## LEGISLATIVE COUNCIL PANEL ON PLANNING, LANDS AND WORKS and PANEL SUBCOMMITTEE ON HERITAGE CONSERVATION

#### Implementation Details for the Preservation of Queen's Pier

#### **Purpose**

This paper informs Members of the implementation details for the preservation of Queen's Pier.

#### **Background**

- 2. The Central Reclamation Phase III works contract (CRIII contract) was awarded on 10 February 2003, after obtaining funding approval from the Finance Committee of Legislative Council, and is scheduled for completion in mid 2009. The CRIII project is needed to provide land for essential transport infrastructure including the Central-Wan Chai Bypass (CWB) and Road P2 network, the Airport Railway Extended Overrun Tunnel (AR EOT) and the North Hong Kong Island Line. The land formed under CRIII will also provide an opportunity for the development of a vibrant waterfront promenade for public enjoyment.
- 3. The scope of the CRIII contract includes the reclamation of about 18 hectares of land, construction of Road P2 network, extension of stormwater culverts, 40-m of AR EOT and advance tunnel box for CWB amongst other works. In order to maintain the operation of the existing waterfront facilities including, inter alia, Queen's Pier, the Star Ferry Piers and the seawater cooling water pumping stations (CWPS) prior to their relocation, the reclamation works under the CRIII contract have to be undertaken in phases, namely formation of Initial Reclamation Areas and subsequently, Final Reclamation Areas as shown in Appendix A. At present, the Initial Reclamation Areas have been completed. The Star Ferry Piers, the marine operation of Queen's Pier and all the affected CWPSs have been relocated to the new seafront.

- 4. Under the terms of the CRIII contract, we are required to hand over the portion of the site occupied by Queen's Pier to the CRIII Contractor on 23 February 2007, 14 days following the date of substantial completion of all the works associated with the new Star Ferry Piers and Pier 9 which was 9 February 2007. Our delay in handing over the Queen's Pier site would lead to a delay in completing the reclamation works and the construction of the planned infrastructures at Queen's Pier which are critical activities in the context of CRIII. The resultant delay to the overall completion of the CRIII contract could give rise to contractual claims in the order of several hundred thousand dollars per day.
- 5. We have taken steps to mitigate the delay in completing the reclamation works. These include carrying out advance dredging prior to relocation of the marine operation of the Queen's Pier, increase of dredging rate after relocation and concurrent dredging in the two Final Reclamation Areas. We anticipate that all dredging works in the Final Reclamation Areas except those at Queen's Pier will be completed in August 2007 and any further delay in handing over the Queen's Pier site would put a halt to the progress of the CRIII project. To allow site handover, preservation works of Queen's Pier will have to be completed as early as possible. We therefore plan to start the preservation works by end July 2007.

#### **Scope of Preservation Works**

- 6. **The scope of 728CL** Preservation of Queen's Pier approved by the Finance Committee on 15 June 2007 comprises
  - (a) preservation of the retainable parts of the above-ground structure of the Pier;
  - (b) transportation and storage of the preserved parts to/at a temporary location; and
  - (c) strengthening of the preserved parts and re-assembly of the Pier.
- 7. We wish to stress that the preservation, storage and re-assembly of Queen's Pier will be carried out with reference to the relevant international charters and guidelines in respect of heritage preservation. Measured drawings and photographic records of the existing condition of Queen's Pier would be taken, collected and retained and the entire

re-assembly process will be documented. A senior government architect with proven experience in building preservation will advise and supervise the carrying out of items 6(a) and 6(c) having regard to the principles referred to above.

8. We will carry out items 6(a) and 6(b) under the CRIII contract. As for item 6(c), we will implement the works under a separate contract and engage consultants for the detailed design, preparation of tender document, assessment of tender and construction supervision of the proposed re-assembly works at a suitable location in the Central harbourfront area.

#### **Preparatory Work**

- 9. We have utilized the advanced laser scanning technology to store 3D images of Queen's Pier and kept the plan. As can be seen from copies of 3D images shown in <u>Appendix B</u>, dimensions of the components of Queen's Pier and their relative spatial relationship and that with the City Hall can be derived from the 3D images. We have also conducted cartographic and photographic surveys for recording the details of the Pier. Copies of the cartographic records and photographic records are attached in <u>Appendices C and D respectively</u>.
- 10. We have started fabrication works for the hoarding. We will erect hoarding around Queen's Pier, as in <u>Appendix E</u>, to facilitate the occupation of the Pier site for the preservation works. During the erection of the hoarding, construction plant would need to occupy the part of Edinburgh Place in front of Queen's Pier as shown in <u>Appendix F</u>. In order to reduce disturbance to the public, the erection would be carried out at night starting at around 20:00 for completion by around 12:00 the next day. For safety reason, the Queen's Pier site will be cleared and parts of the Edinburgh Place will be cordoned off as shown in <u>Appendix F</u>.

#### **Preservation Method**

11. With regard to item 6(a), we have proceeded with the design of the temporary supports, as shown in <u>Appendix G</u>, immediately after the funding approval. We will prefabricate the temporary supports off site and transport them in parts to the site for installation at Queen's Pier to support the Pier structures during preservation by saw-cutting.

- 12. Upon hoarding off of the Pier site, careful dismantling and preservation of the metal wares and non-structural parts, as in <u>Appendix H</u>, including bollards, balustrades, baluster columns, handrails, the Chinese and English "Queen's Pier" plaques, other directory signs, navigation lights, precast concrete landing steps, planters and concrete benches would commence, one by one.
- 13. The concrete roof is big and heavy (about 500 tonnes). With the temporary supports for lifting off the roof, the total weight will be about 800 tonnes. We will therefore preserve the roof in parts by saw-cutting in accordance with the preservation plan as shown in <u>Appendix I</u>. The central pitched roof portion will be divided into two halves. We will preserve the 34 existing concrete columns, one by one, by carefully saw-cutting at roof and deck level. We will carefully take down the stone facing of the two load bearing walls, block by block.
- 14. After saw-cutting, the roof panels/the columns will be lifted up by a crane barge and stored on a flat barge for transportation to a temporary storage area. The flat roof panels will be lifted by a 200-tonne crane barge whereas the pitched roof portion can only be lifted by a 500-tonne crane barge. The 200-tonne crane barge is readily available. The 500-tonne crane barge is not available locally and we plan to source one from the nearest place. We have identified a suitable 500-tonne crane barge in Guangzhou. To tie in with the preservation programme, we need to proceed with the order of the crane barge as soon as possible. Our plan is to do so towards end July 2007.
- 15. To facilitate the re-assembly of Queen's Pier, all the preserved parts would be meticulously labeled. The labels would be marked on the fabric and components of the Pier as well as indicated clearly on the cartographical record. Photographs with the labels would be taken before, during and after the preserved parts are taken down so that there are sufficient information and details for the re-assembly works.

#### **Storage Arrangement**

- 16. We have searched for suitable sites for safe storage of the preserved parts at Kai Tak, Tseung Kwan O and Lantau.
- 17. At Kai Tak, we have identified a possible site at the ex-runway close to To Kwa Wan. The site has sea frontage and a 1:1.5 sloping seawall.

Our site survey however indicates that the existing seabed level is not deep enough for the 500-tonne crane barge to get close enough to the landside for down loading the preserved parts. As shown in <u>Appendix J</u>, the preserved parts would be overhung by about 2m at the edge of the site. It is also not practicable to further move the preserved parts of the roof by land-based crane due to their size and weight. The site at Kai Tak is therefore not suitable.

- 18. For Tseung Kwan O, we have examined potential sites at Fat Tong Chau. Our findings show that the sloping seawall of the sea frontage site is protected with tetrapods (specially shaped concrete armour units) as shown in Appendix K. For the same reasons as stated in paragraph 17 above, Fat Tong Chau is not suitable for use as a temporary store for the preserved parts of Queen's Pier.
- 19. On Lantau, we have identified a site which we consider to be suitable. It is the Government Explosive Depot at demarcation district 358L as shown in Appendix L. The site has a vertical seawall frontage and the seabed level is deep enough for berthing the 500-tonne crane barge. The site is a restricted area with no land access and is protected with 24-hour security. We will erect single storey structures with ground slab, walls and roof on the vacant flat land thereat to store the preserved parts. The inventory of all the parts will be kept in safe custody and we will carry out regular checking of the conditions of the preserved parts as well as that of the labelling system and the temporary stores.

