

Preferred Option - Option 2: Walls and Embankments

Option Overview

This option includes the provision of new walls and embankments along the Water of Ruchill, River Earn and River Lednock river corridors. The heights of the required defences vary from 0.25 metres to 1.5 metres and up to a maximum of 2.2 metres in some localised sections. The defence heights are determined by predicted flood levels, local ground levels and calculated freeboard (an allowance for uncertainty/safety factor).

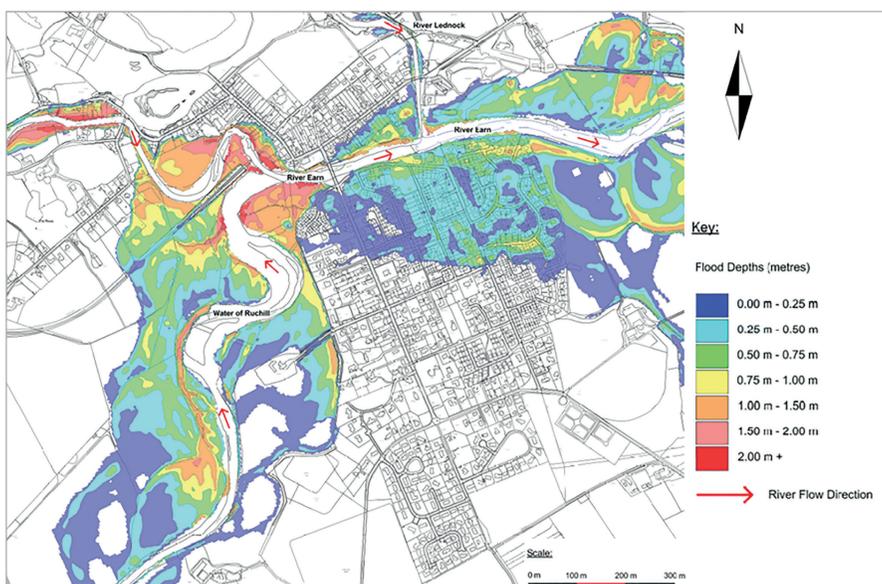


Figure 27: The undefended 1 in 200 year flood event

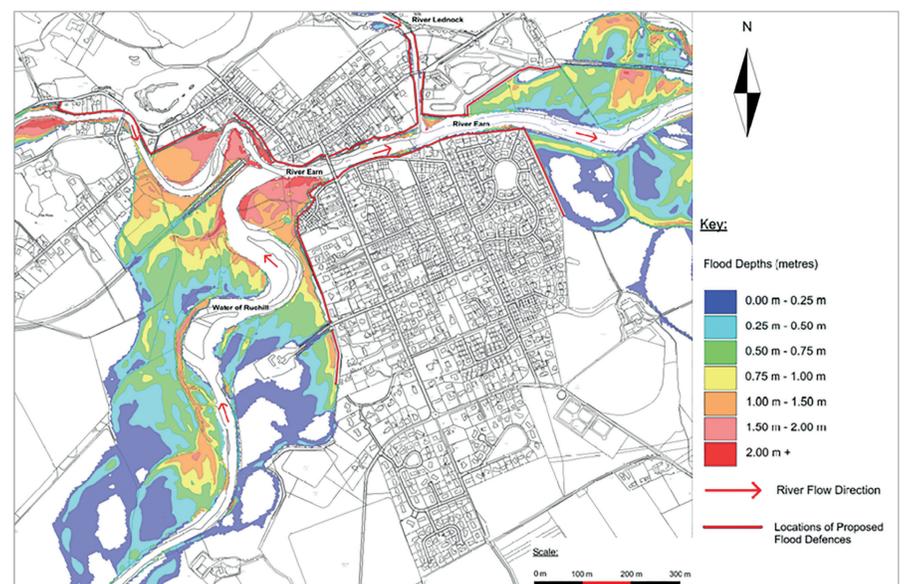


Figure 28: The 1 in 200 year flood event with the preferred option (option 2) implemented.

Selection of Option

The reasons for the recommendation of Option 2 as the preferred option are as follows:

- Walls and embankments are considered a feasible option and can reduce flood risk to Comrie for up to the 1 in 200 year flood event.
- Defences can be sympathetically constructed within the village using suitable finishing and landscaping.
- Access to the river and riverbank should be able to be maintained in some locations through the provision of flood gates and ramped accesses.
- Although some land take will be required, particularly during construction, the amount required will be much less than would be necessary for other options.
- Walls and Embankments provide the option with the highest benefit/cost ratio of 2.0.
- The total cost for the scheme is estimated to be £24.5 million.
- Operational and maintenance costs are also more manageable when compared to other options.
- Environmental impacts are likely to be small when compared to other options. Temporary construction impacts to the local environment will be able to be mitigated against through careful planning in the design and construction phases.
- A Scheme consisting of walls and embankments will be robust. Continual intervention will not be required to maintain the standard of protection (as would be the case with other options, particularly dredging).
- A climate change allowance has not been factored into the Scheme defence heights. This is because this would typically result in defence heights increasing by a further 600mm, which would mean the defences in Comrie would be too imposing. The 1 in 200 year standard of protection will provide a sufficiently high level of protection for the village without a further allowance for climate change.