

## Project Summary



# Alpine Summit

The AB Stone has defeated its competitors once again with its incredible 12-degree setback. This project in Walker, Michigan needed two large retaining walls to support a parking lot. The Allan Block product got the job done because it is the only segmental block produced with a 12-degree batter.



### PROJECT NAME & LOCATION

Alpine Summit, Walker, MI

### PRODUCT

AB Stones

### PROJECT SIZE

11,006 square feet

### LOCAL ENGINEER

Holland Engineering

### GENERAL CONTRACTOR & WALL BUILDER

GDK Properties & Kent Companies

### ALLAN BLOCK MANUFACTURER

Atlas Block, Ontario, Canada

## PLAN

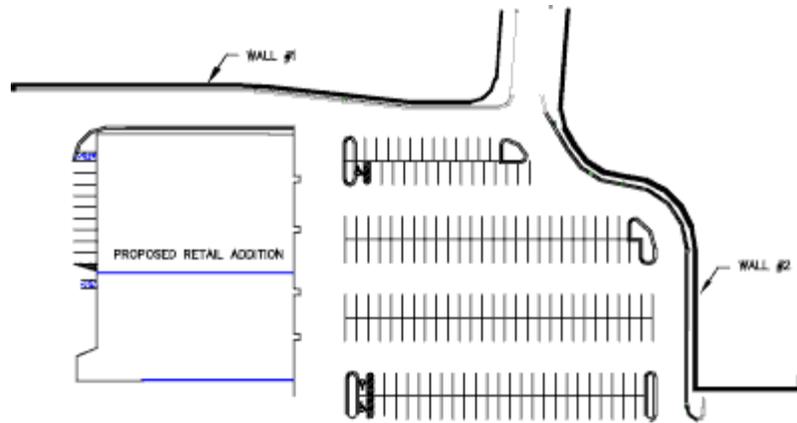
Alpine Summit, in Walker Michigan was in need of some large retaining walls to support a large parking lot on their site. During the bidding process they narrowed their choices to two blocks, Rockwood's Classic 6 degree block and Allan Block's 12 degree Stones. This story would end right here had they chosen Rockwood, but fortunately for them and for us they chose the AB Stones.

The 12-degree block was the best choice for this project for several reasons. The Stones not only decreased the amount of geogrid reinforcement needed for the project but also cut the excavation costs considerably. Atlas Block was contacted by Kent Companies to design the retaining walls. The site plans and soils reports were sent to the Allan Block corporate office for a preliminary design to be made. Then passed on the local engineer, Holland Engineering, who was responsible for the final design.



## DESIGN

The plans called for over 800 linear feet of retaining wall and 11,000 blocks to stand in two locations on the site. The maximum wall heights were set at 16 feet with only one type of geogrid, Miragrid 3XT, to be used at maximum lengths of eight feet. The soil conditions were considered "average" and called for a 29-degree friction angle for the design. Which is typical for clay/sand-type soil conditions. Once the designs were finished, the real work of building could begin.



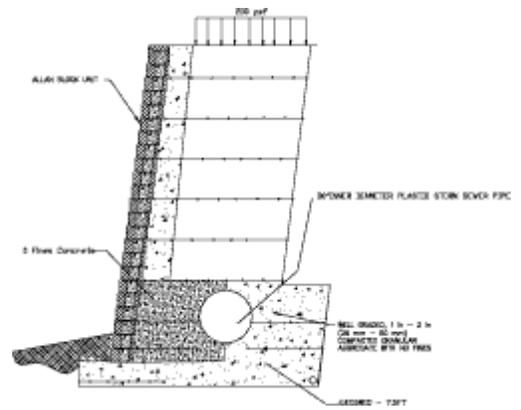
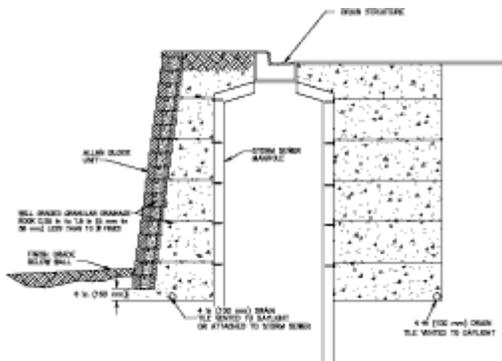
## BUILD

This was Kent Companies' first experience using the Allan Block product. They had previously focused their attention on building hundreds of smaller-sized retaining walls, however they had not built a wall of this magnitude nor had they utilized Allan Block's unique block design. To help train their installers on the process from start to finish, Atlas Block created a PowerPoint presentation that walked them through the entire installation process. The building timeline was extremely tight because the wall was needed immediately. Instead of starting construction at the lowest point in the wall, construction had to begin on the high side, due to the fact that some portions of the site were not yet excavated. This was especially difficult because of the downward slope of the wall as well as the estimating involved in the correct starting height.



For a first-time Allan Block installer, this presented quite a challenge. However, with proper guidance from the Atlas Block and Allan Block Corporate team, all these obstacles were resolved with impressive results. In addition to the step-downs, a storm sewer pipe and manhole were also a major concern in the installation process. The contractor had already installed the storm sewer pipe and manhole that were to be located directly behind the wall. Having such a layout works well with the wall design, however it is the recommendation of Allan Block to always install storm sewer pipe as the retaining wall is being installed to ensure proper placement of geogrid around the two structures.

Since the pipes had already been installed, the contractor decided that it was not practical to move the storm sewer pipe to put the geogrid in the wall. Allan Block and Holland Engineering suggested that the contractor dig out behind the storm pipe, place the geogrid behind the pipe, and then fill in the portion between the pipe and the wall with 0 percent fines concrete. This would ensure that any leaking water would not affect or damage the retaining wall. Below is a diagram of the actual section.



Once all of these obstacles were hurdled, the wall construction went very smoothly. The walls were finished in no time and the Alpine Summit has beautiful 12-degree walls to hold up their parking lot. Another job well done!