

**Views from the Hong Kong Institution of Engineers
on “Arrangements for preservation of the Queen’s Pier”
for submission to LegCo Panel on Planning, Lands and Works**

The Hong Kong Institution of Engineers has reviewed the four proposals identified by the Administration for preserving the Queen’s Pier and would like to submit below our views on them.

2. You may be aware that our representative has been invited by Government to join the previous meetings convened by the Civil Engineering and Development Department (CEDD) to discuss the methods for preserving the Pier and given his technical advice on the different options which have been considered by Government during the consultation and decision-making processes.
3. In this submission our views on the constructability of the proposals in regard to the possible costs, time and technical implications are summarised hereunder for further consideration of the Administration:

Proposal	The HKIE View
<p>Proposal (a): In-situ preservation by shifting the alignments of the planned infrastructure works which are in conflict with the Queen’s Pier</p>	<p>The Institution considers it technically infeasible to change the alignments and levels of the planned Airport Railway Extended Overrun Tunnel (AR-EOT) in particular due to the constraints imposed by the existing overrun tunnel of the Hong Kong Station and the provision of the cross-overs required for the turn back of trains. Shifting Road P2 to avoid the Queen’s Pier would involve gazetting and the necessary statutory procedure which would include resolution of objections, if any, and all these procedures will likely take at least one year or longer, causing substantial delay and consequential prolongation costs under the Central Reclamation III (CRIII) Contract..</p>
<p>Proposal (b): In-situ preservation by filling the void underneath the Pier by sand/grouting; constructing the underground EOT and drainage culvert by underpinning and tunneling method; and constructing a temporary road to buy time for completing the statutory procedures for the amendment scheme of Road P2</p>	<p>In view of the substantial width of the AR-EOT beneath the Queen’s Pier, underpinning the Pier for the construction of the AR-EOT is not considered to be a practical solution due to space problems. Additionally, there are great concerns that owing to the ageing of the Pier structure the process would impose high risks of damage to some of its parts during the course of construction. This is an extremely high risk option from the constructability point of view. Because of the complications of the method of construction and the nature of the high risk, there will be significant extra costs and time implications associated with it under the CRIII Contract which must be seriously considered by</p>

Proposal	The HKIE View
	Government. Further the proposal to construct a temporary road will also involve gazetting and the related statutory procedure and will not achieve the purpose of buying time for the amendment scheme of Road P2.
<p>Proposal (c): In-situ reinstatement by rolling the superstructure (roof and columns) away for construction of the underground infrastructure and rolling it back upon completion of the construction; and shifting Road P2 away from the Queen's Pier</p>	<p>This option involves removing the roof and columns of the Pier and then replacing them in-situ all by the 'rolling' method after the underground infrastructure works beneath the Pier foundation have been completed. Due to the large size and the slim structural form of the rooftop and the great difficulty in synchronisation of load transfer of 34 columns, the Institution considers that it is extremely difficult and of high risk to remove the structure in one piece. Differential movements can arise and damage to the structure is likely susceptible during the 'rolling' process. This is an extremely high risk option from the constructability point of view. Similar to Proposal (b), because of the complications of the method of construction and the nature of the high risk, there will be significant extra costs and time implications associated with it under the CRIII Contract which must be seriously considered by Government.</p>
<p>Proposal (d): Preserve the above-ground structure of the Pier as far as practicable and store for reassembling in close proximity to its original location or at other appropriate location</p>	<p>Among the four proposals, the Institution considers that Proposal (d) is a practical way forward and a feasible and pragmatic option which will have the least costs and time implications with much greater assurance in the satisfactory completion of the works from the constructability point of view. With the fact mentioned above in proposal (c), removing the Pier in one piece is extremely difficult and of high risk, we are therefore contended that it is more sensible to dismantle the Pier structure piece by piece and reassemble them afterwards.</p>

4. The views provided above on the four proposals are mainly focused on the technical and the associated financial point of view in facilitating Government's decision making. They have not included any other factors which Government may wish to take into account in reaching a decision. We remain of the view that while Government has the duty to ensure that heritage buildings loved by the public are justifiably preserved it must not overlook the fact that it also has the responsibility to avoid excessive public spending. It is therefore important that a balance must be struck in finding an amicable solution to the problem.

5. The Institution also considers that Queen's Pier should be preserved as a pier at an appropriate location along the new seawall of CRIII where the public can fish and watch the ships go by. Proposals (b) and (c) which preserve the pier at some 300m from the shoreline cannot achieve this purpose. Therefore apart from the reason of constructability, this is an additional reason that HKIE would prefer proposal (d) to (b) and (c).