

# Synergetic Flood Retention for the River Wandse

HafenCity University Hamburg (2/4)

## Potentials of Stormwater Managment

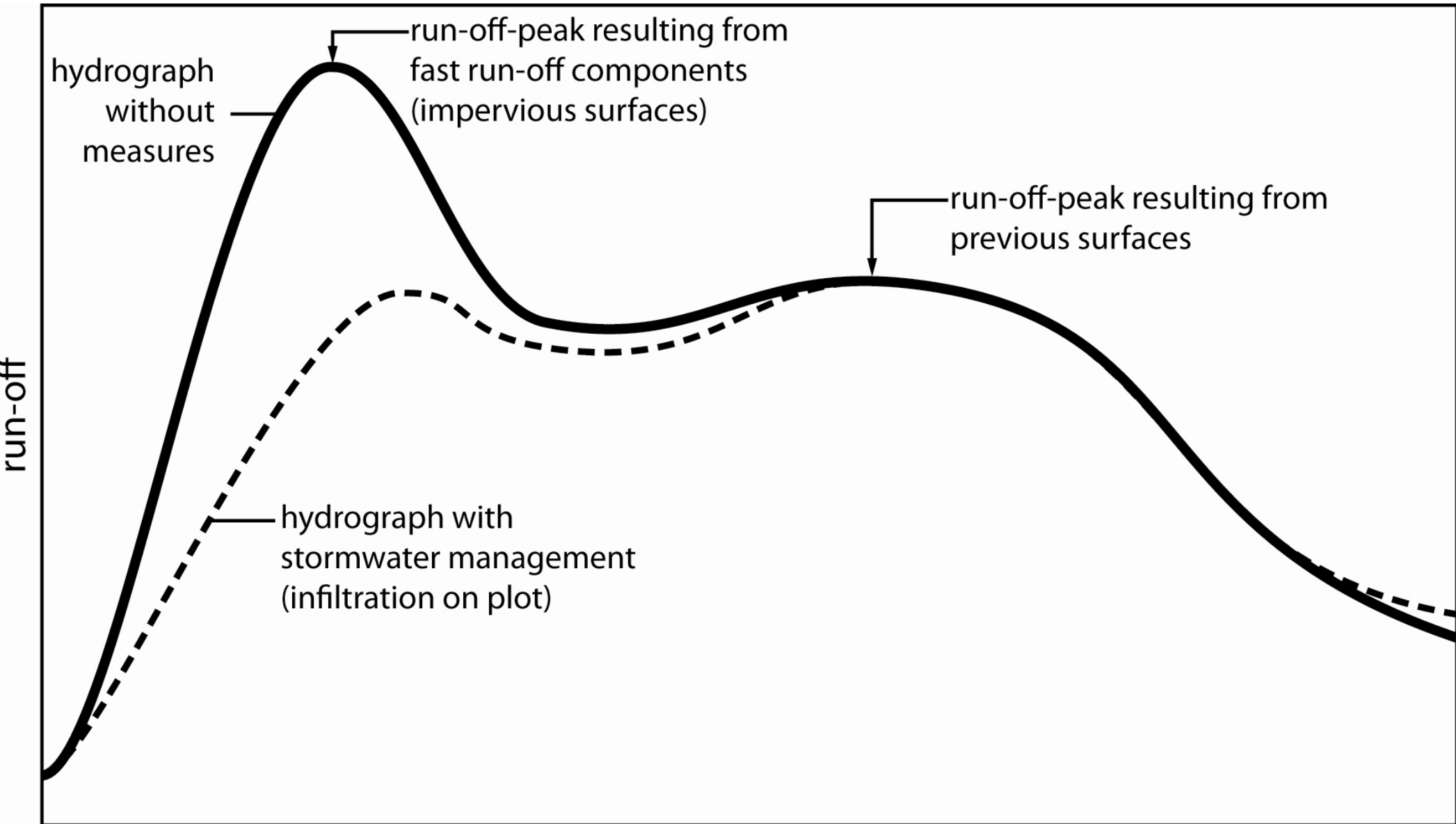
Focus of the investigation was to determine on how many plots for stormwater can be managed on plot using infiltration facilities.

