

Appendix L1 Cumulative Statistics on Exceedances

		Total No. recorded in this quarter	Total No. recorded since project commencement
1-Hr TSP	Action	0	0
	Limit	0	0
24-Hr TSP	Action	0	2
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Water Quality	Action	0	2
	Limit	0	0
Impact Dolphin Monitoring	Action	0	9
	Limit	1	8

Appendix L2 Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This quarter	2	0	0
Total No. received since project commencement	8	0	0



ENVIRONMENTAL COMPLAINT/ ENQUIRY FORM

Complaint/ Enquiry Received*
Date: 13 December 2016 Time: Undisclosed From: Environmental Protection Department (EPD) Via: Email
Complainant/ Enquirer*: Name: Undisclosed Tel: Undisclosed Address: Undisclosed Media: Dust Noise Water Quality Other Description: On 13 December 2016, a complaint was received by the EPD from Seaview Crescent regarding the hammering noise nuisance generated during midnights over the past month. The complainant believed that the noise source was possibly from construction sites of the Hong Kong Zhuhai Macao Bridge Projects. The Environmental Team (ET) received the complaint notification from the Independent Environmental Checker (IEC) on 14 December 2016.

Investigation Report & Response

The Construction Noise Permit (CNP) for night-time works (CNP no. GW-RS1159-16) and night-time working record were reviewed immediately upon receiving the complaint. Night-time works under this Contract in recent months were mainly segment erection works over the MTR tracks, North Lantau Highway and Cheung Tung Road. Under the Noise Control Ordinance, the works area of this Contract is located in non-designated area such that hammering would be allowed with reference to Technical Memorandum on Noise from Construction Work in Designated Areas. According to the Contractor, hammering was involved only occasionally during night-time between 14 November 2016 and 13 December 2016. In addition, works area under this Contract was located far from where the complainant lived i.e. distance between Seaview Crescent and the closest works area at night was approximate 2.7km (refer to the diagram below), therefore it is believed that noise generated at the sites is unlikely to be heard by the complainant.

Besides, the Contractor has been implementing the Restricted Hours Permit-to-Work System to monitor works at night or during holidays. Under the system, works that carried out during restricted hours would be reviewed to ensure works were in compliance with CNP requirement. Additionally, PMEs within the Contract works boundary were operated in accordance with the conditions stipulated in the CNP. Based on the above, the night-time works under this Contract are considered complying with the corresponding requirements stipulated in the CNP granted and the complaint is considered invalid for the Contract.



Mitigation Measures and Follow-Up Actions Recommended to Contractor

The Contractor has been reminded to implement all relevant noise mitigation measures recommended or specified in the EIA Report, EM&A Manual, EMP, Method Statements, General and Particular Specifications of this Project to avoid causing noise nuisance to the Public.

The Contractor is also reminded to ensure that the construction plant deployed for the works during restricted hours is in strict compliance with the relevant CNP granted.

Date of File Closed : 16 December 2016

Approved and Filed by:



(Jovy Tam, ET Leader)
Date: 16 December 2016



ENVIRONMENTAL COMPLAINT/ ENQUIRY FORM

Complaint/ ~~Enquiry~~ Received*

Date: 13 January 2017
Time: Undisclosed
From: Agriculture, Fisheries and Conservation Department (AFCD)
Via: Email

Complainant/ ~~Enquirer~~*:

Name: Undisclosed
Tel: Undisclosed
Address: Undisclosed
Media: ~~Dust Noise~~ Water Quality Other

Description: On 12 January 2017, a complaint was made by the AFCD to HyD regarding constructional vessels and silt curtain found within the boundary of Brothers Marine Park (BMP) on 4 and 5 January 2017. Two observations were reported by AFCD, 1) Twenty-two barges/tug boats were observed anchored inside the BMP (see *Figure 1*) and 2) A section of silt curtain enclosing the Hong Kong Boundary Crossing Facilities (HKBCF) project site was found inside the BMP or in close vicinity of the boundary of BMP. The Contractor received the complaint notification on 13 January 2017.

Investigation Report & Response

Record of constructional vessels and operation records were reviewed immediately upon receiving the complaint. None of the construction vessels in the list provided by AFCD was employed under this Contract. Major marine works under this Contract carried out this month were mainly installation of deck segments and pier head segments, pier construction and launching gantry operations. All Contract related construction vessels were found working inside the project site boundary under this Contract. According to ET's weekly site inspection on 4 January 2017, barges/tug boats were observed located at the south of HKBCF, mainly near Viaduct A and Viaduct D within the project site boundary. None of them were observed operating or anchoring outside the project site boundary under this Contract (*Figure 2*).

