

LOCAL VESSELS ADVISORY COMMITTEE

Central-Wan Chai Bypass (CWB)

**Options for Reprovisioning of Affected Moorings and Anchorages
During Construction of the CWB Tunnel Construction at the
Causeway Bay Typhoon Shelter (CBTS)**

Important Notes

This paper was prepared solely for discussing the reprovisioning arrangement for moorings and anchorage affected by the construction of the Central-Wan Chai Bypass Tunnel at the Causeway Bay Typhoon Shelter. It is not intended to, and should not, be relied upon by any other party that either the Tunnel Option or any other option is the preferred option for the construction of CWB.

Purpose

During construction of the proposed Central - Wan Chai Bypass (CWB) at the Causeway Bay Typhoon Shelter (CBTS), certain parts of the mooring and anchorage space in the typhoon shelter will be occupied at times during the construction period. After investigation, six options are identified to address the reprovisioning requirements. These include both on-site and off-site reprovisioning proposals of the affected mooring and anchorage areas in the CBTS. The purpose of this paper is to seek members' views on the proposed re-provisioning options

Background

2. The proposed Central - Wan Chai Bypass (CWB) is the missing link in the east-west strategic highway running along the northern shoreline of Hong Kong Island. It is of paramount importance to resolving the existing serious traffic congestion in this part of the Island.

3. CWB will pass through the Causeway Bay Typhoon Shelter (CBTS) in the form of a tunnel. Certain parts of the mooring and

anchorage space in the typhoon shelter will be occupied at times during the construction period. According to the original plan in 2007, a temporary typhoon shelter immediately north of the existing CBTS was proposed to provide sheltered space for the affected vessels.

4. The proposed temporary typhoon shelter comprises a temporary breakwater and temporary piled wave walls which will be removed with the seabed reinstated upon completion of the works in the CBTS. This proposal and the road scheme for the CWB were gazetted under the Roads (Works, Use and Compensation) Ordinance on 27 July 2007 (Gazette Notice GN 4767).

5. In response to a judicial review, the Court of First Instance (CFI) ruled on 20 March 2008 that the Protection of the Harbour Ordinance (PHO) was applicable to all reclamations whether permanent or temporary, including the reclamations associated with the proposed temporary typhoon shelter and breakwater.

6. In line with the CFI's judgment on the application of the PHO to temporary reclamation, it is now necessary to demonstrate that the reclamations associated with the proposed temporary typhoon shelter and breakwater can meet the 'overriding public need test' laid down by the Court of Final Appeal. Alternative means for reprovisioning of affected moorings and anchorages, including off-site reprovisioning, have to be duly considered. Public views and those of the stakeholders on the reprovisioning arrangements have to be equally considered.

7. Since April 2008, the public have been consulted on the method of construction for the CWB tunnel at the CBTS and the associated temporary reclamation. There was general support for the proposed temporary reclamation required for the tunnel construction although there were questions concerning matters of details. The extent of impact, during the construction stage, to the affected vessels within the CBTS and the various reprovisioning options can thus be assessed based on the proposed staging of construction sequence.

Existing Situation

8. The CBTS occupies a total water area of some 18ha. At present, the CBTS provides shelter for pleasure and operational vessels

together with some dwelling vessels and miscellaneous local crafts. As at April 2008, around 570 vessels use the CBTS as a base.

9. An aerial view of the existing typhoon shelter with layout of three distinct mooring/anchorage areas is attached at **Annex A**:
 - The south-western triangle (**RHKYC Mooring Area**) contains moorings licensed to the Royal Hong Kong Yacht Club (RHKYC) for pleasure vessels. The water area occupied by the RHKYC moorings is around 3 ha holding approximately 152 vessels.
 - The northern triangle (**Private Mooring Area**) contains individually licensed moorings allocated by Marine Department (MD) for private vessels. This water area is around 4.4 ha and 152 vessels are permitted to lay mooring within this area.
 - The south-eastern triangle (**Anchorage Area**) occupying a water area of approximately 2.6 ha, is mainly used as an anchorage by work vessels, dwelling vessels, floating workshops and various local/miscellaneous crafts. Approximately 200 vessels are anchored in this area.

