

INDUSTRY UPDATE

Should building codes address segmental retaining walls?

If you live in California and plan to build a segmental retaining wall, your project must meet the Uniform Building Code (UBC). If you build the same wall in Florida, the Standard Building Code (SBC) applies. And if you're in Ohio, the National Building Code, which is adopted by many states east of Minnesota and north of Tennessee, offers general segmental retaining wall requirements. Standards in a given region may include minimum requirements regarding the density and aggregate type within block, geosynthetic materials and so on.

One Nation, One Code

By the year 2000, the three codes governing building construction that have crisscrossed the U.S. will consolidate under the new International Building Code (IBC). According to hearings that have taken place thus far, the code that is emerging will not specifically address segmental retaining walls, but only retaining walls in general. Currently, the segmental retaining wall industry, through the National Concrete Masonry Association (NCMA), has its own guidelines contained within the NCMA Design Manual for Segmental Retaining Walls.

The Search for a Solution

Together with Sam Yarosh, the project manager and owner's representative, Greene looked for the most cost-effective wall solution. They examined cast-in-place, the T wall and several retaining wall products. Almost immediately it was obvious that a segmental retaining wall solution offered up to 25 percent cost savings over cast-in-place due to the large footing a cast-in-place wall would require in a tall, near vertical application.

Greene solicited materials bids from three segmental retaining wall manufacturers, one of which was Grinnell Concrete, in Spartan, NJ with the Anchor Diamond® retaining wall block. The decision came down to "which one had the best engineering and was the most practical to use in terms of constructability and price," according to Greene.

Says Greene, "I liked the Anchor Diamond block. The grid is pinched in by the lip on the Diamond instead of the pin system that concentrates the tensile stress on the pins. The Diamond block spreads the tensile force over the wider area of the grid."

Greene says, "The Diamond block coordinates nicely with the construction process, because Anchor Wall Systems walls can be built in segments. This feature has allowed our installers to work on portions of the wall and get soil in place to complete a footing for a building. A cast-in-place option wouldn't have worked because it has to be erected all at once." The natural brown color of the Diamond block also complements the stone facing on the buildings and the woodland environment.



This Anchor Diamond® wall stabilized the terrain so that an emergency access road could be completed.


Customer Service Seals the Deal

According to Chris McAllister, sales technician for Grinnell, they landed the project in large part due to the attentive service the company provides. Greene agrees. "During the final proposal process, an Anchor Wall Systems engineer, a geogrid representative and McAllister visited the site," he recalls. "They were very thorough in answering all of our questions, providing solutions to our concerns about soil conditions, height limitations, constructability — even down to our concerns about final engineering designs."

Greene also appreciated the access he was given to Anchor's expertise. "The engineers were very open with their analysis — they weren't afraid to show me their calculations at every step, which meant I didn't have to guess."

Steady Progress

Greene and Yarosh are pleased with the progress of the installation by Rich Voulo's Retaining Wall Systems team. Says Greene, "Last year we were able to build the northern 400 foot length of the first wall to allow the contractors to start construction of two buildings. Now we're jointly working on the southern half of the first wall and the entire length of the second wall to allow sufficient ground stabilization to start two more buildings and put in the emergency access road."

By the end of spring, roughly 20,000 feet of wall will have been completed on the site. An additional 15,000 to 18,000 feet will be installed by the end of the year. Pending approvals, Fox Hills may build additional housing units on the site that would require an additional 30,000-40,000 square feet of retaining wall. 

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