Allan Block® Technical Newsletter

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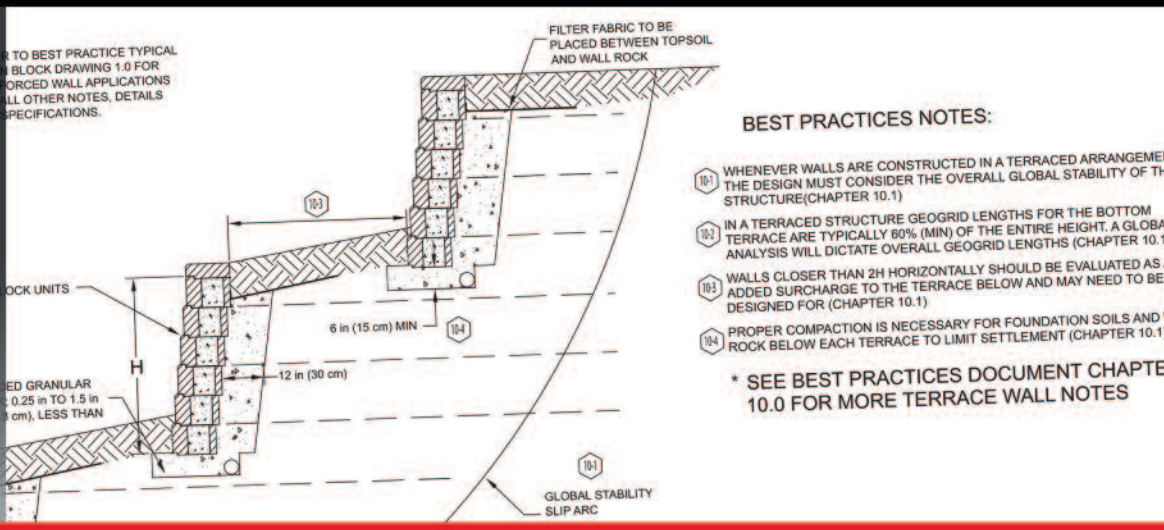

Supporting a Best Practice Approach to Design with Enhanced Software

Over the last 30 plus years the Segmental Retaining Wall (SRW) industry has seen rapid acceptance throughout North America and many other countries. During that time the industry has progressed from individual manufactures working by themselves to roughly 25 years ago, the formation of the first SRW committee within the NCMA (National Concrete Masonry Assoc.) - the industry association representing the SRW and Masonry Industry - where all manufactures work together to better the entire industry. Through these years of growth a better understanding of how we can improve the performance of SRWs and the longevity of every wall built has been earned. To further our commitment to be Always Better (AB) the Allan Block Corporation has teamed with the NCMA to establish a pathway to Zero Wall Failures and that initiative is currently underway by Allan Block and the NCMA. Allan Block took the first step in this initiative by creating the **Allan Block Best Practices for SRW Design** document in 2014. NCMA has since published their own version using Allan Block's as a template. You can read the full document at allanblock.com or read our 1st Quarter, 2015 Technical Newsletter for a summary of the document.

To support Allan Block's commitment to Best Practices we took steps to enhance our AB Walls design software so all the design engineers have access to a technically sound and easy to use tool to guide their project owners and contractors in the best ways to design and build an SRW for a lifetime to exceptional performance. AB Walls is set up to guide newer SRW designers through a best practice design by starting with industry standards including geogrid lengths and spacing using the site specific inputs from the designer. At the same time providing the flexibility for those more experienced to fully modify their designs as needed for their more complex projects. AB Walls has the ability to create detailed elevation profiles, plan views, multiple cross sections along the wall and detailed general notes and specifications. When the design is complete, the ability to export everything to a .dxf file readable in any CAD program. Specific enhancements for best practices include a comprehensive water management section with blanket and chimney drains, drainage swales, and alternate drain options. Another enhancement is the inclusion of a detailed Complex Composite Structures (CCS) section. Here, a designer can create cross sections for complicated sites using multiple infill materials. Geogrid reinforced infill soils are not the only options for building a quality reinforced mass. In CCS, designers can use geogrid reinforced soils in the top portion and No-Fines Concrete in the bottom for walls where a bedrock formation makes geogrid placement difficult in the lower courses. The CCS section will allow for deeper mass depths in the top or bottom section. It also allows for simple gravity walls above the reinforced section as well as a variety of other options. The CCS modeling section was created to provide experienced designers complete flexibility while maintaining to our Best Practices principles. Read more about AB Walls many functions in the following pages.

