



UNITED STATES

Kingsland Landfill Lyndhurst, NJ



Owner
Russo Development/Forsgate Industrial Partners

Engineer
SESI Consulting Engineers

General contractor
Russo Development

Dates of work
2019/09 2020/06

Description

Russo Development and Forsgate Industrial Partners purchased the Kingsland Tract, a 718-acre former landfill site spanning Lyndhurst, Rutherford and North Arlington, from the New Jersey Sports and Exposition Authority for \$42.5 million. The site would be built into the Kingsland Meadowlands, a logistics and e-commerce development for up to six buildings totaling more than 3 million sq ft of industrial space. The property could potentially include a solar farm and 400 acres of preserved wetlands. The Meadowlands submarket, according to Russo Development CEO Edward Russo, is one of the strongest industrial/warehouse markets in the United States.

As part of a multi-phase building initiative, a one-story, 895,148 sq-ft warehouse was proposed for the site. The facility would feature 40-ft ceilings, 142 dock doors and four drive-in doors. Due to the nature of the soils at the site – which included fill soils to a maximum depth of 30 ft – Menard Group USA was contracted to provide ground improvement. Menard would perform a dynamic compaction test program to treat the landfills and achieve deep ground densification.

Main figures
Dynamic compaction
77,962 Drop(s)

Ground conditions

The soil consisted of fill soils to a maximum depth of 30 ft. Organics were present beneath the landfill.

Solution

The dynamic compaction approach required 77,962 drops over three phases distributed across the building footprint. The compaction was achieved by using a 20-ton weight dropped from heights of 40, 50 and 65 ft feet to densify the landfill material through the generation of high-energy waves. Treatment depth was 30 ft.

Specifications for the project required a minimum of total allowable bearing slab pressure of 800 psf. The maximum column load for the spread footings was 100 kips. This is the largest dynamic compaction project performed by Menard in New Jersey to date.

To support the construction of an 895,148 sq-ft warehouse in New Jersey, Menard Group USA utilized a dynamic compaction approach to treat landfill material and achieve ground densification.