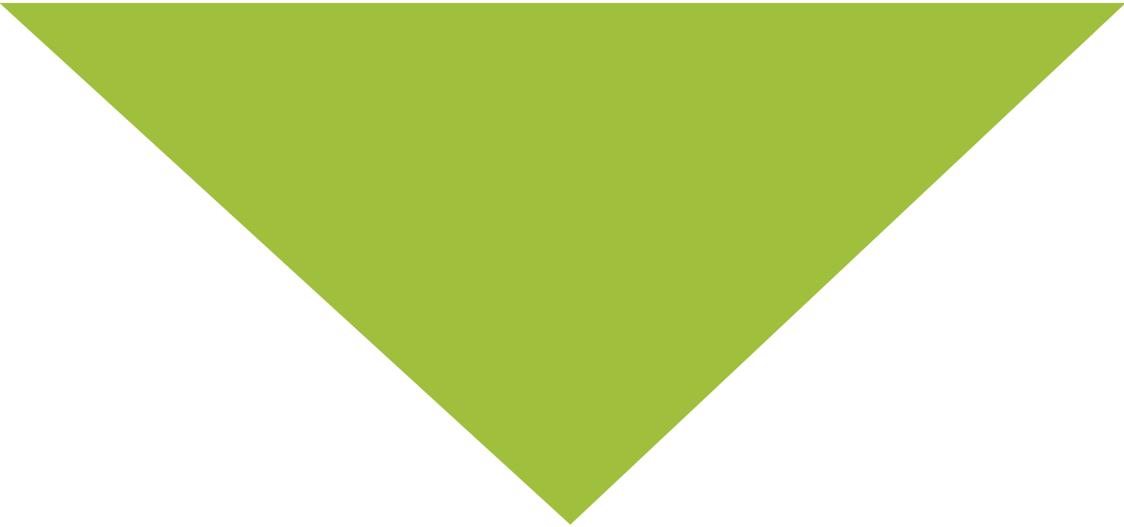


Raymond Dai  
Independent Environmental Checker

c.c.	HyD	Mr. Vico Cheung	(By Fax: 3188 6614)
	HyD	Mr. Horace Hong	(By Fax: 3188 6614)
	MMHK	Mr. Gary Chow	(By Fax: 2827 1823)
	CSCCE	Mr. Jason Chung	(By Fax: 2459 4336)

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

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Contract No. HY/2013/04 HZMB HKBCF –  
Infrastructure Works Stage II (Southern Portion)

Quarterly EM&A Report for October 2017 to  
December 2017

January 2018

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# Executive summary

This Quarterly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2013/04 “Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II (Southern Portion)” (hereafter referred to as “the Contract”) for the Highways Department of Hong Kong Special Administrative Region (HKSAR). The Contract was awarded to China State Construction Engineering (Hong Kong) Limited (hereafter referred to as “the Contractor”) and Mott MacDonald Hong Kong Limited (MMHK) was appointed as the Environmental Team (ET) by the Contractor.

The Contract is part of the “Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities” (HZMB HKBCF) Project which is a “Designated Project” under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and for which an EIA Report (Register No. AEIAR-145/2009) was prepared and approved. The current Environmental Permit (EP) for HKBCF, namely No. EP-353/2009/K, was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. Commencement of the Contract took place on 13 March 2015 and the construction works commenced on 13 July 2015.

Mott MacDonald Hong Kong Limited has been appointed by the Contractor to implement the Environmental Monitoring & Audit (EM&A) programme for the Contract in accordance with the Updated EM&A Manual for HKBCF (Version 1.0) and will be providing environmental team services for the Contract. This is the 10<sup>th</sup> Quarterly EM&A Report for the Contract which summarises findings of the EM&A works during the reporting period from 1 October 2017 to 31 December 2017 (the “reporting period”).

## Environmental Monitoring and Audit Progress

The EM&A programme was undertaken in accordance with the Updated EM&A Manual for HKBCF (Version 1.0). It should be noted that, for this Contract:

- The air quality monitoring works are covered by Contract No. HY/2011/03 “Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF” and Contract No. HY/2013/01 “Hong Kong-Zhuhai-Macao Bridge HKBCF – Passenger Clearance Building”; and
- The noise, water quality and marine ecology monitoring works are covered by Contract No. HY/2013/01.

The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 and AMS7, noise monitoring at NMS2 and NMS3B, water quality monitoring at the twenty-one stations and dolphin monitoring at the twenty-four transects as part of EM&A programme if these monitoring stations are no longer covered under Contract Nos. HY/2011/03 and HY/2013/01 (as the case may be). However, this is subject to ENPO’s final decision on which ET should carry out the monitoring work at these stations.

The dates of site inspection during the reporting period are listed below:

- 6, 11, 18, 23 and 31 October, 8, 15, 20 and 29 November and 6, 13, 18 and 29 December 2017

### Breaches of Action and Limit Levels

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

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

There was no Action and Limit Level exceedance for noise recorded at station NMS2 and station NMS3B by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

During October 2017, a total of 12 Action Level exceedances and 8 Limit Level exceedances (comprising 7 Action Level exceedances and 8 Limit Level exceedances of DO, and 5 Action Level exceedances of SS) were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

During November 2017, a total of 16 Action Level exceedances, consisting of 15 Action Level exceedances and 4 Limit Level exceedances of SS for water quality and one Action Level exceedance of 24-hour TSP for air quality, were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

During December 2017, a total of 17 Action Level exceedances, consisting of 16 Action Level exceedances of SS for water quality and one Action Level exceedance of 24-hour TSP for air quality, were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

Furthermore, Limit Level exceedances of impact dolphin monitoring were recorded by the Environmental Team of Contract No. HY/2013/01 during the period of September 2017 to November 2017 and investigated by the ET of Contract No. HY/2013/01.

Impact dolphin monitoring results at all transects during the reporting period are reported in the monthly EM&A Reports for Contract No. HY/2013/01.

### Complaint Log

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

Log No.	Environmental Complaint Ref. No.	Date of Complaint Receipt	Description
005	ENPO-C0127	27 October 2017	Water Quality
006	ENPO-C0128	23 November 2017	Air Quality
007	ENPO-C0129	29 December 2017	Air Quality and Water Quality

The complaints received on 27 October 2017 and 23 November 2017 were investigated by the ET of the Contract and the findings are presented in this report.

The investigation of the complaint received on 29 December 2017 by the ET of the Contract is ongoing and the findings will be presented in the next Quarterly EM&A report.

### Notifications of Summons and Successful Prosecutions

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

### Reporting Changes

On 27 December 2017, IEC/ENPO notified ET of changes to the EM&A Programme regarding some water quality monitoring stations being conducted by Contract No. HY/2013/01. These changes were justified by the ETL of Contract No. HY/2013/01 on 8 November 2017, verified by the IEC on 13 November 2017 and approved by EPD on 22 December 2017 for implementation with effect from the same date. The changes are summarised in **Table ES.1** below.

**Table ES.1: Changes to Impact Water Quality Monitoring Stations (with effect from 22 December 2017)**

Station	Description	East	North
SR3*	Sensitive receivers (San Tau SSSI)	810525	816456
<b>SR3(N)#</b>	<b>Sensitive receivers (San Tau SSSI)c</b>	<b>810689</b>	<b>816591</b>
SR10A*	Sensitive receivers (Ma Wan FCZ) 1	823741	823495
<b>SR10A(N)#</b>	<b>Sensitive receivers (Ma Wan FCZ) 1</b>	<b>823644</b>	<b>823484</b>
SR10B(N)*	Sensitive receivers (Ma Wan FCZ) 2	823683	823187
<b>SR10B(N2)#</b>	<b>Sensitive receivers (Ma Wan FCZ) 2</b>	<b>823689</b>	<b>823159</b>

Remark: Three monitoring stations, namely SR3, SR10A and SR10B(N) (marked \*), were replaced by SR3(N), SR10A(N) and SR10B(N2) respectively (marked #, shown in **bold red font**).

# 1 Introduction

## 1.1 Basic Project Information

This Quarterly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2013/04 “Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Infrastructure Works Stage II (Southern Portion)” (hereafter referred to as “the Contract”) for the Highways Department of Hong Kong Special Administrative Region (HKSAR). The Contract was awarded to China State Construction Engineering (Hong Kong) Limited (hereafter referred to as “the Contractor”) and Mott MacDonald Hong Kong Limited (MMHK) was appointed as the Environmental Team (ET) by the Contractor.

The Contract is part of the “Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities” (HZMB HKBCF) Project which is a “Designated Project” under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and for which an EIA Report (Register No. AEIAR-145/2009) was prepared and approved. The current Environmental Permit (EP) for HKBCF, namely No. EP-353/2009/K, was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. Commencement of the Contract took place on 13 March 2015 and the construction works commenced on 13 July 2015. The works areas of the contract are shown in **Appendix A**.

This is the 10<sup>th</sup> Quarterly EM&A Report summarising the findings of EM&A activities conducted under the Contract from 1 October 2017 to 31 December 2017 (the “reporting period”).

## 1.2 Project Organisation

The organisation chart and lines of communication with respect to the on-site environmental management structure together with the contact information of the key personnel are shown in **Appendix B**. The key personnel contact names and numbers are summarized in **Table 1.1**.

**Table 1.2: Contact Information of Key Personnel**

Party	Position	Name	Telephone	Fax
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Alfred Cheng	3958 7471	3468 2076
Environmental Project Office / Independent Environmental Checker (Ramboll Hong Kong Limited)	Environmental Project Office Leader	Y H Hui	3465 2888	3465 2899
	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
	Environmental Site Supervisor	Ray Yan	5181 8165	3465 2899
Contractor (China State Construction Engineering (Hong Kong) Limited)	Site Agent	Jason Chung	9127 8369	2459 4336
	Environmental Officer	Xavier Lam	9493 2944	2459 4336
Environmental Team (Mott MacDonald Hong Kong Limited)	Environmental Team Leader	Billy Lao	6679 1950	2459 4336
		Gary Chow	2828 5874	2827 1823
24-hour Complaint Hotline	-	-	5236 7111	-

### 1.3 Construction Programme

The Construction Works Programme of the Project is provided in **Appendix C**.

### 1.4 Construction Works undertaken during the Reporting Period

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

- Box Culvert D: Bay 17 & Bay 18 wall + roof completed; Bay 1, Bay 2 & Outfall structure finished
- Box Culvert C: no works
- Pier Column: 1 no. completed
- Segment Erection: 185 no. completed
- Segment Delivery: 337 pcs
- Depressed Road: all structures of Depressed Road were completed in November 2017
- No generation of excavated marine sediment.

## 2 EM&A Requirements

### 2.1 Summary of EM&A Requirements

The EM&A programme was undertaken in accordance with the Updated EM&A Manual for HKBCF (Version 1.0). It should be noted that, for this Contract:

- The air quality monitoring works are covered by Contract No. HY/2011/03 “Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF” and Contract No. HY/2013/01 “Hong Kong-Zhuhai-Macao Bridge HKBCF – Passenger Clearance Building”; and
- The noise monitoring works are covered by Contract No. HY/2013/01 “Hong Kong-Zhuhai-Macao Bridge HKBCF – Passenger Clearance Building”.

The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 and AMS7 and noise monitoring at NMS2 and NMS3B as part of EM&A programme if these monitoring stations are no longer covered under Contract Nos. HY/2011/03 and HY/2013/01 (as the case may be). However, this is subject to ENPO’s final decision on which ET should carry out the monitoring work at these stations.

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: Construction Dust and Noise Monitoring Locations**

Environmental Monitoring	Identification No.	Location Description
Air Quality	AMS6 <sup>(1)</sup>	Dragonair/CNAC (Group) Building
	AMS7 <sup>(1)</sup>	Hong Kong SkyCity Marriot Hotel
Noise	NMS2 <sup>(2)</sup>	Seaview Crescent
	NMS3B <sup>(2) (3)</sup>	AECOM PRE’s Office

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

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

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

The water quality monitoring works for the Contract are covered by Contract No. HY/2013/01 “Hong Kong-Zhuhai-Macao Bridge HKBCF – Passenger Clearance Building”. A total of twenty-one stations (nine Impact Stations, seven Sensitive Receiver Stations and five Control/Far Field Stations) are covered by the current EM&A programme. The ET of the Contract or another ET of the HZMB project is required to conduct water quality at these stations as part of EM&A programme if these monitoring stations are no longer covered under Contract No. HY/2013/01. However, this is subject to ENPO’s final decision on which ET should carry out the monitoring work at these stations.

**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
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
<b>SR3(N)#</b>	<b>Sensitive receivers (San Tau SSSI)</b>	<b>810689</b>	<b>816591</b>
SR4(N)	Sensitive receivers (Tai Ho)	814705	817859
SR5(N)	Sensitive receivers (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
<b>SR10A(N)#</b>	<b>Sensitive receivers (Ma Wan FCZ) 1</b>	<b>823644</b>	<b>823484</b>
SR10B(N)	Sensitive receivers (Ma Wan FCZ) 2	823683	823187
<b>SR10B(N2)#</b>	<b>Sensitive receivers (Ma Wan FCZ) 2</b>	<b>823689</b>	<b>823159</b>
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

Remark: On 27 December 2017, IEC/ENPO notified ET of changes to the EM&A Programme regarding some water quality monitoring stations being conducted by Contract No. HY/2013/01. These changes were justified by the ETL of Contract No. HY/2013/01 on 8 November 2017, verified by the IEC on 13 November 2017 and approved by EPD on 22 December 2017 for implementation with effect from the same date. Three monitoring stations, namely SR3, SR10A and SR10B(N) (marked \*), were replaced by SR3(N), SR10A(N) and SR10B(N2) respectively (marked #, shown in **bold red** font).

The dolphin monitoring works for the Contract are covered by Contract No. HY/2013/01 “Hong Kong-Zhuhai-Macao Bridge HKBCF – Passenger Clearance Building”. The ET of the Contract or another ET of the HZMB project is required to conduct dolphin monitoring at the twenty-four transects as part of EM&A programme if these transects are no longer covered under Contract No. HY/2013/01. 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.

**Table 2.3** shows the co-ordinates for the transect lines and layout map.

The revised layout map showing the transect lines have been provided by AFCD and are shown in **Figure 2.4**.

