



Conceived By Engineers, For Engineers

Precast concrete retaining walls have been a mainstay in roadway and railway construction for decades. Unfortunately, their design has been a constant for decades as well. Until now.

Elevate's patent-pending counterfort wall is the latest advancement in engineered solutions, designed to bring sustainability and stiffness as well as ease, safety, and speed of installation to earth retention systems. As a two-piece precast wall system, Elevate simplifies on-site installation while providing the performance required by the most demanding roadway and railway applications.

Backfill

Elevate's retaining wall is a globally stable solution that eliminates the need to rely solely on friction between straps or stems and expensive aggregates. Proven counterforts with structural base design provide the necessary heel/toe action that has been successfully utilized for hundreds of years with just a drainage layer and dirt or clay backfill. Designers can use earth that is already on site, especially for "cut" situations.

On-Site Production

Elevate's typical 250 square feet, full height units are seven times larger than most competitors' 35 square feet units and cover up to 26 longitudinal feet per unit. This equates to far less touches to drastically lower install time. By reducing the total number of joints and eliminating horizontal joints altogether, designers are given a clean canvas to create the wanted aesthetic without the possibility of horizontal joint seepage.

Stiffness

Elevate's counterforts and their associated reinforcing steel grow proportionately with the height of the wall, allowing our finite modeling to accurately predict what full scale tests showed. With negligible deflection, counterfort systems are extremely stiff and superior when reducing critical settlement behind the wall, especially for railways.

Unique Design

The easily extendable base can spread loads over a much larger area than typical systems, reducing the required bearing pressure and eliminating the need for most undercuts. All while improving global stability. Typical stem and strap systems don't utilize a structural base and therefore require expensive soil treatment below the wall.

Connections

Non-shrink, structural, high-strength grout provides a bond that is proven sufficient. We prefer to take it a step farther, however, with a belt and suspender connection created by tapering the void to provide mechanical resistance. Galvanized or epoxy coated anchors, completely encased in grout, provide the typical reinforced concrete durability designers and engineers appreciate.

Utilities are No Problem

Our counterforts are not staggered vertically and extend about 50% as far as typical stems and 25% as far as MSE straps. Whether parallel, perpendicular or vertical, utilities such as drainage pipes behind the wall are easily accommodated with our system.