

## Castlebank

Port Glasgow

This is the third visit to this particular project. It was part of an old quarry originally owned by The Muir Group. They has since developed the site into town houses. The Permacrib retaining walls are “two-tiered” with the rear wall basically facing off the rock face. Due to the two-tier arrangement the Permacrib walls require steps to be built through them to allow access to the rear gardens. Depending on the height of the wall dictated the type of step arrangement. Two different step arrangements were used.



## The project

The two-tier Permacrib walls were used as a cost effective retention system to help form tiered gardens on this very steeply sloping site with fantastic views over the River Clyde to the North. Phi Group were directly involved with the Client from the start, visiting site to see the complexities of forming a suitable system for the back garden retention. It was decided that Phi Group's Permacrib system was the best solution.

The Permacrib wall is almost 4.5m in height at its highest point, although the majority of the walls are around the 2.0m mark.

## The challenge

To meet the Client's requirements both from a technical point of view and also from an aesthetic point of view. There were also room issues for the back gardens due to the steep slopes. Programming of the Permacrib wall works were crucial to the overall programme of the house builds.

## The solution

The Permacrib system was considered the most cost effective solution. The total Permacrib system, to date, is over 500 lin m long with a face area of over 1,250m<sup>2</sup> with a maximum height of almost 4.5m. All designed, supplied and installed by Phi Group.

At present Phi Group have also quoted for a further 2no. phases for an additional 950m<sup>2</sup> of Permacrib walling. The next phase is due to start early 2020.

## Project facts

### Owner(s)

Muir Group Limited

### Keller business unit(s)

Phi Group

### Main contractor(s)

Muir Homes Limited

### Engineer(s)

Dougall Baillie Associates

### Solutions

Retaining structures

### Markets

Residential

### Techniques

Permacrib timber crib

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