

# Dragages -China Harbour-VSL JV

**Contract HY/2011/09**  
**Hong Kong-Zhuhai-Macao Bridge**  
**Hong Kong Link Road-Section between**  
**HKSAR Boundary and Scenic Hill**

**Dolphin Watching Plan**

**April 2013**  
**(Version 4.0)**

Certified By	 _____ Dr. H.F. Chan Environmental Team Leader
--------------	---

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

**CINOTECH CONSULTANTS LTD**

Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong  
Tel: (852) 2151 2083 Fax: (852) 3107 1388  
Email: [info@cinotech.com.hk](mailto:info@cinotech.com.hk)

## TABLE OF CONTENTS

	<b>Page</b>
<b>1 INTRODUCTION</b> .....	<b>1</b>
Background.....	1
<b>2 DOLPHIN WATCHING PLAN</b> .....	<b>2</b>

### LIST OF FIGURES

Figure 1	Layout of Silt Curtain
Figure 2	Silt Protection Principles for Marine Piling in Western Water

### LIST OF APPENDIX

Appendix A	Flow Chart for Communication under Dolphin Watching Plan
------------	--

## 1 INTRODUCTION

### Background

- 1.1 The Hong Kong Link Road (HKLR) comprises a 9.4km long viaduct section from the HKSAR boundary to Scenic Hill on the Airport Island; a 1 km tunnel section to the reclamation formed along the east coast of the Airport Island and a 1.6km long at-grade road section on the reclamation connecting to the Hong Kong Boundary Crossing Facilities (HKBCF). The tunnel section of HKLR will pass under Scenic Hill, Airport Road and Airport Railway to minimize the environmental and visual impacts to Tung Chung residents.
- 1.2 Dragages - China Harbour-VSL JV (hereinafter called “the Contractor”) was awarded as the main contractor of “Contract No. HY/2011/09 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between HKSAR Boundary and Scenic Hill” (hereinafter called the Contract).
- 1.3 According to the EM&A Manual, a number of environmental mitigation measures related to dolphin shall be implemented during construction phase, including dolphin watching plan.
- 1.4 This construction phase dolphin watching plan proposal will detail the methodology and monitoring frequency to meet the requirement in the Environmental Permit (EP) and EM&A Manual. It was prepared and submitted for approval before commencement of monitoring works.

## 2 DOLPHIN WATCHING PLAN

- 2.1 This dolphin watching plan is prepared in accordance with the requirement under the EP-352/2009/A Condition 2.5 that:

*The Permit Holder shall deposit with the Director prior to the commencement of marine works of the Project, three hard copies and one electronic copy of a Dolphin Watching Plan. The plan shall include regular inspection of the silt curtains, visual inspection of the waters surrounded by the curtains, and an action plan shall 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.*

- 2.2 The requirement under the EP-352/2009/A Condition 3.5 is that:

*Once the perimeter silt curtains as mentioned in Condition 3.4 above are installed or re-deployed, the Dolphin Watching Plan as deposited under Condition 2.5 of this Permit shall be implemented as part of the EM&A programme.*

- 2.3 The requirement is also specified in the EM&A Manual 10.2.17 – Dolphin Watching Plan that:

*A dolphin watching plan for works areas will also be included in the EM&A programme. ...The plan would include regular inspection of the silt curtains, scanning of the waters surrounded by the curtains, and an action plan should be devised to cope with any unpredicted incidents such as in case dolphins are found within the waters surrounded by the silt curtains. Similarly, at marine pier sites the dredging and concreting works could be conducted inside the bored pile casing after its installation. A dolphin watching plan will replace the dolphin exclusion zone after the casing is installed.*

- 2.4 The method for each parameter to be included in the dolphin watching plan is detailed in the following sections:

### Implementation Location and Time

- 2.5 Dolphin Watching Plan should be implemented in the silt curtain enclosed area once silt curtain is installed to enclose the working platform in accordance with EP Condition 3.5. During installation of bored pile casing, dolphin exclusion zone of 250m radius will be implemented, which covers the scope of dolphin watching plan. After installation of the bored pile casing, dolphin watching plan will be in place as per EM&A Manual Section 10.2.17. The layout and location of the silt curtain can be found in **Figure 1**. Cross-sectional view of the silt curtain can be found in **Figure 2**.

