



The Government of the Hong Kong Special Administrative Region

Civil Engineering and Development Department

**Improvement Works of Seabed
at the Northwest of Tung Wan, Peng Chau
Project Profile**

June 2009

**Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau
Project Profile**

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**Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau
Project Profile**

1. Basic Information

1.1 Project Title

Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau (The Project).

1.2 Purpose and Nature of the Project

The purpose of the Project is to remove a layer of rubble/brick fragments in approximately 0.8m thick deposited on seabed at the northwest of Tung Wan, Peng Chau in response to a public complaint for sake of public safety.

1.3 Name of Project Proponent

Lands Department is the project proponent. Civil Engineering and Development Department (CEDD) is the works agent for the planning and implementation of the Project.

1.4 Location of Project, Scale of Project and History of Site

The site is located at the northwest of Tung Wan, Peng Chau. Location plan for the Project is presented in Appendix A. Site area is about 1,200m² and the total amount of rubble/brick fragments to be removed in the Project is approximately 1,000m³ with similar quantity of imported sand to replenish the seabed. No work has been carried out within the site.

1.5 Number and Types of Designated Projects to be Covered by the Project Profile

The Project comprising dredging operation which is less than 500 m from the nearest boundary of coastal protection area is classified as a designated project under Section C.12 of Schedule 2, Environmental Impact Assessment (EIA) Ordinance. Only one designated project is involved.

1.6 Name and Telephone Number of Contact Persons

Port Works Division, CEDD

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**Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau
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1.7 Estimated Cost

\$ 2.0 million (at December 2008 price level).

2. Outline of Planning and Implementation Programme

- 2.1 The planning and implementation of the Project will be carried out by CEDD.
- 2.2 The works is scheduled to commence in late September 2009 and for completion in January 2010.

3. Major Impacts on the Environment

Sensitive receivers which are located within 500m of the site are shown in Appendix B. They include:-

3.1 Coastal protection areas

Coastal protection areas, which comprise flat rock area and other visually important landscape features is located at a distance of about 100m from the nearest boundary of the proposed site. However, no impact on the coastal protection areas is anticipated as the proposed works only involve removing the rubble/brick fragments and replenishing with the imported sand on a small area of seabed.

3.2 Residential Buildings/School

The nearest residential building and school, located at a distance of 54m and 130m respectively from the nearest boundary of the proposed site, is likely to be sensitive to air quality and noise.

4. Construction Method

The works will be carried out during low tide periods by 2 nos. of backhoes, 1 no. of bulldozer and 4~5 nos. of village vehicles to remove the rubble/brick fragments deposited on seabed which to be disposed of at Tai Lei Island Refuse Transfer Station. The maximum excavation rate will not exceed 100m³/day. The imported sand will be delivered by sea from the conveyor belt barge to replenish the seabed.

5. Possible Impacts on the Environment

In view of the nature and scale of the Project is small, it is expected that the impacts on the environment during the construction period is minimal. Details are as follows:

5.1 Ecology

Intertidal and diving inspection was carried out on 8 March 2009 by the marine ecologist to search for any species of conservation importance within the site area, sandy beach and coastal protection areas nearby. It revealed that the seabed of the site is mainly composed of sand and rubble/brick fragments. No species of conservation importance is observed in the intertidal zone of the sandy beach and the site. For the coastal protection areas, common hard coral species are recorded and no species of conservation importance is identified. The inspection results are shown in Appendix D.

The Project will mainly involve land-based plant and will be small in scale and the works will be carried out during low tide condition. It is expected that the construction works from the Project will not induce potential adverse impact on the Coastal Protection Areas.

5.2 Water Quality

As the Project involves only restoration of the seabed by removing the rubble/brick fragments and replenishing with the imported sand, the disturbance to the seabed will be minimal and turbidity of water will not be increased significantly. In addition, due to the works to be carried out during low tide condition, it is expected that the impact to water quality is minimal. To further safeguard the water quality in the area, silt curtain will be installed and environmental monitoring will be implemented.

