



JERSEY CITY
ENVIRONMENTAL COMMISSION

Storm Water

Introduction

Our sewer system was an engineering marvel when it was created over 100 years ago. But today, rapid redevelopment combined with an aging infrastructure has adversely affected the quality of life of Jersey City residents and impacted the quality of our environment.

Today our combined sewer system too often overflows into our waterways, on to our streets and into our homes. In order to prevent these negative impacts to our health and our environment, we must move forward on two fronts. We must repair and upgrade our sewer system and we must minimize the impact of storm water through the use of green infrastructure (best management practices).

These two challenges – upgrading our sewer infrastructure and minimizing the impacts of stormwater – will require continued investment but Jersey City must face these challenges to reduce combined sewer overflows, prevent local flooding, and protect human health and the environment.

The USEPA has issued a Consent Decree that will require studies, upgrades and repairs to the sewer system in order to bring the City into compliance with the Clean Water Act. The Decree will require that the MUA ensures that both storm water and waste water reach the treatment plant, and that discharges to public or private property are eliminated.

Upgrade Our Sewer Infrastructure

Our city is still serviced by a combined sewer system, which means that untreated sewage and stormwater are combined in the same sewer pipe. During storm events, our system cannot handle the added volume of stormwater. This results in flooding and combined sewer overflows (CSOs).

In some cases, the added volume also causes collapsed, broken, or undersized pipes to backup (surcharge) and a combination of storm water and sewage floods our streets and basements.

The Consent Decree issued by EPA will require that Jersey City eliminate dry-weather overflows, prevent tidal intrusion, maximize flow to treatment plants and eliminate discharge to public and private property.

The consent decree outlines a series of studies, sewer upgrades and sewer repairs that are estimated to cost over \$52 million dollars.

Minimize Impacts of Stormwater

Low Impact Development (LID) is a stormwater management strategy that mitigates the impacts of increased runoff and pollution due to development. LID uses natural systems for infiltration, evaporation and reuse of rainwater. These techniques reduce the volume and intensity of stormwater flows, and remove pollutants from stormwater.

LID practices can also offset the costs associated with regulatory requirements for stormwater control. In the vast majority of cases, significant cost savings were realized due to decreased costs associated with stormwater

infrastructure, paving, and grading. According to an EPA study, total capital cost savings can range from 15-80 percent. (see www.epa.gov/nps/lid for full report)

LID should be a requirement for all future development projects in Jersey City. Jersey City should also strive to increase the amount of green permeable surfaces across the city to reduce storm water runoff.

Minimizing the impact of development on storm water will reduce the volume of storm water during storm events and alleviate both flooding and CSOs.

Initiatives

INITIATIVE 1

Update Ordinances to Require Green Infrastructure

In order to encourage and/or require low-impact development and the use of green infrastructure, the City will need to review and revise various sections of its land use and zoning ordinances.

Once the ordinance texts are revised, they will be submitted to the Jersey City Environmental Commission for review and comment.

INITIATIVE 2

Increase use of High Level Storm Sewers (HLSS)

High Level Storm Sewers (HLSS) are one strategy for alleviating pressure on the combined sewer system and limiting CSO events in waterfront areas. These sewers are designed to capture approximately 50% of the rainfall before it enters the system, and divert it directly into waterways through permitted outfalls.

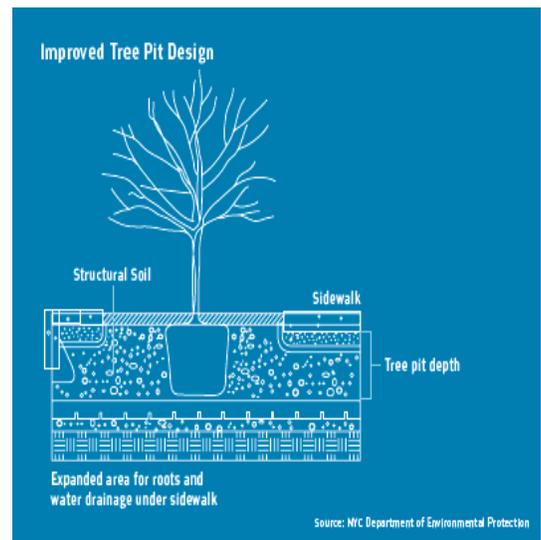
In addition to reducing the volume of flows to the treatment plant and CSOs, they will alleviate street flooding in waterfront areas.

