



C O N F E R E N C E

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FEATURED SPEAKER

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LONG-TERM PERFORMANCE OF A DEEP MIXED COLUMN-WALL AT ARABIANRANTA AREA (HELSINKI, FINLAND)

District of Arabianranta (Helsinki, Finland) has been founded on an old seabed, which was filled with miscellaneous soil materials. The subsoil consists of very low shear strength clays and organic clays (gyttjas). The soil was moving towards the sea at a rate of 10...50 mm/year, because of filling on top of the soft subsoil. In the middle of 1990's it was decided to build a residential area to Arabianranta, because it is located only 5 km away from the downtown. To inhibit the movement of soil, it was planned to build this 700 m long deep mixed column-wall barrier along the shore of Arabianranta in the years 1997–2005. A lot of instrumentation and inclinometers were analyzed and it was noticed that the column-wall remains at its place and the displacement rate inside the wall has been only 0.4...4.6 mm/year after construction works. Nevertheless, the displacement of soil at the landward side of the column-wall is still 1.2...5.1 mm/year. The soil at the seaside of the barrier is also moving towards the sea 12.9...22.2 mm/year. Another problem might be displacements of soil near the places where the column-wall ends (tails).

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