DredgDikes

Newsletter 7

www.dredgdikes.eu

May 2014

Dredged Materials in Dike Construction

Implementation in the South Baltic Region using Geosynthetics and Soil Improvement

Editorial

This is the seventh newsletter of the DredgDikes project. The first of the two project conferences in Rostock was a great success and the date of the Gdansk conference is drawing nearer. The pilot dike construction is now completed and is waiting to be instrumented for future monitoring. Overflowing tests with extreme overflowing rates are currently running on the Rostock test dike. Detailed information about all activities can be found on the project web site www.dredgdikes.eu.

South Baltic Conference on New Technologies and Recent Developments in Flood Protection - Registration Still Open!

The date for the *Gdansk* conference is drawing nearer. The conference with focus on modern flood protection technologies, including the use of dredged materials and CCP composite materials in dike constructions will be held *5-6 June 2014* at Gdansk University of Technology.

Free online registration is still open using the website *www.dredgdikes.org.pl/*. All necessary information, including travel and accomodation details, can be found on the conference website.

The interesting conference programme includes presentations from Poland, Germany, Lithuania, France and Algeria.

There will be *simultaneous translation* between Polish and English.

South Baltic Conference on Dredged Materials in Dike Construction in Rostock was a Great Success

The *Rostock* conference which took place in Rostock/ Hohe Düne, 10-11 April 2014 was a great success. 115 participants from 10 European countries took part to discuss the interesting presentations. The programme aimed both on presenting the DredgDikes project and on other projects and topics that are associated with the DredgDikes project.

The international projects PRISMA, DikeElite, Setarms, Smocs and Absoils were presented, some of them also INTERREG projects, which forms a good basis for future collaborations in the field of the beneficial use of dredged materials. The warm and sunny weather allowed the presentation of different experiments on the Rostock research dike.

The proceedings are available online in PDF format on the conference page of the dredgdikes website.

South Baltic PROGRAMME

Part- financed by the European Union (ERDF)

DredgDikes

Overflowing Experiments on the Rostock Research Dike

The 2014 overflowing tests on the Rostock research dike started on Wednesday 7 May 2014. Two large pumps have been rent allowing to simulate overflowing events of up to 600 l/(s*m) with a maximum pumping discharge of 1300 m³/h. For the overflowing experiments, three parallel flumes have been installed on the slopes to be tested, which are fed by filling the respective polder to extend, so that the water can overflow the crest in the lowered sections on the western dike.

The first set of tests from September 2013 showed that all slopes withstood an overflowing rate of 250 l/(s*m) and a maximum flow velocity of nearly 4 m/s. These results were obtained in stage tests in which different discharge volumes were applied for 45 minutes each. Between the stages the potential erosion was measured. Also, 6h „long-term“ tests were performed which did not result in any erosion.

Therefore, the new tests include larger pumps to realise larger events. Also, a 24h long-term test will be performed on each tested slope.

The results of the first set of tests have been presented on the project conference in Rostock. The written paper by Olschewski et al. can be downloaded from the conference website.

Fig. 1: German research dike - summer 2013

Fig. 2: Overflowing Experiments May 2014

Invitation: Site Visit - Rostock Research Dike

The Chair of Geotechnics and Coastal Engineering of the University of Rostock together with the DredgDikes project consortium invites you to the 2014 DredgDikes site visit on the Rostock research dike on Tuesday 27 May 2014, from 9:00 – 13:00 hrs. to experience the large-scale overflowing tests with overflowing rates of up to 600 l/(s*m). Also, infiltration experiments are performed in which the seepage line and land side seepage is measured. More information is available in the events section of the DredgDikes website www.dredgdikes.eu.

South Baltic PROGRAMME

Part- financed by the European Union (ERDF)

DredgDikes

Pilot Dike Construction Completed

The pilot dike construction at the Körkwitzer Bach near Ribnitz-Damgarten, approximately 40 km north-east of Rostock, has been completed. The 500 m section of the degenerated flood protection structure was reconstructed using a cover of ripened fine-grained and moderately organic dredged material.

