



ADUR & WORTHING
COUNCILS

Joint Strategic Committee

7 November 2019

Agenda Item 12

Key Decision: No

Ward(s) Affected: All

Worthing Coastal Protection Scheme

Report by the Director for Digital and Resources

Executive Summary

1. Purpose

- 1.1 This report provides an update to members on the progress made in respect to the Worthing Coastal Protection scheme, considers and agrees the preferred option for rock groynes and approve Capital investment to assist with the further development of the project.
- 1.2 Members to agree that the Head of Facilities & Technical Services in consultation with the Executive Member for Regeneration using delegated powers award the contract for the initial design and modelling works up to the value of £500,000

2. Recommendations

2.1 The Joint Strategic Committee is asked to:

- i) Members to note the progress on the project.
- ii) Members to note the future requirements for the associated Maritime structures along the frontage to be improved and commit to making provision within the future capital investment programme once the full extent of the works are established.
- iii) Recommend to the Council the approval of the provision of £500,000 within the capital investment programme for 2020/21 funded jointly by the Environment Agency £200,000 and the Council £300,000 for the modelling and initial design stage of the preferred option.
- iv) Approve the delegation to the Head of Facilities & Technical Services in consultation with the Executive Member for Regeneration to award the contract for the initial design and modelling works up to the value of £500,000.
- v) To note that a further report will be presented to members outlining the final cost of the scheme once the modelling has been completed.

3. Background

- 3.1. The Beachy Head to Selsey Bill Shoreline Management Plan (SMP) identifies that the frontage at Worthing consists of a wide sandy lower beach and a narrow shingle upper beach. The coast is protected by a groyne field, mostly constructed of timber, but with some more recently constructed in rock. There are also concrete splash walls and rock revetments along the frontage; however the shingle beach is the principal coastal defence.
- 3.2. The River Arun to Adur Flood and Erosion Management Strategy was completed and approved by the Environment Agency's Large Project Review Group (LPRG) in 2011. It categorises the frontage under the 'Hold the Line - Sustain' policy, meaning that the current defences need to be strengthened to keep the levels of flood and erosion risk the same as it is now. It states that the approximate number of properties at risk from flooding and erosion if defences are not maintained in 100 years' time would total 2030 within Worthing.

- 3.3. In 2016 WBC commissioned expert Consultants Mott MacDonald (MM) to assist them with the preparation of an initial Outline Business Case (OBC) for the beach frontage between the Ferring Rife in Arun DC and Navarino Road in Worthing.
- 3.4. An OBC provides the rationalisation behind the Technical, Strategic, Financial, Commercial, environmental and economic impacts of the proposals identifying outcome measures in accordance with the current Environment Agency Flood and Coastal Erosion Risk Management (FCERM) appraisal guidance and Grant in Aid (GiA) criteria. GiA is the amount of Partnership funding the Government through the Environment Agency (EA) contributes to the project; any shortfall in funding will have to be met by external contributions.
- 3.5. The initial draft OBC identified that the proposed options for works will protect 205 residential homes from flooding and 838 residential homes from coastal erosion and flooding for the next 50 years. Table 1 below ranks the options considered within the OBC and indicates that option 4a as being the preferred option. This option proposes that the existing deteriorating timber groyne fields along the Worthing frontage be replaced with Rock groynes at 85m spacings (centre to centre) together with shingle replenishment works.

Table 1 Financial and non-financial ranking of each option

Option	Description	PV Costs £k (including risk)	Ranking	
			Financial ¹	Non-Financial
1	Do Nothing	<i>N/A – considered only as a baseline for economic appraisal</i>		
2	Do Minimum	7,347k	1	7
3	Do Something – Timber Groynes	46,636k	3	6
4	Do Something – Rock Groynes	44,511k	2	4
5	Do Something – Rock and Timber Combination	47,994k	4	5
4a	Do Something – Rock Groynes and Recharge to 1% AEP	45,947k	5	1
4b	Do Something – Rock Groynes and Recharge to 0.5% AEP	53,844k	6	1
4c	Do Something – Rock Groynes and Recharge to 0.33% AEP	56,159k	7	1

4. Current Situation

4.1. Several reviews and refinements of the preferred option 4a as detailed in the initial OBC have taken place. These reviews have enabled officers in collaboration with the consultant to establish a more informed and comprehensive view of this option. As well as underpinning the economics and benefits of progressing this option through to design.

