

## Bioretention Cell Design Review Check List

Applicant: \_\_\_\_\_ Date: \_\_\_\_\_

Submitted By: \_\_\_\_\_ Project Location: \_\_\_\_\_

- 1) Drainage Area \_\_\_\_\_ SF and \_\_\_\_\_ Ac
- 2) How much of the DA is Impervious Surface \_\_\_\_\_ % and \_\_\_\_\_ SF (if soil quality restoration is done or if soils investigations indicate green space is capable of absorbing the WQv the green space can be eliminated from the DA for WQv calculation. If neither applies, assume ½ of the green space is equivalent to impervious surface.)
- 3) Water Quality Volume (WQv) \_\_\_\_\_ CF (show calculations below or attach a copy)  
 $WQv = (P) \times (Rv) \times (DA) \times 43,560 \text{ SF/ac} \times (1 \text{ ft}/12\text{in})$
  
- 4) Surface Area of Biocell \_\_\_\_\_ SF (show calculations below or attach a copy)  
 $Af = WQv \times df / \{K \times (hf + df) \times tf\}$
  
- 5) Ponding Depth \_\_\_\_\_ inches
- 6) Proposed dimensions: \_\_\_\_\_ ft L x \_\_\_\_\_ ft W = \_\_\_\_\_ SF of surface area.
- 7) Discuss soils investigation findings (i.e. texture, degree of compaction, percolation potentials, depth to water table, contamination, etc) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- 8) Describe any pretreatment techniques provided (what practice(s) were used, how were things sized, etc) \_\_\_\_\_  
 \_\_\_\_\_
- 9) Describe the biocell soil media. (Soil blend specified in the Iowa Stormwater Management Manual is 75-90% washed concrete sand, 0-25% topsoil, 0-10% compost):
  - a. Sand \_\_\_\_\_ %
  - b. Topsoil \_\_\_\_\_ %
  - c. Compost \_\_\_\_\_ % compost
- 10) Quantities (please attach a copy of materials calculations): 75-85% sand, 0-25% topsoil, 0-10% compost)
  - a. Sand \_\_\_\_\_ tons;
  - b. Topsoil \_\_\_\_\_ tons or CY
  - c. Compost \_\_\_\_\_ tons or CY
  - d. 3/8" chip \_\_\_\_\_ tons
  - e. Shredded hardwood mulch \_\_\_\_\_ CF or \_\_\_\_\_ CY

- 11) Depth of Rock Chamber \_\_\_\_\_ inches
- 12) Quantity and Type of Rock \_\_\_\_\_ tons of \_\_\_\_\_
- 13) Quantity and Type of choker material \_\_\_\_\_ tons of \_\_\_\_\_
- 14) Size of perforated drain tile \_\_\_\_\_ inch
- 15) Does tile comply with the design guidance is Step 10 of the design procedure in the Bioretention Chapter of ISWMM \_\_\_\_\_ Yes \_\_\_\_\_ No
- 16) Separation distance from nearest foundation \_\_\_\_\_. If less than 10 ft describe water proofing methods \_\_\_\_\_  
\_\_\_\_\_
- 17) Describe outlet for the perforated drain tile \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 18) Describe overflow (i.e. stand pipe, swale, emergency spillway / berm notch, etc.)  
\_\_\_\_\_  
\_\_\_\_\_
- 19) Spacing of plants \_\_\_\_\_
- 20) Size of plants \_\_\_\_\_
- 21) Quantity of plants \_\_\_\_\_ (Please attach a plant list and planting plan)
- 22) If supplemental seeding was done in the biocell describe type and quantity of seed used and the rate that was applied (i.e lbs/ac or per 1,000 SF)  
\_\_\_\_\_  
\_\_\_\_\_
- 23) Please describe the Erosion and Sediment Control measures employed if the drainage area is not stabilized or the biocell is not planted and stabilized immediately:  
\_\_\_\_\_  
\_\_\_\_\_
- 24) Please attach a map of the drainage area.
- 25) Please attach a plan view, profile and cross sectional drawing

**FOR REVIEWERS USE ONLY**

- This design appears to comply with the standards in the Iowa Stormwater Management Manual.
- This design does not appear to comply with the standards in the Iowa Stormwater Management Manual.

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_ Date: \_\_\_\_\_

Signature: \_\_\_\_\_