

Table I1 *Cumulative Statistics on Exceedances*

Monitoring Parameters	Action/Limit Level	Total No. recorded in this reporting quarter	Total No. recorded since project commencement
1-Hr TSP	Action	3	66
	Limit	0	4
24-Hr TSP	Action	0	8
	Limit	0	4
Water Quality	Action	0	20
	Limit	0	1
Impact Dolphin Monitoring	Action	0	11
	Limit	1	12

Table I2 *Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions*

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This Reporting Period (March 2018 to May 2018)	0	0	0
Total No. received since project commencement	16	1	0

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Environmental
Resources
Management

To Ramboll Hong Kong, Limited (ENPO)

From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Air Quality
Impact Monitoring

Date 16 March 2018

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com



Dear Sir or Madam,

Please find attached the Notification of Exceedance (NOE) of the following
Log no.:

0212330_2March2018_1hrTSP_Station ASR1

One Action Level Exceedance was recorded on 2 March 2018.

Regards,

A handwritten signature in black ink, appearing to be 'Jovy Tam', written in a cursive style.

Mr Jovy Tam
Environmental Team Leader

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
 TUEN MUN – CHEK LAP KOK LINK –
 NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring
 Notification of Exceedance

Log No.	0212330_2March2018_1hrTSP_Station ASR1 [Total No. of Exceedances = 1]	
Date	2 March 2018 (Measured) 16 March 2018 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	24-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	500
	24-hr TSP ($\mu\text{g}/\text{m}^3$)	260
Measured Levels	Action Level Exceedance for 1-hr TSP is observed at ASR1 ($460 \mu\text{g}/\text{m}^3$) during 0957 - 1057 hrs.	
Works Undertaken (at the time of monitoring event)	On 2 March 2018, box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building at Portion N-C.	
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedance is unlikely to be due to the Project, in view of the following:</p> <ul style="list-style-type: none"> According to the construction information provided by the Contractor, the majority of ground construction works on 2 March 2018 were box culvert extension at Works Area Portion N-A and Construction of Ventilation Building at Portions N-C. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets). The exceedances are unlikely to be due to the project as dust suppression measures were implemented properly on site. Water spraying was applied. Exposed soil at Portion N-A was also covered by tarpaulin sheets. <p>Based on the above, the exceedances are unlikely to be due to the project.</p>	

Actions Taken/ To Be Taken	<p>According to the photo record on 2 March 2018, the Contractor has properly implemented dust suppression measures on site. Follow up site inspection was carried out on 19 March 2018. Box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building was carried out at Portion N-C. Water spraying was applied to prevent dust. Photo record is provided in Annex A. Photos taken during AQM were also provided. No significant dust impact was observed at ASR1. Dust suppression measures were properly implemented during the site inspections.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period. The Contractor was also reminded to ensure all dust mitigation measures are provided at Portion N-A and Portion N-C, where the construction works are carried out.</p> <p>As occasional exceedances were observed at ASR1, the Contractor has been reminded to enhance their dust mitigation measures at the works area, especially Portion N-A, which is closest to ASR1. Water spraying should be applied more frequently to prevent dust. The Contractor should also ensure that the exposed soil at Portion N-A was covered by tarpaulin sheets.</p>
Remarks	<p>The monitoring results and the locations of air quality monitoring stations are attached.</p>



Annex A Photos provided by the Contractor

*Note: Photos taken on 2/3/2018



Water spraying was applied frequently on site.
(Works Area Portion N-A)



Exposed soil at Portion N-A was covered by tarpaulin sheets. (Works Area Portion N-A)



Annex A Photos taken during site inspection

*Note: Photos taken on 19/3/2018



Water spraying was applied frequently on site.
(Works Area Portion N-C)



Water spraying was applied frequently on site.
(Works Area Portion N-B)



