



How Green Infrastructure Can Help a Busy City.

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ECON 2505ID - Environmental Economics

“NYC office buildings are buzzing with new green spaces” Weiss, L. (2016).

- ▶ Architects have found a way to incorporate beautiful designs and façades with efficient structures.
- ▶ A new movement in sustainability.
- ▶ Empire State Building, the High Line, One World Trade Center and Roosevelt Island.
- ▶ Designs are based on efficiency and architects can now combine the two.



Leadership in Energy and Environmental Design (LEED)

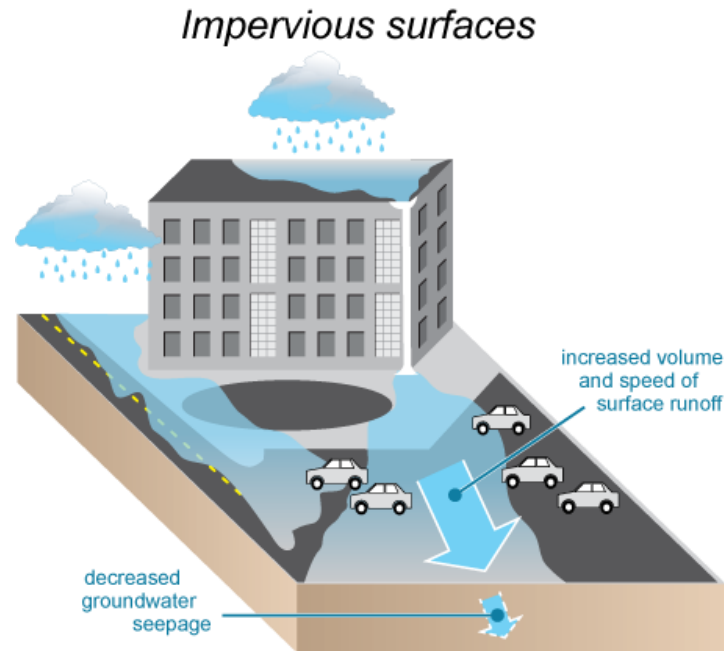
LEED is a sought-after certification. LEED, or Leadership in Energy and Environmental Design, is the most widely used green building rating system in the world.



LEED Credit Categories



Green spaces are expensive; resolution in lowering expenses long-term.



Impervious 'hard' surfaces (roofs, roads, large areas of pavement, and asphalt parking lots) increase the volume and speed of stormwater runoff. This swift surge of water erodes streambeds, reduces groundwater infiltration, and delivers many pollutants and sediment to downstream waters.



Pervious 'soft' surfaces (green roofs, rain gardens, grass paver parking lots, and infiltration trenches) decrease volume and speed of stormwater runoff. The slowed water seeps into the ground, recharges the water table, and filters out many pollutants and sediment before they arrive in downstream waters.

Environmental Group Maps NYC 'Green' Rooftops. Mariana, A. (2017).

- ▶ NYC that a growing movement towards green sustainability is a possible in such a cramped space.



Barclays green roof

Statistics obtained from the research group Nature Conservancy of New York, pertaining to Barclays green roofing saving nearly two million gallons of rainwater from hitting New York sewage or PS41 green rooftop helps the school conserves over 20% less energy.



Push forward new age thinking and the reuse of open spaces .



- ▶ The evidence of this cited source is in favor of eco sustainability by using new technology and community level approach to push forward future change. This is evident throughout by stating that communities took similar actions after WWI by creating community gardens.



NYC Environmental Protection. (2016).

- ▶ Department of Environmental Protection. (DEP). DEP is the agency of New York City government that manages water quality, this includes grey water, sewer system, aqueducts, reservoirs, and any major water source that supplies New York City.



The purpose of the DEP

- ▶ The purpose of the DEP writing the article is to inform the public about ongoing project in reducing the amount of water that enters the sewer system providing reduces overflow while helping the water table to absorb clean water also decreasing the pollution that settles in Newtown Creek.



DEP is responsible for N.Y.C fresh and gray water in the system.



The conclusion by DEP state "traditional "grey" infrastructure upgrades became increasingly expensive, the NYC Green Infrastructure Plan was launched. An alternative approach to improving harbor water quality, it combines traditional infrastructure upgrades and the integration of green infrastructure to capture and retain storm water runoff before it can ever enter the sewer system and contribute to overflows."

New York is in due to its lacking in certain areas such as the water ways



With the system being and old and needing repairs on heavier days of rain the water actually would over flow the sewage and flow into the Hudson

To maximize energy savings,
we need solutions that address
existing infrastructure



zero energy consumed by elevators after application of **thyssenkrupp's** new modernization solution