



## Ross's Landing Historic Riverwalk Restoration

Chattanooga, Tennessee

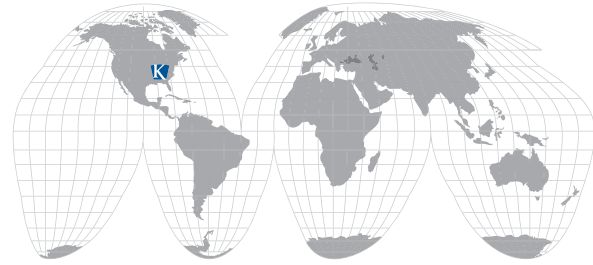
### Keystone Offers Protection from Frequent Flooding

At historic Ross's Landing on the Tennessee River in Chattanooga, TN, the U.S. Army Corp of Engineers has designed a new structure to alleviate the erosion and slope instability due to frequent flooding of the river.

A series of new terraced retaining walls and walkways was proposed to replace the existing deteriorated and eroded structures along the river. The wall design called for a solution to eliminate erosion while enhancing the use of the historic walkway and amphitheater.

Keystone Retaining Wall Systems was the accepted solution. The entire system of Keystone concrete units, high strength fiberglass shear pins and water resistant geogrids, afford a free draining yet interlocked structural solution with the ability to meet the demands of flood conditions. The product was supplied by Keystone's manufacturer Superock Block located in Birmingham, Alabama.

The project was designed as terraced walls, where the maximum single wall was 12' (3.7 m) high and the maximum terrace series was 18' (5.5 m). The design required a slope stability evaluation along with a submerged hydraulic drawdown analysis due to the frequent flooding. Analysis for the 1 year flood event called for waters to submerge the lower terrace by 3'-4" (1 m) and the 20 year event



<b>Project:</b>	<i>Ross's Landing</i>
<b>Location:</b>	<i>Chattanooga, Tennessee</i>
<b>Owner:</b>	<i>US Army Corps of Engineers Nashville District</i>
<b>Keystone Product:</b>	<i>Keystone Standard Units</i>
<b>Licensed Manufacturer:</b>	<i>Superock Block Birmingham, Alabama</i>
<b>Total Wall Area:</b>	<i>11,500 sq.ft.</i>
<b>Contractor:</b>	<i>ABS Services Jackson, Mississippi</i>
<b>Engineering:</b>	<i>US Army Corps of Engineers</i>

Flood Protection and Pedestrian Riverwalk  
come together at Historic Riverfront



CASE STUDY



# CASE STUDY



New Terrace wall protects amphitheater from erosion



Retaining Wall Solution Protects Park Area

anticipates a total submersion of the entire structure at 19.8' (6.0 m).

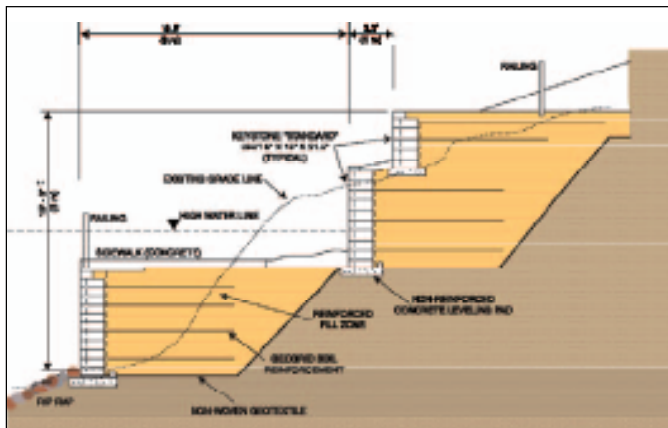
Construction of the project began in the summer of 1998. The retaining walls were built by an experienced Keystone Systems installer, ABS Services of Jackson, Mississippi. After the lower terrace walls were completed, the system was put to the test with river flooding inundating the lower walls.

Construction halted until the waters subsided, where examination found no erosion or damage to the structure. ABS services was then able to continue the completion of the project. To provide scour resistance to the wall base, heavy stone rip-rap over geotextile was

used below the lower terraced walls.

Once the walls, reinforcing and backfill were in place, the concrete sidewalks, light bollards and poured in place concrete coping with railing were added along with the final landscaping to provide the finishing touch.

The final results are stunning! Serpentine walls, with the aesthetic appearance of stone, maintain the meandering feel of the original Ross Landing. The Army Corp of Engineers has been able to achieve its desired protection solution with the additional benefit of creating an inviting setting for pedestrian traffic and riverfront activities.



Cross Section Detail

For more information on Keystone Standard units or other innovative Keystone products, please visit [www.keystonewalls.com](http://www.keystonewalls.com) or call 800-747-8971.