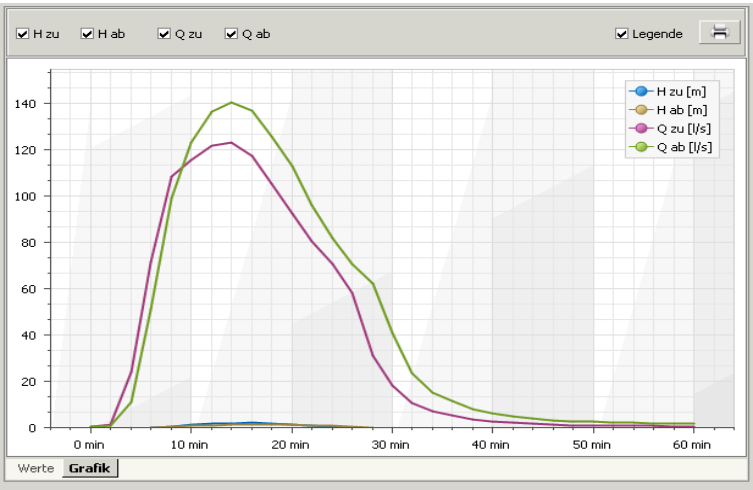
BaSYS HydroCAD
proves the hydraulic efficiency of sewer systems on basis of the implicit Hydrograph-Volume-Method (HVM).

BaSYS HydroCAD

Advantages
BaSYS HydroCAD realistically displays the run off within the time interval of the first rain drop in the catchment area up to the last drop of waste water in the sewer network.
BaSYS HydroCAD computes and administers results of different computation variants and allows their visualization through thematic maps in BaSYS Plan as well as their animation in a dynamic profile.
BaSYS HydroCAD is the module for hydrodynamic sewer network computations and integrates the nationally and internationally recognized computing model „Hydrograph-Volume-Method (HVM)“ from Dorsch Consult into the graphically oriented user interface of BaSYS.

Over view of the advantages of calculating with HVM
- Fast assignment of the relevant hydrau lic parameters of the catch-ment area from the library of surface types
- Determination of the surface run-off over the complete hydrodynamic calculation
- Acquisition of the discharge wave over time for all structures of the sewer network
- Consideration of the compound effect of looped networks,
- the retention capacity of sewers and storm water holding structures, the flow reversal at high points, branches, inlets and storm overflows and from back wa ter areas
- Processing of all computation elements in one pass (pipes, open drainage ditches, retention sewers and basins, branches, storm overflows, leaping weir, pumping plants, slide valves, gates)
- Implicit solution of the complete Saint-Venant equations, no numerical restrictions regarding pipe lengths or computational time increments.
- Volume error always << 0.1%
- Direct calculation of sewers under pressure or for inverted siphons, no approximations (like dubious Preissmann slot)
- 1:1 - View of the sewer network in the calculation, no error prone and labour intensive network simplifications needed for the achievement of stable results
- Calculation of complicated special structures by their “hydraulic detailing” in model specific individual elements

Libraries
BaSYS HydroCAD administers cross section types, rain and surface types in comfortable libraries.
The library data can be imported through various interfaces.



Display of the hydrographs after a successful calculation

Additional modules:

BaSYS Pisa / DIGIKAN

BaSYS Operation and Maintenance

Condition evaluation according to ISYBAU 0196 inclusive hydraulic condition evaluation

Condition evaluation according to ISYBAU 0601

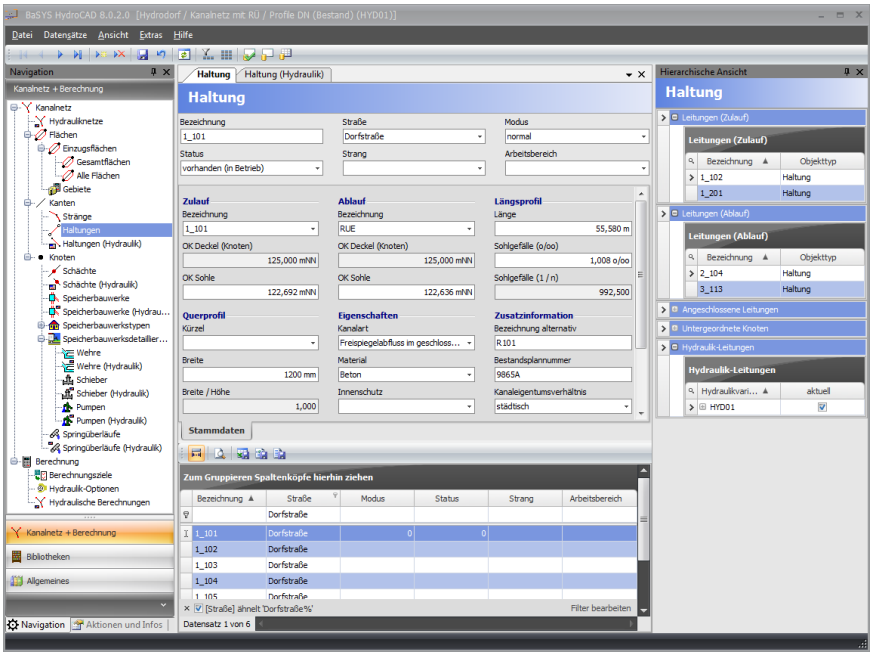
Condition evaluation according to ATV A149

BaSYS TVCD Player

ISY-TVCD Engineer

ISY-TVCD Player

BARTHAUER



Display of the hydraulic results for the reach

Hydrodynamic Calculation

The partialfill curves for all cross section types as well as the specific hydrographs for all surface types are computed prior to the hydrodynamic sewer network calculation.

Global presettings make the parallel formulation and administration of different boundary conditions possible for the hydrodynamic simulation of the sewer network. Before each calculation run the desired global presetting is selected. Additionally, individual hydraulic conditions deviating from the global presetting are definable for each sewer element. Each computing run is assigned at least one rain event from the rain type library.

Calculation Results

Each calculation run produces hydrographs for the reaches and structures of the simulated sewer network and stores these in the data base. BaSYS Hydro-CAD administers the results per rain event and the maximum values per sewer element. For each calculation run these can be visualized, for example, as water level or hydraulic utilization in BaSYS Plan by means of thematic maps.

Dynamic Longitudinal Section

The dynamic longitudinal section im-pressively animates the most important results of the hydrodynamic calculation. In this way decision makers can be shown a realistic animation of the discharge wave for critical areas of the sewer network. After realization of the design, the planner vividly demonstrates a high competence. The results of the hydrodynamic calculation runs are stored in the data base. Thus the dynamic longitudinal section can be defined for all calculations and reach sequences and therein the water level change over the calculation period can be visualized. Each rain calculation is individually displayed. The definition of the tract allocation is made through a dialogue window. The arbitrary interruption of the anima-tion and/ or the direct control of fixed images within the calculation period are possible.

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