

STUDY EVALUATES LOW IMPACT TECHNIQUES FOR STORMWATER MANAGEMENT

In December 2007, the U.S. Environmental Protection Agency (EPA) released a report comparing the costs of low impact development (LID) stormwater practices with those of conventional stormwater management. The EPA concluded that, with few exceptions, the LID practices were both fiscally and environmentally beneficial to communities.

The report examined 17 case studies that included bioretention, cluster building, reduced impervious surface area, swales, permeable pavement, vegetated landscaping, wetlands, and green roofs. Total capital cost savings ranged from 15 to 80% when these LID-based designs were used instead of conventional approaches involving hard infrastructure such as curbs, gutters and piping. The EPA report is available on-line at: <http://www.epa.gov/owow/nps/lid/costs07/>.

Low impact development includes a set of management practices and design approaches that retain more rainwater where it falls, thereby averting the impacts of increased runoff and stormwater pollution. It is based on the premise that a natural approach to stormwater management is best. In forests and other natural areas, most rainfall percolates through the soil, is absorbed by vegetation, or evaporates. Conventional stormwater management practices, on the other hand, focus on channeling stormwater quickly and efficiently away from development into storm sewers, detention ponds or into lakes and streams. The costs associated with conventional stormwater infrastructure are high, and the unintended consequences of concentrating and increasing stormwater volume include increased frequency and magnitude of flash flooding, increased pollution from runoff, erosion, stream channel degradation and loss of groundwater recharge.

The Vermont League of Cities and Towns is currently drafting a Model Stormwater Management Ordinance that covers both pre- and post construction stormwater management standards and provides LID alternatives to conventional stormwater management practices. Incorporating LID practices into site design is not only good for the environment - it also saves money through reduced site grading and preparation, stormwater infrastructure, site paving, and landscaping. If you would like technical assistance in developing stormwater management language that meets your town's specific needs, please contact Milly Archer, Water Quality Coordinator at the VLCT Municipal Assistance Center, 800/649-7915 or marcher@vlct.org.

Milly Archer, VLCT Water Quality Coordinator

Sidebar

In addition to the draft Model Stormwater Management Ordinance referenced in this article, VLCT's water quality program offers a Model Riparian Buffer Ordinance, an accompanying technical paper on Creating an Effective Riparian Buffer Ordinance, sample ordinances from around the state, and on-site consulting by Milly Archer, VLCT's Water Quality Coordinator. Visit the VLCT online Resource Library at www.vlct.org to download a copy of these documents; to arrange for consulting assistance, contact Milly at marcher@vlct.org.