

Case Study

application | Base Course Reinforcement
location | Philadelphia, PA
product | Mirafi® BXG11

job owner
engineer
contractor

Philadelphia Produce Market
DBA Geotechnical & Environmental
H & K

TenCate™ develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

THE CHALLENGE

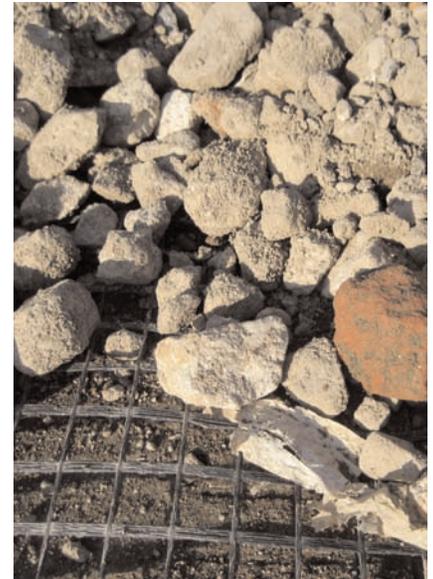
Without room for expansion and new, modern facilities for the Philadelphia Regional Produce Market, the Commonwealth of Pennsylvania risked losing a business rich in history. Now in its 4th generation, the Produce Market employs close to 1,500 people and is one of the largest produce markets in the United States, supplying food as far north as Canada and as far south as the Carolinas.

The site chosen for the Produce Market is a Brownfield site which was a former conglomeration of five junk and scrap yards. Remediation of the site consisted of removal of over 400,000 tires and scrap metal consisting of automobiles, trailers and buses.

The challenge was to build a roadway over very soft soils at the 63 acre site, that would be strong enough to support tractor trailer traffic for the 228 enclosed truck bays in the 667,000 square foot facility.

THE DESIGN

Due to the very poor soil conditions, the engineer determined that base reinforcement was the critical requirement to support the heavy truck wheel loads on a daily basis. Mirafi® BXG11 base reinforcement geogrid was chosen for its very high strengths at low tensile strain.



Mirafi® BXG11 during placement of base course.



Soft, wet unsuitable on-site soils prior to placement of Mirafi® BXG11 geogrid.



Overlapped panels of Mirafi® BXG11 during placement of base course.

THE CONSTRUCTION

Building over the existing soils proved to be a challenge due to the low California Bearing Ratio (CBR) strength values. To make matters worse, Hurricane Bill raced up the eastern seaboard and deposited several inches of rain over the site in a three day period. Thanks to Mirafi® BXG11, the contractor was able to maintain their tight site work schedule and not lose any production.

Despite the extreme weather conditions, construction was very quick and easy. Two construction workers were easily able to place the geogrid rolls while dump trucks and bulldozers placed recycled concrete base course in 12" lifts for parking areas and 16" lifts for truck lanes and loading dock areas.

THE PERFORMANCE

Without Mirafi® BXG11, the owners would have incurred significant remedial costs of excavating and replacing the sub base materials.

Mirafi® BXG11 helped keep the project moving on schedule. With the new buildings in place, the Commonwealth of Pennsylvania will realize a gain of 375 new jobs and the Philadelphia Regional Produce Market will continue to grow.



Rolls of Mirafi® BXG11 being deployed over areas of soft subgrade soil.



Close-up of recycled concrete base course aggregate placed on Mirafi® BXG11.

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