

Guarding to retaining structures

(November 2024) (Third issue - supersedes January 2016)

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Question

When is guarding required to retaining structures?

Considerations

NHBC Standards clause 10.2.5 says 'Guarding should be provided where:

- structures are retaining land more than 600mm high to which people have access, or
- a retaining structure is more than 600mm high and the dimension from the top of the retaining wall to the higher ground level is less than 300mm, or
- a path is adjacent to a vertical difference in level of more than 600mm, (including where ground adjacent to the path falls away at an angle of more than 30 from the horizontal)'.

Where the retaining structure extends above the higher ground level and is climbable by young children it can create a falling distance (greater than 600mm) off the top of the wall which then requires guarding.

Where guarding is provided it should be at least 1100mm high, not readily climbable by children and a 100mm sphere should not be able to pass through any openings in the guarding.

According to Childdata:

- 50% of four-year-old children can step up 410mm, and 3% can step up 550mm. Any raised structure lower than 600mm in height may therefore be considered readily climbable by children
- only 5% of four-year-old children are taller than 1200mm, so most would be fairly stable standing on a retaining structure if a minimum guard height of 700mm were to be maintained.

The following guidance is based on these guide dimensions.

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Answer

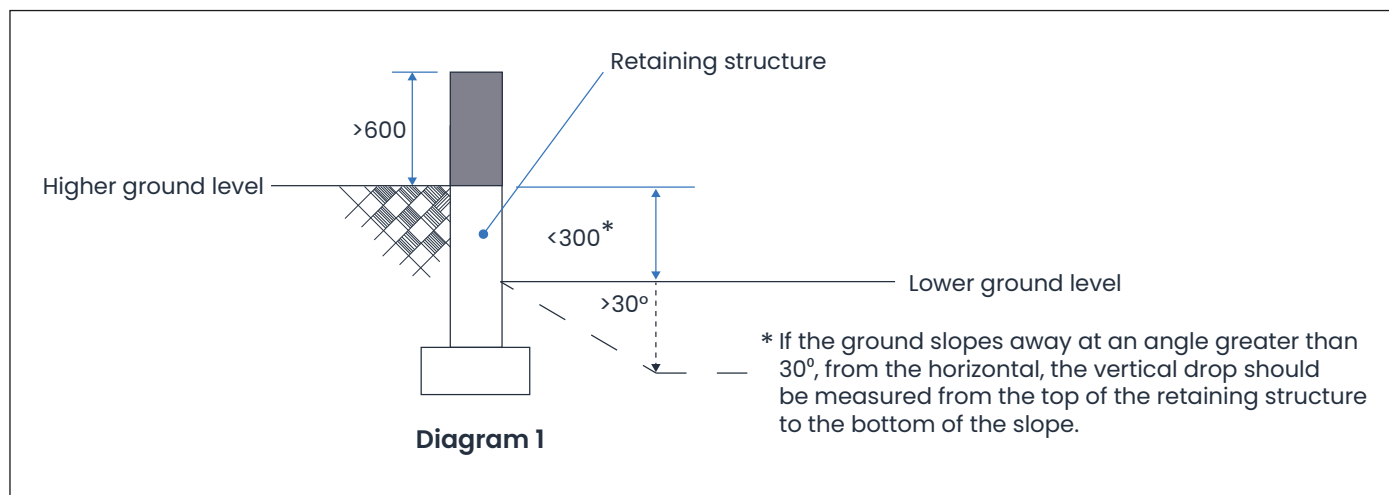


Diagram 1 shows a raised retaining structure which is higher than 600mm above the higher ground level and where the difference in ground levels is less than 300mm and therefore considered to pose a low risk of injury from older children or adults falling over the wall. In such cases guarding is optional.

