

**Unconfirmed**



Minutes of a Meeting of the **Southwold Harbour Management Committee** held in the Stella Peskett Millennium Hall, on **Thursday, 23 February 2023 at 4:00 PM**

**Members of the Committee present:**

Councillor Maurice Cook, Mr David Gledhill, Mr Richard Musgrove, Mr John Ogden, Councillor David Ritchie, Councillor Craig Rivett, Councillor Mary Rudd

**Other Members present:**

Councillor David Beavan

**Officers present:**

Kerry Blair (Head of Operations), Sharon Bleese (Resilient Coastal Communities and Businesses Manager), Madeline Fallon (Senior Coastal Advisor) Andy Jarvis (Strategic Director), Alastair MacFarlane (General Manager, Southwold Harbour), Alli Stone (Democratic Services Officer), Nicola Wotton (Deputy Democratic Services Manager)

**Others present:**

Ian Bradbury (Stakeholder Advisory Group), Simon Flunder (Stakeholder Advisory Group), Marcus Gladwell (Stakeholder Advisory Group), Vicky Gladwell (Stakeholder Advisory Group), Diane Perry-Yates (Stakeholder Advisory Group), Amy Savage (Principal Consultant, Royal Haskoning DHV), Richard Steward (Stakeholder Advisory Group)

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**1 Apologies for Absence**

Apologies were received from Councillor Letitia Smith and Mr Mike Pickles.

**2 Declarations of Interest**

There were no declarations of interest.

**3 Minutes**

On the proposition of Councillor Rivett, seconded by Councillor Rudd, it was

**RESOLVED**

That the Minutes of the Meeting held on 12 January 2023 be agreed as a correct record and signed by the Chairman.

#### **4 Draft Southwold Harbour Study**

The Committee received report **ES/1463** and the Chairman invited Amy Savage, Principal Consultant at RoyalHaskoning DHV, to present the draft report on the Southwold Harbour Investment Plan including options for dredging and breakwater culverts.

Mrs Savage summarised the aims of the project which were: to develop a realistic and prioritised investment plan for the harbour, advise on options to address the future function of the harbour entrances, including the broader context of the estuary, to address the poor condition of the South Pier, and mooring conditions at the North Wall.

The key issues for discussion at this meeting were the dredging of the shoal bank, whether a rock groyne should be included to narrow the channel, and whether culverts should be included in the design for the replacement South Pier.

Mrs Savage summarised the background to assessment of the dredging option. There is a sediment bank opposite the North Wall which constrains the channel and forces boats to navigate close to the North Wall, thereby also limiting space for mooring. This bank also contributes to wave activity in the harbour. There was historic evidence of sediment accumulating in the channel, but there had not been issues with blockage in the last twenty years. At present the situation was balanced, large amounts of material were not being deposited or eroded. It has been suggested locally that the bank was created through sedimentation from Dunwich Creek, during storms, and when timber piling was put into the river.

Mrs Savage summarised the results of the 2013 and 2020 bathymetric surveys. There were limited changes in bed levels, although the width of the bank had varied. The shoal bank had changed slightly, moving toward the entrance channel, but it appeared that the material under the surface was relatively stable. There was no indication that this would block the entrance channel.

In terms of the proposal to remove this bank of sediment with the aim of increasing moorings at the North Wall, modelling had been done to see how this would impact tidal flows and wave conditions. Research into the maintenance and consent requirements had also been completed. If the bank was dredged but the South Pier was not replaced, waves would not build and break in this area but there would be increased reflection of waves into the harbour and higher waves at the North Wall. With deeper water in the channel there could potentially be more waves during storm conditions. The channel would not be constrained by the bank, allowing for more space for vessels. If a rock breakwater was installed in place of the South Pier, the shoal bank would have less impact on wave conditions than at present, as the breakwater would reduce wave conditions and wave energy.