Annex A Photos taken during AQM monitoring

*Note: Photos taken on 2/3/2018



ASR1

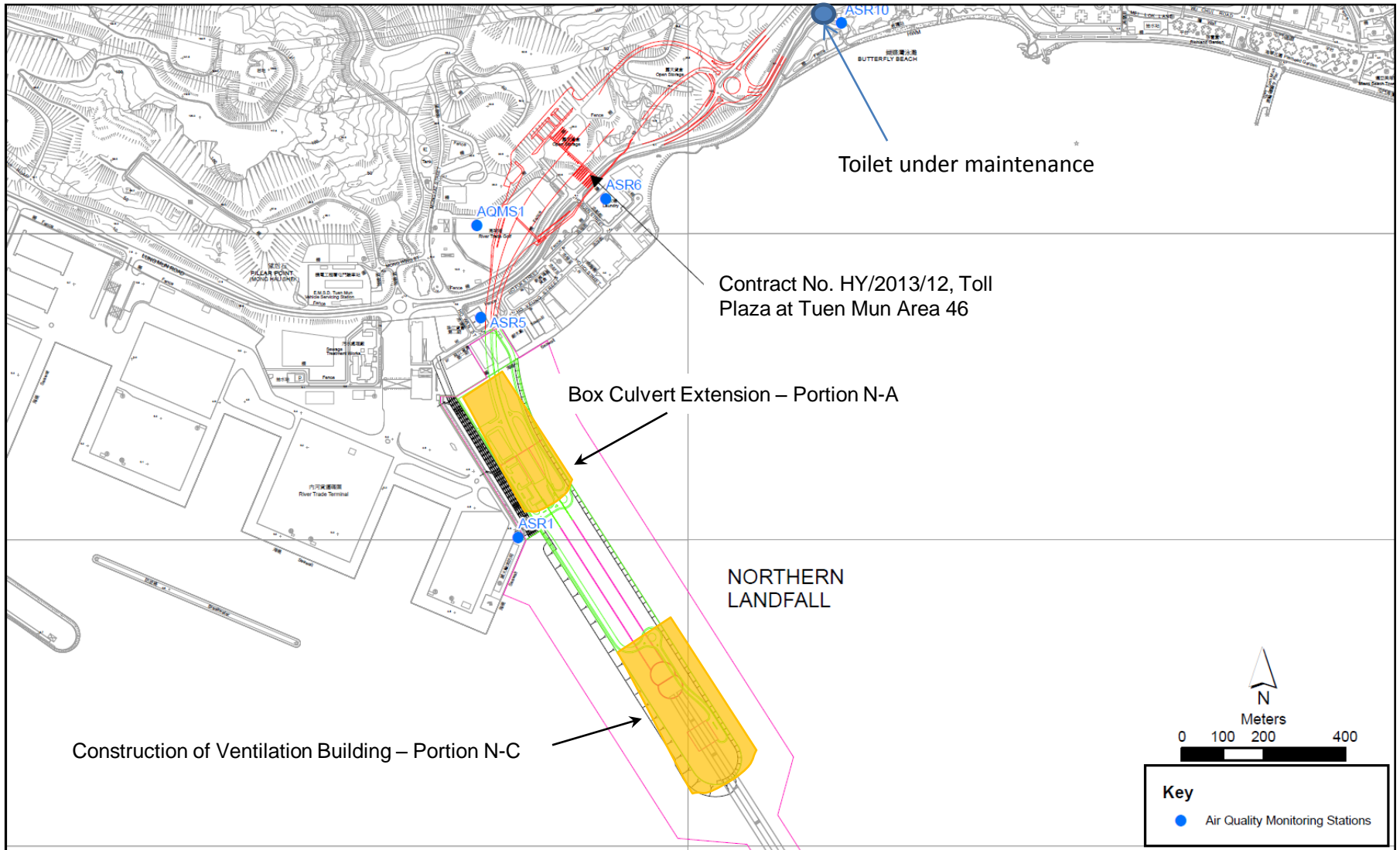


Figure 1

Indicative Construction Works Area on 2 March 2018

TMCLKL	HY/2012/08	2/3/2018	AQMS1	Sunny	9:07	1-hour TSP	156	ug/m3
TMCLKL	HY/2012/08	2/3/2018	AQMS1	Sunny	10:09	1-hour TSP	172	ug/m3
TMCLKL	HY/2012/08	2/3/2018	AQMS1	Sunny	11:11	1-hour TSP	131	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR1	Sunny	8:55	1-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR1	Sunny	9:57	1-hour TSP	460	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR1	Sunny	10:59	1-hour TSP	157	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR10	Sunny	8:22	1-hour TSP	63	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR10	Sunny	9:24	1-hour TSP	52	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR10	Sunny	10:26	1-hour TSP	59	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR5	Sunny	8:44	1-hour TSP	222	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR5	Sunny	9:46	1-hour TSP	183	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR5	Sunny	10:48	1-hour TSP	219	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR6	Sunny	8:32	1-hour TSP	92	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR6	Sunny	9:34	1-hour TSP	77	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR6	Sunny	10:36	1-hour TSP	81	ug/m3
TMCLKL	HY/2012/08	2/3/2018	AQMS1	Sunny	12:13	24-hour TSP	85	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR1	Sunny	12:01	24-hour TSP	108	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR10	Sunny	11:28	24-hour TSP	55	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR5	Sunny	11:50	24-hour TSP	130	ug/m3
TMCLKL	HY/2012/08	2/3/2018	ASR6	Sunny	11:38	24-hour TSP	71	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
18/03/02	0:00	1.8	92
18/03/02	1:00	1.8	95
18/03/02	2:00	1.3	70
18/03/02	3:00	1.3	46
18/03/02	4:00	1.3	92
18/03/02	5:00	1.3	44
18/03/02	6:00	1.8	93
18/03/02	7:00	1.3	65
18/03/02	8:00	2.2	92
18/03/02	9:00	2.2	81
18/03/02	10:00	2.7	93
18/03/02	11:00	2.7	96
18/03/02	12:00	1.8	97
18/03/02	13:00	1.8	75
18/03/02	14:00	1.3	70
18/03/02	15:00	1.8	93
18/03/02	16:00	1.8	71
18/03/02	17:00	1.3	46
18/03/02	18:00	1.8	50
18/03/02	19:00	1.8	42
18/03/02	20:00	1.8	43
18/03/02	21:00	1.3	52
18/03/02	22:00	1.3	51
18/03/02	23:00	1.8	93