#### Strengthening of the Preserved Parts and Re-assembly of the Pier

For the purpose of re-assembly, we need to strengthen all the 20. This will be done nearer the time for re-assembly. preserved parts. columns will be strengthened by coring through them and providing structural steel column inserts. We will construct a flat roof in the form of a concrete and steel composite structure and join it to the structural steel The preserved pitched roof will be tied down to the column inserts. concrete and steel composite roof. A concrete foundation will be constructed to support the columns. We will reconstruct the two load load bearing parts of Queen's Pier will thus be substantially strengthened without change of appearance. We will also re-install the metal wares and non-structural parts with reference to their original positions in the Pier. The relocation and re-assembly would be carried out with precision, based on documentary evidence, using the preserved parts as far as practicable. Explanatory signage would be displayed to recount the history of the Pier and the reassembly process.

#### **Implementation Programme**

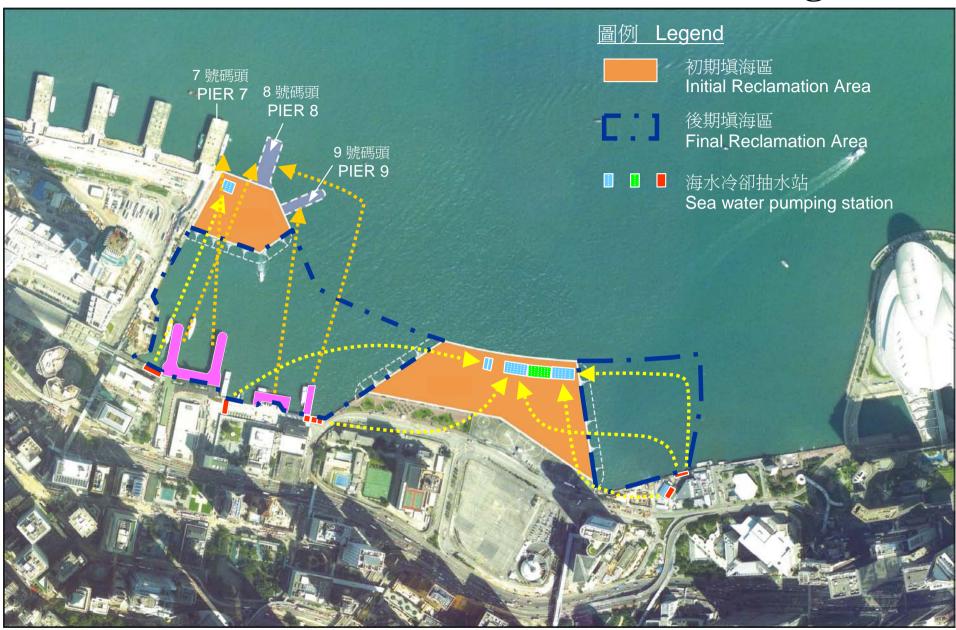
- 21. An implementation programme and the target dates for the main activities of the preservation works in items 6(a) and (b) are set out in Appendix M. We will start the hoarding erection by end July 2007. Our target is to complete the preservation works in items 6(a) and (b) within four months after erection of the hoarding.
- 22. The Planning Department is now conducting the Urban Design Study for the New Central Harbourfront, under which the permanent location and design ideas for the future re-assembly of the Pier will be examined through extensive public engagement activities. Reconstruction of the old Star Ferry clock tower and re-assembly of Queen's Pier at their original location would be one of the options to be considered in the Study. Public engagement has already commenced in early May 2007. Physical models and other illustrative materials showing the design ideas and locations of the clock tower and the Pier would be made to facilitate further public engagement activities. The Study is scheduled for completion by end 2007.
- 23. If the chosen location is on land and is cleared of the planned infrastructures, we plan to start the proposed works in item 6(c) around December 2009 for completion around December 2010.
- 24. If the re-assembled Pier is to resume its marine function, gazettal under the Foreshore and Sea-bed (Reclamations) Ordinance and marine piled foundation will be required. The proposed works in item 6(c) will then start around December 2010 for completion around December 2011.
- 25. If the Pier is to be re-assembled at its original location (or in other position similarly in conflict with the proposed Airport Railway Extended Overrun Tunnel (AR EOT)), advance works for the AR EOT will be required. The advance works will take about two years to complete. We will then start the proposed works in item 6(c) around December 2011 for completion around December 2012. Road P2 will also need to be re-aligned with time required for gazettal.

#### **Advice Sought**

Members are requested to note the detailed plan and timetable to preserve Queen's Pier pursuant to approval of funding for the works by the Finance Committee at its meeting on 15 June 2007 upon recommendation of the Public Works Sub-Committee.

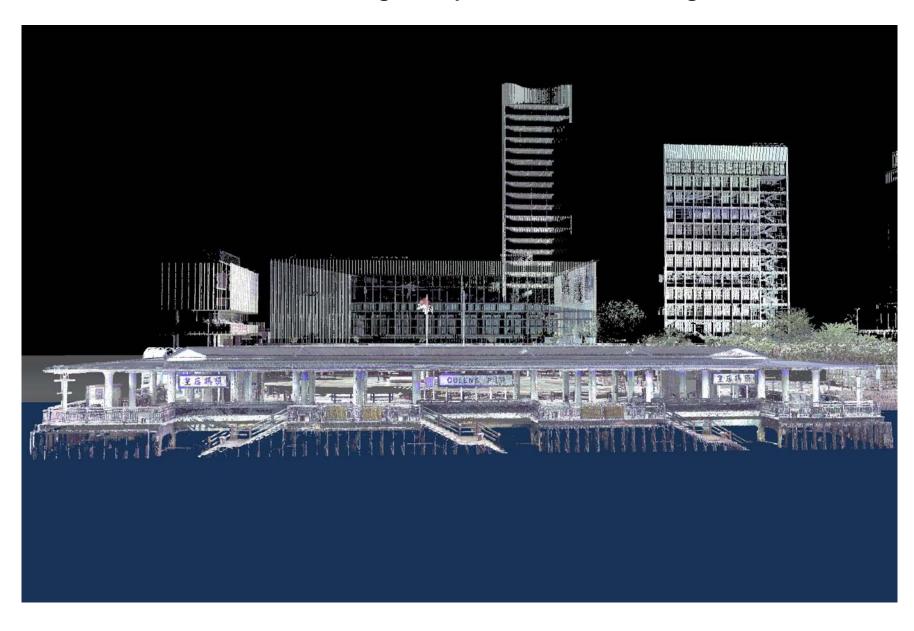
Development Bureau Civil Engineering and Development Department Planning Department Architectural Services Department

## 中環塡海計劃第三期合約 – 塡海安排 CRIII Contract – Reclamation Phasing



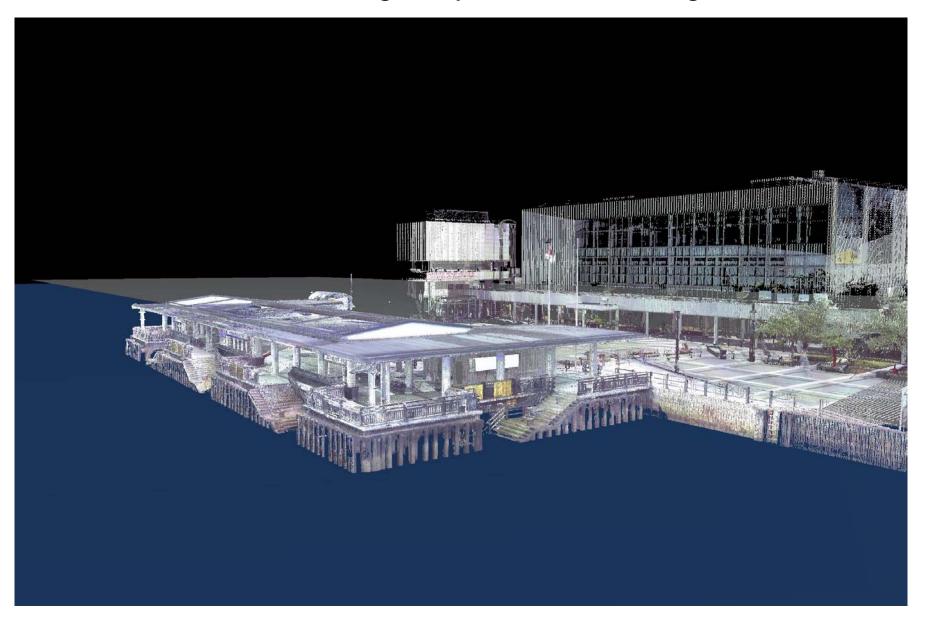
#### 皇后碼頭 - 激光掃描的立體影像 Queen's Pier - 3D Images by Laser Scanning

附件 B Appendix B (sheet 1 of 2)

