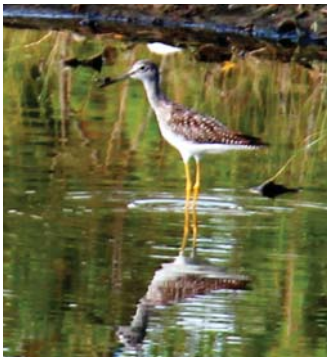
NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Belt Parkway Water Quality Best Management Facilities

New York City, New York



from top: Bioretention basin at the Paerdagat site with a mix of salt marsh and freshwater wetland; Bioswale at the Rockaway site; A yellowlegs at the Rockaway BMP

Using "green infrastructure" to treat stormwater flowing from New York City's Belt Parkway to improve water quality in Jamaica Bay and enhance habitat.

Working with NYCDEP, Biohabitats developed final construction drawings and planting plans for stormwater quality best management practices (BMPs) to be incorporated into planned roadway improvement projects associated with three bridge crossings on the Belt Parkway, located in Jamaica Bay. The BMPs emphasize vegetative filtering and uptake followed by infiltration through the sandy soils. Bio-infiltration swales and bioretention features have been shown to be effective at removing pollutants by creating conditions suitable for sedimentation, biodegradation, and nutrient uptake. Moreover, bio-infiltration swales and bioretention features support native vegetation and wildlife. Because of their proximity to Jamaica Bay, another important aspect of the BMP designs was creating desirable habitat and shelter for birds, small mammals, butterflies, and other species as a transition area to the Bay. Biohabitats achieved this goal by selecting strategic native plant species for each site.

For each BMP design, Biohabitats navigated several site constraints including avoiding a force main, high groundwater table, tree avoidance, and adapting to the roadway conveyance system without compromising safety considerations.

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