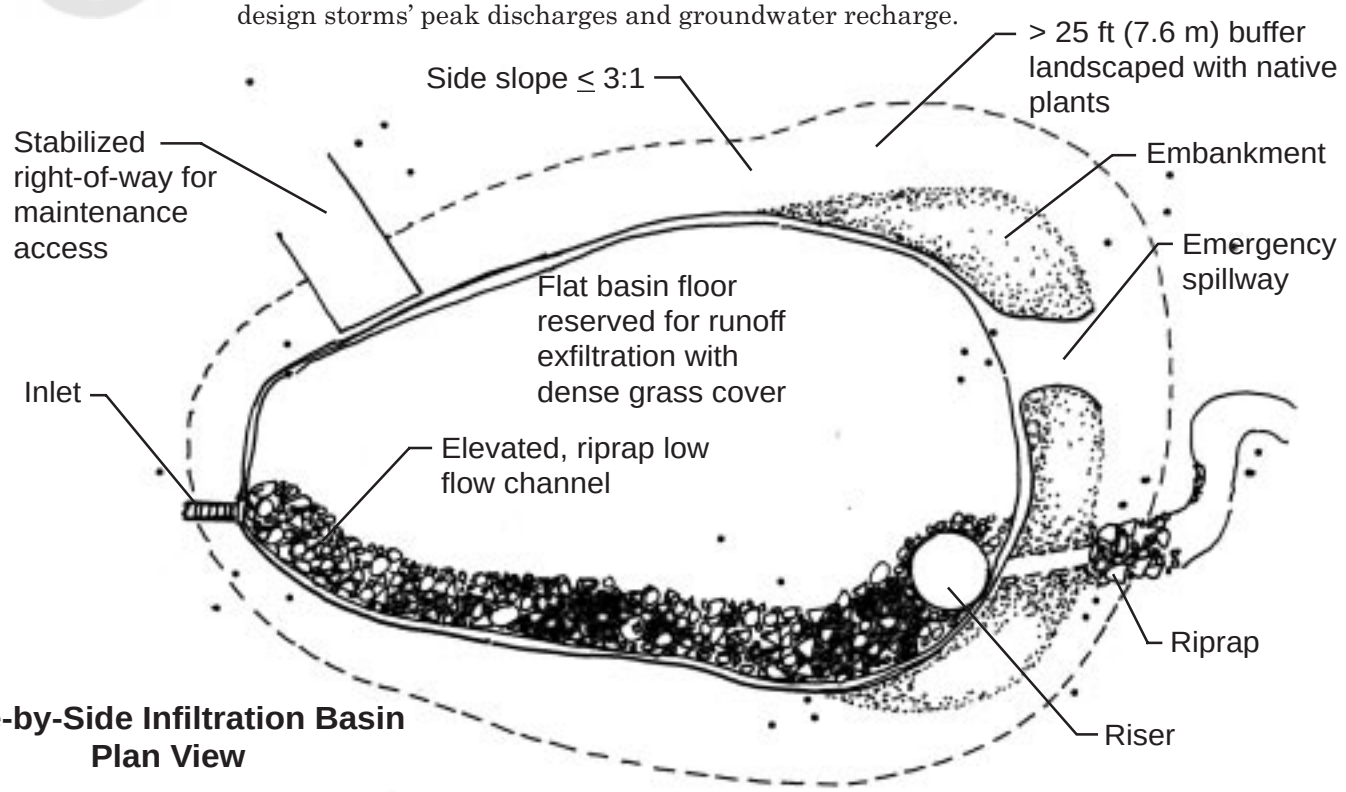
PRIMARY USE: To remove soluble and fine particulate pollutants in urban runoff in large drainage areas where small base flow and large stormflows occur.
ADDITIONAL USES: To provide control of peak discharges of large design storms and groundwater recharge.

SIDE-BY-SIDE INFILTRATION BASIN

What is it? This is a basin using a rip-rap pilot channel along one basin margin and extending to the riser. The pilot channel is elevated several feet (approximately one meter) above the floor of the basin. Baseflow is restricted to the pilot channel by a layer of impermeable geotextile and is directed to an undersized low flow orifice at the riser base, and then out the basin.

Purpose

The side-by-side infiltration basin is a solution for addressing many difficulties found in routing small base flow and large stormflows through a basin, while still providing adequate exfiltration for small and moderate storms. As do other infiltration basins, this BMP treats stormwater for pollutant removal, and provides opportunities for total control of large design storms' peak discharges and groundwater recharge.



