Updated: 12/04/2022

Newcastleton Flood Risk Management Public Exhibition – 15th March 2022

Questionnaire Results & Feedback

Do you agree with the short-term measure of an embankment?		
Yes	102	97%
No	3	3%
Total Responses	105	

The majority of residents (97%) in Newcastleton were in favour of the short-term flood embankment being built, as proposed at the 15th March public exhibition. This was also the general consensus during discussions on the day.

Q&A – Questions from Feedback (*answers grouped where similar*)

Wall Height

Q1. Height of bund – this features a lot, suggestions it is too low at 300mm, can a higher bund be considered? Make it 1 metres high? *Can it be explained why it is decided at this height and the implications of other heights? Budget available? SEPA license? The model findings?*

Q2. Prefer the bund to 1 metre wall

The height of the bund is constrained by a number of factors. One key factor is the width of the bund. At 300mm high, the crest/top of bund is 800mm WIDE but inclusion of the side slopes means the width/footprint is on average between 4-5m WIDE; side slopes with a suitable gradient are required for structural stability and maintenance purposes (e.g. grass cutting).

If the height is increased significantly, the width of the embankment would be far greater. The consequence of this would be that the green would be unusable for many of its current uses due to the footprint of the embankment taking up further space of the green. For example, it is unlikely the Summer Music Festival could make full use of the green due to the reduction in space.

There are also constraints on the width at the upstream and downstream end of the green where there is limited space available. The licencing requirements under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) for engineering works which is administered by SEPA have a bearing on the type and extent of works being undertaken close to rivers and the licencing requirements these fall under. The proposal is to construct the bund under a CAR Simple Licence (engineering works up to 100m in length within 10m of the river).

The bund proposal has a total length of approx. 360m, with just under 100m in length within 10m of the river. An increase in height would lead to an increase in footprint of the bund, increasing the total length within 10m of the river to well over 100m, meaning that a complex licence under the CAR regulations would be required. The requirement for a complex licence adds another layer of complication and cost – potentially pushing works back/reducing potential for the completion of works in 2022.

Increasing the height of the bund in some instances doesn't necessarily mean that the level of protection offered will be higher. The bund does not tie directly into high ground; the bund will be outflanked by flood water at both the top and bottom end when the water level reaches a certain height. At this level, water would begin to flood the streets as normal behind the bund creating an island like effect with the top of the bund visible through the flood water.

However, small increases to the bund may be manageable and following the feedback received at the exhibition, we have spoken to our consultant about the potential for assessing the feasibility of a bund at 400mm or 500mm HIGH.

Water Overtopping Bund

Q3. What happens when waters come over the bund?

In larger than 1 in 30-year flood events, the bund would be overtopped & outflanked, streets and properties would be flooded as currently happens.

It should be noted that the bund will protect against the more frequent, smaller scale flood events but would not have prevented flooding of Newcastleton in February 2020 or February 2021, which were both greater than 1 in 30-year flood events.

Dredging

Q4. Dredging would allow the waters to spread further into fields on opposite bank and protect homes

Q5. When will gravel be removed from other parts of the river?

Q6. Get rid of the gravel?

Dredging was considered as part of our proposed actions, and the impacts were modelled within our hydraulic model. We took the unusual step of looking at dredging in a different way and actually making dredging "work" in a theoretical sense using our existing river model. This was carried out to show what would be required to try to replicate the level of flood protection a flood scheme offers.

However, for the following reasons dredging is not feasible as a flood risk management measure in Newcastleton:

- There is a reduction in flood levels but flooding still occurs even after dredging for a 1 in 200-year flood event which the proposed flood protection scheme will protect against.
- Very high costs required for each one-off dredge.
    - On a one-off dredge, the volume of material required to dredge the Liddel Water is 34,144m^3. This is the equivalent of 2,400 lorry loads of material.
    - Typically, this would require dropping the bed by between 1 to 1.5m and in some instances by 2m. In sections, this is not possible due to the presence of bedrock.
    - Introduction of hard engineered riverbanks to ensure stability of steep banking after dredging
- Dredged areas would re-fill with sediment quickly, potentially during next flood event.
    - Un-sustainable as numerous dredges required in the future, creating unfeasibly high costs.
    - Funding would be required for each dredge.
    - No guarantee of this funding in the future as priorities change.

- Damage to "The Green" – Extensive damage from lorry loads during each dredge.
- Health & Safety – creation of a larger drop from the riverbank into river during normal flows. River access not possible.
- Environmental Impact – Negative impacts of continued dredging on water environment, quality, and biodiversity. Requirement of environmental licences.
- Road damage – Cumulative effects of lorry loads on road network around village.
- Erosion and impacts on bridges, abutments and riverbanks. Erosion protection (e.g., rip-rap protection) required.

Flood Risk from the Lakes

Q7. I live south of Holm Bridge, worried about sikes at rear of property and the quantity of water being fed into the fields impacting my property during a flood?

