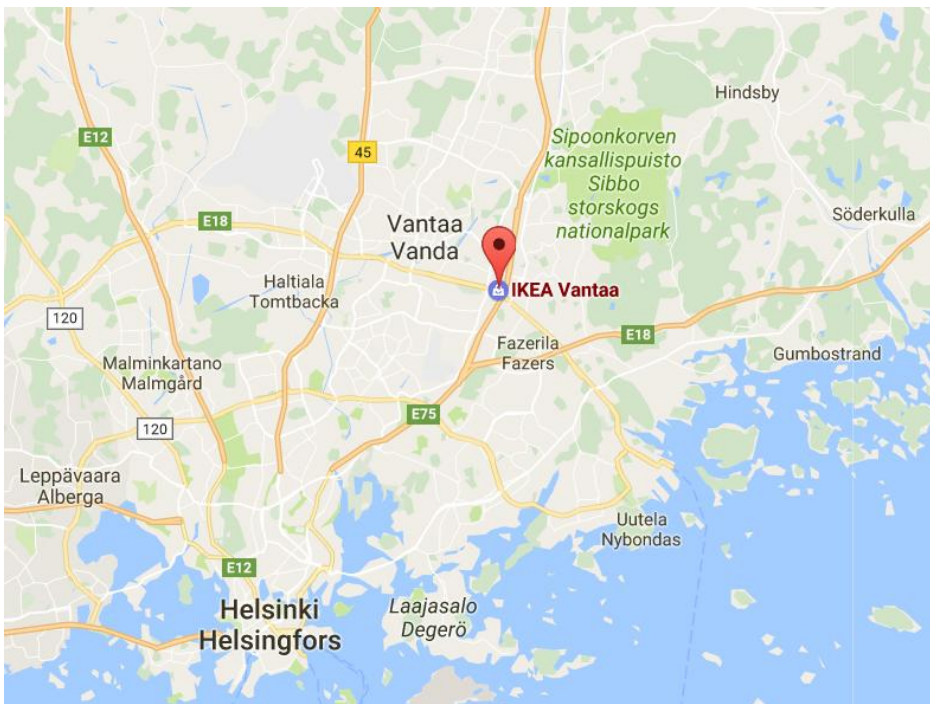


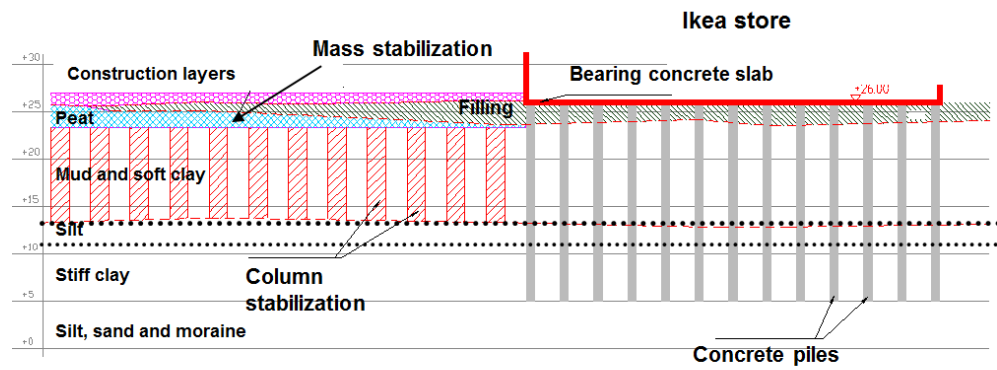
CASE IKEA VANTAA

IKEA VANTAA Vantaa, Finland Department store subgrade reinforcement	Key words: Subgrade reinforcement, field construction, deep stabilization
General information	The second department store of IKEA in Finland was chosen to be on swamp area between rocky hills. This area had previously been a landfill for secondary soil materials and construction waste. In addition, it includes part of foundation for an old highway. However, the logistical location was more important than the challenging ground conditions.
Advantages of stabilization	The department store could be built on a logistically important area with extremely difficult subsoil conditions. Despite the difficult conditions the work was completed successfully and ahead of the time schedule with mass and column stabilization techniques.
Project timetable	Test stabilization in March 2002, stabilization of parking lot and driveway areas in April 2002 - February 2003
Volumes and dimensions	Mass stabilization 65 000 m ³ , column stabilization 110 km.
Geology and stabilized material	Diverse compressible and soft soil layers between 5 and 13 meters e.g.: peat (w = 50 – 500 %), mud (w= 70 – 290 %), clay from -1 to -3 meters and below (w = 40 -140 %) and silty mid layer (w < 50 %). Under the clay layer at -9 meters there is silt / sand and finally glacial till down to -30 meters. The ground water level has varied at the depth of 1 – 1.5 meters from the ground surface.
Target strength of the stabilized material	Measured shear strengths: columns 90 kPa and mass stabilization 40 kPa after 30 days
Binder(s)	Mass stabilization: Cement; 100 kg/m ³ Column stabilization: Finnstabi® + lime + cement; 90 kg/m ³
Laboratory and field tests	Binder testing in laboratory, test soundings and drillings on the site.
Other	-
Long-term follow-up and lessons learned	Transition slab was retrofitted in 2008 to the entrance area where uneven settlements had been problem due to missing transition structures between the building on driven piles and the deep stabilized parking lot.
Sources	Koivisto, K., Forsman, J., Leppänen M. (2004), <i>Column and Mass Stabilisation of the Yards of IKEA in Vantaa, Finland</i> , Proceeding in 14 th Nordic Geotechnical Meeting. Ystad, Sweden.
Stabilization contractor	YIT



CASE IKEA VANTAA

The foundation methods used at the IKEA site



Mass stabilisation works ongoing



Ready IKEA department store and parking lot