### ***Regular inspection of the silt curtains***

- 2.6 Before each day of work, the silt curtain should be inspected by trained staff to ensure that it is intact and the ends of the silt curtain are overlapped properly to form an enclosed area. 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.
- 2.7 The floating and underwater section of the silt curtain should be physically examined weekly to ensure that there is no damage to the curtain. The silt curtain will be pulled out of the water for checking where necessary. Additional checks will be required after typhoon that may have

damaged or dislodged the curtain, or cases of trapped dolphins that may indicate presence of holes. All necessary repairs should be performed before any construction work can commence.

#### *Scanning of the waters surrounded by the curtains*

- 2.8 A scanning staff will scan the waters surrounded by the silt curtains prior to the start of construction work. He will look for any presence of dolphin inside the silt curtain with naked eyes.
- 2.9 Prior to the commencement of work for each day, the area enclosed by the silt curtain should be scanned for 30 minutes by the scanning staff. The scanning staff will station and observe under the work platform. The construction work will only commence after confirming 30 minutes of absence of dolphins. As both ends of the silt curtain will be overlapped to form an enclosed area, it is unlikely that the dolphin can enter the silt curtain.
- 2.10 Training session will be provided by a qualified dolphin specialist so that the scanning staff will have adequate knowledge to identify presence of dolphins.
- 2.11 The approximate location, time of appearance/disappearance and direction of movement of the dolphin etc should be recorded.

#### *Action Plan to be Devised to Cope with any Unpredicted Incidents*

- 2.12 As mentioned in previous sections, the chance for dolphin entering the enclosed silt curtain is highly limited. Nevertheless, an action plan is also prepared in case of any dolphin is found accidentally trapped inside the silt curtain.
- 2.13 The frontline staff should stay alert for dolphins in the silt curtain during construction work. Training session should be provided so that they have adequate knowledge to identify presence of dolphins.
- 2.14 If a dolphin is found within the silt curtain, the staff should notify the site supervisor immediately through handheld transceiver or mobile phone. All construction work within the silt curtain should cease until further notice. At the same time, the staff will open the silt curtain to allow dolphin to escape. Also, staff should be allocated to check the silt curtain for any openings that may be missed during the daily integrity check. A flow chart showing how the communication will be carried out can be found in **Appendix A**.
- 2.15 The scanning staff should closely observe the movement of the dolphin and search for appearance of other dolphins within the silt curtain.
- 2.16 The approximate location, time of appearance/disappearance and direction of movement of the dolphin etc should be recorded. The construction work can only re-commence if no dolphin is found within the observation area for 30 minutes. During re-installation of the silt curtain, dolphin exclusion zone will be implemented.
- 2.17 If scanning staff finds that the dolphin has difficulty in escaping from the silt curtain, this will be reported to the SOR to decide whether the use of vessel for guiding the dolphin to leave should be adopted. The curtain should be closed to its original state afterwards.
- 2.18 In case injured or live-stranded cetaceans are found, the AFCD will be contacted immediately through "1823" marine mammal stranding hotline.