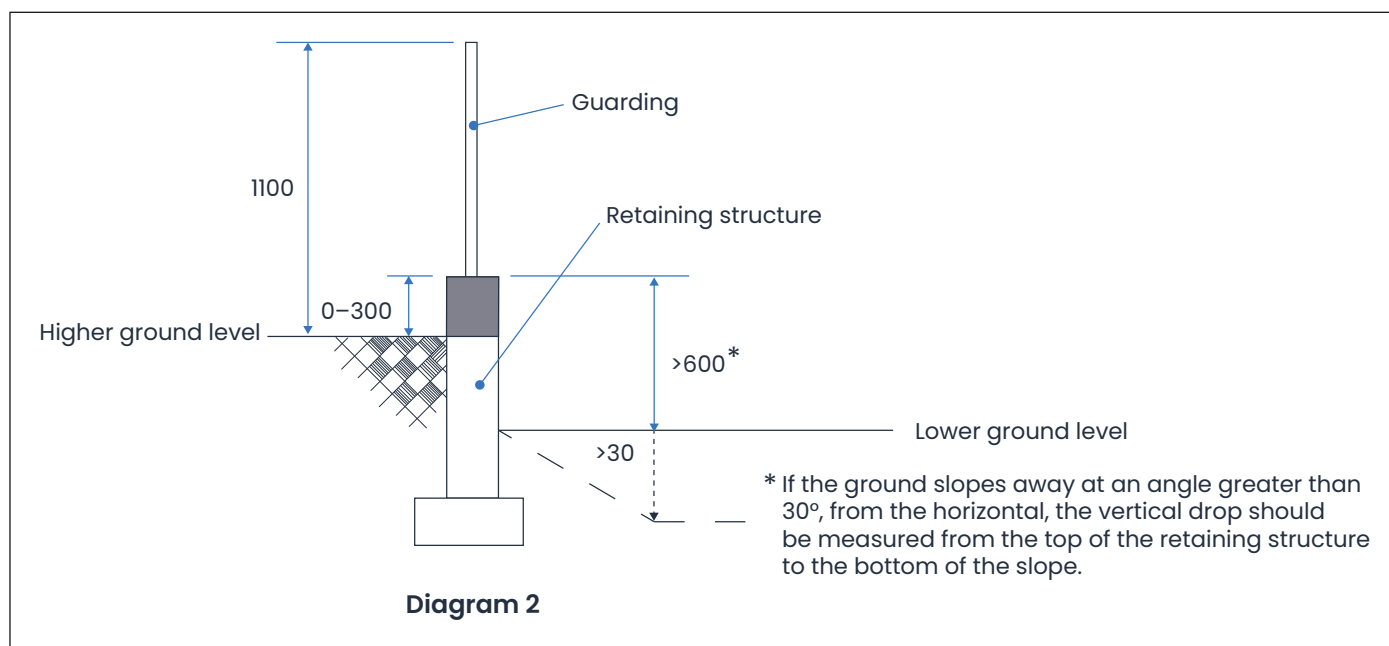


Diagram 2 shows a raised retaining structure which is between 0-300mm above the higher ground level where young children could climb up and stand on the wall and where the drop from the top of the wall to the lower ground level is more than 600mm. In such cases guarding is required.

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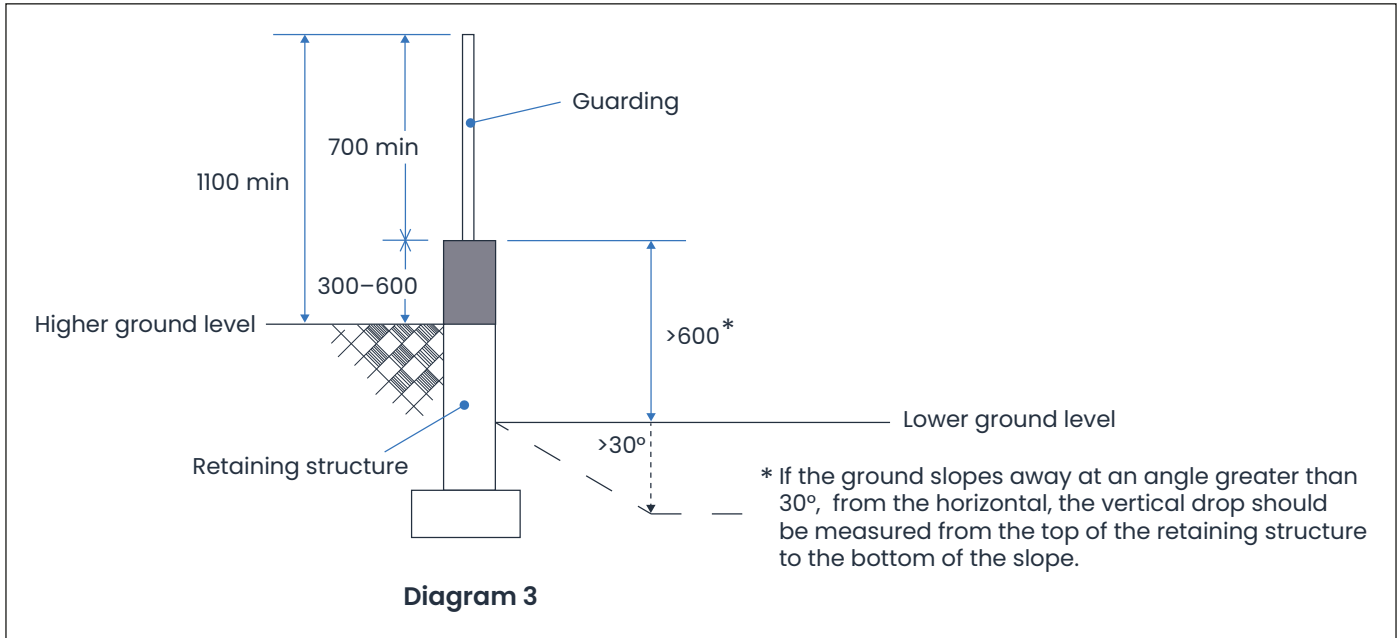


