

Sidmouth & East Beach Management Plan (BMP)

Short-List Option #S4

A: Jacob's Ladder Beach and Connaught Gardens	B: Sidmouth Town	C: East Beach	D: River Sid Western Wall
Undertake maintenance of seawall, promenade and rock revetment including re-packing of rock, guided by regular inspection. Periodic removal of shingle from Jacob's Ladder Beach promenade area, with sediment placed to the west of the wall within this sediment cell. This is the same as in Options S1, S2 and S3.	Remove existing beach structures and construct new offshore breakwaters.* * The number, position, size and height of structures to deliver option would only be known after modelling of the structures was undertaken as part of detailed design.	Construction offshore breakwaters tapering towards the eastern end of the study areas.*	Undertake maintenance of the existing River Sid western wall for as long as is economically viable then replace with a coastal standard wall as it becomes at risk of being exposed by erosion at East Beach. This is the same as in Options S1, S2 and S3.



Illustration of how replacing the groynes with additional oblique offshore breakwaters could look (basis of sensitivity test)

Please note, that these are provided for illustration of the option only and are subject to change and refinement as part of further detailed investigations to develop the final design should this be taken forward as the preferred option.

Illustration of how replacing the groynes with additional shore-parallel offshore breakwaters could look (basis of core appraisal)



Key points from Technical Appraisal

- Provides required standard of flood risk protection, increasing potential for future development within the Sidmouth frontage.
- No residential or commercial properties would be lost to erosion within 100 years.
- Option protects tourism and amenity interests including SW Coast Path National Trail, beach huts and Connaught Gardens from erosion.
- Delays and reduces impact of erosion of East Cliff on Alma Bridge and River Sid western wall to greater amount than Options S1, S2 and S3.
- Assumes commitment to regular beach recycling and recharge as beach levels, though commitment likely to be less than other options as beach will be more stable behind the reefs.
- Greater reduction in length of training wall and removal of groynes improves connectivity along length of shoreline.

Key points from Economic Appraisal

- **Estimated Cost:** £19,894,000
- **Benefit:Cost Ratio:** 4.3
- **Amount of Partnership Funding Contribution required:** £14,886,000

Key points from Environmental Appraisal

Receptor	Potential impacts of option
Geology Geomorphology	Implementation of the scheme is likely to inhibit natural coastal processes rather than promote, affecting UNESCO World Heritage Site and nationally designated geological sites. Impacts likely to be greater than other options.
Water quality	Increased threat of greater chemical pollution (chemical composition unknown) by increased volume of sediment. Timing may be key to reducing impacts.
Ecology	Potential increased impact on nationally and internationally designated ecological features including SAC features, BAP Habitats and nursery and spawning grounds of fish species. Breakwater construction would be at the detriment of loss of habitat to benthic species associated with soft sediment. However, construction could be of benefit to other species, which may also benefit if rock-pool type features are included in the reef construction. Long term altered changes to ecology
Fisheries	Temporary effects during works as per Options S1, S2 and S3. The reef structures themselves may provide increased fishing ground (reef) for pelagic species, however breakwater construction may impact benthic species (loss of sediment habitat) changing fishing potential
Navigation	Temporary effects during works as per Options S1, S2 and S3. Dangers to safe navigation of structures lying just below the water surface, although these will be charted. Wave induced currents may develop
Landscape	Potentially greater negative impact on landscape features compared to other options. Impact depends upon scale, height and number of reefs.
Archaeology and Cultural Heritage	Potential long term effect on the setting of cultural heritage asset.
Air quality	Any effects are considered negligible.
Noise	Increased noise and vibration impacts during construction works.
Amenity value	Potential temporary, negative effect on amenity value during construction periods. Positive impact of ensuring beach is provided for amenity benefit through ongoing regular beach recharge and recycling. Potential long term effect on swimmer safety from wave induced currents.