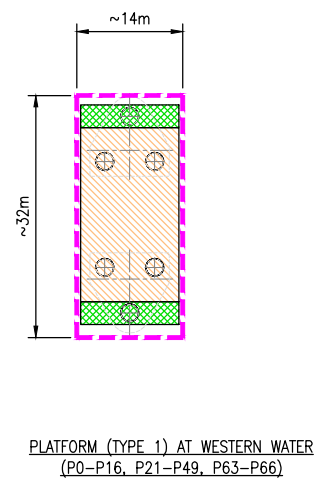
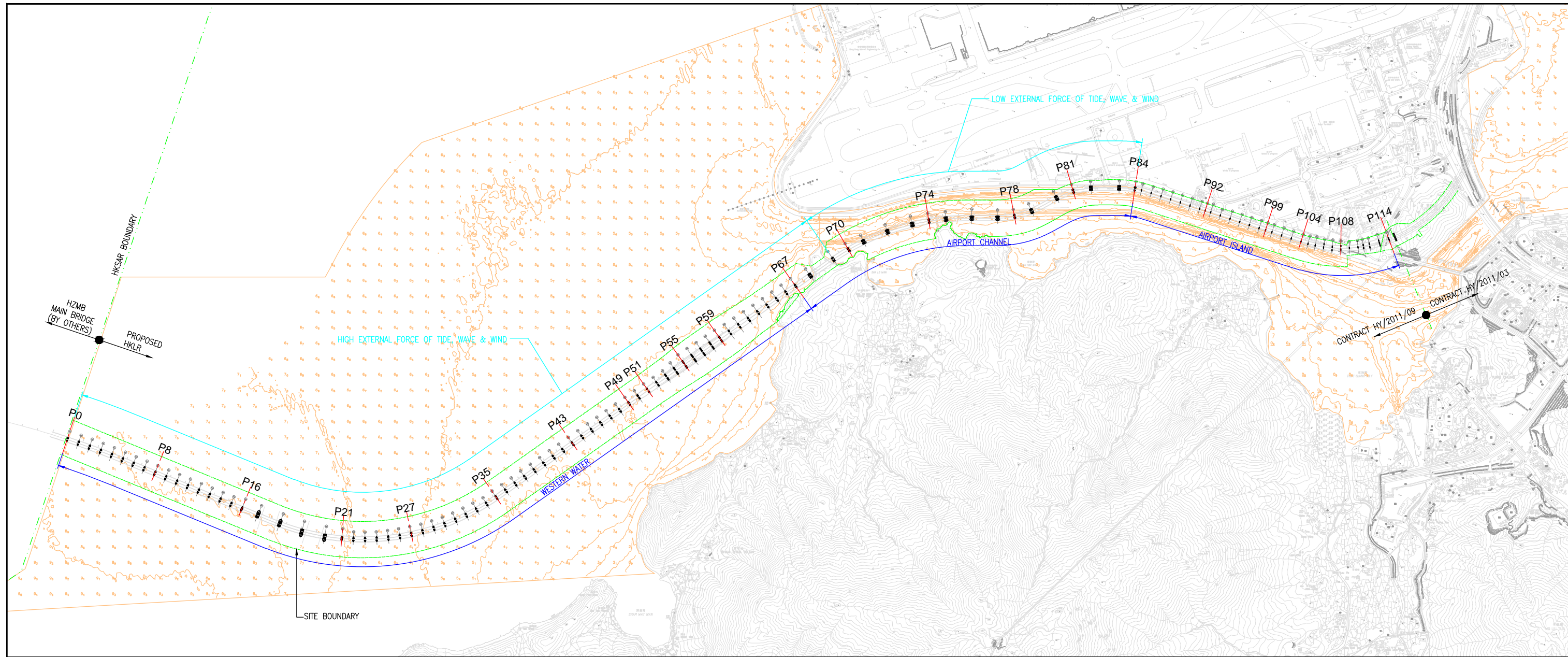
---

---

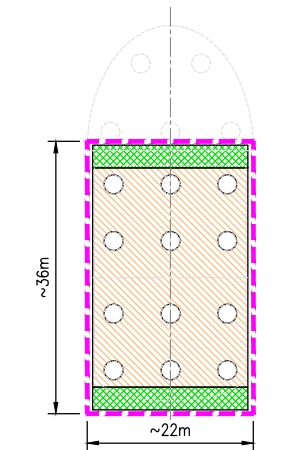
## FIGURES

---

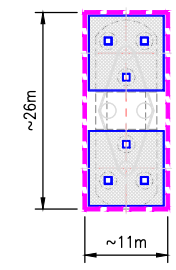
---



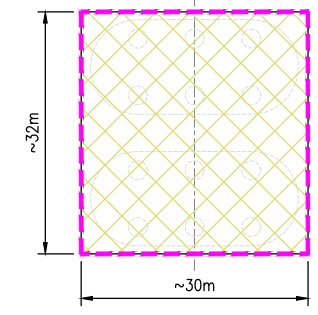
PLATFORM (TYPE 1) AT WESTERN WATER  
(P0-P16, P21-P49, P63-P66)



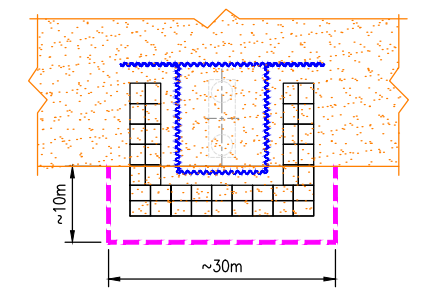
PLATFORM (TYPE 2) AT WESTERN WATER  
(P17-P20)



PLATFORM (TYPE 1a) AT WESTERN WATER  
(P50-P62)



PLATFORM AT AIRPORT CHANNEL  
(P67-P84)



SILT CURTAIN AT AIRPORT ISLAND  
(P85-P107)