INITIATIVE 3

Maximize the use of Green Space

Jersey City should maximize the use of green space for stormwater capture and retention. Green space absorbs millions of gallons of water for every inch of rain. New York City estimates that street trees alone capture 870 million gallons of water each year.

Jersey City should implement a “Green Streets” program to increase the amount of water captured by trees. A one-acre Green Streets site will retain about 55,000 gallons of stormwater. The use of Improved Tree Pit Designs would significantly increase this capacity.



INITIATIVE 4

Require Low Impact Development

Low Impact Development (LID) is a stormwater management strategy that mitigates the impacts of increased runoff and pollution due to development. LID uses natural systems for infiltration, evaporation and reuse of rainwater. These techniques reduce the volume and intensity of stormwater flows, and remove pollutants from stormwater.

Jersey City should modify zoning to require LID for all future development projects in Jersey City.

These practices include but are not limited to the preservation of open space, reduced requirement for street and sidewalk widths, use of porous pavement and infiltration basins, and creating swales and retention gardens.

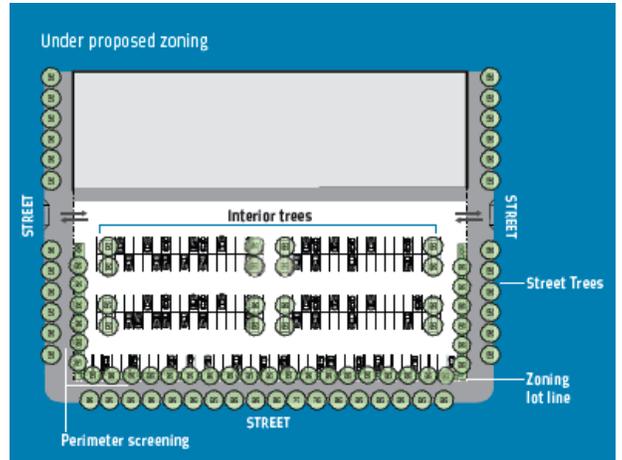
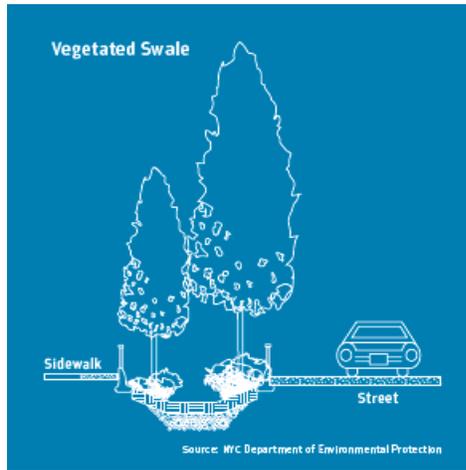
Initiatives

INITIATIVE 5 Require green parking lots, roads and highways

Jersey City should modify its land use and zoning ordinance to include design guidelines for commercial and community facilities that require green parking lots, streets, and highways.

When so much of our city consists of impervious buildings, parking lots, and roads, storm water cannot seep back into the ground. Instead, it flows into our sewers and places added strain on our aging infrastructure.

Requiring developers to include trees and landscaping in parking lot design and construction is a cost effective way for the private sector to help alleviate the strain development places on our aging sewer system.



Zoning modifications should require perimeter landscaping for commercial and community facility lots over 6,000 square feet as well as street planting on adjacent sidewalks. Lots above 12,000 square feet should also include trees and planting islands within each lot (see above diagram).

The City should incorporate requirements for vegetated ditches (swales) adjacent to parking lots, streets, and highways. In addition to storing direct rainfall and reducing stormwater volumes entering the sewer system, swales filter and clean the runoff through soil and vegetation (see illustration to left).

INITIATIVE 6 Require green roofs for developments receiving tax abatements

Jersey City should require green roofs for commercial and residential developments receiving tax abatements. In addition to reducing the volume of runoff by absorbing and storing storm water, a green roof can be an added green space enjoyed by building occupants. According to the Riverkeeper, for every 40-square feet of green roof, 810 gallons of water will be captured annually.