**Table 2.3: Impact Dolphin Monitoring Line Transect Co-ordinates (Provided by AFCD)**

Transect	HK Grid System		Long Lat in WGS84	
	X	Y	Long	Lat
1#	804671	815456	113.870287	22.277678
	804671	831404	113.869975	22.421696
2#^	805476	820800	113.877995	22.325951
	805476	826654	113.877882	22.378815

Transect	HK Grid System		Long Lat in WGS84	
3^	806464	821150	114.030267	22.196697
	806464	822911	114.047344	22.196712
4^	807518	821500	114.033651	22.206219
	807518	829230	114.108618	22.206267
5^	808504	821850	114.037037	22.215126
	808504	828602	114.102523	22.215169
6^	809490	822150	114.039938	22.224033
	809490	825352	114.070995	22.224056
7#^	810499	822000	114.038474	22.233143
	810499	824613	114.063820	22.233163
8#	811508	821123	113.936539	22.328966
	811508	824254	113.936486	22.357241
9#	812516	821303	113.946320	22.330606
	812516	824254	113.946279	22.357255
10*	813525	820827	113.956112	22.326321
	813525	824657	113.956066	22.360908
11#	814556	818853	113.966155	22.304858
	814556	820992	113.966125	22.327820
12	815542	818807	113.975726	22.308109
	815542	824882	113.975647	22.362962
13	816506	819480	113.985072	22.314192
	816506	824859	113.985005	22.362771
14	817537	820220	113.995070	22.320883
	817537	824613	113.995018	22.360556
15	818568	820735	114.005071	22.325550
	818568	824433	114.005030	22.358947
16	819532	821420	114.014420	22.331747
	819532	824209	114.014390	22.356933
17	820451	822125	114.023333	22.338117
	820451	823671	114.023317	22.352084
18	821504	822371	114.033556	22.340353
	821504	823761	114.033544	22.352903
19	822513	823268	114.043340	22.348458
	822513	824321	114.043331	22.357971
20	823477	823402	114.052695	22.349680
	823477	824613	114.052686	22.360610
21	805476	827081	113.877878	22.382668
	805476	830562	113.877811	22.414103
22	806464	824033	113.887520	22.355164
	806464	829598	113.887416	22.405423
23	814559	821739	113.966142	22.334574
	814559	824768	113.966101	22.361920
24^	805476	815900	113.979368	22.187721
	805476	819100	114.010398	22.187756

## 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 2.4 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, 2, 7, 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 transect line 24 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.

## 2.2 Monitoring Requirements

The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology, monitoring schedule, meteorological information are detailed in the quarterly EM&A reports prepared for Contract Nos. HY/2013/01 and HY/2011/03.

## 2.3 Action and Limit Levels

The Action and Limit Levels 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, $\text{ng}/\text{m}^3$	Limit Level, $\text{ng}/\text{m}^3$
AMS6 – Dragonair / SNAC (Group) Building (HKIA)	360	500
AMS7 – Hong Kong SkyCity Marriot Hotel	370	500

**Table 2.5: Action and Limit Levels for 24-hour TSP**

Monitoring Station	Action Level, $\text{ng}/\text{m}^3$	Limit Level, $\text{ng}/\text{m}^3$
AMS6 – Dragonair / SNAC (Group) Building (HKIA)	173	260
AMS7 – Hong Kong SkyCity Marriot Hotel	183	260

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

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 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.

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

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 <sup>-1</sup> (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 <sup>-1</sup> (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

## 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.

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

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)]	

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

## 2.4 Event and Action Plans

The event and action plans for air quality, noise, water quality and dolphin monitoring are provided in **Appendix D**.

## 2.5 Mitigation Measures

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

The monitoring results for AMS6 and AMS7 are reported in the monthly EM&A Reports (for October, November and December 2017) prepared for Contract Nos. HY/2011/03 and HY/2013/01 respectively.

Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 is reported in the monthly EM&A Reports (for October, November and December 2017) prepared by Contract No. HY/2011/03.

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

Also, two Action Level exceedances of 24-hour TSP level were recorded at station AMS3B by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract.

Air quality exceedances recorded during the reporting period are summarised in **Table 3.1**.

**Table 3.1: Action and Limit Level Exceedance for Air Quality**

Date	Parameter	Station	Exceedance Recorded
28 Nov 2017	24-hour TSP	AMS3B	Action Level
23 Dec 2017	24-hour TSP	AMS3B	Action Level

The details of the air quality exceedances can be referred to in the Monthly EM&A reports under Contract No. HY/2013/01.

Investigations into the exceedances were conducted and the findings are summarised below.

#### 28 November 2017

According to the Contractor of HY/2013/04, the major construction activities conducted under the Contract during the monitoring period included bridge segment delivery and erection, and construction of depressed road.

As informed by the Contractor of HY/2013/04, watering of all main haul roads was provided in accordance with the HY/2013/04 site watering plan. This plan schedules water spraying for at least 8 times per day which follows the recommended mitigation measures in the EM&A Manual and Environmental Permit.

During ET's regular weekly site inspection on 20 November 2017 (between 14:00 and 15:00) and 29 November 2017 (between 14:00 and 15:30), the haul roads were observed to be watered and no fugitive dust generation from HY/2013/04 works was observed. Photos of these mitigation measures are presented in ET's investigation report. There were no observations referring to air quality mitigation measures associated with watering of site areas.

The wind data collected at the wind station at Works Area WA2 during the monitoring period on 28 and 29 November 2017 shows that winds were still to very light (maximum wind speed 0.4

m/s) and varying between West-northwest and East during the monitoring period. This indicates that it was unlikely that the source of exceedance could be attributed to HY/2013/04.

Information available on EPD's Air Quality Health Index (AQHI) website shows that the short-term health risk of air pollution between 08:00 a.m. on 28 November 2017 and 08:00 a.m. on 29 November 2017 was low to very high in Tung Chung (with maximum AQHI of 8 at 19:00), indicating that the background air pollution was relatively high during part of the monitoring period and may have contributed to the high level of TSP recorded. The AQHI data is available online at [http://www.aqhi.gov.hk/epd/ddata/html/history/2017/201711\\_Eng.csv](http://www.aqhi.gov.hk/epd/ddata/html/history/2017/201711_Eng.csv).

It was concluded that the exceedance was not due to HY/2013/04.

### **23 December 2017**

According to the Contractor of HY/2013/04, the major construction activities conducted under the Contract during the monitoring period included bridge segment delivery and erection, and construction of Box Culvert D.

As informed by the Contractor of HY/2013/04, watering of all main haul roads was provided in accordance with the HY/2013/04 site watering plan. This plan schedules water spraying for at least 8 times per day which follows the recommended mitigation measures in the EM&A Manual and Environmental Permit.

During ET's regular weekly site inspection on 18 December 2017 (between 14:30 and 15:30), one air quality observation regarding an unwatered haul road next to Bridge D8 was made; subsequently the Contractor provided water spray for this location and the observation was closed. The remaining haul roads were observed to be watered and no fugitive dust generation from HY/2013/04 works was observed during this inspection.

During the next ET regular weekly site inspection on 29 December 2017 (between 09:30 and 10:30 a.m.), there was no air quality observation associated with watering of site areas.

Photos relating to the site inspections on 18 December 2017 and 29 December 2017 are presented in ET's investigation report.

The wind data collected at the wind station at Works Area WA2 during the monitoring period on 23 and 24 December 2017 shows that winds were still (averaged wind speed 0 m/s) during the monitoring period. This indicates that it was unlikely that the source of exceedance could be attributed to HY/2013/04.

Information available on EPD's Air Quality Health Index (AQHI) website shows that the short-term health risk of air pollution between 08:00 a.m. on 23 December 2017 and 08:00 a.m. on 24 December 2017 was low to very high in Tung Chung (with maximum AQHI of 8 at 04:00 & 05:00 a.m. on 24 December 2017). This, combined with the still winds recorded at the wind station, indicate that the background air pollution was relatively high during part of the monitoring period and may have contributed to the high level of TSP recorded. The AQHI data is available online at [http://www.aqhi.gov.hk/epd/ddata/html/history/2017/201712\\_Eng.csv](http://www.aqhi.gov.hk/epd/ddata/html/history/2017/201712_Eng.csv).

It was concluded that the exceedance was not due to HY/2013/04.

## **3.2 Noise Monitoring Results**

The monitoring results for NMS2 and NMS3B are reported in the monthly EM&A Reports (for October, November and December 2017) prepared for Contract No. HY/2013/01.

No noise exceedances were recorded at stations NMS2 and NMS3B by the ET of Contract No. HY/2013/01 during the reporting period.

### 3.3 Water Quality Monitoring Results

The monitoring results for the twenty-one monitoring stations are reported in the monthly EM&A Report (for October, November and December 2017) prepared for Contract No. HY/2013/01.

During October 2017, a total of 12 Action Level exceedances and 8 Limit Level exceedances (comprising 7 Action Level exceedances and 8 Limit Level exceedances of DO, and 5 Action Level exceedances of SS) were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract.

During November 2017, a total of 15 Action Level exceedances and 4 Limit Level exceedances (all exceedances of SS) were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract.

During December 2017, a total of 16 Action Level exceedances (all exceedances of SS) were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract.

Water quality exceedances recorded during the reporting period are summarised in **Table 3.2**.

**Table 3.2: Summary of Water Quality Exceedances during Reporting Period**

Date	Parameter (Units)	Station	Depth	Exceedance Recorded during Mid-ebb Tide	Exceedance Recorded during Mid-flood Tide
2 Oct 2017	DO	SR10A	Bottom	Action Level	Action Level
		SR10B(N)	Surface and Middle	-	Limit Level
		SR10B(N)	Bottom	-	Action Level
4 Oct 2017	DO	SR10A	Surface and Middle	Limit Level	Limit Level
		SR10A	Bottom	Action Level	Action Level
		SR10B(N)	Surface and Middle	Limit Level	Limit Level
		SR10B(N)	Bottom	-	Action Level
6 Oct 2017	DO	SR10B(N)	Surface and Middle	Limit Level	Limit Level
		SR10B(N)	Bottom	-	Action Level
9 Oct 2017	DO	SR10B(N)	Surface and Middle	-	Limit Level
18 Oct 2017	SS	SR5(N)	Depth Average	-	Action Level
20 Oct 2017	SS	IS(Mf)11	Depth Average	-	Action Level
		SR5(N)	Depth Average	-	Action Level
		SR7	Depth Average	-	Action Level
23 Oct 2017	SS	SR5(N)	Depth Average	-	Action Level
3 Nov 2017	SS	IS(Mf)11	Depth Average	-	Action Level
		SR5(N)	Depth Average	-	Limit Level
		SR6	Depth Average	Action Level	-
		SR7	Depth Average	-	Action Level
6 Nov 2017	SS	IS(Mf)6	Depth Average	-	Action Level
		IS(Mf)16	Depth Average	-	Action Level
		SR7	Depth Average	-	Action Level
		SR10A	Depth Average	-	Action Level
		SR10B(N)	Depth Average	-	Action Level
8 Nov 2017	SS	IS(Mf)11	Depth Average	-	Action Level
		SR4(N)	Depth Average	-	Limit Level
		SR5(N)	Depth Average	-	Limit Level
		SR6	Depth Average	Action Level	-

Date	Parameter (Units)	Station	Depth	Exceedance Recorded during Mid-ebb Tide	Exceedance Recorded during Mid-flood Tide
13 Nov 2017	SS	IS8	Depth Average	-	Action Level
15 Nov 2017	SS	IS(Mf)6	Depth Average	-	Action Level
20 Nov 2017	SS	SR7	Depth Average	-	Action Level
22 Nov 2017	SS	SR6	Depth Average	Action Level	Limit Level
24 Nov 2017	SS	IS8	Depth Average	-	Action Level
4 Dec 2017	SS	SR6	Depth Average	Action Level	-
		SR7	Depth Average	-	Action Level
		SR10B(N)	Depth Average	-	Action Level
6 Dec 2017	SS	IS8	Depth Average	-	Action Level
		IS(Mf)9	Depth Average	-	Action Level
		SR5(N)	Depth Average	-	Action Level
		SR6	Depth Average	-	Action Level
8 Dec 2017	SS	IS8	Depth Average	-	Action Level
		SR4(N)	Depth Average	-	Action Level
		SR6	Depth Average	Action Level	-
		SR10A	Depth Average	-	Action Level
11 Dec 2017	SS	IS(Mf)9	Depth Average	Action Level	-
13 Dec 2017	SS	IS8	Depth Average	Action Level	-
20 Dec 2017	SS	SR6	Depth Average	-	Action Level
22 Dec 2017	SS	SR6	Depth Average	Action Level	Action Level

The details of water quality exceedances can be made reference to the monthly EM&A reports under Contract No. HY/2013/01.

Investigations into these exceedances were conducted and the findings are summarised below.

## 2 October 2017

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 2 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 2 October 2017 was identified.

During ET's regular weekly site inspections on 27 September and 6 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected and there were no observations referring to water quality mitigation measures associated with that shoreline.

Also, the exceedance locations, i.e. SR10A and SR10B(N), were located well away from the HY/2013/04 site.

It was concluded that the exceedances were not due to HY/2013/04.

## 4 October 2017

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 4 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 4 October 2017 was identified.

During ET's regular weekly site inspections on 27 September and 6 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected and there were no observations referring to water quality mitigation measures associated with that shoreline.

Also, the exceedance locations, i.e. SR10A and SR10B(N), were located well away from the HY/2013/04 site.

It was concluded that the exceedances were not due to HY/2013/04.

#### **6 October 2017**

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 6 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 6 October 2017 was identified.

During ET's regular weekly site inspection on 6 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected and there were no observations referring to water quality mitigation measures associated with that shoreline.

Also, the exceedance location, i.e. SR10B(N), was located well away from the HY/2013/04 site.

It was concluded that the exceedances were not due to HY/2013/04.

#### **9 October 2017**

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 9 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 9 October 2017 was identified.

Marine-based segment delivery was conducted on the evening of 8 October 2017 to the early morning of 9 October 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:35 (a.m.) on 9 October 2017 (attached vessel tracking record refers). No other marine transportation was conducted under the contract on 9 October 2017.

