



OpenFlows™ Storm Comparison Checklist

	OpenFlows Storm Ultimate	OpenFlows Storm Advanced	OpenFlows Storm Standard	OpenFlows Storm Essentials
Sizing (inlets, links, ponds)	unlimited inlets unlimited links unlimited ponds	unlimited inlets ≤ 250 links unlimited ponds	≤ 50 inlets ≤ 50 links and ≤ 3 ponds	≤ 10 inlets and ≤ 1 pond
Interoperability				
Run OpenFlows Storm within MicroStation [®] , OpenRoads [™] Designer [®] , OpenSite [®] Designer [®] , OpenRail [™] Designer [®] , AutoCAD [®] , or as stand-alone interface	◆	◆	◆	◆
Model Building and Management				
Automated catchment delineation and elevation assignment from terrain	◆	◆	◆	◆
Automated CN and rational "c" weighting from land use polygons	◆	◆	◆	◆
Seed files for new model templates	◆	◆	◆	◆
Supports with shapefiles, spreadsheets, databases, Oracle Spatial, and open database connectivity connections	◆	◆	◆	◆
Import/export of LandXML, MX Drainage, and InRoads [®] data	◆	◆	◆	◆
Custom data fields with user-assigned or formula-based values	◆	◆	◆	◆
Comprehensive, unlimited scenario management	◆	◆	◆	◆
Active topology to activate or deactivate network elements	◆	◆	◆	◆
Tabular reports with global editing, sorting, filtering, and statistics	◆	◆	◆	◆
Customizable engineering libraries	◆	◆	◆	◆
Drawing review capabilities with queries to ensure network connectivity	◆	◆	◆	◆
Automatic topology review	◆	◆	◆	◆
ProjectWise [®] integration	◆	◆	◆	◆
Creation of model elements from CAD drawings	◆	◆	◆	◆

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Time-series data import	◆	◆	◆	◆
Storm events scenario wizard	◆	◆	◆	◆
Import/export of SWMM and MicroDrainage model files	◆	◆	◆	
Hydraulics				
Automatic constraint-based design of gravity storm sewers	◆	◆	◆	◆
Level pool routing and interconnected pond modeling	◆	◆	◆	◆
Surface flow path tracing from terrain	◆	◆	◆	◆
HEC-22 inlet capacity and node headloss calculations	◆	◆	◆	◆
V-shaped and parabolic gutters	◆	◆	◆	◆
Detention/retention ponds and storage chamber systems	◆	◆	◆	◆
Simple and multistage detention pond outlet structures	◆	◆	◆	◆
PondMaker [®] capability for detention pond design flow and volume estimates, and data tracking	◆	◆	◆	◆
Pre- and post-development peak flow and volume comparison	◆	◆	◆	◆
Inline control structures and diversions** (weirs, orifices, depth-flow curves)	◆	◆	◆	◆**
Tractive stress calculation	◆	◆	◆	◆
Regular and irregular surface channel shapes	◆	◆	◆	◆
Steady state (peak flow) gradually varied flow/rational solver	◆	◆	◆	◆
Two solvers for the full set of 1D Saint-Venant equations: implicit dynamic and explicit dynamic (EPA-SWMM)	◆	◆	◆	
1D/2D hydraulic analysis for surface flood modeling	◆	◆	◆	
Critical storm analysis	◆	◆	◆	
Long-term simulations with statistical reports	◆	◆	◆	
Low-impact development control analysis	◆	◆	◆	
Evaporation definition	◆	◆	◆	
Aquifer simulation	◆	◆	◆	
Pollutant and treatment analysis	◆	◆	◆	
HDS-5 and SWMM culverts	◆	◆	◆	
Rule-based controls	◆	◆	◆	

**Diversion structures require manual rating table definition at this feature level

Stormwater Load Allocation and Estimation	OpenFlows Storm Ultimate	OpenFlows Storm Advanced	OpenFlows Storm Standard	OpenFlows Storm Essentials
Support for synthetic design storms and gauged rainfall events	◆	◆	◆	◆
Intensity-duration-frequency curve input in tabular or equation format	◆	◆	◆	◆
Time of concentration methods: user-defined, Carter, Eagleson, Espey/Winslow, Federal Aviation Agency, Kerby/Hathaway, Kirpich (PA and TN), length/velocity, SCS Lag, TR-55 Sheet Flow, TR-55 Shallow Concentrated Flow, TR-55 Channel Flow, Friend, Kinematic Wave, Bransby-Williams, and U.K. standard	◆	◆	◆	◆
Runoff methods (all levels): Rational method peak flow calculation, SCS unit hydrograph, modified rational method, generic unit hydrograph, Santa Barbara urban hydrograph, and user-defined hydrograph	◆	◆	◆	◆
Loss methods (all levels): Constant loss rate, Green and Ampt, Horton, and SCS CN	◆	◆	◆	◆
Additional Loss Methods: Green and Ampt (modified), Horton (modified), and initial loss and constant fraction or constant loss rate	◆	◆	◆	
Inflow control center	◆	◆	◆	
Flood estimation handbook (U.K.) rainfall	◆	◆	◆	
Australian rainfall and runoff	◆	◆	◆	
Additional runoff methods: EPA SWMM, RTK unit hydrograph, time-area method, and ILSAX	◆	◆	◆	
Results Presentation				
Thematic mapping with color coding	◆	◆	◆	◆
Scenario and element comparison	◆	◆	◆	◆
Engineering profile with annotation table	◆	◆	◆	◆