

for each rainfall time-intensity a simulation is done

$$\begin{cases} \frac{\partial d}{\partial t} = i - f - e - \alpha d_x^{5/3} \\ q = \alpha d_x^{5/3} \end{cases}$$

where $d_x = d - d_s$

RUNOFF

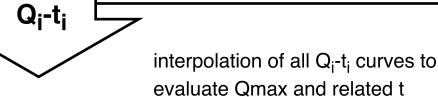
Steady flow

Kinematic wave

Dynamic wave

ROUTING

SWMM



change D_j to commercial dimension

check hypothesis on max depth, slope and grade of filling

evaluation of the diameter D

Qmax

$$D = \left[\frac{2^{13/3} Q_{max}}{k_s S^{1/2} (1 - \frac{\sin \theta}{\theta})^{2/3} (\theta - \sin \theta)} \right]^{3/2}$$
$$\theta = 2 \cos^{-1} (1 - 2G)$$

No

 D_{j}

Yes

repeated for each node-subcatchment