

Note / Memo

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Industry & Buildings

To: Marine Scotland
From: Morwenna See
Date: 15 April 2019
Copy:
Our reference: PB8131-RHD-ZZ-XX-NT-Z-0001
Classification: Project related

Subject: Dunbar East Beach Seawall Defence Project: Outline Method Statement Version 2

1 Introduction

This note provides an outline method statement for a seawall defence project at Dunbar East Beach to support a marine licence application to Marine Scotland. A contractor has not been appointed at this time and so full details aren't currently available, however an outline method statement has been provided.

2 Project Background

East Lothian Council is proposing construction of a seawall defence project to promote the natural regeneration of Dunbar East Beach. The works are to repair/replace an existing groyne at the south of the site that has fallen into disrepair, alongside works to improve the exposure conditions in the bay to encourage any sediment that is in the local system to remain on foreshore. It is hoped by reducing the wave conditions at the beach combined with the refurbished groyne that the bay will retain more sediment and in the long term regain the amenity value that has been lost in recent years. Dunbar East Beach was a sandy beach as recently as 2013, however, following successive storms in 2014 the beach was almost entirely eroded and further storms in the subsequent years has left the frontage devoid of any sediment able to form a beach. Therefore, works to enhance the retention of sediment on the foreshore have been proposed.

3 Methodology

Works are expected to be undertaken between July and October 2019. Construction equipment and materials will be delivered to the site by road and the foreshore will be accessed using an existing ramp at the south end of the beach. All works will be undertaken using land based plant and so works will be undertaken when tides allow access. Drawings showing the exact positions and dimensions of the new standalone breakwater and southern groyne refurbishment works have been attached with this application.

Refurbishment of Existing Groyne

The groyne structure will be constructed along the line of the existing groyne, the first 4 panels of the old timber groyne will remain as they are, then will be a plant bay gap with fill in planks to allow for movement of plant through the groyne. Following this a new concrete groyne will be constructed. The existing groyne is on the south end of the beach and an approximately 30m long concrete extension along the previous footprint of an old timber groyne is proposed. A small trench will be excavated in the footprint of the groyne extension (approximately 200mm deep) before concrete is cast directly onto the

foreshore. The new groyne will initially be an approximately 1m high concrete groyne which will feature pools in the top surface and roughened faces to encourage marine growth and colonisation of benthic communities. If sand does become re-established on the beach and sand levels increase to a level where by they are flowing over the top of the concrete groyne then there is the ability to raise the groyne by a further 1m using timber posts and planking.

Construction of Standalone Breakwater

This structure will be set with a crest level of around 3m above Ordnance Datum (OD). The structure will provide direct protection to existing manholes, properties adjacent to the beach, the steep slipway and southern length of the existing sea wall. Additionally, the breakwater will encourage the retention of sediment and build-up of beach levels in the lee of the structure. A gap is to be maintained between the breakwater structure and the groyne, allowing some wave energy into this area, with the aim of reducing the direct build-up of seaweed in the corner of the groyne and tending to move the seaweed accumulation more towards the area of the slipway.

The breakwater will be constructed as far as possible using local rock (depending on size and quality). The breakwater will be constructed from 3-6 tonne selected rock armour, placed directly onto the foreshore.