

Project: Infiltration Basins Baldock	Date: 01/04/2026		
	Designed by: MJD	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: AKTII White Collar Factory, 1 Old Street Yard London EC1Y 8AF		



 Summary Results for Infiltration Basin 5: Rank By: Max. US Depth

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 2 years: +40 %: 15 mins: Summer	65.547	65.547	0.847	0.847	1244.7	2942.931	0.000	825.550	0.0	0.000	28.986	OK
FEH: 2 years: +40 %: 15 mins: Winter	65.545	65.545	0.845	0.845	1169.7	2935.697	0.000	825.513	0.0	0.000	29.160	OK
FEH: 2 years: +40 %: 30 mins: Summer	65.522	65.522	0.822	0.822	803.8	2785.693	0.000	1622.310	0.0	0.000	32.780	OK
FEH: 2 years: +40 %: 30 mins: Winter	65.522	65.522	0.822	0.822	754.3	2777.488	0.000	1622.291	0.0	0.000	32.978	OK
FEH: 2 years: +40 %: 60 mins: Summer	65.522	65.522	0.822	0.822	683.2	2720.797	0.000	3108.626	0.0	0.000	34.346	OK
FEH: 2 years: +40 %: 60 mins: Winter	65.522	65.522	0.822	0.822	549.4	2718.610	0.000	3108.564	0.0	0.000	34.398	OK
FEH: 2 years: +40 %: 120 mins: Summer	65.522	65.522	0.822	0.822	584.8	2718.735	0.000	4079.044	0.0	0.000	34.395	OK
FEH: 2 years: +40 %: 120 mins: Winter	65.522	65.522	0.822	0.822	420.8	2713.609	0.000	4078.636	0.0	0.000	34.519	OK
FEH: 2 years: +40 %: 180 mins: Summer	65.522	65.522	0.822	0.822	485.3	2715.798	0.000	4294.227	0.0	0.000	34.466	OK
FEH: 2 years: +40 %: 180 mins: Winter	65.522	65.522	0.822	0.822	334.4	2711.716	0.000	4293.977	0.0	0.000	34.565	OK
FEH: 2 years: +40 %: 240 mins: Summer	65.522	65.522	0.822	0.822	413.7	2714.697	0.000	4442.329	0.0	0.000	34.493	OK
FEH: 2 years: +40 %: 240 mins: Winter	65.522	65.522	0.822	0.822	278.2	2711.084	0.000	4441.756	0.0	0.000	34.580	OK
FEH: 2 years: +40 %: 360 mins: Summer	65.522	65.522	0.822	0.822	317.5	2713.964	0.000	4638.588	0.0	0.000	34.511	OK
FEH: 2 years: +40 %: 360 mins: Winter	65.522	65.522	0.822	0.822	209.1	2710.768	0.000	4638.725	0.0	0.000	34.588	OK
FEH: 2 years: +40 %: 480 mins: Summer	65.522	65.522	0.822	0.822	259.8	2713.875	0.000	4761.154	0.0	0.000	34.513	OK
FEH: 2 years: +40 %: 480 mins: Winter	65.522	65.522	0.822	0.822	168.1	2710.076	0.000	4760.311	0.0	0.000	34.604	OK
FEH: 2 years: +40 %: 600 mins: Summer	65.522	65.522	0.822	0.822	218.3	2711.896	0.000	4849.083	0.0	0.000	34.561	OK
FEH: 2 years: +40 %: 600 mins: Winter	65.522	65.522	0.822	0.822	140.8	2710.760	0.000	4849.320	0.0	0.000	34.588	OK
FEH: 30 years: +40 %: 15 mins: Summer	65.716	65.717	1.016	1.017	2907.7	3604.787	0.000	849.760	0.0	0.000	13.015	OK
FEH: 30 years: +40 %: 15 mins: Winter	65.712	65.713	1.012	1.013	2731.2	3588.626	0.000	849.709	0.0	0.000	13.405	OK
FEH: 30 years: +40 %: 30 mins: Summer	65.719	65.720	1.019	1.020	1904.1	3615.868	0.000	1688.541	0.0	0.000	12.747	OK
FEH: 30 years: +40 %: 30 mins: Winter	65.716	65.716	1.016	1.016	1787.0	3601.564	0.000	1688.593	0.0	0.000	13.092	OK
FEH: 30 years: +40 %: 60 mins: Summer	65.657	65.657	0.957	0.957	1618.7	3368.581	0.000	3273.561	0.0	0.000	18.714	OK
FEH: 30 years: +40 %: 60 mins: Winter	65.651	65.651	0.951	0.951	1301.7	3343.752	0.000	3273.566	0.0	0.000	19.313	OK
FEH: 30 years: +40 %: 120 mins: Summer	65.522	65.522	0.822	0.822	1221.0	2816.565	0.000	5416.920	0.0	0.000	32.035	OK
FEH: 30 years: +40 %: 120 mins: Winter	65.522	65.522	0.822	0.822	878.7	2740.793	0.000	5417.558	0.0	0.000	33.863	OK

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FEH: 30 years: +40 %: 180 mins: Summer	65.522	65.522	0.822	0.822	965.9	2721.699	0.000	5727.037	0.0	0.000	34.324	OK
FEH: 30 years: +40 %: 180 mins: Winter	65.522	65.522	0.822	0.822	665.6	2715.242	0.000	5727.623	0.0	0.000	34.480	OK
FEH: 30 years: +40 %: 240 mins: Summer	65.522	65.522	0.822	0.822	800.7	2719.743	0.000	5934.637	0.0	0.000	34.371	OK
FEH: 30 years: +40 %: 240 mins: Winter	65.522	65.522	0.822	0.822	538.5	2711.750	0.000	5934.663	0.0	0.000	34.564	OK
FEH: 30 years: +40 %: 360 mins: Summer	65.522	65.522	0.822	0.822	594.2	2716.703	0.000	6200.622	0.0	0.000	34.444	OK
FEH: 30 years: +40 %: 360 mins: Winter	65.522	65.522	0.822	0.822	391.4	2711.450	0.000	6200.340	0.0	0.000	34.571	OK
FEH: 30 years: +40 %: 480 mins: Summer	65.522	65.522	0.822	0.822	478.3	2715.148	0.000	6371.262	0.0	0.000	34.482	OK
FEH: 30 years: +40 %: 480 mins: Winter	65.522	65.522	0.822	0.822	309.5	2711.540	0.000	6371.491	0.0	0.000	34.569	OK
FEH: 30 years: +40 %: 600 mins: Summer	65.522	65.522	0.822	0.822	397.6	2716.006	0.000	6497.159	0.0	0.000	34.461	OK
FEH: 30 years: +40 %: 600 mins: Winter	65.522	65.522	0.822	0.822	256.5	2709.499	0.000	6497.126	0.0	0.000	34.618	OK
FEH: 100 years: +40 %: 15 mins: Summer	65.792	65.794	1.092	1.094	3683.6	3908.692	0.000	860.700	0.0	0.000	5.681	OK
FEH: 100 years: +40 %: 15 mins: Winter	65.788	65.789	1.088	1.089	3460.2	3895.573	0.000	860.725	0.0	0.000	5.998	OK
FEH: 100 years: +40 %: 30 mins: Summer	65.822	65.822	1.122	1.122	2427.7	4029.292	0.000	1719.625	0.0	0.000	2.771	OK
FEH: 100 years: +40 %: 30 mins: Winter	65.822	65.822	1.122	1.122	2278.4	4030.077	0.000	1719.610	0.0	0.000	2.752	OK
FEH: 100 years: +40 %: 60 mins: Summer	65.778	65.779	1.078	1.079	2077.7	3854.017	0.000	3352.647	0.0	0.000	7.001	OK
FEH: 100 years: +40 %: 60 mins: Winter	65.772	65.773	1.072	1.073	1670.8	3829.084	0.000	3352.892	0.0	0.000	7.602	OK
FEH: 100 years: +40 %: 120 mins: Summer	65.647	65.648	0.947	0.948	1530.9	3331.740	0.000	6068.912	0.0	0.000	19.603	OK
FEH: 100 years: +40 %: 120 mins: Winter	65.629	65.629	0.929	0.929	1101.7	3257.795	0.000	6070.117	0.0	0.000	21.388	OK
FEH: 100 years: +40 %: 180 mins: Summer	65.522	65.522	0.822	0.822	1202.3	2724.749	0.000	6432.188	0.0	0.000	34.250	OK
FEH: 100 years: +40 %: 180 mins: Winter	65.522	65.522	0.822	0.822	828.6	2714.972	0.000	6432.928	0.0	0.000	34.486	OK
FEH: 100 years: +40 %: 240 mins: Summer	65.522	65.522	0.822	0.822	994.0	2721.628	0.000	6680.130	0.0	0.000	34.326	OK
FEH: 100 years: +40 %: 240 mins: Winter	65.522	65.522	0.822	0.822	668.5	2713.992	0.000	6680.686	0.0	0.000	34.510	OK
FEH: 100 years: +40 %: 360 mins: Summer	65.522	65.522	0.822	0.822	736.8	2718.018	0.000	7005.089	0.0	0.000	34.413	OK
FEH: 100 years: +40 %: 360 mins: Winter	65.522	65.522	0.822	0.822	485.3	2712.318	0.000	7005.213	0.0	0.000	34.550	OK
FEH: 100 years: +40 %: 480 mins: Summer	65.522	65.522	0.822	0.822	592.9	2716.489	0.000	7215.827	0.0	0.000	34.450	OK
FEH: 100 years: +40 %: 480 mins: Winter	65.522	65.522	0.822	0.822	383.7	2710.107	0.000	7216.390	0.0	0.000	34.604	OK
FEH: 100 years: +40 %: 600 mins: Summer	65.522	65.522	0.822	0.822	492.5	2715.289	0.000	7367.908	0.0	0.000	34.479	OK
FEH: 100 years: +40 %: 600 mins: Winter	65.522	65.522	0.822	0.822	317.8	2710.720	0.000	7368.589	0.0	0.000	34.589	OK

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	MJD			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: AKTII White Collar Factory, 1 Old Street Yard London EC1Y 8AF			



Summary Results for Infiltration Basin 3: Rank By: Max. US Depth

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 2 years: +40 %: 15 mins: Summer	60.215	60.214	0.715	0.714	1321.8	4810.166	0.000	52.532	17.1	26.715	26.316	OK
FEH: 2 years: +40 %: 15 mins: Winter	60.214	60.214	0.714	0.714	1242.6	4809.477	0.000	52.531	28.7	27.032	26.327	OK
FEH: 2 years: +40 %: 30 mins: Summer	60.230	60.230	0.730	0.730	847.0	4922.075	0.000	105.298	73.4	72.597	24.602	OK
FEH: 2 years: +40 %: 30 mins: Winter	60.230	60.230	0.730	0.730	793.9	4921.832	0.000	105.297	73.5	73.049	24.606	OK
FEH: 2 years: +40 %: 60 mins: Summer	60.242	60.242	0.742	0.742	719.0	5005.222	0.000	210.849	71.2	153.972	23.328	OK
FEH: 2 years: +40 %: 60 mins: Winter	60.242	60.242	0.742	0.742	578.2	5008.104	0.000	210.850	63.2	158.658	23.284	OK
FEH: 2 years: +40 %: 120 mins: Summer	60.268	60.268	0.768	0.768	615.4	5197.049	0.000	422.593	80.9	387.343	20.390	OK
FEH: 2 years: +40 %: 120 mins: Winter	60.269	60.269	0.769	0.769	458.5	5199.559	0.000	422.587	133.4	404.901	20.351	OK
FEH: 2 years: +40 %: 180 mins: Summer	60.277	60.276	0.777	0.776	510.7	5254.980	0.000	633.470	91.3	599.027	19.502	OK
FEH: 2 years: +40 %: 180 mins: Winter	60.276	60.276	0.776	0.776	352.0	5254.673	0.000	633.504	156.5	601.251	19.507	OK
FEH: 2 years: +40 %: 240 mins: Summer	60.278	60.279	0.778	0.779	441.4	5270.539	0.000	843.539	75.3	720.500	19.264	OK
FEH: 2 years: +40 %: 240 mins: Winter	60.277	60.277	0.777	0.777	334.4	5262.256	0.000	843.601	119.6	718.126	19.391	OK
FEH: 2 years: +40 %: 360 mins: Summer	60.275	60.276	0.775	0.776	334.2	5247.622	0.000	1261.576	101.8	864.209	19.615	OK
FEH: 2 years: +40 %: 360 mins: Winter	60.272	60.273	0.772	0.773	228.1	5224.965	0.000	1261.708	77.8	866.848	19.962	OK
FEH: 2 years: +40 %: 480 mins: Summer	60.268	60.267	0.768	0.767	279.7	5190.397	0.000	1677.010	95.4	859.156	20.492	OK
FEH: 2 years: +40 %: 480 mins: Winter	60.263	60.263	0.763	0.763	185.2	5159.448	0.000	1677.265	81.5	871.837	20.966	OK
FEH: 2 years: +40 %: 600 mins: Summer	60.258	60.259	0.758	0.759	256.1	5125.906	0.000	2089.995	106.3	871.661	21.480	OK
FEH: 2 years: +40 %: 600 mins: Winter	60.253	60.254	0.753	0.754	151.9	5088.587	0.000	2090.356	113.5	853.767	22.051	OK
FEH: 30 years: +40 %: 15 mins: Summer	60.314	60.314	0.814	0.814	3060.1	5533.636	0.000	53.142	99.8	113.003	15.234	OK
FEH: 30 years: +40 %: 15 mins: Winter	60.315	60.315	0.815	0.815	2874.4	5533.719	0.000	53.141	96.3	112.199	15.233	OK
FEH: 30 years: +40 %: 30 mins: Summer	60.351	60.351	0.851	0.851	2003.9	5800.150	0.000	106.826	158.6	343.450	11.151	OK
FEH: 30 years: +40 %: 30 mins: Winter	60.352	60.352	0.852	0.852	1880.7	5804.174	0.000	106.830	159.5	340.842	11.090	OK
FEH: 30 years: +40 %: 60 mins: Summer	60.374	60.374	0.874	0.874	1703.5	5966.058	0.000	214.036	196.6	776.150	8.610	OK
FEH: 30 years: +40 %: 60 mins: Winter	60.376	60.376	0.876	0.876	1369.9	5978.757	0.000	214.048	203.0	775.748	8.415	OK
FEH: 30 years: +40 %: 120 mins: Summer	60.397	60.397	0.897	0.897	1285.1	6134.273	0.000	427.656	248.3	1469.083	6.033	OK
FEH: 30 years: +40 %: 120 mins: Winter	60.396	60.396	0.896	0.896	924.8	6130.602	0.000	427.712	247.2	1465.747	6.089	OK