5.3 Noise

In view of the shallow water in the vicinity, works will be confined to daytime only during low tide session. In addition, due to the small scale of works, the process will not generate significant noise problem. It is expected that the noise impact to the surrounding is minimal.

The distance between the site and the nearest residential building and school are 54m and 130m respectively. Low noise level is anticipated as only excavation and filling works to be involved and no breaking works will be required. It is planned that the following plant would be used during the construction:-

**Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau
Project Profile**

Major construction activities	Construction plant likely to be used	Anticipated Noise Level (dB)
Removal of rubble/brick fragment	Backhoes + bulldozer + village vehicles	67-75
Filling of imported sand	Backhoes + bulldozer + conveyor belt barge	62-70

5.4 Air Quality

In view of small scale of the excavation and filling works, dust emission from the site is minimal. Moreover, the emitted gas from the plant is expected to be minimal as the number of plant on site is small.

5.5 Odour

As daily excavation rate is small, no odour problem is expected.

5.6 Traffic

The impact on marine traffic is considered insignificant because the marine plant only involves delivery of the construction plant and the imported sand in the Project. Although transportation of excavated materials will be restricted to land access, the impact to land traffic is considered insignificant in view of small daily excavation rate.

5.7 Fisheries

No fish culture zone is identified in the vicinity.

5.8 Visual Appearance

Upon completion of works, the appearance of shoreline will be improved. The visual appearance of the area will not be adversely affected.

5.9 Cultural Heritage

In view of the shallow water in the vicinity and the Project will involve only restoration of the seabed by removing 0.8m thick rubble and replenishing with the imported sand, no marine archaeological antiquities are expected within the site. If any antiquities are discovered in the course of the construction works, Antiquities and Monuments Office of Leisure and Cultural Services Department will be informed promptly.

**Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau
Project Profile**

5.10 Other Residual Impacts

No other operational and decommissioning impacts are identified.

6. Environmental Protection Measures to be Incorporated in the Design and Any Further Environmental Implications

6.1 Measures to Minimize Environmental Impacts

6.1.1 Water Quality

It is expected that there will be no significant impact on water quality during the works. However, to further safeguard the surrounding water, the following measures will be implemented:-

(a) Installation of silt curtain around the site

The proposed location of silt curtain is shown in Appendix C. Silt curtain will be installed in order to minimize the water quality impact. With its bottom side reaching the seabed and its top supported by floating booms, silt curtain can accommodate tidal rise and fall, and the egress of turbid water is limited.

(b) Water quality monitoring throughout the construction period

The water quality monitoring programme in this Project will follow the “Environmental Monitoring and Audit, Guidelines for Development Projects in Hong Kong”. The proposed monitoring stations are shown in Appendix C. Baseline monitoring, impact monitoring and post-project monitoring on turbidity and suspended solids will be carried out 2 weeks prior to the construction, during the construction and 2 weeks after the construction respectively at mid-flood and mid-ebb tides, at a frequency of 3 days per week, Environmental Monitoring & Audit (EM&A) manual and monthly EM&A reports will be submitted to Environmental Protection Department for comments.

6.1.2 Noise

The nearest receiver is about 54m from the site. The anticipated noise level is very low since the works will not cause substantial noise. To further minimize the nuisance, no work will be allowed to be carried out at night times and during Sundays and public holidays.

Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau Project Profile

6.2 Possible Severity, Distribution and Duration of Environmental Effects

In view of the small scale of works and that the works will be completed within 3 months, any environmental impacts which may be caused by the Project should be short-termed, localized and minimal.

6.3 Public Consultation

Island District Council (IDC) was consulted in August 2005. The IDC supported the Project in principle.

6.4 History of Similar Project

A dredging operation of similar nature was carried out near the site in May 2007 under the Environmental Permit no. EP 269/2007 “Dredging at Seabed of Peng Chau, Tung Wan” granted on 21 March 2007.