Mrs Savage confirmed that the rock breakwater height had not yet been confirmed, this would be done in a final design phase. At present it had been modelled on the

basis that a limited number of waves would overtop it. Breakwaters were typically not designed to prevent all overtopping during extreme conditions. Designs for overtopping would typically be based on normal operating conditions and the size of rocks designed to minimise damage during extreme conditions. With rock armour in place the harbour would be much calmer due to reduced wave reflection and the breakwater reducing wave energy.

In terms of tidal modelling, this was based on the outer harbour being dredged to -4mODN. By removing the shoal bank this would result in higher peak water levels in the outer harbour by approximately 20cm during a 2013 scale event. With a breakwater in place and dredging there would be a less than 3cm increase in upstream water levels. In terms of velocity, there would be an increase in velocities upstream and reduction in peak flow velocity at the North Wall. The knuckle would continue to influence flow directions after dredging. The shoal bank had a much greater influence on upstream peak water levels than on upstream flow velocities.

Considering dredging with the narrow channel option, four different locations for a rock groyne were considered, and two of these were modelled. Adding a narrow channel replicated the effect that the shoal bank currently had on upstream water levels. With a breakwater, narrow channel and dredging, peak water levels at the Blackwater would be reduced by 5cm. A rock groyne located further upstream had a more favourable impact than a groyne located closer to the river entrance.

Mrs Savage recommended that if dredging options were progressed then a rock groyne should be installed at location 4 to narrow the channel. However, there may be other constraints on the installation of a rock groyne at this location which had not yet been identified.

There would need to be regular monitoring to check future sediment deposition. It is expected that there would be a gradual build up of material but it was possible for an extreme event to deposit a lot more sediment in the area. In terms of consent, as there had not been recent maintenance dredging, any work would be classed at capital dredging and a licence would be needed.

Mrs Savage concluded that in terms of dredging, removing the shoal bank would improve conditions for navigation in the Outer Harbour and potentially make the North Wall more usable but would not change conditions in the entrance channel. A rock groyne to narrow the channel upstream of Dunwich Creek was recommended if dredging was progressed.

Mrs Savage summarised options for culverts in the proposed rock breakwater. Additional modelling had been done to determine whether culverts would have the desired impact on conditions within the entrance channel. Results showed that culverts would create cross flows in the entrance channel. Considering the difference between the present structure and a rock breakwater with culverts, there would be an increase in flows with a rock breakwater but these would be close to the structure and would not permeate the harbour entrance channel, similar to conditions at present. The windows in the current structure do not significantly impact tidal flows, but have more of an impact on wave conditions. In terms of wave penetration, culverts would

dissipate much of the energy but waves would generate unpredictable currents and jets of water in the channel.

Mrs Savage stated that the current structure meant there was a more gradual change in conditions on entering the channel, reflection was limited from the South Pier and swell waves did not build on the wall.

A rock breakwater (without culverts) significantly improved wave conditions in the entrance channel by dissipating wave energy, reducing wave reflection, and had a noticeable impact on wave height in the harbour making conditions much calmer. This demonstrated that waves were the issue that impacted navigation conditions in channel rather than tidal flow.

Mrs Savage concluded that a breakwater was still the preferred option for replacing the South Pier, and that culverts through the structure were no longer recommended. The breakwater could be designed to optimise conditions at the harbour entrance, particularly with consideration to the change in conditions along the entry channel.

In terms of next steps, a preferred option for the South Pier needed to be agreed, along with options for dredging and any other options for structures in the channel. Costs relating to the North Pier also needed to be confirmed. Once options were confirmed the plan could be finalised and environmental assessments and consultations could be done, an outline design developed and a business case prepared. Cost estimates also needed to be updated due to changes in the availability and price of building materials and contractors. This work would also support any funding applications that would be made as part of this project.

The Chairman thanked Mrs Savage for her presentation and invited questions.

Mr Gledhill asked what, if any, assessments would be done on the North Wall. Mrs Savage confirmed that the work to conclude the Investment Plan would include further consideration of the condition of the North Pier structure, not the North Wall. There were differing views on the lifetime of this structure and greatly depended on the works done to the South Pier. Mr Gledhill stated that it made sense to also assess the North Wall before work was done to dredge the river.

