

Managed Adaptive approach for the preferred option (option B)

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The document below outlines the option for developing the preferred option into a managed adaptive approach

1) Preferred option design

Please see the Original preferred option drawings at <https://eastdevon.gov.uk/beaches-harbours-and-coastal-information/coastal-protection/beach-management-plans/sidmouth-and-east-beach-management-plan-and-scheme/draft-outline-design-drawings-not-for-planning-or-construction/> To aid with the description

To further aid discussion, the two options are labelled as follows:

- 1.1. Option A is the current preferred option (version 1,2 or 3) which will involve the building of the scheme at the start of the schemes life, with no elements being significantly delayed before their construction
- 1.2. Option B is the managed adaptive approach option. This is as per the drawings in the link above, aside from the splash wall is not raised to the full 1m (1.3m in places) on day one, but allowance is made within the foundation for it to be topped up at a much later date should it be required.

2) Funding note:

- 2.1. In 2020, the Partnership Funding Calculator which calculates a project's eligibility to central government funding was updated. In short, it generally is more generous than the previous calculator. This meant the previous £1.5m gap disappeared, and the previous design was fully affordable.
- 2.2. Option A will use all the benefits (reduction in flood risk) on day 1 of the schemes construction to generate the maximum funding available. This is because option A will deliver a higher reduction of risk than the minimum required, so the funding is the highest, therefore a more expensive option, with additional modelling allowance can be considered.
- 2.3. Option B will delay all the benefits (reduction in flood risk) until the wall is fully topped up. The minimum required reduction in flood risk will be delivered on day one, so the overall funding eligibility is reduced. Therefore the cost of the scheme needs to be less than to be affordable. Therefore it envisaged that the splash wall will need to revert to a simple plain concrete wall (as it is now) and be topped up with concrete in a future year.

Note that the signed off OBC does not commit the project to be built, it is a funding gateway. Once approved, we must deliver a project on the same principles as the OBC outlines, but not the exact details. Any changes in scheme principles would result in a further technical (and financial) assurance process.

3) Option B – Managed Adaptive Approach Design

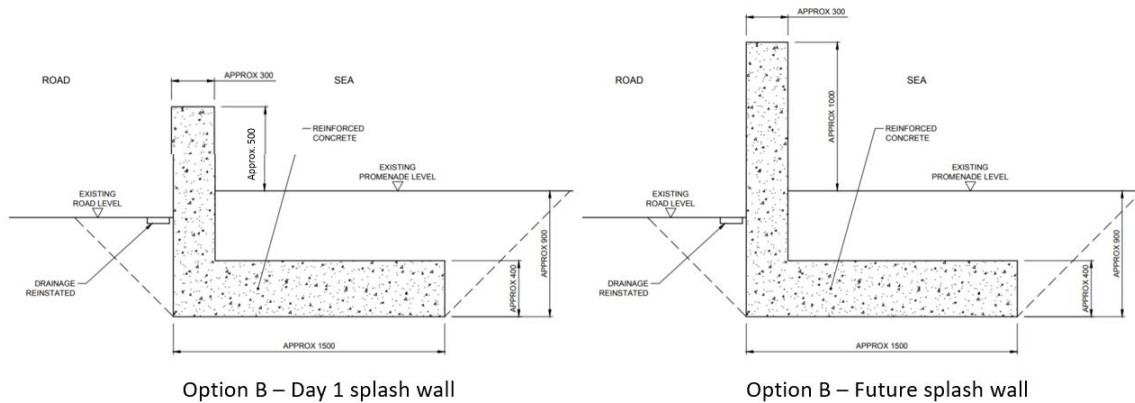
This option still promotes all the sea and shore based elements of the version 1 option, but amends the splash wall option to a managed adaptive approach

3.1. The sea and shore works are as follows and remain in principle the same as version 1. It is noting that further amendments can be made within the detailed design stage:

- Supergroyne at East Beach designed to catch beach material and keep in it the Sidmouth sediment cell from the predominant south westerly weather patterns.
- Beach recharge at East Beach. This will place new beach material at east beach in front of the cliffs, offering them greater protection. The supergroyne aims to keep it in place.
- River Training wall amendments. A small shortening, will better link the Town beach and East Beach sediment cells, as well as offering better plant access between two beaches for future recycling and recharge activities.
- Improved slipway. Aside from better access for the Lifeboat and beach users, it will allow easier access for plant to carry out recycling and recharge activities.
- Town beach recharging. New beach material will be brought in to return the beach to the 1990s design level, offering the existing sea wall better storm protection, as well as reducing flood risk.
- Further repairs and maintenance in and around Jacobs ladder.