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**Environmental
Resources
Management**

To Ramboll Hong Kong, Limited (ENPO)

From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Air Quality
Impact Monitoring

Date 3 April 2018

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com



ERM

Dear Sir or Madam,

Please find attached the Notification of Exceedance (NOE) of the following
Log no.:

0212330_20March2018_1hrTSP_Station ASR1

One Action Level Exceedance was recorded on 20 March 2018.

Regards,

A handwritten signature in black ink, appearing to read 'Jovy Tam'.

Mr Jovy Tam
Environmental Team Leader

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
 TUEN MUN – CHEK LAP KOK LINK –
 NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring
 Notification of Exceedance

Log No.	0212330_20March2018_1hrTSP_Station ASR1 [Total No. of Exceedances = 1]	
Date	20 March 2018 (Measured) 1 April 2018 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	24-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	500
	24-hr TSP ($\mu\text{g}/\text{m}^3$)	260
Measured Levels	Action Level Exceedance for 1-hr TSP is observed at ASR1 (446 $\mu\text{g}/\text{m}^3$) during 1552 - 1652 hrs.	
Works Undertaken (at the time of monitoring event)	On 20 March 2018, box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building at Portion N-C.	
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedance is unlikely to be due to the Project, in view of the following:</p> <ul style="list-style-type: none"> According to the construction information provided by the Contractor, the majority of ground construction works on 20 March 2018 were box culvert extension at Works Area Portion N-A and Construction of Ventilation Building at Portions N-C. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets). The exceedances are unlikely to be due to the project as dust suppression measures were implemented properly on site. Water spraying was applied on site to prevent dust. <p>Based on the above, the exceedances are unlikely to be due to the project.</p>	

Actions Taken/ To Be Taken	<p>Follow up site inspection was carried out on 5 April 2018. Box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building was carried out at Portion N-C. Water spraying was applied to prevent dust. Photo record is provided in Annex A. Photos taken during AQM were also provided. No significant dust impact was observed at ASR1. Dust suppression measures were properly implemented during the site inspections. Based on the above, no additional action is required.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period. The Contractor was also reminded to ensure all dust mitigation measures are provided at Portion N-A and Portion N-C, where the construction works are carried out.</p>
Remarks	<p>The monitoring results and the locations of air quality monitoring stations are attached.</p>



Annex A Photos taken during site inspection

*Note: Photos taken on 5/4/2018



Water spraying was applied frequently on site.
(Works Area Portion N-A)



Water spraying was applied frequently on site.
(Works Area Portion N-C)



Annex A Photos taken during site inspection

*Note: Photos taken on 5/4/2018



Water spraying was applied frequently on site.
(Works Area Portion N-C)



Water spraying was applied frequently on site.
(Works Area Portion N-C)



