



Water Quality Impacts of Climate & Green Infrastructure

Metropolitan Beaches Commission Annual Hearing
October 31, 2023





Changing Climate & Stormwater

Audubon Circle (Fenway)

So, what's the problem?

Quality

- As stormwater travels along hard, impervious surfaces, it picks up pollutants and litter along the way.
- Storm drains then release pollutant laden stormwater into receiving waters, which creates impaired water bodies, damages ecosystems and closes beaches.

Quantity

- During “typical” storm events, stormwater is largely captured and conveyed by storm drains.
- During large storm events, the storm drain system can become overwhelmed and outfalls can be blocked by storm surge and higher than normal tides, resulting in stormwater flooding.





Green Infrastructure

David A. Ellis Elementary School (Roxbury)

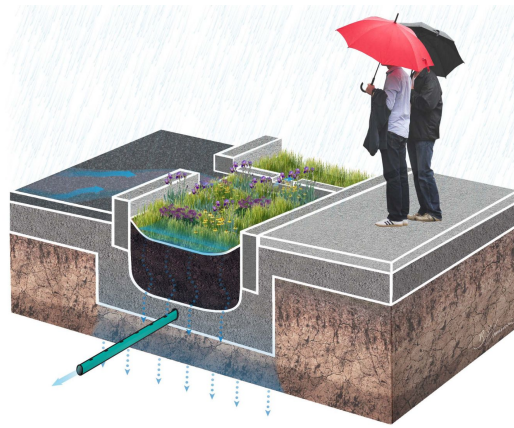
Green Infrastructure (“GI”) features mimic or restore the natural water cycle to capture, purify, store and infiltrate stormwater back into the ground.



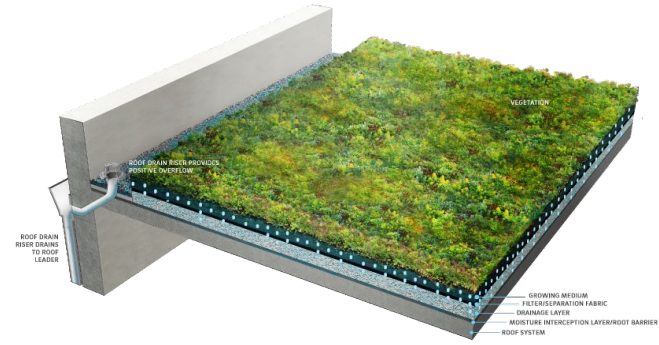
Sumner Upper School (Roslindale)



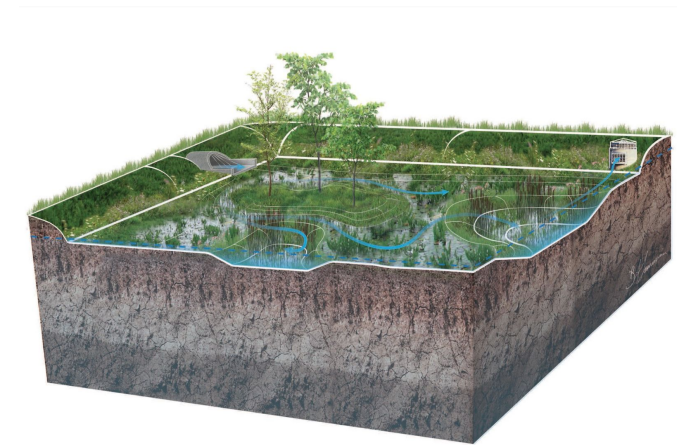
Rain Garden



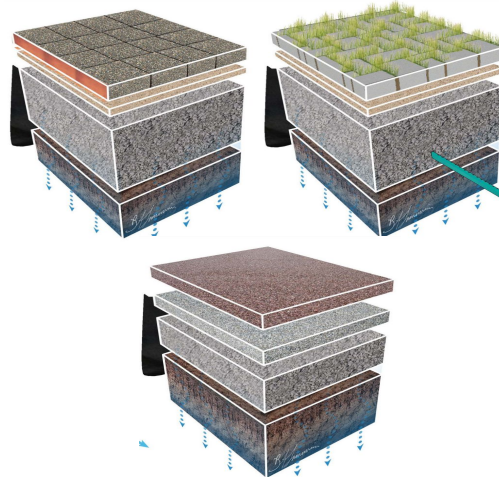
ROW Bioswale



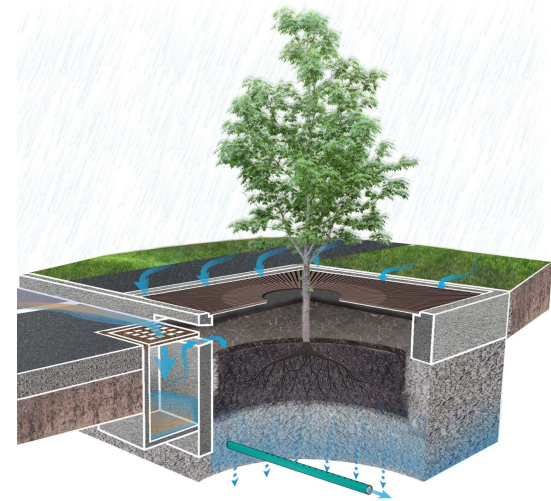
Green Roof



Constructed Wetland/ Marsh



Porous Paving Materials



Tree Pit/Tree Trench

Co-Benefits

- Increased urban green space / tree canopy
- Reduced urban heat island effect
- Slower streets / improved pedestrian & cyclist safety
- More biodiversity / pollinator habitat
- Reduced energy usage
- Improved Environmental Justice
(e.g. air quality, access to nature, food security, etc.)
- Opportunities for environmental education





Nubian Square (Roxbury)



Jackson Mann Community Center (Allston)



Peabody Square (Dorchester)



Rafael Hernandez Dual Language K-8 School (Roxbury)



Harambee Park (Dorchester)



Central Square (East Boston)



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Kate England

Director of Green Infrastructure

City of Boston

katherine.english@boston.gov

www.boston.gov/green-infrastructure

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