In addition, silt curtain enclosing the HKBCF was not deployed under this Contract. Therefore, the observation on silt curtain found inside the BMP or in close vicinity of the boundary of BMP was considered not related to this Contract.

Based on the above, it is reasonable to consider that the complaint was not related to the Contract.

Mitigation Measures and Follow-Up Actions Recommended to Contractor

The complaint is considered not related to this Contract and thus no further action is required. The ET will keep checking on the operation of construction vessels.

Date of File Closed : 13 January 2017

Approved and Filed by:

(Jovy Tam, ET Leader)
Date: 13 January 2017

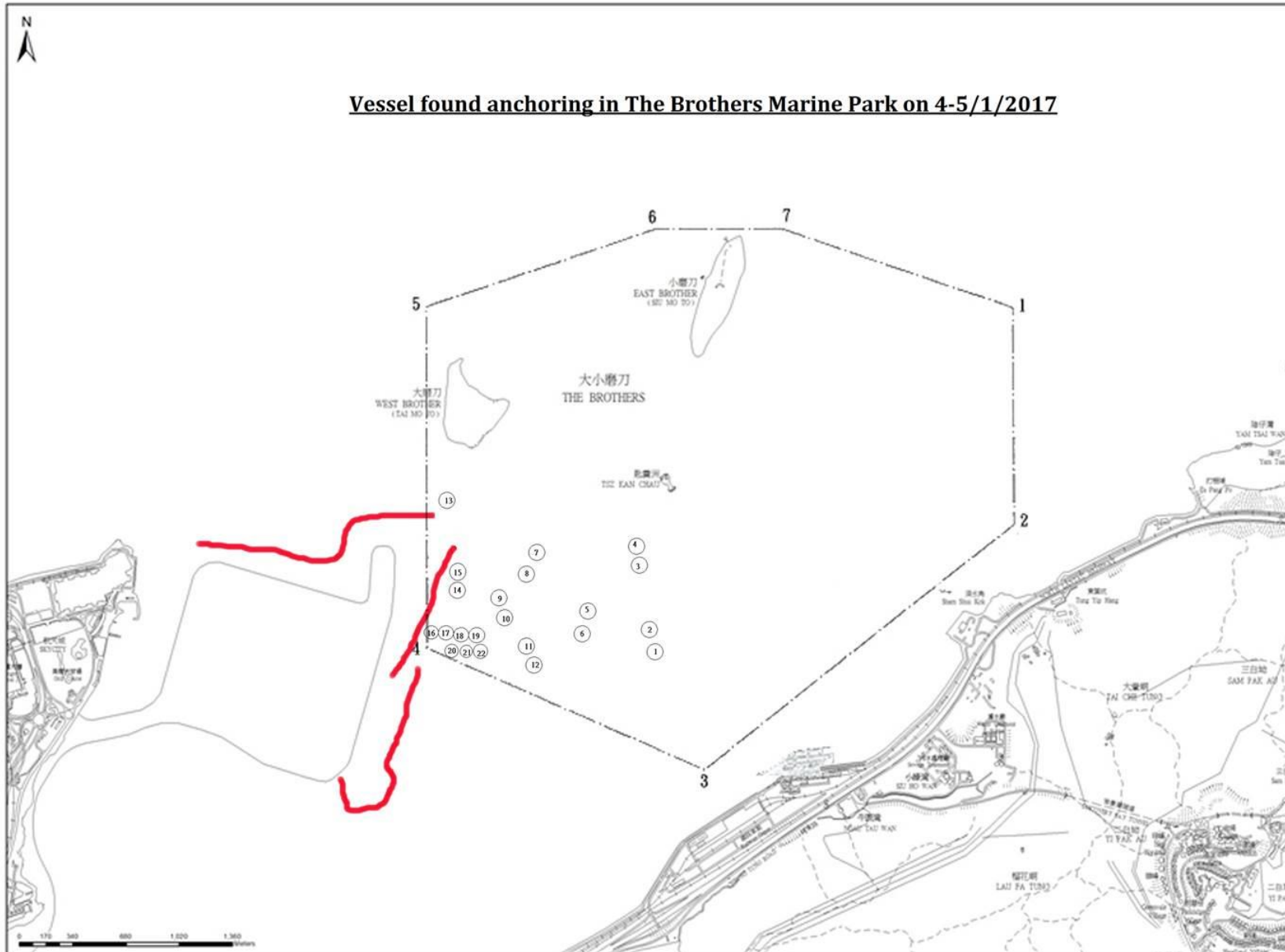