Given that the sampling time at SR10B(N) where exceedance was recorded was at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedance recorded could be attributed to this activity. Also, SR10B(N) was located well away from the segment delivery route.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

During ET's regular weekly site inspections on 6 and 11 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected and there were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

#### **18 October 2017**

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 18 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 18 October 2017 was identified.

During ET's regular weekly site inspection on 18 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected and there were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

## 20 October 2017

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 20 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 20 October was identified.

Marine-based segment delivery was conducted on the evening of 19 October 2017 to the early morning of 20 October 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:34 (a.m.) on 20 October 2017 (attached vessel tracking record refers). No other marine transportation was conducted under the contract on 20 October 2017.

Given that the sampling times where exceedances were recorded were at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedances recorded could be attributed to this activity.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

While SS exceedance was recorded at IS(Mf)11, SR5(N) and SR7, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspections on 18 and 23 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected. On 18 October 2017, no observations referring to water quality mitigation measures associated with that shoreline were made. During the inspection on 23 October 2017 at 14:40, a water quality observation regarding a silt curtain associated with that shoreline was made and the following day the Contractor deployed a diver to inspect the silt curtain and confirm its structural integrity, however it was located well away from SR5(N) and therefore unrelated to the recorded exceedance.

No further exceedance was reported in the next monitoring event on 23 October 2017 at IS(Mf)9, i.e. the WQM station closest to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

It was concluded that the exceedance was not due to HY/2013/04.

## 23 October 2017

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 23 October 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 23 October 2017 was identified.

Marine-based segment delivery was conducted on the evening of 22 October 2017 to the early morning of 23 October 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:33 (a.m.) on 23 October 2017 (attached vessel tracking record refers). No other marine transportation was conducted under the contract on 23 October 2017.

Given that the sampling time at SR5(N) where exceedance was recorded was at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedance recorded could be attributed to this activity.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings

showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

While SS exceedance was recorded at SR5(N), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspection on 23 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected. A water quality observation regarding a silt curtain associated with that shoreline was made at 14:40 during that inspection and the following day the Contractor deployed a diver to inspect the silt curtain and confirm its structural integrity, however it was located well away from SR5(N) and therefore unrelated to the recorded exceedance.

No further exceedance was reported in the next monitoring event on 25 October 2017 at IS(Mf)9, i.e. the WQM station closest to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

It was concluded that the exceedance was not due to HY/2013/04.

### **3 November 2017**

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 3 November 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 3 November 2017 was identified.

The SS exceedance locations, i.e. SR5(N), SR6, SR7 and IS(Mf)11, were located well away from the HY/2013/04 site. Also, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspection on 31 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:40 and 15:10. There were no observations referring to water quality mitigation measures associated with that shoreline.

During ET's regular weekly site inspection on 8 November 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 09:30 and 09:50 (a.m.). There were no observations referring to water quality mitigation measures associated with that shoreline.

At the next monitoring event on 6 November 2017, while SS exceedance was recorded at IS(Mf)6 and IS(Mf)16, no exceedance was recorded at IS(Mf)9, i.e. the WQM station closest to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

It was concluded that the exceedance was not due to HY/2013/04.

### **6 November 2017**

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 6 November 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 6 November 2017 was identified.

While SS exceedance was recorded at IS(Mf)6 and IS(Mf)16, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters. Also, some exceedance locations, i.e. SR7, SR10A and SR10B(N), were located well away from the HY/2013/04 site.

During ET's regular weekly site inspection on 8 November 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 09:30 and 09:50 (a.m.). There were no observations referring to water quality mitigation measures associated with that shoreline.

At the next monitoring event on 8 November 2017, while SS exceedance was recorded at SR4(N), no exceedance was recorded at IS(Mf)9, i.e. the WQM station closest to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

It was concluded that the exceedance was not due to HY/2013/04.

### **8 November 2017**

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 8 November 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 8 November 2017 was identified.

While SS exceedance was recorded at SR4(N), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspection on 8 November 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 09:30 and 09:50 (a.m.). There were no observations referring to water quality mitigation measures associated with that shoreline.

No further exceedance was reported in the next monitoring event on 10 November 2017.

It was concluded that the exceedance was not due to HY/2013/04.

### **13 November 2017**

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 13 November 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 13 November 2017 was identified.

Marine-based segment delivery was conducted on the evening of 12 November 2017 to the early morning of 13 November 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:35 (a.m.) on 13 November 2017. No other marine transportation was conducted under the contract on 13 November 2017.

Given that the sampling time at IS8 where exceedance was recorded was at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedance recorded could be attributed to this activity.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

While SS exceedance was recorded at IS8, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspection on 15 November 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:15 and 14:30. There were no observations referring to water quality mitigation measures associated with that shoreline.

At the next monitoring event on 15 November 2017, while SS exceedance was recorded at IS(Mf)6, no exceedance was recorded at IS(Mf)9, i.e. the WQM station closest to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

It was concluded that the exceedance was not due to HY/2013/04.

### **15 November 2017**

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 15 November 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 15 November 2017 was identified.

While SS exceedance was recorded at IS(Mf)6, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspection on 15 November 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:15 and 14:30. There were no observations referring to water quality mitigation measures associated with that shoreline.

No further exceedance was reported in the next monitoring event on 17 November 2017.

It was concluded that the exceedance was not due to HY/2013/04.

### **20 November 2017**

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 20 November 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 20 November 2017 was identified.

While SS exceedance was recorded at SR7, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspection on 20 November 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:00 and 14:15. There were no observations referring to water quality mitigation measures associated with that shoreline.

At the next monitoring event on 22 November 2017, while SS exceedance was recorded at SR6, no exceedance was recorded at IS(Mf)9, i.e. the WQM station closest to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

It was concluded that the exceedance was not due to HY/2013/04.

### **22 November 2017**

According to the Contractor of HY/2013/04, no marine-based works and no marine-based transportation were conducted under the contract on 22 November 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 22 November 2017 was identified.

While SS exceedance was recorded at SR6, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspection on 20 November 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:00 and 14:15. There were no observations referring to water quality mitigation measures associated with that shoreline.

At the next monitoring event on 24 November 2017, while SS exceedance was recorded at IS8, no exceedance was recorded at IS(Mf)9, i.e. the WQM station closest to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

It was concluded that the exceedance was not due to HY/2013/04.

#### **24 November 2017**

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 24 November 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 24 November 2017 was identified.

Marine-based segment delivery was conducted on the evening of 23 November 2017 to the early morning of 24 November 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:33 (a.m.) on 24 November 2017. No other marine transportation was conducted under the contract on 24 November 2017.

Given that the sampling time at IS8 where exceedance was recorded was at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedance recorded could be attributed to this activity.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

While SS exceedance was recorded at IS8, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspection on 20 November 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:00 and 14:15. There were no observations referring to water quality mitigation measures associated with that shoreline.

During ET's regular weekly site inspection on 29 November 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:15 and 15:00. There were no observations referring to water quality mitigation measures associated with that shoreline.

No further exceedance was reported in the next monitoring event on 26 November 2017.

It was concluded that the exceedance was not due to HY/2013/04.

#### **4 December 2017**

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 4 December 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 4 December 2017 was identified.

From ET's review of the Contractor's vessel tracking records for December 2017, no marine-based transportation was conducted under the contract on 4 December 2017.

The SS exceedance locations, i.e. SR6, SR7 and SR10B(N), were located well away from the HY/2013/04 site. Also, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

No further exceedance was detected during subsequent monitoring at SR7 and SR10B(N) in the next monitoring tide at 12:45 (p.m.) and 13:22 respectively on 4 December 2017.

In the next monitoring tide at SR6, on 6 December 2017 at 10:03 (a.m.) in mid-flood tide, SS exceedance was recorded. From the Contractor's vessel tracking records, marine-based segment delivery was conducted on the evening of 4 December 2017 to the early morning of 5 December 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:34 (a.m.) on 5 December 2017. It is unlikely that this subsequent SS exceedance at SR6 could be attributed to the segment delivery given the significant time gap (over 32 hours) between these two events. No other marine transportation was conducted under the contract on 5 December 2017.

According to the Contractor, no marine-based works were conducted under the contract on 6 December 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 6 December 2017 was identified. The Contractor's vessel tracking records indicate that no marine-based transportation was conducted under the contract on 6 December 2017.

The HY/2013/04 site shoreline interfacing with open waters was inspected on 29 November 2017 (14:15-15:00) and 6 December 2017 (14:30-15:10) during ET's regular weekly site inspections. There were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

#### **6 December 2017**

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 6 December 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 6 December 2017 was identified.

From ET's review of the Contractor's vessel tracking records for December 2017, no marine-based transportation was conducted under the contract on 6 December 2017.

No further exceedance was detected during subsequent monitoring at IS8, IS(Mf)9, SR5(N) and SR6 in the next monitoring tide (mid-ebb) at 13:55, 13:45, 13:54 and 13:17 respectively on 6 December 2017. No other exceedance was detected during the same mid-ebb tide.

During ET's regular weekly site inspection on 6 December 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:30 and 15:10. There were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

#### **8 December 2017**

According to the Contractor of HY/2013/04, no discharge originating from any HY/2013/04 site works on 8 December 2017 was identified.

Marine-based segment delivery was conducted on the evening of 7 December 2017 to the early morning of 8 December 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:36 (a.m.) on 8 December 2017. No other marine transportation was conducted under the contract on 8 December 2017.

Given that the sampling time at IS8, SR4(N), SR6 and SR10A where exceedance was recorded was at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedance recorded could be attributed to this activity.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

While SS exceedance was recorded at IS8, SR4(N), SR6 and SR10A, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

No further exceedance was detected during subsequent monitoring at IS8, SR4(N), SR6 and SR10A in the next monitoring tide, which were as follows:

- IS8 – 15:38 on 8 December 2017 (mid-ebb)
- SR4(N) – 15:46 on 8 December 2017 (mid-ebb)
- SR6 – 07:25 (a.m.) on 11 December 2017 (mid-flood)
- SR10A – 17:02 on 8 December 2017 (mid-ebb)

The HY/2013/04 site shoreline interfacing with open waters was inspected on 6 December 2017 (14:30-15:10) and 13 December 2017 (14:00-15:10) during ET's regular weekly site inspections. There were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

### **11 December 2017**

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 11 December 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 11 December 2017 was identified.

From ET's review of the Contractor's vessel tracking records for December 2017, no marine-based transportation was conducted under the contract on 11 December 2017.

During ET's regular weekly site inspection on 6 December 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:30 and 15:10. There were no observations referring to water quality mitigation measures associated with that shoreline.

During ET's regular weekly site inspection on 13 December 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:00 and 15:10. There were no observations referring to water quality mitigation measures associated with that shoreline.

No further exceedance was detected during subsequent monitoring at IS(Mf)9 in the next monitoring tide (mid-flood) at 13:29 on 11 December 2017. No other exceedance was detected during the same mid-flood tide.

It was concluded that the exceedance was not due to HY/2013/04.

### **13 December 2017**

According to the Contractor of HY/2013/04, no discharge originating from any HY/2013/04 site works on 13 December 2017 was identified and all works conducted under HY/2013/04 on that day were land-based.

Marine-based segment delivery was conducted on the evening of 12 December 2017 to the early morning of 13 December 2017, with the barge vessel arriving at HY/2013/04

loading/unloading point at 01:34 (a.m.) on 13 December 2017. No other marine transportation was conducted under the contract on 13 December 2017.

Given that the sampling time at IS8 where exceedance was recorded was at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedance recorded could be attributed to this activity.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

No further exceedance was detected during subsequent monitoring at IS8 in the next monitoring tide (mid-flood) at 14:46 on 13 December 2017. No other exceedance was detected during the same mid-flood tide and in the next monitoring event on 15 December 2017.

During ET's regular weekly site inspection on 13 December 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:00 and 15:10. Land-based works at the shoreline for Box Culverts C and D were in progress. There were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

### **20 December 2017**

According to the Contractor of HY/2013/04, no marine-based works were conducted under the contract on 20 December 2017. Furthermore, no discharge originating from any HY/2013/04 site works on 20 December 2017 was identified.

From ET's review of the Contractor's vessel tracking records for December 2017, no marine-based transportation was conducted under the contract on 20 December 2017.

While SS exceedance was recorded at SR6, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

During ET's regular weekly site inspection on 18 December 2017, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:25 and 15:20. There were no observations referring to water quality mitigation measures associated with that shoreline.

During ET's regular weekly site inspection on 29 December 2017, HY/2013/04 site shoreline interfacing with open waters was inspected at 09:20-09:30 and 10:20-10:25 (a.m.). There were no observations referring to water quality mitigation measures associated with that shoreline.

No further exceedance was detected during subsequent monitoring at SR6 in the next monitoring tide (mid-ebb) at 12:44 (p.m.) on 20 December 2017. No other exceedance was detected during the same mid-ebb tide.

It was concluded that the exceedance was not due to HY/2013/04.

### **22 December 2017**

According to the Contractor of HY/2013/04, no discharge originating from any HY/2013/04 site works on 22 December 2017 was identified and all works conducted under HY/2013/04 on that day were land-based.

Marine-based segment delivery was conducted on the evening of 21 December 2017 to the early morning of 22 December 2017, with the barge vessel arriving at HY/2013/04 loading/unloading point at 01:36 (a.m.) on 22 December 2017. No other marine transportation was conducted under the contract on 22 December 2017.

Given that the sampling times at SR6 where exceedances were recorded were at least several hours after the abovementioned segment delivery, it is considered unlikely that the exceedances recorded could be attributed to this activity.

According to the Contractor, after finishing the unloading operation, the vessel for segment delivery departed from the loading/unloading point at 16:00 on the same day. Since samplings showing exceedances were obtained before this time, it is unlikely that they could be attributed to this activity.

While SS exceedance was recorded at SR6, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters.

No further exceedance was detected during subsequent monitoring at SR6 in the next monitoring tide on 25 December 2017. No other exceedance was detected on that day.

The HY/2013/04 site shoreline interfacing with open waters was inspected on 18 December 2017 (14:25-15:20) and 29 December 2017 (09:20-09:30 and 10:20-10:25 a.m.) during ET's regular weekly site inspections. Land-based works only at the shoreline for Box Culverts C and D were in progress. There were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

### 3.4 Dolphin Monitoring Results

The monitoring results for dolphin monitoring during the reporting periods are reported in the monthly EM&A Reports (for October, November and December 2017) prepared for Contract No. HY/2013/01.