7. Use of Previously Approved EIA Reports

No previously approved EIA report has been conducted in Tung Wan, Peng Chau.

8. Conclusion

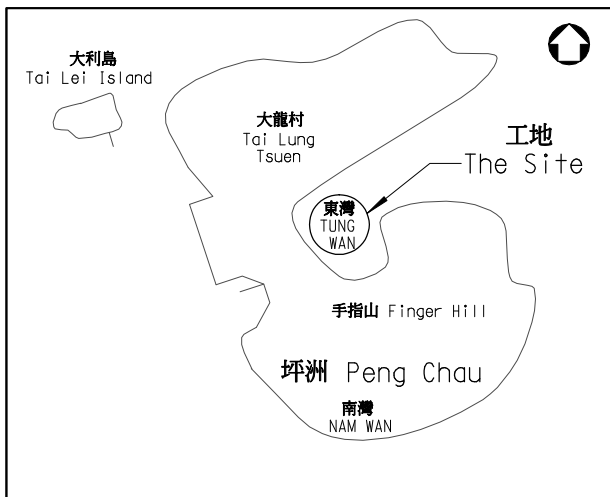
- (1) Environmental impacts mainly ecological, water quality, noise and air quality arising from the Project are minimal.
- (2) The following mitigation measures will be incorporated into the Project:
 - (i) use of quiet machinery, conducting the works during daytime and no works during Sundays or general holidays; and
 - (ii) installation of a silt curtain
- (3) As the environmental impact arising from the Project is unlikely to be adverse, direct application for an environmental permit under EIA Ordinance will be adopted.

**Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau
Project Profile**

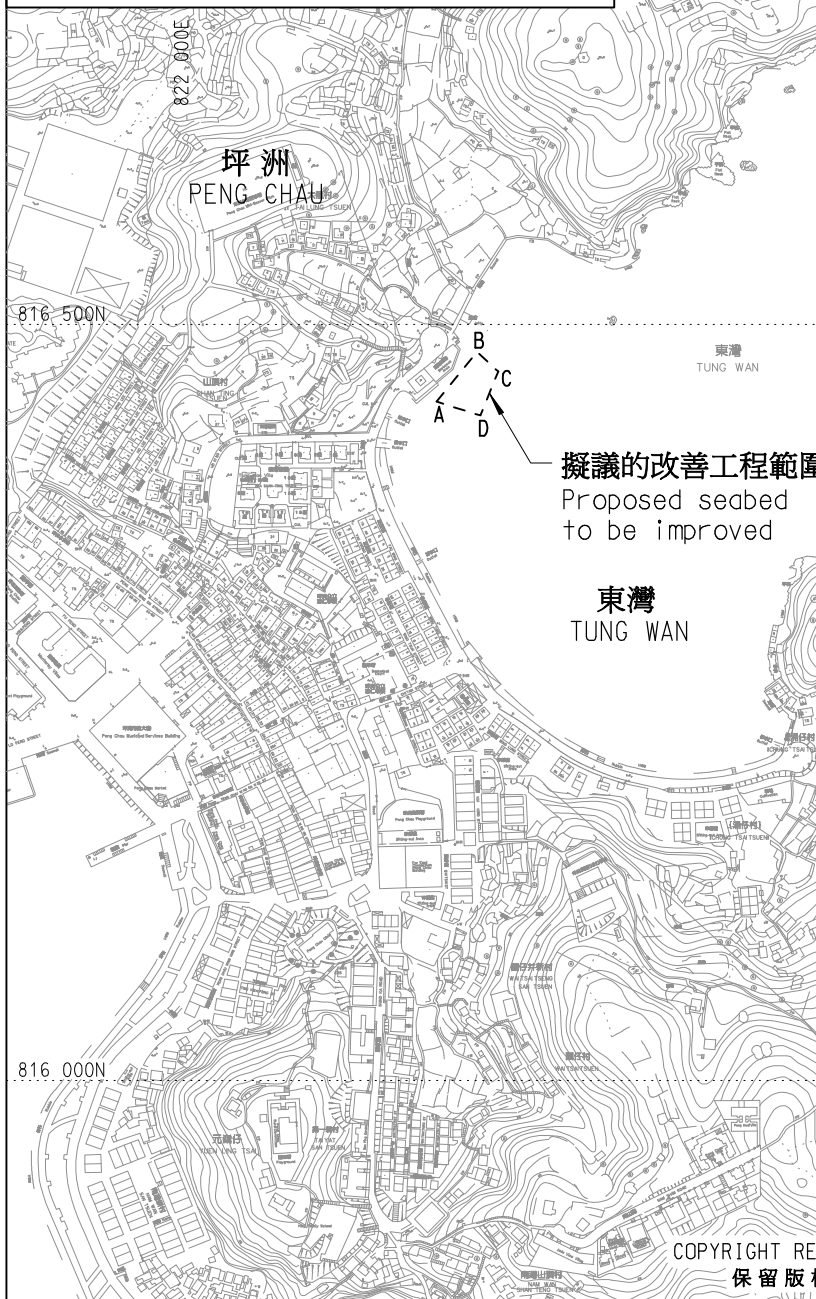
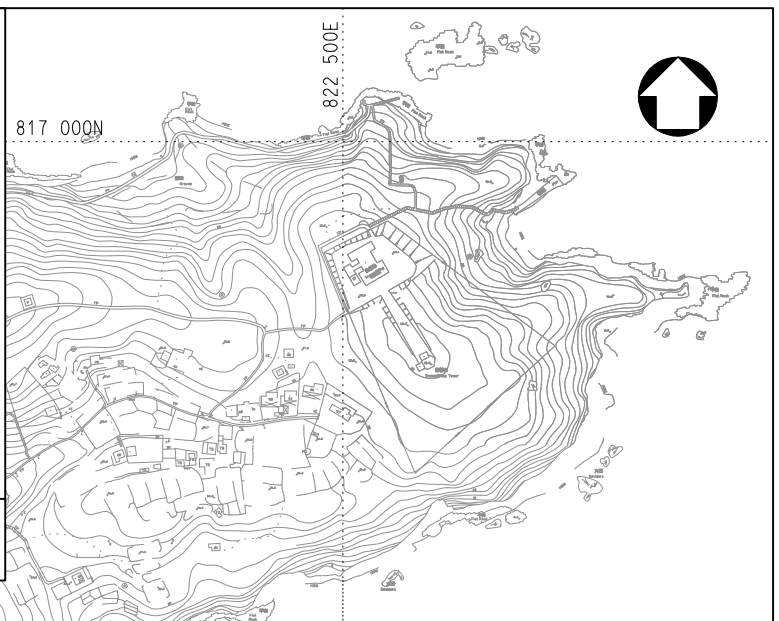
Appendix A

Drawing No. PW-FD09-048

- General Layout



位置圖 Key Plan
比例 Scale 1 : 25 000



改善工程範圍的座標 CO-ORDINATES OF SEABED TO BE IMPROVED		
點 POINTS	北緯(米) NORTHING (m)	東經(米) EASTING (m)
A	816 449	822 159
B	816 482	822 186
C	816 469	822 200
D	816 440	822 188

擬議的改善工程範圍
Proposed seabed
to be improved



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title 名稱
**坪洲, 東灣西北海床改善
工程 - 總平面圖**
IMPROVEMENT WORKS OF SEABED
AT NORTHWEST OF TUNG WAN,
PENG CHAU - GENERAL LAYOUT

	name 姓名	initial 簡簽	date 日期
designed 設計	C P CHOI	SIGNED	22.6.2009
drawn 繪畫	H C HO	SIGNED	22.6.2009
checked 核對	N H SHUM	SIGNED	22.6.2009
approved 核准	S K LAM	SIGNED	22.6.2009

office
PORT WORKS DIVISION 海港工程處
CIVIL ENGINEERING OFFICE 土木工程處

no. 編號	date 日期	description 說明	checked 核對	approved 核准
drawing no. 圖則編號		PW-FD09-048		scale 比例 1:5000