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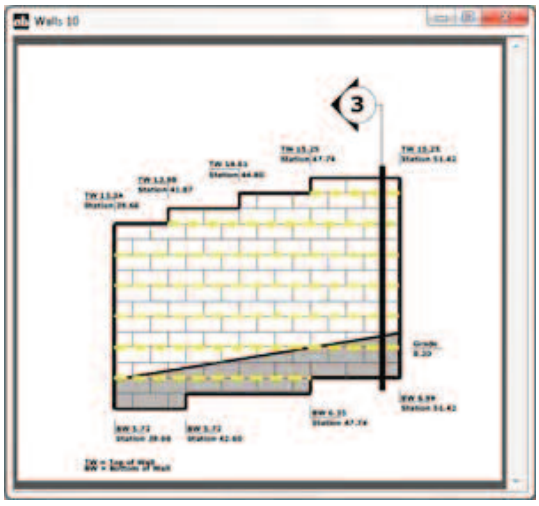
The Ultimate Design Tool for Segmental Retaining Walls

AB Walls is a comprehensive design tool which outputs professional quality construction drawings with technical support data. It allows designers to transfer a conceptual layout from a site plan to a complete wall solution and then export it to various CAD software programs. Below are some of the capabilities of our software.

AB Walls has been installed by more than 3000 design professional. Contact the Allan Block Engineering Department to request a copy or email us at engineering@allanblock.com

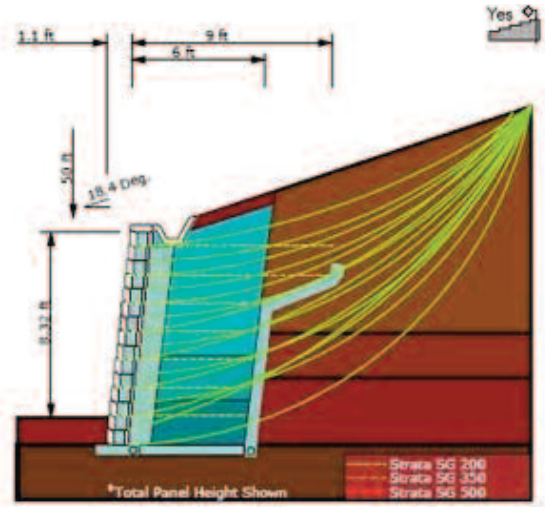
DETAILING ENHANCEMENTS

One of the most difficult parts of the design and build process for segmental walls is conveying the design requirements to the contractor. AB Walls has greatly enhanced the Submittal and Shop Drawing Outputs to allow the designer to:



- Fully detail the wall profile with specific stationing and elevations of all step ups and step downs on the top and bottom of the wall profile.
- Provide multiple cross sections along the profile to thoroughly detail the design variations that can occur along the length of the wall.
- Display site specific wall drainage details directly on the cross sections. Blanket drains, chimney drains, drainage swales, etc. can now be shown directly on the cross section.
- Fully detail the plan view with stationing and geogrid depths. Knowing the geogrid depth allows the designers and contractors to avoid possible grid obstructions during construction.
- Provide individual panel views connected directly to their design panel section to provide clarity for grid placement.

