Report on meeting of the Pause subgroup and the Consultants

30th July 2021

Present:
Geoff Jung, Chair, EDDC Portfolio Holder Coast, Country and Environment
Tom Buxton-Smith, EDDC Engineering Projects Manager
Tony Burch, retired chartered Civil Engineer
Chris Lockyear, STC, retired Chemical Engineer
Richard Eley, President of the Sidmouth Chamber of Commerce
Paul Griew, Cliff Road Action Group
Mary Walden-Till, Vision Group for Sidmouth
Lucia Stothert and Tom Green, Consultants from Royal HaskoningDHV

Apologies, Phil Shepperd, consultant Coastal Science Ltd, and Sidmouth Lifeboat

The purpose of this meeting was to allow direct communication between the Consultants, Royal HaskoningDHV, and members of the subgroup. The meeting was very informal and held on Zoom.

There were over 2 hours of discussion which can be summarised as follows.

1) The consultants shared with the subgroup the design conclusions they had reached so far. They have now dismissed, for one reason or another, all ideas except offshore islands; including the idea of having nearshore islands as shown in option 4b of the 2016 consultation. Option 4b was the one preferred by the Sidmouth community.

They showed the option below. Some initial calculations have been done based on this. These calculations show that directly behind the islands there will be no wave over-topping and so no need to raise the current dwarf wall on the Esplanade. The calculations as to whether there will be over-topping behind the gap between the islands has not yet been done.

This was described as the ‘Rolls Royce’ of possible solutions.

It would protect Sidmouth against waves over-topping in both south east and south west storms even with the current low level of beach. This is to the 200 year level of protection, (which means that it should withstand events only expected to occur once during a 200 year period of time).

A member of the subgroup pointed out that this option had almost reversed the intention of the previous 2016 options.

In 2016 there was the intention to create and hold a large beach which, by its presence, would protect the town. Now the intention seemed to be to protect the town by stopping large waves reaching it, and the size of the beach had become irrelevant. He questioned why this shift in emphasis had happened. The suggestions which had been given the consultants in the Scope document were based on the idea of the beach providing the protection, with the rock structures keeping the beach in place and adding to the protection provided by the beach.

It would appear that the change was a result of the consultants looking at the problem anew with islands at the forefront of their minds.

As the discussion proceeded it became clear that this 'Roll Royce' of options would be completely unaffordable.

2) Members of the subgroup were surprised by some of the information the consultants had been using as the basis for their work, as they felt that the information used did not reflect what could be seen on Sidmouth beach.

The consultants said that the Environment Agency had documents on its website which gave Sidmouth as an example of a beach where rock islands had NOT caused the formation of tombolas.

Almost all subgroup members seemed perplexed by this, because what had previously been thought of as tombola shapes in the sand are clearly visible at low tide.

It was questioned how up to date the information on the website was or whether the subgroup had misunderstood the terminology. The consultants felt that determining the precise terminology was not as important as the fact of the information being given on the website.

It was stated that the presence of Chit Rocks in conjunction with the rock islands is very important to sediment transfer westward and to the classification of the forms accretion takes in that area. There are many different names for the shapes formed as beaches build up.

Members of the subgroup still felt that the huge amount of beach material that had gathered around Clifton Beach and the area of the rock islands was being underestimated.

3) There was discussion about what was needed on East Beach.
The Scope document given to the consultants to guide their work had mentioned that, as a low level of priority, improved beaches would be a good thing if possible. This had been interpreted by the consultants as there being a need to reinstate East Beach to a safe swimming beach, and this belief had driven the design for protection there.

It was made clear to the consultants that the intention was not to attract people back to East Beach. The subgroup pointed out that unstable cliffs were a health and safety hazard and that signs were in place discouraging use.

The consultants said this misunderstanding will have made very little difference to the design. They had described earlier how a safe beach at East Beach was 'key' to their thinking.

