

# Bioswales Design Review Check List



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

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

- 1) Drainage Area \_\_\_\_\_ SF and \_\_\_\_\_ Ac
- 2) How much of the 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)
- 4) Discuss soils investigation findings (i.e. texture, degree of compaction, percolation potentials, depth to water table, etc) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

WQv \_\_\_\_\_ CF (show calculations below or attach a copy)  
 $WQv = (Rv) \times (P) \times (DA) \times 43,560 \text{ SF/ac} \times (1 \text{ ft}/12\text{in})$  (See Iowa SW Mgt Manual)

- 5) Type of cross section (check one) \_\_\_\_\_ Trapezoidal \_\_\_\_\_ Parabolic
- 6) Length of Bioswale \_\_\_\_\_ Ft (show calculations below or attach a copy)
- 7)  $L_{\text{bioswale}} = T_{\text{res}} \times V \times (60 \text{ sec}/\text{min})$  (See Iowa SW Mgt Manual)

- 8) Bottom Width (if trapezoidal) \_\_\_\_\_ Ft
- 9) Side Slopes (if trapezoidal) \_\_\_\_\_ : \_\_\_\_\_
- 10) Top width (if parabolic) \_\_\_\_\_ Ft
- 11) Grade of Swale \_\_\_\_\_ %
- 12) Residence time \_\_\_\_\_ minutes
- 13) Velocity \_\_\_\_\_ fps
- 14) Type of berm (rock or earth) \_\_\_\_\_
- 15) Height of berms \_\_\_\_\_ inches
- 16) Spacing of berms (from toe of upper berm to ridge of the next lower berm) \_\_\_\_\_ ft.
- 17) Describe the soil media. (Soil blend specified in the Iowa Stormwater Management Manual is 75% - 90% washed concrete sand, 0-25% topsoil, 0-10% organic material):
  - a. Sand \_\_\_\_\_ %
  - b. Topsoil \_\_\_\_\_ %
  - c. Organic material \_\_\_\_\_ %

- 18) Quantities (please attach a copy of materials calculations)
  - a. Sand \_\_\_\_\_ tons;

b. Topsoil \_\_\_\_\_ tons or CY;

c. Organic material \_\_\_\_\_ tons or CY

19) Depth of Rock Chamber the tile is bedded in \_\_\_\_\_ inches. Quantity & Type of Rock \_\_\_\_\_ tons of \_\_\_\_\_

20) Was the tile trench filled with soil media or choker material (3/8" chip)

21) Quantity and Type of choker material \_\_\_\_\_ tons of \_\_\_\_\_

22) Size of perforated drain tile \_\_\_\_\_ inch

23) Describe any pretreatment techniques provided (what practice(s) were used, how were things sized, etc) \_\_\_\_\_  
\_\_\_\_\_

24) Describe outlet for the bioswale and the perforated drain tile \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

25) Spacing of plants \_\_\_\_\_

26) Size of plants \_\_\_\_\_

27) Quantity of plants \_\_\_\_\_ (Please attach a plant list and planting plan)

28) If seeding was done describe type and quantity of seed used and the rate that was applied (i.e lbs/ac or per 1,000 SF) \_\_\_\_\_  
\_\_\_\_\_

29) Describe the erosion control installed to protect the bioswale until vegetation is established \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

30) If residence time and velocities that manage the water quality volume (WQv) can't be achieved, describe the treatment train components that will be added to manage the WQv  
\_\_\_\_\_  
\_\_\_\_\_

31) Please attach a map of the drainage area.

32) 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 of Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

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