



The Vertica® retaining wall system offered a proven engineering solution to build the required wall in an area with narrow access for excavation, materials and construction.

LOCATION

Railway Embankment Stabilization
HAINAULT, ESSEX, ENGLAND

PRODUCT

Vertica® retaining wall system

MANUFACTURER

Acheson & Glover
County Tyrone
Northern Ireland

WALL DESIGNER

Mott MacDonald Ltd.
Croydon, Surrey, England

WALL CONTRACTOR

Cementation Foundations Skanska Ltd.
Maple Cross, Hertfordshire, England

WALL DIMENSIONS

3,000 square feet
4 foot 6 inches high

THE CHALLENGE

The London Underground Central Rail Line in the London suburb of Hainault runs above ground on an embankment. The embankment needed widening to improve access to the tracks, but the site had considerable challenges. During construction, it was critical to keep the embankment at a stable 2:1 slope, which required moving the toe of the slope outward. The space at the bottom of the slope, however, was very narrow with little space for materials, equipment or workers because of its close proximity to an adjacent private, residential property.

THE SOLUTION

Cementation Foundations Skanska Ltd. and its geotechnical partner, Mott MacDonald Ltd., identified the Vertica® retaining wall system as the right engineering solution to stabilize the slope as well as a good choice for the challenging work space.

The size of the 8-inch-high by 18-inch-long Vertica® blocks was right for the job because the product could be staged in the tight construction area at the toe of the slope as well as installed by hand. The space was too small to accommodate materials, equipment or machinery needed for other options like panel walls, cast-in-place walls or crib walls.

The segmental retaining wall units also installed quickly, efficiently and accurately. This was important because the embankment, steepened to 45 degrees to provide space for construction, didn't have any sheet piling or temporary stabilizing structures to hold it back, and crews needed to work expeditiously.

THE RESULT

Good planning and the selection of the Vertica® retaining wall system allowed for efficient installation of the retaining wall without any disruption to the residential property. The rail line track even remained operational throughout construction. The completed retaining wall provides full satisfaction to the client because it reliably supports the widened embankment and offers an aesthetically pleasing view for the neighbors.



The Vertica® retaining wall system was the right choice for a tight workspace near London, England.



Construction crews installed geosynthetic reinforcement at the bottom of a 45-degree slope and in a space with little room to stage product and work.



The completed wall provides stability and a pleasant-looking retaining wall for the adjacent residential property.