

**Flash flood prevention for St. Ives in Cornwall, England**

*Hauraton FASERFIX® SUPER 500 channels protect picturesque town centre.*

From the 16<sup>th</sup> century onwards, St Ives, Cornwall became a thriving fishing community. As the Cornish mining industries developed, the demand for fish to feed an expanding population allowed the town to prosper. During the 18<sup>th</sup> century, new buildings began to extend up the steep hillside and away from the harbour area with its narrow winding cobbled streets and passages. Then, with the coming of the railway in the 19<sup>th</sup> century, the town started to draw in many visitors and became a favourite location for important and well known artists.

In 1939 Barbara Hepworth settled in St Ives where she built her home and studio, Trewyn Studios. Between 1949 and 1975 she created spectacular modernist sculptures, so becoming a significant figure in the 20<sup>th</sup> century abstract art movement. Her home, studio and adjoining garden became the Barbara Hepworth Museum in 1976. This together with the opening of the Tate Gallery, St Ives on the former gas works in 1993, lead to further commercial development with the opening of many more art galleries, studios and shopping facilities. The town's popularity as a place to work, live and spend holidays in recent years has further increased the requirement for homes and the support infrastructure needed to welcome the thousands of visitors. Nowadays, the fishing has given way to a prosperous tourist industry. This picturesque town now extends way up the surrounding hillsides and along the approach roads, particularly the A3074 and B3311. With so much development, a large area of the surrounding countryside has been built on and paved over with buildings, associated access roads and car parks.

St. Ives Town Council became very concerned about the risk of flooding in the lower town. Weather fronts racing in from the Atlantic bring heavy rain fall, particularly during the winter months. This has resulted in rainwater cascading down the steep roads and into the town's narrow streets and passages. The memory of the devastating floods in neighbouring towns and the need to protect valuable real-estate gave extra urgency to the plans for a new road drainage scheme.

Hydraulics experts advised the Council that existing road drainage could be compromised during extreme rainfall events; a new drainage scheme with a very large capacity had become essential. Slotted channels were considered but rejected as it was feared the narrow slots could be easily blocked by debris and in any case the small inlet area could not cope with the predicted large quantities of water that accumulated on the town's steeply inclined approach

roads. Instead, civil engineers were looking for a drainage system with large inlet apertures. In addition, the application called for a particularly robust channel that could take the large volumes of traffic and the many delivery vehicles entering the town.

The Local Authority invited tenders for the FASERFIX® SUPER 500 channel made from fibre-reinforced concrete because it met all the design criteria: an extremely robust and rugged channel having a large drainage cross section, matched with heavy-duty ductile iron gratings to class E 600 for heavy load applications. The grating specification chosen featured three parallel rows of slots, each 20mm wide. Careful calculations were undertaken to ensure the installed system could easily cope with the very large quantity of water expected.

The building contractor, Carillion Construction, installed a total of 186 meters of FASERFIX® SUPER 500 channels across various roads leading down to the lower town in order to ensure effective flood prevention. Single, double or triple channel runs were installed across the carriageways depending on the volume of run-off water to be diverted.

The project was supported by Hauraton's technical sales engineers Andy Beirne and Steve Wiseman who provided hydraulic calculations and engineering advice during the design and installation phases. The local Building Control department, planners and the building contractor were impressed with the design support received from Hauraton and full of praise for the company's excellent cooperation and flexible service. Happily, now the new scheme is operational, even when there is heavy rainfall, all the run-off is safely diverted.



Photograph showing FASERFIX® SUPER 500

#### **Note to Editorial Teams**

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