



King post wall

A cost-effective system of temporary or permanent retention using columns and precast concrete panels.

Introduction

King post walls are a simple and quick installation method. They comprise boring a hole with a continuous flight auger (CFA) or a rotary bored piling (RBP) rig, filling it with concrete, then installing a UC Section column. Concrete precast panels are inserted between the flange of the UC Sections to create a finished embedded retaining wall.

Common uses

- Retention applications around 5 metres in heights in most ground conditions including weak rock
- Often used for basements, embankment retention and flood defence walls

Keller's large fleet of piling rigs allow for the construction of king post walls in a range of site specific ground and access conditions.

Construction of a King post wall

1. A concrete pile is formed using CFA or RBP methods.
2. A steel section is inserted into the concrete and checked for verticality, alignment and level.
3. Precast concrete panels are installed once the concrete has hardened.



Advantages

- Quick to install
- Cost-effective compared to sheet and concrete piled walls
- Highly flexible with choice of direction easily achieved
- Can be installed on restricted access sites
- Can be designed to cover a range of bearing conditions, retained heights and surcharges
- Can be aesthetically pleasing, with the potential to use timber sleepers and other materials for infill panels.



A King post wall after construction (above) and with cladding installed by others (below).



Napier Park Luton, UK

To allow for the construction of an 800-plot housing development in Luton, a sloped area of the site had to be plateaued to allow installation of a king post wall behind the housing plots.

Completed over a number of phases, Keller installed over 400 linear metres of King Post Wall to allow some parts of the site to be developed. The bearing piles for the blocks of flats and houses were then installed using Keller CFA piling rigs.

The main challenge was access for the king post wall works. Working in close collaboration with main contractor Redrow and their scheme engineer, Keller were able to organise the temporary works required for the safe and programme dependable installation of the king post wall solution.

Using our Soilmec SF65 piling rig, 750mm diameter bores were completed to a maximum depth of 15.0m into the chalk founding strata. Using the attending 50 tonne crane, our specialist king post operatives installed more than 200No. Steel UC sections in accordance with quality requirements to allow precast concrete panels to be installed to complete the retaining wall structure.

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