CIVIL ENGINEERING
AND DEVELOPMENT
DEPARTMENT
土木工程拓展署

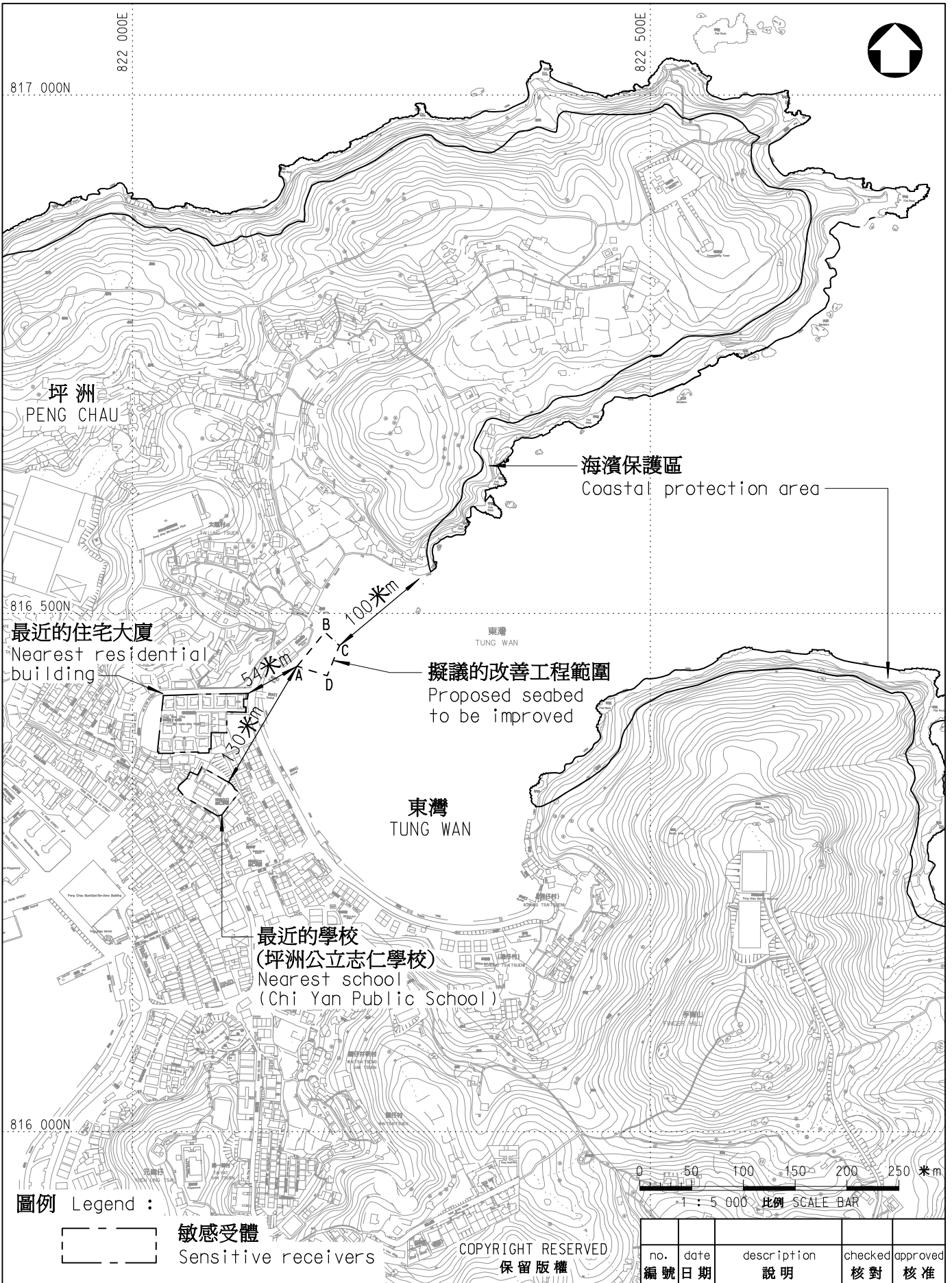
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**Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau
Project Profile**