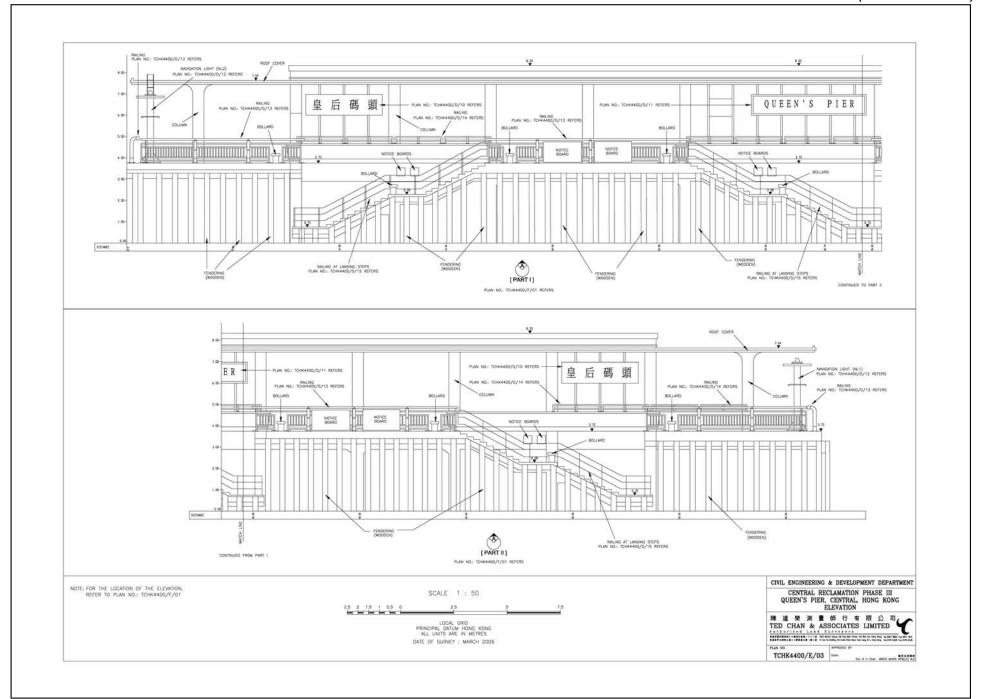


#### 皇后碼頭 - 激光掃描的立體影像 Queen's Pier - 3D Images by Laser Scanning

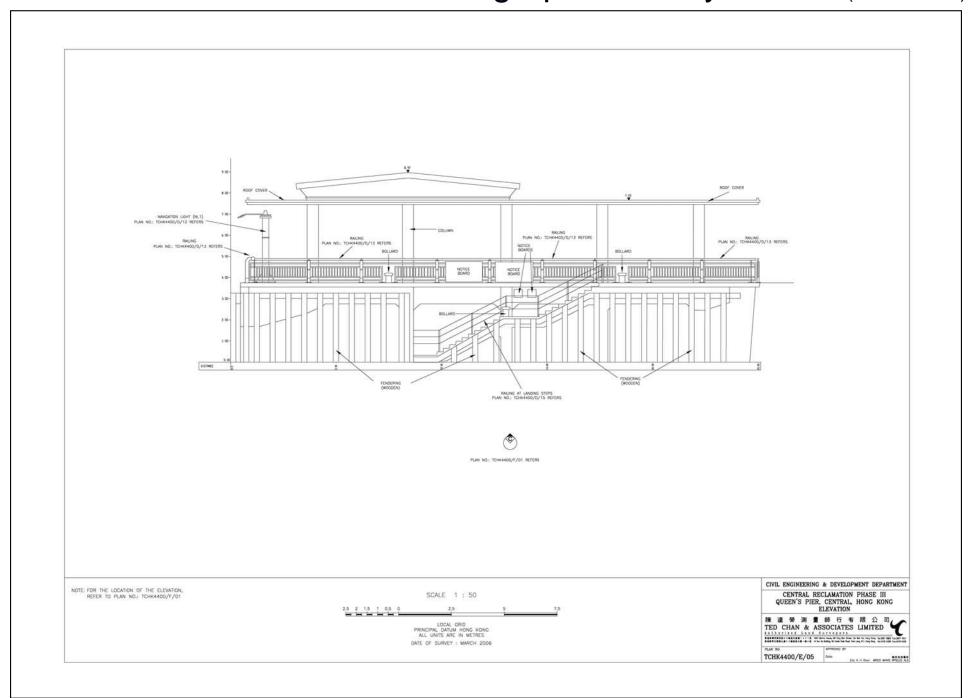
附件 B Appendix B (sheet 2 of 2)



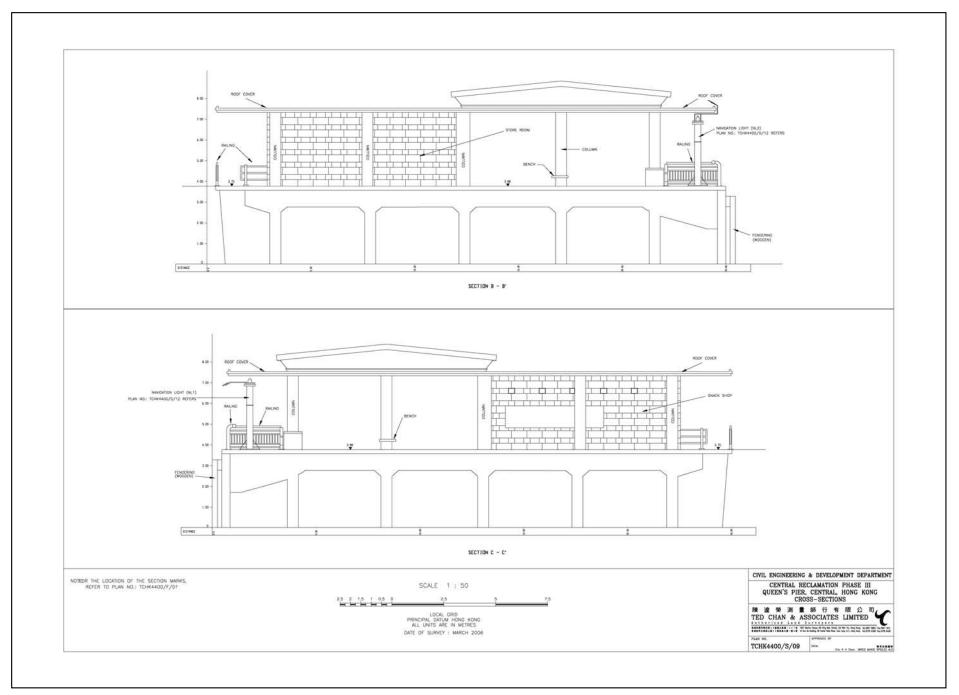
附件 C Appendix C (sheet 1 of 7)



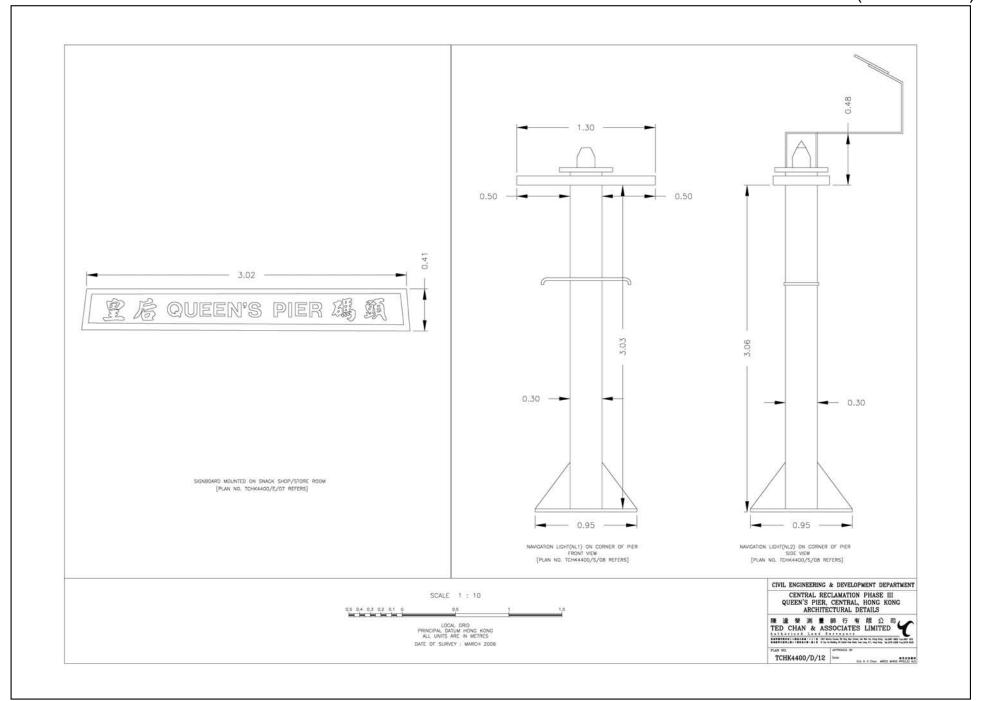
附件 C Appendix C (sheet 2 of 7)



