



## **Murata™ Gravity Retaining Wall Manual**

### **Introduction**

The purpose of this manual is to provide general guidelines for the design of the Murata™ Mechanical Stabilized Earth (MSE) retaining wall system. Segmental MSE walls, unlike gravity walls, require tensile grid to resist the lateral loads induced by the soil. The Murata™ MSE retaining wall is designed to have sufficient mass and overturning resistance from the Murata™ blocks and the reinforced soil mass to support the lateral earth loads applied by the retained soil mass, as well as any surface surcharge loads.

The Murata™ retaining wall system's advantage is that it is made with hollow masonry units that can be handled without special equipment. When the blocks are installed, the hollow cells are filled with crushed rock, which results in a heavier in-place block to resist soil forces.

The Murata™ retaining wall system accommodates almost any wall plan layout such as wavy, straight, convex and concave curves, or square corners. This versatility furnishes designers and installers with many options to create a wall plan layout that fits a site or other architectural requirements such as stairs, handicap ramps, tiered walls, and steps in grade along the wall, planters, or special geometry.

The Murata™ retaining wall system offers a choice between modular (blocks only) gravity wall construction and MSE wall construction. Gravity wall design is beyond the scope of this manual. Please refer to the Murata™ gravity retaining wall design manual for guidance in the design of gravity wall systems.

### **Performance**

The Murata™ dry stack system offers significant performance advantages over conventional (more rigid) retaining wall systems. Mortarless construction allows the Murata™ retaining wall system blocks to move relative to each other in response to settlement or transient loadings, eliminating the most visible signs of movement such as stair step cracks, which commonly occur in mortared walls. Dry stacked gaps between blocks permit water to flow freely through the wall facing, reducing hydrostatic pressures behind the wall.

### **Installation**

The installation procedures described in this manual are simple, repetitive, easily mastered, require no skilled tradesmen, and only modest equipment capabilities. Following the installation instructions as presented ensures that an acceptable quality of installation can be achieved. The learning curve to reach optimum production rates is relatively short (usually a few projects). Special installation training and job site assistance can be arranged by contacting your local Murata™ retaining wall system distributor.