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FEH: 30 years: +40 %: 180 mins: Summer	60.401	60.401	0.901	0.901	1016.5	6164.170	0.000	639.822	257.5	1883.087	5.575	OK
FEH: 30 years: +40 %: 180 mins: Winter	60.396	60.396	0.896	0.896	700.5	6131.222	0.000	639.924	279.7	1870.380	6.080	OK
FEH: 30 years: +40 %: 240 mins: Summer	60.398	60.398	0.898	0.898	842.7	6144.817	0.000	850.969	251.9	2128.762	5.872	OK
FEH: 30 years: +40 %: 240 mins: Winter	60.391	60.391	0.891	0.891	566.7	6087.719	0.000	851.103	234.1	2095.187	6.746	OK
FEH: 30 years: +40 %: 360 mins: Summer	60.387	60.386	0.887	0.886	625.3	6058.912	0.000	1271.005	225.7	2365.839	7.188	OK
FEH: 30 years: +40 %: 360 mins: Winter	60.375	60.375	0.875	0.875	411.9	5971.614	0.000	1271.254	200.9	2340.821	8.525	OK
FEH: 30 years: +40 %: 480 mins: Summer	60.373	60.373	0.873	0.873	503.4	5961.365	0.000	1688.617	197.9	2442.362	8.682	OK
FEH: 30 years: +40 %: 480 mins: Winter	60.360	60.359	0.860	0.859	325.7	5858.847	0.000	1689.028	178.3	2430.464	10.252	OK
FEH: 30 years: +40 %: 600 mins: Summer	60.361	60.361	0.861	0.861	418.4	5871.810	0.000	2104.180	174.4	2414.229	10.054	OK
FEH: 30 years: +40 %: 600 mins: Winter	60.346	60.346	0.846	0.846	270.0	5758.481	0.000	2104.708	148.8	2418.815	11.790	OK
FEH: 100 years: +40 %: 15 mins: Summer	60.358	60.359	0.858	0.859	3876.7	5851.795	0.000	53.408	203.5	183.225	10.360	OK
FEH: 100 years: +40 %: 15 mins: Winter	60.358	60.359	0.858	0.859	3641.6	5853.777	0.000	53.410	168.6	184.427	10.330	OK
FEH: 100 years: +40 %: 30 mins: Summer	60.405	60.405	0.905	0.905	2554.9	6191.329	0.000	107.466	267.4	559.206	5.159	OK
FEH: 100 years: +40 %: 30 mins: Winter	60.405	60.405	0.905	0.905	2397.8	6195.511	0.000	107.470	269.2	556.740	5.095	OK
FEH: 100 years: +40 %: 60 mins: Summer	60.430	60.430	0.930	0.930	2186.6	6376.653	0.000	215.241	329.9	1211.360	2.320	OK
FEH: 100 years: +40 %: 60 mins: Winter	60.431	60.431	0.931	0.931	1758.4	6386.673	0.000	215.263	333.8	1206.559	2.167	OK
FEH: 100 years: +40 %: 120 mins: Summer	60.450	60.450	0.950	0.950	1611.2	6529.561	0.000	429.402	388.7	2082.098	-0.022	Flood Risk
FEH: 100 years: +40 %: 120 mins: Winter	60.447	60.447	0.947	0.947	1159.5	6507.825	0.000	429.471	379.5	2078.595	0.311	OK
FEH: 100 years: +40 %: 180 mins: Summer	60.452	60.452	0.952	0.952	1265.4	6542.960	0.000	641.955	393.6	2585.800	-0.227	Flood Risk
FEH: 100 years: +40 %: 180 mins: Winter	60.444	60.444	0.944	0.944	872.1	6482.487	0.000	642.081	369.4	2563.542	0.699	OK
FEH: 100 years: +40 %: 240 mins: Summer	60.447	60.447	0.947	0.947	1046.1	6504.255	0.000	853.436	377.9	2845.989	0.366	OK
FEH: 100 years: +40 %: 240 mins: Winter	60.435	60.435	0.935	0.935	703.5	6415.851	0.000	853.636	344.2	2834.537	1.720	OK
FEH: 100 years: +40 %: 360 mins: Summer	60.432	60.432	0.932	0.932	775.4	6390.991	0.000	1274.207	335.2	3146.135	2.101	OK
FEH: 100 years: +40 %: 360 mins: Winter	60.414	60.414	0.914	0.914	510.8	6263.617	0.000	1274.505	290.4	3139.344	4.052	OK
FEH: 100 years: +40 %: 480 mins: Summer	60.416	60.416	0.916	0.916	624.0	6272.266	0.000	1692.547	293.2	3250.860	3.919	OK
FEH: 100 years: +40 %: 480 mins: Winter	60.396	60.396	0.896	0.896	403.8	6128.355	0.000	1693.046	246.6	3256.497	6.124	OK
FEH: 100 years: +40 %: 600 mins: Summer	60.401	60.401	0.901	0.901	518.4	6166.945	0.000	2108.940	258.6	3281.265	5.533	OK
FEH: 100 years: +40 %: 600 mins: Winter	60.380	60.380	0.880	0.880	334.4	6012.444	0.000	2109.540	212.3	3280.608	7.899	OK

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 Summary Results for Infiltration Basin 2: Rank By: Max. US Depth

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 2 years: +40 %: 15 mins: Summer	57.679	57.679	0.179	0.179	2015.1	1518.066	0.000	110.049	0.0	0.000	82.210	OK
FEH: 2 years: +40 %: 15 mins: Winter	57.679	57.679	0.179	0.179	1893.1	1516.488	0.000	110.047	0.0	0.000	82.229	OK
FEH: 2 years: +40 %: 30 mins: Summer	57.702	57.702	0.202	0.202	1308.8	1710.431	0.000	220.759	0.0	0.000	79.956	OK
FEH: 2 years: +40 %: 30 mins: Winter	57.701	57.702	0.201	0.202	1228.8	1709.768	0.000	220.758	0.0	0.000	79.964	OK
FEH: 2 years: +40 %: 60 mins: Summer	57.722	57.722	0.222	0.222	1116.3	1885.451	0.000	442.581	0.0	0.000	77.905	OK
FEH: 2 years: +40 %: 60 mins: Winter	57.722	57.722	0.222	0.222	899.8	1883.963	0.000	442.570	0.0	0.000	77.922	OK
FEH: 2 years: +40 %: 120 mins: Summer	57.781	57.781	0.281	0.281	965.1	2397.422	0.000	890.924	0.0	0.000	71.905	OK
FEH: 2 years: +40 %: 120 mins: Winter	57.780	57.781	0.280	0.281	699.1	2393.744	0.000	890.879	0.0	0.000	71.948	OK
FEH: 2 years: +40 %: 180 mins: Summer	57.809	57.809	0.309	0.309	807.3	2642.360	0.000	1339.675	0.0	0.000	69.035	OK
FEH: 2 years: +40 %: 180 mins: Winter	57.808	57.808	0.308	0.308	562.5	2637.634	0.000	1339.605	0.0	0.000	69.090	OK
FEH: 2 years: +40 %: 240 mins: Summer	57.822	57.822	0.322	0.322	692.1	2754.632	0.000	1787.039	0.0	0.000	67.719	OK
FEH: 2 years: +40 %: 240 mins: Winter	57.821	57.821	0.321	0.321	472.2	2750.549	0.000	1786.899	0.0	0.000	67.767	OK
FEH: 2 years: +40 %: 360 mins: Summer	57.821	57.821	0.321	0.321	535.4	2749.950	0.000	2674.081	0.0	0.000	67.774	OK
FEH: 2 years: +40 %: 360 mins: Winter	57.821	57.821	0.321	0.321	358.9	2751.220	0.000	2673.822	0.0	0.000	67.759	OK
FEH: 2 years: +40 %: 480 mins: Summer	57.799	57.799	0.299	0.299	438.6	2559.296	0.000	3547.539	0.0	0.000	70.008	OK
FEH: 2 years: +40 %: 480 mins: Winter	57.801	57.801	0.301	0.301	290.1	2569.275	0.000	3547.153	0.0	0.000	69.891	OK
FEH: 2 years: +40 %: 600 mins: Summer	57.772	57.772	0.272	0.272	366.8	2320.744	0.000	4406.708	0.0	0.000	72.804	OK
FEH: 2 years: +40 %: 600 mins: Winter	57.771	57.771	0.271	0.271	242.3	2309.390	0.000	4406.160	0.0	0.000	72.937	OK
FEH: 30 years: +40 %: 15 mins: Summer	57.822	57.821	0.322	0.321	4715.6	2753.294	0.000	111.692	0.0	0.000	67.735	OK
FEH: 30 years: +40 %: 15 mins: Winter	57.821	57.821	0.321	0.321	4430.4	2750.907	0.000	111.688	0.0	0.000	67.763	OK
FEH: 30 years: +40 %: 30 mins: Summer	57.901	57.901	0.401	0.401	3145.5	3454.532	0.000	225.534	0.0	0.000	59.517	OK
FEH: 30 years: +40 %: 30 mins: Winter	57.901	57.901	0.401	0.401	2955.2	3454.752	0.000	225.535	0.0	0.000	59.515	OK
FEH: 30 years: +40 %: 60 mins: Summer	57.991	57.991	0.491	0.491	2704.7	4259.077	0.000	455.699	0.0	0.000	50.089	OK
FEH: 30 years: +40 %: 60 mins: Winter	57.991	57.991	0.491	0.491	2183.8	4257.293	0.000	455.682	0.0	0.000	50.110	OK
FEH: 30 years: +40 %: 120 mins: Summer	58.117	58.117	0.617	0.617	2087.6	5401.050	0.000	924.840	0.0	0.000	36.706	OK
FEH: 30 years: +40 %: 120 mins: Winter	58.117	58.117	0.617	0.617	1523.0	5399.176	0.000	924.777	0.0	0.000	36.728	OK

Project: Infiltration Basins Baldock	Date: 01/04/2026		
	Designed by: MJD	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: AKTII White Collar Factory, 1 Old Street Yard London EC1Y 8AF		



FEH: 30 years: +40 %: 180 mins: Summer	58.178	58.178	0.678	0.678	1686.5	5963.253	0.000	1397.014	0.0	0.000	30.118	OK
FEH: 30 years: +40 %: 180 mins: Winter	58.177	58.177	0.677	0.677	1191.0	5958.938	0.000	1396.877	0.0	0.000	30.169	OK
FEH: 30 years: +40 %: 240 mins: Summer	58.211	58.211	0.711	0.711	1418.8	6269.034	0.000	1868.826	0.0	0.000	26.535	OK
FEH: 30 years: +40 %: 240 mins: Winter	58.210	58.210	0.710	0.710	985.6	6260.358	0.000	1868.567	0.0	0.000	26.636	OK
FEH: 30 years: +40 %: 360 mins: Summer	58.235	58.235	0.735	0.735	1080.1	6492.305	0.000	2805.627	0.0	0.000	23.918	OK
FEH: 30 years: +40 %: 360 mins: Winter	58.233	58.233	0.733	0.733	745.3	6479.962	0.000	2805.131	0.0	0.000	24.063	OK
FEH: 30 years: +40 %: 480 mins: Summer	58.231	58.231	0.731	0.731	884.6	6454.280	0.000	3729.967	0.0	0.000	24.364	OK
FEH: 30 years: +40 %: 480 mins: Winter	58.230	58.230	0.730	0.730	602.8	6445.099	0.000	3729.326	0.0	0.000	24.471	OK
FEH: 30 years: +40 %: 600 mins: Summer	58.210	58.210	0.710	0.710	740.7	6264.844	0.000	4640.658	0.0	0.000	26.584	OK
FEH: 30 years: +40 %: 600 mins: Winter	58.210	58.210	0.710	0.710	507.6	6262.906	0.000	4639.625	0.0	0.000	26.606	OK
FEH: 100 years: +40 %: 15 mins: Summer	57.891	57.891	0.391	0.391	5981.4	3361.538	0.000	112.457	0.0	0.000	60.607	OK
FEH: 100 years: +40 %: 15 mins: Winter	57.891	57.891	0.391	0.391	5620.3	3362.199	0.000	112.459	0.0	0.000	60.599	OK
FEH: 100 years: +40 %: 30 mins: Summer	58.006	58.006	0.506	0.506	4043.5	4396.789	0.000	227.926	0.0	0.000	48.475	OK
FEH: 100 years: +40 %: 30 mins: Winter	58.006	58.006	0.506	0.506	3798.1	4394.480	0.000	227.919	0.0	0.000	48.502	OK
FEH: 100 years: +40 %: 60 mins: Summer	58.139	58.139	0.639	0.639	3517.5	5604.129	0.000	462.571	0.0	0.000	34.327	OK
FEH: 100 years: +40 %: 60 mins: Winter	58.139	58.139	0.639	0.639	2841.6	5605.314	0.000	462.565	0.0	0.000	34.313	OK
FEH: 100 years: +40 %: 120 mins: Summer	58.292	58.292	0.792	0.792	2672.9	7028.927	0.000	942.199	0.0	0.000	17.630	OK
FEH: 100 years: +40 %: 120 mins: Winter	58.292	58.292	0.792	0.792	1959.4	7028.005	0.000	942.130	0.0	0.000	17.640	OK
FEH: 100 years: +40 %: 180 mins: Summer	58.367	58.367	0.867	0.867	2153.5	7736.416	0.000	1426.196	0.0	0.000	9.339	OK
FEH: 100 years: +40 %: 180 mins: Winter	58.366	58.366	0.866	0.866	1529.8	7732.884	0.000	1426.025	0.0	0.000	9.380	OK
FEH: 100 years: +40 %: 240 mins: Summer	58.410	58.410	0.910	0.910	1819.2	8146.016	0.000	1910.631	0.8	1.713	4.539	OK
FEH: 100 years: +40 %: 240 mins: Winter	58.409	58.409	0.909	0.909	1272.9	8142.063	0.000	1910.405	0.8	1.589	4.585	OK
FEH: 100 years: +40 %: 360 mins: Summer	58.448	58.448	0.948	0.948	1387.9	8512.020	0.000	2874.274	3.4	23.588	0.250	OK
FEH: 100 years: +40 %: 360 mins: Winter	58.447	58.447	0.947	0.947	970.5	8503.647	0.000	2873.794	8.6	24.174	0.348	OK
FEH: 100 years: +40 %: 480 mins: Summer	58.454	58.454	0.954	0.954	1143.6	8570.969	0.000	3826.524	6.7	24.577	-0.441	Flood Risk
FEH: 100 years: +40 %: 480 mins: Winter	58.453	58.453	0.953	0.953	789.5	8561.980	0.000	3825.877	4.8	25.586	-0.336	Flood Risk
FEH: 100 years: +40 %: 600 mins: Summer	58.442	58.442	0.942	0.942	964.5	8452.086	0.000	4765.498	8.7	16.250	0.952	OK
FEH: 100 years: +40 %: 600 mins: Winter	58.442	58.441	0.942	0.941	667.4	8451.043	0.000	4764.649	4.5	16.099	0.964	OK