DESIGN ENHANCEMENTS

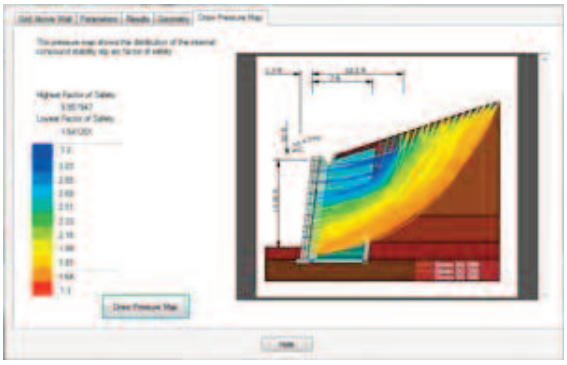


- A designer can now model up to three different soil layers for both the infill and retained soil layers. This multiple soil layer modeling is used in the Internal Compound Stability section of AB Walls.
- Use Trial Wedge Design Methodology for slopes above the wall in seismic regions. This provides the designer an alternative to the traditionally used Mononobe Okabe (M-O) method that greatly limits the steepness of slopes above any seismically loaded wall.
- An engineer can see graphical results from the Internal Compound Stability analysis from the Pressure Mapping page.

Visit allanblock.com for more information.

- Offers Internal Compound Stability analysis to be applied to No-Fines Concrete designs. Recently completed independent testing has provided a conservative design friction angle which allows the designers to utilize the benefits of ICS calculations on No-Fines Concrete sections as well as geogrid applications.
- Provides complete design flexibility as each panel calculation is independent so the user can design with geogrid in one panel and No-Fines Concrete in the next panel, each having their own independent loading conditions.

OUTPUT ENHANCEMENTS



AB Walls still provides both a Submittal Output for the engineers to submit for design review and a detailed Shop Drawing Output for use in the field - but now even better!

- Both packages include all detailing enhancements listed above. However the Submittal Output provides safety factor information for:
  - Internal Calculations
  - External Calculations
  - Bearing Calculations
  - Static and Seismic Loading
  - Internal Compound Stability Calculations
  - Internal Compound Stability Pressure Mapping
- Designers can choose from 33 typical details to be printed in both outputs.
- All design information in the Shop Drawing Output can be exported to .DXF format for use in any CAD program. Included are the Profile View, Plan View, Sections and Panel View, General Notes, Specifications, and Specific Section Notes.

ReSSA EXPORT

Allan Block has worked closely with the designers of ReSSA, the industry leading global stability analysis program, to allow the section information from AB Walls to be exported to a ReSSA file. This gives the wall designer the opportunity to easily transfer information from AB Walls to ReSSA to investigate the global stability of the project site quickly and efficiently.

TUTORIALS

The Allan Block Engineering Dept. offers basic and advanced tutorials on the use of AB Walls. Tutorials are offered to individual engineers or can be done in a group setting to cover your firm's engineers at once. These tutorials take less than 60 minutes to provide the designer with industry information and functionality of the program to begin designing retaining walls. Completed tutorials are then eligible for continuing education credits (CEU's).

Contact your local Allan Block Representative Today to get your copy of our AB Walls Design Software and schedule your tutorial.

Visit allanblock.com for more information.

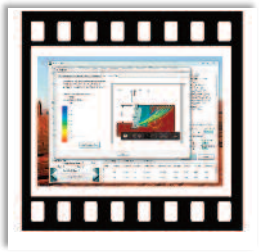
Allan Block Technical Newsletter - 1st Qtr 2017

Inside this issue:

Allan Block Best Practices with AB Walls Design Software

Have a tablet or smart phone?
Download our App and Installation Manuals Today!

AB Walls Online Training Series - Earn CEU'S



Allan Block has created an online training series for Engineers. This series begins with basic and advanced tutorials on the AB Walls Design Software. Engineers now have the ability to register and sign in to watch individual videos within the training series.

Like all Allan Block training modules, the online training series complies with the IACET requirements and allows AB Corporate to award CEU's. In order to request a credit hour for online training, you must first complete individual assessments upon watching each video.

Sign in here today:
http://www.allanblock.com/Reports/webinar/login.aspx

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