

## **Summary**

## Water management in urban development projects









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In Vejle Municipality, we are challenged by water from all sides – rainwater, seawater, groundwater and from streams – resulting in a flood risk, which aggravates consequences of the expected climate changes.

Through long-term and targeted spatial planning, where water management is an early consideration, we will prevent significant damages and create sustainable urban transformation and subdivision projects for the benefit of our citizens, now as well as in the future. Planning must always be based on incorporation of water in such a way that area/urban development does not create unsuitable conditions for our citizens. In addition, an early inclusion of water in our plans will have several positive effects, where function and aesthetics form a synthesis and provide harmonious cities. Therefore, water management should be seen as a benefit for the area in the form of new nature, recreational areas and a safeguarding of societal values. In addition, with new projects/urban development, we will also have an eye on protecting existing city and values, for example through additional requirements for handling rain in downstream areas which are at particular risk of flooding, e.g. the catchment area of the stream Grejs Å, which presents special challenges in Vejle city center.

We have prepared an administrative basis which forms our framework for water management in urban development projects thus ensuring awareness raising of well-suited urban development through optimized workflows. Our administrative basis describes the requirements which can be imposed on developers through a local area development plan as well as the background for the requirements.

As part of the administrative basis, a work flow diagram has been prepared, which describes the implementation of a development plan from request from developer to approved local area development plan and commissioning and daily operation. The flowchart describes which departments in Vejle Municipality are responsible for a specific phases. In addition, the flowchart elucidates when different professional groups are to be involved. The intention is to support a smooth and effective implementation of the development plan. The administrative basis is meant to ensure that all developers are treated equally regardless of who is developer and who is municipal caseworker.

It has been decided that for all new development plans that a water management plan must be prepared in connection with the preparation of the local area development plan. The purpose of the water management plan is to ensure that the development of the future local plan area does not increase the risk of flooding neither inside nor outside the local plan area in question and to ensure a functional drainage of water in the area. The water management plan shall describe precipitation management, distinguishing between service rain and extreme rain, as well as the potential flood risk from high-level groundwater, streams and the fjord.

For the preparation of the water management plan, a guide and a template have been prepared to assist developers. The guide contains principles for water management as well as dimensioning practice. The template guides developers so that the water management plan is complete and provides examples of necessary sketches.

In addition, an inspirational catalogue has been prepared with descriptions of different solutions for water management, advantages and disadvantages of the given solutions as well as an illustrative case description.

The material must be used in the dialogue with developers and project makers and also internally in the municipal organization to strengthen understanding and current awareness raising of challenges as well as opportunities of water in future planning, implying that new projects and upcoming urban development areas will be robust / resilient to meet the increased water challenges of future climate changes. 
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Vejle Kommune



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