Appendix B

Drawing No. PW-FD09-049

- Location of Sensitive Receivers



圖例 Legend :

敏感受體
 Sensitive receivers

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title 名稱
坪洲, 東灣西北海床改善工程 - 敏感受體位置圖

IMPROVEMENT WORKS OF SEABED
 AT NORTHWEST OF TUNG WAN,
 PENG CHAU - LOCATION OF
 SENSITIVE RECEIVERS

	title 名稱	name 姓名	initial 簡簽	date 日期
designed 設計	C P CHOI	SIGNED	22.6.2009	
drawn 繪畫	H C HO	SIGNED	22.6.2009	
checked 核對	N H SHUM	SIGNED	22.6.2009	
approved 核准	S K LAM	SIGNED	22.6.2009	

office
 PORT WORKS DIVISION 海港工程處
 CIVIL ENGINEERING OFFICE 土木工程處

no. 編號	date 日期	description 說明	checked 核對	approved 核准
drawing no. 圖則編號		PW-FD09-049		scale 比例 1:5000



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 AND DEVELOPMENT
 DEPARTMENT
 土木工程拓展署

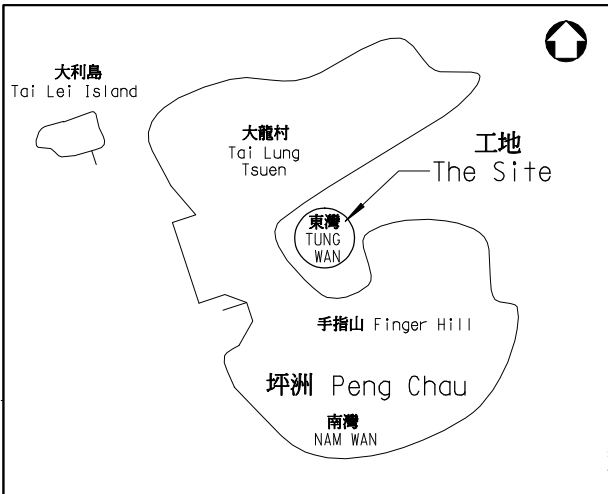
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**Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau
Project Profile**

Appendix C

Drawing No. PW-FD09-050

– Proposed Mitigation Measures to Environmental Impact



位置圖 Key Plan

比例 Scale 1 : 25 000

水質監察點的座標 CO-ORDINATES OF QM STATION		
監察點 POINTS	北緯 (米) NORTHING (m)	東經 (米) EASTING (m)
C1	816 620	822 470
C2	816 450	822 460
M1	816 470	822 285
M2	816 360	822 249



圖例 LEGEND :

- 擬議的海床改善工程
Proposed seabed to be improved
- 監察站
Monitoring station
- 控制站
Control station
- 隔泥幕
Silt curtain

no.	date	description	checked	approved

title
 坪洲, 東灣西北海床改善工程
 - 建議減輕環境影響的措施
 IMPROVEMENT WORKS OF SEABED
 AT NORTHWEST OF TUNG WAN,
 PENG CHAU - PROPOSED
 MITIGATION MEASURES TO
 ENVIRONMENTAL IMPACT

