

PROJECT PROFILE



The Landmark retaining wall system was chosen for this high-load-bearing wall where 100-ton trucks unload rock into a railcar-loading hopper. The car-loading system was designed on a larger scale with the Landmark units than could be built with a steel structure.

Birdsboro Materials BIRDSBORO, PENNSYLVANIA

PRODUCT

Landmark retaining wall system

MANUFACTURER

Easton Block & Supply
Easton, Pennsylvania

WALL DESIGN ENGINEER

Soil Reinforcement Design, Inc.
Woodstock, Georgia

WALL CONTRACTOR

Easton Block Retaining Wall
Skippack, Pennsylvania

WALL DIMENSIONS

6,000 square feet
44 feet high

EVALUATED BY HITEC IN THE UNITED STATES, RTA IN AUSTRALIA AND BBA IN THE UNITED KINGDOM.

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THE CHALLENGE

The owner of this quarry in Birdsboro, Pennsylvania, needed a platform to hold 100-ton trucks dumping into a railroad-car-loading hopper. A steel structure option was rejected due to size, cost and aesthetics. It was too small, too expensive and unattractive. There was also pressure to quickly complete the project during the slower winter months at the quarry.

THE SOLUTION

By using the Landmark retaining wall system in designing a segmental retaining wall (SRW) to support the truck unloading area, the engineer was able to increase the size of the loading facility in an aesthetically pleasing manner. High-strength reinforcement fabrics were more economical to use than traditional polyester, contributing to installation time and cost savings. Using quarry stone as backfill with the Landmark system, the 260-foot-long SRW was built in the winter in 3½ weeks, well before production and shipping began. The project was completed in half the time estimated for a proposed steel structure. The wall was incorporated into the hopper-loading system using a 3-foot concrete upper slab.

THE RESULT

Stone is safely shipped more quickly at the larger out-loading facility, providing ongoing cost savings.



With the larger system, truck unloading is done more quickly, resulting in continued cost savings.



The hopper-loading facility is connected to the high-load-bearing wall with a concrete slab.

HITEC-EVALUATED

For high performance under extreme loading conditions, the Landmark retaining wall system is a cost-effective option evaluated by HITEC. The Landmark system features a unique mechanical connection, which allows the system to generate extremely high connection values, independent of blocks above the connection. Developed specifically to meet the high standards of the transportation industry, the performance features of the Landmark system make cost-effective design solutions possible using either the American Association of State Highway and Transportation Officials (AASHTO) or the National Concrete Masonry Association (NCMA) design methodology.

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