LEGEND  
--- SILT CURTAIN

Rev.	Description	Date	Checked
0	FIRST ISSUE	17/08/12	FSO

Designed By:	FSO
Drawn By:	ALI
Approved By:	PCA
Date:	17AUG12

Main Contractor:

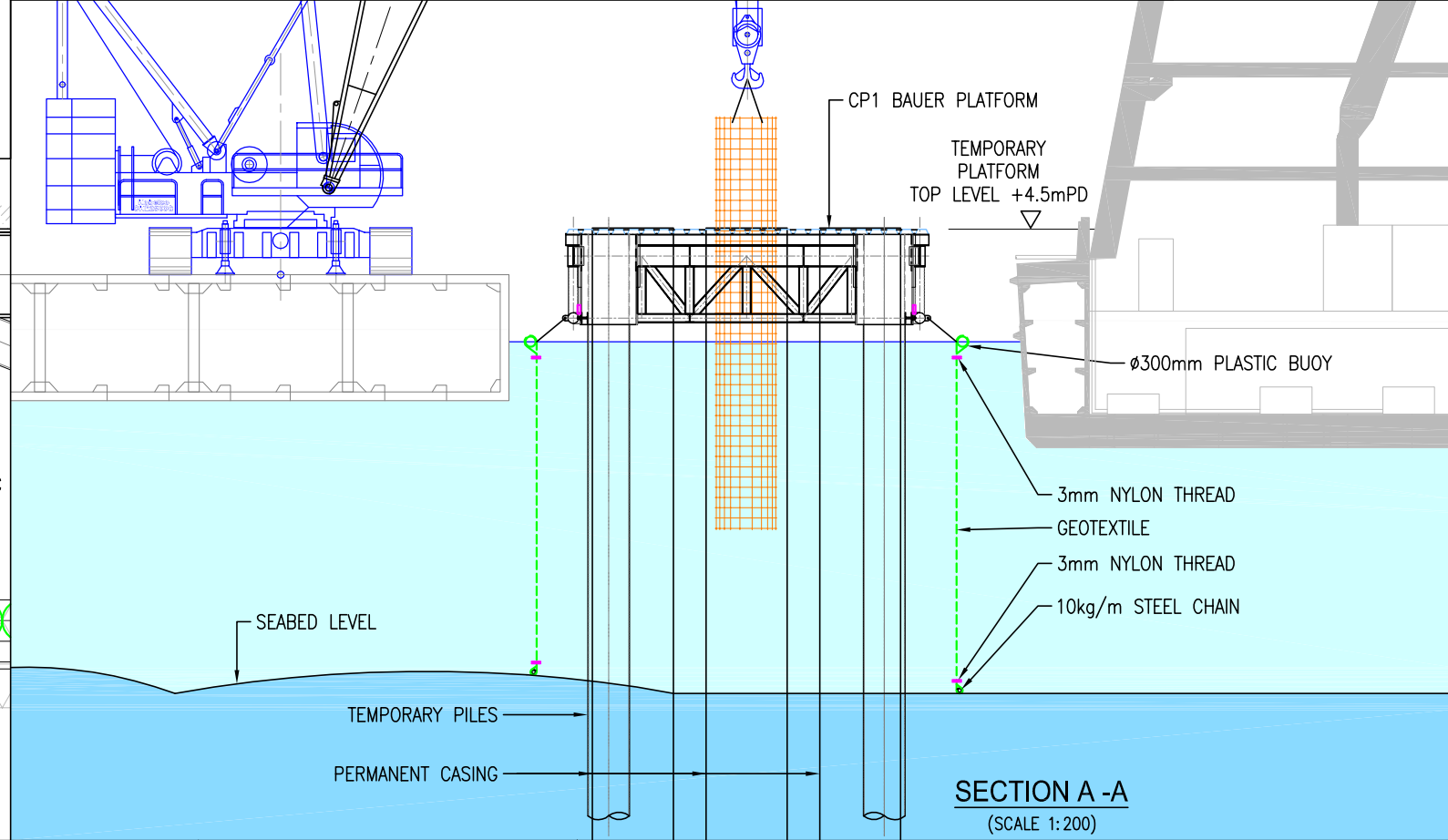
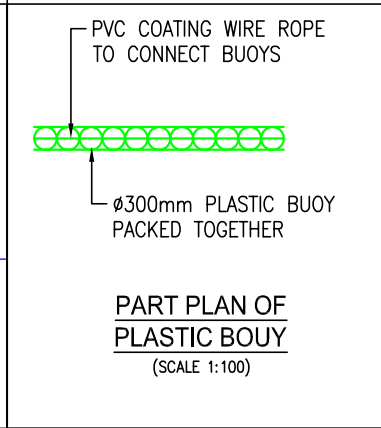
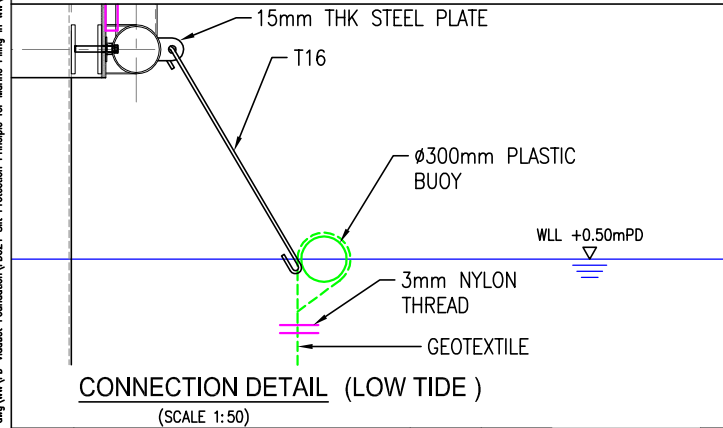
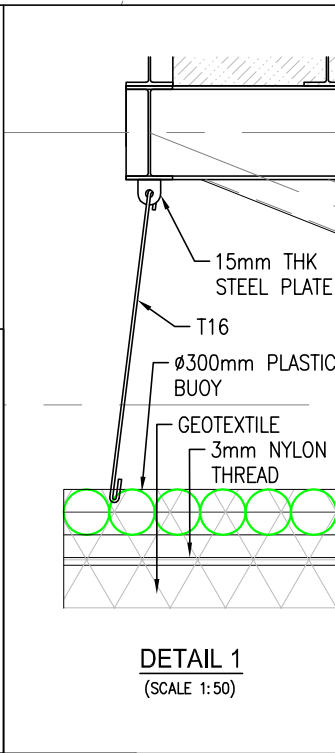