4.2. The review works considered amongst other things the following:-

- Removing the area of frontage within Arun District Council and incorporating the frontage Navarino Road to Brooklands,
- The sensitivity for groyne spacing and beach shingle recharge for the whole frontage, hence the recommendation for modelling.
- Delaying the construction start date until 2022/23

As a direct consequence of this review work the Partnership funding (PF) score, which predicts the amount of Grant in Aid (GiA) funding from the Secretary of State the project attracts via the EA, has increased meaning the external contributions required have reduced significantly.

The table below compares the original OBC figures with revised figures

OBC	Description	Commence on Site	Cost of Works	PF Score	WBC Contribution
Original	Rock Groynes & Shingle Replenishment for 1/100 storm event	2019	£39,603,934.00	69%	£10,537,944.00
Revised	Rock Groynes & Shingle Replenishment for 1/100 storm event	2022	£45,947,000	95% - 89%	£2,231,000 - £5,119,000

4.3. The latest PF score indicates that the preferred option 4a would require between £1.9m - £4.8m contributions from Worthing Borough Council in year 2022/23.

4.4. To maintain the 1/100 year level of storm protection, Worthing Borough Council will have to fund maintenance works at approximately £2.2m every 10 years for 50 years. Total maintenance cost of £8.8m

4.5. The reviews that have taken place have indicated that if the groyne spacing is increased from 85m to 90m, the PF score would be increased to 100% which would require the Council to make no

Contributions towards the project (maintenance costs will remain unchanged). To verify these potential savings consultants would need to undertake physical & numerical modelling to optimise the groyne spacings at the initial design stage.

- 4.6. The EA have indicated to officers that they would be expecting the Council to identify further opportunities and benefits that could be considered when finalising the OBC as well as ensuring the scheme supports the local proposed regeneration projects.
- 4.7 The preferred scheme only includes the coastal defence structures, therefore, the Council will have to consider any alterations the Leisure facilities they currently maintain, 3 Boat Launching Ramps, together with Southern Water's 10 surface water outfalls, which are likely to be required as a consequence of the project.
- 4.8 The Council has aspirations to improve Worthing Lido and there is the opportunity to include within the modelling process any potential changes to this Structure that may affect the movement of beach material along the frontage, hence the design of the overall scheme.
- 4.9 Consultants are currently finalising the OBC for submission to the EA's Large Project Review Group (LPRG)
- 4.10 Planning Services have confirmed that the Coastal scheme works would be undertaken under permitted development.

5. Future programme

- 5.1 Investigate further opportunities for regeneration that can enhance the OBC submission and provide confirmation to the EA in writing from the Council's Chief Executive that the Council will commit to funding any shortfall should it be required on the project.
- 5.2 Finalise the OBC and submit it to the EA's LPRG in December this financial year for approval in February 2020.
- 5.3 Investigate opportunities for external contributions.
- 5.4 During the development of Full Business Case (FBC) Officers will be engaging with residents, local groups, stakeholders and statutory consultees. Officers will also engage with the local community, residents and businesses where any construction work may cause significant disruption to the local area.

