

10. Integrating manufactured soils and green wall substratum, aquifers, and native vegetated landscape in an industrial landscape on an urban estuary: the Bronx River.

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Abstract:

A six and a half acre industrial site constructed over Laguardia soil at the edge of the Bronx River estuary was retrofit to behave as a zero discharge stormwater catchment and treatment system. A manufactured sandy loam was used to replace in-situ soils, and upwards of a half million gallons of stormwater capture capacity was constructed using a high strength/area recycled plastic drywell system, together with recycled fill material from the concrete and glass waste stream. Design features included mulched native plant meadow infiltration galleries to facilitate treatment and transport to below grade storage as well as sediment incorporation, as well as a photovoltaic array to provide daily water filtration through a wet meadow and over a 3000 square foot moss wall.

Keywords: stormwater capture, enhanced natural filtration, industrial landscape ecology

Topic: C. Urban soils and ecosystem services

Sub-topic: C8. Ecology-based urban land use planning

Presentation type: Oral

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