Project: Infiltration Basins Baldock	Date: 01/04/2026		
	Designed by: MJD	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: AKTII White Collar Factory, 1 Old Street Yard London EC1Y 8AF		



 Summary Results for Infiltration Basin 1: Rank By: Max. US Depth

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 2 years: +40 %: 15 mins: Summer	56.824	56.824	0.824	0.824	296.0	4660.818	0.000	74.414	0.0	0.000	14.332	OK
FEH: 2 years: +40 %: 15 mins: Winter	56.823	56.824	0.823	0.824	278.1	4659.228	0.000	74.413	0.0	0.000	14.361	OK
FEH: 2 years: +40 %: 30 mins: Summer	56.824	56.824	0.824	0.824	191.1	4663.867	0.000	148.796	0.0	0.000	14.276	OK
FEH: 2 years: +40 %: 30 mins: Winter	56.824	56.824	0.824	0.824	179.4	4663.816	0.000	148.795	0.0	0.000	14.276	OK
FEH: 2 years: +40 %: 60 mins: Summer	56.821	56.821	0.821	0.821	162.5	4643.318	0.000	297.196	0.0	0.000	14.653	OK
FEH: 2 years: +40 %: 60 mins: Winter	56.820	56.820	0.820	0.820	130.6	4640.584	0.000	297.195	0.0	0.000	14.703	OK
FEH: 2 years: +40 %: 120 mins: Summer	56.817	56.817	0.817	0.817	139.0	4621.200	0.000	592.942	0.0	0.000	15.060	OK
FEH: 2 years: +40 %: 120 mins: Winter	56.816	56.816	0.816	0.816	100.1	4614.769	0.000	592.940	0.0	0.000	15.178	OK
FEH: 2 years: +40 %: 180 mins: Summer	56.810	56.810	0.810	0.810	115.4	4569.664	0.000	886.445	0.0	0.000	16.007	OK
FEH: 2 years: +40 %: 180 mins: Winter	56.810	56.810	0.810	0.810	79.5	4565.531	0.000	886.444	0.0	0.000	16.083	OK
FEH: 2 years: +40 %: 240 mins: Summer	56.810	56.810	0.810	0.810	98.4	4566.233	0.000	1177.537	0.0	0.000	16.070	OK
FEH: 2 years: +40 %: 240 mins: Winter	56.810	56.810	0.810	0.810	66.2	4565.695	0.000	1177.535	0.0	0.000	16.080	OK
FEH: 2 years: +40 %: 360 mins: Summer	56.810	56.810	0.810	0.810	75.5	4565.970	0.000	1752.224	0.0	0.000	16.075	OK
FEH: 2 years: +40 %: 360 mins: Winter	56.810	56.810	0.810	0.810	49.7	4565.220	0.000	1752.223	0.0	0.000	16.089	OK
FEH: 2 years: +40 %: 480 mins: Summer	56.810	56.810	0.810	0.810	61.8	4565.979	0.000	2316.880	0.0	0.000	16.075	OK
FEH: 2 years: +40 %: 480 mins: Winter	56.810	56.810	0.810	0.810	40.0	4565.468	0.000	2316.881	0.0	0.000	16.084	OK
FEH: 2 years: +40 %: 600 mins: Summer	56.810	56.810	0.810	0.810	51.9	4565.596	0.000	2870.956	0.0	0.000	16.082	OK
FEH: 2 years: +40 %: 600 mins: Winter	56.810	56.810	0.810	0.810	33.5	4565.380	0.000	2870.956	0.0	0.000	16.086	OK
FEH: 30 years: +40 %: 15 mins: Summer	56.852	56.852	0.852	0.852	691.4	4832.721	0.000	74.674	0.0	0.000	11.172	OK
FEH: 30 years: +40 %: 15 mins: Winter	56.852	56.852	0.852	0.852	649.4	4832.618	0.000	74.674	0.0	0.000	11.174	OK
FEH: 30 years: +40 %: 30 mins: Summer	56.860	56.860	0.860	0.860	452.8	4881.935	0.000	149.517	0.0	0.000	10.267	OK
FEH: 30 years: +40 %: 30 mins: Winter	56.860	56.860	0.860	0.860	424.9	4882.390	0.000	149.518	0.0	0.000	10.259	OK
FEH: 30 years: +40 %: 60 mins: Summer	56.863	56.863	0.863	0.863	384.9	4901.489	0.000	299.023	0.0	0.000	9.908	OK
FEH: 30 years: +40 %: 60 mins: Winter	56.863	56.863	0.863	0.863	309.5	4902.985	0.000	299.023	0.0	0.000	9.880	OK
FEH: 30 years: +40 %: 120 mins: Summer	56.862	56.862	0.862	0.862	290.4	4897.772	0.000	597.189	0.0	0.000	9.976	OK
FEH: 30 years: +40 %: 120 mins: Winter	56.862	56.862	0.862	0.862	209.0	4897.728	0.000	597.192	0.0	0.000	9.977	OK

Project: Infiltration Basins Baldock	Date: 01/04/2026		
	Designed by: MJD	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: AKTII White Collar Factory, 1 Old Street Yard London EC1Y 8AF		



FEH: 30 years: +40 %: 180 mins: Summer	56.855	56.855	0.855	0.855	229.7	4854.722	0.000	893.289	0.0	0.000	10.767	OK
FEH: 30 years: +40 %: 180 mins: Winter	56.855	56.855	0.855	0.855	158.3	4850.842	0.000	893.292	0.0	0.000	10.839	OK
FEH: 30 years: +40 %: 240 mins: Summer	56.846	56.846	0.846	0.846	190.4	4795.821	0.000	1187.053	0.0	0.000	11.850	OK
FEH: 30 years: +40 %: 240 mins: Winter	56.844	56.844	0.844	0.844	128.0	4786.668	0.000	1187.057	0.0	0.000	12.018	OK
FEH: 30 years: +40 %: 360 mins: Summer	56.823	56.823	0.823	0.823	141.3	4657.026	0.000	1767.165	0.0	0.000	14.401	OK
FEH: 30 years: +40 %: 360 mins: Winter	56.820	56.820	0.820	0.820	93.1	4636.079	0.000	1767.167	0.0	0.000	14.786	OK
FEH: 30 years: +40 %: 480 mins: Summer	56.810	56.810	0.810	0.810	113.7	4566.342	0.000	2337.214	0.0	0.000	16.068	OK
FEH: 30 years: +40 %: 480 mins: Winter	56.810	56.810	0.810	0.810	73.6	4565.281	0.000	2337.214	0.0	0.000	16.088	OK
FEH: 30 years: +40 %: 600 mins: Summer	56.810	56.810	0.810	0.810	94.5	4566.258	0.000	2897.159	0.0	0.000	16.070	OK
FEH: 30 years: +40 %: 600 mins: Winter	56.810	56.810	0.810	0.810	61.0	4565.559	0.000	2897.164	0.0	0.000	16.082	OK
FEH: 100 years: +40 %: 15 mins: Summer	56.865	56.865	0.865	0.865	875.9	4912.079	0.000	74.793	0.0	0.000	9.713	OK
FEH: 100 years: +40 %: 15 mins: Winter	56.865	56.865	0.865	0.865	822.8	4912.296	0.000	74.794	0.0	0.000	9.709	OK
FEH: 100 years: +40 %: 30 mins: Summer	56.877	56.877	0.877	0.877	577.3	4989.352	0.000	149.861	0.0	0.000	8.293	OK
FEH: 100 years: +40 %: 30 mins: Winter	56.877	56.877	0.877	0.877	541.8	4989.254	0.000	149.861	0.0	0.000	8.295	OK
FEH: 100 years: +40 %: 60 mins: Summer	56.885	56.885	0.885	0.885	494.1	5035.018	0.000	299.916	0.0	0.000	7.454	OK
FEH: 100 years: +40 %: 60 mins: Winter	56.885	56.885	0.885	0.885	397.3	5037.291	0.000	299.919	0.0	0.000	7.412	OK
FEH: 100 years: +40 %: 120 mins: Summer	56.886	56.886	0.886	0.886	364.0	5041.925	0.000	599.253	0.0	0.000	7.327	OK
FEH: 100 years: +40 %: 120 mins: Winter	56.886	56.886	0.886	0.886	262.0	5045.805	0.000	599.257	0.0	0.000	7.255	OK
FEH: 100 years: +40 %: 180 mins: Summer	56.879	56.879	0.879	0.879	285.9	5002.703	0.000	896.647	0.0	0.000	8.048	OK
FEH: 100 years: +40 %: 180 mins: Winter	56.879	56.879	0.879	0.879	197.0	5001.871	0.000	896.651	0.0	0.000	8.063	OK
FEH: 100 years: +40 %: 240 mins: Summer	56.871	56.871	0.871	0.871	236.4	4947.732	0.000	1191.792	0.0	0.000	9.058	OK
FEH: 100 years: +40 %: 240 mins: Winter	56.870	56.870	0.870	0.870	159.0	4942.553	0.000	1191.796	0.0	0.000	9.153	OK
FEH: 100 years: +40 %: 360 mins: Summer	56.849	56.849	0.849	0.849	175.2	4814.170	0.000	1774.897	0.0	0.000	11.513	OK
FEH: 100 years: +40 %: 360 mins: Winter	56.846	56.846	0.846	0.846	115.4	4797.404	0.000	1774.899	0.0	0.000	11.821	OK
FEH: 100 years: +40 %: 480 mins: Summer	56.825	56.825	0.825	0.825	141.0	4666.707	0.000	2348.043	0.0	0.000	14.223	OK
FEH: 100 years: +40 %: 480 mins: Winter	56.820	56.820	0.820	0.820	91.2	4638.324	0.000	2348.050	0.0	0.000	14.745	OK
FEH: 100 years: +40 %: 600 mins: Summer	56.810	56.810	0.810	0.810	117.1	4566.374	0.000	2911.032	0.0	0.000	16.067	OK
FEH: 100 years: +40 %: 600 mins: Winter	56.810	56.810	0.810	0.810	75.6	4565.199	0.000	2911.046	0.0	0.000	16.089	OK

Project: Infiltration Basins Baldock	Date: 01/04/2026			
	Designed by:	Checked by:	Approved By:	
	MJD			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: AKTII White Collar Factory, 1 Old Street Yard London EC1Y 8AF			



Summary Results for Infiltration Basin 7: Rank By: Max. US Depth

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 2 years: +40 %: 15 mins: Summer	70.111	70.111	0.611	0.611	563.8	1786.375	0.000	8.436	0.0	0.000	50.488	OK
FEH: 2 years: +40 %: 15 mins: Winter	70.111	70.111	0.611	0.611	529.8	1785.908	0.000	8.436	0.0	0.000	50.501	OK
FEH: 2 years: +40 %: 30 mins: Summer	70.131	70.131	0.631	0.631	364.0	1847.748	0.000	16.946	0.0	0.000	48.787	OK
FEH: 2 years: +40 %: 30 mins: Winter	70.131	70.131	0.631	0.631	341.7	1847.560	0.000	16.946	0.0	0.000	48.792	OK
FEH: 2 years: +40 %: 60 mins: Summer	70.150	70.150	0.650	0.650	309.4	1910.361	0.000	34.032	0.0	0.000	47.051	OK
FEH: 2 years: +40 %: 60 mins: Winter	70.150	70.150	0.650	0.650	248.8	1910.114	0.000	34.032	0.0	0.000	47.058	OK
FEH: 2 years: +40 %: 120 mins: Summer	70.198	70.198	0.698	0.698	264.8	2064.370	0.000	68.696	0.0	0.000	42.783	OK
FEH: 2 years: +40 %: 120 mins: Winter	70.198	70.198	0.698	0.698	190.6	2064.196	0.000	68.695	0.0	0.000	42.788	OK
FEH: 2 years: +40 %: 180 mins: Summer	70.223	70.223	0.723	0.723	219.8	2144.900	0.000	103.520	0.0	0.000	40.551	OK
FEH: 2 years: +40 %: 180 mins: Winter	70.223	70.223	0.723	0.723	151.5	2145.155	0.000	103.519	0.0	0.000	40.544	OK
FEH: 2 years: +40 %: 240 mins: Summer	70.238	70.238	0.738	0.738	187.4	2194.683	0.000	138.400	0.0	0.000	39.171	OK
FEH: 2 years: +40 %: 240 mins: Winter	70.239	70.239	0.739	0.739	126.0	2195.355	0.000	138.399	0.0	0.000	39.152	OK
FEH: 2 years: +40 %: 360 mins: Summer	70.255	70.255	0.755	0.755	143.8	2249.205	0.000	208.148	0.0	0.000	37.660	OK
FEH: 2 years: +40 %: 360 mins: Winter	70.255	70.255	0.755	0.755	94.7	2250.379	0.000	208.148	0.0	0.000	37.627	OK
FEH: 2 years: +40 %: 480 mins: Summer	70.261	70.261	0.761	0.761	117.7	2270.058	0.000	277.697	0.0	0.000	37.082	OK
FEH: 2 years: +40 %: 480 mins: Winter	70.262	70.262	0.762	0.762	76.1	2272.005	0.000	277.697	0.0	0.000	37.028	OK
FEH: 2 years: +40 %: 600 mins: Summer	70.263	70.263	0.763	0.763	98.9	2276.445	0.000	347.021	0.0	0.000	36.905	OK
FEH: 2 years: +40 %: 600 mins: Winter	70.264	70.264	0.764	0.764	63.8	2278.889	0.000	347.022	0.0	0.000	36.837	OK
FEH: 30 years: +40 %: 15 mins: Summer	70.214	70.215	0.714	0.715	1317.0	2116.418	0.000	8.589	0.0	0.000	41.340	OK
FEH: 30 years: +40 %: 15 mins: Winter	70.214	70.214	0.714	0.714	1237.0	2115.836	0.000	8.589	0.0	0.000	41.356	OK
FEH: 30 years: +40 %: 30 mins: Summer	70.263	70.264	0.763	0.764	862.4	2276.995	0.000	17.367	0.0	0.000	36.890	OK
FEH: 30 years: +40 %: 30 mins: Winter	70.264	70.264	0.764	0.764	809.4	2277.295	0.000	17.367	0.0	0.000	36.881	OK
FEH: 30 years: +40 %: 60 mins: Summer	70.312	70.312	0.812	0.812	733.2	2437.782	0.000	35.092	0.0	0.000	32.433	OK
FEH: 30 years: +40 %: 60 mins: Winter	70.312	70.312	0.812	0.812	589.6	2437.858	0.000	35.092	0.0	0.000	32.431	OK
FEH: 30 years: +40 %: 120 mins: Summer	70.381	70.381	0.881	0.881	553.0	2669.410	0.000	71.145	0.0	0.000	26.013	OK
FEH: 30 years: +40 %: 120 mins: Winter	70.381	70.381	0.881	0.881	398.0	2669.700	0.000	71.146	0.0	0.000	26.005	OK

