

## **Fishguard Linkspan Replacement – Further Site Investigation**

### **Method Statement**

- a description of the activity

Proposed site investigation to include boreholes, cone penetration testing, vibrocores and grab samples. The results of these site investigations will inform the design and provide the information for the consenting process for a proposed replacement linkspan structure, dredging and associated civil works at Fishguard Harbour.

We intend to carry out the following works in Fishguard Harbour

- 13 nr marine boreholes. We anticipate the contractor will use landside mounted equipment for a number of the boreholes close to the quayside. A jack up barge may be required for the marine boreholes.
- 11nr vibrocores in total
  - 11 nr grab sample sites, 60 samples in total. Samples will be collected by grab sampling at surface and vibrocores at depth. 11 nr at sampling sites (ranging from 1 m to 6 m depth)
  - Cone Penetration testing (CPT)
    - The ground will be probed with CPT equipment to gain information about the strength and classification of the ground for design purposes. No samples will be recovered.

13 boreholes are planned, to a maximum depth of 30m. Vibrocores to support design decisions are proposed at 11 nr locations to a maximum depth of 6m. Grab sampling and vibrocores to provide samples for dredging will take place at 11 nr sites. The depth of sampling at each area has been determined based on the proposed depth of dredging in the area. Samples will be collected on the seabed and following that at 0.5m intervals. Bed level collection of samples will be taken by a Van Veen (hand operated scissor spade grab sampler to be used. GPS device to be used to locate the sample position. Deeper samples will be extracted using vibrocores to a maximum depth of 6m.

- the steps you will carry out to complete it

A contractor will be appointed on behalf of the Stena Line Port Ltd to carry out the site investigation works, with engineering supervision by RPS. Method statements, risk assessments and appropriate insurances will be required to be in place before the site investigation can commence.

For the majority of boreholes a Jack up barge with a drilling rig will be mobilised to site to undertake the boreholes. This barge will be manoeuvred between the locations by a tug/workboat. Some boreholes may be carried out off the side, or through the deck of the existing structures. This will be to the contractor's methodology.

A RIB/workboat/multicat or similar vessel is expected to be used to retrieve the grab samples and vibrocores.

Cone penetration test are planned to be carried out as part of the site investigations. These would be carried out using a CPT rig, which would extend over the edge of the existing structures, through the existing structure or from a work boat or jack up barge, depending on the location and contractor's methodology. No samples are retrieved as part of a CPT test, the ground is probed and reading taken for design purposes.

- how long the activity will last

3 weeks

- details of any vehicle or vessel routes you will use to access the site

Road access to the site will be via the main public access to the Port. Small vessels can access the Port from the waterside from the closest available slipway at Goodwick. Larger vessels would enter the port from the sea, and moor along the quayside.

- details of any material you will remove

Removal only. **Total 15.5 m<sup>3</sup>**

- Borehole removal = estimated **13m<sup>3</sup>** material
- Grab samples at surface in 11 nr sites maximum of **2.2 m<sup>3</sup>**
- 11nr Vibrocores total volume removed **0.3m<sup>3</sup>**
- All materials removed by vibrocores and grab samples are expected to be soft clays and silty sands and gravels. Extracted material via boreholes is expected to be soft clays, silt sands and gravels and rock. The rock is expected to be basalt or breccia type.

- details of any material you will deposit

- No material will be deposited.

- measures you will take to minimise risk to the marine environment

The contractor will be required to undertake an environmental risk assessment to inform their methodology. This is expected to include protection measures to mitigate/manage the risk of oil and hydraulic leaks or fuel spills when refuelling borehole rigs. Measures are expected to include Spill kit and absorbent granules to be available on site and fuel to be stored in secure storage container.

- measures you will take to prevent undue interference to others

NB. The Applicant is Stena Line who operate the ferry terminal.

Launch of vessel and recovery will be outside of the ferry operating window. All works must be halted during the times provided by Stena, and the surveyor's vessels taken a safe distance from the Ferry and its operations. Contractor to communicate with Stena/harbour master/operations as appropriate. Landside borehole equipment to be removed during ferry operating times to avoid impact to operations. Access routes, working areas and time of works to be agreed with Stena and local operatives.

- measures you will take to maintain navigational safety, including how you will mark and light the work

Launch of vessel and recovery will be outside of the ferry operating window. All works must be halted during the times provided by Stena, and the vessel taken a safe distance from the Ferry and its operations. Contractor to communicate with Stena/harbour master/operations as appropriate. Landside borehole equipment to be removed during ferry operating times to avoid impact to operations.

All floating plant is to be lit in accordance with MCA requirements. Floating plant to be moored up at night as directed by the harbour master.

- the pile diameter

n/a

- the number of boreholes or vibrocores

- 13 nr boreholes
- 11 nr vibrocores

- predicted source noise levels

Vibrocores and boreholes typically have a level of 140-180dB at source.

- the exact proposed location, if known

Coordinates of borehole and vibrocores on Drawing PO0886-RPS-ML-ZZ-DR-C-0221