	name	initial	date
designed	C P CHOI	SIGNED	22.6.2009
drawn	H C HO	SIGNED	22.6.2009
checked	N H SHUM	SIGNED	22.6.2009
approved	S K LAM	SIGNED	22.6.2009

drawing no. **PW-FD09-050** scale 1:2500

office PORT WORKS DIVISION
 CIVIL ENGINEERING OFFICE



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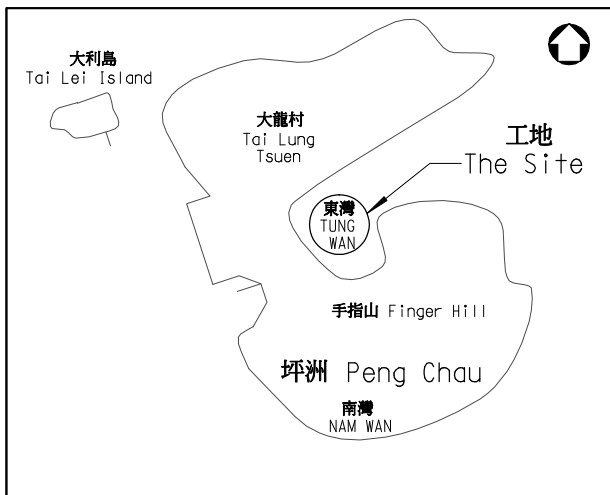
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**Improvement Works of Seabed at the Northwest of Tung Wan, Peng Chau
Project Profile**