Limit Level exceedance of impact dolphin monitoring was recorded by the Environmental Team of Contract No. HY/2013/01 during the period of September 2017 to November 2017 and investigated by the ET of Contract No. HY/2013/01.

Dolphin monitoring exceedance recorded are summarised in **Table 3.3**.

**Table 3.3: Action and Limit Level Exceedance for Dolphin Monitoring**

Period	Parameter	Area	Exceedance Recorded
Sep 2017 – Nov 2017	Ecology (Chinese White Dolphin Monitoring)	Northeast Lantau (NEL)	Limit Level
Sep 2017 – Nov 2017	Ecology (Chinese White Dolphin Monitoring)	Northwest Lantau (NWL)	Limit Level

The details of the dolphin monitoring exceedances can be referred to in the Monthly EM&A reports under Contract No. HY/2013/01.

### 3.5 Implementation of Environmental Measures

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

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.

Implementation status of the Regular Marine Travel Route Plan (RMTRP) was checked by ET. Training of marine travel route for marine vessel operator was given to relevant staff and relevant records were kept properly. Marine traffic records which indicated the number of trips data for crane barge, flat top barge and tug boat on the implementation of RMTRP for September 2017, October 2017 and November 2017 were checked by ET within the reporting period. Marine traffic records of September 2017, October 2017 and November 2017 were provided by Contractor to ER, ETL and IEC/ENPO for checking within the months of October 2017, November 2017 and December 2017 respectively. The checking of marine traffic records of December 2017 will be reported in the next Quarterly EM&A Report. The implementation of marine traffic follows the Regular Marine Travel Route Plan with respect to ET's checking on the marine traffic records for the reporting period.

Implementation status of the Dolphin Watching Plan (DWP) was checked by ET. Training of marine mammal observer (MMO) was given to relevant staff and relevant records were kept properly. Silt curtains were provided at each box culvert for marine works areas in accordance with the approved Dolphin Watching Plan. The silt curtains were inspected regularly by ET and Contractor and the implementation was found to be in working order.

### 3.6 Advice on the Solid and Liquid Waste Management Status

The Contractor registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting. As a practical means, the disposal operation is managed by a single HKBCF contractor who is also responsible for applying dumping permit and its subsequent extension applications from EPD. Contract No. HY/2013/03 has been assigned to coordinate and arrange for disposal of extracted marine sediment from this Contract.

There was no generation of excavated sediment for treatment during this reporting period. Any treatment of excavated marine sediment will be conducted using cement solidification / stabilization (Cement S/S) techniques and the treated sediment will be reused onsite for either backfilling or landscaping (e.g. berm material).

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

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

#### 3.6.1 Disposal of Marine Sediment Extracted from Bored Piling Works

##### 3.6.1.1 Background

After the acceptance of the review of the approved Sediment Quality Report (SQR) for this Project under EPD letter dated 19 August 2015, an approval to dispose the marine sediment extracted from bored piling for this Project was then approved under memo from Secretary, Marine Fill Committee of CEDD dated 20 August 2015 for the disposal of marine sediment extracted from bored piling works. The disposal sites allocated to this Project are the Mud Pit CMP2 of the Confined Marine Sediment Disposal Facility to the South of The Brothers (or at the East of Sha Chau). As advised by CEDD in the memo dated 19 February 2016, from 00:00 on 22 March 2016 onward, the disposal space at CMP2 of the South of The Brothers is closed and

all disposal of contaminated sediment is to be carried out at CMP Vd to the East of Sha Chau (ESC).

As Contract No. HY/2013/01 has commenced treatment of the extracted marine sediment, treatment will continue and the treated marine sediment will be re-used within the HKBCF Island. On the other hand, Contract Nos. HY/2013/02, HY/2013/03 and HY/2013/04 have not commenced the treatment of extracted marine sediment. Therefore the marine sediment extracted from these three Contracts will be disposed to the allocated disposal sites directly without treatment. As a practical means, the disposal operation is managed by one contractor who is also responsible for applying dumping permit and its subsequent extension applications from EPD. Contract No. HY/2013/03 has been assigned to coordinate and arrange for disposal of extracted marine sediment from all three Contracts.

The SQR was further reviewed in mid-2016. EPD has no comment to extend the validity of the SQR to August 2017 under letter dated 18 August 2016.

Based on the actual piling operation, the estimated quantity of marine sediment to be extracted has been revised from 85,000 m<sup>3</sup> to 126,000 m<sup>3</sup> (bulk volume). EPD has no comments on the request as in the letter dated 20 October 2016. The Secretary of Marine Fill Committee, CEDD approved the increasing quantity in the memo dated 10 November 2016.

During the course of reviewing the SQR, it was noted that the contamination level of the marine sediment extracted from the inner part of the HKBCF Island was not identified during the previous sampling and testing. As requested by EPD, sampling and testing are required. The Sediment Sampling and Testing Proposal (SSTP) for the inner area of the HKBCF Island was approved by EPD on 2 June 2016.

As in the agreed SSTP for the inner area of the HKBCF Island, samples were taken from the seventeen batches of stockpiled marine sediments and from five boreholes each in one of the five sampling grids. After conducting chemical tests on samples, six batches of stockpiled samples under Contract No. HY/2013/03 and all eight batches of stockpiled samples under Contract No. HY/2013/04 are classified as Category L sediment. The Secretary of Marine Fill Committee of CEDD allocated disposal sites under memo dated 24 October 2016 and dated 22 November 2016 for disposal of a total of 9,500 m<sup>3</sup> in-situ volume of Category L sediment (using a bulk factor of 1.3). The Category L sediment was disposed in December 2016.

One sample from the batch of stockpiled marine sediment under Contract No. HY/2013/03 and samples from all five sampling grids had contamination levels exceeding the Lower Chemical Exceedance Levels (LCEL) and biological screenings were carried out. All samples passed the biological screenings and are classified as Category Mp sediment and to be disposed off site using Type II confined marine disposal method the same method used for marine sediment extracted from other part of the HKBCF Island.

### 3.6.1.2 Dumping Arrangements

The barge for disposal of marine sediment will morn at the temporary loading and unloading at the east shore of the HKBCF Island, which has been being used by reclamation contractor (Contract No. HY/2010/02) for reclamation activities. In terms of safety consideration, each dumping date will be allocated to one Contract. The quantity of marine sediment disposed on the date is from one Contract.

During dumping, each Contractor is responsible for transporting the marine sediment from his site area to the barge. The estimated quantity of marine sediment in each truck is confirmed by Resident Site Staff of each Contract. The trip tickets for transportation and disposal of marine

sediment are collected and checked. Contract No. HY/2013/03 as the dumping permit holder is responsible for reporting to EPD the quantity disposed of as the condition stipulated in the dumping permit.

### 3.6.1.3 Reporting

AECOM has confirmed that the disposal of excavated marine sediments to allocated dumping site via Contract No. HY/2013/03 has been completed with the last batch disposal on 30 August 2017. The total quantities disposed are presented in the following table (**Table 3.4**):

**Table 3.4: Summary of Marine Sediment disposed to Dumping Site via Contract No. HY/2013/03**

Month/Year	Type of Sediment and Quantity Disposed (m <sup>3</sup> )	
	Cat. L (in Type I)	Type II
Total =	3,570	39,814

Note: For monthly breakdown of these quantities, please refer to the waste flow table in **Appendix G**.

## 3.7 Environmental Licences and Permits

The valid environmental licences and permits during the reporting period are summarized in **Appendix H**.

## 4 Summary of Exceedances, Complaints, Notification of Summons and Successful Prosecution

### 4.1 Summary of Exceedance of the Environmental Quality Performance Limit

Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 is reported in the monthly EM&A Reports (for October, November and December 2017) prepared by Contract No. HY/2011/03.

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

There was no Action and Limit Level exceedance for noise recorded at station NMS2 and station NMS3B by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

During October 2017, a total of 12 Action Level exceedances and 8 Limit Level exceedances (comprising 7 Action Level exceedances and 8 Limit Level exceedances of DO, and 5 Action Level exceedances of SS) were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

During November 2017, a total of 16 Action Level exceedances, consisting of 15 Action Level exceedances and 4 Limit Level exceedances of SS for water quality and one Action Level exceedance of 24-hour TSP for air quality, were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

During December 2017, a total of 17 Action Level exceedances, consisting of 16 Action Level exceedances of SS for water quality and one Action Level exceedance of 24-hour TSP for air quality, were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

Furthermore, Limit Level exceedances of impact dolphin monitoring were recorded by the Environmental Team of Contract No. HY/2013/01 during the period of September 2017 to November 2017 and investigated by the ET of Contract No. HY/2013/01.

Impact dolphin monitoring results at all transects during the reporting period are reported in the monthly EM&A Reports prepared for Contract No. HY/2013/01.

### 4.2 Summary of Complaints, Notification of Summons and Successful Prosecution

There were three complaints received in relation to the environmental impact during the reporting period. The summary of environmental complaints is presented in **Table 4.1**.

The details of cumulative statistics of Environmental Complaints are provided in **Appendix H**.

**Table 4.1: Summary of Environmental Complaints for the Reporting Month**

Log No.	Environmental Complaint Ref. No.	Date of Complaint Receipt	Description
005	ENPO-C0127	27 October 2017	Water Quality
006	ENPO-C0128	23 November 2017	Air Quality
007	ENPO-C0129	29 December 2017	Air Quality and Water Quality

**Environmental Complaint Ref. No. ENPO-C0127**

The complaint was about muddy water discharge from HZMB BCF Island works site. According to the complainant, this had continued for one week and occurred at HY/2013/03 site.

The complaint was investigated by the ET of the Contract.

As informed by the Contractor of HY/2013/04, there was no ongoing discharge of wastewater from the HY/2013/04 site during the period described in the complaint.

The Contractor has obtained a discharge licence under the WPCO for treatment and disposal of wastewater (Licence No. WT00028782-2017). The discharge licence and most recently-received results for monthly sampling under the licence were included in ET's investigation report.

During ET's regular weekly site inspection on 23 October 2017, HY/2013/04 site shoreline interfacing with open waters was inspected. Land-based works at the shoreline for Box Culverts C and D were in progress. Bunds were provided near the shoreline to contain potential site runoff. No surface runoff was observed near the shoreline. Wastewater treatment facilities were provided near Box Culverts C and D to treat site runoff before discharge from the contract site. No discharge was observed at the discharge points or along the same shoreline interfacing with open waters. Silt curtain was provided at each box culvert for marine work areas. Photos of these mitigation measures were included in ET's investigation report. A location plan showing the discharge points was also included in ET's investigation report.

During the abovementioned site inspection, silty water was observed immediately outside the perimeter of a silt curtain for Box Culvert D, and the Contractor was reminded to inspect the silt curtain to ensure that its structural integrity is intact. Subsequently, the Contractor inspected the silt curtain to confirm its structural integrity and no silty water outside the silt curtain was observed. There were no other observations referring to water quality mitigation measures associated with that shoreline.

The Contractor is reminded to observe all conditions stated in the relevant discharge licence and implement all necessary water quality mitigation measures identified in the EM&A Manual.

The ET's investigation report for the abovementioned complaint is presented in the Monthly EM&A Report for October 2017.

**Environmental Complaint Ref. No. ENPO-C0128**

The complaint was about dust dispersion from HZMB BCF Island works site. According to the complainant, a large amount of dust was generated due to water spray not being provided at every part of the site and was most serious near the toll gate.

The complaint was investigated by the ET of the Contract.

As informed by the Contractor of HY/2013/04, watering of all main haul roads was provided in accordance with the HY/2013/04 site watering plan (as presented in Attachment 1). This plan schedules water spraying for 8 times per day which follows the recommended mitigation measures in the EM&A Manual.

During ET's regular weekly site inspection on 20 November 2017 (between 14:00 and 15:00) and 29 November 2017 (between 14:00 and 15:30), the haul roads were observed to be watered and no fugitive dust generation from HY/2013/04 works was observed. Photos of these mitigation measures are presented in Attachment 2 and Attachment 3 respectively of ET's investigation report. There were no observations referring to air quality mitigation measures associated with watering of site areas.

It is also noted that HY/2013/04 works do not include construction of any toll gates or vehicle clearance plazas.

It was concluded that the complaint was unlikely to be related to HY/2013/04.

Although the complaint was unlikely to be related to HY/2013/04, the Contractor is reminded to properly implement the site watering plan for the Contract and implement all necessary air quality mitigation measures identified in the EM&A Manual.

The ET's investigation report for the abovementioned complaint is presented in the Monthly EM&A Report for November 2017.

#### **Environmental Complaint Ref. No. ENPO-C0129**

The complaint was about effectiveness of mitigation measures for dust and mud on roads related to HZMB BCF Island site works.

The complaint investigation by the ET of the Contract is ongoing and the findings will be presented in the next Quarterly EM&A report.

#### **Notifications of Summons and Successful Prosecutions**

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

# 5 Comments, Recommendations and Conclusions

## 5.1 Comments

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

- The Contractor was reminded to clear the general refuse as soon as possible.
- The Contractor was reminded to improve site housekeeping and clear general refuse as soon as possible.
- The Contractor was reminded to provide site watering for this access road as long as vehicle access is required.
- The Contractor was reminded to replace the NRMM label with a new label which complies with the relevant regulation.
- The Contractor was reminded to clear the stagnant water to prevent mosquito breeding.
- The Contractor was reminded to ensure more frequent water spray is provided to minimise fugitive dust suppression.
- The Contractor was reminded to remove the C&D waste at regular intervals.
- The Contractor was reminded to inspect the silt curtain to ensure that its structural integrity is intact.
- The Contractor was reminded to improve the housekeeping (including sorting and disposal).
- The Contractor was reminded to sort and dispose of the construction waste.
- The Contractor was reminded to provide a proper enclosure sheltered on the top and three sides.
- The Contractor was reminded to provide a new NRMM label.
- The Contractor was reminded to ensure that the NRMM label size complies with the relevant regulation.
- The Contractor was reminded to provide suitable drip trays.
- The Contractor was reminded to provide drip tray for the oil drums.
- The Contractor was reminded to display only one NRMM label per applicable plant.
- The Contractor was reminded to provide water spray for the haul road.
- The Contractor was reminded to provide drip tray or remove the generator from site as soon as possible.
- The Contractor was reminded to sort/remove this stockpile and ensure good site housekeeping.

