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Successful Projects Start by Using the Right Tools

High Pointe Commons, a large scale commercial project in Hershey, PA, has 6 different walls totaling more than 24,000 ft² (2230 m²). With just one of the walls being over 700 ft (213 m) long and a maximum height of 18 ft (5.48 m) tall, the project required a plan, design and build approach that kept all parties informed. K & M Dri-Lay was the wall installer and even with a few weeks of difficult weather conditions that flooded the site, completed the construction in 90 days.

All of the walls have either a slope or paved surface above, requiring special design and construction consideration. Keller Engineering used AB Walls 2007 to engineer the walls, taking advantage of its design flexibility when modeling surcharges. *See the inside article for a more in depth discussion about the power of the AB Walls 2007 program.* However, here is just one of the design considerations they examined for the project:



Manufacturer:

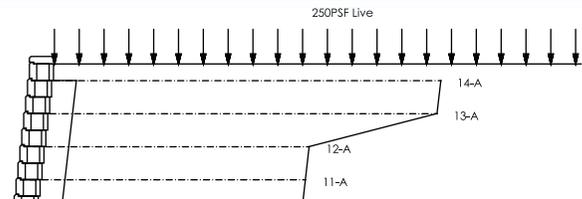
Nitterhouse Masonry Products LLC of Chambersburg, PA.

Contractor:

K & M Dri-Lay Masonry, Inc., of Waynesboro, PA.

Product Used:

AB Classic of the AB Collection



When to Lengthen the Top Geogrid Layers

The designer should consider lengthening the top layers of geogrid reinforcement for two reasons:

(1) Wall Stability

When slopes and/or surcharges are present above the retaining wall there are greater forces distributed to the top layers; especially those forces working to pull the geogrid out of the soil. Lengthening the top grids adds an immediate benefit to the pullout of soil calculations and the overall stability of the top of the wall.

(2) Performance Enhancement

The reason to lengthen the top grids with pavement above is to minimize the potential of future cracking, which can shorten the life of the paved surface as well as the life of the retaining wall by allowing water to migrate through the crack into the infill zone. An engineer should consider the reinforced soil mass and retained soil mass as separate structures working independently. Although there is no relative movement between the two zones, a defined construction joint remains. By bridging the construction joint with extended geogrid layers you disrupt any variations between them, such as settlement, and minimize the potential of future cracking of the paved surface and ultimately increasing the life of both the pavement and the retaining wall.

For a further discussion on High Pointe Common and other Allan Block projects see the Project Profile page on the Contractor page at allanblock.com.

Estimate AB Projects Accurately

Going Green

 Allan Block Corporation is an environmentally conscious company that strives to be a leader in the future of "green" building products.

Building with more environmentally useful products will increase efficiency and reduce the negative impact we have on the world we live in. As a leader in the industry, Allan Block provides environmental solutions to just about any landscape.

Our efforts to provide green construction solutions coincide with the efforts of the U.S. Green Building Council's LEED® (Leadership in Energy and Environmental Design) Program and other programs of its kind.

Visit allanblock.com for a detailed description of how Allan Block products can help your project achieve LEED® credits.



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Allan Block has developed many tools to help contractors do their jobs more efficiently including a variety of estimating tools. **Accurate project estimates are key** to ensure your project gets off to a good start.



The **AB Commercial Wall Calculator** is a comprehensive estimating tool that allows the user to layout larger wall profiles by inputting top and bottom of wall elevations at various points along the wall. The estimating tool works in Microsoft Excel and has a maximum estimating height of 30 ft (9.1 m). The estimate will include quantities of Allan Block units, cap units, base and wall rock, geogrid, infill soil, drain piping and even cap adhesive. You can use it as a proposal sheet as well by inputting the material costs and your labor rates to determine a total project cost to present to your clients. ***It is an easy and powerful tool you can use to support your Allan Block business.***

For smaller landscape walls up to 6 ft (1.8 m) tall you can use our **AB Landscape Calculator**. For these residential walls the user simply chooses the block type, the number of courses, the type of soils you are building on and the type of surcharge above the wall to get the estimate.



You can download our **AB Commercial Wall Calculator** at allanblock.com under the Commercial Contractor tab and the **AB Landscape Calculator** under the Homeowner and Residential Contractor tabs. For more information on using these tools or general wall construction and estimating questions contact the Allan Block Engineering Department at engineering@allanblock.com or call us at 1-800-899-5309, ext 3.



