



## FEDEX® GROUND DISTRIBUTION HUB

Vertica Wall Solution Rises to the Challenge

### LOCATION:

Middletown, Connecticut

### PRODUCTS:

Vertica® Retaining Wall System  
Mirafi Geosynthetic Reinforcement

### INSTALLED AREA:

300,000 sq. ft.

### CONTRACTOR:

Earth Retention Systems, LLC

### WALL DESIGNER:

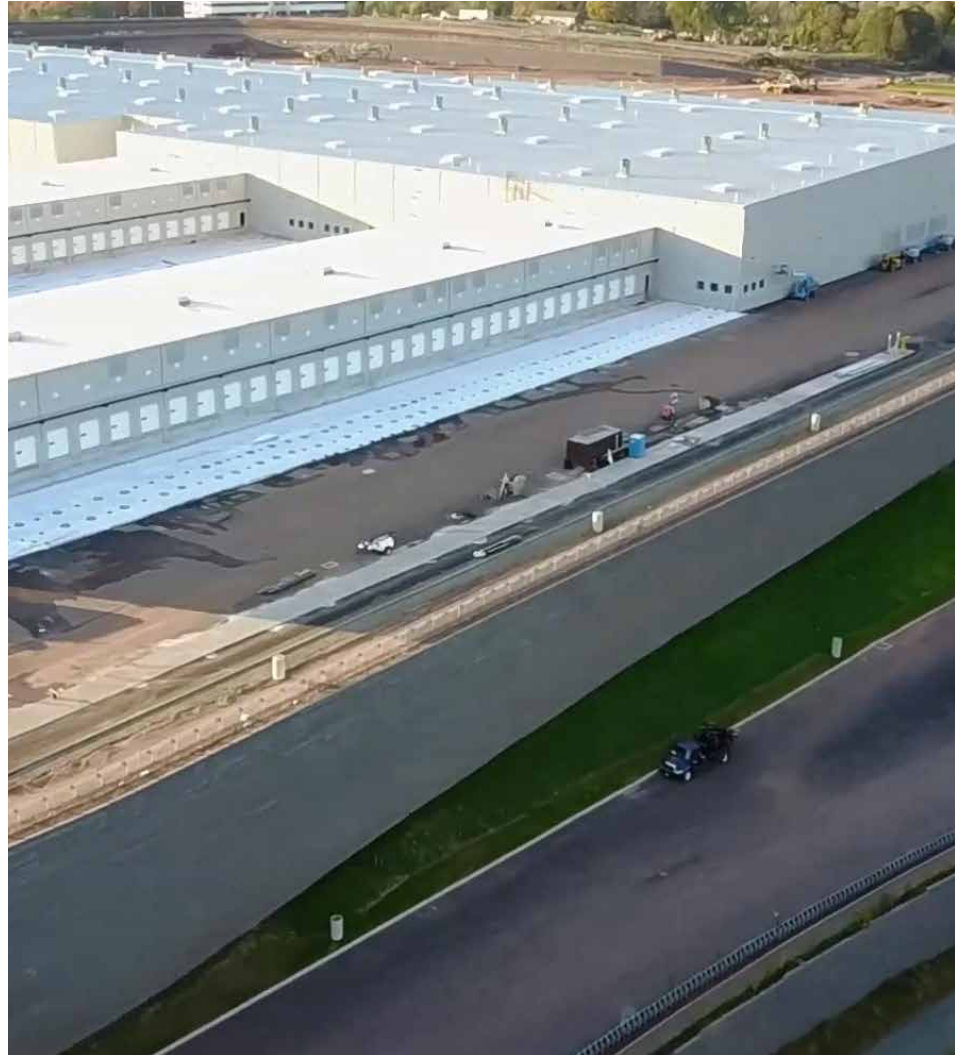
Advantage Engineers, LLC

### CIVIL ENGINEER/ARCHITECT:

BL Companies

### GENERAL CONTRACTOR:

Manafort Brothers Incorporated



### The Challenge

The new FedEx® Ground Distribution Hub in Middletown, Connecticut, would be one of the largest construction projects in the state of Connecticut. The scope of the project included over 300,000 square feet of segmental retaining wall block built to maximum heights of 60 feet—making it one of the largest and tallest SRW projects in North America.

“The general contractor Manafort Brothers, Earth Retention Systems, Advantage Engineers and the Belgard® Commercial team all worked together to make that happen.”

The project broke ground in May 2016 and according to representatives at FedEx is part of a nationwide expansion resulting from the exponential increase in the number of daily packages shipped over the last 10 years. The

“Due to the size, complex installation and overall scope of the wall project, we knew right from the start it would have to be a collaborative effort by all to be a success story.”

*Chip George*  
General Manager for Earth Retention Systems, LLC

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260-acre site would house a 525,000-square foot main hub building, along with a maintenance garage and salt storage shed.