## Approach

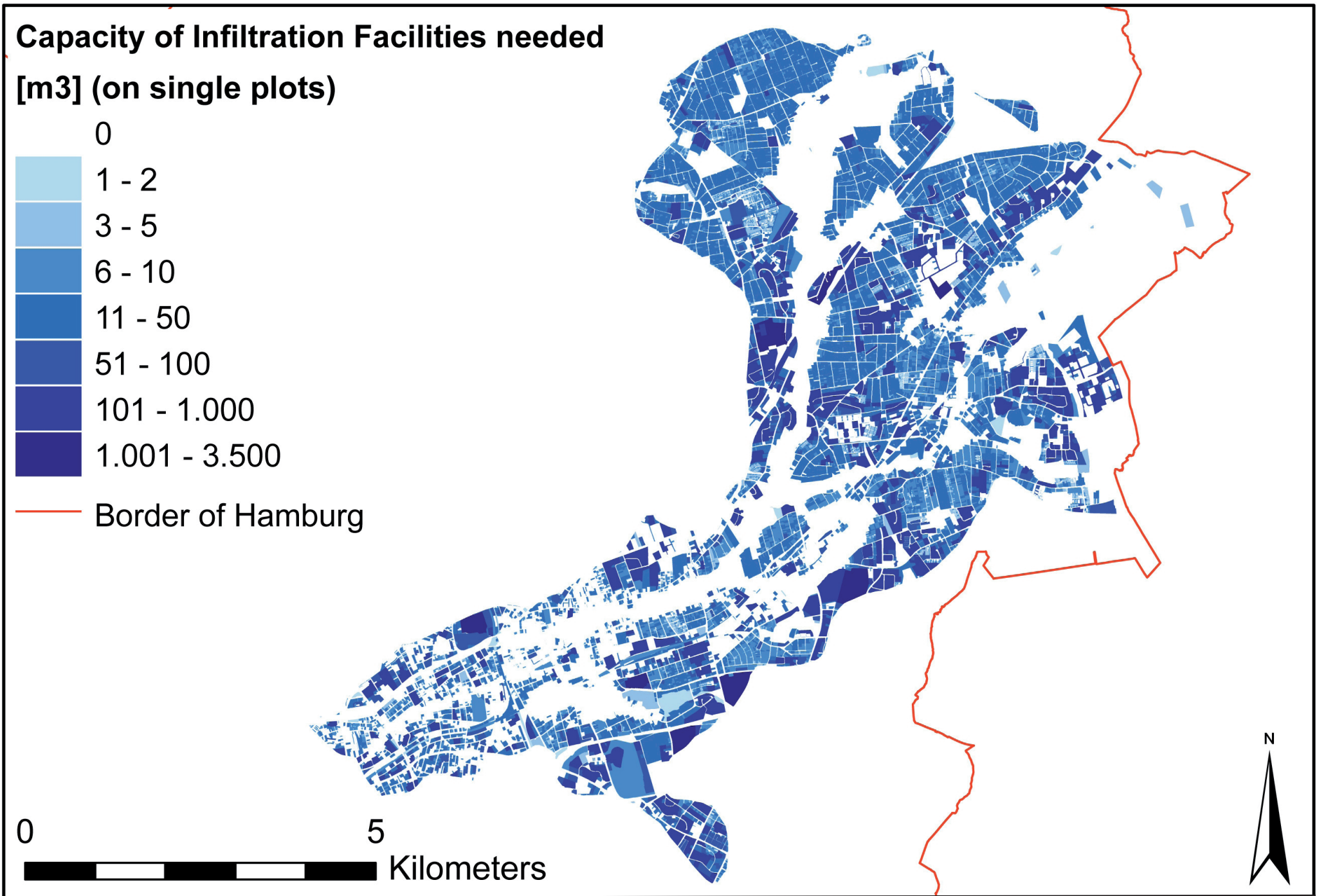
Hydrogeological prerequisites (hydraulic conductivity, groundwater level) and the proportion of superstructed and unsuperstructed area were determined on plot level making use of available GIS data sources.

## Results

1. On most of the plots in the River Wandse catchment stormwater management using infiltration facilities appears to be feasible.
2. At least 50 % of the impervious surfaces draining through the stormwater canalisation into the Wandse can be managed on plot level.
3. The volume of the infiltration facilities needed would add up to 417.000 m3 (compared to about 350.000 m3 in existing flood retention basins).
4. Actual potential for change of stormwater management very likely to be higher (traffic areas as well as alternative measures of sustainable urban drainage are not regarded in this potential analysis).
5. Resulting reduction of flood peak run-off is estimated to reach a minimum of 10-20 % for severe events.
6. Changing storm water management has to be integrated in the renewal of urban infrastrucutre using instruments governing urban development.



A large amount of stormwater is stored in the infiltration facilities resulting in a considerable reduction of the associated run-off peak in the hydrograph.

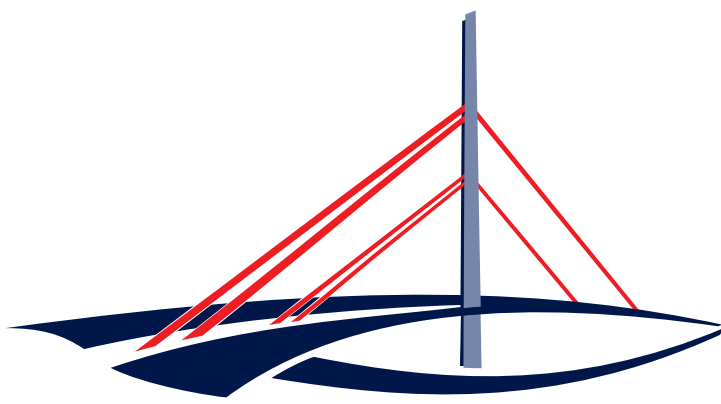


Facilities to infiltrate stormwater could be realised on all plots coloured blue.

## Partners

HCU

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Landesbetrieb Straßen, Brücken und Gewässer