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

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.

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

Commencement of the Contract took place on 13 March 2015 and the construction works of the Contract commenced on 13 July 2015. This is the 10<sup>th</sup> Quarterly EM&A Report summarising the findings of EM&A activities conducted under the Contract from 1 October 2017 to 31 December

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 October, November and December 2017) prepared by Contract No. HY/2011/03.

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

There was no Action and Limit Level exceedance for noise recorded at station NMS2 and station NMS3B by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

During October 2017, a total of 12 Action Level exceedances and 8 Limit Level exceedances (comprising 7 Action Level exceedances and 8 Limit Level exceedances of DO, and 5 Action Level exceedances of SS) were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

During November 2017, a total of 16 Action Level exceedances, consisting of 15 Action Level exceedances and 4 Limit Level exceedances of SS for water quality and one Action Level exceedance of 24-hour TSP for air quality, were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

During December 2017, a total of 17 Action Level exceedances, consisting of 16 Action Level exceedances of SS for water quality and one Action Level exceedance of 24-hour TSP for air quality, were recorded by the Environmental Team of Contract No. HY/2013/01 during the reporting period and were investigated by the ET of the Contract. It was concluded that the exceedances were not due to the Contract.

Furthermore, Limit Level exceedances of impact dolphin monitoring were recorded by the Environmental Team of Contract No. HY/2013/01 during the period of September 2017 to November 2017 and investigated by the ET of Contract No. HY/2013/01.

Impact dolphin monitoring results at all transects during the reporting period are reported in the monthly EM&A Reports (for October, November and December 2017) prepared for Contract No. HY/2013/01.

Environmental site inspection was carried out on 6, 11, 18, 23 and 31 October, 8, 15, 20 and 29 November and 6, 13, 18 and 29 December 2017. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site inspections.

There were three complaints received on 27 October 2017, 23 November 2017 and 29 December 2017 in relation to the environmental impact during the reporting period. The complaints received on 27 October 2017 and 23 November 2017 were investigated by the ET of the Contract and the findings are presented in this report. The investigation of the complaint received on 29 December 2017 by the ET of the Contract is ongoing and the findings will be presented in the next Quarterly EM&A report.

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

# Figures

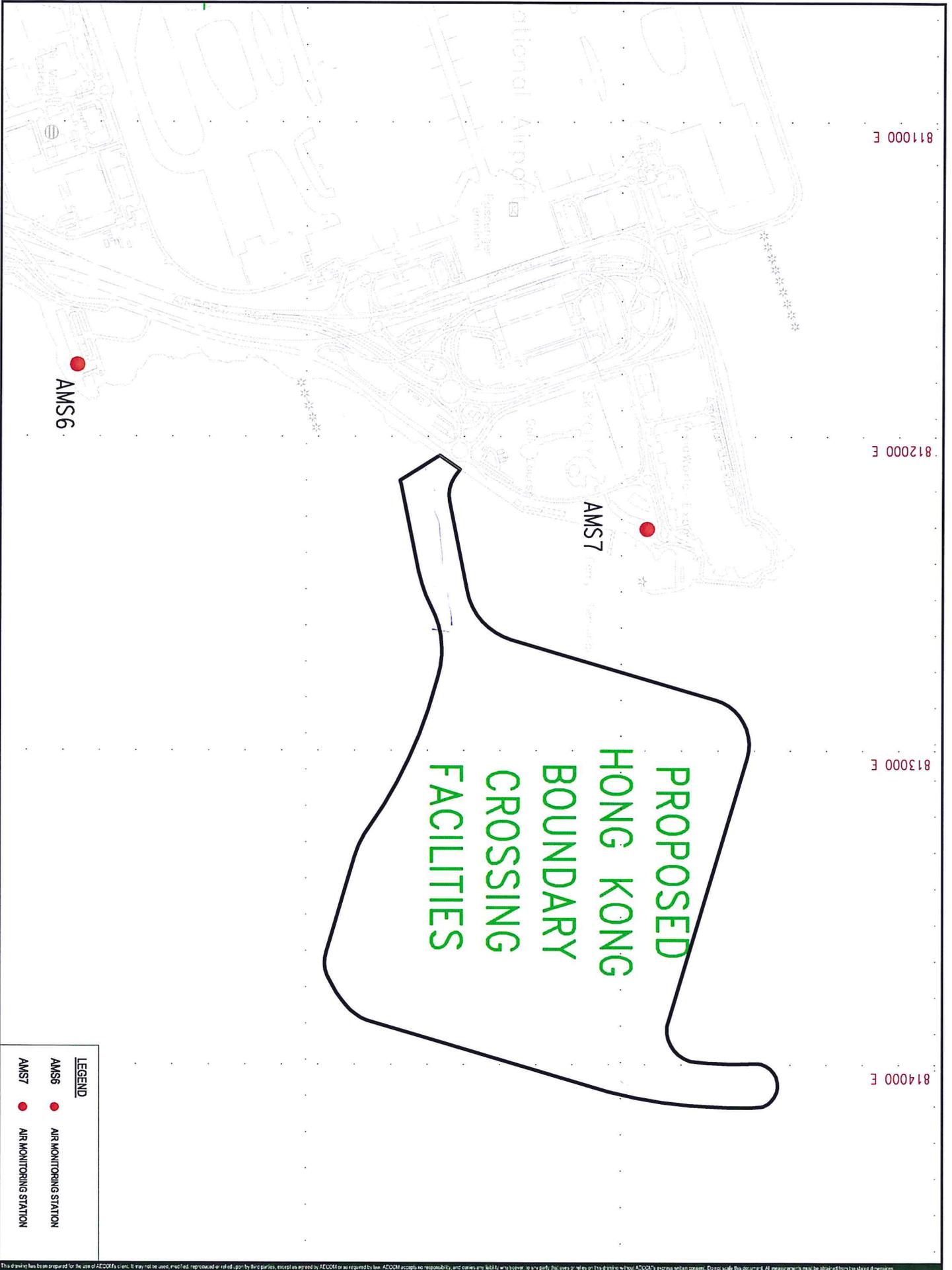
**Figure 2.1 Location of Air Quality Monitoring Stations**

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Project Management Initials:

Checked:

ISO A3 297mm x 420mm



**Figure 2.2 Location of Noise Quality Monitoring Stations**

Plot File by: LAMMCL 15/03/2012  
 PATH P:\60249820\1-01\CAD\Drawings\Figure\Figure 2(15m).dwg

Project Management Initials: Checked:

ISO A3 297mm x 420mm

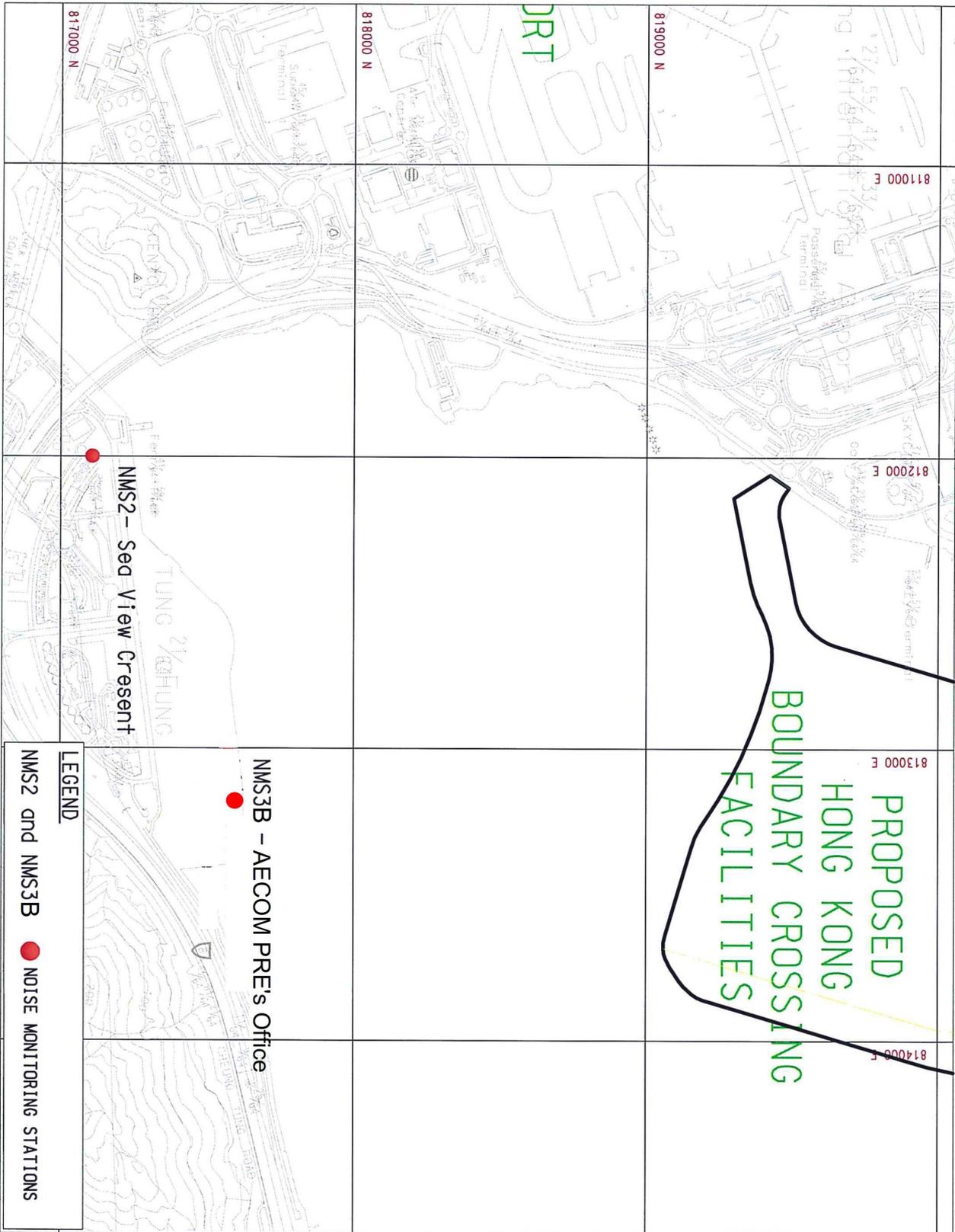
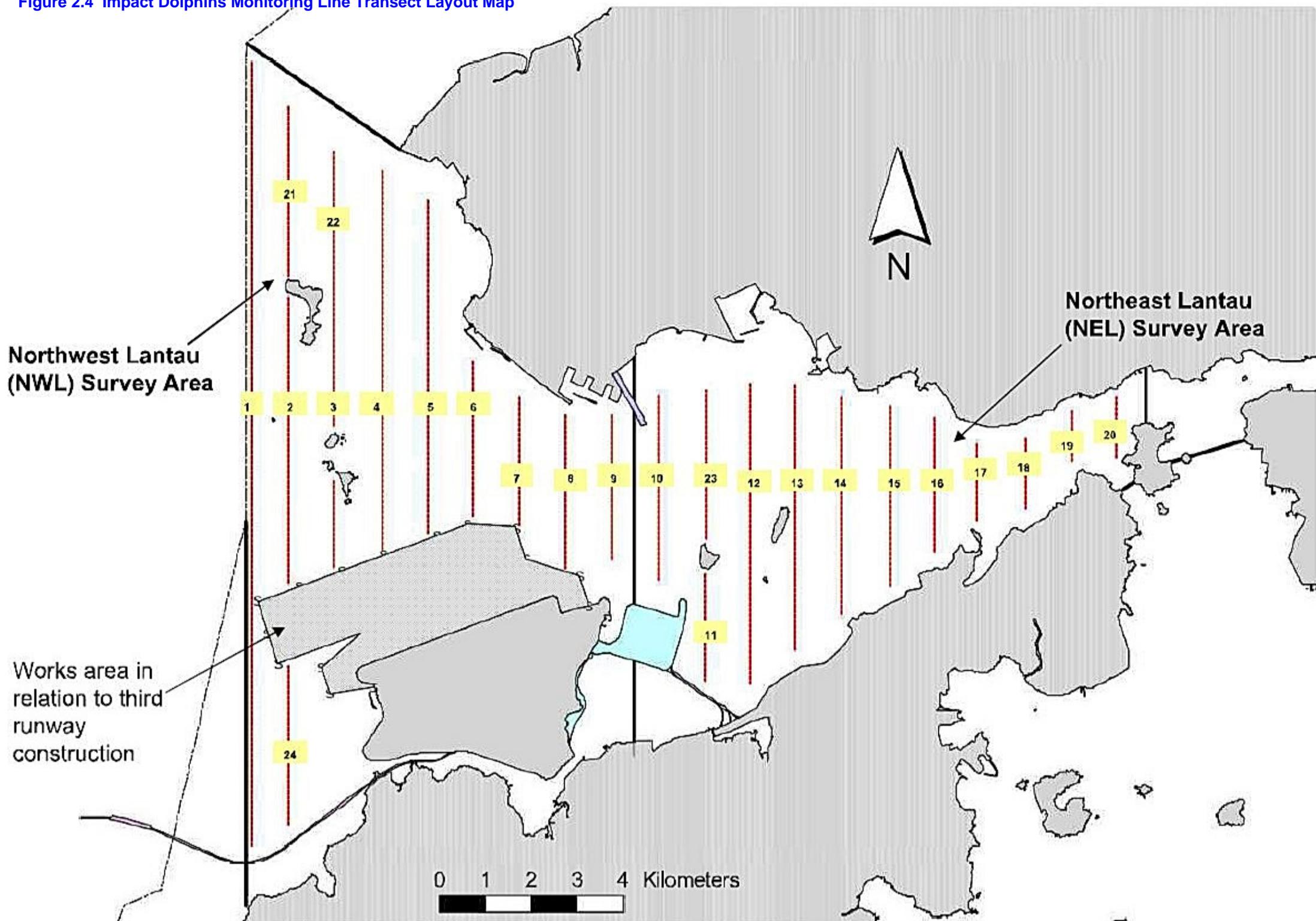


