## FORESHORE PILOT PROJECT FOR HOUTRIB DIKE - PERMIT GUIDELINES

## Abstract

## Context

The stated aim of the foreshore pilot project for the Houtrib Dike was to establish a firmer basis for faster sandy dike-strengthening operations, in particular in the load conditions in the larger lakes. The results from the project have now been applied in both present and future projects covered by the Flood Protection Programme. One of those projects is the strengthening of the Markermeer dikes between Hoorn and Edam in the Netherlands, which includes a sandy reinforcement approach (the 'shore dike'). The knowledge generated by this pilot project was also used to determine the dimensions for the sandy reinforcement of the western section of the Houtrib Dike and the sandy outer edges of the Marker Wadden.

## Permit guidelines

The 'lessons learned' relating to the permit process for the construction of the pilot section were published in the spring of 2015 (EcoShape, 2015b). In addition, the permit procedures in the future for a foreshore solution on a larger scale (covering a large section of the Houtrib Dike, for example) were also mapped out drawing on the experiences of the parties involved in the pilot project.

This report describes the both the process and the substantive side of the permit procedure for sandy reinforcement structures. Initially, the procedure will be described, followed by a more detailed description of both substantive considerations and the related studies. The focus here will be on sandy reinforcement in the Markermeer and IJsselmeer area.

Chapter 2 will consist of a description of the integrated process that distinguishes between four successive steps:

- 1. A locality scan;
- 2. Defining a permit strategy;
- 3. The subsequent application for the necessary permits;
- 4. Finally, the completion of the various procedures.

Chapter 3 will then provide an overview of the different permits. The most important permits are the Water Act project plan (the water permit), the Environmental Permit, the Nature Conservation Act permit, the Flora and Fauna Permit and the Excavation Permit for sand extraction. A description will be given for each permit of the relevant legislation, the required support documentation and the competent authorities and procedures.

Chapter 4 consists of a table with an overview of fifteen studies that may be relevant in this context. Chapters 5 and 6 then look specifically at the details required for the purposes of sand extraction and operational matters. It will be emphasised here that the cost-effective construction of a sandy reinforcement benefits from sand extraction in-house and cost-effective operations, which can be achieved by giving the contractor as much latitude as possible. However, there are implications for the EIA and permit applications, which must address these matters adequately.

This document provides an overview of all factors relating to permits and can be used as a guideline for obtaining the permits required to construct a sandy reinforcement.

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