

# Shell Beach Marina Study and outline design

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Antigua, WI



Existing marina - Antigua

Client: DLN Consultants Inc.

Services provided:

- site assessment
- review of design requirements
- assessment of wave conditions
- concept review of breakwater requirements

A developer was interested in acquiring the site of a municipal marina to redevelop it as a private venture, whilst relocating the municipal facility to a nearby site. ENBE carried out studies to assess the suitability of the proposed relocation site and to identify any improvements that might be needed, e.g. by way of a breakwater.

Key factors to consider for feasibility of the scheme were: available water depth, exposure to wave action and navigational constraints. ENBE undertook a site inspection of both the existing marina and an identified potential site for the relocated facility. Further to this a data gathering exercise was carried out to compile information on bathymetry, wave data, tides, sea level including surge, geology and sediments. ENBE carried out wave analysis to assess the comparative exposures of the two sites. This included extreme value analysis and nearshore wave transformation to determine the vulnerability of the two sites to storm wave action.

The work progressed to initial assessment of breakwater requirements. In the event the project was not carried forward for reasons unconnected with the work.