CASE HISTORY

Marco Island Sea Wall – Florida, USA

March 1983- Following a move from Germany to a new home on a Florida island, Civil Engineer Paul Pella was faced with a structural problem common to the region – subsidence and dislocation of the protective sea walls surrounding the homes built upon the island.

Fortunately for Mr. Pella, his engineering experiences back in Europe provided him with an innovative new technology ideally suited for stabilizing these concrete structures – Cintec Anchors. The ground behind the walls consists essentially of sand, not considered an ideal medium for any form of anchorage. However the adaptability and unique features of the Cintec system overcame any potential difficulties associated with this soil type.

Consisting of a steel rod enclosed in a mesh fabric sleeve, the principle of the system is to inject a specially developed cementitios grout into the restraining sleeve of the anchor and so inflate it along its entire length. As well as providing an extremely strong mechanical bond, some liquid or 'grout milk' passes through the material membrane and bonds with the original substraight beyond.

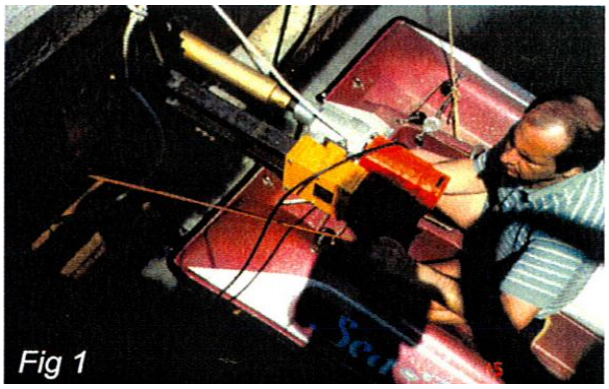
Fig 1

In the case of Marco Island, an additional wide section of expandable sleeve, or sock as it is often called, was attached to the far end of the anchor. When the grout was injected, the additional section expanded to a diameter greater than the rest of the anchor. This created a bulb deep within the soil and ensured a truly secure point of anchorage.

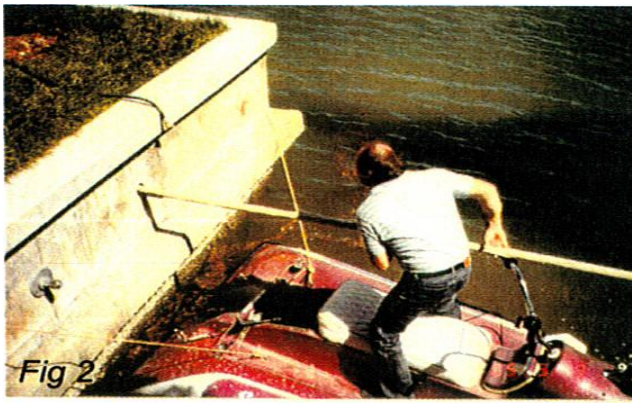
Fig 2

As can be seen in the images (right) the individual boreholes were produced by diamond core drilling, in this case with a core diameter of 65mm (2 ½") and to the length of the anchor : 3.2 meters (15ft) – Fig 1. The anchors were then installed with a plastic half pipe to facilitate their intsertion – Fig 2. Finally the anchors were injected with 'presstec' cementitous grout expanding them from their far end to the front. Although not essential, a flange – plate was laso screwed to the exposed anchor end for additional securement – Fig 3.

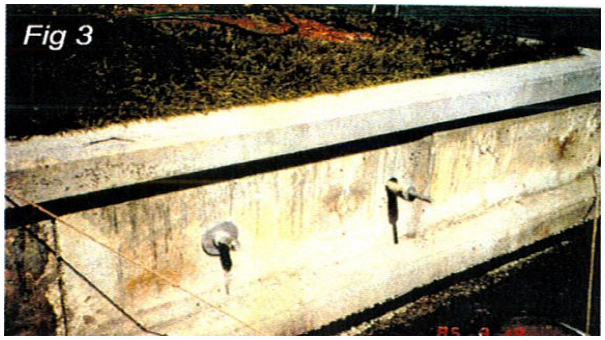
Fig 3