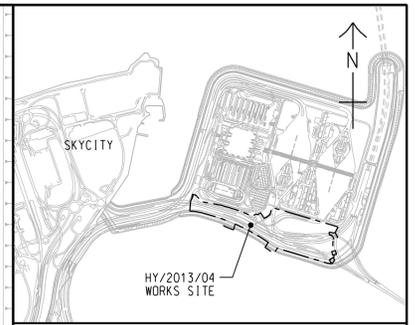
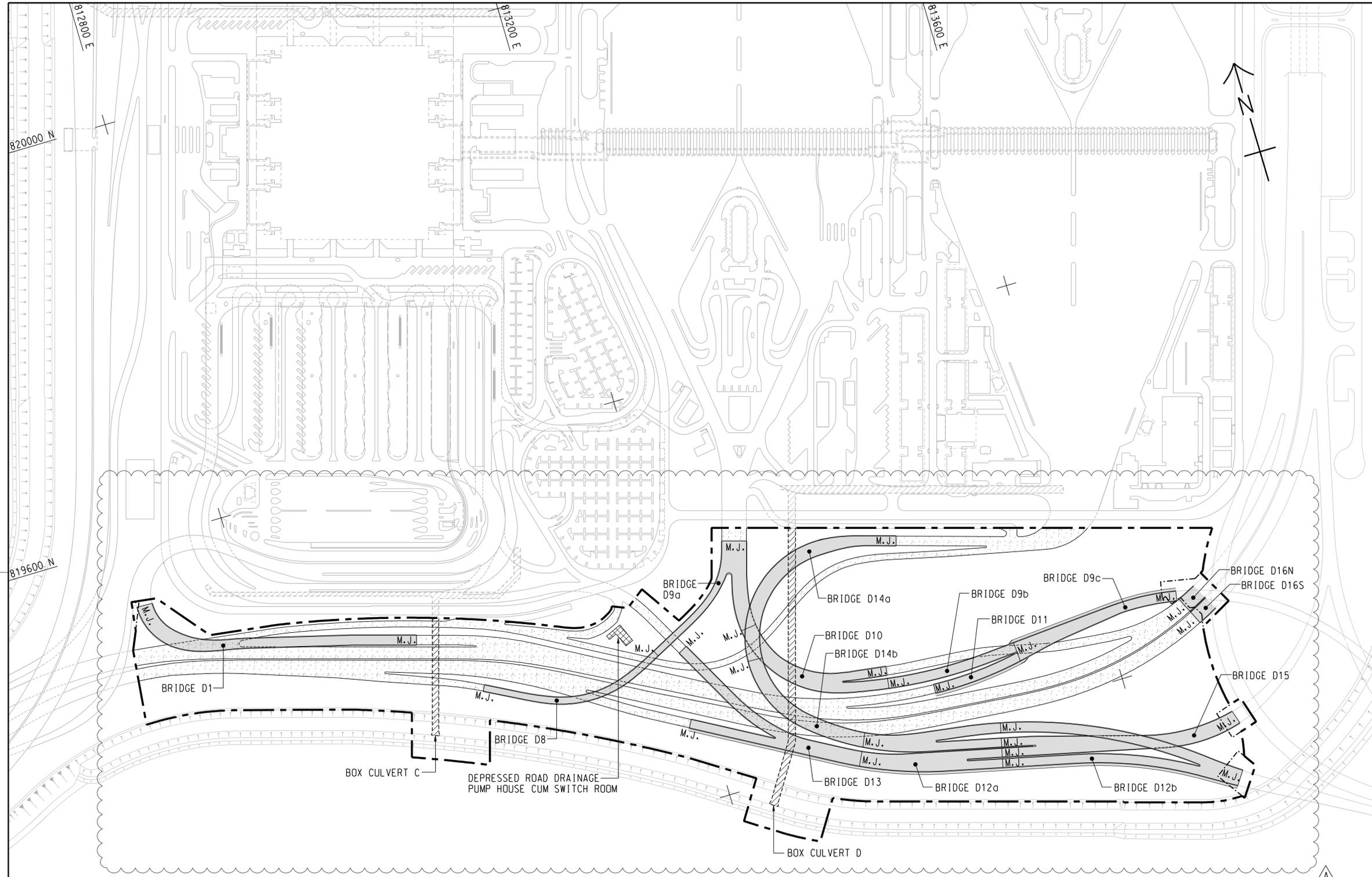


Figure 2.4 Impact Dolphins Monitoring Line Transect Layout Map



# Appendix A. Location of Works Areas





LOCATION PLAN  
SCALE 1 : 25000

**LEGEND:**

	SITE BOUNDARY
	AT-GRADE WORKS LIMIT
	MOVEMENT JOINT
	BRIDGE
	BUILDING/FACILITIES
	AT-GRADE ROAD
	BOX CULVERT

B	WORKING DRAWING	BWCW SCI	APR. 15
A	TENDER ADDENDUM NO. 3	BWCW SCI	MAY. 14
-	TENDER DRAWING	BWCW SCI	FEB. 14

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

HONG KONG-ZHUHAI-MACAO BRIDGE  
 HONG KONG BOUNDARY CROSSING FACILITIES  
 - INFRASTRUCTURE WORKS STAGE II (SOUTHERN PORTION)

**GENERAL ARRANGEMENT**

**AECOM**  
 Rogers Stirk Harbour + Partners  
**Aedas**  
 BURO HAPPOLD ATKINS ADI

DRG.NO. 60191048/C4/000/C00/1002B  
 圖紙編號

DESIGNED BY 設計	BWCW	CONTRACT NO. 合約編號	HY/2013/04	P. Dir. 批准人	APPROVED 批准	TKH
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DRAWN BY  
繪圖  
WSY  
STATUS  
階段  
**WORKING DRAWING**

SCALE  
比例  
A1 1 : 2000  
DIMENSIONS ARE IN  
尺寸單位  
METRES  
© COPYRIGHT RESERVED  
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Plot File by : 2014/5/7 WANGSY

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	817620.269	819000.620
313	817445.362	819013.131
314	817450.595	819032.307
315	817495.828	819059.595
316	817522.110	819075.388
317	817566.404	819028.472
318	817568.506	819008.526
319	817531.155	819001.066
320	817533.346	818991.306

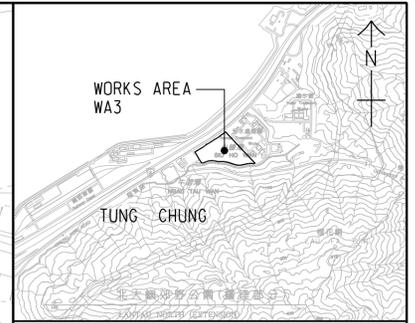
81200 E

81400 E

81600 E

819200 N

819000 N



LOCATION PLAN  
SCALE 1 : 25000

NOTES:

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

LEGEND:

	WORKS AREA BOUNDARY
	PORTION 3.1
	PORTION 3.2
	PORTION 3.3
	PORTION 3.4
	PORTION 3.5
	PORTION 3.6
	PORTION 3.7
	PORTION 3.8
	PORTION 3.9
	PORTION 3.10

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

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

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

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

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

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

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

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

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

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

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

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

B	WORKING DRAWING	BWCW SCI	APR. 15
A	TENDER ADDENDUM NO. 2	BWCW SCI	APR. 14
-	TENDER DRAWING	BWCW SCI	FEB. 14
REV.	DESCRIPTION	CHKD.	DATE
01	ISSUED FOR TENDER	BWCW	14/02/14

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

HONG KONG-ZHUHAI-MACAO BRIDGE  
HONG KONG BOUNDARY CROSSING FACILITIES  
- INFRASTRUCTURE WORKS STAGE II (SOUTHERN PORTION)

WORKS AREA WA3

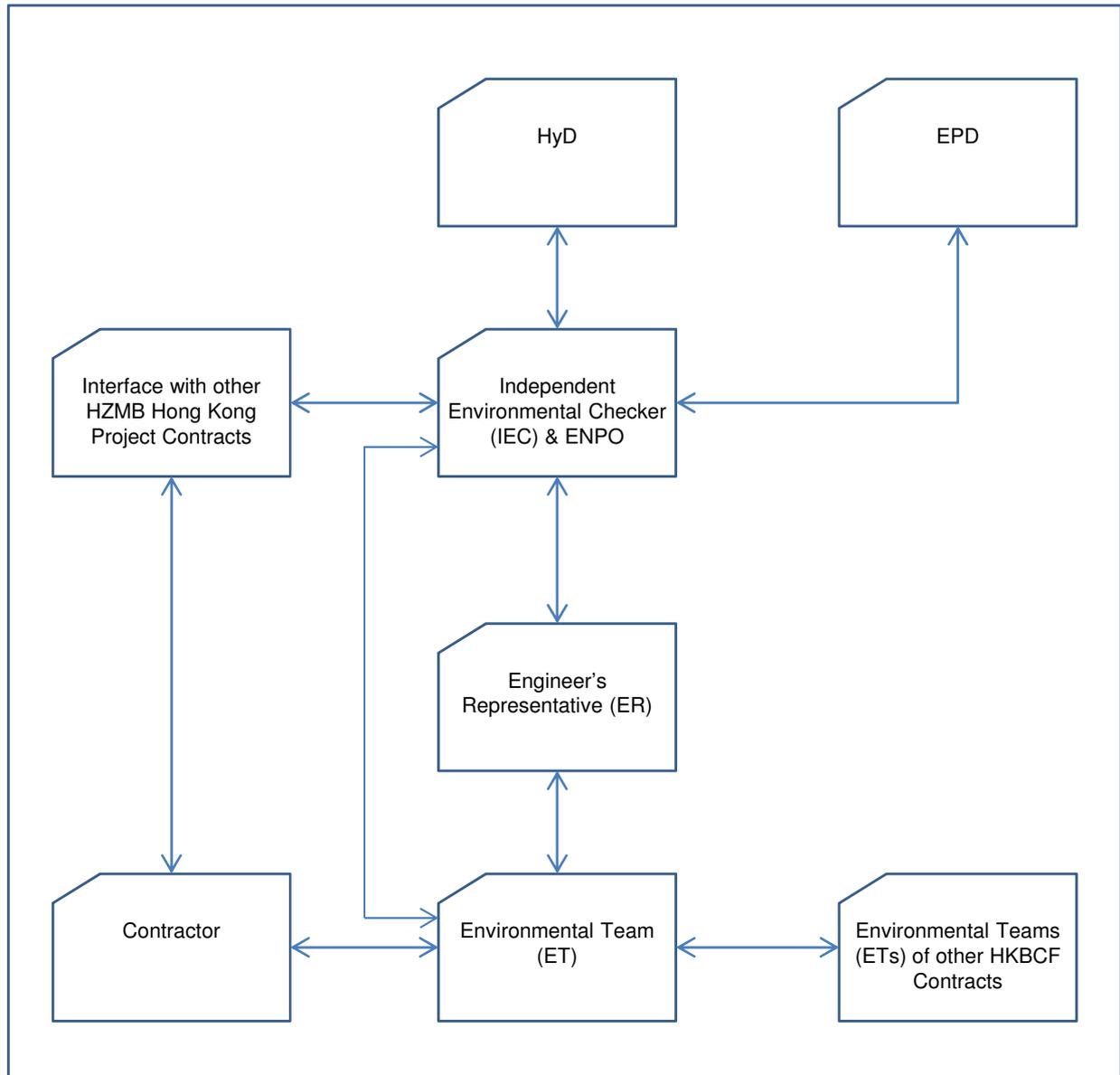
**AECOM** Aedas  
Rogers Stirk Harbour + Partners  
BURO HAPPOLD ATKINS ADI

DRG.NO. 60191048/C4/000/C00/1041B  
圖紙編號

DESIGNED BY 設計	BWCW	CONTRACT NO. 合約編號	HY/2013/04	P. Dir. APPROVED 批核人	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			

