Elven Sted Development  
Stoughton, Wisconsin

The Geopier Armorpact™ system allowed for shallow foundations in this highly compressible organic site

Description: Construction consisted of two 4-unit apartments, one 25-unit complex, garages and outbuildings for a development built to assist working families and people with physical disabilities find affordable housing. Foundations were designed to bearing pressures up to 3,000 psf.

Subsurface Conditions: Mixed silty sand and clay fill extended to depths of approximately 3 to 6 feet below grade. Peat and organic clay was then encountered to depths of 10 feet, underlain by medium dense to dense silty sand.

Geopier Solution: Helical piers and stone columns were considered by the geotechnical engineer, but a combination Geopier® system consisting of Armorpact™ and Rampact elements proved to be the most cost-effective solution for this compressible organic site. The Armorpact elements supported the foundations, while Rampact elements were used to support lightly loaded floor slabs. Over 400 Geopier elements were installed in 14 days. The Geopier solution was verified with a modulus test during production that confirmed a stiffness of 93 pci at a pier design stress of 9,200 psf.