The dike is now waiting for instrumentation for future monitoring. Two sections of the dike will be instrumented with tensiometers and piezometers to monitor the infiltration of water into the dike. Along the dike axis standpipes will be installed for manual measurement of the seepage line in case of flood events. Also, precipitation and temperatures as well as the water levels of the Körkwitzer Bach and the dike-parallel drainage dench will be recorded for long-term analysis of the hydrological situation at the construction.

Fig. 3: Construction of the pilot dike March 2014

Fig. 4: Completed pilot dike May 2014

The reconstructed dike section protects a polder area which partly lies beneath the sea water level and which is drained by a pumping station into the Körkwitzer Bach. This system had lost its function and is now working again.

The principal client of the dike construction is partner 3 of the DredgDikes project, the Water and Soil Association „Untere Warnow - Küste“ in Rostock. They will also be responsible for the maintenance of the dike. The planning and construction supervision was done by WASTRA-PLAN, Rostock, together with the DredgDikes partners. The contractor was STIG-Bau GmbH, Bad Sülze.

A monitoring plan will be established among the project partners in which the tasks and responsibilities will be defined, to guarantee a high quality of monitoring and control after the lifetime of the DredgDikes project.

A conclusive overview of the design and construction of the pilot dike will be included in a paper by Cantré et al. to be presented on the Gdansk conference. An initial description has been presented by Saathoff and Cantré on the Rostock conference. The PDF is available online.

South Baltic PROGRAMME
Part- financed by the European Union (ERDF)

DredgDikes

DredgDikes will be Presented on a Variety of Events and Conferences in 2014

10-11 April	South Baltic Conference on Dredged Materials in Dike Construction, Rostock
24 April	BWK-Küstentag, Heiligendamm
21-23 May	HTG-Congress, Berlin
5-6 June	South Baltic Conference on New Technologies and Recent Developments in Flood Protection, Gdansk
14-19 Sept	60th Scientific Conference of Committee of Civil Engineering and Hydroengineering, Polish Academy of Sciences
21-25 Sept	10ICG - 10th International Conference on Geosynthetics, Berlin
24-25 Sept	8. Rostocker Baggergutseminar, Rostock
10-14 Nov	7th International Congress on Environmental Geotechnics, Melbourne

DredgDikes Project Events Organised in 2014

10-11 April: South Baltic Conference on Dredged Materials in Dike Construction, Rostock

27 May: Site visit on the Rostock research dike during overflowing experiments

5-6 June: South Baltic Conference on New Technologies and Recent Developments in Flood Protection, Gdansk

June/July: Site visit to the Pilot Dike Construction (to be dated)

July: Site visit to the Gdansk research dike during overflowing experiments (to be dated)

Oct/Nov: Fact finding workshop to develop follow-up projects (to be dated)

Imprint

Editor: University of Rostock (DredgDikes lead partner)
Chair of Geotechnics and Coastal Engineering
Prof. Dr.-Ing. Fokke Saathoff
Justus-von-Liebig-Weg 6, 18059 Rostock

Contact: Dr.-Ing. Stefan Cantré, stefan.cantre@uni-rostock.de

Authors: Dr.-Ing. Stefan Cantré, Prof. Dr.-Ing Fokke Saathoff, Dr.-Inż. Remigiusz Duszyński

Layout: Spion Media GmbH, Rostock and Elisabeth Nitschke

The DredgDikes consortium holds all property rights regarding texts, pictures, tables or graphical presentation.

Project Partners

University of Rostock
Chair of Geotechnics and Coastal Engineering
Prof. Dr.-Ing. Fokke Saathoff
Gdansk University of Technology
Chair of Geotechnics, Geology and Maritime Engineering
Prof. Dr. habil. Zbigniew Sikora
Water and Soil Association „Untere Warnow - Küste“
Dipl.-Ing. Heike Just
Hanseatic City of Rostock
Civil Engineering and Harbour Construction Office
Günter Lange
Steinbeis Innovation gGmbH, Dep. Applied Landscape Planning
Dr. Michael Henneberg

South Baltic PROGRAMME
Part- financed by the European Union (ERDF)