Annex A Photos taken during AQM

*Note: Photos taken on 20/3/2018



ASR1

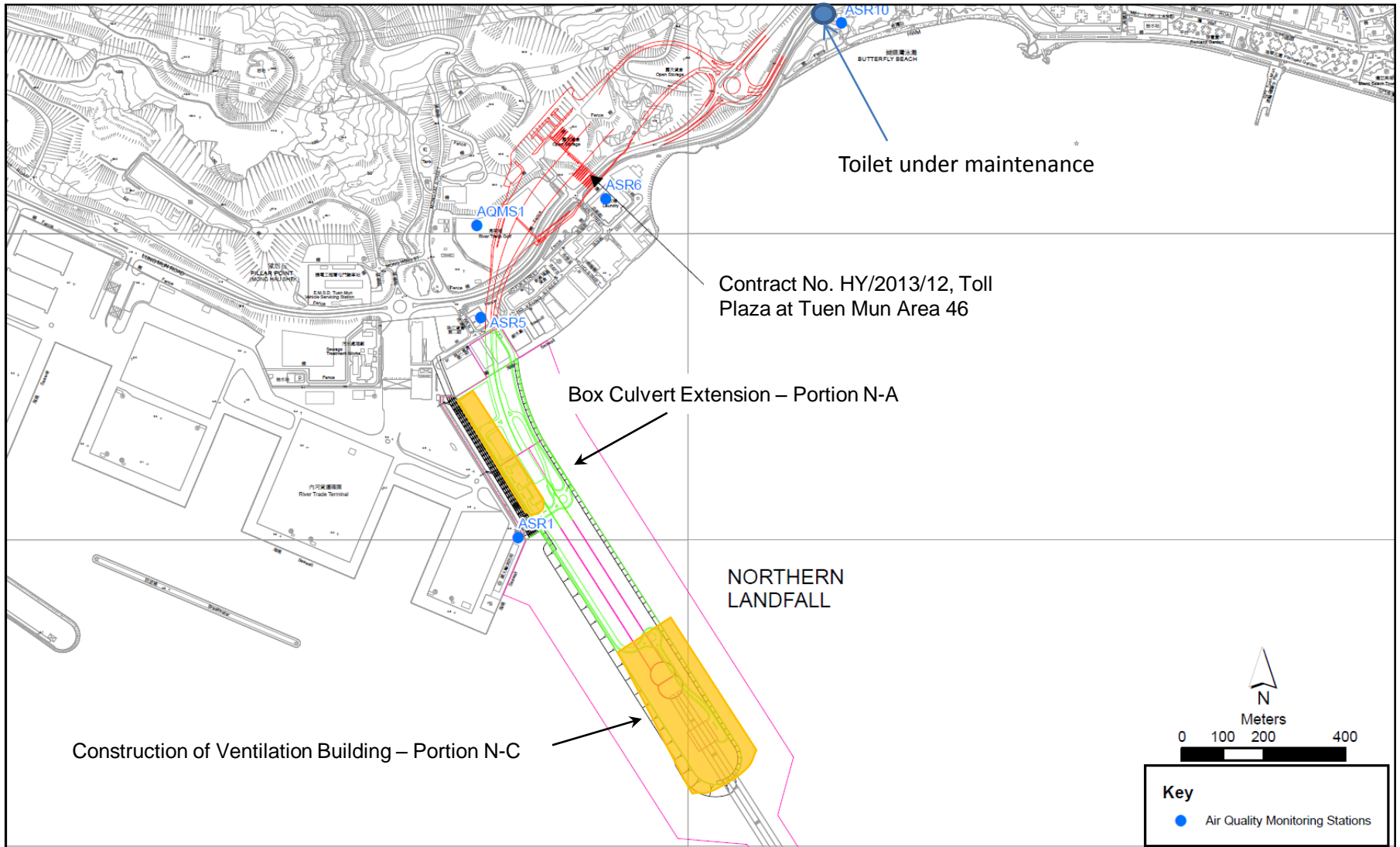


Figure 1

Indicative Construction Works Area on 20 March 2018

TMCLKL	HY/2012/08	20/3/2018	AQMS1	Sunny	14:00	1-hour TSP	85	ug/m3
TMCLKL	HY/2012/08	20/3/2018	AQMS1	Sunny	15:02	1-hour TSP	52	ug/m3
TMCLKL	HY/2012/08	20/3/2018	AQMS1	Sunny	16:04	1-hour TSP	51	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR1	Sunny	13:48	1-hour TSP	210	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR1	Sunny	14:50	1-hour TSP	233	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR1	Sunny	15:52	1-hour TSP	446	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR10	Sunny	13:16	1-hour TSP	69	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR10	Sunny	14:18	1-hour TSP	44	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR10	Sunny	15:20	1-hour TSP	48	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR5	Sunny	13:37	1-hour TSP	234	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR5	Sunny	14:39	1-hour TSP	180	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR5	Sunny	15:41	1-hour TSP	250	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR6	Sunny	13:27	1-hour TSP	169	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR6	Sunny	14:29	1-hour TSP	201	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR6	Sunny	15:31	1-hour TSP	163	ug/m3
TMCLKL	HY/2012/08	20/3/2018	AQMS1	Sunny	17:06	24-hour TSP	53	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR1	Sunny	16:54	24-hour TSP	123	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR10	Sunny	16:22	24-hour TSP	42	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR5	Sunny	16:43	24-hour TSP	90	ug/m3
TMCLKL	HY/2012/08	20/3/2018	ASR6	Sunny	16:33	24-hour TSP	82	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
18/03/20	0:00	0	-
18/03/20	1:00	0.4	194
18/03/20	2:00	1.3	312
18/03/20	3:00	1.3	311
18/03/20	4:00	2.2	310
18/03/20	5:00	1.8	284
18/03/20	6:00	0.9	277
18/03/20	7:00	2.2	294
18/03/20	8:00	1.8	291
18/03/20	9:00	1.3	274
18/03/20	10:00	1.8	349
18/03/20	11:00	2.7	351
18/03/20	12:00	2.7	339
18/03/20	13:00	3.1	345
18/03/20	14:00	3.1	351
18/03/20	15:00	3.6	339
18/03/20	16:00	3.6	350
18/03/20	17:00	2.7	354
18/03/20	18:00	1.3	352
18/03/20	19:00	1.3	305
18/03/20	20:00	1.3	314
18/03/20	21:00	1.3	311
18/03/20	22:00	1.3	352
18/03/20	23:00	0.9	350

Email
message

**Environmental
Resources
Management**

To Ramboll Hong Kong, Limited (ENPO)

From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Air Quality
Impact Monitoring

Date 27 April 2018

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com



ERM

Dear Sir or Madam,

Please find attached the Notification of Exceedance (NOE) of the following
Log no.:

0212330_13April2018_1hrTSP_Station ASR5

One Action Level Exceedance was recorded on 13 April 2018.

Regards,