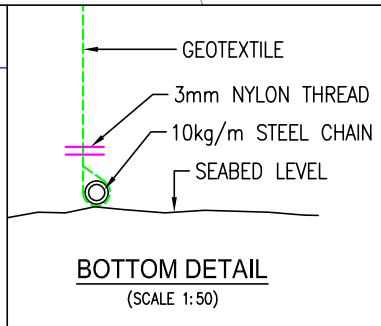
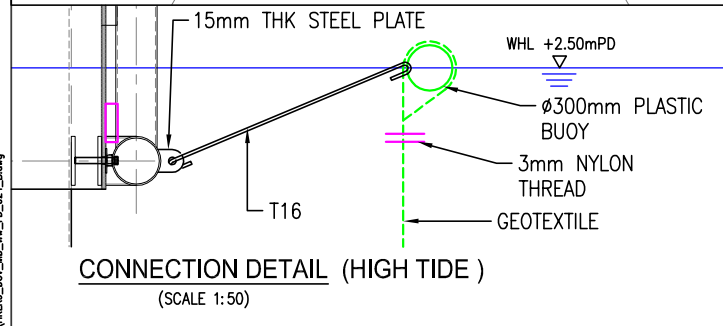
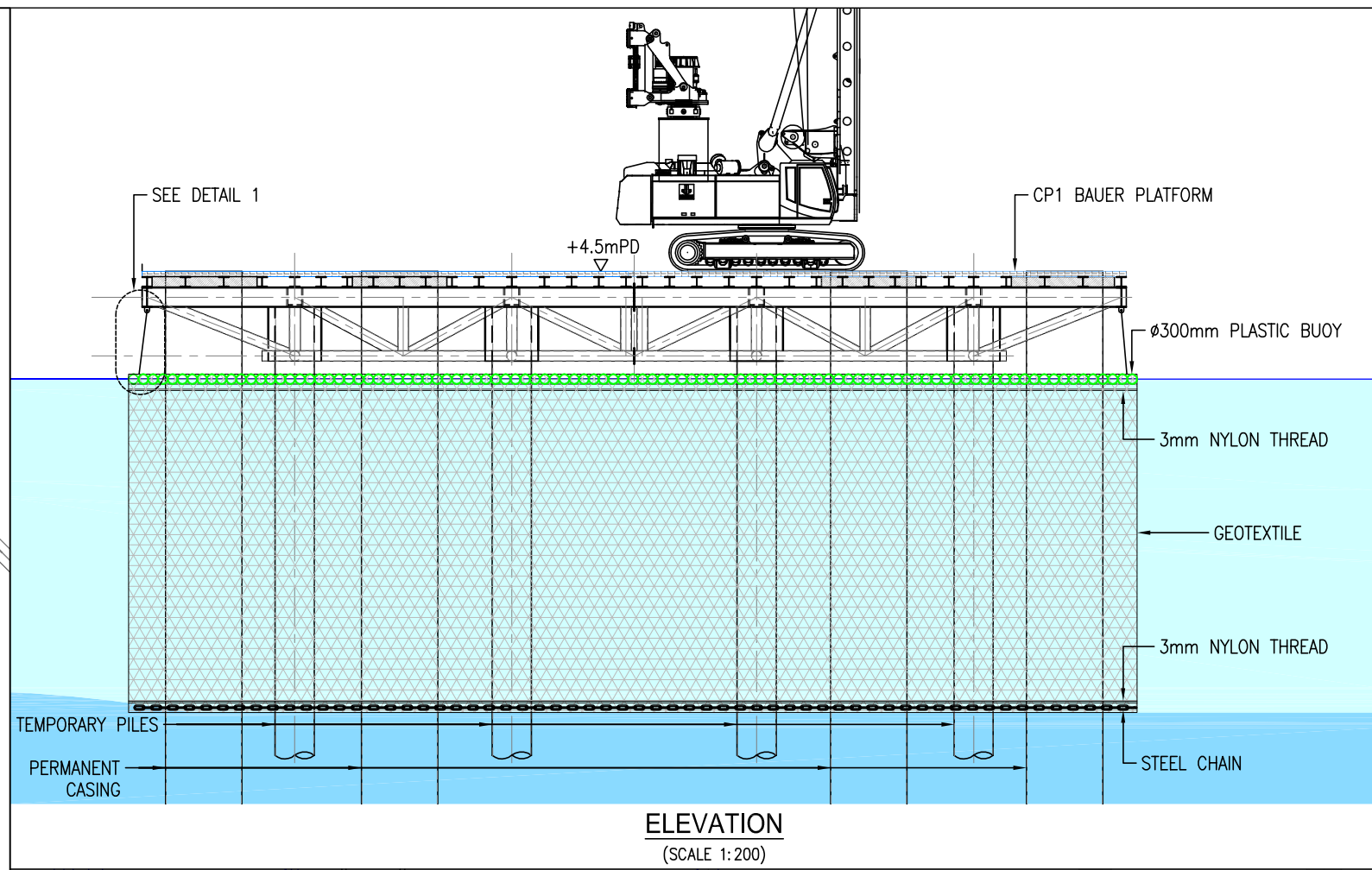
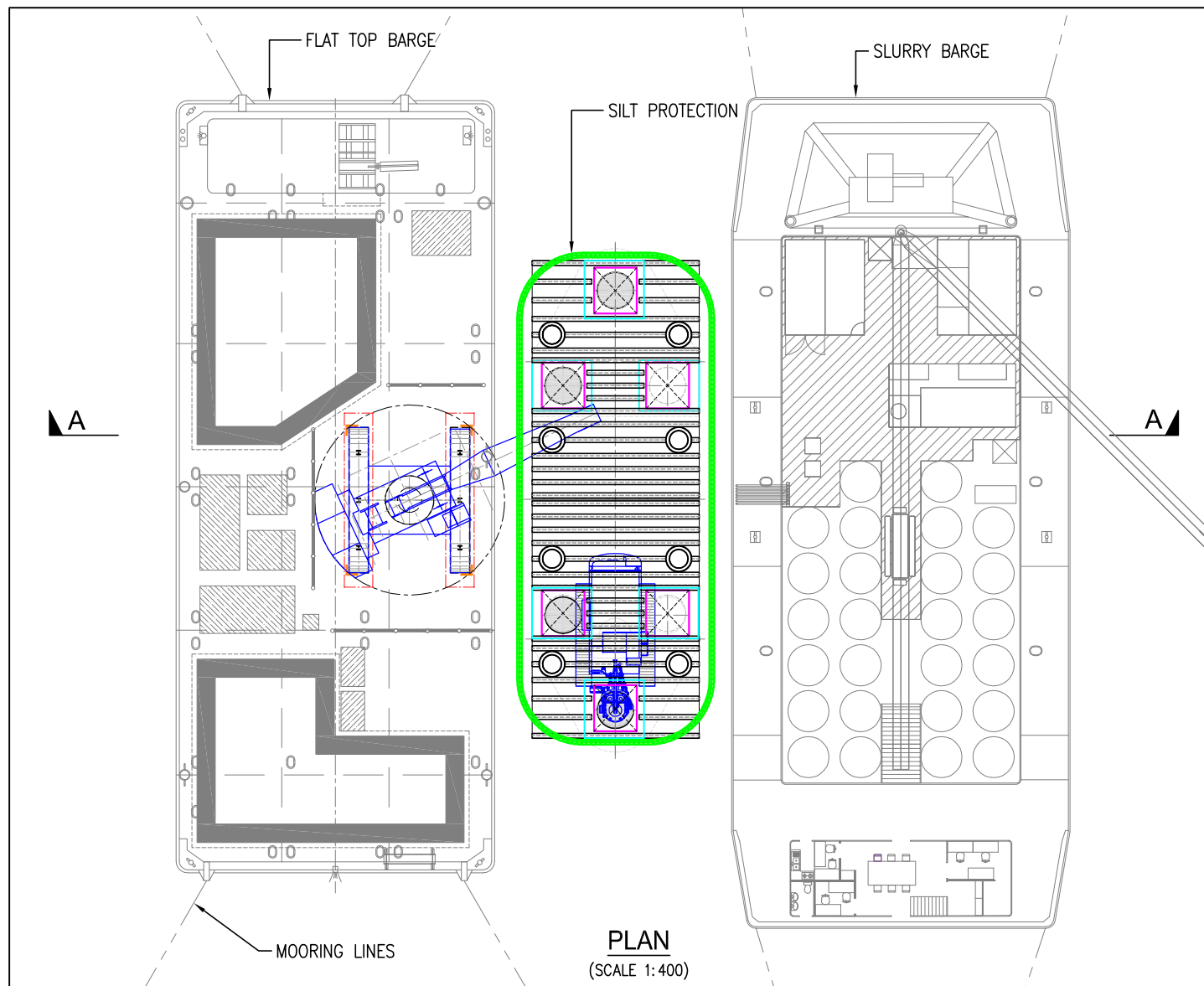
Client:

