

Surface water storage requirements for sites

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Site Details

| Calculated by: | Richard Harman |
|-------------------------|------------------------------------------------------------------|
| Site name: | Monksbury Court |
| Site location: | Monkhide HR8 2TX |
| This is an estimation o | f the storage volume requirements that are needed to meet normal |

best practice criteria in line with Environment Agency guidance "Rainfall runoff management

| Latitude: | 52.09277° N 2.55743° W | | | |
|------------|---------------------------|--|--|--|
| Longitude: | | | | |
| Reference: | 2179632949 | | | |
| Date: | Jun 15 2020 09:56 | | | |

| for developments", SC030219 | (2013), the SuDS Ma | inual C753 (| Ciria, 2015) an | d | | 217 | 3032343 | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------------------------------|-------------------|---------|--|
| the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme. | | | | | | Jun 15 2020 09:56 | | |
| Site characteristics | g | | | Methodology | | | | |
| Total site area (ha): | | | .2 | Q _{MED} estimation method: | Calculate from BFI and SAAR | | | |
| Significant public open space (ha): | | | 0 | BFI and SPR method: | Calculate from dominant HOST | | | |
| Area positively drained (ba): | | | 0.2 | Soil characteristics | | | | |
| mpermeable area (ha): | | .2 | Jon characteristics | Default | Edited | | | |
| Percentage of drained area that is impermeable (%): | | 100 | HOST class: | OST class: | | | | |
| Impervious area drained via infiltration (ha): | | | 0 | BFI HOST: | | | 0.56 | |
| Return period for infiltration system design (year): | | | 10 | SPR HOST: | _ | 0.3 | | |
| Impervious area drained to | rainwater harvestir | ng (ha): | 0 | Hydrological charac | teristics | | | |
| Return period for rainwater harvesting system (year): | | 10 | | Q _{MED} : | | Edited | | |
| Compliance factor for rainwater harvesting system (%): | | 66 | | | | 0.42 | | |
| Net site area for storage volume design (ha): | | 0.2 | Q _{BAR} / Q _{MED} conversion factor: Rainfall 100 yrs 6 hrs: Rainfall 100 yrs 12 hrs: FEH / FSR conversion factor: SAAR (mm): M5-60 Rainfall Depth (mm): | | | 1.075 | | |
| Net impermable area for storage volume design (ha): 0.2 Pervious area contribution to runoff (%): * where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q _{BAR} and other flow rates will have been reduced accordingly. Design criteria | | | | | | | 63 | |
| | | | | | | _ | 77.77 | |
| | | | | | water runoff such | 1.01 | 1.01 | |
| | | | | | | 667 | 667 | |
| | | | | | | 20 | 20 | |
| | | | 'r' Ratio M5-60/M5-2 day: | | 0.4 | 0.4 | | |
| Climate change allowance factor: | 1.4 | | | Hydological region: | | 9 | 9 | |
| Urban creep allowance factor: 1.1 | | | Growth curve factor 1 year: | | 0.88 | 0.88 | | |
| | | | Growth curve factor 10 year: | | 1.42 | 1.42 | | |
| Volume control approach | ontrol approach Flow control to max of 2 l/s/ha or Qbar | | | Growth curve factor 30 yea | 1.78 | 1.78 | | |
| Interception rainfall depth | | | | Growth curve factor 100 ye | ars: | 2.18 | 2.18 | |
| (mm): 5 Minimum flow rate (l/s): 2 | | | | Q _{BAR} for total site area (I/s) | 0.45 | 0.45 | | |
| | | | Q _{BAR} for net site area (I/s): | | 0.45 | 0.45 | | |
| Site discharge rates | | Default | Edited | Estimated storage v | olumes | Default | Edited | |
| 1 in 1 year (l/s): | | 2 | Attenuation storage 1/100 years (m³): Long term storage 1/100 years (m³): | | 120 | 120 | | |
| 1 in 30 years (l/s): | | 2 | | | 0 | 0 | | |
| 1 in 100 year (l/s): | | 2 | Total storage 1/100 years (r | n³): | 120 | 120 | | |

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.