### The Solution

The project involved an astounding 2.5 million cubic yards of earthwork that required six retaining wall structures, encompassing over 11,000 linear feet of SRW's to re-grade, stabilize and optimize the site. The project also called for over 650,000 square yards of Mirafi® geosynthetic reinforcement. Oldcastle worked with the project's retaining wall design engineers during the design phase to secure the Vertica® Retaining Wall System with Mirafi® geosynthetic reinforcement as the basis of the SRW design for the project. "The design of the massive walls needed a proven system such as Vertica Wall with Mirafi geogrid reinforcement," said Scott Vollmer, SRW Market Manager for Oldcastle APG's East region. "Vertica's four-degree

batter was another advantage of the system and allowed for optimal site layout."

**Vertica Wall was shown to be a viable product that could hold up to the structural needs of the project, look good for the client, and hit all of the other marks in terms of competitive price and a demanding square footer-day delivery timeline.**

*Joshua Krebs  
Advantage Engineers/Project Designer*

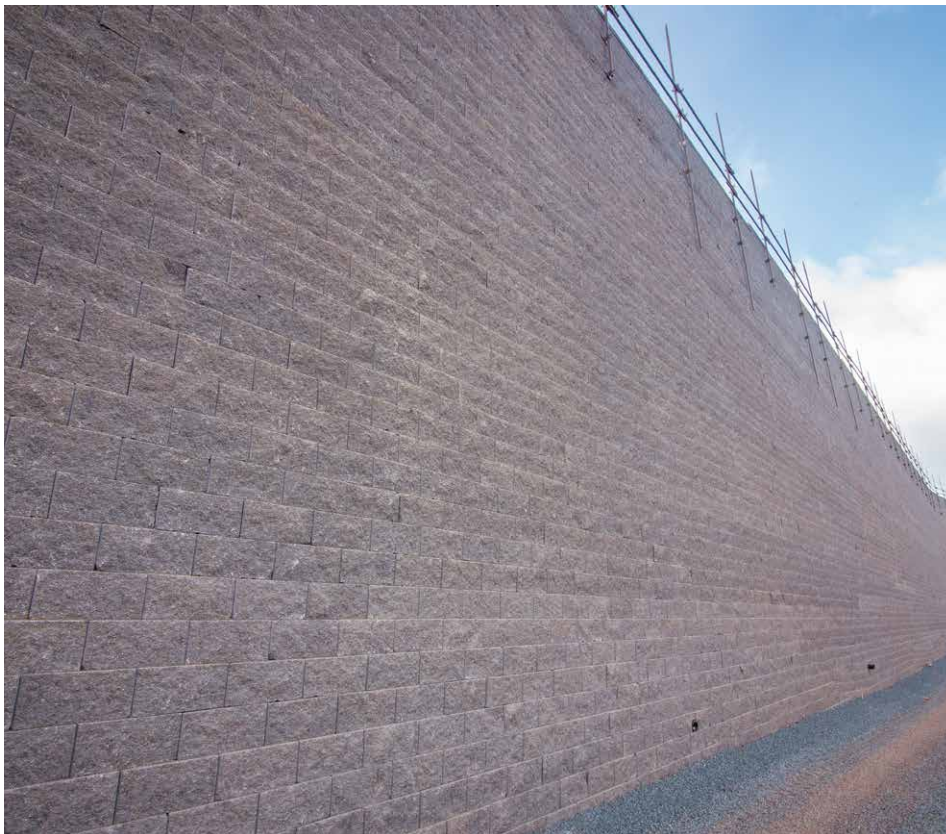
### The Result

Anchor, an Oldcastle® Company, was selected as the exclusive supplier of the retaining wall and geogrid materials using Anchor's Cranston, Rhode Island, plant to manufacture the SRW

units. "This selection was based on competitive price, proximity to the project, technical support, manufacturing capabilities, and the overall resources to supply such a large project on a tight time frame," Vollmer said.

"We worked closely with BL Companies (site civil engineer) to help optimize the retaining walls in context with the overall site design. Anchor was helpful in providing technical resources and were very responsive to everyone's needs throughout the process," Krebs added. "From a delivery standpoint, the materials were provided on the scheduled timeline that was needed."

As of July 1, 2018, the entire segmental retaining wall project was completed to the customer's satisfaction accomplishing one of the biggest and most complex SRW applications in North America. "I'm very proud of all the companies and individuals who helped make this one of the most successful SRW projects within the Oldcastle family," said Greg Piper, VP of Sales for Anchor, North Region.



#### About Belgard Commercial®

Belgard Commercial, part of Oldcastle® APG, offers a complete collection of paver and wall products for plazas, terraces, parking areas, roadways, rooftops and retaining walls. Available in a range of styles, premium Belgard Commercial products have been found in the nation's finest developments and award-winning commercial and retail properties since 1995.

Oldcastle APG is part of CRH's Building Products division. As the largest building materials company in North America, CRH provides a single-source solution for commercial construction projects with a full portfolio that also includes structural masonry, masonry veneers, dry mix products, hardscape jointing sands and sealants, stormwater management systems, concrete infrastructure, architectural glass, lawn & garden products, and composite decking.