Q8. Won't help my property, I flood from the lakes not the river?

Q9. All the watercourses at the back of the village/Lakes area needs diverting south

This bund would not provide flood protection from the Lakes, only the Liddel Water. Further investigation is required to see if any short term measures can be undertaken in the Lakes area which will significantly reduce flood risk, however flood risk to the lakes is complicated by the Liddel Water being the dominant force and backing up into the Lakes area.

Our preferred flood protection scheme, proposed to SEPA's prioritisation process for the 2022-28 flood risk management cycle contains natural flood management measures to provide protection from the Short Sike and Charlie Sike. Within this scenario, the outline design is for the Short Sike to be diverted, and to discharge into the Liddel Water downstream of the wastewater treatment works.

Q10. How will the drains cope with increased water from the hill?

The change in weather patterns and the effects of climate change will continue to adversely affect the existing drainage network in the village. As mentioned in Q9 the formal flood protection scheme will investigate catching as much water as possible from the hill at the back of the lakes by diverting the sikes to discharge downstream of the village.

It is not anticipated that there will be a substantial increased burden on the existing drainage network in Newcastleton because of the embankment being built.

However, as part of the works SBC plan to install some new road gullies in the road channel adjacent to the bund, this will improve the overall drainage in South and Mid-Liddel Street.

Bund Route

Q11. Can the bund route deviate away from the road edge between Stopford St and Walter Street?

The current proposal is an outline design and this can be refined to take into consideration local factors, and constraints along the route. There is potential that the bund could deviate slightly away from the road edge at Stopford St/Walter St to reduce the potential for damage from turning

vehicles or parked vehicles. This will be considered at the detailed design stage, as we move forward.

Q12. How far does the bund extend beyond Walter St? South Manse? To minimise water flow back?

The bund extends 40m beyond the South Liddel St / Walter Street junction, the end point is in line with the property named South Manse.

Cost

Q13. Against spending a lot of money on a temporary measure, would rather it was spent on a permanent structure?

The costs of constructing a permanent flood defence are significant in comparison with a short-term temporary defence. It is not feasible to implement a larger, permanent structure in the short-term (e.g. within the next 1-2 years).

If a temporary measure is not implemented, there will be no solution until any potential long-term solution, which at present has no funding assurances.

Q14. Can we provide the costs for the temporary and permanent solutions?

The cost of the temporary bund is significantly lower than the cost of a permanent flood protection scheme in Newcastleton. We do not have a tendered cost for the bund but the expectation is that the cost will range from £50,000 – 150,000. However, the cost of a flood protection scheme, protecting Newcastleton to a 1 in 200-year flood event is estimated at £10 - £15 million (circa 100x the cost).

Scottish Borders Council would require Scottish Government funding to proceed with a formal flood protection scheme for Newcastleton.

Q15. What happens if you cannot attract enough funding for a permanent solution?

There would be no impact on the funding of the temporary bund – funding for this project is allocated within SBC budgets for delivery in the 2022/23 financial year.

If a formal flood protection scheme in Newcastleton is not granted Scottish Government funding through SEPA's prioritisation process, then no Government funding will be allocated to the scheme for the 2022-28 flood risk management cycle. In this scenario, it is unlikely to be feasible that Scottish Borders Council can fund the scheme fully within the 2022-28 cycle. Future flood risk management cycles e.g. 2028 – 2034 would be targeted for delivery.

Misc.

Q16. Why aren't SEPA undertaking the works?

SEPA are the environmental regulator for Scotland and do not have any responsibility to undertake flood risk management engineering works such as the build of embankments or construction of flood protection schemes.

Q17. How long is the temporary period for?

There is no defined period on the "temporary" nature of the bund. There are no plans to remove the bund. The bund will remain in place and be maintained as long as is necessary until a formal flood protection scheme is constructed.

Q18 Natural flood management needed upstream

As part of the original flood study for Newcastleton a high-level initial screening of Natural Flood Management (NFM) measures was completed, this showed limited areas where such measures could make any real difference. However, to gain a better understanding a whole catchment model is required to assess flood risk management options more accurately in the catchment. This is currently being developed in other catchments in the Borders where flood schemes already exist, if whole catchment modelling is successful this process will also be carried out in Newcastleton in future flood risk management cycles e.g. 2028 – 2034.

Q19. Widen the river at the filter beds

This has not been assessed in either the short term or longer-term flood risk management options. This will not be taken forward in the short term but the viability of additional options will be included as part of the re-assessment of a formal flood protection scheme for Newcastleton.

Next Steps:

- Ask consultant to assess an increase in bund height to 400mm and 500m and determine the effects on flood risk.
- Investigate the use of demountable barriers that could be used to enhance the protection provided by the temporary flood bund.
- Undertake detailed design of temporary flood bund.
- Construction of the temporary embankment in summer 2022.
- Investigate if any temporary measures can be undertaken in the Lakes area.

If you have any further questions, please contact SBC flood team directly
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