Taking a Look at Trails: Part 1

By Greg Sykes (greg@grsykes.com)

Park trails are terrific instruments for folks to experience nature firsthand. The strolls offer green spaces to relax, exercise, see organisms that might live away from urbanized yards, and observe animal interactions in the wild—all in relative comfort. Trails are ambassadors that introduce people to the natural world.

Over the past decades, when folks decided that they wanted a trail going from Point A to Point B, they or a scout troop simply cleared the land to do so. Back in the day, a trail's sustainability was not considered, resulting in a mix of good (low environmental impact and minimal maintenance) and bad trails (ecologically detrimental and high upkeep). Muddy trails result in increasingly worse conditions because the trail lowers through soil compaction and displacement. To avoid the puddles, trekkers walk around it, trample vegetation, the newly stomped section also sinks, and the cycle widens the trail even more.

These days, we can learn from past successes and mistakes as we apply modern science to trail design. Topography, geology, soil conditions, water movement, water saturation levels, ice accumulation, and environmental sensitivity all factor into good, sustainable trail placement in natural areas. The crucial key is having a gentle slope so the surface sheds water efficiently. Sustainable trails may still connect Points A and B though the route might need redirection away from unsuitable areas. Maintaining a fully sustainable trail means only trimming branches once or twice per year. It can be a bare soil surface without adding gravel or pavement—a win for both trail users and repair crews! In contrast, inferior settings are in flat areas that experience frequent flooding, loose soil, or insufficient drainage. When applied correctly, anchored puncheons (slightly elevated wooden boards) or a turnpike with proper stone layering and affixed culverts can help span short distances through a wet spot just like a bridge crosses a waterway. Any trail features should not interfere with waterflow especially in sensitive habitats such as vernal pools, seeps, and magnolia bogs. The following multi-part photo essay illustrates good and bad aspects of trails. Special thanks to Robert Fina, owner of Fina Trails LLC, for technical consultation throughout this series.

Figure 1. Most Fairfax County trails were created before sustainability became a consideration. Some of these trails, such as this clay and stone footpath along a well-drained forested hillside (A), happen to be sustainable. Such natural surface pathways are easier on the knees than pavement. Many new, natural surface hiking and mountain bike trails (B) are created with sustainable designs.

Figure 2. Tails along manmade structures, such as an abandoned railroad (A), can be sustainable. When permitted, good trails may run on or beside certain, elevated utility easements like powerlines and pipelines (B), where the corridor's vegetation is already trimmed periodically. Sewer line easements tend to be unacceptable locations due to their inherently low elevations; more on this topic later.

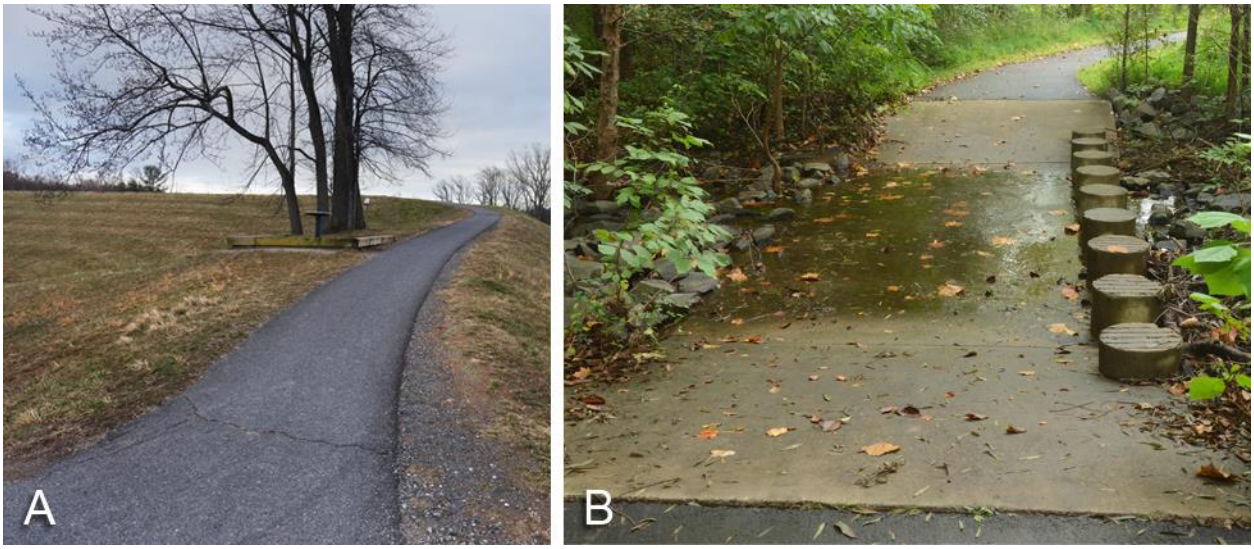

Figure 3. Paved trails have their place, such as to ADA-accessible venues and sport fields. Asphalt trails are necessary across artificial structures such as dams and spillways (A). Concrete is used in small, specialized trail sections like stream crossings (B) where water flows over the part for maintenance vehicles and dry steppingstones enable pedestrians to transverse. Concrete crossings are expensive and used in select locations.

In Part 2, we will explore poor path locations and some of the challenges inherent in trails.

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