Project: Infiltration Basins Baldock	Date: 01/04/2026			
	Designed by:	Checked by:	Approved By:	
	MJD			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: AKTII White Collar Factory, 1 Old Street Yard London EC1Y 8AF			

FEH: 30 years: +40 %: 180 mins: Summer	70.417	70.418	0.917	0.918	437.5	2792.226	0.000	107.455	0.0	0.000	22.609	OK
FEH: 30 years: +40 %: 180 mins: Winter	70.418	70.418	0.918	0.918	301.5	2792.475	0.000	107.457	0.0	0.000	22.602	OK
FEH: 30 years: +40 %: 240 mins: Summer	70.440	70.440	0.940	0.940	362.7	2868.559	0.000	143.863	0.0	0.000	20.493	OK
FEH: 30 years: +40 %: 240 mins: Winter	70.440	70.440	0.940	0.940	243.9	2868.999	0.000	143.865	0.0	0.000	20.481	OK
FEH: 30 years: +40 %: 360 mins: Summer	70.464	70.465	0.964	0.965	269.1	2953.436	0.000	216.709	0.0	0.000	18.141	OK
FEH: 30 years: +40 %: 360 mins: Winter	70.465	70.465	0.965	0.965	177.3	2954.371	0.000	216.712	0.0	0.000	18.115	OK
FEH: 30 years: +40 %: 480 mins: Summer	70.477	70.477	0.977	0.977	216.7	2995.449	0.000	289.453	0.0	0.000	16.976	OK
FEH: 30 years: +40 %: 480 mins: Winter	70.477	70.477	0.977	0.977	140.2	2996.846	0.000	289.457	0.0	0.000	16.938	OK
FEH: 30 years: +40 %: 600 mins: Summer	70.483	70.483	0.983	0.983	180.1	3016.695	0.000	362.021	0.0	0.000	16.388	OK
FEH: 30 years: +40 %: 600 mins: Winter	70.483	70.483	0.983	0.983	116.2	3018.731	0.000	362.027	0.0	0.000	16.331	OK
FEH: 100 years: +40 %: 15 mins: Summer	70.260	70.261	0.760	0.761	1668.4	2267.891	0.000	8.658	0.0	0.000	37.142	OK
FEH: 100 years: +40 %: 15 mins: Winter	70.261	70.261	0.761	0.761	1567.2	2268.308	0.000	8.658	0.0	0.000	37.130	OK
FEH: 100 years: +40 %: 30 mins: Summer	70.325	70.326	0.825	0.826	1099.6	2482.000	0.000	17.566	0.0	0.000	31.208	OK
FEH: 100 years: +40 %: 30 mins: Winter	70.325	70.326	0.825	0.826	1031.9	2481.920	0.000	17.566	0.0	0.000	31.210	OK
FEH: 100 years: +40 %: 60 mins: Summer	70.389	70.389	0.889	0.889	941.1	2696.330	0.000	35.605	0.0	0.000	25.267	OK
FEH: 100 years: +40 %: 60 mins: Winter	70.389	70.390	0.889	0.890	756.8	2697.091	0.000	35.606	0.0	0.000	25.246	OK
FEH: 100 years: +40 %: 120 mins: Summer	70.468	70.468	0.968	0.968	693.4	2964.269	0.000	72.321	0.0	0.000	17.841	OK
FEH: 100 years: +40 %: 120 mins: Winter	70.468	70.468	0.968	0.968	499.0	2964.833	0.000	72.323	0.0	0.000	17.825	OK
FEH: 100 years: +40 %: 180 mins: Summer	70.510	70.510	1.010	1.010	544.6	3110.938	0.000	109.361	0.0	0.000	13.776	OK
FEH: 100 years: +40 %: 180 mins: Winter	70.510	70.510	1.010	1.010	375.3	3111.253	0.000	109.364	0.0	0.000	13.767	OK
FEH: 100 years: +40 %: 240 mins: Summer	70.537	70.537	1.037	1.037	450.2	3205.241	0.000	146.546	0.0	0.000	11.162	OK
FEH: 100 years: +40 %: 240 mins: Winter	70.537	70.537	1.037	1.037	302.8	3205.513	0.000	146.550	0.0	0.000	11.154	OK
FEH: 100 years: +40 %: 360 mins: Summer	70.568	70.568	1.068	1.068	333.7	3316.449	0.000	221.045	0.0	0.000	8.079	OK
FEH: 100 years: +40 %: 360 mins: Winter	70.569	70.569	1.069	1.069	219.8	3317.343	0.000	221.049	0.0	0.000	8.055	OK
FEH: 100 years: +40 %: 480 mins: Summer	70.585	70.585	1.085	1.085	268.6	3375.770	0.000	295.505	0.0	0.000	6.435	OK
FEH: 100 years: +40 %: 480 mins: Winter	70.586	70.586	1.086	1.086	173.8	3377.173	0.000	295.512	0.0	0.000	6.396	OK
FEH: 100 years: +40 %: 600 mins: Summer	70.594	70.594	1.094	1.094	223.1	3408.725	0.000	369.816	0.0	0.000	5.522	OK
FEH: 100 years: +40 %: 600 mins: Winter	70.595	70.595	1.095	1.095	143.9	3410.698	0.000	369.827	0.0	0.000	5.467	OK

Project: Infiltration Basins Baldock	Date: 01/04/2026			
	Designed by: MJD	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: AKTII White Collar Factory, 1 Old Street Yard London EC1Y 8AF			

 Summary Results for Infiltration Basin 8: Rank By: Max. US Depth

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 2 years: +40 %: 15 mins: Summer	72.228	72.228	0.228	0.228	279.9	104.695	0.000	33.463	0.0	0.000	80.999	OK
FEH: 2 years: +40 %: 15 mins: Winter	72.227	72.227	0.227	0.227	263.0	104.331	0.000	33.660	0.0	0.000	81.066	OK
FEH: 2 years: +40 %: 30 mins: Summer	72.263	72.263	0.263	0.263	180.7	122.406	0.000	71.044	0.0	0.000	77.785	OK
FEH: 2 years: +40 %: 30 mins: Winter	72.263	72.263	0.263	0.263	169.6	122.289	0.000	71.224	0.0	0.000	77.807	OK
FEH: 2 years: +40 %: 60 mins: Summer	72.273	72.273	0.273	0.273	153.6	127.498	0.000	144.178	0.0	0.000	76.861	OK
FEH: 2 years: +40 %: 60 mins: Winter	72.274	72.274	0.274	0.274	123.5	127.630	0.000	144.319	0.0	0.000	76.837	OK
FEH: 2 years: +40 %: 120 mins: Summer	72.327	72.327	0.327	0.327	131.5	155.147	0.000	277.311	0.0	0.000	71.843	OK
FEH: 2 years: +40 %: 120 mins: Winter	72.323	72.323	0.323	0.323	94.6	153.081	0.000	277.221	0.0	0.000	72.218	OK
FEH: 2 years: +40 %: 180 mins: Summer	72.334	72.334	0.334	0.334	109.1	158.743	0.000	325.825	0.0	0.000	71.191	OK
FEH: 2 years: +40 %: 180 mins: Winter	72.322	72.322	0.322	0.322	75.2	152.576	0.000	325.771	0.0	0.000	72.310	OK
FEH: 2 years: +40 %: 240 mins: Summer	72.326	72.326	0.326	0.326	93.0	155.007	0.000	359.081	0.0	0.000	71.869	OK
FEH: 2 years: +40 %: 240 mins: Winter	72.305	72.305	0.305	0.305	62.6	143.964	0.000	359.022	0.0	0.000	73.873	OK
FEH: 2 years: +40 %: 360 mins: Summer	72.297	72.297	0.297	0.297	71.4	139.812	0.000	403.213	0.0	0.000	74.626	OK
FEH: 2 years: +40 %: 360 mins: Winter	72.257	72.257	0.257	0.257	47.0	118.997	0.000	403.189	0.0	0.000	78.404	OK
FEH: 2 years: +40 %: 480 mins: Summer	72.260	72.260	0.260	0.260	58.4	120.660	0.000	430.662	0.0	0.000	78.102	OK
FEH: 2 years: +40 %: 480 mins: Winter	72.202	72.202	0.202	0.202	37.8	91.792	0.000	430.622	0.0	0.000	83.341	OK
FEH: 2 years: +40 %: 600 mins: Summer	72.223	72.223	0.223	0.223	49.1	102.287	0.000	450.779	0.0	0.000	81.437	OK
FEH: 2 years: +40 %: 600 mins: Winter	72.151	72.150	0.151	0.150	31.7	67.355	0.000	450.754	0.0	0.000	87.776	OK
FEH: 30 years: +40 %: 15 mins: Summer	72.521	72.522	0.521	0.522	653.8	264.250	0.000	40.688	0.0	0.000	52.043	OK
FEH: 30 years: +40 %: 15 mins: Winter	72.521	72.521	0.521	0.521	614.1	263.901	0.000	40.880	0.0	0.000	52.106	OK
FEH: 30 years: +40 %: 30 mins: Summer	72.620	72.620	0.620	0.620	428.1	324.323	0.000	88.918	0.0	0.000	41.141	OK
FEH: 30 years: +40 %: 30 mins: Winter	72.621	72.620	0.621	0.620	401.8	324.457	0.000	88.968	0.0	0.000	41.116	OK
FEH: 30 years: +40 %: 60 mins: Summer	72.688	72.686	0.688	0.686	364.0	366.208	0.000	186.248	0.0	0.000	33.539	OK
FEH: 30 years: +40 %: 60 mins: Winter	72.689	72.689	0.689	0.689	292.7	368.115	0.000	185.827	0.0	0.000	33.193	OK
FEH: 30 years: +40 %: 120 mins: Summer	72.742	72.741	0.742	0.741	274.6	402.629	0.000	378.600	0.0	0.000	26.929	OK
FEH: 30 years: +40 %: 120 mins: Winter	72.747	72.748	0.747	0.748	197.6	406.982	0.000	377.558	0.0	0.000	26.139	OK

Project: Infiltration Basins Baldock	Date: 01/04/2026			
	Designed by: MJD	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: AKTII White Collar Factory, 1 Old Street Yard London EC1Y 8AF			

FEH: 30 years: +40 %: 180 mins: Summer	72.739	72.738	0.739	0.738	217.2	400.848	0.000	549.806	0.0	0.000	27.252	OK
FEH: 30 years: +40 %: 180 mins: Winter	72.740	72.740	0.740	0.740	149.7	402.147	0.000	548.675	0.0	0.000	27.017	OK
FEH: 30 years: +40 %: 240 mins: Summer	72.720	72.720	0.720	0.720	180.0	388.751	0.000	694.570	0.0	0.000	29.448	OK
FEH: 30 years: +40 %: 240 mins: Winter	72.717	72.717	0.717	0.717	121.1	386.316	0.000	694.662	0.0	0.000	29.890	OK
FEH: 30 years: +40 %: 360 mins: Summer	72.673	72.673	0.673	0.673	133.6	357.903	0.000	754.287	0.0	0.000	35.046	OK
FEH: 30 years: +40 %: 360 mins: Winter	72.653	72.653	0.653	0.653	88.0	344.908	0.000	754.320	0.0	0.000	37.405	OK
FEH: 30 years: +40 %: 480 mins: Summer	72.624	72.624	0.624	0.624	107.6	326.511	0.000	792.771	0.0	0.000	40.743	OK
FEH: 30 years: +40 %: 480 mins: Winter	72.585	72.585	0.585	0.585	69.6	302.363	0.000	792.819	0.0	0.000	45.126	OK
FEH: 30 years: +40 %: 600 mins: Summer	72.576	72.576	0.575	0.576	89.4	296.546	0.000	820.926	0.0	0.000	46.182	OK
FEH: 30 years: +40 %: 600 mins: Winter	72.518	72.518	0.518	0.518	57.7	262.027	0.000	820.981	0.0	0.000	52.446	OK
FEH: 100 years: +40 %: 15 mins: Summer	72.641	72.642	0.641	0.642	828.2	337.791	0.000	43.510	0.0	0.000	38.696	OK
FEH: 100 years: +40 %: 15 mins: Winter	72.641	72.642	0.641	0.642	778.0	337.795	0.000	43.714	0.0	0.000	38.696	OK
FEH: 100 years: +40 %: 30 mins: Summer	72.770	72.771	0.770	0.771	545.9	422.720	0.000	96.282	0.0	0.000	23.283	OK
FEH: 100 years: +40 %: 30 mins: Winter	72.770	72.771	0.770	0.771	512.3	422.636	0.000	96.278	0.0	0.000	23.298	OK
FEH: 100 years: +40 %: 60 mins: Summer	72.862	72.862	0.862	0.862	467.2	486.251	0.000	203.903	0.0	0.000	11.753	OK
FEH: 100 years: +40 %: 60 mins: Winter	72.865	72.865	0.865	0.865	375.7	488.807	0.000	203.518	0.0	0.000	11.289	OK
FEH: 100 years: +40 %: 120 mins: Summer	72.925	72.924	0.925	0.924	344.2	532.124	0.000	416.033	0.0	0.000	3.428	OK
FEH: 100 years: +40 %: 120 mins: Winter	72.934	72.933	0.934	0.933	247.7	538.367	0.000	414.874	0.0	0.000	2.295	OK
FEH: 100 years: +40 %: 180 mins: Summer	72.923	72.922	0.923	0.922	270.4	530.467	0.000	607.672	0.0	0.000	3.729	OK
FEH: 100 years: +40 %: 180 mins: Winter	72.926	72.926	0.926	0.926	186.3	533.300	0.000	606.097	0.0	0.000	3.214	OK
FEH: 100 years: +40 %: 240 mins: Summer	72.904	72.904	0.904	0.904	223.5	517.001	0.000	775.449	0.0	0.000	6.172	OK
FEH: 100 years: +40 %: 240 mins: Winter	72.905	72.905	0.905	0.905	150.3	517.907	0.000	773.914	0.0	0.000	6.008	OK
FEH: 100 years: +40 %: 360 mins: Summer	72.855	72.853	0.855	0.853	165.7	480.529	0.000	935.282	0.0	0.000	12.792	OK
FEH: 100 years: +40 %: 360 mins: Winter	72.840	72.840	0.840	0.840	109.1	470.665	0.000	935.313	0.0	0.000	14.582	OK
FEH: 100 years: +40 %: 480 mins: Summer	72.802	72.802	0.802	0.802	133.3	444.055	0.000	982.596	0.0	0.000	19.411	OK
FEH: 100 years: +40 %: 480 mins: Winter	72.771	72.771	0.771	0.771	86.3	423.168	0.000	982.718	0.0	0.000	23.202	OK
FEH: 100 years: +40 %: 600 mins: Summer	72.752	72.751	0.752	0.751	110.8	409.599	0.000	1016.881	0.0	0.000	25.664	OK
FEH: 100 years: +40 %: 600 mins: Winter	72.703	72.703	0.703	0.703	71.5	377.502	0.000	1017.008	0.0	0.000	31.489	OK



