SUSTAINABLE SUPPORT

The greener side of gray BMPs

One can hardly avoid the greening-of-America campaign that is sweeping the country. It seems that every other product advertisement—from laptops to cars to cleaning supplies—is claiming to be the "greenest." Even the storm water industry, which certainly is not new to environmental responsibility, is jumping on the green bandwagon.

It is important to remember that green design and green infrastructure are more than just the latest trend. The goal of green design—to create a sustainable community—is essential to the bettering of our collective future. With everyone seeing green, is it possible to meet the intentions of green design without using a so-called green product?

Why can't gray be green? Green plants found in rain gardens and planter boxes are indicators to the public that these best management practices (BMPs) are eco-friendly, but what about the unsuspecting drywell or infiltration chambers that lay unnoticed while recharging aquifers and keeping water on site below the ground? These plantless products are achieving the same long-term sustainable goals.

Typical storm water management solutions that strive to lower the impact of a development mimic natural site hydrology by using techniques that infiltrate, filter, store, evaporate and detain runoff close to the source. Therefore, BMPs that treat runoff at the source and then recharge the water back into the aquifer, whether they have plants in them or not, should be accepted as green solutions. Catch basins, curb inlets, grate inlets, trench drains—all of these units can be found on green sites and are essential for minimizing onsite infrastructure.

That being said, it is imperative that the quality of storm water runoff is not ignored. What good have we done if the aquifers are full but their quality has been degraded by the introduction of foreign contaminants? Soil is an excellent natural filter; however, it is not effective if oil, grease, trash and other gross pollutants are present, as the topsoil will clog and both treatment and infiltration will no longer be accomplished.

Pretreatment before infiltration is the best practice for ensuring proper storm water treatment in heavily polluted areas (i.e., vehicular use areas, waste allocation pads, storage lots and various other areas found on a typical site). Incorporation of manufactured systems, such as media filters and hydrodynamic separators, allows for effective pollutant removal. These systems also provide for easy inspection and maintenance, ensuring harmful contaminants are removed from the environment permanently.

Many sites are capable of meeting the intent of green design by using extended buffers, rain gardens and enhanced swales. However, in high-density areas where land is limited and valuable and where pollutants are found in higher concentrations, a closer look at alternative solutions for a green site is necessary. Each site is unique and presents its own challenges, and a one-size-fits-all solution will not meet sustainability goals. The most environmentally sustainable designs are best fostered by clear performance standards and flexibility to use a combination of innovative approaches—with or without plants—to meet each site's specific needs.

So go ahead and jump on that green bandwagon, but do not be fooled by pretty flowers and plants; what you cannot see under your feet and below ground may just be your greenest solution. SWS

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