

05 April 2017

By Fax (3468 2076) and By Post

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

Attention: Mr. Michael Tovey

Dear Sir,

**Re: Agreement No. CE 48/2011 (EP)
Environmental Project Office for the
HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities,
and Tuen Mun-Chek Lap Kok Link – Investigation**

**Contract No. HY/2013/03 – HZMB HKBCF – Vehicle Clearance Plazas and
Ancillary Buildings and Facilities
Dolphin Watching Plan**

Reference is made to the Environmental Team's submission of Dolphin Watching Plan certified by the ET Leader (ET's ref.: "MCL/ED/0219/2017/C" dated 31 March 2017) and provided to us via e-mail on 31 March 2017.

We are pleased to inform you that we have no adverse comment on the captioned plan. We write to verify the captioned submission in accordance with Condition 2.6 of the Environmental Permit No. EP-353/2009/K.

With respect to no anticipated night-time marine works for this contract stated in this plan, please be reminded that this plan shall be revised to include the necessary arrangement for satisfying Condition 3.1 of the EP regarding the implementation of Passive Acoustic Monitoring for the detection of dolphin prior to any execution of marine works outside the daylight hours considered to be inevitable.

Please be reminded that it is the Contractor's/ET's responsibility to ensure a suitably qualified dolphin specialist be proposed for approval by AFCD and EPD as per Section 10.3.7 of the approved EM&A Manual, and be accepted by relevant authorities prior to the commencement of marine works as per Section 3.2 of this plan.

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. Ken Woo	(By Fax: 3188 6614)
	MaterialLab	Mr. Arthur Cheng	(By Fax: 2450 8032)
	CHEC	Mr. Johnason Ko	(By Fax: 2887 3014)

Internal: DY, YH, ENPO Site

Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong
Tel : +852-2450 8238
Fax : +852-2450 8032
E-mail : mcl@fugro.com.hk
Website : www.materialab-consultant.com

Date 31 March 2017
Our Ref. MCL/ED/0219/2017/C

China Harbour Engineering Company Limited
19/F., China Harbour Building,
370-374 King's Road,
North Point,
Hong Kong

BY HAND

Attn.: Mr. Johnason Ko, Project Manager

Dear Sir,

**EP Condition 2.6 – Dolphin Watching Plan for
Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities –
Vehicle Clearance Plazas and Ancillary Buildings and Facilities (Contract No. HY/2013/03)**

We refer to your Dolphin Watching Plan (Rev.7) submitted on 31 March 2017 for the captioned project and are pleased to certify the captioned submission pursuant to EP No. EP-353/2009/K Condition 2.6.

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

Assuring you of our best attention at all times.

Yours faithfully,
for and on behalf of
MATERIALAB CONSULTANTS LIMITED



Arthur Cheng
Environmental Team Leader

AC/jt

c.c. AECOM – Mr. P.K. Lee, Mr. W.S. Ng, Mr. Patrick Ko
RAMBOLL ENVIRON – Mr. Raymond Dai, Mr. Ray Yan, Mr. Andy Wong
CHEC – Mr. Marko Chan

CHINA HARBOUR ENGINEERING COMPANY LIMITED



CONTRACT NO. HY/2013/03
HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING
FACILITIES –
VEHICLE CLEARANCE PLAZAS AND
ANCILLARY BUILDINGS AND FACILITIES
DOLPHIN WATCHING PLAN



DOLPHIN WATCHING PLAN

31/03/17	Initial issue				
Date	Status	Prepared By Marko Chan Environmental Officer	Reviewed By Fred Ho Safety Manager	Approved By Paul Pui Site Agent	Approved By Johnason Ko Project Manager



Table of Contents

1	INTRODUCTION.....	2
2	SITE CHARACTERISTICS.....	2
3	DOLPHIN WATCHING PLAN	2
3.1	Regular Inspection of the Silt Curtains.....	3
3.2	Visual Inspection of Waters Surrounded by the Curtains	3
3.3	Action Plan in Event that CWD is seen within the Enclosed Waters.....	4
3.4	In the Event of Injury or of Stranded Cetaceans	5

- Figures**
- Figure 1:** Site Layout Plan
 - Figure 2:** Location Plan of Works Area and Silt Curtain
 - Figure 3:** Communication Line of Action Plan

1 INTRODUCTION

CHEC (China Harbour Engineering Company Limited, hereafter CHEC) are the Main Contractor to responsible for the execution of the construction works for the Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Vehicle Clearance Plazas and Ancillary Buildings and Facilities under Highways Department Contract number HY/2013/03.