Index Method - SuDS Treatment Train Calculations

Treatment Train 1

Risk Description	Residential roofs
Risk Category	Very low
Discharge To	Ground Water
Description of treatment train	Residential roofs with domestic soakaway

Index approach - necessary treatment requirement

TSS	Metals	Hydrocarbons
0.2	0.2	0.05

Treatment Stage	SUDS Measure	Further Detail	TSS	Metals	Hydrocarbons	TSS Factored	Metals Factored	Hydrocarbons Factored
Stage 1	Infiltration - A soil with good contaminant attenuation potential of at least 300 mm in depth	Soakaway	0.4	0.3	0.3	0.4	0.3	0.3
Total						0.4	0.3	0.3

OK

OK

OK

Treatment Train 2

Risk Description	Other roofs (typically commercial/ industrial roofs)
Risk Category	Low
Discharge To	Ground Water
Description of treatment train	Commercial, Eductaional, Local Centre roofs

Index approach - necessary treatment requirement

TSS	Metals	Hydrocarbons
0.3	0.3	0.05

Treatment Stage	SUDS Measure	Further Detail	TSS	Metals	Hydrocarbons	TSS Factored	Metals Factored	Hydrocarbons Factored
Stage 1	Detention basin	Permeable paving	0.5	0.5	0.6	0.5	0.5	0.6
Total						0.5	0.5	0.6

OK

OK

OK

Treatment Train 3

Risk Description	Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non- residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day
Risk Category	Low
Discharge To	Ground Water
Description of treatment train	Residential driveways, car parks and minor access roads

Index approach - necessary treatment requirement

TSS	Metals	Hydrocarbons
0.5	0.4	0.4

Treatment Stage	SUDS Measure	Further Detail	TSS	Metals	Hydrocarbons	TSS Factored	Metals Factored	Hydrocarbons Factored
Stage 1	Permeable pavement	Permeable paving	0.7	0.6	0.7	0.7	0.6	0.7
Total						0.7	0.6	0.7

OK

OK

OK

Treatment Train 4

Risk Description	Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways
Risk Category	Medium
Discharge To	Ground Water
Description of treatment train	Main site roads with runoff collected via filter strips and discharged to an infiltration basin

Index approach - necessary treatment requirement

TSS	Metals	Hydrocarbons
0.7	0.6	0.7

Treatment Stage	SUDS Measure	Further Detail	TSS	Metals	Hydrocarbons	TSS Factored	Metals Factored	Hydrocarbons Factored
Stage 1	Filter strip	Filter strip	0.4	0.4	0.5	0.4	0.4	0.5
Stage 2	Pond	Infiltration basin	0.7	0.7	0.5	0.7	0.7	0.5
Total						1.1	1.1	1

OK

OK

OK



Index Method - SuDS Treatment Train Calculations

Treatment Train 5

Risk Description	Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways
Risk Category	Medium
Discharge To	Ground Water
Description of treatment train	Main site roads with runoff collected via filter drains and discharged to an infiltration basin

Index approach - necessary treatment requirement

TSS	Metals	Hydrocarbons
0.7	0.6	0.7

Treatment Stage	SUDS Measure	Further Detail	TSS	Metals	Hydrocarbons	TSS Factored	Metals Factored	Hydrocarbons Factored
Stage 1	Filter drain	Filter drain	0.4	0.4	0.4	0.4	0.4	0.4
Stage 2	Pond	Infiltration basin	0.7	0.7	0.5	0.7	0.7	0.5
Total						1.1	1.1	0.9

OK

OK

OK

Treatment Train 6

Risk Description	Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways
Risk Category	Medium
Discharge To	Ground Water
Description of treatment train	Main site roads with runoff collected via swales and discharged to an infiltration basin

Index approach - necessary treatment requirement

TSS	Metals	Hydrocarbons
0.7	0.6	0.7

Treatment Stage	SUDS Measure	Further Detail	TSS	Metals	Hydrocarbons	TSS Factored	Metals Factored	Hydrocarbons Factored
Stage 1	Swale	Swale	0.5	0.6	0.6	0.5	0.6	0.6
Stage 2	Pond	Infiltration basin	0.7	0.7	0.5	0.7	0.7	0.5
Total						1.2	1.3	1.1

OK

OK

OK

Treatment Train 7

Risk Description	Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways
Risk Category	Medium
Discharge To	Ground Water
Description of treatment train	Main site roads with runoff collected via bio-retention systems and discharged to an infiltration basin

Index approach - necessary treatment requirement

TSS	Metals	Hydrocarbons
0.7	0.6	0.7

Treatment Stage	SUDS Measure	Further Detail	TSS	Metals	Hydrocarbons	TSS Factored	Metals Factored	Hydrocarbons Factored
Stage 1	Bioretention system	Bio-retention system	0.8	0.8	0.8	0.8	0.8	0.8
Stage 2	Pond	Infiltration basin	0.7	0.7	0.5	0.7	0.7	0.5
Total						1.5	1.5	1.3

OK

OK

OK

B.12 Foul Water Flows

One method of calculating the peak foul flow is to use the statistical or "discharge unit" method outlined in BS 12056. This method of design is based on probability theory to estimate the maximum peak flows from appliances. It assumes that only a proportion of appliances will be in use at any one time and that appliances on a factory, school, etc. would be used more frequently than in domestic installations. For this reason discharge units (DU) are given higher values in congested and commercial use than they are for domestic.

Alternatively, foul flows can be computed using the "population method". This method calculates a daily discharge volume from typical figures of discharge per person, per day. It then factors it evenly over the day, to calculate base flow. A peaking factor is then applied (conservatively 6 or a variable factor based upon population such as the Babbitt Formula) to determine peak flow.

Estimates can also be based on internal floor area, which can also be arrived at as a product of an assumed population density and daily discharge per person.

As to which method is the more appropriate, typically, outside the building and at the street and city scale, the population method is considered more accurate and is the preferred method utilised by sewer companies. For sizing pipes inside the building, and in drains near to the point of discharge from the building, the statistical method should be used. Consideration of high peak flows from pump stations is also required.

BS 16933-2 recommends that the statistical method can be used for the design of gravity drains and sewers where the population is less than 1000 and the population method can be used where the population is greater than 500.

B.13 Existing Foul Water

The existing site is considered to be greenfield and therefore there is currently no foul water discharge generated.

B.14 Proposed Foul Water

The foul water discharge from the residential plots can be estimated based on the Sewers for Adoption guidance of a peak flow of 4,000 litres/day per dwelling:

Plot	No. of Dwellings	Peak Discharge (litres/day)	Peak Discharge (litres/sec)
Res01	175	700,000	8.10
Res02	40	160,000	1.85
Res03	10	40,000	0.46
Res04	155	620,000	7.18
Res05	230	920,000	10.65
Res06	120	480,000	5.56
Res07	12	48,000	0.56
Res08	730	2,920,000	33.80
Res09	115	460,000	5.32
Res10	5	20,000	0.23
Res11	5	20,000	0.23
Res12	300	1,200,000	13.89
Res13	821	3,284,000	38.01
Res14	220	880,000	10.19
Res15	10	40,000	0.46
Res16	252	1,008,000	11.67
Residential total	3200	12,800,000	148.15

For the school sites,foul water discharge has been estimated on the rate of 90 litres/day per person and an assumed 8 hour day to convert to litres/sec. For the purposes of foul flows, the educational use option for Fle01 has been considered to provide a worst case.

	No. of pupils	Peak Flow (Litres/day)	Peak Flow (Litres/sec)
Edu01	630	56,700	1.97
Edu02	630	56,700	1.97
Fle01	2,520	226,800	7.88

For the Employment Land and Local Centre plots, the foul water discharge can be estimated based on the following general rates:

- Commercial / retail - 1,980 litres/day per 100m2 (assumed 12 hour day for litres/sec)
- Office and industrial - 4,950 litres/day per 100m2 (assumed 12 hour day for litres/sec)
- Sport Centres & Gyms - 50 litres/day per person (assumed 18 hour day for litres/sec)
- Education / nursery / R&D areas - 90 litres/day per person (assumed 8 hour day for litres/sec)
- Hotel - 250 litres/day per person (assumed 24 hour day for litres/sec)
- Pub - 12 litres/day per person (assumed 12 hour day for litres/sec)
- Health Hub - 450 litres/day per person (assumed 12 hour day for litres/sec)
- Community Centre - 60 litres/day per person (assumed 12 hour day for litres/sec)

This gives:

Emp01

	Area	Peak Flow (Litres/day)	Peak Flow (Litres/sec)
Office	780 m2	38,610	0.89
Research & Development	1,030 m2	6,300	0.22
Industrial	1,030 m2	50,985	1.18
	2,840 m2	95,895	2.29

Emp02

	Area	Peak Flow (Litres/day)	Peak Flow (Litres/sec)
Office	15,965 m2	790,268	18.29
Indoor Sport	5,000 m2	3,846	0.06
Research & Development	21,160 m2	126,900	4.41
Industrial	21,160 m2	1,047,420	24.25
Health Hub	6,000 m2	270,000	6.25
	69,285 m2	2,238,434	53.25

Emp03

	Area	Peak Flow (Litres/day)	Peak Flow (Litres/sec)
Office	3,255 m2	161,123	3.73
Research & Development	4,310 m2	26,100	0.30
Industrial	4,310 m2	213,345	4.94
	11,875 m2	400,568	8.97

Local Centre

	Area	Peak Flow (Litres/day)	Peak Flow (Litres/sec)
Hotel	3,500 m2	87,500	1.01
Pub	750 m2	9,000	0.21
Retail	700 m2	13860.00	0.32
Café	800 m2	15840.00	0.37
Office	550 m2	27,225	0.63
Gym	1,150 m2	11,500	0.18
Health Hub	2,250 m2	101,250	2.34
Community Centre	500 m2	12,000	0.28
Nursery	550 m2	9,900	0.34
	10,750 m2	288,075	5.68

Appendix C

SuDS Option Selection



Disposal methods

C.1 SuDS management train

A useful concept used in the development of sustainable drainage systems is the SuDS management train (sometimes referred to as the treatment train). Just as in a natural catchment, drainage techniques can be used in series to change flow and quality characteristics of the runoff in stages. There are a variety of measures that can be implemented to achieve these goals:

C.1.1 Site management / Prevention

Site management procedures are used to limit or prevent runoff and pollution and include:

- Minimising the hardened areas within the site
- Frequent maintenance of impermeable surfaces
- Minimising the use of de-icing products

C.1.2 Source control

Source control techniques will be used where possible as they control runoff at source in smaller catchments. They can also provide effective pollution control and treatment, thereby improving the quality of the effluent discharged to the receiving waters.

C.1.3 Site control

Where source control techniques do not provide adequate protection to the receiving watercourses in terms of flood protection and pollution control, site control may be required.

C.1.4 Regional control

Where large areas of public space are available regional control can be incorporated to provide additional 'communal' storage and treatment to runoff from a number of sites.

C.2 Drainage hierarchy

Based on the above and in line with the London Plan and the Sustainable Drainage Manual published by CIRIA, the following drainage hierarchy will therefore need to be considered when preparing the surface water disposal strategy:

1. Rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
2. Rainwater infiltration to ground at or close to source
3. Rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)
4. Rainwater discharge direct to a watercourse (unless not appropriate)
5. Controlled rainwater discharge to a surface water sewer or drain
6. Controlled rainwater discharge to a combined sewer

C.3 Assessment of SuDS techniques

C.3.1 Rainwater harvesting

This involves the capture of rainwater into a tank for re-use (usually non-potable) such as irrigation, toilet flushing or vehicle cleaning. Systems are now available which combine rain water harvesting with tanked attenuation. This means that water is stored during dry periods for re-use but released ahead of predicted storms in order to ensure that the full attenuation capacity remains available when it is needed.

It is unlikely that rainwater harvesting will be suitable for individual dwellings as the available roof area will not provide sufficient yield to meet enough of the required demand to make the system viable. However, it may be suitable on the larger buildings such as the schools and commercial buildings or as a site / regional solution where a number of dwellings or plots drain to a communal tank for reuse. Therefore, rainwater harvesting tank will be investigated as a potential SuDS solution.

C.3.2 Green / brown / blue roofs

These are used on flat or shallow pitched roofs to provide a durable roof covering which also provides thermal insulation, amenity space, biodiversity habitat as well as attenuation of rainwater. Depending on the design, these roofs can attenuate differing volumes of rainwater. The term 'blue roof' is reserved for those roofs designed to maximise water retention. This is a relatively recent area of increased focus and can involve effectively an attenuation tank at roof level which reduces (or avoids) the need for pumping of basement tanks.

Similar to rainwater harvesting, Green or Blue Roofs are likely to be more suitable for larger buildings such as schools and commercial buildings and will be considered further for these.

C.3.3 Raingardens

Raingardens are planted areas (usually close to buildings but not immediately adjacent) that allow the diversion of a portion of rainwater from either downpipes or the surrounding paved surfaces. These techniques can be incorporated into the landscaping plans for a site and are most effective where the landscaping regime is designed with the aim of capturing as much rainfall as possible. They can either allow infiltration into the ground or have tanked systems for water retention, depending on the site and soil conditions. There are also a number of vertical raingardens attached to building walls with rainwater downpipes diverted through a stacked series of planters.

