

# Information brochure

## Coastal Reinforcement Noordwijk

### What is happening on the beach in Noordwijk?

The climate is changing. Sea level is rising and waves are growing more powerful. The pressure of the sea on the Dutch coast is increasing. Several Dutch coastal locations will not be able to offer enough resistance to this pressure in the future. One of these is Noordwijk, where the sea defences are not strong enough to provide the necessary level of safety for the next twenty-five years. Noordwijk is one of the 'weak links'. Rijnland District Water Control Board is doing all it can to strengthen the weak link in Noordwijk. This involves building a dyke in the dunes, and because of this, a part of the beach will be closed to the public between September 2007 and April 2008.

#### How will Rijnland do this?

First a temporary buffer will be made on the beach. The sand for this will be extracted from the North Sea. This temporary buffer will be just as strong as the present sea defences. When the buffer is ready, the old dune will be removed. At the site of the old dune, a dyke will be constructed, which will then be covered by a new dune. This dune

will be 42 metres wider than the old one, with a height of at least 9 metres above sea level. In most places, the dune will be no higher than in the former situation. When the new sea defence structure is completed, a new beach will be created. In April 2008 the entire beach should be open to the public again.

#### Nature

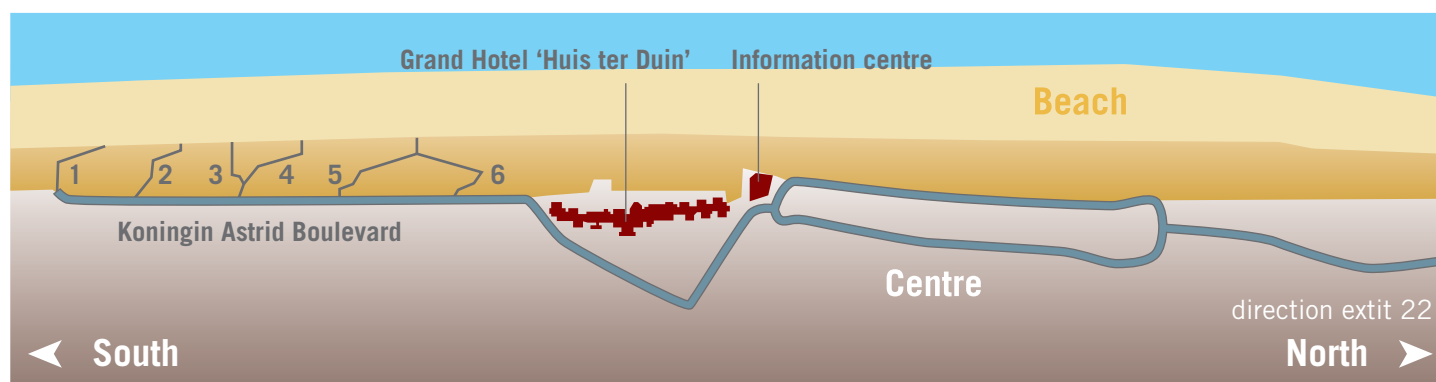
During preparations for the work, considerable attention was paid to the flora and fauna of the beach. This includes natural 'residents' such as the sea holly and the sand lizard. The coastal reinforcements pose no threat to their existence. In fact, the expansion of the dunes will increase their habitat. While work on the sea defences is taking place, plants and animals will be protected as much as possible.

As you see, Rijnland is doing all it can to keep the coast by Noordwijk strong and habitable, so that future generations of residents and tourists can keep enjoying it with an easy mind!

#### How do I reach the beach?

A section of the beach will be closed to the public. However, another large section will remain open during the work! This means you will be able to enjoy the Noordwijk beach at all times. You can walk from Noordwijk to Katwijk, for example.

For the southern beach, you can take exits 1 - 6 until the end of December 2007. These are the exits south of the Grand Hotel Huis ter Duin (on the Koningin Astridboulevard). From January 2008, this beach will be accessible via exit 1. The northern section can be reached from exit 22 between September 2007 and April 2008. You will need to take the cycle path along the dunes (in the direction of Duindamse Slag). By car you can also reach exit 27 (Langevelderslag) by following the Duinweg.



[www.rijnland.net/kustversterking](http://www.rijnland.net/kustversterking)



Hoogheemraadschap van  
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# Dyke in the Dune

## 1 The old dunes are too narrow.

During a heavy storm, sand is washed away from the beach and the dunes. The old dunes are between 22 and 50 metres wide. In some places, this is not sufficient to cope with the effects of a heavy storm. There is a risk that the dunes will be washed away and the land behind will be flooded.

