



SIMPLE INDEX WATER QUALITY CALCULATIONS CIRIA C753 - Chapter 26

PROJECT TITLE: Roof water - Gardners Arms Ardingly
SYSTEM: Roofwater LOCATION: Car Park

JOB No: 25049
DATE: Apr-26

Pollution Hazard Indices - CIRIA 753 - Table 26.2

Land Use	PHL	TSS	Metals	Hydrocarbons
Resi roofs	Very Low	0.2	0.2	0.05
Other roofs	Low	0.3	0.5	0.05
Private driveways	Low	0.5	0.4	0.4
Yards, public car parks & roads	Medium	0.7	0.6	0.7
Lorry parks - industrial sites	High	0.8	0.8	0.9

THE SIMPLE INDEX APPROACH

1. The method of determining water quality for SuDS discharges derives from Chapter 26.0 of the SuDS manual produced by CIRIA (doc C753).
2. The approach requires the **TOTAL SUDS MITIGATION INDICES > POLLUTION HAZARD INDICES** for the particular site.
3. Where multiple SuDS components are used, the mitigation index is multiplied by a factor of 0.5 for each additional feature.
4. Where discharges are to groundwater, a weighting and screening approach is used additionally to assess risk.
5. Note the figure for metals in Table 26.2 for Other roofs is the average between 0.2-0.8.
6. An estimated figure for TSS, Metals and hydrocarbons has been provided for the use of silt/catchpits on the storm water drainage system.

Mitigation Indices - Discharge to surface water - CIRIA 753 Table 26.3

Type of SuDS	TSS	Metals	Hydrocarbons
Filter strip	0.4	0.4	0.5
Filter drain	0.4	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention	0.8	0.8	0.8
Permeable pavement	0.7	0.6	0.7
Vortex desilting chamber	0.5	0.4	0.5
Detention basin/tank	0.5	0.5	0.6
Pond	0.7	0.7	0.5
Wetland	0.8	0.8	0.8

Mitigation Indices - Discharge to ground water - CIRIA 753 - Table 26.4

Type of suds	TSS	Metals	Hydrocarbons
Dense vegetation of min 300mm	0.6	0.5	0.6
Soil of min 300mm	0.4	0.3	0.3
Infil. trench (300mm depth)	0.4	0.4	0.4
Perm pavement min 300mm depth c/w geotextile	0.7	0.6	0.7
Bio retention over soil of min 300mm depth	0.8	0.8	0.8

Pollution Hazard Indices

Land Use	Pollution Haz level	Total Sus Solids (TSS)	Metals	Hydrocarbons
Resi roofs	Very Low	0.2	0.2	0.05

Discharge to surface water or groundwater?

Ground Water

Total Pollution Hazard Index (PHI) for site is

0.450

SuDS Mitigation Indices for discharges to surface water

SuDS Component	No. off	TSS	Metals	Hydrocarbons
Filter strip	0	0	0	0
Filter drain	0	0	0	0
Swale	0	0	0	0
Bioretention	0	0	0	0
Permeable pavement	0	0	0	0
Vortex desilting chamber	0	0	0	0
Detention basin/tank	0	0	0	0
Pond	0	0	0	0
Wetland	0	0	0	0
Total SuDS Mitigation Index (SMI) for discharge to surface water				0.00

SuDS Mitigation Indices for discharges to groundwater

SuDS Component	No. off	TSS	Metals	Hydrocarbons
Dense vegetation of min 300mm	0	0	0	0
Soil of min 300mm	0	0	0	0
Infil. trench (300mm depth)	1	0.4	0.4	0.4
Perm pavement min 300mm depth c/w geotextile	0	0	0	0
Bio retention over soil of min 300mm depth	0	0	0	0
Total SuDS Mitigation Index for discharge to groundwater				1.2

Not applicable

The design features used are acceptable