

Form 4.3-6 Volume Based Biotreatment (DA) – Bioretention and Planter Boxes with Underdrains

Biotreatment BMP Type <i>(Bioretention w/underdrain, planter box w/underdrain, other comparable BMP)</i>	DA BMP Type	DMA BMP Type	DA BMP Type	DMA BMP Type <i>(Use additional forms for more BMPs)</i>
1 Pollutants addressed with BMP <i>List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP</i>				
2 Amended soil infiltration rate <i>Typical ~ 5.0</i>				
3 Amended soil infiltration safety factor <i>Typical ~ 2.0</i>				
4 Amended soil design percolation rate (in/hr) <i>$P_{design} = \text{Item 2} / \text{Item 3}$</i>				
5 Ponded water drawdown time (hr) <i>Copy Item 6 from Form 4.2-1</i>				
6 Maximum ponding depth (ft) <i>see Table 5-6 of the TGD for WQMP for reference to BMP design details</i>				
7 Ponding Depth (ft) <i>$d_{BMP} = \text{Minimum of } (1/12 * \text{Item 4} * \text{Item 5}) \text{ or Item 6}$</i>				
8 Amended soil surface area (ft ²)				
9 Amended soil depth (ft) <i>see Table 5-6 of the TGD for WQMP for reference to BMP design details</i>				
10 Amended soil porosity, <i>n</i>				
11 Gravel depth (ft) <i>see Table 5-6 of the TGD for WQMP for reference to BMP design details</i>				
12 Gravel porosity, <i>n</i>				
13 Duration of storm as basin is filling (hrs) <i>Typical ~ 3hrs</i>				
14 Biotreated Volume (ft ³) <i>$V_{biotreated} = \text{Item 8} * [(\text{Item 7}/2) + (\text{Item 9} * \text{Item 10}) + (\text{Item 11} * \text{Item 12}) + (\text{Item 13} * (\text{Item 4} / 12))]$</i>				
15 Total biotreated volume from bioretention and/or planter box with underdrains BMP: <i>Sum of Item 14 for all volume-based BMPs included in this form</i>				