10. In the CBTS, a number of isolated vessels are found moored/anchored outside the above mooring/anchorage areas. There are altogether 12 licensed moorings and some 55 vessels anchored along the Causeway Bay Promenade seawall.

Reprovisioning Options

11. The CWB tunnel will be constructed by cut-and-cover method using diaphragm walls, which is the only practically feasible and safe method of construction. However, this cut-and-cover method requires the construction of a working platform above water level by means of temporary reclamation. These CWB construction works, including the contractor's works area, will impinge upon the anchorage area in the south-eastern corner of the CBTS (Anchorage Area) and upon the northern and south-western licensed moorings areas (Private and RHKYC Mooring Areas). **Annex B** shows the full extent of the CWB construction works. In all, roughly 100 vessels in the Anchorage Area and around 180

vessels in the Private and RHKYC Mooring Areas will be directly affected by the CWB construction works.

12. To maintain the effective operation of the CBTS and to minimise the number of affected vessels that will be disturbed by the construction works, and to enable water circulation within the typhoon shelter, the CWB tunnel construction works will be carried out in stages, with construction works commencing at both the eastern and western ends of the typhoon shelter and progressing inwards. Vessels in these areas will need to be temporarily relocated in stages to facilitate this staged construction of the CWB tunnel and the associated temporary reclamation. An illustrative construction staging plan for the works and the associated number of vessels affected at the CBTS is attached at **Annex C**. The total number of vessels affected in each stage of construction would be different, with the maximum of around 190 vessels (110 mooring vessels and 80 anchorage vessels) being affected at one time.

13. In formulating various reprovisioning options, it is necessary to take into consideration the following:

- the PHO implications;
- disturbance to CBTS users;
- social impacts;
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- the urgent need for early relief to the existing serious traffic congestion; and
- impacts to the CWB construction programme.

14. **Option 1: On-Site Reprovisioning Using Temporary Typhoon Shelter**

14.1 Option 1 is same as the originally proposed works for the CWB and Island Eastern Corridor Link project published in Gazette Notice 4767 on 27 July 2007. All the vessels within the affected mooring and anchorage areas would be relocated to the temporary typhoon shelter immediately north of the existing CBTS.

14.2 With a temporary rubble mound breakwater and two temporary piled wave walls, a sheltered area of 3.9ha would be created as illustrated in **Annex D**. This arrangement would provide adequate sheltered mooring/anchorage area to meet the reprovisioning requirement during the construction period. Upon completion of the tunnel construction, the

breakwater and the wave walls would be removed and the seabed reinstated.

14.3 Pros of this option:

- (a) No significant disturbance to the CBTS users in their business and recreational activities. Affected mooring and anchorage vessels would be moved to the temporary typhoon shelter immediately outside the CBTS but still within the Victoria Harbour.
- (b) No impact on the planned CWB construction programme.

14.4 Cons of this option:

- (a) In light of the CFI's ruling that the presumption against reclamation does apply to the temporary typhoon shelter and breakwater, it is necessary in compliance with PHO implications to first identify any reasonable alternative to the proposed reclamation (i.e. "no reclamation" option). This option might proceed if no other reasonable alternative involving no/less reclamation is available.

15. Option 2: On-Site Reprovisioning within Works Area

15.1 In this option, the principle of on-site reprovisioning is retained, but without the temporary typhoon shelter. Instead, the 1.9ha ex-PCWA basin (maximum capacity to accommodate around 110 vessels) would be used as temporary sheltered mooring area. Moreover, the existing Private Mooring Area would be more efficiently used by filling up the existing vacant space outside the construction works areas with a maximum capacity for around 50 vessels.

15.2 However, in using the ex-PCWA basin as mooring space and due to the limited water area available, there would be insufficient mooring/anchorage space to accommodate the number of vessels affected under the originally planned construction programme. In view of the capacity constraint, the CWB construction programme would be increased. It would result in a significant delay of at least 2 years.

15.3 In addition, the whole of ex-PCWA basin is not a proper typhoon shelter and would not be able to provide the same level of protection as

the CBTS during typhoon. Reclamations associated with some form of breakwater would be required to provide the same level of protection to the vessels. This again would have PHO implications and its justification would need to be demonstrated to comply with the ‘overriding public need test’.

