

# The Pearl – Qatar



*The Pearl – Qatar, layout plan.*

The Pearl – Qatar project involved detailed design of the reclamation works for the 400 hectares new island requiring approximately 13.5 mill m<sup>3</sup> of fill and the associated sea defence structures for the 40 km of new shoreline.

Numerical hydrodynamic model studies were completed to determine the hydrodynamic design basis.

The development includes private beaches along most of the perimeter which adds to the aesthetics and exclusiveness of the development. Different concepts have been developed to create a variety of beach environments that are optimised to suit the local conditions and requirements.

Along the shores facing north and east relative long pocket beaches have been introduced. The sand is retained between large groyne structures. Private open beaches have been separated by beach breakwaters at one of the shorelines facing southwest. Generally terraced beaches have been used where the

wave impact is oblique and an open beach would be eroding. The terraced type consists of a low crested revetment behind which a sand beach is constructed.

Concrete blockgravity quay walls are applied in the western cove and along the channels in the Venice type development at the north-west shore to facilitate mooring of boats and to create the confined channel system.

Each Pearl Quay Island features private beach, harbour and terraced beach fringed by a low crested revetment.



*Terraced beach concept.*



*Terraced beaches.*

## Services:

- Bathymetric survey
- Geotechnical site investigations
- Environmental management plan
- Design basis
- Conceptual design
- Detailed design
- Tender and contract documents

Project period: 2003 - 2004

Client: United Development Company (UDC)



*Beach breakwaters.*