A handwritten signature in black ink, appearing to read 'Jovy Tam'.

Mr Jovy Tam
Environmental Team Leader

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
 TUEN MUN – CHEK LAP KOK LINK –
 NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring
 Notification of Exceedance

Log No.	0212330_13April2018_1hrTSP_Station ASR5 [Total No. of Exceedances = 1]	
Date	13 April 2018 (Measured) 27 April 2018 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	24-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	500
	24-hr TSP ($\mu\text{g}/\text{m}^3$)	260
Measured Levels	Action Level Exceedance for 1-hr TSP is observed at ASR5 (389 $\mu\text{g}/\text{m}^3$) during 1438 – 1538 hrs.	
Works Undertaken (at the time of monitoring event)	On 13 April 2018, box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building at Portion N-C.	
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedance is unlikely to be due to the Project, in view of the following:</p> <ul style="list-style-type: none"> According to the construction information provided by the Contractor, the majority of ground construction works on 13 April 2018 were box culvert extension at Works Area Portion N-A and Construction of Ventilation Building at Portions N-C. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets). The exceedances are unlikely to be due to the project as dust suppression measures were implemented properly on site. Water spraying was applied on site to prevent dust. <p>Based on the above, the exceedances are unlikely to be due to the project.</p>	

Actions Taken/ To Be Taken	<p>According to the construction information provided by the Contractor, box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building was carried out at Portion N-C. Water spraying was applied to prevent dust. Photo record is provided in Annex A. Photos taken during AQM were also provided. No significant dust impact was observed at ASR5. Dust suppression measures were properly implemented during the site inspections. Based on the above, no additional action is required.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period. The Contractor was also reminded to ensure all dust mitigation measures are provided at Portion N-A and Portion N-C, where the construction works are carried out.</p>
Remarks	<p>The monitoring results and the locations of air quality monitoring stations are attached.</p>



Annex A Photos provided by the Contractor

*Note: Photos taken on 13/4/2018



Water spraying was applied frequently on site.
(Works Area Portion N-B)



Water spraying was applied frequently on site.
(Works Area Portion N-C)



Annex A Photos provided by the Contractor

*Note: Photos taken on 13/4/2018



Water spraying was applied frequently on site.
(Works Area Portion N-A)



Water spraying was applied frequently on site.
(Works Area Portion N-C)



