

 Mining

## Reference Details:

**Owner** The States of Jersey Public Services Department +++ **Main Contractor** The States of Jersey Public Services Department +++ **Cavern**

**Excavation designers** Geo-Engineering (Jersey)

**DSI Services** Supply of 4000 epoxy coated DYWIDAG rock bolts dia. 25mm/26,5mm; Supply of 1,350 DYWIDAG Permanent Factory Pre-grouted Rock Anchors dia. 32mm; Supply of 1,100 steel spider.



## Historic fort straddles modern cavern development

### United Kingdom, Channel Islands: Fort Regent Storage Cavern

Fort Regent, which from its elevated position proudly dominates the harbour of St. Helier, Jersey, was built in 1806 to protect the island during the Napoleonic wars. The fort now sits above a major storm water relief scheme, currently under construction within a granite rock mass, to protect the eastern half of the town from flooding. As part of this scheme a 25,000m<sup>3</sup> storage cavern is being constructed beneath the fort. The final excavated cavern dimensions

**will be approx. 80 m long x 18 m span with an overall depth varying between 15 and 28 metres.**

The cavern, and associated access, ventilation and control works, is being constructed by drill and blast methods. The location is surrounded by both residential and commercial properties.

All excavations are being developed in stages using carefully controlled blasting methods and integrated permanent rock reinforcement. The methodology involves rapid advance techniques with the concurrent installation of DYWIDAG corrosion protected THREADBAR<sup>®</sup> rock bolts and anchors.

Almost 4,000 No epoxy coated 25mm / 26.5mm diameter DYWIDAG rock bolts will be utilised together with 1,350 no. 32 mm diameter DYWIDAG permanent factory pregrouted rock anchors all supplied by DSI UK.

In addition, DSI have supplied 1,100 No steel "spider" units which are attached to the anchor heads for reinforcement of the shotcrete cavern lining.