The works mainly include the construction of vehicle clearance plazas, ancillary buildings and facilities, vehicular bridges, at-grade roads, drainage, sewerage, water supplies, landscape, utilities and electrical and mechanical works, etc. for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities.

Under the clause 2.6 of Specific Condition of Environmental Permit No. EP-353/2009/K, a Dolphin Watching Plan should be submitted before the commencement of marine construction of the project. The plan includes regular inspection of the silt curtains, visual inspection of waters surrounded by the curtains, and an action plan to be devised to cope with any unpredicted incidents such as the case that Chinese White Dolphin is found within the water surrounded by the silt curtains.

2 SITE CHARACTERISTICS

The site areas of Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Vehicle Clearance Plazas and Ancillary Buildings and Facilities are located at the northeast of the Chek Lap Kok. The layout illustrated the location of the site area; please refer to the *Figure 1* for reference.

Construction of water outfall of box culvert will be conducted at the northern-east edge of HKBCF. Silt curtains shall be installed during construction of water outfall. No night-time marine construction will be conducted and the tentative schedule shown in *Table 1* below:

Table 1 – Tentative Schedule for Box Culvert B Construction

Periods	Duration	Activities
End of March	1 week	Excavation
Early April	2 to 3 weeks	H-Piles Installation
Mid of April	1 to 2 weeks	Precast Installation
End of April	1 week	Backfilling & Reinstatement

3 DOLPHIN WATCHING PLAN

Dolphin Watching Plan should be implemented in the silt curtain enclosed area once silt curtain is installed to enclose the work area of the outlet of the box culvert fully. The DWP includes inspection of the silt curtains, visual inspection and the action plan in event that Chinese White Dolphin is seen within the enclosed waters. The layout and location of the silt curtain and viewing platform can be found in the *Figure 2*.

3.1 Regular Inspection of the Silt Curtains

Before each day of work, the silt curtain should be inspected by trained staff to ensure that it is intact and properly form an enclosed area. The floating and underwater section of the silt curtain should be checked monthly to ensure that there is no damage of the curtain. The silt curtain will be pulled out of the water for checking if necessary. Additional checks will be required after typhoon that may have damaged or dislodged the curtain. Damaged silt curtain should be repaired or replaced before conducting any construction activity within the silt curtain. The construction work will only commence after confirming the integrity of the silt curtain.

3.2 Visual Inspection of Waters Surrounded by the Curtains

Prior to the commencement of work for each day, the area enclosed by the silt curtain should be scanned for 30 minutes by a trained dolphin watcher. All dolphin watchers will be trained by qualified dolphin specialist. Approval on the dolphin specialist shall be sought from AFCD and EPD. The dolphin watcher will scan the area visually from the viewing platform. The construction work will only commence after confirming 30 minutes of absence of dolphins. All dolphin watchers will be trained by the qualified dolphin specialist so that will have adequate knowledge to identify presence of dolphins.

The approximate location, time of appearance/disappearance and direction of movement of the dolphin etc should be recorded. In the event of Chinese White Dolphin being seen within the enclosed area during the morning inspection or the work day, all marine work shall be suspended, and the action plan should be implemented immediately.

3.3 Action Plan in Event that CWD is seen within the Enclosed Waters

- 3.3.1 According to the site condition, the chance for dolphin entering the fully enclosed silt curtain is highly limited. Nevertheless, in the event of CWD being seen within the area enclosed by the silt curtain, the dolphin watcher will report the event to the assistant construction manager and environmental officer immediately and all marine works shall be suspended.
- 3.3.2 The dolphin watcher should closely observe the movement of the dolphin and search for appearance of other dolphins within the silt curtain. The assistant construction manager will also gather the construction team to open the silt curtain to allow a shortest path for the CWD to leave the site.
- 3.3.3 The environmental officer will notify RSS, the Environmental Team Leader and gather the dolphin watchers readily available on-site to watch the position of the CWD and guide the CWD leave the Site. The approximate location, time, group size, behavior and the movement pattern of the CWD should be recorded, and submitted to RSS and IEC/ENPO for reference.
- 3.3.4 The construction work can only recommence if no dolphin is found within the observation area for 30 minutes. Also, staff should be allocated to check the silt curtain for any openings that any be missed during the daily check.
- 3.3.5 In the event that CWD cannot be removed from the enclosed area for an extended period of time (e.g. 30 minutes), the dolphin specialist should be consulted immediately, and try to arrive the site within 30 minutes.
- 3.3.6 In case injured or live-stranded cetaceans are found, the AFCD will be contacted immediately through “1823” marine mammal stranding hotline.
- 3.3.7 **Table 2** show the contact list of emergency team member and **Figure 3** shows the communication line of this action plan.
- 3.3.8 This action plan shall be practiced after the first silt curtain area is enclosed so that the procedure can be fine tuned and relevant staff will be familiar with their roles. Any changes to this action plan shall be in consultation with the relevant management authorities.