Mr Gladwell, a member of the stakeholder advisory group, asked if work could be carried out on the South Pier first to see if this did have the desired effect on the channel before any additional work was done on dredging. With regards to rock groyne at location four, Mr Gladwell anticipated that this would cause issues for navigation into the inner harbour and if dredging was done there would need to be something to manage swell along the river. Mr Steward, another member of the stakeholder group, raised concerns about a rock groyne at location four in terms of flood risk to properties on Ferry Road.

Following a question on the cost of dredging, Mrs Savage confirmed this had not been costed at present.

Mr Musgrove asked if the process of modelling could be expanded on to provide reassurance to those present that the results could be relied upon. Mrs

Savage confirmed the modelling software that had been used was validated based on what had been achieved in practise and hydraulics lab testing. The larger report included information on this modelling. Wave models were known to be accurate and there was a large amount of background evidence on rock structures and their impact on wave conditions from all over the world. Mrs Savage stated that at present that the rock breakwater used in the modelling was the same shape as the current structure, but adjustments could be made in the shape and alignment to meet certain requirements, such as improving the conditions at the mouth of the channel.

The Head of Operations asked if there would be a need for fendering on any new structure. Mr Gledhill and Mr Musgrove confirmed it was not required but was recommended. This could be considered in the design process.

Mr Musgrove stated that there seemed to be no benefit to dredging prior to works on the South Pier. The General Manager agreed that this seemed to be the case, but a cost/benefit would need to be done and presented to the Committee. The potential income from the North Wall needed to be considered before dredging to increase space was carried out. The General Manager added that dredging would not necessarily make the river deeper and so many modern vessels still would not be able to use the harbour. At present it would be very difficult to determine the cost of dredging and further tests would need to be done on the material that would be dredged.

The Chairman stated that he had been very keen on the idea of dredging to open up the harbour, but now considered it was more sensible to prioritise the design of the rock breakwater and consider dredging after this.

The Chair of the Advisory Group, Mr Flunder, agreed that in terms of dredging, a cost benefit needed to be carried out. Work would need to be done on the North Wall regardless, and to replace the South Pier. Mr Flunder stated that it seemed that a breakwater was required, but other options for dredging were less clear and could be considered in the future.

Mr Gledhill agreed that there would be a need to do work on the North Wall sooner or later, even if the river was not dredged to ensure the longevity of the structure.

The Head of Operations summarised recommendations so far. It was clear that the South Pier needed to be replaced with a rock breakwater. This would have a great impact on condition in the harbour, and more work would need to be done to prepare a business case for works on the North Wall to make it safe and useable. There was little benefit to dredging and narrowing the channel at this point. A business case would come to the committee on the North Wall and options for replacement and use in due course.

The Chairman asked whether the existing South Pier structure would be used in the new breakwater. Mrs Savage confirmed that was the intention at present. The rock breakwater would most likely be built using part of the existing structure in the foundation to the breakwater so it did not need to be removed completely.

Councillor Cook asked if the advisory groups could report back to the next meeting on what works they would like to see done and how they should be prioritised.

There being no further questions, on the proposal of Mr Gledhill and seconded by Councillor Cook it was

**RESOLVED**

That having commented on their contents, the Harbour Management Committee note the Draft Southwold Harbour Study, Dredging Assessment and Culvert Option Assessment.

**5 Update from the Committee's Working Groups**

Updates from the Committee's working groups would be considered at the next meeting.

**6 Update from the Stakeholder Advisory Group**

Mr Flunder commented that the next steps for the South Pier and the harbour were becoming clearer and thanked Mrs Savage for her presentation.

**7 Work Programme**

The Committee noted the forward work programme.

It was agreed that there would be a verbal update at the next meeting on the Southwold Harbour Study once the Committee had time to consider the report along with the presentation.

**8 Date of Next Meeting**

The date of the next meeting was noted as 9 March 2023.

The meeting concluded at 5:50 PM

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Chairman