Contractor's Designer:

Project: Contract No. HY/2011/09  
Hong Kong - Zhuhai - Macao Bridge Hong Kong Link Road  
Section Between HKSAR Boundary and Scenic Hill

Drawing Title: SILT CURTAIN ARRANGMENT  
AROUND WORKING PLATFORM

Drawing No:	HKLR9/DCV/GE/PW/GE/004	
Scale:	1:25000 (IN A3)	Sheet No.: 1 OF 1
CAD REF:	HKLR9_DCV_MD_PW_GE_004_0.dwg	
Job No.:	HY/2011/09	Rev: 0



Rev.	Description	Date	Checked
B	GENERAL REVISION	15/01/13	GGr
A	MINOR REVISIONS	10/09/12	FCa
0	FIRST ISSUE	04/09/12	GGr

Designed By: GGr  
 Drawn By: NBu  
 Approved By: PCA  
 Date: 04SEPT12

Main Contractor: Dragages - China Harbour - VSL Joint Venture 廣嘉-中國港灣-威勝利聯營

Client: 路政署 HIGHWAYS DEPARTMENT

Contractor's Designer: Mott MacDonald YWL Engineering

Project: Contract No. HY/2011/09  
 Hong Kong - Zhuhai - Macao Bridge Hong Kong Link Road  
 Section Between HKSAR Boundary and Scenic Hill

Drawing Title: SILT PROTECTION PRINCIPLES FOR MARINE PILING IN WESTERN WATER

Drawing No.	2
Scale	AS SHOWN (IN A3)
Sheet No.	1 OF 1
CAD REF.	HKLR9_DCV_MD_WW_FD_024_B.dwg
Job No.	HY/2011/09
Drawing Status	-
Rev.	B