## 2 Wider dunes provide protection.

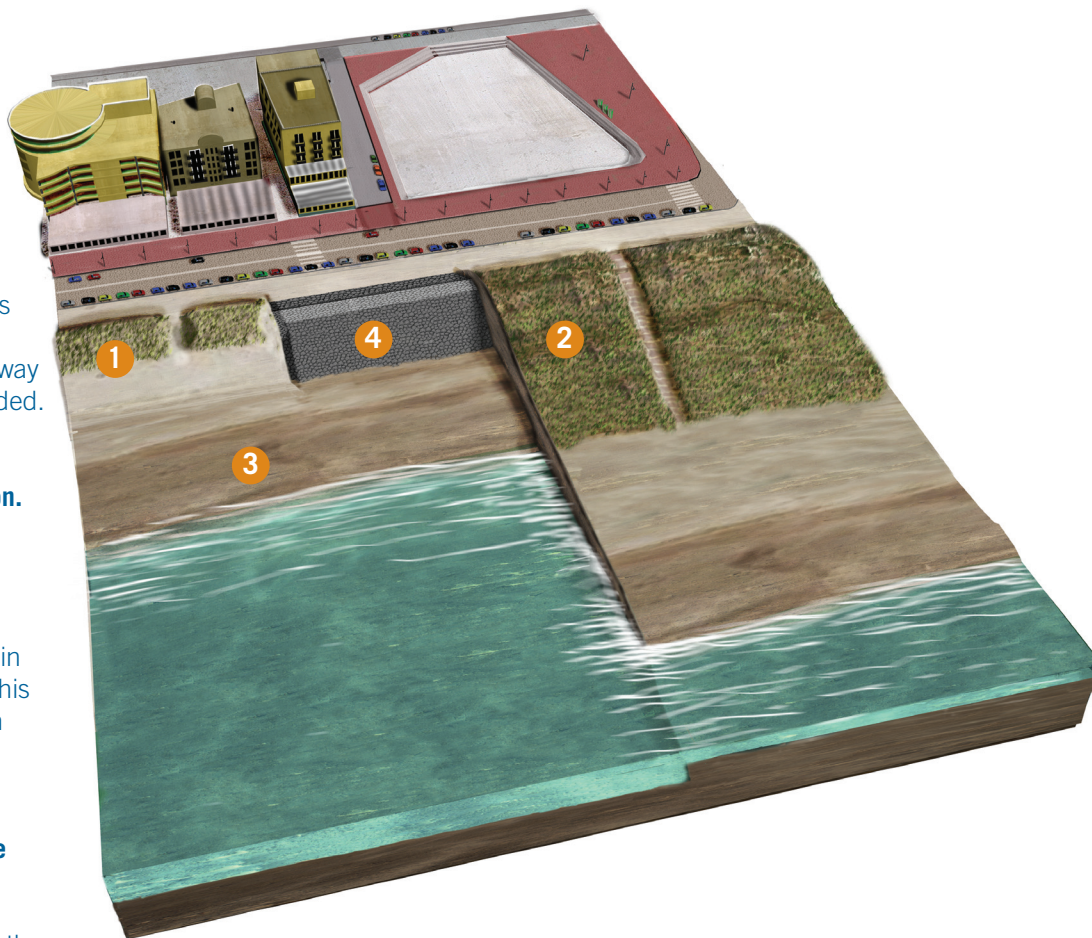
The new dunes will be widened by 42 metres in the direction of the sea. There will therefore be extra sand in front of Noordwijk in the form of dunes and beach. This offers adequate protection, even against heavy storms.

## 3 The beach will remain as wide as before.

When the dunes are widened in the direction of the sea, they will cover the present beach for a considerable distance. This means a new beach must be created in the direction of the sea, so that the width of the beach remains the same. Sand will be introduced to raise the coastline, on the beach and for 800 metres out to sea. The seabed will slope away at the same angle as in the old situation, so that the water gradually becomes deeper.

## 4 The dyke: a powerful second buffer.

The dunes form the first buffer during a heavy storm. If the waves break through these, there is a second buffer: the dyke. The top layer of the dyke is made of stone, which keeps the sand underneath it in place effectively. The dyke will therefore wash away less easily than the dunes.



## Time schedule

### September 2007

Rijnland will start work. A part of the beach closes

### December 2007

Construction of new dyke completed.

### January 2008

Laying the new dunes and beach will commence.

### April 2008

Work completed. Beach open again.

## Facts & Figures

**1,15** kilometres of beach to be reinforced.

**1.500.000** m<sup>3</sup> of sand to be dredged from the sea.

**40** number of people working on the project.

**20** million euros that the project will cost.

**10** the number of weak links on the coast.

**50** the number of years that Noordwijk will be safe again.

## Colofon

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