Diagram 3 shows a raised retaining structure which is between 300-600mm above the higher ground level where young children could climb up and stand on the wall and where the drop from the top of the wall to the lower ground level is more than 600mm. In such cases guarding is required and should extend at least 700mm above the top of the wall to protect young children from toppling over the guarding.

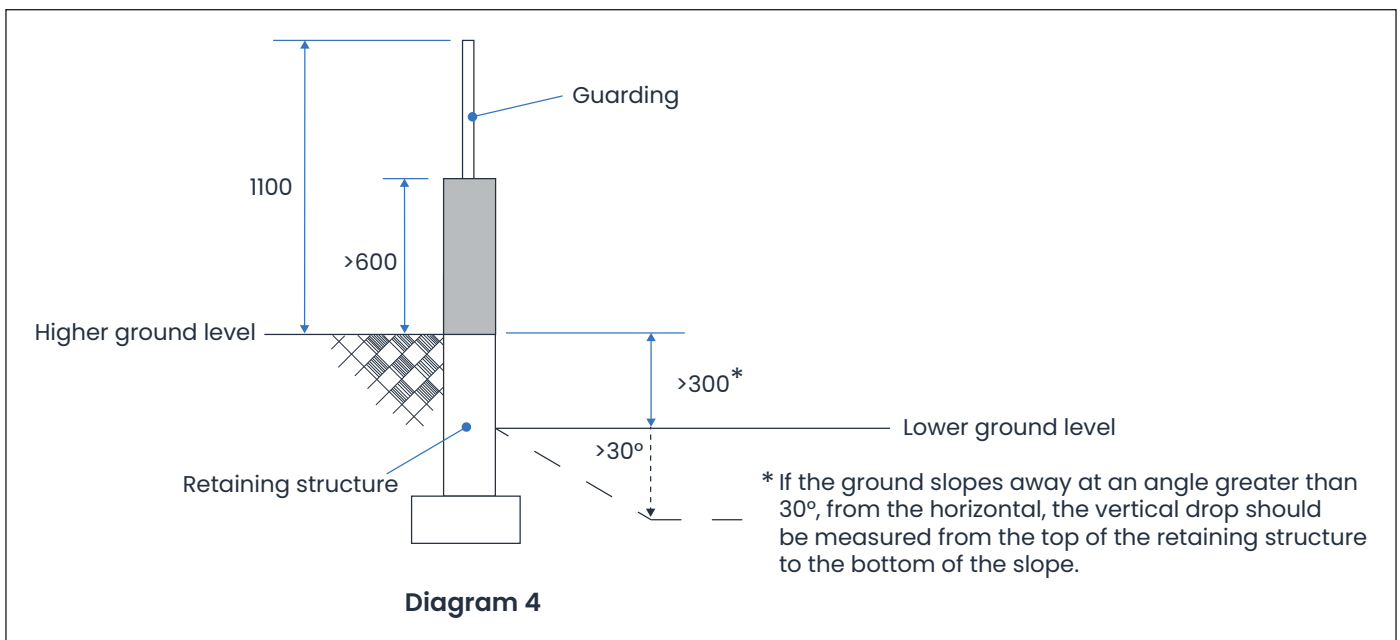


Diagram 4 shows a raised retaining structure which is more than 600mm above the higher ground level together with a difference in ground levels of more than 300mm. The height of the raised section protects against young children climbing and stand on the wall and the guarding protects older children and adults from toppling over the wall and falling more than 900mm.



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