Visit allanblock.com for more information.

Tools and Accredited Training for Engineers

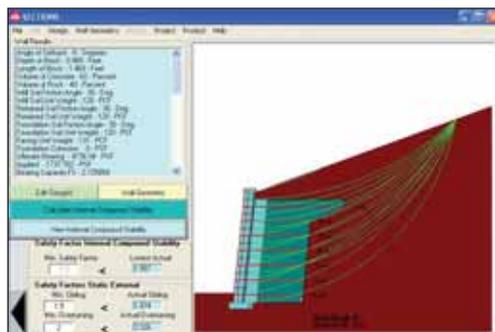
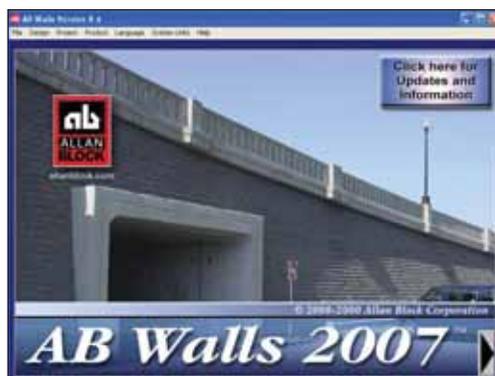
Allan Block has always been an industry leader in the training of engineers and installers of segmental retaining walls. To compliment one most highly recognized contractor certification programs in North America, Allan Block is nationally certified by IACET to provide engineers with continuing education credits for tutorials and other training. Here are two industry advances that Allan Block has been involved with and can offer additional training for you:

Full Scale Seismic Testing

Allan Block is the only SRW block to conduct full-scale seismic testing. The tests were run in Tsukuba, Japan, in conjunction with Columbia University, University of Delaware, Huesker Geosynthetics, the National Science Foundation and the National Research Institute of Agricultural Engineering of Japan. The outcome of these tests was an industry wide reevaluation of how seismic loads are modeled in segmental retaining walls. The entire industry has adopted a new method based on true results over the old theoretical model.



Parapet wall - California



Design Changes to Include ICS

If you are familiar with AB Walls 2007 you know its capabilities to design a full wall profile, plan view and multiple cross sections along the length of the wall at user defined locations. The engineer can design sections with slopes above, broken back slopes, live and dead load surcharges at user defined locations. **What is new is that AB Walls 2007 is the only segmental retaining wall program calculating Internal Compound Stability (ICS).** ICS calculations were developed by leading industry engineers and academics with Allan Block playing the leading role.

This adds another level of check to your standard internal and external design calculations. ICS is not a substitute for global stability; however it uses calculations similar to a Simplified Bishop's slope analysis. Unlike global stability programs that take large slip arcs entering well above and below the wall structure, ICS calculates multiple smaller circular slip arcs through a predefined area of retained soil, the infill reinforced mass and the facing units, but never goes below the leveling pad. This predefined area for ICS arc development is called the Wall Design Envelope. This wall design envelope can be used to define the rolls of responsibility for a project. For more information on AB Walls 2007 or ICS calculations visit the Engineering page at allanblock.com or call the Allan Block Engineering Department at engineering@allanblock.com or call us at 1-800-899-5309, ext 3.

Visit allanblock.com for more information.

Resources and Tools for Allan Block Products

At allanblock.com you can find vast resources of information on the Allan Block product lines at your fingertips. Everything you need to know to plan, design and build your next retaining wall or fencing project for sound/privacy.

Visit allanblock.com today to check out:

- Estimating Tools
- Photo Albums
- AutoCad drawings
- Specifications
- Installation Videos
- Training Information
- Continuing Education Credits
- AB Rewards
- Engineering Calculations
- Testing Information
- and much more!



Check out the new [Allan Block Blog](http://www.allanblockblog.com) site for discussions about the AB System and products at www.allanblockblog.com



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Project Profile

Successful Project using
AB Tools in Hershey PA.

AB is Green - LEED® Information

Estimating AB Projects Accurately

Tools and Accredited Training
Available from Allan Block

Contractor Tip:

Need lighting in your retaining wall project?

Check out these companies for options.

IC Lights LLC.
iclightsllc.com

Frog Lighting
frog-lights.com

Integral Lighting
integral-lighting.com