



**AL MOUJ, MUSCAT AERIAL PHOTOGRAPH**

This project aerial photograph shows the marina harbour, the quay walls, the reef breakwater (2 km long), the reclaimed land, the new township, and some beach groynes.



**QUAY WALL AND CAPPING BEAM**

The nearly 3 km long quay wall and capping beam were built to demarcate the marina and provide mooring facilities.

Stainless steel access ladders can be seen.



**QUAY WALL UNITS INSTALLATION**

Sarooj's crawler crane assisting in the installation of quay wall units and casting of capping beam.

The crane is parked in a convenient location to launch the HDPE intake pipeline that feeds the ponds and lakes with seawater.

**CORE-LOCK PROTECTION**

A view of the reef breakwater crown.

It shows the final layer of pre-cast concrete units called 'Core-Lock'. The system is patented and the units are interlocked with each other and act as a mat. Raising one of them upwards lifts all the neighbouring ones at the same time.



**AL MOUJ, MUSCAT**

Al Mouj, Muscat resort is developed along a 7 km beach plot, close to the Airport.

A major feature of the project are the marine works.

Sarooj executed these marine works in a joint venture with SNE of Lebanon.

To supply the millions of tons of rock needed, a quarry of crystallized limestone was opened and operated 40 km away from site.

The scope included the construction of main and lee breakwaters, quay wall, reef breakwater, reclamation of land using dredged material, and groynes along the beach to stabilize the sand and avoid its migration.

Furthermore, revetment works were also executed to protect parts of the golf grounds.

A hydraulic model was run by Sogreah of France to check the integrity under different simulated conditions.

It is interesting to note that we had to build a temporary harbour to moor our equipment and also to load materials on vessels serving the reef breakwater construction.

The temporary harbour was demolished and removed after completion of the project.

**MARINA BASIN**

The marina basin can be seen practically complete.

Breakwaters, quay walls, and reclaimed areas.

One could also see a section of the HDPE pipeline floating ready to be towed and sunk in its final position.