Annex A Photos taken during AQM

*Note: Photos taken on 13/4/2018



ASR5



ASR5

TMCLKL	HY/2012/08	13/4/2018	AQMS1	Sunny	13:59	1-hour TSP	121	ug/m3
TMCLKL	HY/2012/08	13/4/2018	AQMS1	Sunny	15:01	1-hour TSP	91	ug/m3
TMCLKL	HY/2012/08	13/4/2018	AQMS1	Sunny	16:03	1-hour TSP	80	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR1	Sunny	13:48	1-hour TSP	138	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR1	Sunny	14:50	1-hour TSP	72	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR1	Sunny	15:52	1-hour TSP	75	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR10	Sunny	13:14	1-hour TSP	79	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR10	Sunny	14:16	1-hour TSP	47	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR10	Sunny	15:18	1-hour TSP	41	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR5	Sunny	13:36	1-hour TSP	134	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR5	Sunny	14:38	1-hour TSP	389	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR5	Sunny	15:40	1-hour TSP	111	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR6	Sunny	13:25	1-hour TSP	67	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR6	Sunny	14:27	1-hour TSP	72	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR6	Sunny	15:29	1-hour TSP	70	ug/m3
TMCLKL	HY/2012/08	13/4/2018	AQMS1	Sunny	17:05	24-hour TSP	46	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR1	Sunny	16:54	24-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR10	Sunny	15:18	24-hour TSP	29	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR5	Sunny	16:42	24-hour TSP	68	ug/m3
TMCLKL	HY/2012/08	13/4/2018	ASR6	Sunny	16:31	24-hour TSP	43	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
18/04/13	0:00	2.2	94
18/04/13	1:00	2.2	86
18/04/13	2:00	1.8	88
18/04/13	3:00	1.3	78
18/04/13	4:00	1.8	100
18/04/13	5:00	2.7	90
18/04/13	6:00	2.7	93
18/04/13	7:00	2.7	89
18/04/13	8:00	2.2	92
18/04/13	9:00	3.1	84
18/04/13	10:00	3.1	88
18/04/13	11:00	3.1	84
18/04/13	12:00	3.6	88
18/04/13	13:00	3.6	108
18/04/13	14:00	3.6	135
18/04/13	15:00	3.6	135
18/04/13	16:00	4	130
18/04/13	17:00	3.1	124
18/04/13	18:00	2.7	143
18/04/13	19:00	2.2	123
18/04/13	20:00	2.2	81
18/04/13	21:00	1.8	100
18/04/13	22:00	1.8	87
18/04/13	23:00	0.9	49