15.4 Pros of this option:

- (a) No significant disturbance to the CBTS users in their business and recreational activities. Affected mooring and anchorage vessels would be moved to temporary locations within the CBTS or the adjacent ex-PCWA basin in stages according to the construction sequence. They would be still located within the Victoria Harbour.

15.5 Cons of this option:

- (a) PHO implications of the temporary breakwater, if the same level of typhoon shelter protection is to be provided.
- (b) The revised construction staging for this option would prolong the overall construction programme for at least 2 years. Such delay to the overall CWB construction programme would have significant impact to the society as a whole.
- (c) The economic consequences of the 2-year delay to the opening of the CWB, in monetary terms of the continuing traffic delays, would be significantly large.

16. **Option 3: Staged Off-Site Reprovisioning for Different Groups of Vessels Affected by Different Stages of Construction Works**

16.1 In general, the construction staging for off-site reprovisioning is similar to that as described in paragraph 12 above and Annex C.

16.2 Off-site reprovisioning can make up for the decrease in mooring/anchorage area in the CBTS during the CWB construction period. Similar to Option 2, the number of vessels required to be re-located off-site could first be reduced by filling up the existing vacant mooring space outside the works area within the Private Mooring Area which can accommodate a maximum of around 50 vessels.

16.3 The affected anchorage vessels are proposed to be temporarily relocated to the Aberdeen Typhoon Shelter (West) (ABDTS(W)) or other available sheltered areas. The ABDTS(W) has a spare capacity of around 3.8ha, which can readily accommodate all of the 100 affected vessels from the CBTS Anchorage Area.

16.4 The affected private and RHKYC moorings are proposed to be temporarily relocated to other existing typhoon shelters and sheltered areas, such as the Aberdeen Typhoon Shelter (South) (ABDTS(S)), Cheung Chau, Middle Island, Tai Tam Bay and Plover Cove (east of Yim Tin Tsai) with a total capacity for around 200 vessels. Details of vacant moorings for pleasure vessels in typhoon shelters and sheltered anchorages are shown in **Annex E**. At present, the ABDTS(S) has spare capacity for private moorings which can accommodate about 100 to 130 pleasure vessels (depending on the length of the affected vessels) from the CBTS licensed mooring areas.

16.5 Re-locating only those affected vessels in each stage of construction may appear to be a fair arrangement. However, this would involve the relocation of both mooring and anchorage vessels in all the three mooring/anchorage areas in the CBTS. During different stages of construction, different groups of affected vessels would have to be relocated to different typhoon shelters for different durations and return back to the CBTS after the next group move out. Different vessels would have to be temporarily relocated to different areas at during times with different durations. Relocating a total of about 180 mooring vessels and 100 anchorage vessels in 4 stages would involve complicated logistical arrangements and disrupt a large numbers of the CBTS users.

16.6 Pros of this option:

- (a) No temporary reclamation is required. No PHO implications.

16.7 Cons of this option:

- (a) Cause major disturbance to part of the CBTS Anchorage Area users and part of the CBTS Private and RHKYC Mooring Area users (pleasure vessels).
- (b) Involve complicated logistical arrangements and extensive disruptions to a large numbers of the CBTS users.

- (c) Cutting the social and economic ties of some of the anchorage users would create adverse impact on their livelihood.
- (d) The use of water space within ABDTS(W) will affect commercial and fishing vessels using this area as their base of operation.

17. Option 4: Off-Site Reprovisioning of the Anchorage Area

17.1 To avoid the disturbance to a large number of CBTS users at different stages, an alternative is to relocate the vessels in only one of the three mooring/anchorage areas throughout the whole construction period.

17.2 In Option 4, all vessels in the Anchorage Area are proposed to be temporarily relocated to the ABDTS(W) or other available sheltered areas. The ABDTS(W), with 3.8ha spare capacity, can readily accommodate all of the vessels in the Anchorage Area.

17.3 The affected vessels in the Private Mooring Area and RHKYC Mooring Area would then be accommodated in the vacant Anchorage Area and other parts of the CBTS which would not be affected by the CWB staged construction.

