Storm Water Risks

Water that soaks into the soil is naturally filtered and cleaned. Conversely, water flowing on the surface of developed property picks up pollutants, sediment, oil, salts from roads, fertilizer from lawn runoff, and bacteria from properties where animals are kept. A community, without a productive storm water plan in place, exposes everyone to increased risk by significantly contributing to diminished water quality.
Ditches are usually the first place water collects during rainfall events and many problems can happen to poorly constructed or poorly maintained ones. For example, if a ditch is “V” shaped and has bare soil in the bottom or the sides are too steep, entrenchment will occur. Entrenchment happens when water concentrated in the bottom of the ditch cuts into the bottom of it or back-cuts the bottom causing a waterfall to form. Even a small waterfall will eventually erode the bottom of the ditch and cut its way back up the ditch, displacing significant amounts of soil and rock and making the ditch bigger and deeper.

The best way to build and maintain ditches is with flat, well-vegetated bottoms and gently sloping sides. Flat bottoms make water spread out and slow down, giving the water a chance to permeate the soil and allow sediment and other pollutants to settle out. The vegetation, besides slowing down the water, helps clean and filter pollutants from the water.

The roots of grass, trees and shrubs offer the best protection from ditch erosion. Since roots are constantly being renewed by plants they become stronger and stronger over time. Ditches that have grassy bottoms should have the height of the bottom vegetation maintained at a minimum of 4 inches. The taller the grass the better it can hold the soil and treat or filtrate the storm water runoff.

Quick Facts
1. Sides of storm water ditches should be gently sloping
2. Bottoms of storm water ditches should be flat and well-vegetated
3. Vegetation in storm water ditches should be a minimum of 4 inches tall, but preferably taller