# Appendix B. Project Organization for Environmental Works

## Project Organisation for Environmental Works



↔ Line of Communication

# Appendix C. Construction Programme

Activity ID	Activity Name	2015				2016				2017				2018				2019				2020				2021																			
		A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N
<b>Essential Works Updates - Tier 1 - 26 O</b>																																													
<b>Contract Key Dates</b>																																													
CON.KD.0005	Letter of Acceptance (LOA)	Letter of Acceptance (LOA)																																											
CON.KD.0010	Commencement Date	Commencement Date																																											
CON.KD.0020	Completion of the whole of the Works (1520)	11-May-19, Completion of the whole of the Works (1520)																																											
<b>Possession Dates</b>																																													
CON.PD.1010	Site Possession of Portion A1 (61) - 8	06-Oct-16, Site Possession of Portion A1 (61) - 8																																											
CON.PD.1020	Site Possession of Portion A2 (61)	06-Oct-16, Site Possession of Portion A2 (61)																																											
CON.PD.1050	Site Possession of Portion A5 (61)	06-Oct-16, Site Possession of Portion A5 (61)																																											
CON.PD.1060	Site Possession of Portion A6 (61)	06-Oct-16, Site Possession of Portion A6 (61)																																											
CON.PD.1070	Site Possession of Portion B1-5 (92)	06-Oct-16, Site Possession of Portion B1-5 (92)																																											
CON.PD.1080	Site Possession of Portion B2 (123)	06-Oct-16, Site Possession of Portion B2 (123)																																											
CON.PD.1130	Site Possession of Portion B5 (123)	06-Oct-16, Site Possession of Portion B5 (123)																																											
CON.PD.1140	Site Possession of Portion C1 (184)	06-Oct-16, Site Possession of Portion C1 (184)																																											
CON.PD.1150	Site Possession of Portion C2 (184)	06-Oct-16, Site Possession of Portion C2 (184)																																											
CON.PD.1160	Site Possession of Portion D1 (183)	06-Oct-16, Site Possession of Portion D1 (183)																																											
CON.PD.1180	Site Possession of Portion D3 (183)	06-Oct-16, Site Possession of Portion D3 (183)																																											
CON.PD.1190	Site Possession of Portion A1 (61) - 2	06-Oct-16, Site Possession of Portion A1 (61) - 2																																											
CON.PD.1200	Site Possession of Portion A1 (61) - 5	06-Oct-16, Site Possession of Portion A1 (61) - 5																																											
CON.PD.1210	Site Possession of Portion A1 (61) - 1	06-Oct-16, Site Possession of Portion A1 (61) - 1																																											
CON.PD.1220	Site Possession of Portion C1 -1 (184)	06-Oct-16, Site Possession of Portion C1 -1 (184)																																											
CON.PD.1230	Site Possession of Portion C1 -2 (184)	06-Oct-16, Site Possession of Portion C1 -2 (184)																																											
CON.PD.1240	Site Possession of Portion B1 -1 (92)	06-Oct-16, Site Possession of Portion B1 -1 (92)																																											
CON.PD.1250	Site Possession of Portion B1 -2 (92)	06-Oct-16, Site Possession of Portion B1 -2 (92)																																											
CON.PD.1260	Site Possession of Portion A1 (61) - 7	06-Oct-16, Site Possession of Portion A1 (61) - 7																																											
CON.PD.1270	Site Possession of Portion B1-3 (92)	06-Oct-16, Site Possession of Portion B1-3 (92)																																											
CON.PD.1280	Site Possession of Portion B1-4 (92)	06-Oct-16, Site Possession of Portion B1-4 (92)																																											
CON.PD.1290	Site Possession of Portion C1 -3 (184)	06-Oct-16, Site Possession of Portion C1 -3 (184)																																											
<b>Site Access Dates</b>																																													
CON.PD.1030	Site Access of Portion A3 (476)	06-Oct-16, Site Access of Portion A3 (476)																																											
CON.PD.1040	Site Access of Portion A4 (627)	29-Nov-16, Site Access of Portion A4 (627)																																											
CON.PD.1090	Site Access of Portion B3 (476)	06-Oct-16, Site Access of Portion B3 (476)																																											
CON.PD.1100	Site Access of Portion B4 (627)	29-Nov-16, Site Access of Portion B4 (627)																																											
CON.PD.1170	Site Access of Portion D2 (488)	06-Oct-16, Site Access of Portion D2 (488)																																											
<b>Contractual Key Dates - Stage / Section I</b>																																													
CON.FOT.KD01	KD01 - Achievement of Stage 1A (525)	06-Oct-16, KD01 - Achievement of Stage 1A (525)																																											
CON.FOT.KD02	KD02 - Achievement of Stage 1B (650)	22-Dec-16, KD02 - Achievement of Stage 1B (650)																																											
CON.FOT.KD03	KD03 - Achievement of Stage 2 (525)	06-Oct-16, KD03 - Achievement of Stage 2 (525)																																											
CON.FOT.KD04	KD04 - Achievement of Stage 3 (465)	06-Oct-16, KD04 - Achievement of Stage 3 (465)																																											
CON.FOT.KD05	KD05 - Achievement of Stage 4 (615)	17-Nov-16, KD05 - Achievement of Stage 4 (615)																																											
CON.FOT.KD06	KD06 - Achievement of Stage 5 (615)	17-Nov-16, KD06 - Achievement of Stage 5 (615)																																											
CON.FOT.KD07	KD07 - Achievement of Stage 6 (270)	06-Oct-16, KD07 - Achievement of Stage 6 (270)																																											
CON.FOT.KD08	KD08 - Completion of Section I of the Works (795)	16-May-17, KD08 - Completion of Section I of the Works (795)																																											
CON.FOT.KD09	KD09 - Completion of Section II of the Works (803)	24-May-17, KD09 - Completion of Section II of the Works (803)																																											
CON.FOT.KD10	KD10 - Completion of Section III of the Works (803)	24-May-17, KD10 - Completion of Section III of the Works (803)																																											
CON.FOT.KD11	KD11 - Completion of Section IV of the Works (565)	06-Oct-16, KD11 - Completion of Section IV of the Works (565)																																											
CON.FOT.KD12	KD12 - Completion of Section V of the Works (803)	24-May-17, KD12 - Completion of Section V of the Works (803)																																											
CON.FOT.KD13	KD13 - Completion of Section VI of the Works (465)	06-Oct-16, KD13 - Completion of Section VI of the Works (465)																																											
CON.FOT.KD14	KD14 - Completion of Section VII of the Works (1155)	11-May-18, KD14 - Completion of Section VII of the Works (1155)																																											
CON.FOT.KD15	KD15 - Completion of Section VIIIA of the Works (795)	16-May-17, KD15 - Completion of Section VIIIA of the Works (795)																																											
CON.FOT.KD16	KD16 - Completion of Section VIIIB of the Works (1155)	11-May-18, KD16 - Completion of Section VIIIB of the Works (1155)																																											
CON.FOT.KD17	KD17 - Achievement of Stage 7 (718)	28-Feb-17, KD17 - Achievement of Stage 7 (718)																																											
CON.FOT.KD17A	KD17A - Completion of Section VIIIC of the Works (795)	16-May-17, KD17A - Completion of Section VIIIC of the Works (795)																																											
CON.FOT.KD18	KD18 - Completion of Section VIIID of the Works (1155)	11-May-18, KD18 - Completion of Section VIIID of the Works (1155)																																											
CON.FOT.KD19	KD19 - Completion of Section IXA of the Works (1160)	16-May-18, KD19 - Completion of Section IXA of the Works (1160)																																											
CON.FOT.KD20	KD20 - Completion of Section IXB of the Works (1520)	11-May-19, KD20 - Completion of Section IXB of the Works (1520)																																											
<b>Contractual Handover Dates to Employer</b>																																													
CON.HD.1190	Handover of Portion A1 (KD8+28 days)	13-Jun-17, Handover of Portion A1 (KD8+28 days)																																											
CON.HD.1200	Handover of Portion A2 (KD8+28 days)	13-Jun-17, Handover of Portion A2 (KD8+28 days)																																											
CON.HD.1210	Handover of Portion A3 (KD9+28 days)	21-Jun-17, Handover of Portion A3 (KD9+28 days)																																											
CON.HD.1220	Handover of Portion A4 (KD10+28 days)	21-Jun-17, Handover of Portion A4 (KD10+28 days)																																											
CON.HD.1240	Handover of Portion A5 (KD13+0 days)	06-Oct-16, Handover of Portion A5 (KD13+0 days)																																											

◆ Current Milestone  
 Late Bar  
 Actual Work

**HY/2013/04 - Detailed Works Programme**

Detailed Works Programme (IWP) Rev. 04			
Date	Revision	Chec...	Approved
09-Sep-15	Detailed Works Programme ...	WN/WC	ET
17-Oct-15	Detailed Works Programme ...	WN/WC	ET
29-Oct-15	Detailed Works Programme ...	WN/WC	ET
25-Nov-15	Detailed Works Programme ...	WN/WC	ET













































# Appendix D. Event and Action Plan

## Event/Action Plan for Air Quality Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>ACTION LEVEL</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform IEC and ER;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice;</li> <li>2. Amend working methods if appropriate.</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC and ER;</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings;</li> <li>5. Increase monitoring frequency to daily;</li> <li>6. Discuss with IEC and Contractor on remedial actions required;</li> <li>7. If exceedance continues, arrange meeting with IEC and ER;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise Implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial to ER within 3 working days of notification;</li> <li>2. Implement the agreed proposals;</li> <li>3. Amend proposal if appropriate.</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>LIMIT LEVEL</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform ER, Contractor and EPD;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend proposal if appropriate.</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Notify IEC, ER, Contractor and EPD;</li> <li>2. Identify source;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

## Event / Action Plan for Construction Noise Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	<ol style="list-style-type: none"> <li>1. Notify IEC and Contractor;</li> <li>2. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>3. Report the results of investigation to the IEC, ER and Contractor;</li> <li>4. Discuss with the Contractor and formulate remedial measures;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC;</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Inform IEC, ER, EPD and Contractor;</li> <li>2. Identify source;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

## Event / Action Plan for Water Quality Monitoring

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

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

## Event / Action Plan for Dolphin Monitoring

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

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Limit Level	<ol style="list-style-type: none"> <li>1. Repeat statistical data analysis to confirm findings;</li> <li>2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&amp;A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences;</li> <li>3. Identify source(s) of impact;</li> <li>4. Inform the IEC, ER/SOR and Contractor of findings;</li> <li>5. Check monitoring data;</li> <li>6. Repeat review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary.</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor;</li> <li>2. Discuss monitoring results and findings with the ET and the Contractor;</li> <li>3. Attend the meeting to discuss with ET, ER/SOR and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures.</li> <li>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.</li> <li>5. Supervise / Audit the implementation of additional monitoring and/or any other mitigation measures and advise ER/SOR the results and findings accordingly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Attend the meeting to discuss with ET, IEC and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures.</li> <li>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.</li> <li>3. Supervise the implementation of additional monitoring and/or any other mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the ER/SOR and confirm notification of the non-compliance in writing;</li> <li>2. Attend the meeting to discuss with ET, IEC and ER/SOR the necessity of additional dolphin monitoring and any other potential mitigation measures.</li> <li>3. Jointly submit with ET to IEC a proposal of additional dolphin monitoring and/or any other mitigation measures when necessary.</li> <li>4. Implement the agreed additional dolphin monitoring and/or any other mitigation measures.</li> </ol>

# Appendix E. Implementation Schedule for Environmental Mitigation Measures (EMIS)

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

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
<b>Air Quality</b>				
S5.5.6.1	A1	1) The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	All construction sites	V
S5.5.6.2	A2	2) Proper watering of exposed spoil should be undertaken throughout the construction phase: <ul style="list-style-type: none"> <li>• 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;</li> <li>• Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>• A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones;</li> <li>• 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;</li> <li>• 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;</li> </ul>	All construction sites	V
S5.5.6.2	A2	<ul style="list-style-type: none"> <li>• When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period;</li> <li>• 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;</li> <li>• 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;</li> <li>• 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;</li> <li>• 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;</li> <li>• Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>• 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</li> </ul>	All construction sites	V
S5.5.6.2	A2	<ul style="list-style-type: none"> <li>• 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;</li> <li>• 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</li> <li>• 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.</li> </ul>	All construction sites	V
S5.5.6.3	A3	3) The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	All construction sites	V
S5.5.6.4	A4	4) Engineer to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the Contractor's attention to the relevant latest Practice Notes issued by EPD.	All construction sites	V
S5.5.6.4	A5	5) Implement regular dust monitoring under EM&A programme during the construction stage.	Selected representative dust monitoring station	V (covered by Contract No. HY/2013/01 & HY/2011/03)
S5.5.7.1	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant:	Selected representative dust	N/A

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		<ul style="list-style-type: none"> <li>• Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system;</li> <li>• 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;</li> <li>• Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system;</li> <li>• The materials which may generate airborne dusty emissions should be wetted by water spray system;</li> <li>• All receiving hoppers should be enclosed on three sides up to 3m above unloading point;</li> <li>• All conveyor transfer points should be totally enclosed;</li> <li>• All access and route roads within the premises should be paved and wetted; and</li> <li>• 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.</li> </ul>	monitoring station	
S5.5.2.7	A7	<p>The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point:</p> <ul style="list-style-type: none"> <li>• All road surface within the barging facilities will be paved;</li> <li>• Dust enclosures will be provided for the loading ramp;</li> <li>• Vehicles will be required to pass through designated wheels wash facilities; and</li> <li>• Continuous water spray at the loading points.</li> </ul>	All construction sites	N/A
<b>Construction Noise (Air borne)</b>				
S6.4.10	N1	<p>1) Use of good site practices to limit noise emissions by considering the following:</p> <ul style="list-style-type: none"> <li>• only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>• 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;</li> <li>• plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;</li> <li>• silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> <li>• mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>• material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>	All construction sites	V
S6.4.11	N2	<p>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.</p>	All construction sites	V
S6.4.12	N3	<p>3) Install movable noise barriers (typically density @ 14kg/m<sup>2</sup>), acoustic mat or full enclosure close to noisy plants including air compressor, generators, saw.</p>	For plant items listed in Appendix 6D of the EIA report at all construction sites	V
S6.4.13	N4	<p>4) Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.</p>	For plant items listed in Appendix 6D of the EIA report at all construction sites	V
S6.4.14	N5	<p>5) Sequencing operation of construction plants where practicable.</p>	All construction sites where practicable	V
	N6	<p>6) Implement a noise monitoring under EM&amp;A programme.</p>	Selected representative noise monitoring station	V (covered by Contract No. HY/2013/01)
<b>Sediment</b>				
S7.3	S1	<p>1) The requirements as recommended in ETWB TC(W) 34/2002 Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.</p>	All construction sites	V
<b>Waste Management (Construction Noise)</b>				
S8.3.8	WM1	<p><u>Construction and Demolition Material</u></p> <p>The following mitigation measures should be implemented in handling the waste:</p> <ul style="list-style-type: none"> <li>• Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>• Carry out on-site sorting;</li> <li>• Make provisions in the Contract documents to allow and promote the use of recycled</li> </ul>	All construction sites	V

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		<p>aggregates where appropriate;</p> <ul style="list-style-type: none"> <li>• Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;</li> <li>• Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified; and</li> <li>• Implement an enhanced Waste Management Plan similar to ETWB TC(W) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&amp;D materials and to minimize their generation during the course of construction.</li> <li>• In addition, disposal of the C&amp;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.</li> </ul>		
S8.3.9- S8.3.11	WM2	<p><u>C&amp;D Waste</u></p> <ul style="list-style-type: none"> <li>• Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&amp;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.</li> <li>• The Contractor should recycle as much of the C&amp;D materials as possible on-site. Public fill and C&amp;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.</li> </ul>	All construction sites	V
S8.2.12- S8.3.15	WM3	<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>	All construction sites	V
S8.3.16	WM4	<p><u>Sewage</u></p> <ul style="list-style-type: none"> <li>• 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.</li> </ul>	All construction sites	V
S8.3.17	WM5	<p><u>General Refuse</u></p> <ul style="list-style-type: none"> <li>• General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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, aluminium cans, plastic bottles etc., should be provided.</li> <li>• Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes.</li> </ul>	All construction sites	V