- 5.5 Opportunities for secondment to the consultants to work on the FBC and the detailed design for the project from the Engineering Team will be considered.
- 5.6 Finalise the design of the project and submit FBC.
- 5.7 In addition to the above there is the opportunity to include within the modelling process any other potential redevelopment schemes that could influence the natural coastal processes. As mentioned in 4.8

Project Plan

Activity	Date
Early Engagement with Southern Water	Spring 2020
Detailed design of scheme including numerical and physical modelling & contract documents	Summer 2020
Early Contractor Engagement	Autumn 2020
Stakeholder Engagement	December 2020
Contract documents produced and tendering for Site Supervision	July 2021
Appointment of Project Management & Site Supervision Consultant to oversee construction works	Jan 2022
Full Business Case Submission	March 2022
Construction work to be started on site	April 2022
Construction work substantially completed by	March 2023

6. Procurement

- 6.1 The procurement of the works will be undertaken to comply with Worthing Borough Councils Standing Orders to ensure that the works are competitively tendered and in accordance with the Public Contract Regulations 2015
- 6.2 A Steering group will oversee the procurement encouraging collaborative working and ensuring best value, competitive and sustainable supply chains.
- 6.3 The project will involve the design and construction of the rock groynes and shingle replenishment works.

The project will be formed of 3 separate contracts –

- 1. The Design
 - 2. The Construction
 - 3. Project Management & Site Supervision
- 6.4 The Design and Construction Contracts will be procured through the Environment Agency's Next Generation Supplier Arrangements framework. (NGSA)
 - 6.5 The project management and site supervision works will either be tendered directly by Worthing Borough Council or using the EA's NGSA.

7. Financial Implications

- 7.1 The Modelling of the frontage will provide an optimum spacing for the proposed groynes, the amount of work that will be required on the existing maritime structures and enable the cost of replacing the groynes to be reviewed.
- 7.2 Without this modelling it is difficult to forecast the amount of funding the council required for this work, it is estimated that the 3 public boat launching ramps would cost £300k each. The funding required for any additional modelling due to proposed alterations to the existing structures or outfalls is unknown.
- 7.3 Both physical and numerical modelling will identify potential savings reducing the Council's contribution to the construction of the scheme. It is proposed that modelling is undertaken in 2020/21 at a cost of £500,000. This will be part funded jointly by the Environment Agency

(£200,000) with a contribution from the Council of £300,000. This does not currently feature in the Council's capital programme for 2020/21 and it is proposed to fund this work as follows:

Funding source	£'000
Capital Receipts earmarked for coastal defences	88
Additional prudential borrowing	212

The Council will need to fund the additional debt charges associated with this borrowing at an annual cost of £7,500. This will need to be funded as part of the development of the 2020/21 revenue budget.

- 7.4 As part of this scheme, Worthing Borough Council would have to commit to future works for 50 years commencing from 2023 at an estimated cost of approximately £2.2m every 10 years. Future work will need to commence from 2033. Members should note that the extent of any future works will depend on the depletion of shingle beach through storms & longshore drift, however current costs are not significant in this regard.
- 7.5 The table below shows the total estimated construction cost based upon the current OBC excluding any works required to the boat launching ramps and outfalls. These additional schemes will be bid for as part of the annual capital programme approval process.

Financial Year	Type of Work	Grant in Aid Environment Agency	WBC Contribution	Total (£)
2015 to 2020	Finalise OBC	95,000	63,000	158,000
2020 to 2021	Modelling design	200,000	300,000	500,000
2021 to 2022	FBC & Design	1,060,000	0	1,060,000
2022 to 2023	Construction	39,473,000 - 42,361,000	1,868,000 - 4,756,000	44,229,000
Total (£)		40,828,000 - 43,716,000	2,231,000 - 5,119,000	45,947,000

- 7.6 If approved, Worthing Borough Council will need to fund the revenue consequences of any borrowing required to fund the eventual construction costs scheme (currently estimated at between £1,868,000 - £4,756,000) as well as setting aside resources to fund

the 10 yearly revenue maintenance obligation. Overall the Council will need to fund the following costs from 2022/23 onwards:

	2022/23 £'000	2023/24 (full year) £'000
Debt charges (interest at 2.5% and an asset life of 50 years)	23 to 59	66 to 168
Annual set-aside for 10 year maintenance liability		220
Less: Reduction in current maintenance budget		-84
Total revenue impact of proposed coastal defences	23 to 59	202 to 304

- 7.7 The EA will require as part of the OBC process a letter from the Council's Chief Executive that the Council will commit to funding any shortfall should it be required on the project. However members should be aware that the current OBC contains a 31% optimism bias which should be sufficient to ensure that the scheme will cost no more than the expected £44.23m.

