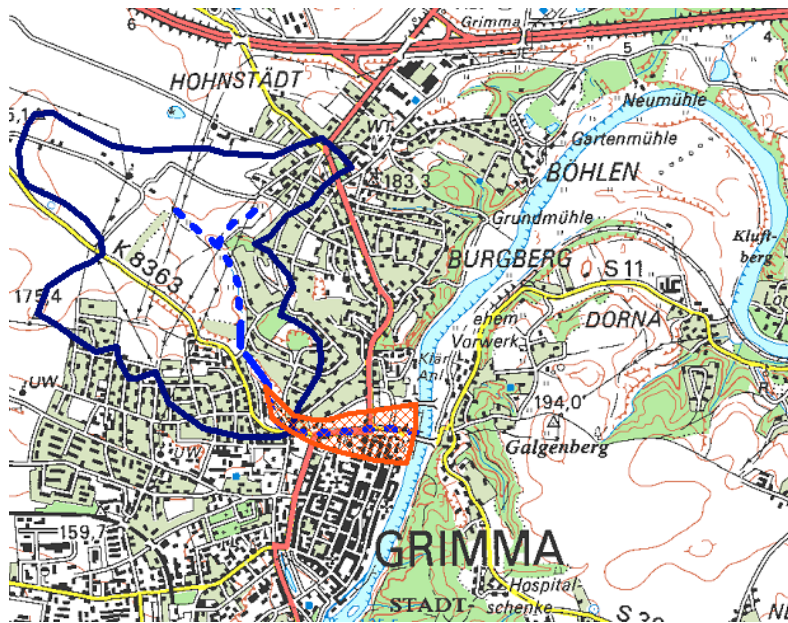


Study for the evaluation of measures on streams and small tributaries of the river Mulde with respect to flood protection

Summary

In August 2002 the town of Grimma was hit by the worst floods in living memory, with the old town under 4m of water.



The town of Grimma expects an improvement in flood protection for the old town from the state of Saxony, which is responsible for flood protection of the main water bodies. However the town would also would like to contribute to flood protection for the river Mulde.

The possibilities for flood protection have been investigated with respect to their hydrological effects using the example of the 3 km long Thostgrund stream, with a catchment area of 1.8 km². Following the investigation the following measures have been laid down:

- a) The demolition of 552m of concrete piping DN 450/500 and und 6 shafts DN 1000
- b) Raising of the water level up to the land surface, following mainly the natural valley, with initial profile of 0.2 x 0.3 m
- c) Remodelling of falls to river bottom ramps with check-drains
- d) Demolition of existing reinforcements in open areas
- e) Erection of openings 0.7 x 1.0 m for the optimisation of the ecological movement of the waterway
- f) Renewal of an open overflow from a garden pond in the direction of the valley
- g) Crossing of a dyke and a garden with an open ditch profile

- h) Natural course of the valley, taking into consideration the existing stream profile in the valley and several garden ponds
- i) Development of a flow-through flood water retention basin above the entrance "Am Steingarten"
- j) New connection of the stream into the existing rainwater sewerage system and connection to the main collector before the old town.

It has become obvious that a marked flood protection effect is not achievable through simple renaturation of this part of the water course in Thostgrund either for the local water bodies, or for the Mulde.

The ecological effect of such measures remains, naturally, undisputed.

Relief effects for the local waterways and (through participation of all local residents) for the main waterways will first come about through effective storage measures, which should definitely be constructed to be as natural as possible. This results from the time delay of the input of the Mulde's tributaries in case of high water.

The possible relief in Thostgrund will come about through the range of measures but the relief is only tiny in comparison with the Mulde. However, taking into account the fact that in the middle and upper reaches of the Mulde there are more than 1000 small water features of a similar size to Thostgrund, there is a large potential to reduce the high water mark.

