

## PROJECT DESCRIPTION

### *American Freightways Reaction Block Retaining Wall*

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**Location:**  
Montgomery, New  
York

**Client:**  
Hayward Baker  
Inc.

**Client Contact:**  
Mr. Chris Kenney,  
315-834-6603

***View of Reaction Block Wall***

MMCE worked with Catch Hayward Baker and D'Appolonia Engineering Division of Ground Technologies, Inc. (D'Appolonia) to design and construct a reaction block retaining wall at the American Freightways facility in Montgomery, New York.

Expansion of the terminal required excavation of the new parking lot close to an existing water tower. The original plans called for an anchored sheetpile retaining wall to support the slope in front of the water tower. Boulders and cobbles in the soil made this type of wall impractical to install. MMCE designed an alternative type of retaining wall known as a reaction block wall to retain the slope. The reaction block wall consists of a series of concrete panels that are installed as the excavation progresses, providing a permanent stable slope for the excavation.

The design included three rows of 10-foot square reinforced concrete reaction blocks cast against the slope. A steel anchor, drilled through each block, is placed in tension forcing the block against the slope to create a stable slope configuration. The steel anchors are high strength steel bars up to 2½ inches in diameter. Each bar holds up to 300,000 pounds in tension. Design and construction work associated with this project were completed in 2003.