Similar to rainwater harvesting, raingardens are likely to be more suitable for larger buildings such as schools and commercial buildings and will be considered further for these.

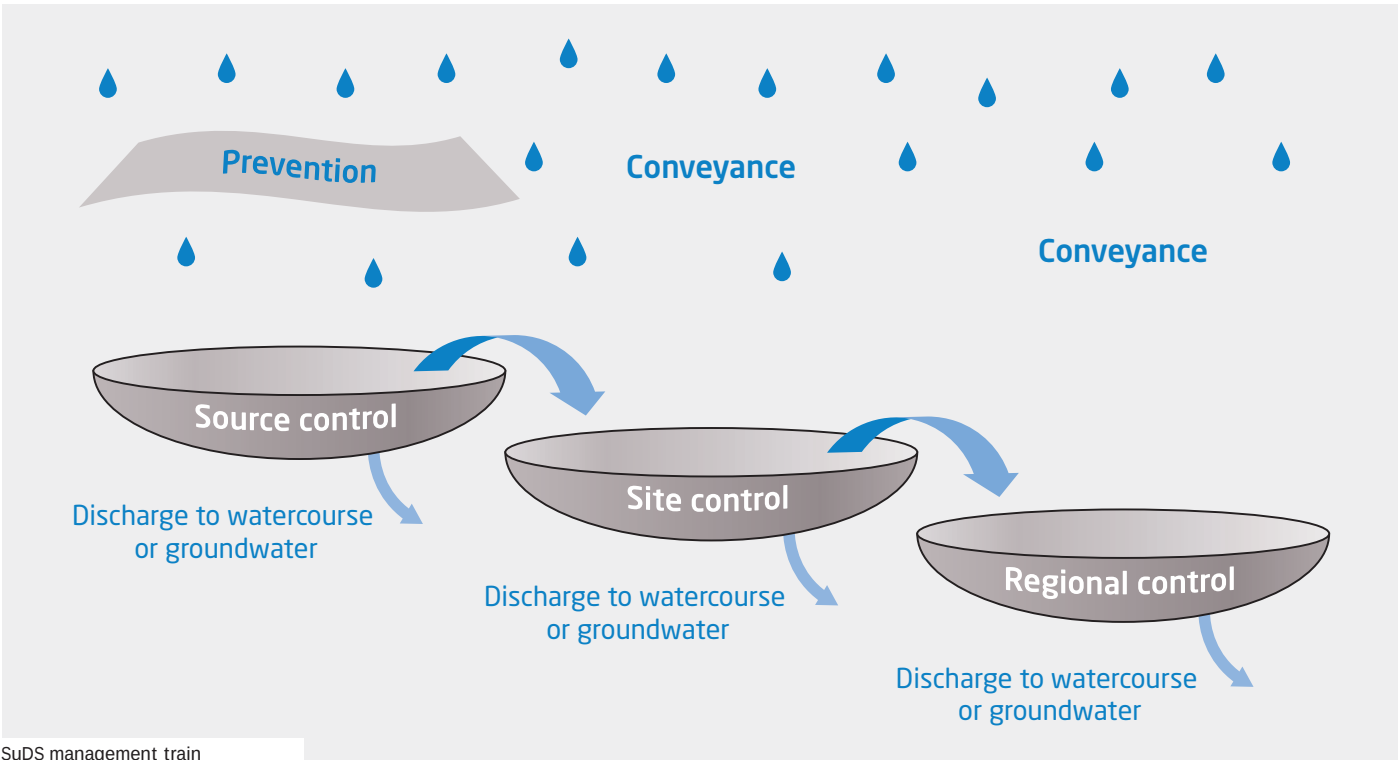
C.3.4 Bio-retention

This refers to a chain of landscaped features, potentially including reed beds, filter drains, etc. designed to hold and treat surface water. They are often used where there is a high risk of low-level pollution, for example from road runoff. However, it does require areas of open space. The design of a bio-retention system can vary widely depending on site conditions and available space. At a small scale this could include flow through planters or tree pits.

Bio-retention areas would be most suitable alongside roads, larger areas of hard landscaping and car park areas and will be considered further for these.

C.3.5 Swales

These are dry ditches used as landscape features to allow the storage, carriage and infiltration of rainwater and are often used as linear features alongside roads, footpaths or rail lines. They can also be integrated into the design of many open spaces and therefore will be considered further and could be designed for conveyance or disposal purposes.



SuDS management train

C.3.6 Infiltration

There are many different types of drainage component that can be used to facilitate infiltration. These include soakaways, infiltration trenches, infiltration blankets and infiltration basins.

Infiltration can contribute to reducing runoff rates and volumes while supporting baseflow and groundwater recharge processes. The rate at which water can be infiltrated depends on the infiltration capacity (permeability) of the surrounding soils.

The site investigation works confirm that there is average to good infiltration rates across the site and so disposal by infiltration will be possible. Infiltration techniques will be used in both Source Control and Regional Control devices. Infiltration test results are contained in Appendix G for reference.

CIRIA guidance document "C574 - Engineering in chalk" states:

Concentrated ingress of water into the chalk can initiate new dissolution features, particularly in low-density chalk, and destabilise the loose backfill of existing ones. For this reason, any soakaways should be sited well away from foundations for structures, roads or railways, as indicated below:

- in areas where dissolution features are known to be prevalent, soakaways should be avoided if at all possible but, if unavoidable, should be sited at least 20 m away from any foundations.
- where the chalk is of low density, or its density is not known, soakaways should be sited at least 10 m away from any foundations.
- where the chalk is of medium density (or higher), the closest part of the soakaway should be at least 5 m away from any foundations.

For the majority of the site, the chalk has been recorded as medium density and so the 5 m clearance will be applicable.

In the areas noted as low density, a 10 m clearance will be adopted which may mean soakaways cannot be located within individual residential plots in certain instances. In these cases, the soakaways will be located in nearby areas of communal car parking or open space. Figure C.2 shows the preliminary chalk density mapping for the site.

No dissolution features have been recorded on the site.

C.3.7 Permeable surfacing

Permeable hard surfaces which work in much the same way as traditional impermeable surfaces apart from the ability to allow rainwater to pass through. Permeable blocks are traditionally used but there are now a range of permeable asphalt and resin bound gravel pavings being used increasingly commonly. Permeable surfaces can either allow infiltration into the ground or have tanked systems for water retention, depending on the site and soil conditions. They are suitable in even the most densely built-up development. However, they're not well suited to roads carrying heavy or fast motor traffic.

Permeable surfacing will be considered extensively across the development. It is suitable for driveways in individual dwellings, general hard landscaped areas, car parks and minor roads. It is unlikely to be suitable on main site roads due to traffic volumes.

C.3.8 Detention basin / ponds

Landscape features designed to store and in some cases infiltrate rainwater. Detentions basins are usually dry, whereas a pond should retain water. These features need areas of open space but can often be combined with other sustainable drainage techniques.

Basins / ponds will form an key part of the landscape proposals and will therefore be integrated into the SuDS scheme as site or regional control measures and also be used to contain / control the existing flooding noted in Section 7. Although the basins are primarily for infiltration the basins on the northern plots are likely to be formed with lined and unlined areas to create wet areas as part of the blue / green corridor being created through the site.

C.3.9 Discharge to tidal river / dock / canals

Discharging clean rainwater directly to tidal rivers, canals or docks isn't normally a sustainable drainage technique. Other more productive techniques should be used first. However, it is generally more sustainable than discharging to the combined or surface drainage systems. Residual surface water can be discharged to tidal / large waterbodies, in some cases with no limitation on volumes. Some storage may be required to allow for outfalls becoming tide locked. Care is needed to prevent scour in the receiving waterbody and potentially to prevent pollution. Consent from the Environment Agency, the asset owner and where applicable the Canal and River Trust is required.

Although there are no adjacent rivers or ponds to discharge to, there are a number of small ditches that currently drain the fields which will be investigated further as potential disposal points.

C.3.10 Storage tanks / geocellular storage

Storage tanks are single GRP units usually located (but not necessarily) below ground level which attenuate rainwater for later slow release back into the drainage system but do not provide the wider benefits of green infrastructure sustainable drainage. They can also have the disadvantage that pumping may be required to empty the tank into the drainage system – especially if the tank is located at or below basement level. Where tanks are designed for large storm events, care is needed to ensure that they still perform a useful sustainable drainage function for low order storms.

Geocellular storage tanks are similar to storage tanks except that the volume is made up from multiple units rather than a single tank meaning they can be more flexible in terms of shape to suit constrained sites.

Storage tanks will be considered and may be necessary in certain locations, but preference will be given to the green infrastructure solutions mentioned above where possible.

C.3.11 Oversized piping

Using larger than necessary pipework creates more room to store rainwater. Potentially more sustainable than storage tanks / geocellular storage if the pipes drain by gravity and do not require pumping. However, lacks the wider benefits of the green infrastructure based techniques and so will not be considered.

C.4 Summary of the proposed SuDS strategy

Rainwater harvesting will be considered for the larger commercial and educational buildings or as a "regional" solution for groups of residential plots. It is unlikely that this will be implemented until later phases once the impact of the infiltration solutions on the existing aquifer has been assessed.

Green or blue roofs will be considered for the larger commercial and educational buildings rather than the residential plots.

Bio-retention, raingardens and swales will all form part of the strategy and will be developed alongside the landscaping proposals.

It is proposed to provide permeable paving across the development for driveways, car parks and potentially minor access roads. The underlying ground conditions will allow for this to be used for disposal purposes.

The primary SuDS strategy will be to maximise the use of infiltration. Residential plots will drain to individual soakaways within the plot where possible and to soakaways located in adjacent communal areas where the chalk density requires. Commercial buildings and roads will be drained to infiltration basins via a mixture of piped and green infrastructure.

Attenuation tanks will be considered as a last resort but green infrastructure will be prioritised.

A schematic SuDS layout is contained in Appendix D for reference.

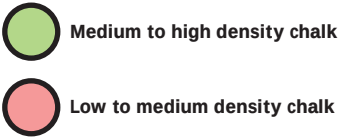
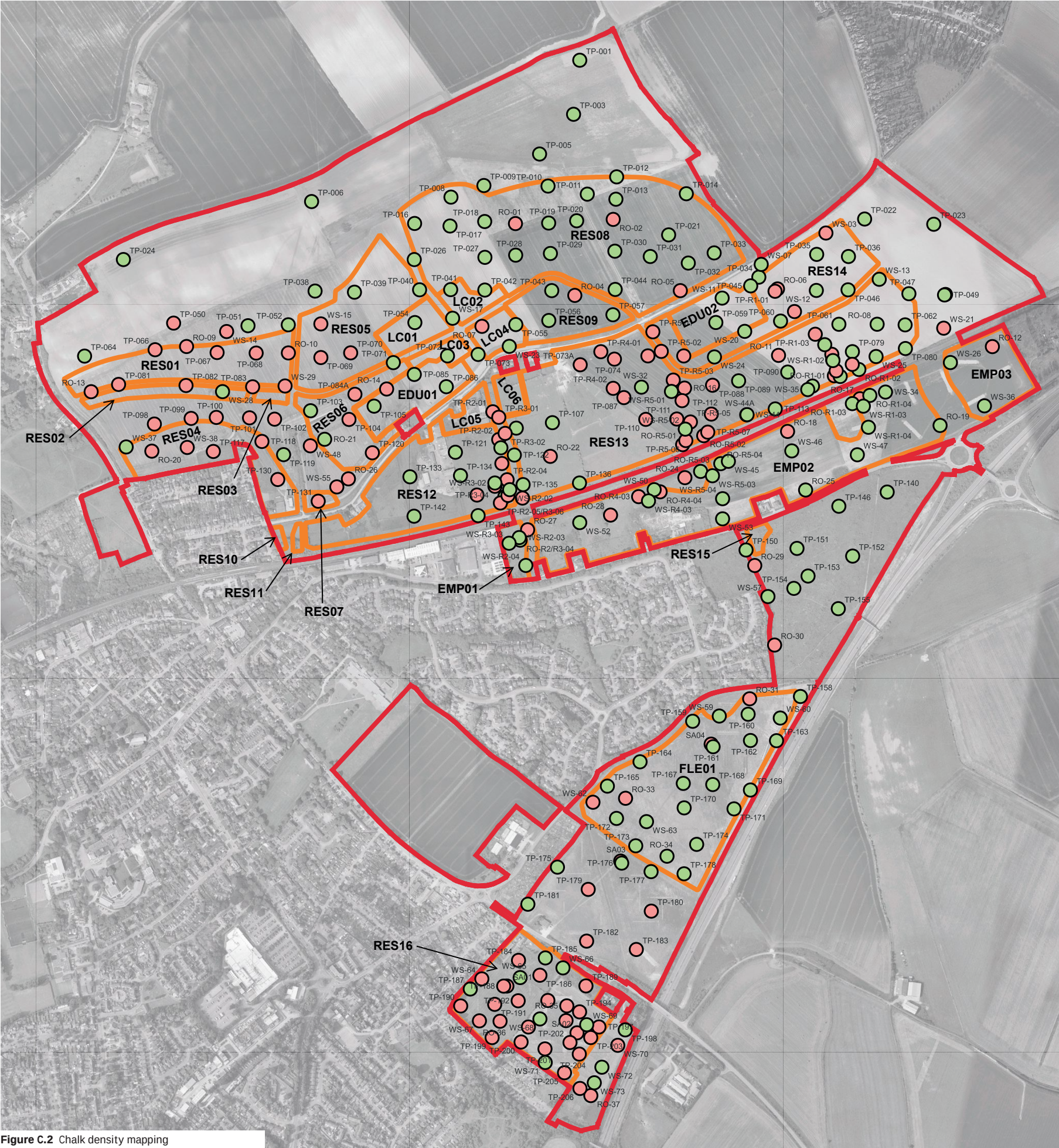
Element	Management stage	Water quantity	Water quality	Amenity & biodiversity	To be considered in scheme
Rainwater harvesting	Prevention	✓	✗	✗	✓
Green / brown / blue roof	Source control	✓	✓	✓	✓
Raingardens	Source control	✓	✓	✓	✓
Bio-retention	Source control	✓	✓	✓	✓
Permeable surfacing	Source control	✓	✓	✗	✓
Swales	Source control	✓	✓	✓	✓
Detention basin / ponds	Source control	✓	✓	✓	✓
Discharge to tidal river / dock / canals	Site control	✓	✗	✗	✓
Storage tanks / Geocellular storage	Site control	✓	✗	✗	✓
Oversized piping	Site control	✓	✗	✗	✗
Design for exceedance	Site control	✓	✗	✗	✓

Figure C.1 Summary of proposed SuDS devices

C.5 Network Rail requirements

In addition to the above, Network Rail requirements must be adhered to in the locating of SuDS devices:

- All surface and foul water drainage from the development area is directed away from Network Rail's retained land and structures into suitable drainage systems, the details of which are to be approved by Network Rail before construction starts on site.
- Water must not be caused to pond on or near railway land either during or after any construction-related activity.
- The construction of soakaways for storm or surface water drainage should not take place within 20m of the Network Rail boundary. Any new drains are to be constructed and maintained so as not to have any adverse effect upon the stability of any Network Rail equipment, structure, cutting or embankment.
- The construction of soakaways within any lease area is not permitted.
- The construction of surface water retention ponds/tanks, SuDS or flow control systems should not take place within 20m of the Network Rail boundary where these systems are proposed to be below existing track level. Full overland flow conditions should be submitted to Network Rail for approval prior to any works on site commencing.



