



## The Ice House

Hackensack, New Jersey

**Field observations over a two year period since construction of the building have revealed that the Geopier® solution has controlled foundation settlements to less than 1-inch.**

**Description:** Construction of a 2-story, reinforced concrete building housing 4 full-sized hockey rinks. The project site was previously a municipal solid waste (MSW) landfill.

**Subsurface Conditions:** While the geotechnical investigation only identified the possibility of fill soils, additional Geopier exploration drilling around the site revealed five feet of sandy soil underlain by about 14 feet of continuous solid waste that included substantial amounts of glass, metal, concrete debris, wire, automobile tires, auto body parts and engines. Groundwater occurred near the top of the landfill debris. Beneath the landfill was a native clay soil formation.

**Geopier Solution:** The original design, calling for support of only heavily-loaded columns, was redesigned to provide support of all foundations. A Geopier Rammed Aggregate Pier® System penetrated the landfill debris and terminated in the underlying



native clay. Field observations over a two year period since construction of the building have revealed that the RAPs have controlled foundation settlements to less than 1-inch.

### PROJECT TEAM

**Geopier Installer:**

GeoConstructors, Inc.

**Geopier Designer:**

GeoStructures, Inc.