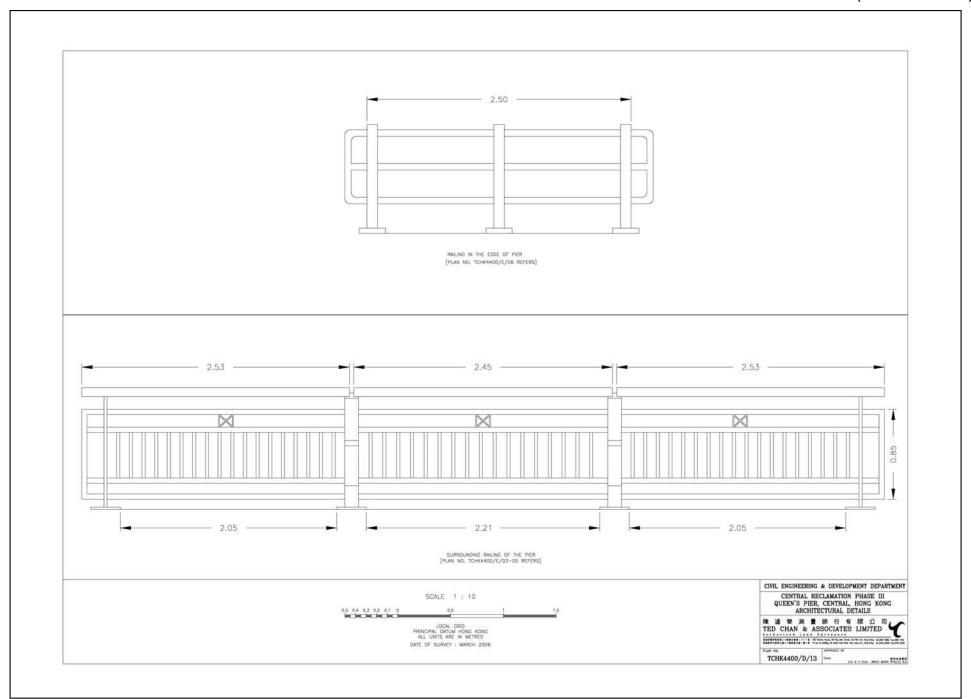
附件 C Appendix C (sheet 3 of 7)



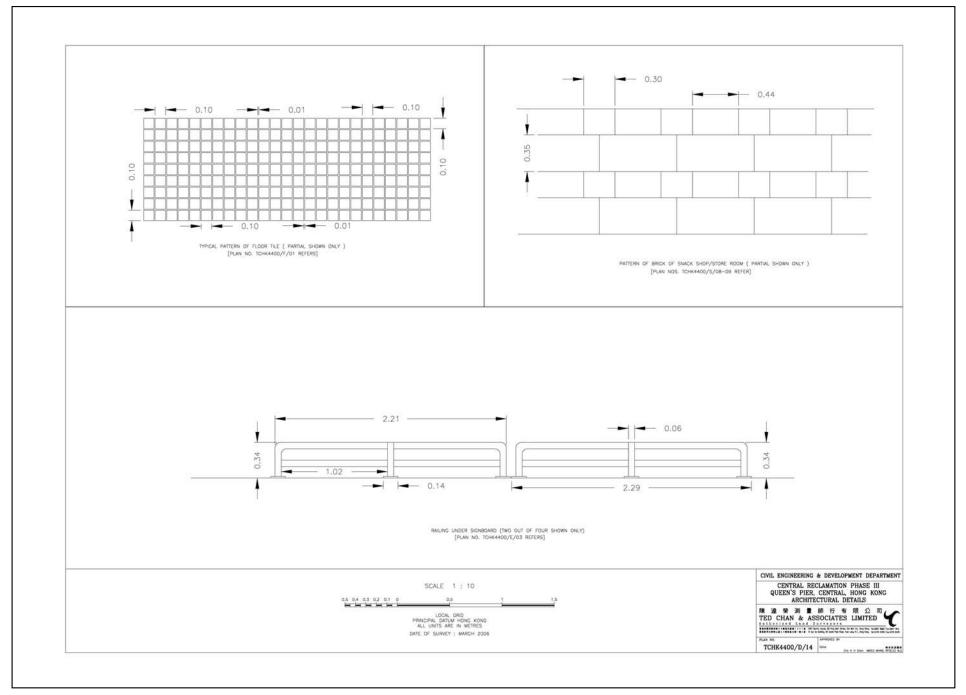
附件 C Appendix C (sheet 4 of 7)



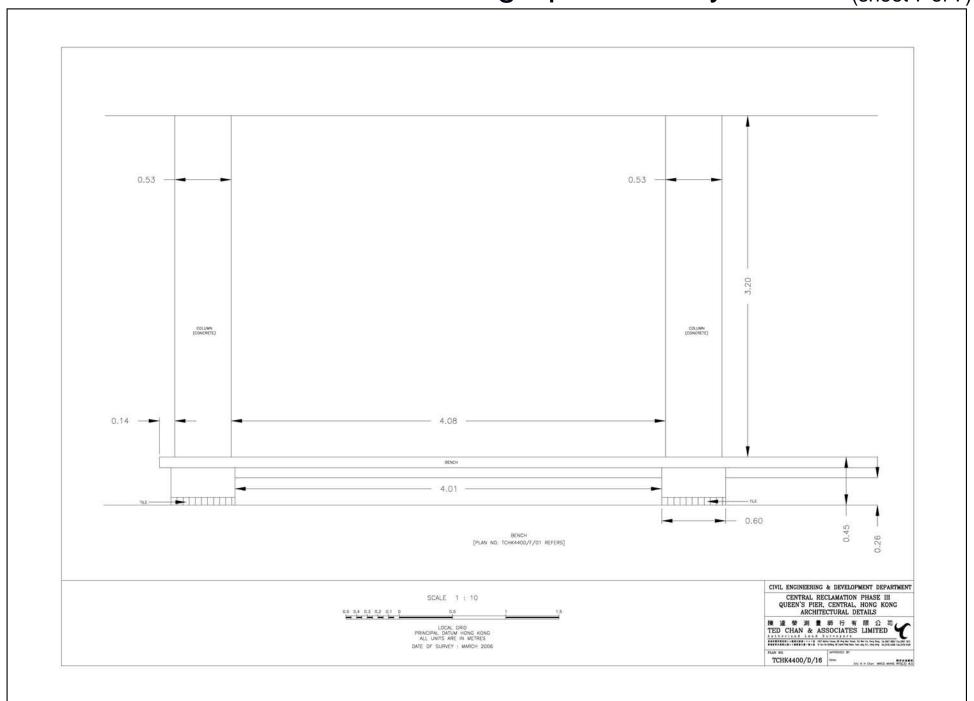
附件 C Appendix C (sheet 5 of 7)

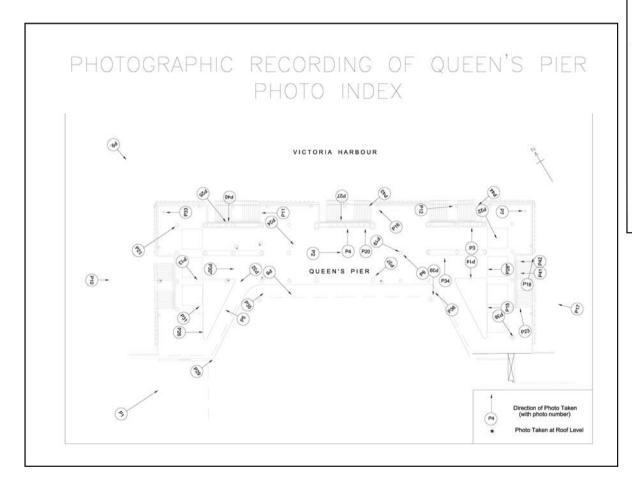


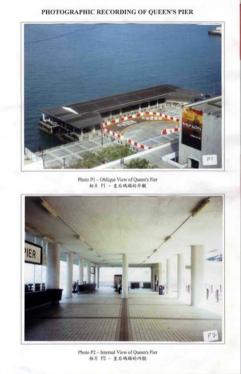
附件 C Appendix C (sheet 6 of 7)



附件 C Appendix C (sheet 7 of 7)







附件D Appendix D (sheet 1 of 6)



附件D Appendix D (sheet 2 of 6)









附件D Appendix D (sheet 3 of 6)