Appendix D

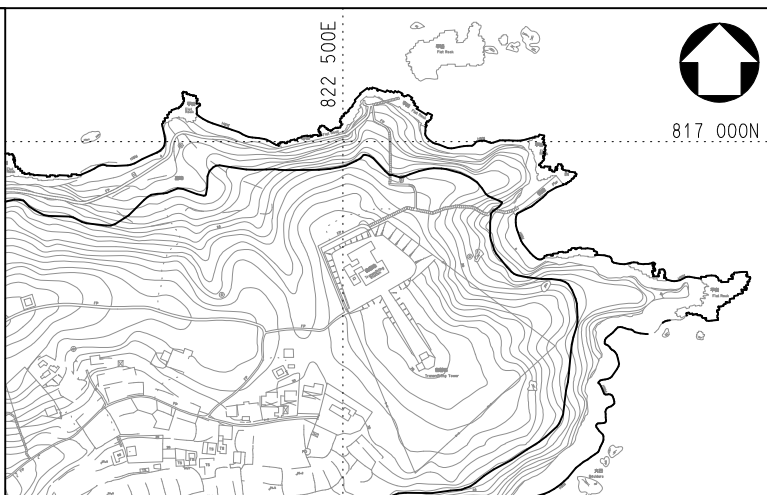
Drawing No. PW-FD09-051

– Intertidal and Diving Inspection Report



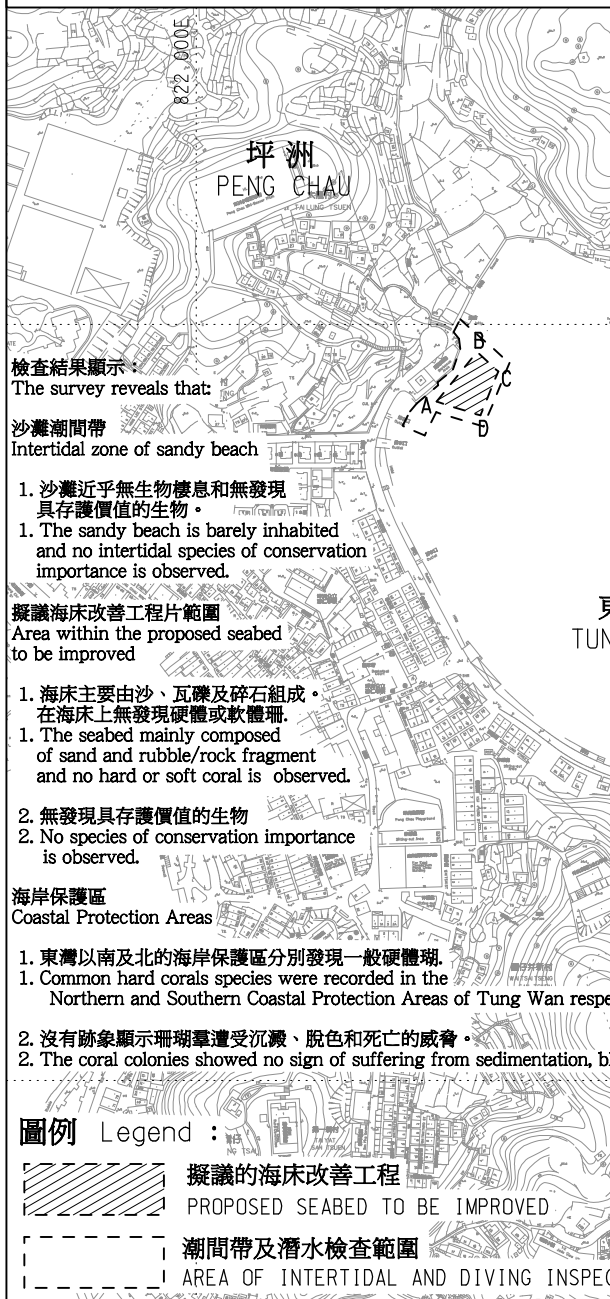
位置圖 Key Plan

比例 Scale 1 : 25 000



海濱保護區

Coastal protection area



檢查結果顯示：
The survey reveals that:

沙灘潮間帶
Intertidal zone of sandy beach

1. 沙灘近乎無生物棲息和無發現具存護價值的生物。
1. The sandy beach is barely inhabited and no intertidal species of conservation importance is observed.

擬議海床改善工程片範圍
Area within the proposed seabed to be improved

1. 海床主要由沙、瓦礫及碎石組成。在海床上無發現硬體或軟體珊瑚。
1. The seabed mainly composed of sand and rubble/rock fragment and no hard or soft coral is observed.
2. 無發現具存護價值的生物
2. No species of conservation importance is observed.

海岸保護區
Coastal Protection Areas

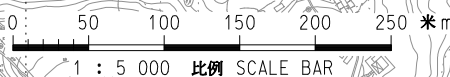
1. 東灣以南及北的海岸保護區分別發現一般硬體珊瑚。
1. Common hard corals species were recorded in the Northern and Southern Coastal Protection Areas of Tung Wan respectively.
2. 沒有跡象顯示珊瑚羣遭受沉澱、脫色和死亡的威脅。
2. The coral colonies showed no sign of suffering from sedimentation, bleaching and mortality.

圖例 Legend :

擬議的海床改善工程
PROPOSED SEABED TO BE IMPROVED

潮間帶及潛水檢查範圍
AREA OF INTERTIDAL AND DIVING INSPECTION

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title 名稱
坪洲, 東灣西北海床改善工程 - 潮間帶及潛水檢查報告
IMPROVEMENT WORKS OF SEABED AT NORTHWEST OF TUNG WAN, PENG CHAU - INTERTIDAL AND DIVING INSPECTION REPORT

	name 姓名	initial 簡簽	date 日期
designed 設計	C P CHOI	SIGNED	22.6.2009
drawn 繪畫	H C HO	SIGNED	22.6.2009
checked 核對	N H SHUM	SIGNED	22.6.2009
approved 核准	S K LAM	SIGNED	22.6.2009
office	PORT WORKS DIVISION 海港工程處 CIVIL ENGINEERING OFFICE 土木工程處		

no. 編號	date 日期	description 說明	checked 核對	approved 核准
drawing no. 圖則編號		PW-FD09-051		scale 比例 1:5000
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 土木工程拓展署				

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