---

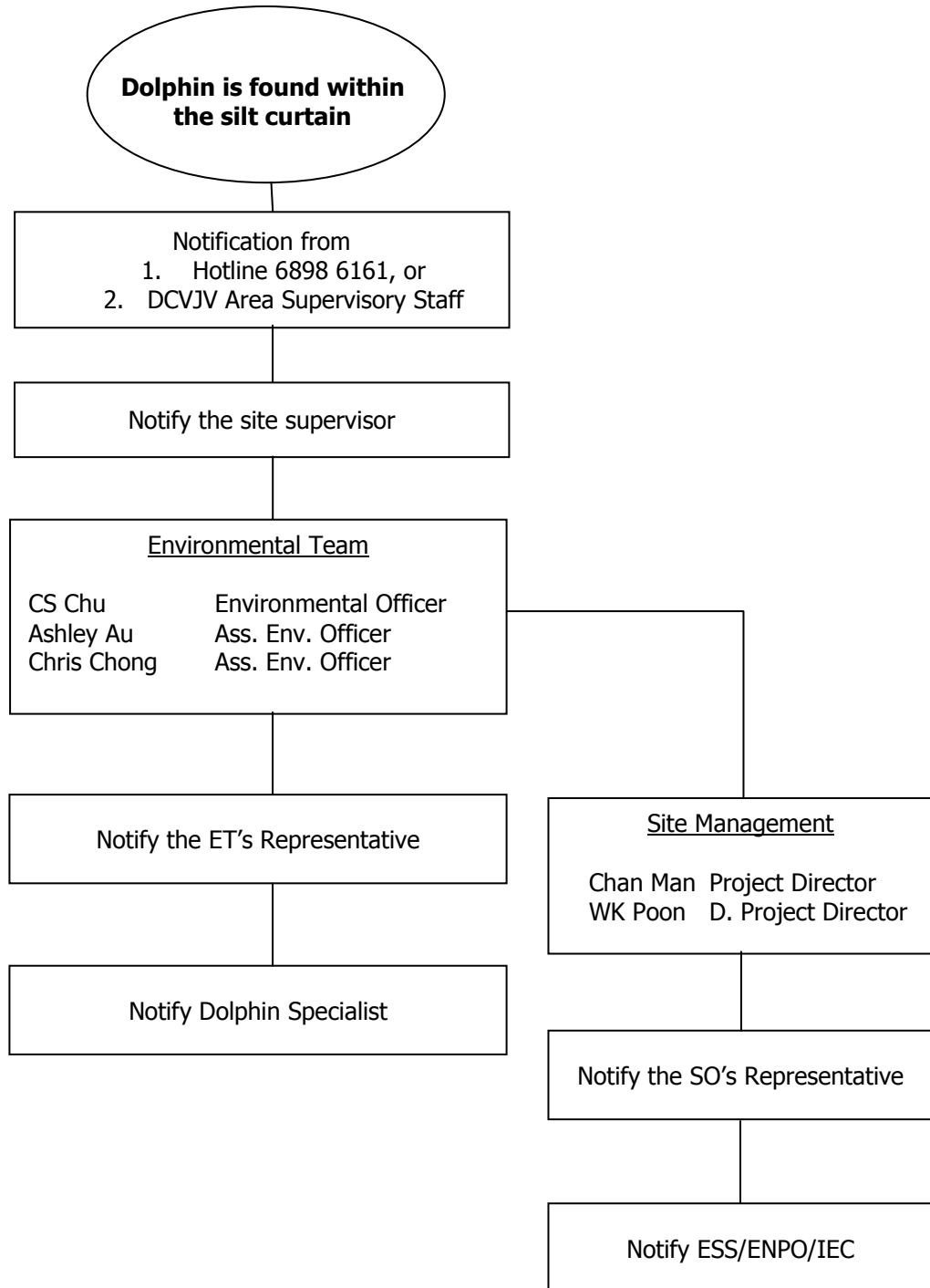
---

**APPENDIX A**  
**Flow Chart for Communication under**  
**Dolphin Watching Plan**

---

---

A flow chart indicating communication line for effective cease of works



### **Emergency Team Members**

<b>Post</b>	<b>Name</b>	<b>Contact No.</b>
Emergency Co-ordinator	W K POON	9461 8397
Emergency Safety Representative	C S MA	9627 6217
Emergency Env. Representative	C S CHU	6871 1634
Work Team Members – Site Agent	C Y WONG	9303 1266
Work Team Members – Foreman	KEUNG Hoi	9345 4251
Work Team Members – Drivers	FU Yu Kwong	9098 2637
	CHENG Yiu Chung	6971 8313
Dolphin Specialist	Dr Samuel Hung	9800 8652