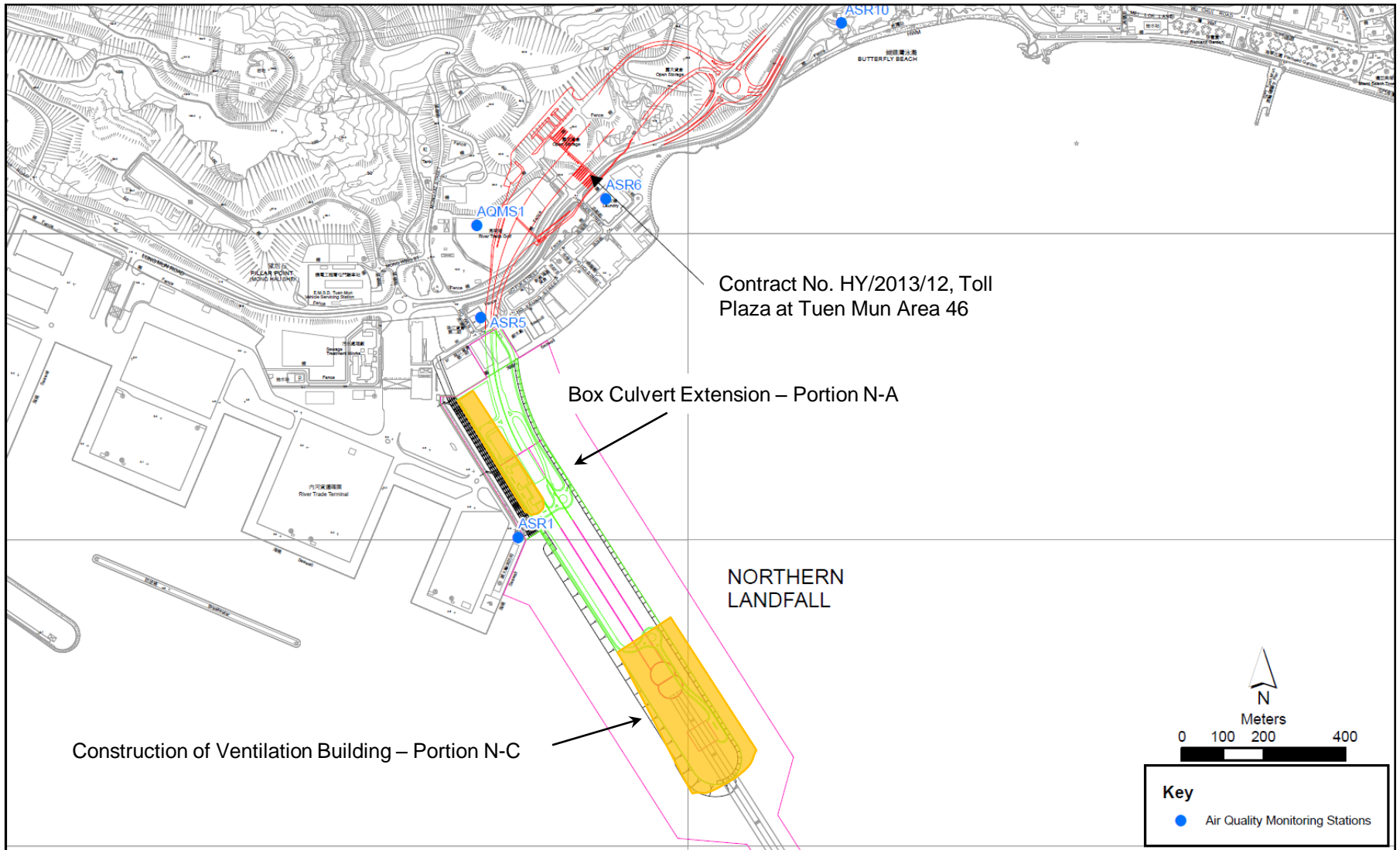


Figure 1

Indicative Construction Works Area on 13 April 2018

Email
message

Environmental
Resources
Management

To Ramboll Hong Kong, Limited (ENPO)

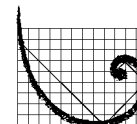
From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/08 Tuen Mun–Chek Lap
Kok Link–Northern Connection Sub-sea Tunnel
Section

Subject Notification of Exceedance for Impact Dolphin
Monitoring

Date 13 June 2018

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com



ERM

Dear Sir or Madam,

Please find attached the Notification of Exceedance (NOE) of the following
Log no.:

0212330_Mar2018/May2018_dolphin_STG&ANI_NEL&NWL

A total of one limit level exceedance was recorded in the quarterly impact
dolphin monitoring data between March 2018 and May 2018.

Regards,

A handwritten signature in black ink, appearing to be 'Jovy Tam'.

Mr Jovy Tam
Environmental Team Leader

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08

TUEN MUN – CHEK LAP KOK LINK –

NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

**Impact Dolphin Monitoring
Notification of Exceedance**

Log No.	0212330_Mar/May2018_dolphin_STG&ANI_NEL&NWL [Total No. of Exceedances = 1 Limit Level Exceedance]	
Date	March to May 2018 (monitored) 23 August 2018 (results received by ERM)	
Monitoring Area	Northeast Lantau (NEL) and Northwest Lantau (NWL)	
Parameter(s) with Exceedance(s)	Quarterly encounter rate of dolphin sightings (STG) Quarterly encounter rate of total number of dolphins (ANI)	
Action Levels	North Lantau Social cluster	NEL: STG < 4.2 & ANI < 15.5 or NWL: STG < 6.9 & ANI < 31.3
Limit Levels		NEL: STG < 2.4 & ANI < 8.9 and NWL: STG < 3.9 & ANI < 17.9
Recorded Levels	NEL	STG = 0 & ANI = 0
	NWL	STG = 2.88 & ANI = 11.12
	One Limit Level Exceedance was recorded in the quarterly impact dolphin monitoring at NEL and NWL between March and May 2018. The exceedance was reported in the approved <i>Fifty-fifth Monthly EM&A Report</i> dated 13 June 2018.	
Statistical Analyses	<p>Further to the review of the available and relevant dolphin monitoring data in the EM&A programme by this Contract, statistical analyses were conducted as follows:</p> <ul style="list-style-type: none"> • A two-way ANOVA with repeated measures and unequal sample size was conducted using Period (2 levels: baseline vs impact – present impact quarter, March to May 2018) and Location (2 levels: NEL and NWL) as fixed factors to examine whether there were any significant differences in the average encounter rates between the baseline and present impact monitoring quarter. By setting $\alpha = 0.05$ as the significance level in the statistical tests, significant differences in STG ($p = 0.0095$) and ANI ($p = 0.0390$) were detected between Periods. • A two-way ANOVA with repeated measures and unequal sample size was conducted using Cumulative Period (2 levels: baseline vs impact – cumulative quarters, December 2012 to August 2017) and Location (2 levels: NEL and NWL) as fixed factors to examine whether there were any significant differences in the average encounter rates between the baseline and cumulative impact monitoring quarter. By setting $\alpha = 0.00001$ as the significance level in the statistical tests, significant difference in STG ($p = 0.000000$) and in ANI ($p = 0.000000$) between Cumulative Period and Location were detected. <p>*Note: The commencement date under <i>Contract No. HY/2012/08</i> is 1 November 2013.</p>	
Works Undertaken (in the monitoring quarter)	In the quarter between March and May 2018, no marine works was undertaken under Contract No. HY/2012/08.	

