

What to do about....

Creating Bioswales

Bioswales are shallow drainage channels covered with taller (greater than 3"), dense vegetation. They are usually designed to trap particulate pollutants (suspended solids and trace metals), promote infiltration, and reduce the flow velocity of storm water runoff. Some homeowners who have drainage swales which do not drain effectively and which cannot be regraded to provide better drainage, may use a similar application which they would not have to mow. (Treating for mosquitoes, naturally or chemically, may still be necessary.) Other native landscape plants and flowers can be planted along the higher edging of the swale to improve the aesthetics of the area with no more maintenance than a conventional, densely planted flowerbed.

The design of a bioswale is dependent on a number of factors including soil type, groundwater table, size of the watershed, imperviousness of the contributing watershed, and dimensions and slope of the swale. "Swale design should balance the infiltration and treatment requirements of small storms with needs for conveyance during large storms... Check the capacity of the swale system to perform during the 100 year regulatory event..." *

Prepare the area by re-grading poorly drained swales to provide as much fall as possible. Where an adequate outlet with enough depth is available, add drainage tile along the side of the swale to improve the drainage as needed. (See Subsurface Drainage Around Your Home fact sheet.) If the area has been eroded, add topsoil and/or compost; lime and fertilize as indicated by your soil test and the plants' needs. In steep areas the swale can be created to meander and/or weirs (check dams) can be added to help slow the water down. Erosion control blankets can be installed to minimize erosion until the vegetation is well established. Where runoff velocities are high temporarily divert surface drainage until the new vegetation is well established.

Plant species should be chosen with care to make sure they are well suited to your soil type, slope and available sunlight. Vegetative swales do not work well if the slopes are excessively steep and they are not traditionally used in areas too flat to drain or with very high seasonal groundwater tables. Choose native plants which will have a good root structure to help



control erosion and also are well adapted to the amount of water available. Water loving plants are usually chosen for the area along the bottom of the swale. If the area is shaded be sure to choose shade tolerant species. A contractor familiar with bioswales will be invaluable in helping you design and choose plants for your bioswale.

Regular monitoring and maintenance of the swale will be needed. Check for erosion, accumulation of sediment and debris, and the need for trimming and weeding. Be especially vigilant in controlling non-native weeds including many types of cattails.

For more information visit: http://www.spencenursery.com/Index/vegetated_swale.php

For more information contact the Marion County Soil & Water Conservation District (317)786-1776 www.marionswcd.org