

Stormwater Management Program - Treatment Techniques and Strategies

Treatment Techniques and Strategies

Best Management Practices

When designing highway projects, ODOT staff used Best Management Practices (BMPs) that have been classified as “preferred” by ODOT, resource and regulatory agencies. When project specific conditions preclude the use of a preferred BMP, other BMPs may be acceptable. In these cases, the decision rationale must be documented, and an equivalently effective design implemented.

Preferred BMPs are those that have been determined to be effective in treating highway runoff for a wide range of pollutants. The general categories of Preferred BMPs are:

- Infiltration Facilities
- Bioretention
- Bioslope
- Grass Swale with Soil Amendment
- Vegetated Filter Strip with Soil Amendment
- Constructed Wetlands

Design criteria for these and other, non-preferred BMPs can be found at:

[Hydraulics Manual](#)

The [BMP Selection Tool and Guidance](#) is intended to assist designers and project teams in choosing water quality BMPs. The selection of BMPs that are the most appropriate for a project depends on a number of factors. They include:

- Physical constraints,
- Other protected resources,
- Target pollutants,
- Construction costs,
- Ease and cost of maintenance, and
- Scope and scale of the project.

Low Impact Development

Low Impact Development (LID) is defined as “a decentralized source and treatment control strategy for stormwater management” National Cooperative Highway Research Program ([NCHRP 2006](#)). For ODOT’s highway projects, the definition has been refined to “Stormwater management techniques implemented within the highway’s linear right-of-way that emphasize infiltration and filtration through vegetation and amended soil”. LID BMPs include most of the Preferred BMPs designed to benefit linear projects that fit into highway right-of-ways.

The use of LID techniques on highway projects has benefits beyond those for water quality. These techniques can:

- Eliminate the need for hydraulically engineered treatment facilities,
- Reduce the size of drainage and hydraulically engineered treatment facilities,
- Frequently reduce maintenance and construction costs compared to hydraulically engineered facilities, and
- Support streamlined permitting.

While LID is not always appropriate for highway projects, in many cases it is the most effective and cost-efficient option available.

Planning for Stormwater Management

Incorporating water quality and flow control planning from the beginning of project development is vital. The early identification of water resources issues and management opportunities gives a project team flexibility in determining how to manage stormwater, and it can support regulatory streamlining.

[The Project Development Timeline](#) - Provides a graphic superimposing the stormwater management tasks and responsibilities on the PD-02 project development process.

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