ANCHOR DIAMOND™

Diamond Pro®

PROJECT PROFILE

The Diamond Pro® retaining wall system provided the durability needed for the project's water retention pond that captures runoff and road salt from the pavement above.

LOCATION
Wesley/Valley Square Commons
GOLDEN VALLEY, MINNESOTA

PRODUCT
Diamond Pro® retaining wall system

MANUFACTURER
Anchor Block Company
St. Paul, Minnesota
BELGARD®

CIVIL ENGINEERS
Pioneer Engineering PA
Mendota Heights, Minnesota

Schoell and Madson, Inc.
Minnetonka, Minnesota

WALL DESIGN ENGINEER
Anchor Wall Systems, Inc.
Minnetonka, Minnesota

WALL CONTRACTOR
Harris Construction
Minneapolis, Minnesota

WALL AREA
27,984 square feet

THE CHALLENGE

Maximize the number of housing units by using as much of a property with huge slopes as possible, phase the construction schedule, protect a stream and provide a water retention structure. If those weren't enough challenges, add multiple contractors and engineers for this project in Golden Valley, Minnesota.

THE SOLUTION

Using the Diamond Pro® retaining wall system for segmental retaining walls (SRWs) made it possible for the engineers and contractors to meet these challenges. Easy to use, the product has superior connection strength and needs less reinforcement when compared with other frictional systems. The easy-to-install block helped increase wall construction productivity.

When the final site plan was completed, the buildings and utilities were extremely close to the reinforced soil zone. Building the SRW in stages, the wall was constructed until the lowest building floor or foundation grade was established. Wall erection ceased, and construction of the buildings began. Once the basement walls were ready for backfilling, construction of the SRWs continued.

After the SRW was completed for one side of the site, construction of the initial pond wall began. Diamond Pro® product produced to Minnesota Department of Transportation specifications (compressive strength of 5,800 psi., resistance in 90 freeze/thaw cycles in 3-percent saline solution to less than 1 percent loss by mass) was recommended by the engineer to ensure long-term durability for the water retention structure.

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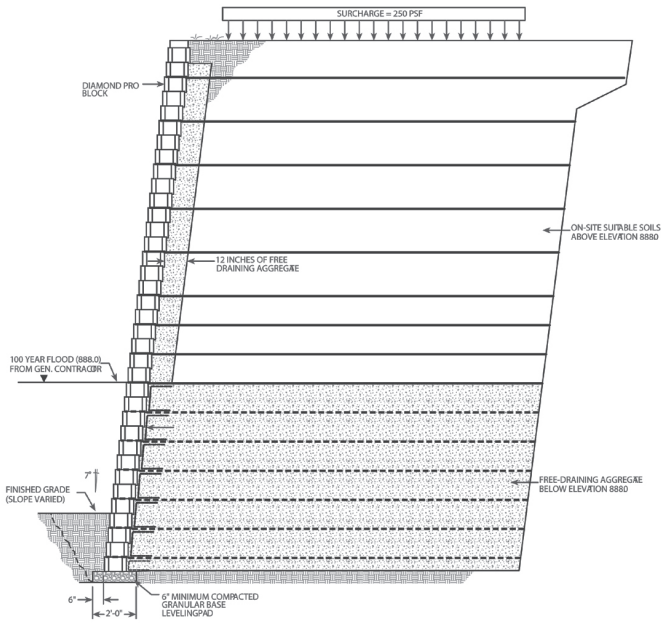
During Phase 2 of the project, the wall was constructed within 10 feet of a stream. Based on global-stability studies performed for the wall in the area near the stream, the wall designer compensated for the reduced strength of the submerged foundation soils.

The Diamond Pro® retaining wall system was constructed close to building foundations, utilities and drop structures, like this storm water drain.

About a year after project Phase I was completed, the second part began with a different civil engineer and general contractor. The pond was completed along with another section of wall near the stream.

Global stability analyses were performed in several sections of this multiwall project to determine the amount of buried block, adequate reinforcement layers and embedment. ' Three walls, totaling more than 1,000 linear feet, were built on this property.



THE RESULT

Staged construction of the SRWs helped maximize use of the property, provided durable storm water retention, provided erosion protection for the stream and made possible the completion of a complex development with minimal problems or delays.

ANCHOR DIAMOND Group
5909 Baker Rd. Suite 550
Minnetonka, MN 55345

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