Table 2 – Contact List of Emergency Team Member

Name	Post	Contact No.
Mr. Paul PUI	Site Agent	2597-3398
Mr. Y. Y. LEUNG	Assistant Construction Manager	9430-3396
Mr. Joe CHAN	Superintendent	5560-6504
Mr. Sam WONG	Graduate Engineer	6153-7186
Mr. Marko CHAN	Environmental Officer	9427-6345
Mr. Matthew WU	Environmental Officer	6076-2675
Mr. Arthur CHENG	Environmental Team Leader	3565-4115
TBC*	Dolphin Specialist	3565-4157
Mr. Patrick KO	Resident Engineer (Safety and Environment)	5962-0547

*Remark: Approval on the dolphin specialist shall be sought from AFCD and EPD.

3.4 In the Event of Injury or of Stranded Cetaceans

Currently, AFCD (the authority responsible for marine mammals) collaborates with the Ocean Park Conservation Foundation (OPCF) to investigate and responds to all marine mammal strandings in Hong Kong. In the event that a CWD, or other marine mammal, is found injured or dead within the enclosed area of the silt curtain, it is advised by AFCD that the government 24 hour hotline (i.e. 1823) shall be called to seek assistance from the corresponding responsible team of AFCD (who will notify and form joint-investigation with OPC when necessary). Existing AFCD/OPC procedures may then proceed.



