

Briefing note for Bembridge Harbour Advisory Group (BHAG) meeting

March 2023

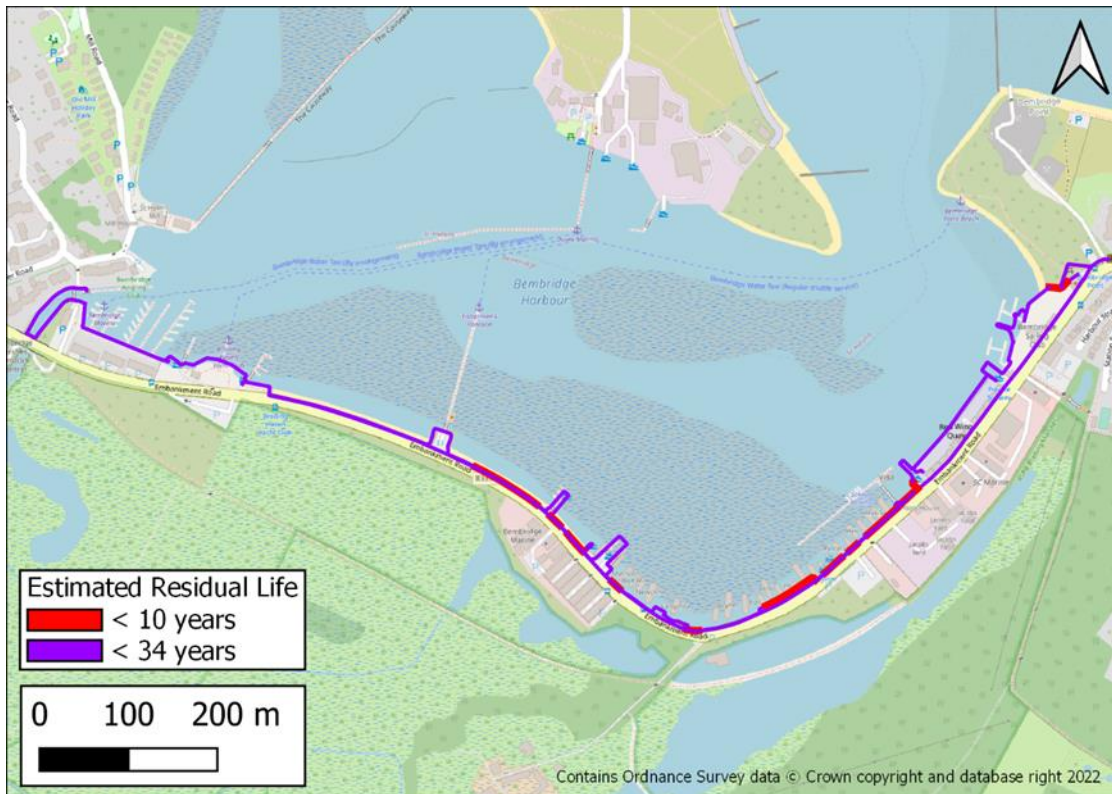
Embankment Road Coastal Defence Scheme

We are currently in the 'survey and investigations' phase of the project. Below we have provided a summary and update of the key parts of this phase.

Latest visual condition assessment

In October 2022, JBA Consulting completed a visual condition assessment of the coastal defences fronting Embankment Road including recommendations for repair and future investigative works. This identified parts of the coastal defence to be in a poor condition. There is an urgency to complete the repairs in the next 5 years to prevent a breach from occurring in the defences. The sections shown in red on the below map have a residual life of less than 10 years.

Figure 1 - Residual life location plan. Source: JBA Consulting Embankment Road Condition Survey Report (October 2022)



Ground Penetrating Radar (GPR) Surveys

In late spring/early summer 2023 our contractors will be carrying out a Ground Penetrating Radar (GPR) Survey. GPR is a non-destructive method of surveying which uses radar pulses to capture images below the surface of the ground without the need for digging or excavating. This will help us to build up a picture of existing ground conditions and any areas that might require more detailed investigations later in the year. It is expected that equipment like that shown in figure 2 will be used in the off-highway areas. It is anticipated that the survey on the highway will be completed by similar equipment or towed by a vehicle depending on Island Roads preference for traffic management. This is expected to take no more than 3-4 weeks to complete.

A utility survey will be completed alongside this to confirm the position of known utilities in the area.

Figure 2 - GPR equipment used in Sandown Bay. Image submitted by a member of the public.



Ground Investigations



The proposed ground investigations will provide additional information on the asset condition and the as-built construction to enable further assessment of the stability of the structure and provide information for design and repair works to be undertaken. To do this, twelve boreholes will be constructed through the embankment to collect information on the embankment structure, soils, and bedrock. It is anticipated that a drilling rig like the one shown will be used (Figure 3). We will provide further details on the equipment once the methodology is finalised by our contractor. Geotechnical and chemical testing will be completed on selected samples from the boreholes. In addition, gas and groundwater monitoring equipment will be installed in all boreholes to facilitate subsequent groundwater and gas monitoring and sampling.

Figure 3 - drilling rig used in Sandown Bay. Source: Environment Agency

We have been working closely with Natural England and the RSPB to agree a suitable window for this work and agree suitable mitigation to minimise disturbance to this sensitive habitat at RSPB Brading Marshes nature reserve. September/October 2023 has been agreed as a suitable window after nesting bird season is complete and before over wintering bird season commences.

In the coming months leading up to this work we will be working closely with landowners, leaseholders, and stakeholders to share our plans in more detail and understand any concerns about the work.



Wintering bird surveys

Our partners JBA consulting have completed over wintering bird surveys to improve our understanding of the ecological baseline to inform options appraisal.

Since the survey commenced in October 2022, 97 bird species have been recorded at RSBP Brading Marshes Nature Reserve. These species include Barn Owl, Black-tailed Godwit, Curlew, Dark-bellied Brent Goose, Dunlin, Gadwall, Great White Egret, Greenshank, Grey Plover, Hen Harrier, Kingfisher, Marsh Harrier, Pochard, Ringed Plover, Sanderling, Shoveler, Teal, Water Rail, Wigeon.

Figure 4 - White-tailed Eagle (left); JBA Consulting Ecologist completing over wintering bird surveys (centre); Great White Egret (right). Source: JBA Consulting



Coastal Flood Risk Modelling

The project team are currently working on the coastal flood risk modelling to gather the data needed to inform the economic appraisal. The results are expected in late spring/early summer 2023. We recall that BHAG expressed an interest in seeing the results. Once available, we would be happy to share these with you at a future BHAG meeting or via a briefing note as appropriate.

This modelling will inform the type of appraisal route we need to complete in accordance with the HM Treasury's Green Book and government guidance [FCERM appraisal guidance - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/guidance/fcerm-appraisal-guidance). The type of appraisal will dictate project timescales for public consultation on the short list of options for repairing the coastal defences. Once the short list of options to repair the coastal defences are available, the project team would value BHAGs views on the short list of options.



Figure 5 - Scheme extent. Source: JBA Consulting

