

Developer Capacity Enquiries Flow Calculation - Impact of New Developments

Peak Flow:

Development Size - Units

Occupancy - persons/dwelling (default 2.4)

Per Capita Flow - l/h/d (default 125l/h/d)

Infiltration (default 10%)

Trade Flow - L/day

DWF Multiplier (PF) (default 2.5)

N	6	
O	2.4	
G	125	l/h/d
I	10%	
E	0	l/d
	2.5	See Table 1
Population of development (P)	=	14.4

New development gravity connection: peak rate flow of 2.5DWF plus storm contribution of 1.4m² per property shall be used.

Surface water misconnection allowance will be assigned to (unused) runoff surface 12 and assigned a land use to generate 85% fixed runoff.

Table 1

DWF Peaking Factor	
Storm Duration (SD)	Multiplier (PF)
30 to 120	2.5
240 to 480	2
960	1.4

Peak Foul Flow = 0.05 l/s

Allowance for Surface water misconnection

Surface water misconnection (default 1.4) 1.4 8.4 m² 0.00084 Ha

Note 1: Surface water misconnection: - 1.4 m²/property - Based on average development density of 32 properties/Hectare - See Table 2

Note 2: Surface water misconnection: - Flats, housing association, and commercial property addresses will have no misconnected surface water allowance applied.

Example:

$$DWF = PG + I + E$$

$$I = 10\% \text{ Infiltration}$$

$$I = 10\% PG$$

$$E = \text{Trade Flow}$$

$$DWF = PG + 0.1PG + E$$

$$2.5DWF \text{ Multiplier}$$

$$2.5DWF = 2.5PG + 0.1PG + 2.5E$$

$$2.5DWF = 2.6PG + 2.5E$$

$$P_{(population)} = N \times O$$

$$\text{Peak Flow} = 2.6 \times N \times O \times G + 2.5E$$

24x60x60

Table 2

Development Density (Properties/4Ha)	Surface water misconnection (m ² /Property)
<=100	2.1
120	1.6
140	1.1
180	0.6
>=200	0.3