Figures

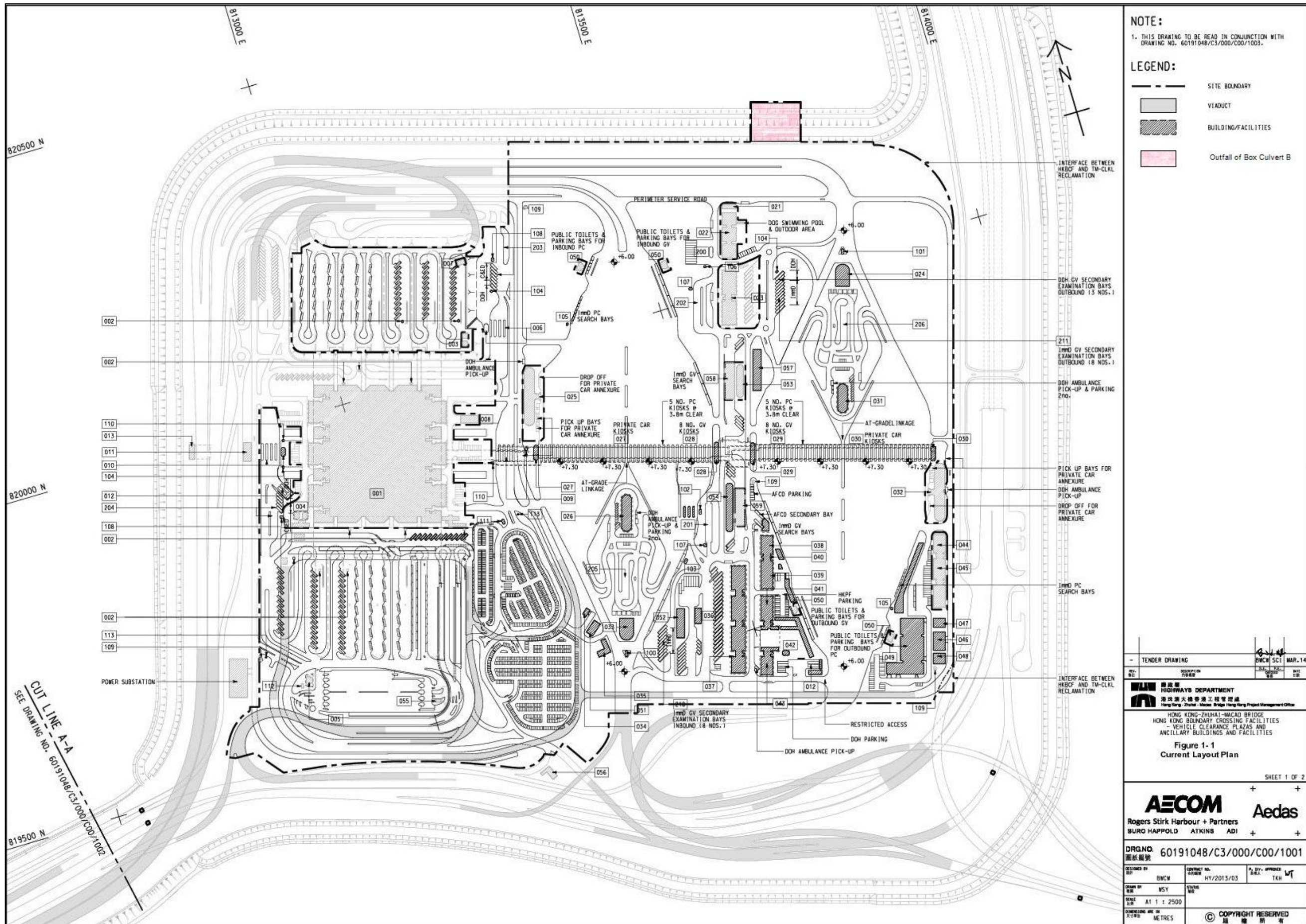


Figure 1: Site Layout Plan

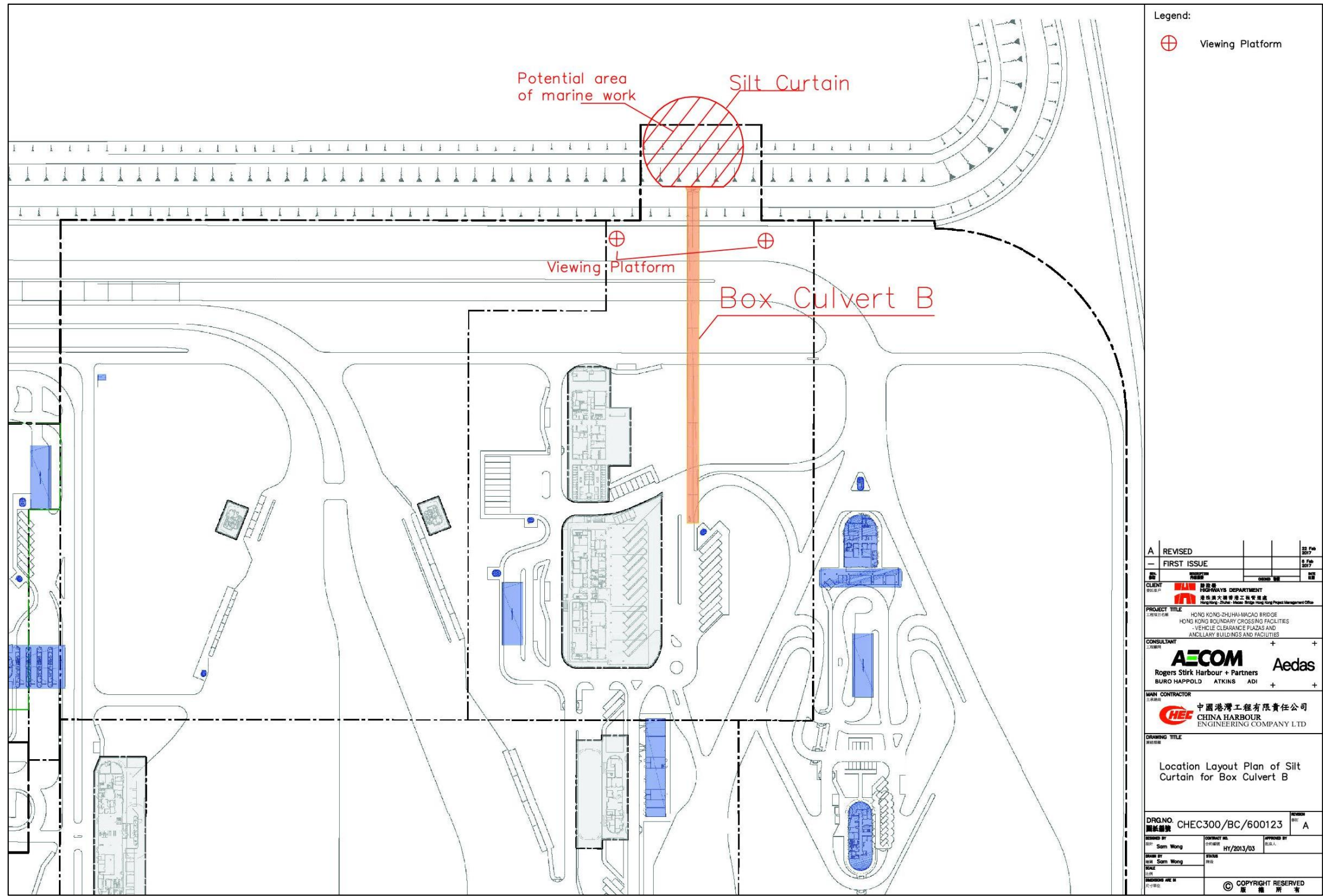
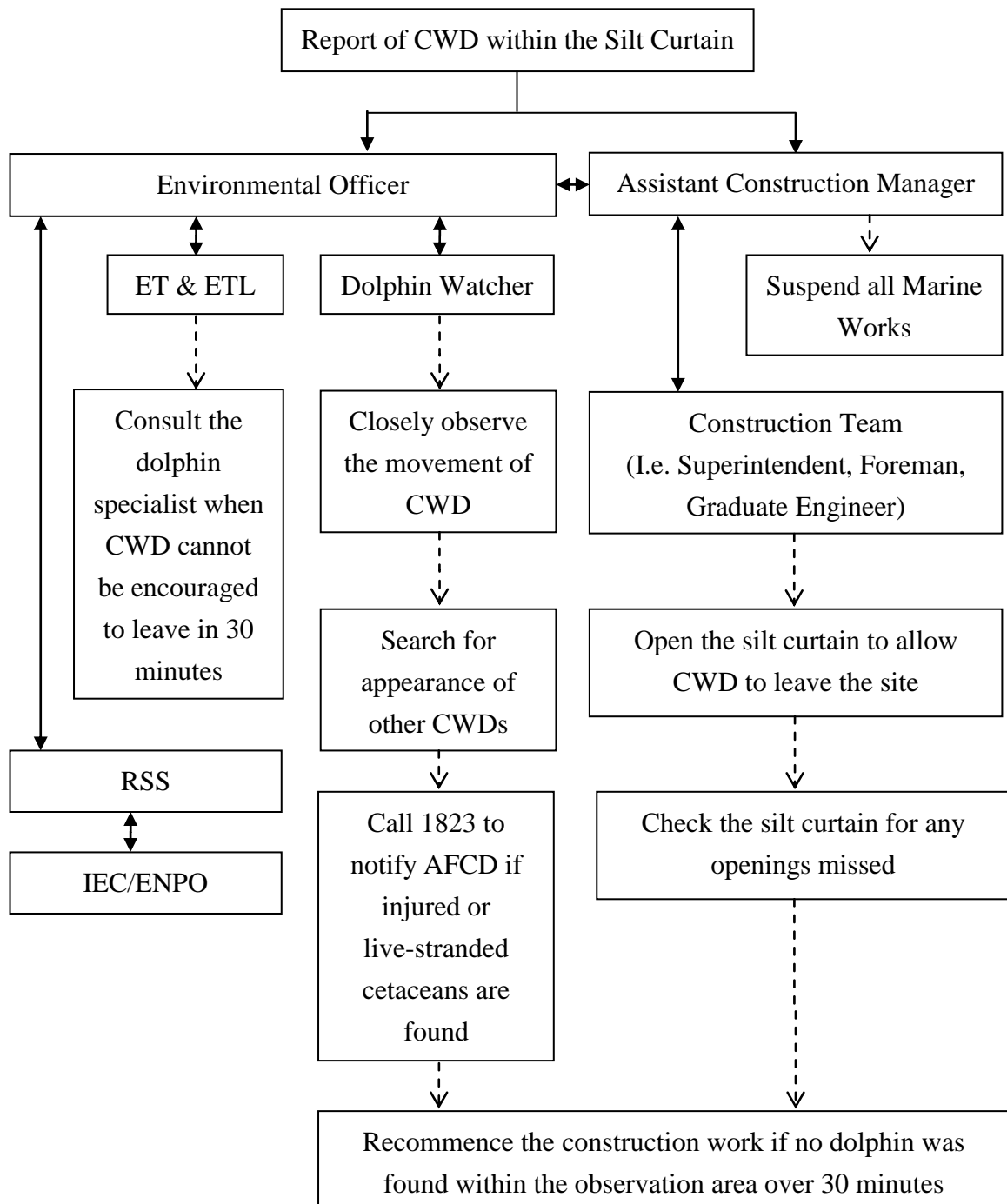


Figure 2: Location Plan of Works Area and Silt Curtain



↔ Line of Communication

- -> Line of Action

Figure 3: Communication Line of Action Plan