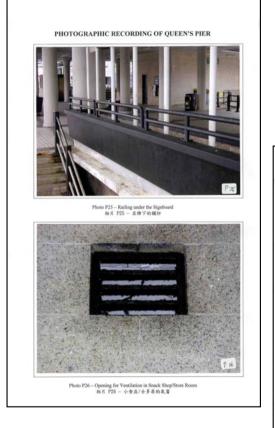




附件D Appendix D (sheet 4 of 6)

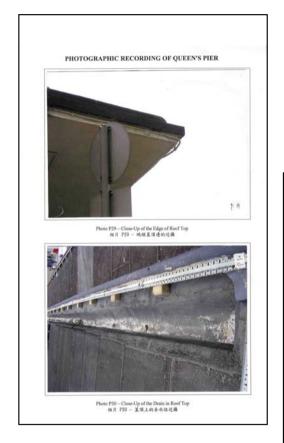








附件D Appendix D (sheet 5 of 6)









附件D Appendix D (sheet 6 of 6)





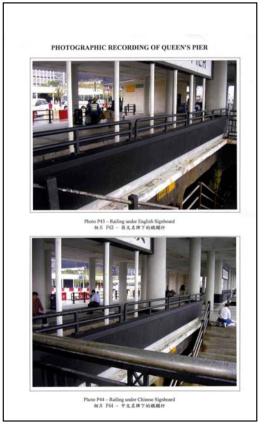
Photo P37 - Another Type of Column in Pier 相見 P37 - 基質內另一種柱



Photo P38 - Another Type of Column in Pier 相其 P38 - 瑪頭內另一種柱

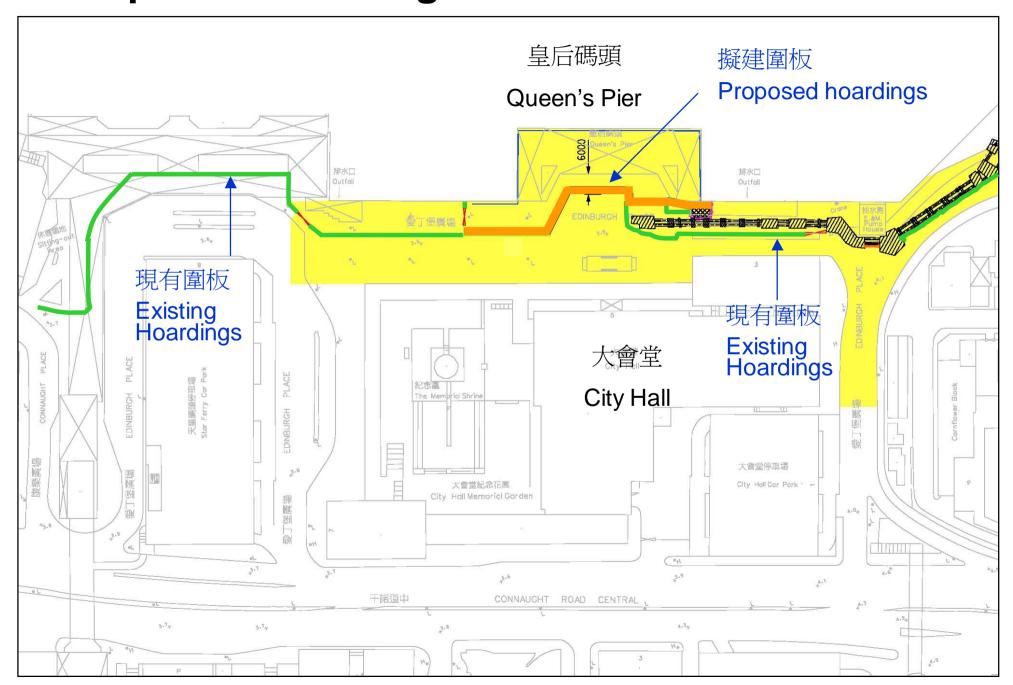






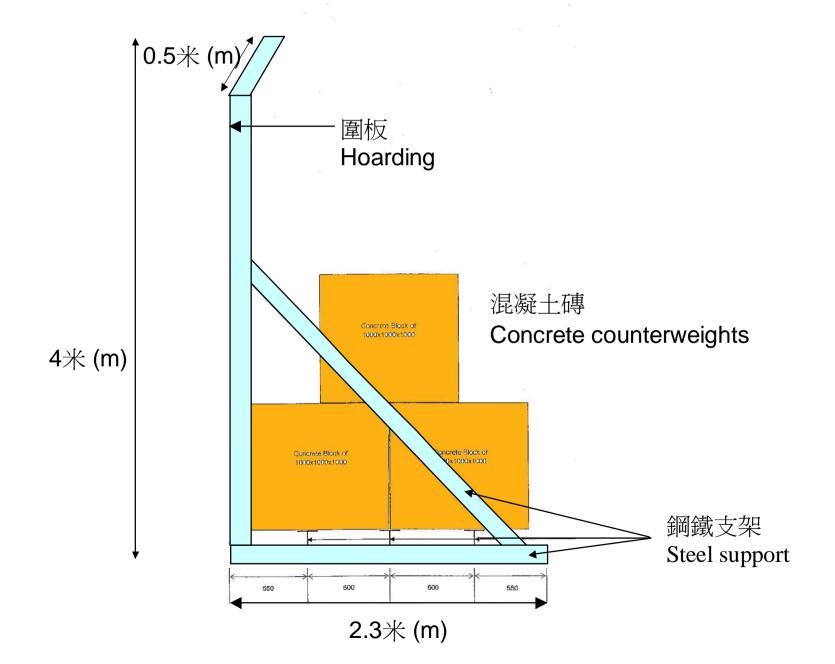
## 皇后碼頭擬建圍板平面圖 Proposed Hoarding Plan at Queen's Pier

附件 E Appendix E (Sheet 1 of 2)



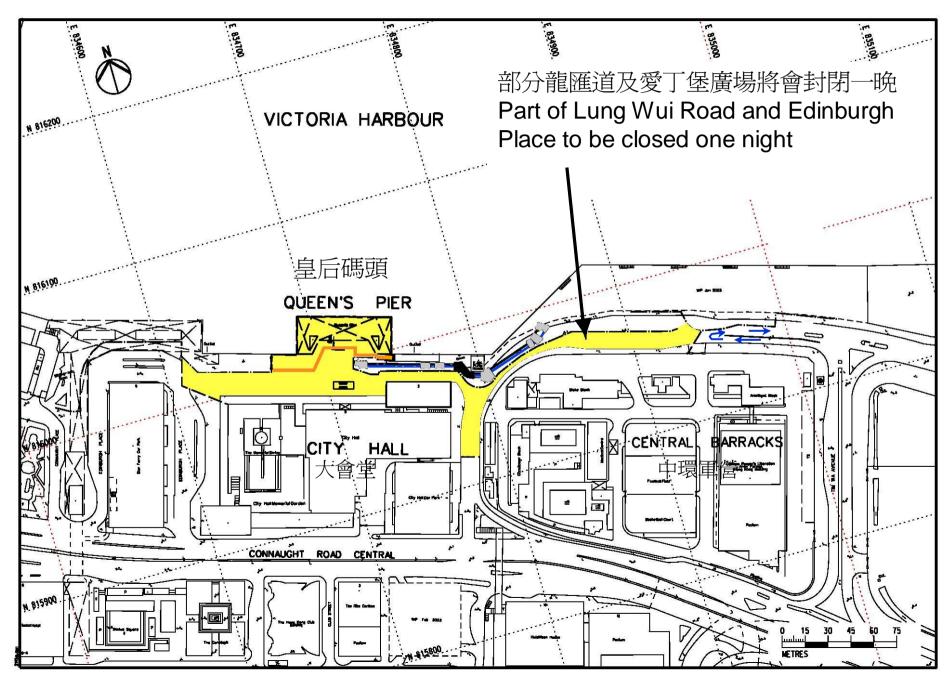
# 擬建圍板切面圖 MAPPENDIX E Appendix E Cross- section of Proposed Hoardings (Sheet 2 of 2)