Plot	Predominant Chalk Density
Res01	Low to medium
Res02	Low to medium
Res03	Low to medium
Res04	Low to medium
Res05	Mixed
Res06	Mixed
Res07	Low to medium
Res08	Medium to high
Res09	Medium to high
Res10	No site investigation in plot
Res11	No site investigation in plot
Res12	Medium to high
Res13	Mixed
Res14	Medium to high
Res15	Medium to high
Res16	Low to medium
Emp01	Medium to high
Emp02	Medium to high
Emp03	Medium to high
LC01	Medium to high
LC02	Medium to high
LC03	Medium to high
LC04	Medium to high
LC05	Low to medium
LC06	Low to medium
Edu01	Medium to high
Edu02	Medium to high
Fle01	Medium to high

Figure C.2 Chalk density mapping

Filter Strips

Description

Filter strips are located between areas of hardstanding and a receiving watercourse or surface water drainage system. They are vegetated strips designed to receive runoff as overland flow from upstream development.

ADVANTAGES

- Suited to installation next to large impermeable areas
- Encourages evaporation and can also help promote infiltration
- Easy to construct and has a low construction cost
- Effective pre-treatment option
- Easily integrated into landscaping and can be designed to provide aesthetic benefits

DISADVANTAGES

- Large land-take
- Not suitable on steep sites
- Not suitable for hotspot runoff or for sites with risk of groundwater contamination (unless infiltration is prevented)

PERFORMANCE

Peak flow reduction	Poor
Volume reduction	Poor
Water quality treatment	Medium
Amenity potential	Medium
Ecology potential	Medium

SITE SUITABILITY

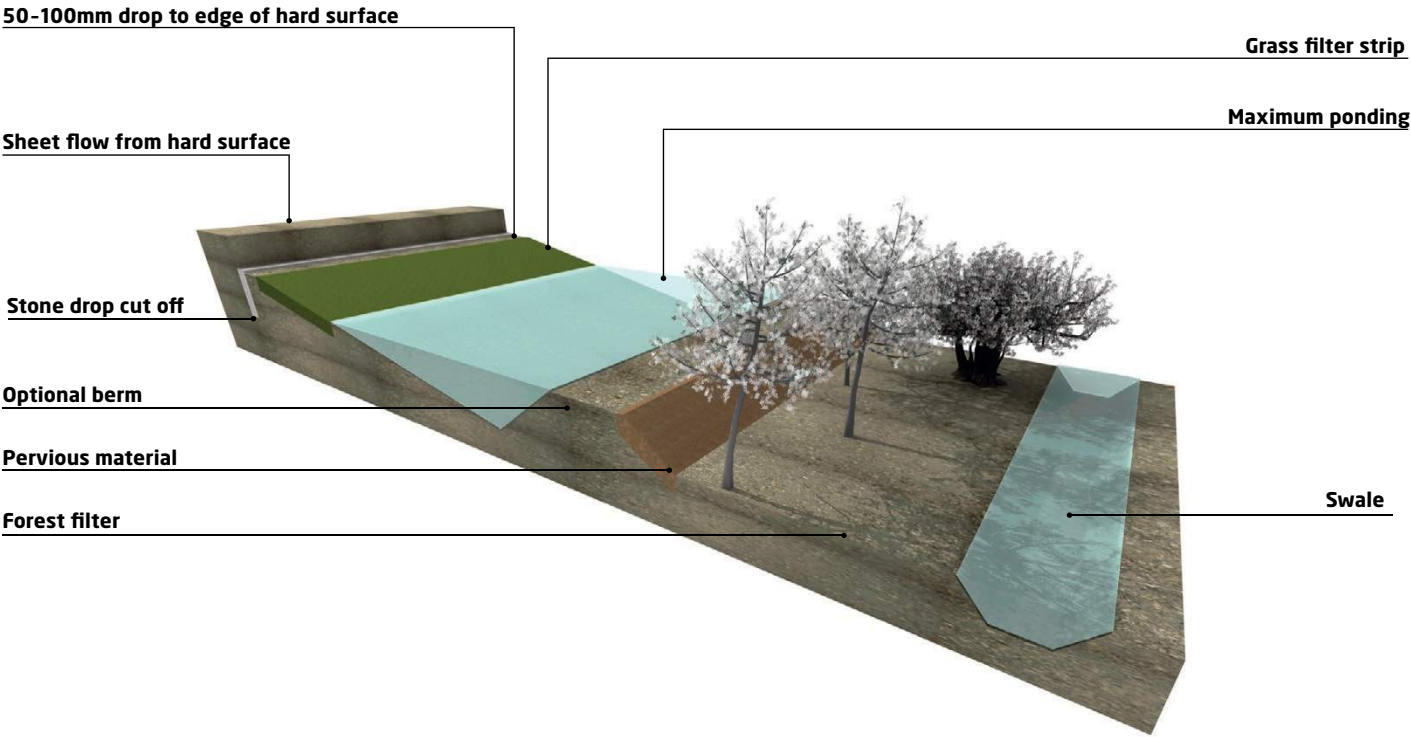
Residential	Yes
Commercial / industrial	Yes
High density	Yes
Retrofit	Yes
Contaminated site / sites above vulnerable groundwater (unless infiltration prevented)	No

COST IMPLICATION

Land-take	High
Capital cost	Low
Maintenance burden	Low

MAINTENANCE

- Removal of litter and debris
- Mowing
- Repair of damaged or eroded areas



Trenches / Soakaways

Description

Trenches are excavations 1–2 m deep filled with stone aggregate to create temporary underground storage for infiltration or filtration of stormwater runoff. Infiltration trenches (IT) allow water to filtrate to the surrounding soil whereas filtration trenches (FT) are used to filter or convey stormwater to downstream disposal systems.

ADVANTAGES

- Infiltration can reduce runoff rates and volumes from site
- Infiltration provides a significant reduction in pollutants discharging to receiving bodies
- Trenches can be incorporated into landscaping and fit well beside roadways

DISADVANTAGES

- High clogging potential without effective pre-treatment therefore not suitable for sites with fine particled soils in upstream catchments
- Build-up of pollution or blockages are difficult to see
- High historic failure rate due to poor maintenance or wrong siting of trench
- Limited to relatively small catchments
- High replacement cost if blockage does occur

PERFORMANCE

Peak flow reduction	Medium
Volume reduction	Low (FT) High (IT)
Water quality treatment	High
Amenity potential	Low
Ecology potential	Low

SITE SUITABILITY

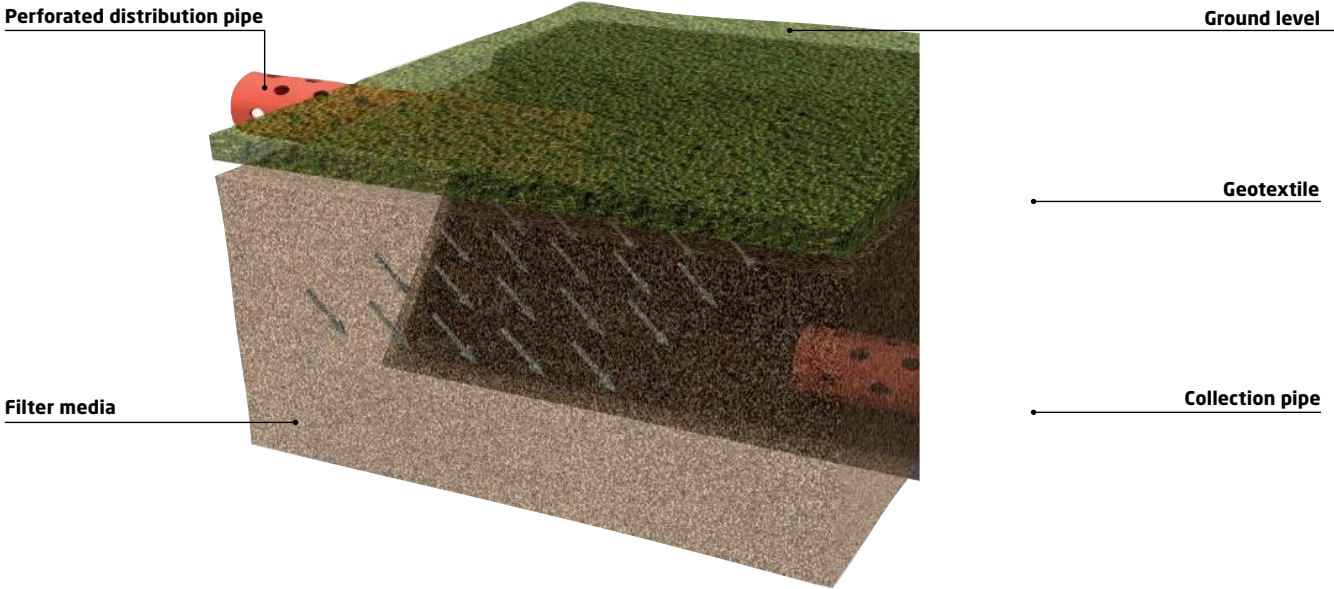
Residential	Yes
Commercial / industrial	Yes
High density	Yes
Retrofit	Yes
Contaminated site / sites above vulnerable groundwater	No (IT) Yes (FT)

COST IMPLICATION

Land-take	Low
Capital cost	Low (IT) Medium (if liner required)
Maintenance burden	Medium

MAINTENANCE

- Regular inspection for signs of clogging
- Removal of sediment from the pre-treatment system
- Removal and cleaning or replacement of stone



Swales

Description

Swales are linear vegetated drainage features in which surface water can be stored or conveyed. They can be designed to allow infiltration and should promote low design velocities to permit suspended particles to settle and remove pollutants. Swales can be used as a replacement for conventional gullies and drainage pipes.

ADVANTAGES

- Easy to incorporate into landscaping
- Good removal of pollutants
- Reduces runoff rates and volumes
- Low capital cost
- Maintenance can be incorporated into the general landscape management
- Pollution and blockages are readily visible and easy to deal with

DISADVANTAGES

- Not suitable for steep areas
- Visually significant
- Not suitable for areas with roadside parking
- Limits the opportunity to use trees for landscaping
- Risk of blockage in connecting pipework

PERFORMANCE

Peak flow reduction	Medium
Volume reduction	Medium
Water quality treatment	Good
Amenity potential	Medium
Ecology potential	Medium

SITE SUITABILITY

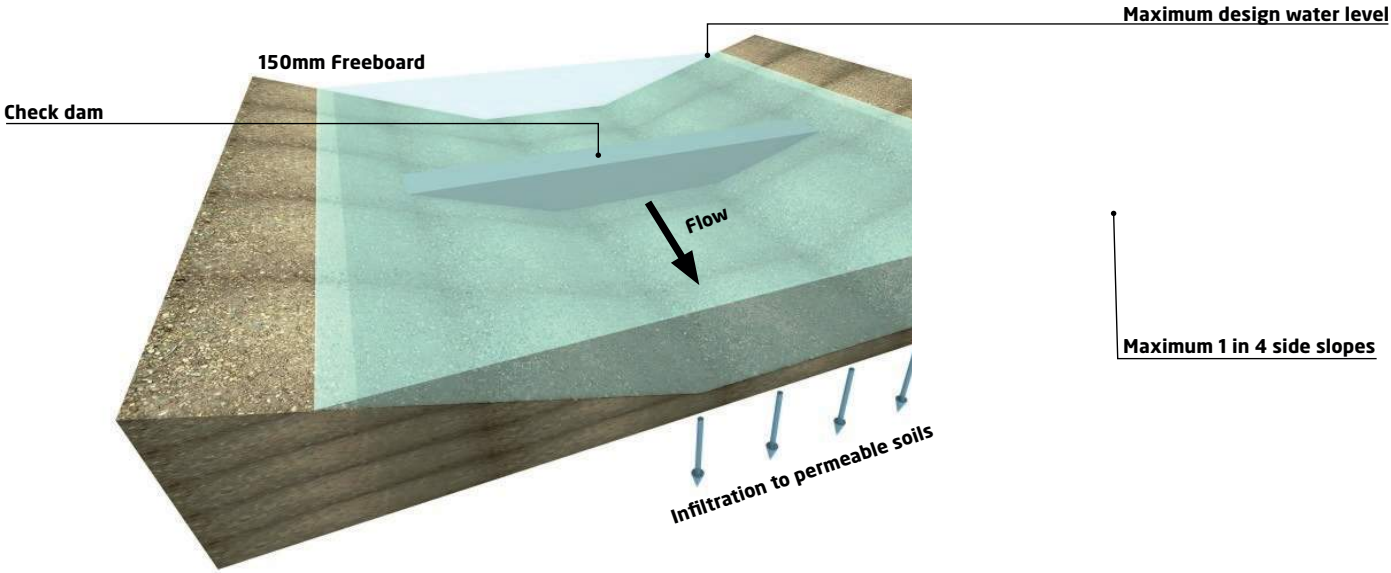
Residential	Yes
Commercial / industrial	Yes
High density	Limited
Retrofit	Limited
Contaminated site/sites above vulnerable groundwater	Yes

COST IMPLICATION

Land-take	High
Capital cost	Low
Maintenance burden	Medium

MAINTENANCE

- Removal of litter and debris
- Mowing and removal of cuttings
- Clearing debris and sediment from inlets, culverts and outlets
- Repair of damaged or eroded areas



Bioretention

Description

Bioretention areas are shallow depressions which are underdrained and rely on engineered soils and enhanced vegetation and filtration to remove pollution and reduce the downstream runoff.

