SESI
CONSULTING ENGINEERS

PROJECT:

Warehouse


Prior to Ground Improvement

LOCATION:

Lyndhurst, NJ

DEVELOPER:

Russo Development

SERVICES:

Geotechnical

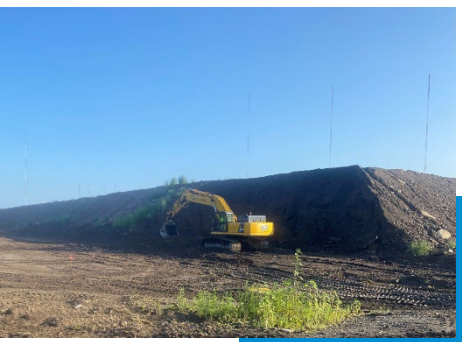
PROJECT SUMMARY:

This site was previously occupied by a landfill, active from the mid to late 20th century. Remediation efforts were performed in the early 2000s, including the removal of 250,000 cubic yards of contaminated soil and this installation of 14,000 linear feet of leachate pipe to channel and control contaminated ground water fluids. Previous developments were attempted but never came to fruition. SESI's client, Russo Development, purchased the property for $42.5 million in 2019. This valuable piece of real estate is located immediately south of Route 3 and west of the New Jersey Turnpike. The proposed development will include four warehouses totaling 2.3 million sf with associated utilities, parking, loading docks and detention facilities.

SESI's involvement began with an extensive review of geotechnical investigation data including test pits, borings, and CPT investigations. The Meadowlands region of New Jersey is underline by up to 200-feet of highly compressible silts and clays, making this land largely unsuitable for supporting the building loads. Additionally, this site contains up to 30 feet of uncontrolled fill and landfill materials over the original marsh deposits. SESI's extensive experience in this area of the state allows us to deliver recommendations to the client providing an affordable preparation for the site.

SESI's ground improvement recommendations for this project including utilizing surcharge and dynamic compaction. This alternative to traditional deep pile foundations has the ability to save this client upwards of $100 million. The Phase 1 surcharge resulted in upwards of three feet of settlement, which greatly reduces the magnitude of overall settlement of the warehouses, as well as the risk of differential settlement in the future.

SESI provided field coordination, vibration monitoring of the dynamic compaction, and regular monitoring of the surcharge settlement throughout the ground improvement program to ensure work was performed in accordance with our recommendations and expectations.



In 2023, Building B's footprint was rearranged. SESI demonstrated flexibility to meet the client's needs by coordinating modifications to the dynamic compaction and surcharge programs in this portion of the site, effectively preparing the building pad, while minimizing delays.

As of May 2024, the dynamic compaction and surcharge programs have been completed in Building A. The dynamic compaction has been completed in Building B, and the surcharge pile is currently being released. Site development in Phase 3 of the project began in late 2023; dynamic compaction in this portion of the site began in March of 2024 and is currently ongoing.

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