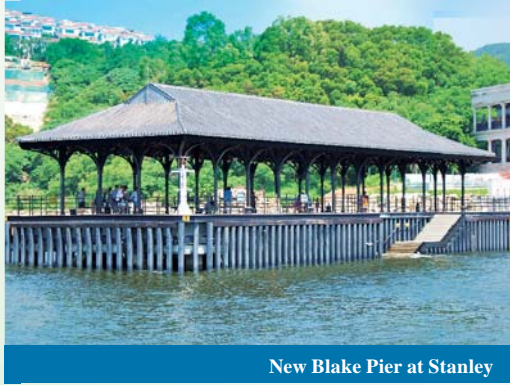




Civil Engineering and Development Department
The Government of the Hong Kong
Special Administrative Region



New Blake Pier at Stanley



Ma On Shan Waterfront Promenade



Sai Kung New Public Pier



Port and Marine Services

CONSTRUCTION OF MARINE WORKS

We design and construct various types of marine works, including public piers, waterfront promenades and projects under the Pier Improvement Programme.

We also carry out improvement works to some existing public piers and landing facilities, such as Tap Mun Pier and Sharp Island Pier.

In the past few years, we completed the construction or reconstruction of the following piers:

- New Star Ferry Piers
- Central Public Piers No. 9 and No. 10
- New Blake Pier at Stanley
- Trio Beach Public Pier
- Sai Kung Public Pier

Other projects completed in the past few years include the construction of a riverwall at Yat Chung in Tai O, the seawall upgrading works for the Ma On Shan Promenade and the widening of Tung Wan Tau Road along Silver Mine Bay Beach in Mui Wo.

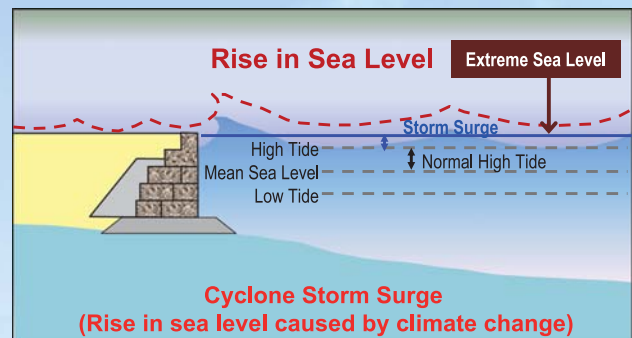
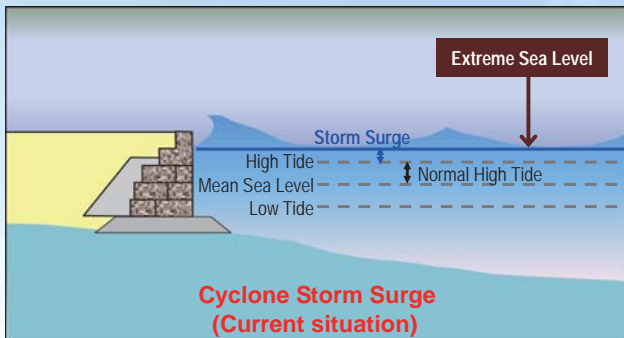


Improvement works to Sai Kung Public Pier



Tai O riverwall

CLIMATE CHANGE AND ITS IMPLICATIONS ON COASTAL STRUCTURES



Rise in sea level due to climate change in addition to cyclone storm surge may cause flooding in the coastal area

Under the influence of climate change and rise in sea level, it is believed that the frequency of occurrence of extreme sea level events and coastal flooding will increase. The wave height and wave loading experienced by coastal infrastructure may become more severe.

To understand the potential implications of climate change on coastal structures in Hong Kong and ascertain necessary updating of the current design standards, we completed a study on Review of Studies on Climate Change and its Implications on the Design of Coastal Structures in June 2013.

Subsequent to the publication of the Fifth Assessment Report (AR5) by the Intergovernmental Panel on Climate Change (IPCC) in September 2013, we commissioned the Climate Change consultancy in December 2013 to further review and update the findings of the previous study. Taking into account the prediction on sea level rise and increase in wind speed under the study, we are in the process of updating the current design standards in the Port Works Design Manual.

In respect of climate change adaptation and resilience, we have commissioned a consultancy study in April 2017 to holistically examine the scope of enhancement works necessary for strengthening the resilience of existing critical infrastructures under the effects of climate change and extreme weather.

ADVISORY SERVICES

We provide technical advice related to marine works including the examination of public and private development submissions and land use proposals which may affect marine facilities. We also operate hydraulic models of the Hong Kong Harbour and undertake regular reviews of the Port Works Design Manual.

MAINTENANCE OF MARINE FACILITIES

We maintain 109 beacons, 127 km of seawalls, and 317 piers (including public piers, as well as franchised and licensed ferry piers).

We carry out routine inspections of marine facilities to ensure that they are safe for public use.



Kowloon Bay Breakwater



Concrete repair works at the pier



Rambler Channel Beacon



If the facilities are found in need of repair, we will arrange maintenance works, including concrete repair, fender repair and upgrading, and protective coating works to the marine facilities. To minimise disruption to ferry services and inconvenience to the public, we provide temporary berths or carry out the maintenance works after peak hours to maintain their operation.

Upgrading of hardwood timber fenders to plastic or rubber fenders for marine facilities is in progress. This initiative not only enhances the durability of the fenders, but is also more environmentally friendly.

The Port Maintenance Information System (PMIS) has been implemented to cope with the growing demand for storage and prompt retrieval of information on the increasing number of marine structures we maintained.



Fender upgrading works at the pier

The PMIS is a computerised database with all the essential history and records of individual marine structures. It enables us to respond to enquiries quickly and facilitates our planning, prioritisation and scheduling of maintenance works. The inspection and maintenance process is also streamlined by the use of equipment compatible with the PMIS, which allows our staff to efficiently carry out regular inspections and immediately prepare works orders for the necessary maintenance works in the field.

MAINTENANCE DREDGING

We carry out regular maintenance dredging of fairways, anchorage areas, typhoon shelters and major river outlets to ensure navigation safety. Major maintenance dredging works have been carried out in Northern Fairway, Kwai Tsing Container Basin, Reserved Dangerous Goods Anchorage, Kellett Anchorage, Tuen Mun Typhoon Shelter, Shing Mun River and Tuen Mun River in recent years.

During our dredging works, we work closely with the Marine Department and the Environmental Protection Department to mitigate the marine traffic and environmental impacts. The dredged material will be disposed of at approved disposal sites for open sea disposal or confined marine disposal according to its contamination level.

The annual expenditure for maintenance of marine facilities and dredging is about \$80 million.

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