<p>Possible Reason for Action or Limit Level Exceedance(s)</p>	<p>The potential factors that may have contributed to the observed exceedance are reviewed below:</p> <ul style="list-style-type: none"> • Blocking of CWD travelling corridor: The <i>Monitoring of Marine Mammals in Hong Kong Waters (2017 – 18)</i> ⁽¹⁾ reported that dolphin usage and traveling activities to the northern side of the airport (dolphin traveling corridor) are affected by frequent high-speed ferry traffic from Sky Pier (not related to this Contract), which is likely a major factor resulting in the decrease in dolphin abundances in North Lantau. • Marine works of the Contract: As per the findings from the EIA report (<i>Section 8.11.9</i>), the major influences on the Chinese White Dolphin (CWD) <i>Sousa chinensis</i> under this Contract are marine traffics, reclamation and dredging works. The Contractor implemented the marine traffic control in the reporting period as per the requirements in the <i>EP-354/2009/D</i> and the updated <i>EM&A Manual</i>. Most of the vessels of this Contract also worked within the site boundary, in which the area is seldom used by CWD. Disturbance from vessels of this Contract is considered minor. Seawall enhancement works and the seawall construction and filling works were completed on 19 December 2017. During this quarter of dolphin monitoring, no adverse impact on CWD due to the activities under this Contract was observed. <p>In view of the above, marine ecological mitigation measures were considered properly implemented, and thus no unacceptable impact on CWD or its habitat was associated with this Contract in this quarter.</p>
<p>Actions Taken/ To Be Taken</p>	<p>In the quarter between March and May 2018, no marine based works were carried out.</p> <p>The existing mitigation measures are recommended to be continuously implemented. Furthermore, it is also recommended to reduce the vessels for marine works as much as possible. The ET will monitor for future trends in exceedance(s).</p> <p>A joint team meeting was held on 4 September 2018 for discussion on CWD trend, with attendance of ENPO, Representatives of Resident Site Staff (RSS), Representatives of Environmental Teams (ETs) for Contract No. HY/2013/01, HY/2011/03, HY/2012/07 and HY/2012/08. The discussion/recommendation as recorded in the minutes of the meeting, which might be relevant to this Contract are summarized below. It was concluded that the HZMB works is one of the contributing factors affecting the dolphins. It was also concluded the contribution of impacts due to the HZMB works as a whole (or individual marine contracts) cannot be quantified or separate from the other stress factors. ENPO presented the interim CWD survey results in mainland waters obtained from Hong Kong-Zhuhai-Macao Bridge Authority that some CWDs that previously more often sighted in Hong Kong waters have expanded their ranges into mainland waters, and some with reduced usage in Hong Kong waters, while they are partially accounted for the local decline. It was reminded that the ETs shall keep reviewing the implementation status of the dolphin related mitigation measures and remind the contractors to ensure the relevant measures are fully implemented. The ETs were also reminded to update the Brothers Marine Park (BMP) boundary in the Regular Marine Travel Route Plan. It was recommended that the marine works of HZMB projects should be completed as soon as possible to reduce the overall duration of impacts and allow the dolphins population to recover as early as possible. The participants were also reminded that the protection measures (e.g. speed limit control) for the BMP shall be implemented so as to provide a better habitat for dolphin recovery. It is noted that even though marine vessels may moor within the mooring site of BMP, commercial activities including loading / unloading / transshipment are not allowed except a permit is obtained. The HZMB works vessels were recommended to avoid the BMP. It was also recommended that the marine works footprint and vessels for the marine works should be reduced as much as possible, and vessels idling / mooring in other part of the North Lantau shall be avoided whenever possible.</p> <p>Dolphin specialists of the Projects confirmed that the CWD sighting nearby north of Sha Chau and Lung Kwu Chau Marine Park has significantly declined. The reason for the decline was likely related to the re-routing of high-speed ferry from Sky Pier. The CWDs in the area should be closely followed.</p>
<p>Remarks</p>	<p>The results of impact dolphin monitoring, the status of implemented marine ecological mitigation measures are documented in the approved <i>Fifty-third to Fifty-fifth Monthly EM&A Reports</i>.</p>

(1) Hung S K Y (2017). Prepared for AFCD. Available at: https://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/files/Final_Report_2016_17.pdf