



## CONSIDERATIONS

- Soils
- Area Required
- Slope
- Water Availability
- Aesthetics
- Hydraulic Head
- Environmental Side Effects



# WEBER COUNTY

## ENGINEERING DEPARTMENT

2380 Washington Blvd., Suite 240  
Ogden, UT 84401  
(801) 399-8374

## DESCRIPTION:

Biofilters are of two general types: vegetated channel and vegetated filter strip. The vegetated channel is sloped like a standard storm drain channel; the stormwater is treated as it passes through the channel. With filter strips the flow is distributed broadly along the width of the vegetated area.

## APPLICATION:

- ▶ Comparable performance to wet ponds and constructed wetlands.
- ▶ Limited to treating a few acres.

## INSTALLATION/APPLICATION CRITERIA:

- ▶ Limited to treating a few acres and availability of water during dry season.
- ▶ The surface area must be defined.
- ▶ The minimum width for a swale is determined by Mannings Equation.
- ▶ Minimum length of a strip is 10 feet.
- ▶ The longitudinal slope must not exceed 5%.
- ▶ Use a flow spreader and energy dissipator at the entrance of a swale.
- ▶ Good soils are important to achieve good vegetation cover.

## LIMITATIONS:

- ▶ Poor performance has occurred but this appears to be due to poor design.
- ▶ May be limited to areas where summer irrigation is feasible.
- ▶ Can be difficult to maintain sheet flow in strips.
- ▶ Can be difficult to avoid channelization in swales.
- ▶ Cannot be placed on steep slope.
- ▶ Area required may make infeasible on industrial sites.
- ▶ Proper maintenance required to maintain health and density of vegetation.
- ▶ Limited to treating a few acres and availability of water during dry season.

## MAINTENANCE:

- ▶ Make sure soils are suitable for healthy vegetation.
- ▶ Level cross-section and even longitudinal slope for swales.
- ▶ Any damage to the channel such as rutting must be repaired with suitable soil, properly tamped and seeded.

## TARGETED POLLUTANTS

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substance
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses
- High Impact
- Medium Impact
- Low or Unknown Impact

## IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training
- High
- Medium
- Low