

## Design considerations on a flexible membrane tsunami flood barrier

R. Marissen, J. Suarez Mulder, D. Wienke, O.K. Bergsma

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### Abstract

Temporary high water floods may cause considerable damage. Protection against such flooding may be achieved with high dikes or walls. However, such rigid permanent structures may spoil the local architectures and views and may be quite expensive. Temporary collapsible structures do not have such disadvantages. This paper proposes such a temporary structure, consisting of a strong membrane made out of strong UHMWPE fibers (Dyneema®), a floating body and mooring cables. A two dimensional calculation scheme is presented and the calculation results are used for design considerations regarding the approximation of optimal configurations.

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