

Federal Regulations

The National Pollutant Discharge Elimination System (NPDES) Phase I Stormwater Program was initiated in 1990 by the U.S. Environmental Protection Agency (USEPA) to help minimize environmental impacts associated with stormwater discharges from large construction sites, large Municipal Separate Stormwater Sewers (MS4s), and certain industrial activities through the use of approved



stormwater permits and stormwater management programs. In 1999, the Phase II Stormwater Program extended these requirements to a variety of

smaller sources of stormwater runoff. The USEPA program was introduced because pollutants in stormwater runoff often include trace amounts of heavy metals, organic compounds, nutrients and suspended solids which all impact water quality and have the potential to affect biological activity in receiving waters.

State Regulations

The R.I. Department of Environmental Management (RIDEM) is the delegated authority for implementing the NPDES program in Rhode Island (referred to as RIPDES). The main purpose of the RIPDES program regulations are "to restore, preserve, and enhance the quality of the surface waters and to protect the waters from discharges of pollutants so that the waters

shall be available for beneficial uses and thus protect the public health, welfare and the environment." All stormwater from



"Phase I and Phase II" sources that enter MS4s or that discharge directly to a Rhode Island water body are regulated by the RIDEM. Information can be found at: <http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/index.htm>

NBC Stormwater Rules & Regulations

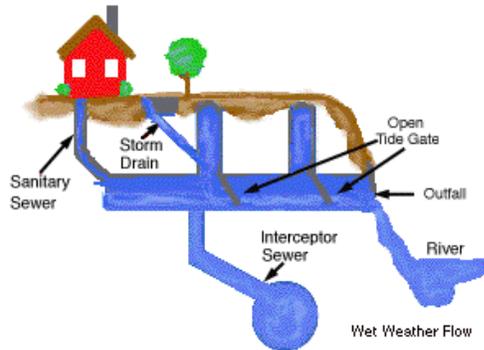
The Narragansett Bay Commission's (NBC) sewer system was originally designed to treat sanitary wastewater. The NBC regulates not only sewage waste water but also any stormwater that enters the NBC's combined sewer system. As a means of avoiding untreated overflows or increased hydraulic loadings from entering the treatment plants caused by stormwater, the NBC has established specific Rules & Regulations for the managing stormwater flow.

Under Article 4.4 of the NBC Rules and Regulations, developers may be required at their cost to prepare, submit and implement Stormwater Mitigation Plans that significantly reduce or ultimately eliminate stormwater from entering the NBC's sanitary sewer system. The NBC encourages the use of Best Management Practices (BMPs) and Low Impact Design (LID) to minimize storm water impacts, especially when new or post construction development

activities take place. If there are no other reasonable means of stormwater disposal available, the NBC may permit a stormwater connection to the NBC's combined sewer system. Prior to connecting or discharging to the NBC's public sewer system, prior approval for a sewer and/or stormwater connection permit must be obtained from the NBC.

NBC Stormwater Mitigation Program

NBC's Stormwater Mitigation Program was designed to deal with the large amounts of stormwater runoff that enters the NBC's sanitary sewer system during large rain events. All of the excess stormwater increases the hydraulic capacity to the NBC's Wastewater Treatment Facilities, affecting treatment efficiency and oftentimes causing untreated wastewater to be discharged through Combined Sewer Overflows (CSO) directly into the urban rivers and Narragansett Bay.

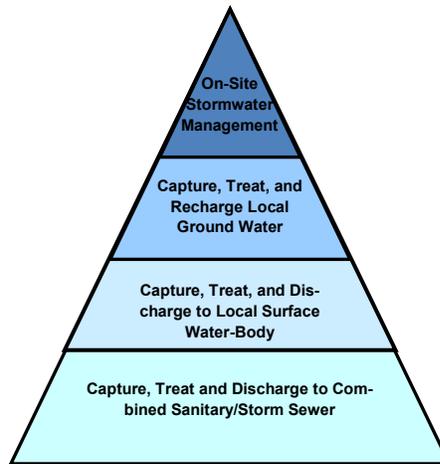


The NBC's Rules and Regulations require all builders of new projects to develop a Stormwater Management Plan (SMP) with the ultimate objective of retaining most or all stormwater on the

project site. Article 4.4 of the NBC's Rules & Regulations states that no person shall make any connection or shed any stormwater flows to the public sewer system unless the NBC determines that this connection is the only reasonable means available and this connection must also receive the NBC's approval. This regulation states that the applicant must bear the cost of developing and submitting a SMP to the NBC.

What is a Stormwater Management Plan?

The primary objective of a SMP is to evaluate the amount of stormwater created on site and determine the best methods to eliminate, or at least minimize, the amount of stormwater discharged to the NBC sewer system. Developers are required to assess on-site management opportunities that will ideally eliminate all stormwater that otherwise would be discharged to the NBC sewer system.



The SMP shall include the following measures:

1. Perform an investigation of mitigating measures such as the use of LID technology and design methods to eliminate or reduce stormwater flows from the project site.
2. Best Management Practices (BMP) approach to stormwater management .

What are Low Impact Development (LID) Technologies?

Low Impact Development (LID) is a comprehensive approach to managing stormwater. By using innovative site planning and design strategies and treatment practices, LID protects water quality and habitat from development more effectively than traditional stormwater management techniques.

Specifically LID seeks to:

Avoid impacts by preserving and protecting as much of the natural site condition as possible.

Reduce impacts by minimizing the amount of impervious cover (paved surfaces) in order to

lessen the amount of runoff being generated.

Manage impacts by treating stormwater runoff as closely as possible to the point where runoff reaches the ground rather than conveying and managing stormwater in large costly drainage systems.