附件E



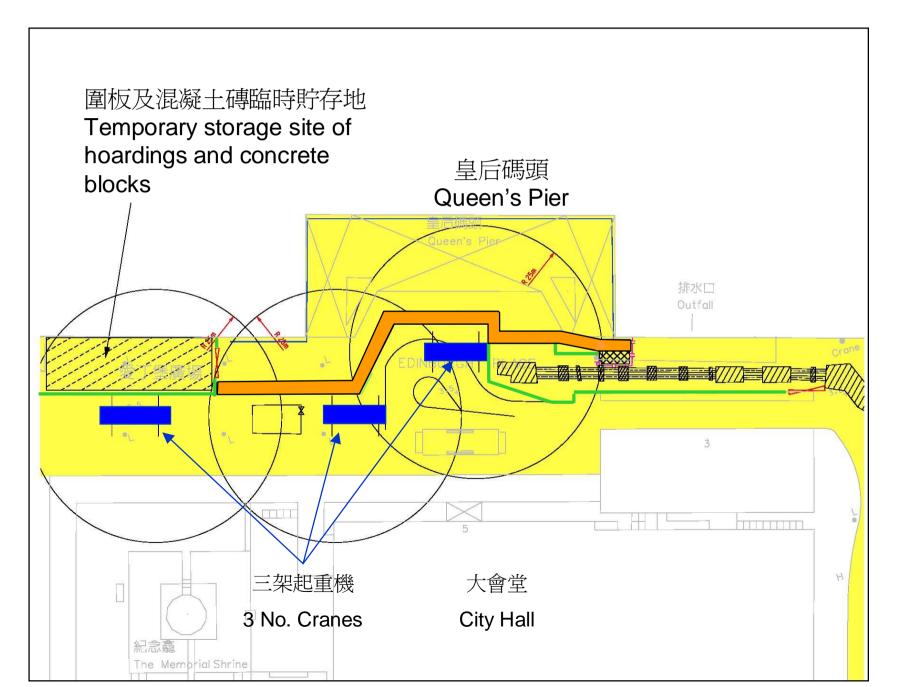
## 圍板安排 Arrangement of Hoardings

附件 F Appendix F (Sheet 1 of 2)



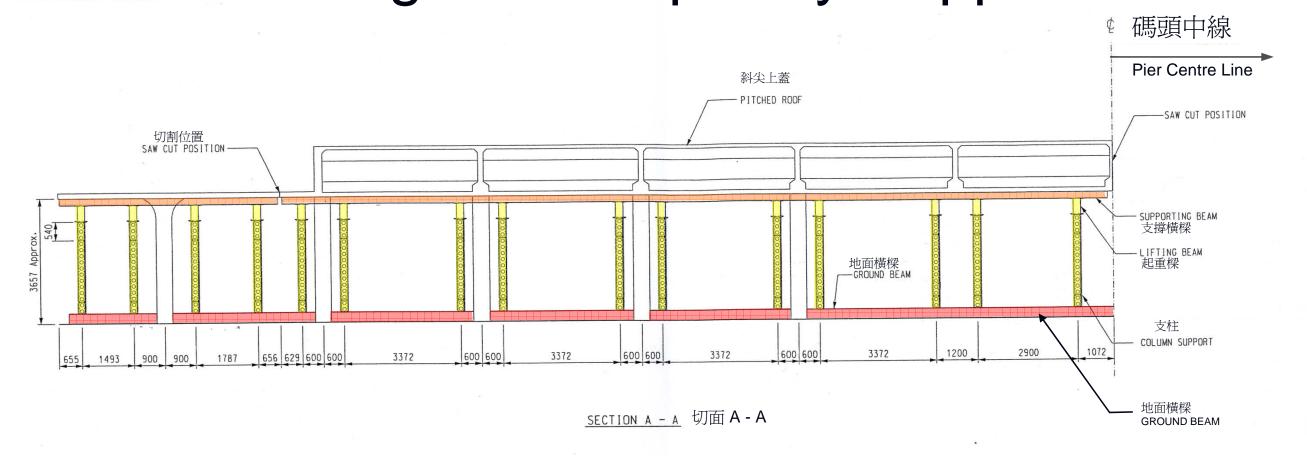
#### 附件 F Appendix F (Sheet 2 of 2)

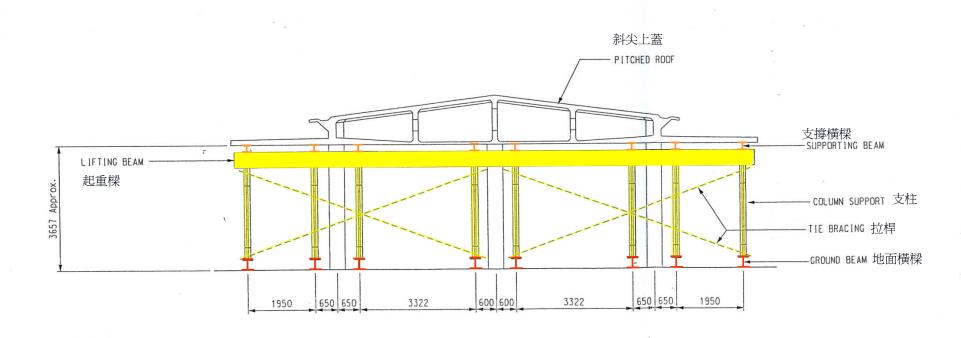
# **童板安排**Arrangement of Hoardings

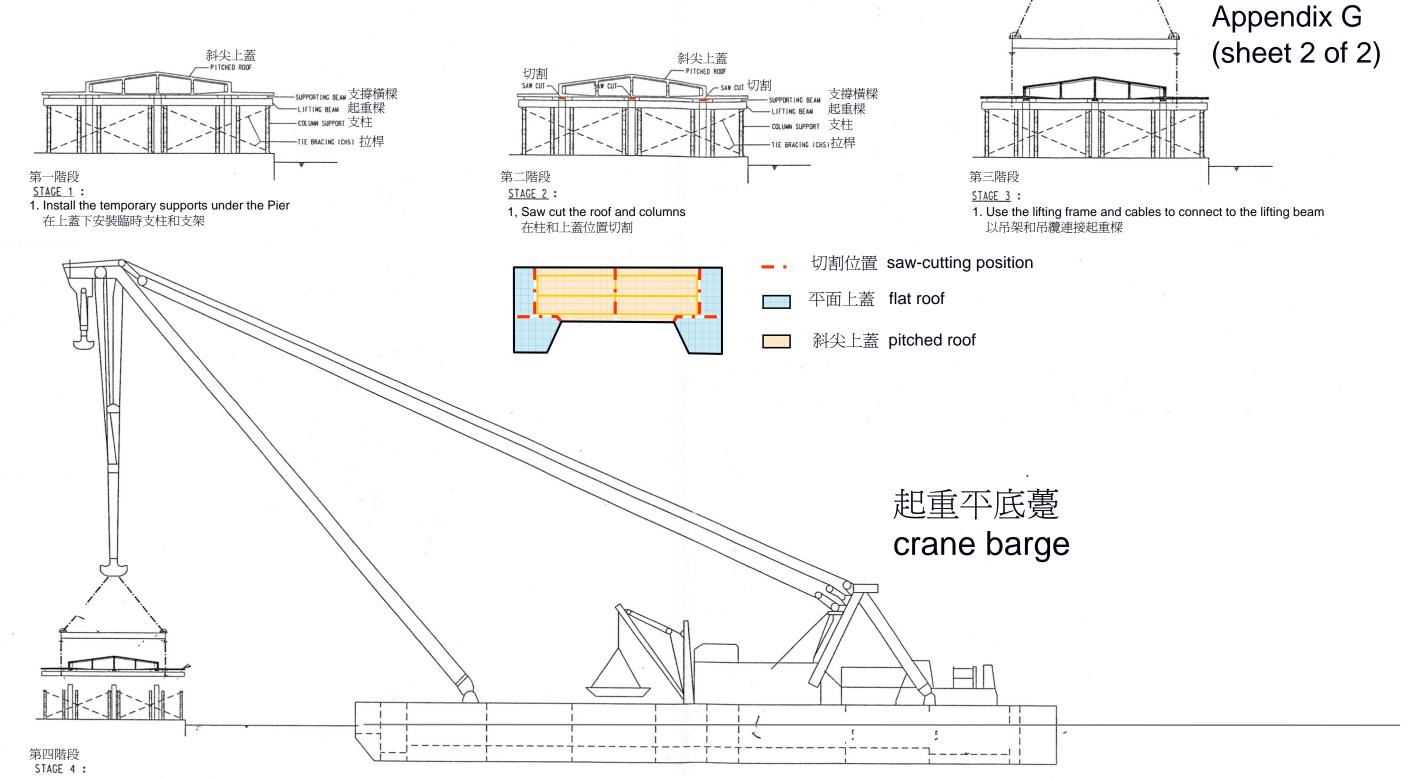


## 臨時支架設計 Design of Temporary Support

附件 G Appendix G (sheet 1 of 2)







