

Nature-Based Solutions & How to Use Them

Nature-based solutions use natural systems, mimic natural processes, or work in tandem with traditional approaches to address natural hazards like flooding, erosion, drought, and heat islands

- Rain gardens & bioswales allow stormwater to collect and filter vs. runoff over pavement
- Infiltration basins to store runoff and let infiltrate gradually into the ground
- Restoration and management of floodplains to increase retention capacities
- Filter Strips, often as pretreatment, to capture sediments and capture runoff from impervious areas



For more information:

Please call the Southborough Conservation Commission at:
508-281-8984

Or

Check out these online resources:

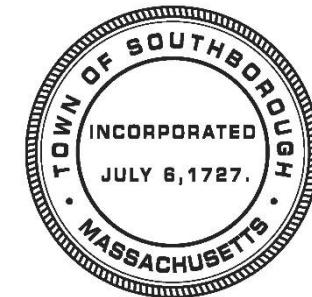
www.resilientma.org/mvp

www.mass.gov/doc/the-practice-of-low-impact-development/download

www.southboroughtown.com/public-works-dpw/pages/storm-water

Impervious Surfaces in Southborough

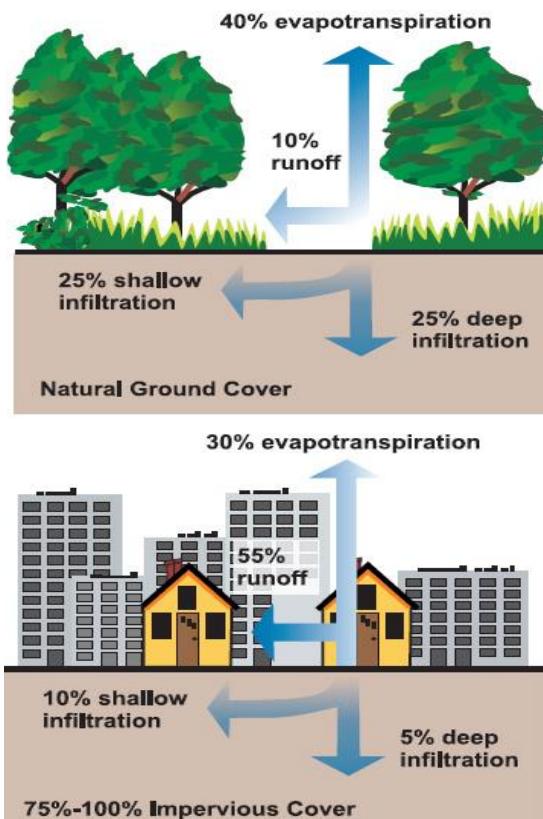
Impacts of Impervious Surfaces in Commercial Zones & Proximity to Sudbury Reservoir



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Created by: Conservation Commission

What Are Impervious Surfaces?

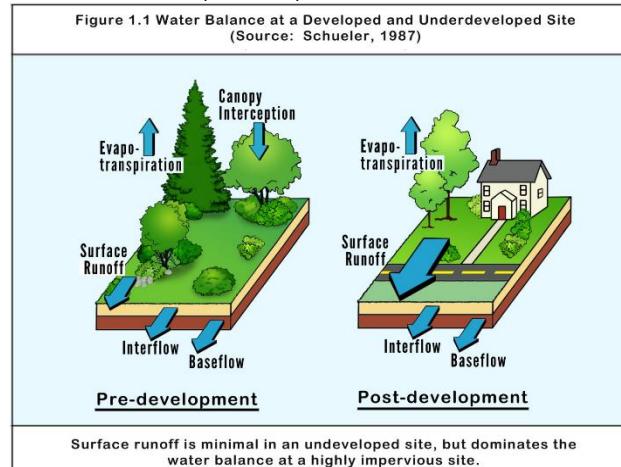
- Roads/Highways
- Buildings/Roofs
- Parking Lots
- Hardscaping
- Compacted Gravel
- Sidewalks
- Driveways



EPA, 2003, "Protecting Water Quality from Urban Runoff"

What Are the Impacts of Impervious Surfaces?

- Water Quantity
 - Increase of stormwater runoff amounts
 - Causes localized flooding
- Water Quality
 - Increase pollutants can cause harm to aquatic species & increase algae blooms
 - Pollutants from roads, parking lots, landscaping, etc. get carried directly into the Reservoir
- Water Temperature
 - Rainfall on impervious surfaces can become heated prior to discharging to water system and cause effects on aquatic species and habitats



How Can We Reduce Impervious Surfaces and/or their Impacts?

As a Town:

- Enforce and/or incentivize the use of Low Impact Development (LID) bylaw and policies for new and re-development projects
- Consider creation of an Impervious Surface Mitigation Plan
- Incentivize the use of nature-based solutions to infiltrate stormwater

As a Business:

- During design phases, prioritize nature-based solutions
- Seek out priority pollutant reduction opportunities (parking lot sweeping, reduction of fertilizer, oil & gas management from cars, material storage, etc.)
- Request or review parking requirements or waivers from Planning Board for reduction of required parking
- Ensure compliance with O&M plan of stormwater systems
- Use organic, slow-release fertilizers, if at all