| Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method |
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| Part 1: Determine the design storm intensity of the compact biofiltration BMP |
| 1 | Enter the time of concentration, Tc (min) (See E.2.3**)** (account for upstream detention by increasing Tc to a maximum 60 minutes per Section E.3.5.2 if detention is provided) | Tc= |  | min |
| 2 | Using Figure E-7 or the figure included in the worksheet, determine the design intensity at which the estimated time of concentration (Tc) achieves 80% capture efficiency, *I1* | I1= |  | in/hr |
| 3 | Enter capture efficiency corresponding to upstream HSCs and/or upstream BMPs, Y2. Attach associated calculations.  | Y2 = |  | % |
| 4 | Using Figure E-7, determine the design intensity at which the time of concentration (Tc) achieves the upstream capture efficiency(Y2), I2 | I2= |  | in/hr |
| 5 | Determine the design intensity that must be provided by BMP to achieve 80 percent capture, Idesign= I1-I2 | Idesign\_80%= |  | in/hr |
| Part 2: Calculate the design flowrate of the compact biofiltration BMP (Section E.2.6) |
| 6a | Enter DMA area tributary to BMP (s), *A* (acres) | A= |  | acres |
| 6b | Enter DMA Imperviousness, imp (unitless)  | imp= |  |  |
| 6c | Calculate runoff coefficient, *c= (0.75 x imp) + 0.15* | c= |  |  |
| 6d | Calculate flowrate to achieve 80 percent capture, *Q80%= (c x Idesign x A)* | Q80%= |  | cfs |
| 7 | Calculate design flowrate, *Qdesign= Q80% x 150%* | Qdesign= |  | cfs |
| Part 3: Demonstrate that Supplemental Retention BMPs Conform to Volume Reduction Targets (Only DMAs Categorized as “Biotreatment with Partial Infiltration”) |
| 8 | Describe system, including features to maximize volume reduction (if applicable): |
| 9  | Summarize calculations to demonstrate that volume reduction targets are met, where feasible and applicable.  |
| Supporting Calculations |
| Provide time of concentration assumptions: |
| Graphical Operations |
| Provide supporting graphical operations in figure above.  |