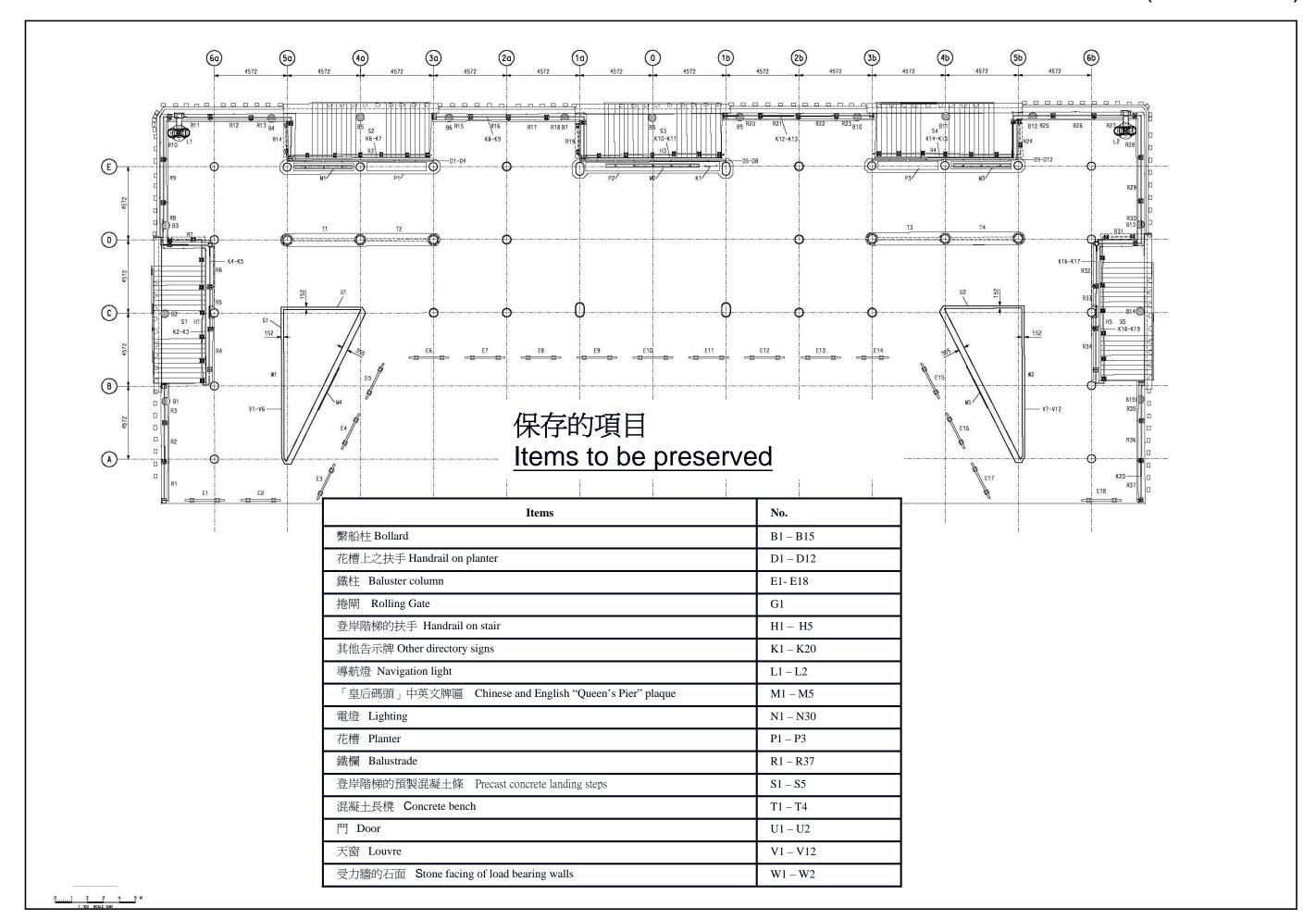
附件G

1. Use crane barge to lift the roof panels and store on the barge 以起重機吊升上蓋並放於平底躉

## 臨時支架設計 Design of Temporary Support

## Preservation of the metal wares and non-structural parts

附件 H Appendix H (sheet 1 of 4)



#### Preservation of the metal wares and non-structural parts



繫船柱 Bollard



其他告示牌 Other directory sign



花槽上之扶手 Handrails on planter



其他告示牌 Other directory sign



鐵柱 Baluster columns



其他告示牌 Other directory sign

#### Preservation of the metal wares and non-structural parts



登岸階梯的預製混凝土條及扶手 Precast concrete landing steps and handrails



「皇后碼頭」中文牌匾 Chinese "Queen's Pier" plaque



導航燈 Navigation light



「皇后碼頭」英文牌匾 English "Queen's Pier" plaque



「皇后碼頭」中英文牌匾 Chinese and English "Queen's Pier" plaque

#### Preservation of the metal wares and non-structural parts



花槽 Planter



混凝土長櫈 Concrete bench



鐵欄 Balustrades



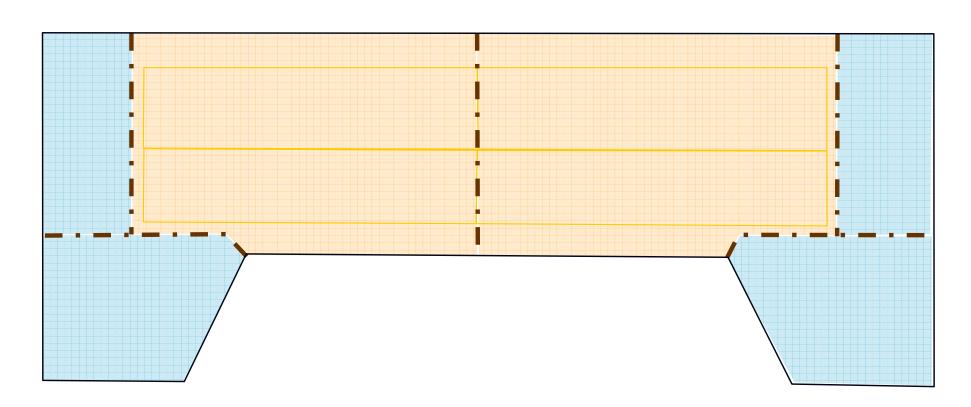
受力牆的石面 The stone facing of the load bearing wall