Figure 1 – Observed barges/tug boats inside Brothers Marine Park on 4-5/1/2017

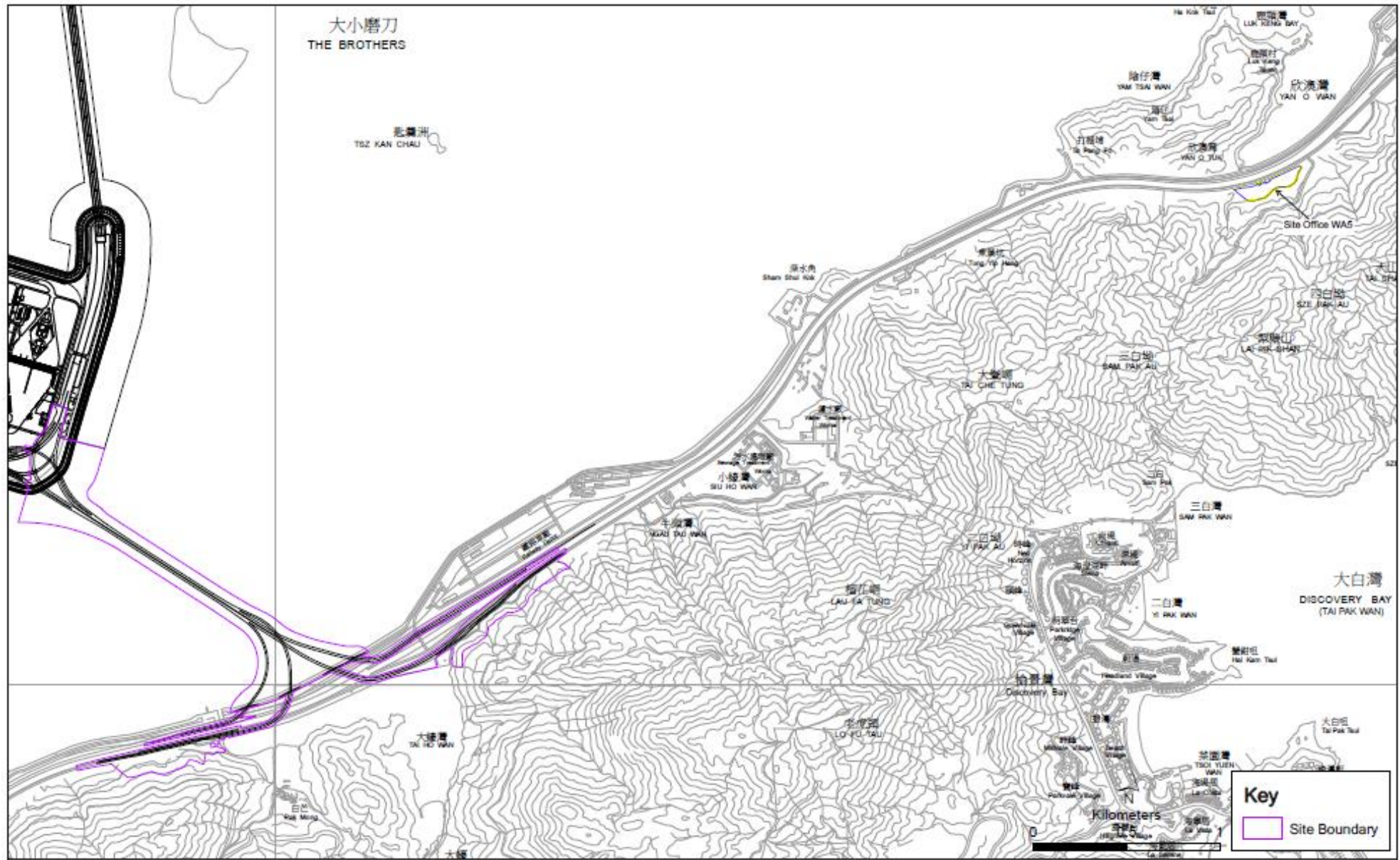


Figure 2 – Project site boundary under this Contract

Email
message

Environmental
Resources
Management

To Ramboll Environ - Hong Kong, Limited (ENPO)

From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/07 Tuen Mun–Chek Lap
Kok Link–Southern Connection Viaduct Section

Subject Notification of Exceedance for Impact Dolphin
Monitoring

Date 26 October 2017

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.:

0215660_Dec2016/Feb2017_dolphin_STG&ANI_NEL&NWL

A total of one limit level exceedance was recorded in the quarterly impact
dolphin monitoring data between December 2016 and February 2017.

