

Appendix 10.5 – CIRIA Report C753 Extracts

Table 1 – Table 26.2: Pollution hazard indices for different land use classifications

Land Use Surface Type (LUST)	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Residential Roofs	Very Low	0.2	0.05	0.2
Other Roofs (Commercial/ Industrial)	Low	0.3	0.05	0.2
Individual Property Driveways	Low	0.5	0.4	0.4
Commercial/ Non - Residential Carparks	Medium	0.7	0.7	0.6
Sites with Heavy Pollution	High	0.8	0.9	0.8



Table 2 – Table 26.3: Indicative SuDS mitigation indices for discharges to surface waters

Type of SuDS component	Mitigation Indices		
	Total Suspended Solids (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 System	0.8	0.8	0.8
Permeable Pavement	0.7	0.6	0.7
Detention Basin	0.5	0.5	0.6
Pond	0.7	0.7	0.5
Wetland	0.8	0.8	0.8

Table 3 – Relationships between Site Pollution Index (SPI) and receiving water quality*

Site Pollution Index (SPI)	Impact Level	Biological Quality	BMWP ^A	ASPT ^B	EU HMWB Ecological Potential ^C	EA RE Class ^D
<0.1	Negligible	High biological diversity; several species in taxa.	>90	>5.5	Very Good	RE1
0.1 – 0.2	Minimal	Small reduction in pollution tolerant taxa.	70 – 90	5.1 – 5.5	Good	RE2
0.2 – 0.4	High	Many sensitive species absent; rise in pollution tolerant taxa.	41 – 70	4.1 – 5.0	Moderate	RE3
0.4 – 0.7	Substantial	Sensitive taxa scarce; some pollution tolerant species in large numbers.	11 – 40	3.5 – 4.0	Poor	RE4
>0.7	Severe	Restricted to pollution tolerant species with a few taxa dominant.	<10	<3.5	Bad	RE5

*Table retrieved from original source referenced in the CIRIA 753 guidance.

Ellis, J. B., Revitt, M., and Lundy, L. (2012). An impact assessment methodology for urban surface runoff quality following best practice treatment. *Science of the Total Environment*, vol 416, February, Elsevier BV, UK, pp 172 -179.

A – Biological Monitoring Working Party classification; 0 – 10: heavily polluted, 11 – 40: polluted (ecologically impacted), 41 – 70; moderately impacted, 71 – 90: clean but slightly impacted, >90: very good; no signs of impaction.

B – Average Score Per Taxon (BMWP/ Number of taxa which is independent of sample size).

C – European Union Heavily Modified Waterbody Ecological Potential

D – EA Regulatory Ecosystem Quality Class Objectives