

Case Study

application | Geogrid reinforcement for Anchor Landmark wall project
location | Fredericksburg, VA
product | Miragrid® Geogrid

job owner | Virginia DOT
engineer | Engineering Consulting Services
contractor | Landscape Solutions

TenCate develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

THE CHALLENGE

With the development of a new shopping center located off busy US17 just north of Fredericksburg, the state required a grade separation for access. The developer of the property, Silver Companies, contracted to have the Celebrate Virginia Parkway built to provide this access. New bridges along with over 400' of retaining walls were needed to achieve this due to the tight ROW constraints. The wall averaged around 14 feet in height with the maximum being 20 feet.

THE DESIGN

VDOT requires that retaining walls of this nature complete the HITEC review process. Typically large panel walls with steel reinforcement were the only options for an MSE wall.



Close-up of the block/grid connection shows the lock bar in the groove providing the connection required for HITEC and VDOT.



Walls were used around the new bridges as wing walls.



Construction of the long curved wall required between the new bridges.

With Anchor's new Landmark wall now having a completed HITEC review with Miragrid® reinforcement, it gave the owner and designers another option.

THE CONSTRUCTION

Due to the light weight nature of the Landmark blocks as compared to the traditional panel walls, all the blocks were placed by hand. The Miragrid® geogrid allowed for easy placement of the wall reinforcement. In addition, the block design allowed for the curve required for the one long wall.

THE PERFORMANCE

The developer was able to achieve the traffic flow required by the state for the project. In addition, they were able to select the architectural look that they were looking for while reducing the costs compared to the traditional DOT accepted walls.



Long wall abutting to the US17 bridge.



Geogrid connected to the block being staged prior to placement of backfill material.



Long wall abutting to bridge for local access.

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