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Low-impact stormwater controls can increase the bottom line

By Ed MacMullan, ECONorthwest

One developer saved \$900,000 and gained six additional lots. Another saved \$7,400 per lot by using low impact development (LID) practices. How can you get in on the savings?

Metro's recently released population projections for the next 50 years predict a large influx of people into this area. With increasing population comes more development. Additionally, governments face the challenge of planning for residential, commercial and industrial growth in ways that protect the environment, valuable farm and forest lands, and natural areas simultaneously.

Controlling runoff water, or stormwater, represents a major part of a construction project. Conventional controls that collect stormwater and transport it offsite for treatment, while effective in many cases, can generate significant environmental problems and many not be the least-cost alternative. For these reasons, more and more developers are considering alternative controls.

Conventional controls collect stormwater from impervious surfaces, including roads, parking lots and rooftops, and transport it off site through buried pipes to treatment facilities or directly to water bodies. This approach efficiently collects and transports flow, but also can carry contaminants, including sediment, oil, fertilizers, heavy metals and pet waste. By transporting large volumes, such flows can erode stream banks and natural channels and deposit pollutants that pose ecosystem and public health risks.

Low-impact development practices emphasize on-site treatment and encompass a variety of techniques. Examples include bioswales, rain gardens, green streets and pervious pavers. While LID practices came into prominent use around the late 1990s, some stormwater managers have employed them for years.

One of the challenges builders face when employing low impact development practices is that many municipalities have not updated their building codes to account for their use. In these jurisdictions, builders must file variances, which can increase their permitting costs and interest expenses if additional permitting delays the start of the project. Recently, more jurisdictions have been including LID controls in their stormwater manual because stormwater managers recognize the benefits of these nature friendly techniques. Look for an article in this space next month about what some local jurisdictions are doing to change this.

Developers who accept the regulatory uncertainty and other challenges of adopting LID do so with the expectation that the practices can have economic advantages, such as increasing the number of developable lots by doing away with collection ponds, reducing expenditures associated with stormwater infrastructure, or both. Replacing curbs, gutters and stormwater pipes with bioswales, pervious pavers and other LID controls can reduce construction costs for some projects.

The Somerset Community development in Prince George's County, Maryland included rain gardens, grass swales along streets and other LID controls. The developer saved close to \$900,000 compared with the costs of installing conventional controls, and doing away with the site's stormwater ponds created six additional lots.

Subdivisions that combine LID controls with a site design that takes advantage of existing drainage patterns can make maximum use of natural stormwater controls, thus reducing construction costs. In some cases, retaining natural drainage patterns and associated vegetation provides amenities that increase a lot's value, which can reduce the time on the market. A study conducted in South Kingstown, Rhode Island found that, on average, lots with LID controls cost \$7,400 less to produce than lots in conventional subdivisions, and sold for up to 16 percent more, per acre, than conventional lots. Lots also sold in approximately half the time as those in conventional subdivisions.

Accommodating development while protecting natural resources can present major challenges. LID practices that manage stormwater onsite can help meet these challenges by making neighborhoods greener and more beautiful while benefiting developers' bottom line.

Additional examples of economic benefits and cost savings of using LID controls can be found on Metro's website at www.oregonmetro.gov. Search for "nature friendly."

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