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/2012/07

TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Impact Dolphin Monitoring
Notification of Exceedance

Log No.	0215660_Dec2016/Feb2017_dolphin_STG&ANI_NEL&NWL [Total No. of Exceedance = 1]	
Date	December 2016 to February 2017 (monitored) 05 June 2017 (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 = 3.80 & ANI = 14.52
	One Limit Level Exceedance was recorded in the quarterly impact dolphin monitoring at NEL and NWL between December 2016 and February 2017. The exceedance was reported in the approved <i>Fortieth Monthly EM&A Report</i> dated 8 March 2017.	
Statistical Analyses	<p>Further to the review of the available and relevant dolphin monitoring data in the EM&A under 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, December 2016 to February 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 present impact monitoring quarter. By setting $\alpha = 0.05$ as the significance level in the statistical tests, significant differences in STG ($p = 0.0110$) and ANI ($p = 0.0440$) 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 February 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 $\alpha = 0.00005$ as the significance level in the statistical tests, significant difference in STG ($p = 0.000003$) and in ANI ($p = 0.000001$) between Cumulative Period and Location were detected. <p>* Note: The commencement date under <i>Contract No. HY/2012/07</i> is 31 October 2013.</p>	
Works Undertaken (in the monitoring quarter)	<p>In the quarter between December 2016 and February 2017, the major marine works under <i>Contract No. HY/2012/07</i> included:</p> <ul style="list-style-type: none"> Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment. 	

<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 (2015 – 16)</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 and bored piling works. The <i>Monitoring of Marine Mammals in Hong Kong Waters (2015-2016)</i> also reported that CWD decline were likely influenced by reclamation works, bored piling and intensive marine traffic from construction activities. Based on these possible reasons, the corresponding marine works and implementation of mitigation measures are reviewed. This Contract does not have any reclamation works, thus no habitat loss was caused by reclamation. In the reporting period, the Contractor implemented the marine traffic control 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. All of the marine bored piling works of this Contract was completed in September 2015. Thus, underwater noise emission from this Contract had been substantially reduced in this reporting period when comparing to the previous quarters. During dolphin monitoring in this quarter, no unacceptable impact on CWD due to the activities under this Contract was observed. • Impact on water quality: According to the findings in the water quality monitoring results at the impact monitoring stations between December 2016 and February 2017, there was no exceedance on WQM. Impact mean levels of depth-averaged SS at all sampling stations during both mid-ebb and mid-flood tides were well below the corresponding ambient levels. The WQM results imply that no unacceptable impact on water quality was associated with the marine works under this Contract, and thus no indirect impacts on marine habitat quality due to change in water quality is observed in this Contract. <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>
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(1) Hung SKY (2016). Prepared for AFCD. Available at: https://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/files/Final_Report_2015_16.pdf

<p>Actions Taken/ To Be Taken</p>	<p>With reference to the site inspection records in this quarter, the respective marine ecological mitigation measures have been implemented properly by the Contractor throughout the marine works period, including:</p> <ol style="list-style-type: none"> 1. 250m dolphin exclusion zone; 2. Acoustic decoupling plan; 3. Training to workers; 4. Offsite vessel routing control in accordance with Regular Marine Travel Routes Plan, including routing control within existing and proposed marine park boundaries; 5. Vessels speed limited at 5 knots and 10 knots within existing and proposed marine park boundaries and site boundary respectively; 6. Idling and mooring of working vessels within site boundary; <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 29 May 2017 for discussion on CWD trend, with attendance of ENPO, HyD, Representatives of Resident Site Staff (RSS), Representatives of Environmental Team (ET) for Contract No. HY/2010/02, HY2011/03, 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 contractor to ensure the relevant measures are fully implemented. The ETs were also reminded to update the BMP boundary in the Regular Marine Travel Route Plan. The participants were requested by ENPO to collect and report the marine traffic statistics. 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 Brothers Marine Park (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. The ETs were also reminded that starting from January 2016, high-speed ferry (HSF) from the SkyPier would be re-routed north to the northern edge of the Sha Chau and Lung Kwu Chau Marine Park that had the highest density of CWD in the NWL. While the HSF would reduce speed to 15 knots, the associated disturbance might still affect CWD in the area. It implied that the CWDs in the area should be closely followed.</p>
<p>Remarks</p>	<p>The results of impact water quality and impact dolphin monitoring, the status of implemented marine ecological mitigation measures are documented in the approved <i>Thirty-Eighth to Fortieth Monthly EM&A Reports</i>. Comparison on water quality between impact and baseline periods is elaborated in the <i>13th Quarterly EM&A Report</i>.</p>