8. Legal Implications

- 8.1 WBC is a Coast Protection Authority (CPA) under Section 1 of the Coast Protection Act 1949. By Section 2A of that Act a Coast Protection Authority is also a Coastal Erosion Risk Management Authority.
- 8.2 By Section 4 of the Coast Protection Act 1949, the COuncil as a CPA shall have the power to carry out such coast protection work whether within or outside of its area, as may appear to the CPA necessary or expedient for the protection of any land in its area providing that; (a) the work is desirable having regard to the national flood and coastal erosion risk management strategies; and (b) the purpose of the work is to manage coastal erosion risk within the meaning of Part 1 of the Flood and Water Management Act 2010.
- 8.3 Section 111 of the Local Government Act 1972, provide the power to the Council to do anything that is calculated to facilitate, or which is conducive or incidental to, the discharge of any of their functions.

- 8.4 S1 of the Localism Act 2011 empowers the Council to do anything an individual can do apart from that which is specifically prohibited by pre-existing legislation
- 8.5 Section 1 of The Local Government (Contracts) Act 1997 provides that every statutory provision conferring or imposing a function on a local authority confers the powers on the local authority to enter into a contract with another person for the provision or making available of assets or services, or both (whether or not together with goods) for the purposes of, or in connection with, the discharge of the function by the local authority.
- 8.6 Under the Public Contract Regulations 2015 where a Public Authority is to enter into a contract for the supply of goods & services, and the value of those goods and services exceeds a financial limit of £181,302,176 (or for works contracts £4,551,413, any procurement exercise to contract for those goods and services must be conducted in accordance with the Regulations and a failure to do so may be declared upon receipt of a procurement challenge, anti-competitive and in breach of the Regulations.
- 8.7 Where the Council obtains grant funding for any of its coast protection works, the Council must ensure that the funding is spent in accordance with the grant funding terms and conditions.

Background Papers

None.

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Sustainability & Risk Assessment

Sustainability matters were considered as part of the development of the Strategy and SMP but will again be considered again as part of the development of these schemes.

The proper management of the coastline is essential and the programme of works for the 100 year period of the study will maintain the standard of defence keeping pace with current climate change predictions.

Worthing Borough Council is the Operating Authority for significant parts of this coastline and has certain duties and permissive responsibilities under the Coast Protection Act 1949 and 1991 Land Drainage acts. The 2014 Strategy contains a more detailed risk assessment of the assets across the whole frontage. A loss of life and property risk assessment will be incorporated within the proposed option.

1. Economic

The 2014 Strategy preferred option was developed for outline design taking into account the newly available information and taking consideration of technical viability, buildability, sustainability, access restrictions and health and safety. The option was considered over an appraisal of 100 years. A detailed costing exercise was undertaken to develop costs for the option based on these outline designs using Early Supplier Engagement (ESE).

2. Social

2.1 Social Value

Engagement, with the local community, will also be necessary to inform residents and business of key activities being planned where any construction work may cause significant disruption to the local area.

2.2 Equality Issues

Matter considered but no issues identified

2.3 Community Safety Issues (Section 17)

Matter considered but no issues identified

2.4 Human Rights Issues

Failure to protect property could be construed as interfering with the right to quiet enjoyment of property and possessions.

3. Environmental

The Project Steering Group work in partnership to guide the development of technically, economically and environmentally sustainable coastal flood and erosion risk defences along the coastline from Sea Lane Ferring to the Brooklands.

4. Governance

The scheme is being led by the Council in their capacity as Risk Management Authority under the Coast Protection Act 1949 and 1991 Land Drainage acts. The scheme will be managed in accordance with the principals of PRINCE2.