Side-by-Side Infiltration Basin
Plan View

Limitations

Soils must be permeable and stable. Bedrock and water tables should be well below the soil surface.

Materials

Materials commonly associated with similar BMPs, i.e., rip-rap, turf, and spillway, piping and related plumbing fixtures suitable for construction of the barrel/riser; impermeable engineering fabric.

Installation

No guidelines out of the ordinary.

Source: Controlling Urban Runoff, Metropolitan Washington.

SIDE-BY-SIDE INFILTRATION BASIN

Additional Considerations:

The basin also directs stormwater pulses through the pilot channel. But once incoming stormflows reach a specific depth, they may leak through the rip-rap and across the basin floor. Runoff traveling to the riser is then redirected down a rip-rap bench and back to the basin floor. The low flow invert orifice is set to create a dead storage zone down to the basin floor which stores the equivalent of the first flush runoff volume.

Side-by-side infiltration basins address problems commonly associated with simple detention ponds by:

1. Trapping coarse grained sediment prior to its entering the basin, and thereby precluding clogging of soil pores on basin floors,

2. Routing design stormflows through the basin without eroding or scouring the basin floor,

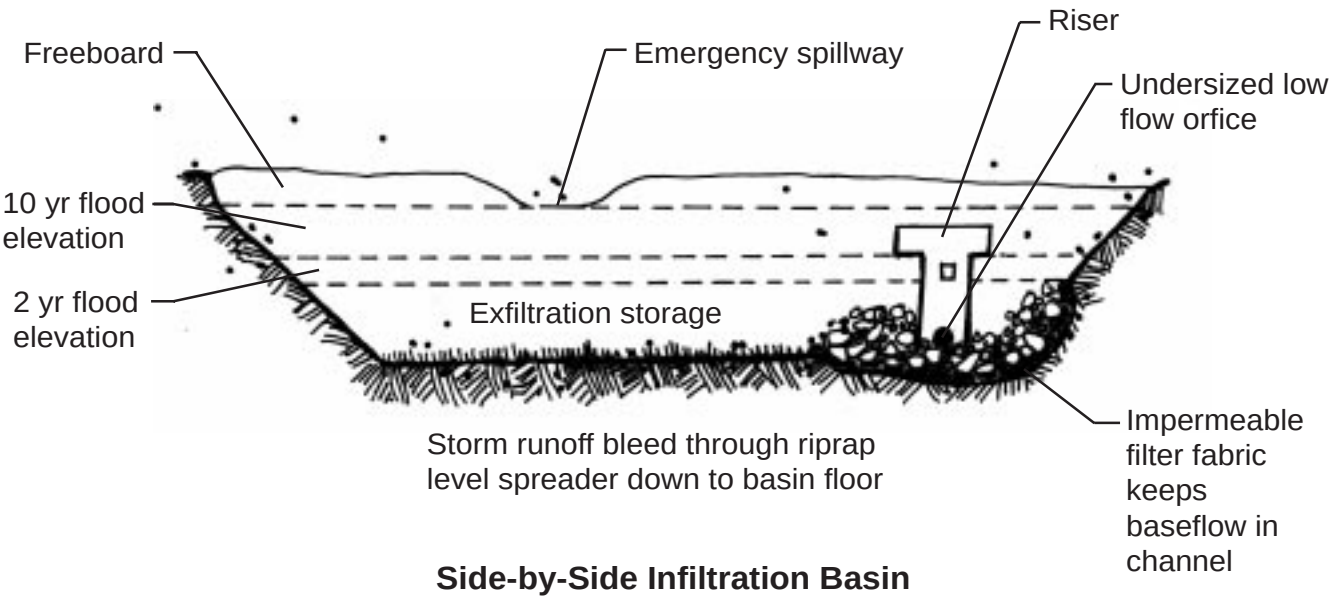
3. Routing any base flow that might exist rapidly through the basin to preclude ponding,

4. Evenly distributing runoff over the basin floor to maximize exfiltration,

5. Providing back-up drainage should failure occur with the basin's infiltration capacity.

Nuisances such as soggy ground, mosquitoes, odors, and unsightly basin floors may occur. Frequent maintenance is mandatory.

Additional Drawings:



Side-by-Side Infiltration Basin
Section View

Source: Controlling Urban Runoff, Metropolitan Washington