3.2. Option B – Proposed changes to the Splash wall.

We have listened to people's concern about raising the splash wall prematurely, so have identified a compromise solution which maintains the required minimum standard of protection needed for funding, whilst maintaining the current view and feeling of the splash wall, accepting that overall funding eligibility will be reduced. The OBC submission does not require a fixed splash wall design, but we understand the concern raised that stating a fixed splash wall at the OBC implies we may build it. Therefore we have selected a tried and tested adaptive approach to include in the OBC. The actual design will need to go through public consultation, and also may be subject to change should better technologies be proved suitable in the design stage. However it is a sufficient starting point to enable us to submit the OBC, to unlock further funding, and allow for more detailed modelling at the detailed design stage to better understand the wall raising requirements.



Above: Indicative sketch of proposed option B splash wall

The proposal for the Option B Managed Adaptive approach is as follows

- The premise is that the wall is rebuilt with sufficient foundations for a permanent top up, should it ever be required. It will likely be plain concrete similar to the existing wall.
- The wall is raised as much as it can be accepted, whilst maintaining views.
- The OBC will suggest a target date for the wall to be raised to full height. Money and resources will be set aside for this.
- Monitoring of future storms and with future modelling the target date for the wall to be raised will be adjusted.
- When/if required, the wall will need to be topped up to the full height.

4) **Managed Adaptive approach:**

We have listened to people’s concerns regarding building a solid wall for the rare event in the next few years, whilst having to live with the loss of view and connection to the sea. Therefore we believe the managed adaptive approach is an option going forward, as it offers the minimum flood risk protection day 1, and with climate changes, the minimum protection can be increased as and when required.

5) **Compromises**

This wall type selection for the OBC (not detailed design or planning) will result in compromises.

- This route will damage our overall funding eligibility, so we will not be able to afford an attractive wall, day 1, or potentially in the future.
- As less funding available, less opportunity to model optimum wall heights in detailed design stage and investigate other options on maintaining a healthy beach.

- Delaying the decision for a full top up wall for future generations to deal with (although they will be armed with more historical data of sea level rise and storm intensity increases).
- We will have to have a target date for the wall to be raised at the OBC stage. Without further modelling, we don't know if it would be soon after construction, or much further into the future
- Selecting this option will delay the production of the OBC, as models will need to be re-run, and the economics adjusted. We expect this additional work to cost £XX,XXX and delay the project further by X months.

6) Alternative alignments

Within Option B of the preferred option, we will include reference to allow alignment changes of the splash wall, should it be required. So long as the principle of a splash wall remains, the alignment could be changed, should it offer benefits.

- If the splash wall is set further back from the current splash wall, it does not need to be as high
- However the road camber is toward town, so would need hold back more 'still' water
- The drainage network would need to be investigated, and possibly rebuilt to ensure water does not pipe under any defence from wet to dry
- A smaller set back wall may cause issues for parked cars unable to open doors.
- Important not to cut access off if road flood gates are needed.
- Potential for a set back wall around the turning circle and old drill hall. See image below of a quick sketch of a potential layout (not consulted with any groups at this stage)



7) Other wall types

As this option is likely to reduce the funding eligibility, the scope for investigation and implementation of other wall types will be very limited.

8) Conclusion.

We believe this to be a viable option for the splash wall to include in the outline business case. It signals that Sidmouth won't accept a solid wall at this time, and including this design in the OBC indicates that this, or a similar solution will be the one chosen following public consultation, detailed design and planning approval. It gives some flexibility to deal with climate change, whilst maintaining views and the feel of the town. However we believe option A gives the best protection and flexibly whilst attracting the most amount of funding from central government.