The method
Vertical wick drains can be used for soil stabilization in areas with compressible and water saturated soils. When loads such as road embankments, hydraulic fills or dikes are placed on soft compressible soils, significant settlement may occur and this in turn could create serious problems. MebraDrain installed, evenly spaced, into the depth of the compressible layer, will allow pore water to flow in a horizontal direction to the nearest drain and escape freely, thereby reducing the consolidation period significantly.

The project
IJburg is a new housing area for the city of Amsterdam to be built on reclaimed land. The Islands were constructed with dredged sand originating from some 25 kilometers northwards near the Flevo polder.

The start of construction was in 1999 and reclamation of the first phase was completed in 2003. Vertical drains were envisaged to accelerate the consolidation process.

Equipment
4,000,000 meters of MD7007 were installed on this project, using 2 LH954’s, 2 LH944’s, 1 RH20 and 1 RH12.

Besides standard rigs, also heavy rigs have been used to penetrate top layers of sand up to 10 meters. In some areas even pre-drilling of the top layer was executed. During the most critical phases 8 sets of equipment have been used producing up to 75,000 meters per day.

Drain configuration
Drains were installed up to a depth of 18 meters. Various triangular centre to centre distances have been used to optimize settlement in different areas.

Review
Drains have been used in a satisfactory way on the areas of roads and housing to minimize settlement during useful life.