

CASE STUDY

Oates Road Container Yard Expansion

Houston, Texas



PROJECT OVERVIEW

PRODUCT:

Presto GEOWEB

ENGINEERS:

Ferguson & Tensar

CONTRACTOR:

Private

CHALLENGE:

Due to the storage yard's drainage plan, areas beneath stacked containers would hold moisture for long periods after rain events. This subgrade saturation caused certain areas to become inaccessible until the soils dried out.

SOLUTION:

Ferguson performed a dynamic penetrometer test in the field to quantify the strength of the subgrade. In turn, Ferguson's and Tensar's engineering departments were able to validate that incorporating the layer of InterAx NX850 geogrid would eliminate the need to treat the subgrade beneath the drive lanes chemically. With the geosynthetic layer stabilizing the subgrade, the owner was able to use less aggregate during the installation than in past experiences. Tensar InterAx was able to support the intense weight of the Hyster top lifts while mitigating the risk of the rock sinking into a soft subgrade after rain events.

PROJECT GOALS:

The goal was to stabilize the drive lanes for the top lift equipment, so that containers could be picked and stacked safely without compromising the integrity of the yard.

SITE CONDITIONS:

Due to the storage yard's drainage plan, areas beneath stacked containers would hold moisture for long periods after rain events. This subgrade saturation caused certain areas to become inaccessible until the soils dried out.

CONSTRAINTS:

The property was under a lease agreement, forcing the owner to deliver a low-cost, high-performance solution. Quality aggregate was challenging to source locally to meet budget needs. The owner needed an alternative way to improve the subgrade beyond costly chemical treatment before reinforcing the roads.

RESULTS:

20-foot-wide drive lanes were confidently built with InterAx to improve the subgrade and stabilize/reduce the required amount of aggregate to support the top lifts' heavy loads. The installation of Tensar InterAx over variable subgrades allowed the owner to pour aggregate into building drive lanes for quick and immediate access. This was essential, as he had a large client bringing in a sizable quantity of containers for storage on site.

OPTIMIZATION HIGHLIGHTS:

Based on subgrade conditions and design parameters, Tensar InterAx NX850 reduced the overall thickness of the drive lane design by half, eliminating the need for chemically treating the subgrade. Ultimately, this solution provided the client with a quick deploy option for any further drive lane expansions on site.

TESTIMONIAL:

"We were able to cut the InterAx to the exact width we needed for the drive lanes. We found it quick and easy to pour and spread rock across the geogrid to reduce the overall thickness of the drive lane by half."

For more information, ask an expert: infogeo@ferguson.com