#### 碼頭上蓋的保存 Preservation of the Roof

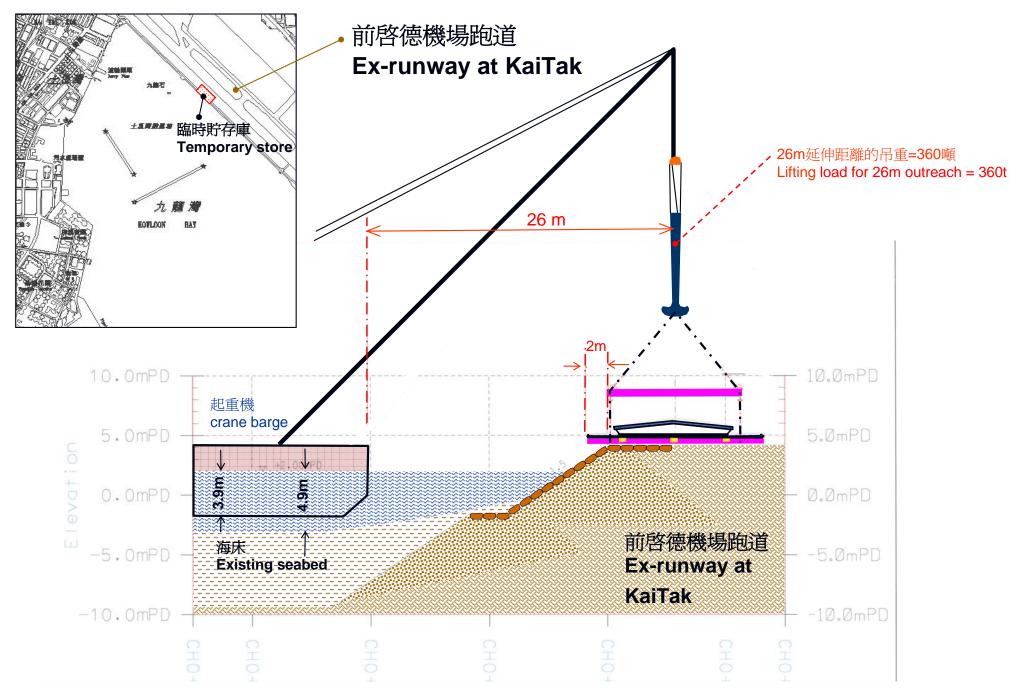
- · - 切割位置 saw-cutting position

平面上蓋 flat roof

新尖上蓋 pitched roof



## 啓德臨時貯存庫 Kai Tak Temporary Store

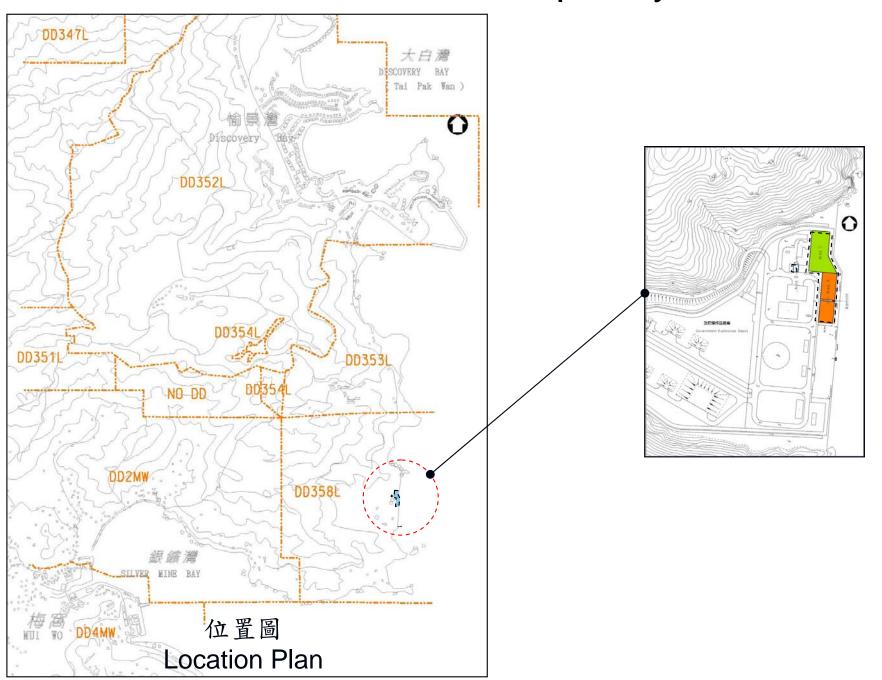


附件K 將軍澳臨時貯存庫 Appendix K



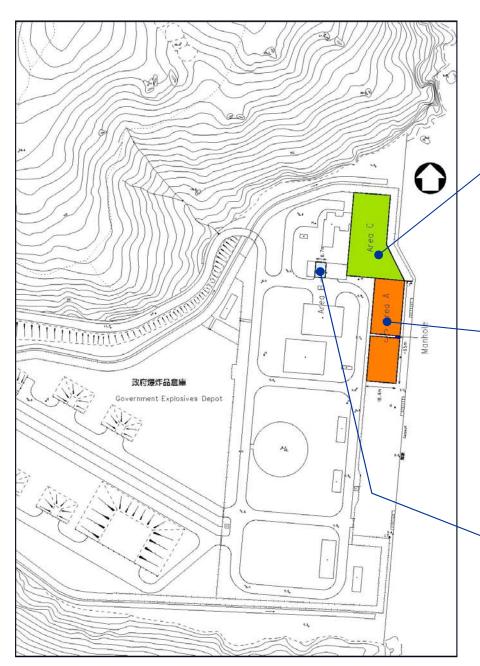
## 大嶼山臨時貯存庫 Lantau Island Temporary Store

附件 L Appendix L (sheet 1 of 2)



## 大嶼山臨時貯存庫 Lantau Island Temporary Store

附件 L Appendix L (sheet 2 of 2)





C區 (貯存平面上蓋和柱) Area C (storage of flat roof & columns)

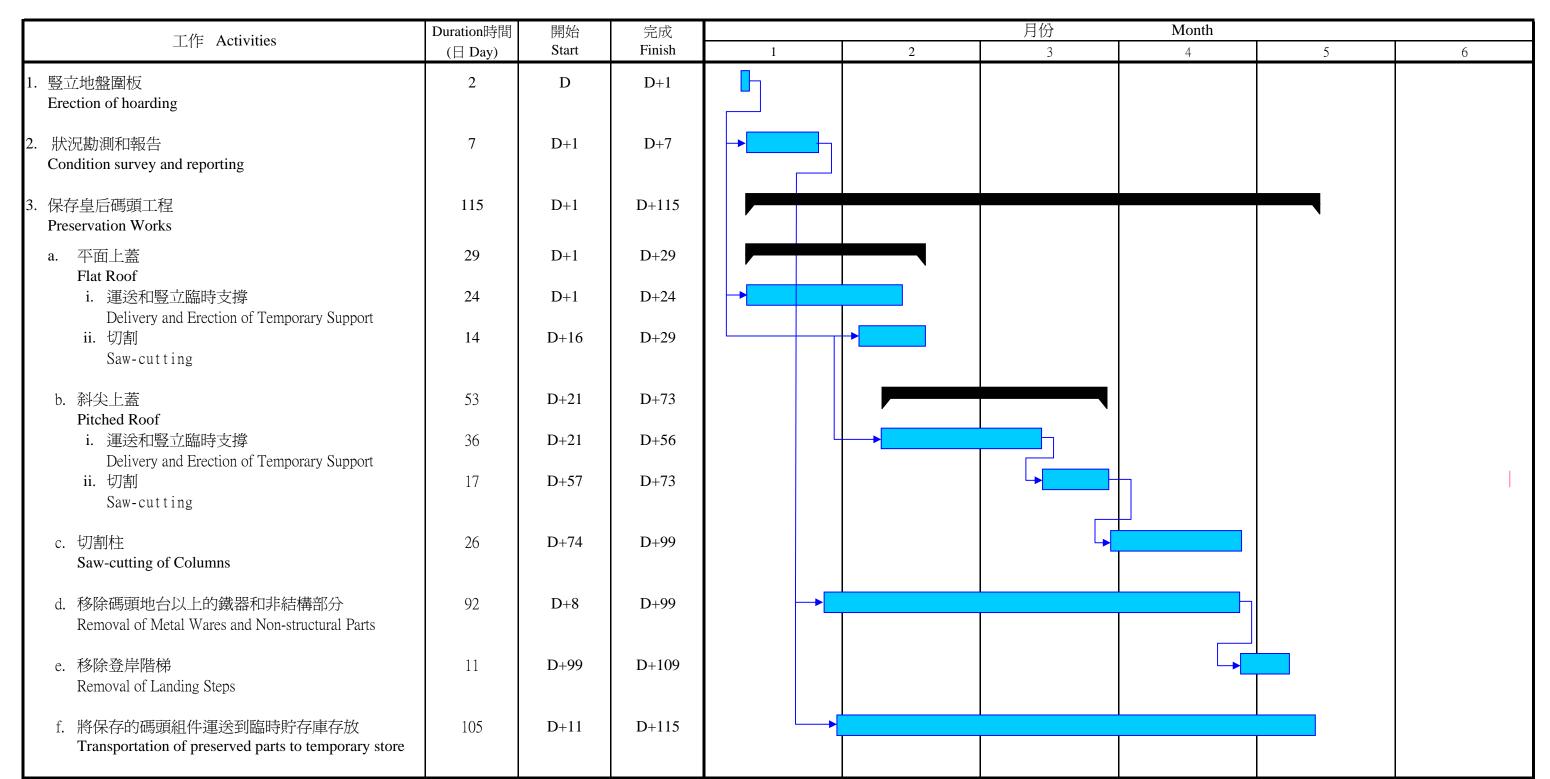


A區 (貯存斜尖上蓋和柱) Area A (storage of pitched roof & columns)



B區 (貯存鐵器和非結構部分) Area B (storage for metal wares and non-structural parts

保存皇后碼頭 - 工程時間表 Preservation of Queen's Pier - Implementation Programme



#### 附註Notes:

1. 確實日期視乎工地和天氣情況。
Actual dates depend on site and weather conditions.

## 主要工作目標日期 <u>Target Dates for Main Activities</u>

	主要工作	目標日期 Target Date	
	Main Activity	開始 Start	完成 Finish
1.	豎立地盤圍板	D	D+1
	Erection of hoarding		
2.	狀況勘測和報告	D+ 1	D+7
	Condition survey and reporting		
3.	運送和豎立平面上蓋的臨時支撐	D+1	D+24
	Delivery and erection of temporary		
	supports for flat roof		
4.	切割平面上蓋	D+16	D+29
	Saw-cutting of flat roof		
5.	運送和豎立斜尖上蓋的臨時支撐	D+21	D+56
	Delivery and erection of temporary		
	supports for pitched roof		
6.	切割斜尖上蓋	D+57	D+73
	Saw-cutting of pitched roof		
7.	切割柱	D+74	D+99
	Saw-cutting of columns		
8.	移除碼頭地台以上的鐵器和非結構部分	D+8	D+99
	Removal of metal wares and		
	non-structural parts		
9.	移除登岸階梯	D+99	D+109
	Removal of landing steps		
10.	將保存的碼頭組件運送到臨時貯存庫存放	D+11	D+115
	Transportation of preserved parts to		
	temporary store		

#### 附註 Notes:

1. 確實日期視乎工地和天氣情況。

Actual dates depend on site and weather conditions.