There was further discussion about the merits and problems of having the supergroyne on East Beach rather than two islands off it. The points raised were

- that islands might be more acceptable to Natural England and the WHS even though they had reluctantly already accepted the supergroyne in principle if no other way could be found.

- that cliff falls may still occur after sea defences were in place until the cliffs reached an angle of repose (that is a natural stable slope).

- that the consultants had more confidence in the effect of a supergroyne rather than the more complex effects of offshore or nearshore islands.

4) The engineers on the subgroup questioned the consultants in depth on the technical details of the original 4b and on the option now being shown.

These questions included

- considerations of height of the rock islands above mean spring high tide level,
- whether submerged rock islands or a wider reef like structures would work,
- the angles at which the rock island would be placed
- the difference which might occur if the land based groynes were removed.
- Questions were also raised about whether rip tides might be mitigated by cross currents which would disrupt their flow and also affect wave movement through the gaps. The answer to these questions will only be discovered after further modelling.

The consultants explained that the offshore rock islands were so far off shore that they would not create a tombola effect and that they had major concerns about placing rock islands at oblique angles where they might not prevent over-topping in south easterly storms.

This was an unexpected concept to some members of the subgroup, as they had previously thought the idea was to try to create tombolas to improve Town Beach; and because the former consultants' 4b option from 2016 had oblique islands closer in shore.

It was stated that submerged islands or reefs would not work and that islands needed to be visible above water at high tide.

5) The consultants further explained that that this particular location and situation means that things which would work elsewhere have been ruled out for Sidmouth because of the shallow beach and the extent of the tidal change. Also that lower structures brought problems of stability in storms, could increase rip currents as well as not decreasing the wave height enough to prevent over-topping and that there would not be cost savings anyway. However it was part of further work to look at the angles of the islands and do some rough calculations on this to help find a way forward.

6) In answer to questions about the possible use of Geotubes as a base for rock islands to reduce the cost we were told that the consultants knew of no cases where geotubes had been used in a situation such as Sidmouth or as a core for islands of such a small size. They had investigated thoroughly and were disappointed that innovative techniques could not be used, but they were certain of their findings.

7) It was explained to the subgroup that the plan being shown would work technically but that the consultants preliminary costings indicated that it would £18 million just to construct the islands, and a recharge to put enough sediment into the system would bring the cost up to approximately £20 million.

In view of this they were asked directly whether they felt they would be able to reduce the cost to something which was affordable. The answer was a definite 'yes'.

However, what was said later left it unclear as to whether the 'yes' was to a variation of the 4 island option shown or to the ability to produce some sort of scheme which was affordable, ie defaulting to the 'preferred option'. (See section 10)

8) Although the consultants were clear that they had been working to make sure that recharge or movement of beach material was not necessary in the future it was not clear whether they had also been trying to avoid an initial recharge as part of the design.

This point was discussed and they were reminded that we had always expected there to be an initial recharge needed. It was accepted there should be an initial recharge and then further monitoring to make sure the beach was acting as predicted.

9) The subgroup had some questions the consultants were not able to answer. They could not tell the subgroup the height of the current rock islands so couldn't give a comparison with the proposed

ones, nor could they answer questions about costs to do with the original Beach Management Plan as they had not seen them. These questions will need to be answered at a later time.

10) The consultants said that they thought an offshore islands option was unaffordable.

However, they were willing to do some work on sizing and placement to see if they could reduce the cost to something affordable if that was what the subgroup wanted them to do.

They stressed that they were concerned about the possibility of wasting money by pursuing options which were not going to work and said that, although it might not be popular with the residents, the Advisory Group should probably consider reverting to the ‘preferred option’ or, as it is now referred to, the ‘Paused Option’.

The subgroup felt that to stop now was not sensible and that we needed more information before making a decision.

The consultants were asked to do further calculations including looking at why the 4b option should be rejected when it had previously been part of the ‘technically preferred’ option, only rejected on cost grounds.

They were also asked to discover for sure whether an effective island option of any sort could be affordable.

Meeting closed.