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
<b>Water Quality (Construction Phase)</b>				
S9.11.1.1	W1	<p><u>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 dredging/backfilling, as well as protection measures. Details of the measures are provided below.</u></p> <ul style="list-style-type: none"> <li>Floating type perimeter silt curtains shall be around the HKBCF site before the commencement of marine works.</li> <li>Silt curtain shall be fully maintained throughout the works.</li> </ul>	Marine works	V
S9.11.1.7	W2	<p><u>Land Works</u></p> <p>General construction activities on land should also be governed by standard good working practice. Specific measures to be written into the works contracts should include:</p> <ul style="list-style-type: none"> <li>wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters;</li> <li>sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the W PCO or collected for disposal offsite. The use of soakaways shall be avoided;</li> <li>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;</li> <li>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;</li> <li>temporary access roads should be surfaced with crushed stone or gravel;</li> <li>rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;</li> <li>measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system;</li> <li>open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms;</li> <li>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;</li> <li>discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;</li> <li>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;</li> <li>wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain;</li> <li>the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel;</li> <li>wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects;</li> <li>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 W PCO or collected for off site disposal;</li> <li>the Contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately;</li> <li>waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance;</li> <li>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</li> <li>surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.</li> </ul>	Land-based works areas	V
S9.14	W3	Implement a water quality monitoring programme	At identified monitoring locations	V (covered by Contract No. HY/2013/01)

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
<b>Ecology (Construction Phase)</b>				
S10.7	E2	<ul style="list-style-type: none"> <li>• Install silt curtain during the construction.</li> <li>Limit dredging and works fronts.</li> <li>• Good site practices.</li> <li>• Site runoff control.</li> </ul>	Marine works and Land-based works areas	V
S10.7	E4	Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater	Land-based works areas	V
S10.7	E5	Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time	Land-based works areas	V
S10.7	E6	<ul style="list-style-type: none"> <li>• Dolphin Exclusion Zone;</li> <li>• Dolphin watching plan</li> </ul>	Marine works	V
S10.7	E7	<ul style="list-style-type: none"> <li>• Decouple compressors and other equipment on working vessels</li> <li>• Avoidance of percussive piling</li> </ul>	Marine works	V
S10.7	E8	<ul style="list-style-type: none"> <li>• Control vessel speed</li> <li>• Skipper training</li> <li>• Predefined and regular routes for working vessels; avoid Brother Islands.</li> </ul>	Marine Traffic	V
S10.10	E9	<ul style="list-style-type: none"> <li>• Dolphin vessel monitoring</li> </ul>	North Lantau and West Lantau	V (covered by Contract No. HY/2013/01)
<b>Fisheries</b>				
S11.7	F4	<ul style="list-style-type: none"> <li>• Maritime Oil Spill Response Plan (MOSRP);</li> <li>• Contingency plan.</li> </ul>	HKBCF	V
<b>Landscape &amp; Visual (Detailed Design Phase)</b>				
S14.3.3.1	LV1	<p>General design measures include:</p> <ul style="list-style-type: none"> <li>• Roadside planting and planting along the edge of the HKBCF Island is proposed;</li> <li>• 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;</li> <li>• Protection measures for the trees to be retained during construction activities;</li> <li>• Optimizing the sizes and spacing of the bridge columns; Fine-tuning the location of the bridge columns to avoid visually-sensitive locations;</li> <li>• Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed;</li> <li>• Providing planting area around peripheral of HKBCF for tree planting screening effect;</li> <li>• Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline;</li> <li>• 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</li> <li>• 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.</li> </ul>	HKBCF	V
<b>Landscape &amp; Visual (Construction Phase)</b>				
S14.3.3.3	LV2	<p><u>Mitigate both Landscape and Visual Impacts</u></p> <p>G1. Grass-hydroseed bare soil surface and stock pile areas.</p> <p>G2. Add planting strip and automatic irrigation system if appropriate at some portions of bridge footbridge to screen bridge and traffic.</p> <p>G3. Not applicable as this is for HKLR.</p> <p>G4. For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF</p> <p>G5. Vegetation reinstatement and upgrading to disturbed areas</p> <p>G6. Maximizing new tree shrub and other vegetation planting to compensate tree felled and vegetation removed</p> <p>G7. Providing planting area around peripheral of HKBCF for tree planting screening</p>	HKBCF	N/A

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		effect; G8. Plant salt-tolerant native and shrubs etc along the planter strip at affected seawall. G9. Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt "natural-look" by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enhance "natural-look" of the new coastline.		
S14.3.3.3	LV3	<u>Mitigate Visual Impacts</u> V1. Minimize time for construction activities during construction period. V2. Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKBCF construction.		N/A
<b>EM&amp;A</b>				
S15.2.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	All construction sites	V
S15.5 - S15.6	EM2	1) An Environmental Team needs to be employed as per the EM&A Manual. 2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. 3) An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	All construction sites	V
Legend:	V = implemented;                      x = not implemented;                      N/A = not applicable			

# Appendix F. Site Audit Findings and Corrective Actions

## **Appendix F – Site Audit Findings and Corrective Actions**

Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control mitigation measures for the project. During the reporting period, site inspections were carried out on 6, 11, 18, 23 and 31 October, 8, 15, 20 and 29 November and 6, 13, 18 and 29 December 2017.

Particular observations during the site inspections are described below.

### **18 September 2017**

- a. The colour of a NRMM label for crawler crane at Bridge D8 had faded. Subsequently, the crawler crane was removed from site. The observation was closed on 11 October 2017.

### **27 September 2017**

- a. Loose general refuse was observed at P910. Subsequently, the general refuse was cleared. The observation was closed on 6 October 2017.

### **6 October 2017**

- a. Loose general refuse was observed near the bridge at P802. Subsequently, the general refuse was cleared. The observation was closed on 18 October 2017.

### **11 October 2017**

- a. Site housekeeping near Bridge D1 at P101 was untidy with unsorted construction materials and general refuse observed. Subsequently, the site housekeeping was improved with general refuse and construction materials cleared. The observation was closed on 18 October 2017.
- b. Dusty access road between main haul road and P101 was observed. Subsequently, the access road was provided with water spray. The observation was closed on 18 October 2017.

### **18 October 2017**

- a. The colour of a NRMM label for generator near Retaining Wall RW1a had faded. Subsequently, a new NRMM label was provided for the generator near RW1a. The observation was closed on 23 October 2017.
- b. Stagnant water pond near Bridge D14a at P1406 was observed. Subsequently, the stagnant water pond was cleared. The observation was closed on 23 October 2017.

### **23 October 2017**

- a. A few haul roads were observed to be slightly dry. Subsequently, more frequent water spray was provided for the haul roads. The observation was closed on 31 October 2017.
- b. Some C&D waste stockpiles were observed on the deck of Bridge D8/D9a. Subsequently, the C&D waste was removed. The observation was closed on 31 October 2017.
- c. Silty water was observed immediately outside the perimeter of a silt curtain for Box Culvert D. Subsequently, the Contractor inspected the silt curtain for Box Culvert D and confirmed that it was structurally intact. No silty water was observed outside the silt curtain during the follow-up inspection on 31 October 2017. The observation was closed on 31 October 2017.

### **31 October 2017**

- a. Loose general refuse and construction materials were observed at A801 (Bridge D8) and P910 (Bridge D9c). Subsequently, the loose general refuse was collected and disposed of, and construction materials were sorted and stockpiled at A801 (Bridge D8) and P910 (Bridge D9c). The observation was closed on 8 November 2017.

### **8 November 2017**

- a. A stockpile of unsorted construction waste was observed near Retaining Wall RW1. Subsequently, the construction waste was cleared. The observation was closed on 15 November 2017.

- b. Loose general refuse was observed near P1403 (Bridge D14a). Subsequently, the general refuse was cleared. The observation was closed on 15 November 2017.
- c. A concrete-mixing area near A1401 (Bridge D14a) was operating without proper dust mitigation measures. Subsequently, the concrete-mixing area was cleared and no concrete-mixing works were observed near A1401 (Bridge D14a). The observation was closed on 15 November 2017.

#### **15 November 2017**

- a. Loose general refuse was observed near Bridge D8. Subsequently, the loose general refuse was cleared. The observation was closed on 29 November 2017.
- b. A concrete-mixing area near P903 was observed without proper dust mitigation measures. Subsequently, the concrete-mixing area was cleared. The observation was closed on 20 November 2017.

#### **20 November 2017**

- a. General refuse was observed on the ground at P903 and A1502. Subsequently, the general refuse was cleared. The observation was closed on 29 November 2017.
- b. A discoloured NRMM for a generator was observed at P8024 (Bridge D8). Subsequently, the generator was suspended from use with "do not use" labelling. The observation was closed on 29 November 2017.
- c. The NRMM label for a generator at Box Culvert C did not appear to be of the correct size. Subsequently, the generator was provided with NRMM label in correct size. The observation was closed on 29 November 2017.
- d. Chemical drums without drip tray were observed at P802 (Bridge D8) and the segment storage area. Subsequently, the chemical drums were removed. The observation was closed on 29 November 2017.

#### **29 November 2017**

- a. Loose general refuse was observed near P1406 (Bridge D14). Subsequently, the loose general refuse was cleared. The observation was closed on 6 December 2017.
- b. Oil drums without drip tray were observed near P803 area. Subsequently, the oil drums were removed. The observation was closed on 6 December 2017.

#### **6 December 2017**

- a. Loose general refuse was observed near the pump house next to bridge D8. Subsequently, the loose general refuse was cleared. The observation was closed on 13 December 2017.

#### **13 December 2017**

- a. Stockpile of more than 20 bags of cement was observed near P1405 without covering. Subsequently, the stockpile was covered entirely by impervious sheeting. The observation was closed on 18 December 2017.
- b. Loose general refuse was observed near the pump house next to bridge D8. Subsequently, the loose general refuse was cleared. The observation was closed on 18 December 2017.
- c. Leakage of oil from a generator without drip tray near P1410 was observed. Subsequently, the generator and oil leakage were removed. The observation was closed on 18 December 2017.

#### **18 December 2017**

- a. Two NRMM labels on a generator near P101 were observed. Subsequently, the additional NRMM label was removed from the generator near P101 and only one NRMM label was displayed. The observation was closed on 29 December 2017.
- b. A haul road next to Bridge D8 was dusty. Subsequently, the Contractor provided water spray for the haul road. The observation was closed on 29 December 2017.

#### **29 December 2017**

- a. A stockpile of C&D material was observed near P105 (Bridge D1). The Contractor was reminded to sort/remove this stockpile and ensure good site housekeeping. Follow-up actions

for the outstanding observation will be inspected during the upcoming site inspections and reported in the coming reporting period.

# Appendix G. Waste Flow Table

**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				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Transported to other Projects (Note 2)	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (Note 1)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	6.552	0	0	6.552	0	0	0	0	0	0	0.1068
Feb	1.38	0	0	1.38	0	0	0	0	0	0	0.3315
Mar	0	0	0	0	0	0	0	0	0	0	0.3025
Apr	0	0	0	0	0	0	0	0	0	0	0.5456
May	0	0	0	0	0	0	0	0	0	0	0.4774
Jun	0	0	0	0	0	0	0	0	0	0	0.7520
Sub-total	7.932	0	0	7.932	0	0	0	0	0	0	2.5158
Jul	0	0	0	0	0	0	0	0	0	0	0.6682
Aug	0	0	0	0	0	0	0	0	0	0	0.8258
Sep	0	0	0	0	0	0	0	0	0	0	0.7234
Oct	0	0	0	0	0	0	0	0	0	0	0.5821
Nov	0	0	0	0	0	0	0	0	0	0	0.9248
Dec	0	0	0	0	0	0	0	0	0	0	1.0405
Total	7.932	0	0	7.932	0	0	0	0	0	0	7.2806

Note: (1) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material

(2) "Other Projects" refers to HKBCF Contract No. HY/2013/03

**Monthly Summary of Excavated Marine Sediment for 2017**

Month	a. Estimated Volume of Excavated Marine Sediment Generated	b. Estimate Volume of Accumulated Excavated Marine Sediment Treated	c. Reused in the Contract	d. Estimated Volume of Excavated Marine Sediment Transported to Other Projects (Note 1)	e. Estimated Volume of Treated Excavated Marine Sediment Stored on Site (Unused)
	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )
Jan	6552	0	0	6552	0
Feb	1380	0	0	1380	0
Mar	0	0	0	0	0
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0
Sub-total	7932	0	0	7932	0
Jul	0	0	0	0	0
Aug	0	0	0	0	0
Sep	0	0	0	0	0
Oct	0	0	0	0	0
Nov	0	0	0	0	0
Dec	0	0	0	0	0
Total	7932	0	0	7932	0

Note: (1) "Other Projects" refers to HKBCF Contract No. HY/2013/03. The disposal of excavated marine sediments to allocated dumping site via Contract No. HY/2013/03 has been completed with the last batch disposal on 30 August 2017.

# Appendix H. Environmental Licenses and Permits

## Environmental Licences and Permits

Item No.	Type of Permit / Licence	Reference No.	Application Date	Valid from	Valid until	Remark
1	Environmental Permit under EIAO	EP-353/2009/K	24 Mar 2016	11 Apr 2016	N/A	Issued
2	Construction Dust Notification (HKBCF Southern Portion)	387156	26 Mar 2015	1 Apr 2015	N/A	Notified
3	Construction Waste Disposal Account	7022038	16 Mar 2015	1 Apr 2015	N/A	Account approved
4	Registration as a Chemical Waste Producer (HKBCF Southern Portion)	Waste Producer Number (WPN): 5213-951-C3952-01	27 Mar 2015	27 Apr 2015	N/A	Registration completed
5	Discharge Licence under WPCO (Works Area WA3)	WT00022316-2015	1 Jun 2015	14 Aug 2015	31 Aug 2020	Issued
6	Discharge Licence under WPCO (HKBCF Works Area)	WT00028782-2017	25 May 2017	19 Jul 2017	31 Jul 2022	Issued
7	Construction Noise Permit	GW-RS0345-17	31 Mar 2017	1 May 2017	31 Oct 2017	Expired during reporting period
8	Construction Noise Permit	GW-RS0538-17	13 Jun 2017	29 Jun 2017	9 Dec 2017	Expired during reporting period
9	Construction Noise Permit	GW-RS0945-17	16 Oct 2017	1 Nov 2017	30 Apr 2018	Issued

# **Appendix I. Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions**

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

Reporting Period	Complaints	Notifications of Summons	Successful Prosecutions
This reporting period	3	0	0
From commencement date of construction to end of reporting month	8	0	0