

**Country**

France

Client

Brest Métropole Océane

Date

2003-2009

Cost of works

€26m

Sogreah's services

- ▶ Design services
- ▶ Works supervision

Description / Particularities

- Construction of two reinforced concrete breakwaters (460 m and 160 m long) founded on steel piles (contractor's alternative solution) anchored to the rock by pre-stressed tie rods;
- Guided pile-mounted floating pontoons for yachts: 2000 m total length;
- Dredging and sediment treatment on land;
- Development of reclamation areas: networks, roads, lighting.

Detailed services:

- Determination of incident waves and wave disturbance studies;
- Preliminary design (3 types of breakwater);
- Detailed design (solution involving floating breakwaters);
- Tender documents;
- Bid analysis;
- Approval of working design studies;
- Supervision of works;
- Assistance with works acceptance operations.