

Northshore Hotel

Stockton-on-Tees

Bowmer and Kirkland Limited secured the Design & Build contract for the construction of a new 128 bed Hampton by Hilton Hotel, located near the town centre of Stockton-on-Tees. The scheme also included hotel customer parking and parking for the local council.



The project

The project involved using multiple Gabion systems:

- Two traditional gabion retaining walls; one retaining the western boundary and one retaining the terrace around the hotel, providing access to the lower level/carpark.
- Gabion faced reinforced soil thrust relief wall.
- Gabion Cladding to a reinforced concrete wall which butts gabion wall along the boundary.
- 22 free-standing architectural walls, ranging from 0.5-1.2m high to 0.5-2.5m long and all 0.5m wide.

The challenge

There was limited space behind the Gabion wall along the boundary with no scope to dig beyond.

While we were building the Gabion footpath wall, it was raised that the basement wall opposite the gabion wall was not designed as a retaining wall which meant the forces from the wall's backfill would cause the basement wall to fail. Phi Group liaised with B&K and determined a cost effective solution to this problem.

The client requested free-standing Gabion baskets in front of the hotel for aesthetics instead of the usual technical use. Despite the fact this isn't a typical wall, it still required to be designed to ensure they were sturdy.

The solution

Phi Group looked into the design for the boundary Gabion wall and increased the temporary excavation angle to reduced the extent of the temporary works and excavation required.

Phi Group offered a hybrid of two of our systems - Gabion baskets with geogrid reinforcement, which acted as a thrust relief wall to ensure the basement wall was not loaded. It was also the most economical solution and could be procured in good time to maintain programme.

When looking at the free-standing Gabion baskets, it was decided that they would still need a concrete foundation and the taller baskets would need steel support columns within the baskets to connect to the foundation and maintain rigidity.

Project facts

Owner(s)

Hampton By Hilton Hotels

Keller business unit(s)

Phi Group

Main contractor(s)

Bowmer & Kirkland Limited

Engineer(s)

WSP/Parsons Brinckerhoff

Solutions

Retaining structures

Markets

Commercial

Techniques

Gabion baskets
Gabion cladding

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