17.4 Pros of this option:

- (a) No temporary reclamation is required. No PHO implications.
- (b) No significant disturbance to the affected vessels in the Private and RHKYC Mooring Areas as they could still stay in the CBTS.

17.5 Cons of this option:

- (a) Cause disturbance to the business operation of the Anchorage Area users (local crafts).
- (b) Cutting the social and economic ties of the anchorage users would create additional adverse impact on their livelihood.
- (c) The relocation of anchorages to the ABDTS(W) will affect the existing commercial and fishing vessels using this area as their base of operations and might generate conflicts between the

existing and relocated users, such as conflicting berthing arrangement.

- (d) Some of the Anchorage Area users worried that the vessels, in particular the older ones, may not be able to cope with the relocation required at different stages of reclamation.

18. **Option 5: Off-Site Reprovisioning of the RHKYC Mooring Area**

18.1 In Option 5, all vessels mooring in the RHKYC Mooring Area are proposed to be temporarily relocated to the ABDTS(S) and other typhoon shelters.

18.2 The affected vessels in the Private Mooring Area and Anchorage Area would then be accommodated in the vacated RHKYC Mooring Area and other parts of the CBTS which would not be affected by the CWB staged construction. There are at present 152 private vessels mooring in the RHKYC Mooring Area. Option 5 would disperse all these vessels from the RHKYC Club House on Kellett Island. This would disrupt the operation of the RHKYC and affect their sports and harbour events, such as yacht races and other activities that are held regularly within and outside the Victoria Harbour. In addition, moorings in the ABDTS(S) would need to be re-arranged to make space for the reprovisioning to accommodate the mooring of the RHKYC vessels in one group.

18.3 Pros of this option:

- (a) No temporary reclamation is required. No PHO implications.
- (b) No significant disturbance to the affected vessels in the Private Mooring Area and the Anchorage Area as they could still stay in the CBTS.

18.4 Cons of this option:

- (a) Private vessels in the RHKYC Mooring area would be relocated to the ABDTS(S) and other typhoon shelters. It would cause disruption to the operation of the RHKYC and its sports and harbour events.

- (b) Moorings in the ABDTS(S) would need to be rearranged to make space for accommodating the mooring of the RHKYC vessels in one group.

19. Option 6: Off-Site Re provisioning of the Private Mooring Area

19.1 All vessels in the Private Mooring Area are proposed to be temporarily located to other existing typhoon shelters. The current spare capacity for private moorings in the ABDTS(S) can accommodate the majority of the pleasure vessels from the Private Mooring Area. The remaining vessels would be temporarily relocated to other typhoon shelters or sheltered areas.

19.2 The affected vessels in the RHKYC Mooring Area and the Anchorage Area would then be accommodated in the vacated Private Mooring Area.

19.3 Pros of this option:

- (a) No temporary reclamation is required. No PHO implications.
- (b) No significant disturbance to the affected vessels in the Anchorage Area and the operation of the RHKYC as they could still stay in the CBTS.

19.4 Cons of this option:

- (a) Pleasure vessels in the Private Mooring Area would be relocated to the ABDTS(S) and other typhoon shelters. It would cause disturbance to their recreational activities.

Public Engagement

20. Public participation is essential in the process of reaching a lawful, reasonable and viable option for the re provisioning of the moorings/anchorages. We had carried out discussion sessions with the CBTS users during 6 to 17 September 2008 seeking their views on the above six options. In addition questionnaires were issued to all CBTS users to collect their views for further analysis.

21. Members are invited to give their views on the above described reprovisioning options for the affected moorings and anchorage at the CBTS. Other suggestions from members, if any, are also welcomed.

Highways Department
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Annex

- Annex A An aerial view of CBTS with layout of three distinct mooring/anchorage areas
- Annex B Mooring/anchorage areas directly affected by construction works
- Annex C Illustration of anticipated construction stages and associated number of vessels affected
- Annex D Originally proposed temporary typhoon shelter/breakwater

- Annex E Schedule of vacant moorings for pleasure vessels in typhoon shelters and sheltered anchorages