ADVANTAGES

- Can be planned as landscaping features and flexible layout to fit in with overall landscaping scheme
- Effective in removing pollutants
- Can reduce rate and volume of runoff
- Well suited to installation in impermeable areas provided space is available
- Good retrofit capability

DISADVANTAGES

- Requires landscaping and management
- Prone to clogging if maintenance of the surrounding landscaping is poor
- Not suitable for areas with steep gradients

PERFORMANCE

Peak flow reduction	Medium
Volume reduction	Medium
Water quality treatment	Good
Amenity potential	Good
Ecology potential	Medium

SITE SUITABILITY

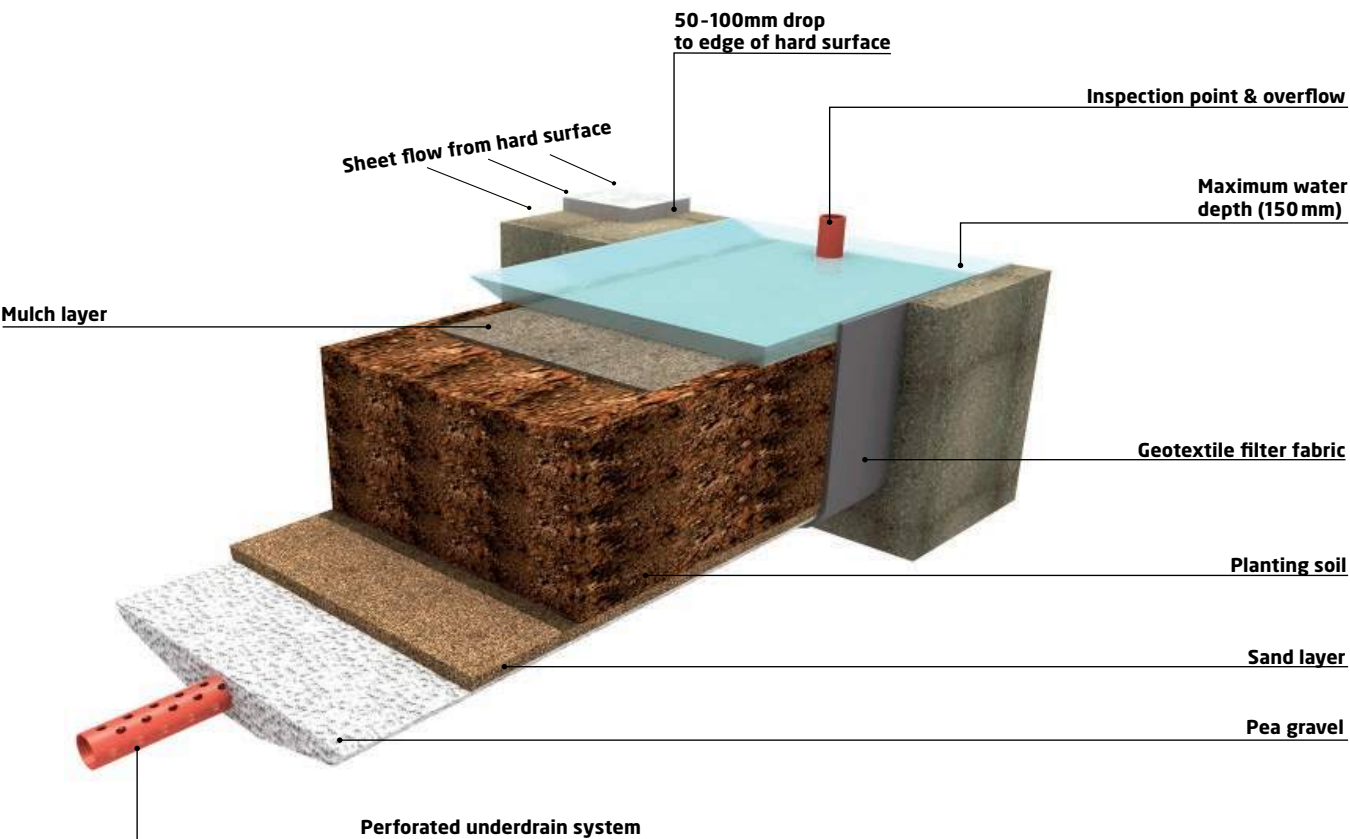
Residential	Yes
Commercial / industrial	Yes
High density	No
Retrofit	Yes
Contaminated site/sites above vulnerable groundwater	Yes

COST IMPLICATION

Land-take	High
Capital cost	Low
Maintenance burden	Medium

MAINTENANCE

- Regular inspection and removal of litter and debris
- Replacement of mulch layer
- Management of vegetation
- Soil spiking and scarifying



Pervious Pavements

Description

Pervious pavements provide a suitable pavement for traffic and /or pedestrians while allowing stormwater to infiltrate through the surface into the underlying soil. The water can be temporarily stored before infiltration to the ground or disposal to a drainage system

ADVANTAGES

- Effective in removing pollutants
- Significant reduction in rate and volume of runoff
- Good retrofit capability
- Low maintenance and no additional land-take as there is dual use of space
- Removes need for gullies and manholes
- Eliminates surface ponding and icing
- Lined systems can be used

DISADVANTAGES

- Can't be used in areas where large sediment loads may be washed on to the surface
- UK current practice is to use only in areas of low traffic volumes, low axle loads and low speed limits therefore limited range of sites
- Risk of long-term clogging and weed growth if poorly maintained

PERFORMANCE

Peak flow reduction	Good
Volume reduction	Good
Water quality treatment	Good
Amenity potential	Poor
Ecology potential	Poor

SITE SUITABILITY

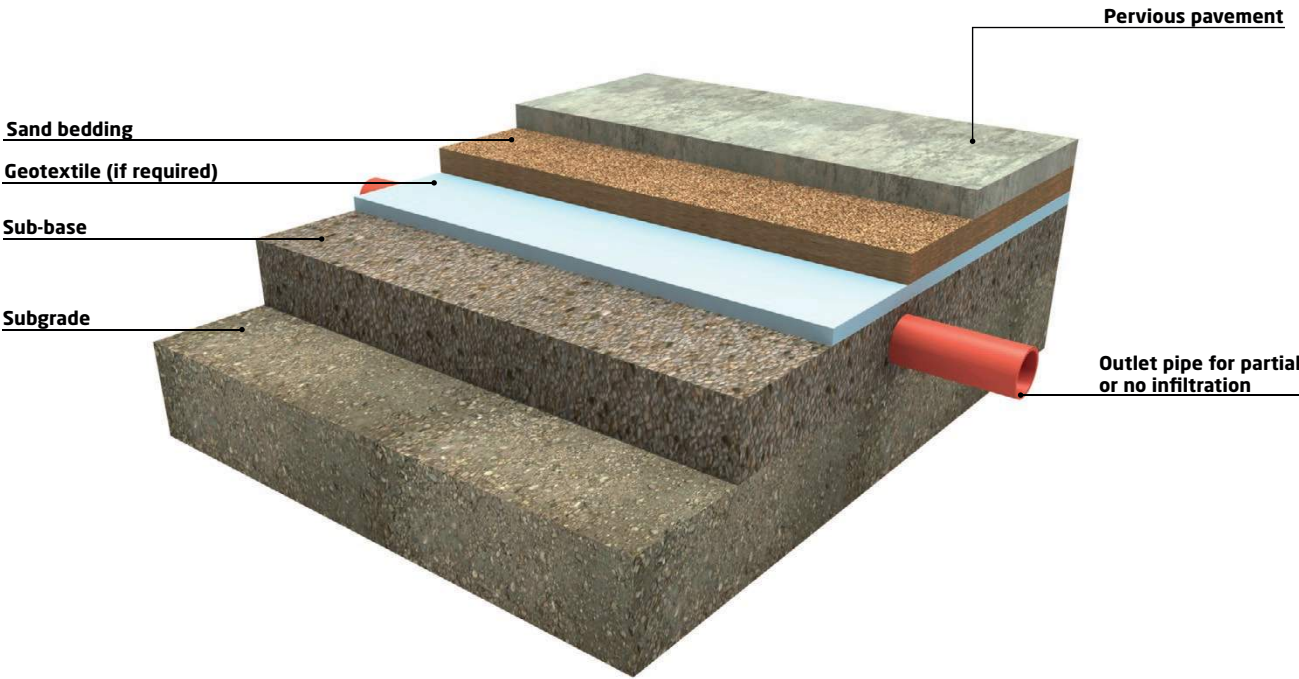
Residential	Yes
Commercial / industrial	Yes
High density	Yes
Retrofit	Yes
Contaminated site / sites above vulnerable groundwater (with liner)	Yes

COST IMPLICATION

Land-take	High
Capital cost	Medium (Net cost low)
Maintenance burden	Low

MAINTENANCE

- Sweeping
- Regular brushing and vacuuming



Geocellular / Modular Systems

Description

Modular plastic geocellular systems have a high void ratio that can be used to create an underground storage structure for attenuated flows

ADVANTAGES

- Modular and flexible (dual use) - robust, lightweight and easy to install
- High void ratio giving large storage capacity
- Can be installed in both trafficked and pedestrian areas and also beneath public open space
- Long-term physical and chemical stability

DISADVANTAGES

- No water quality treatment - purely storage

PERFORMANCE

Peak flow reduction	Good
Volume reduction (storage only)	Poor
Volume reduction (with infiltration)	Good
Water quality treatment	Poor
Amenity potential	Poor
Ecology potential	Poor

SITE SUITABILITY

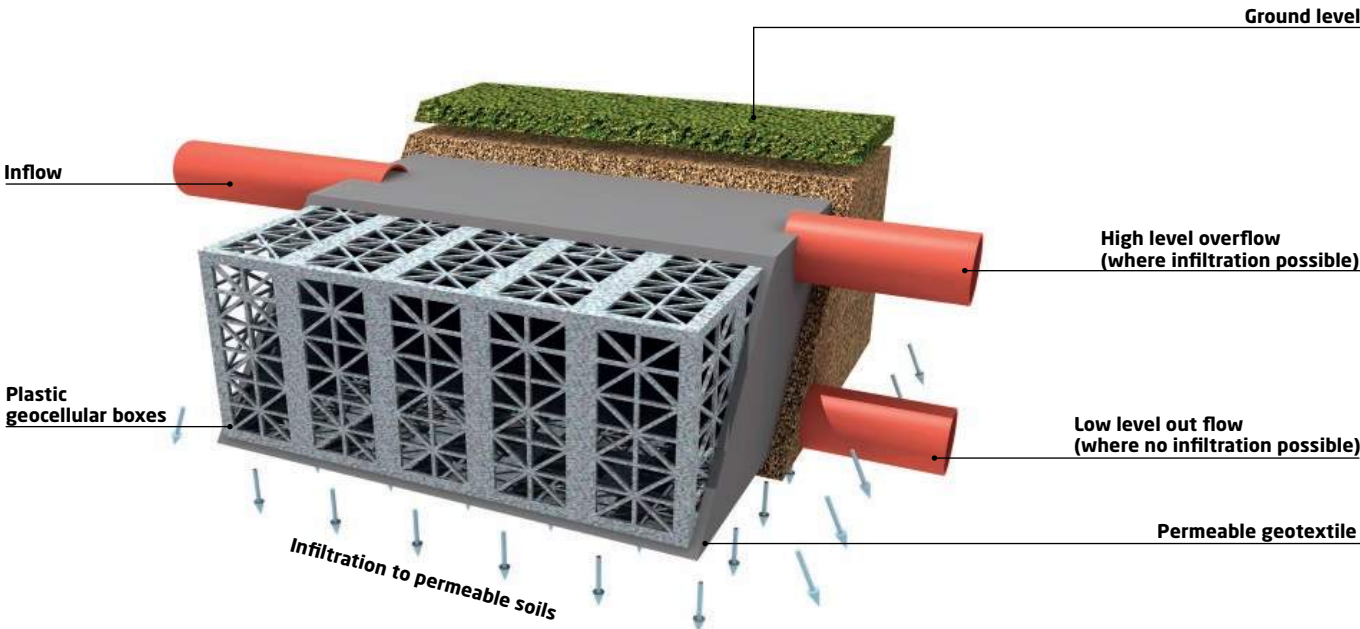
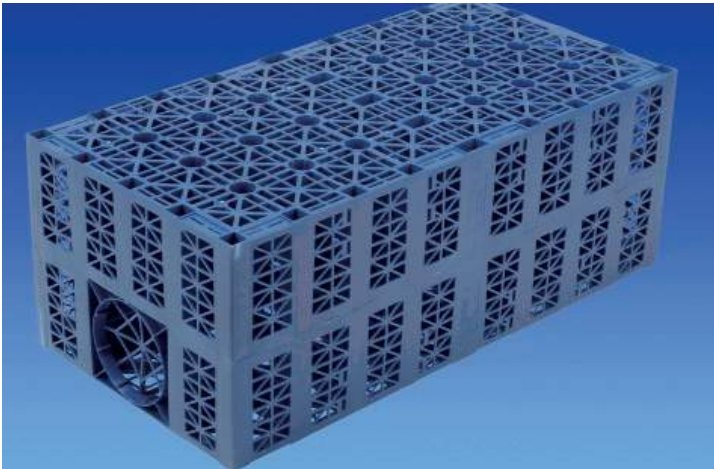
Residential	Yes
Commercial / industrial	Yes
High density	Yes
Retrofit	Yes
Contaminated site/sites above vulnerable groundwater	Yes

COST IMPLICATION

Land-take	Low
Capital cost	Low
Maintenance burden	Low

MAINTENANCE

- Regular inspection of silt traps, manholes and pipework with removal of litter and debris as necessary.



Infiltration Basins

Description

Infiltration basins are vegetated depressions designed to store runoff and infiltrate it gradually to the ground.

ADVANTAGES

- Reduces volume of runoff from area
- Effective in removing pollutants
- Contributes to groundwater recharge
- Simple and cost-effective to construct
- Changes in performance are easy to observe

DISADVANTAGES

- Potentially high failure rates due to improper siting, poor design and poor maintenance
- Requires a large, flat area
- Not appropriate for draining hotspots
- Comprehensive geotechnical investigation required to determine suitability for infiltration

PERFORMANCE

Peak flow reduction	Average
Volume reduction	Good
Water quality treatment	Good
Amenity potential	Good
Ecology potential	Good

SITE SUITABILITY

Residential	Yes
Commercial / industrial	Yes
High density	No
Retrofit	No
Contaminated site/sites above vulnerable groundwater	No

COST IMPLICATION

Land-take	High
Capital cost	Low
Maintenance burden	Low

MAINTENANCE

- Regular inspection for reductions in performance and removal of litter / debris
- Inlet and outlet cleaning
- Management of vegetation
- Regular removal of sediment

