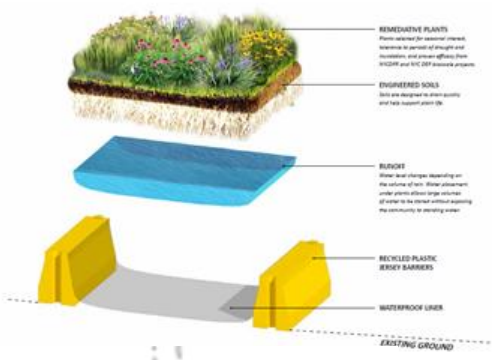
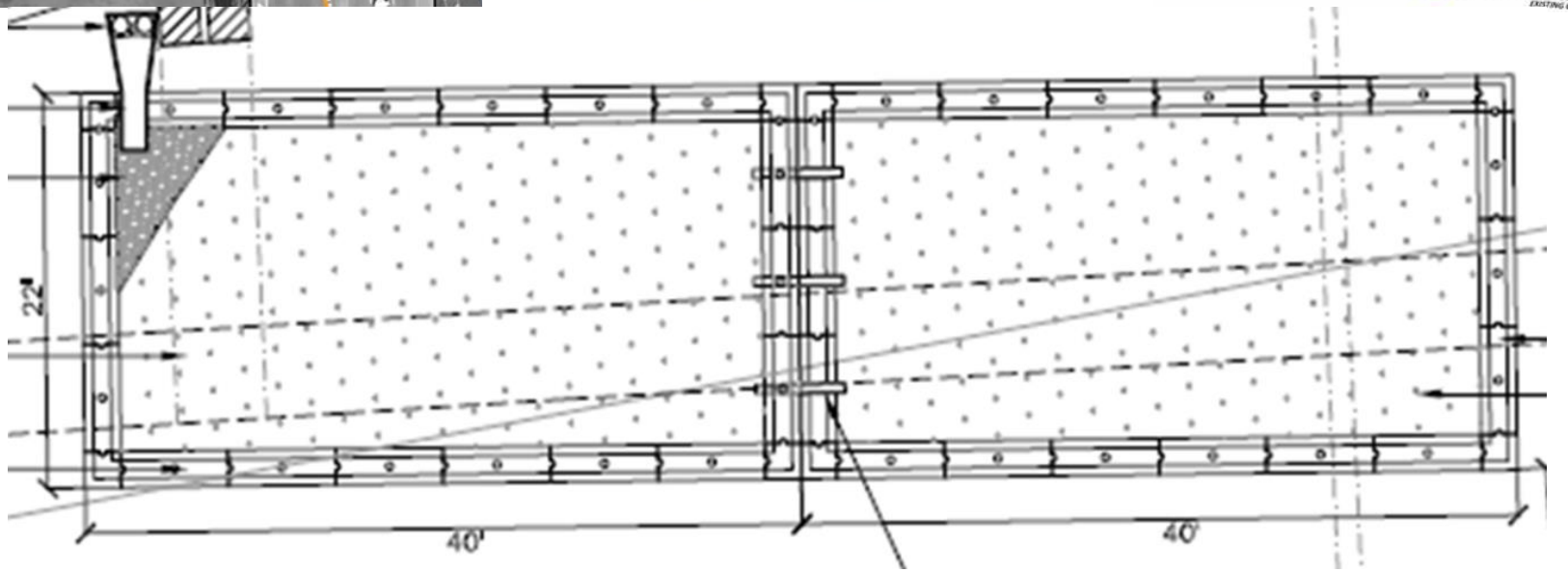
Cleaning water and air
Stormwater basins at Pier 5









Existing

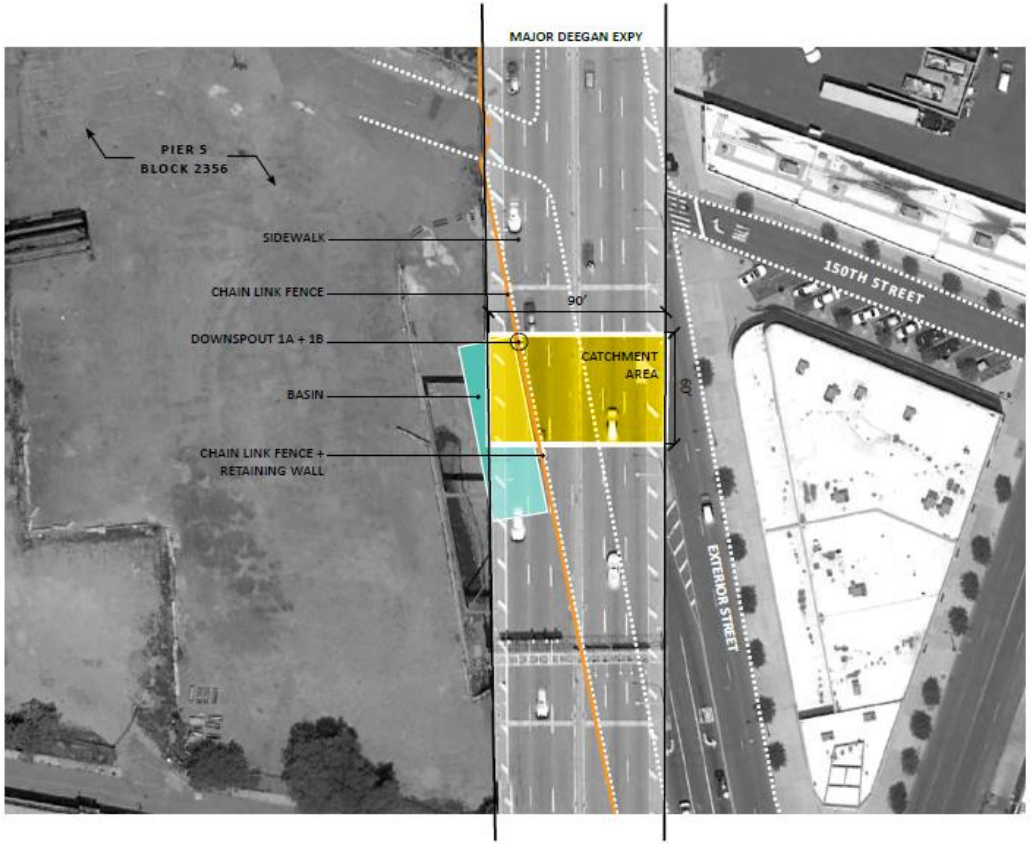
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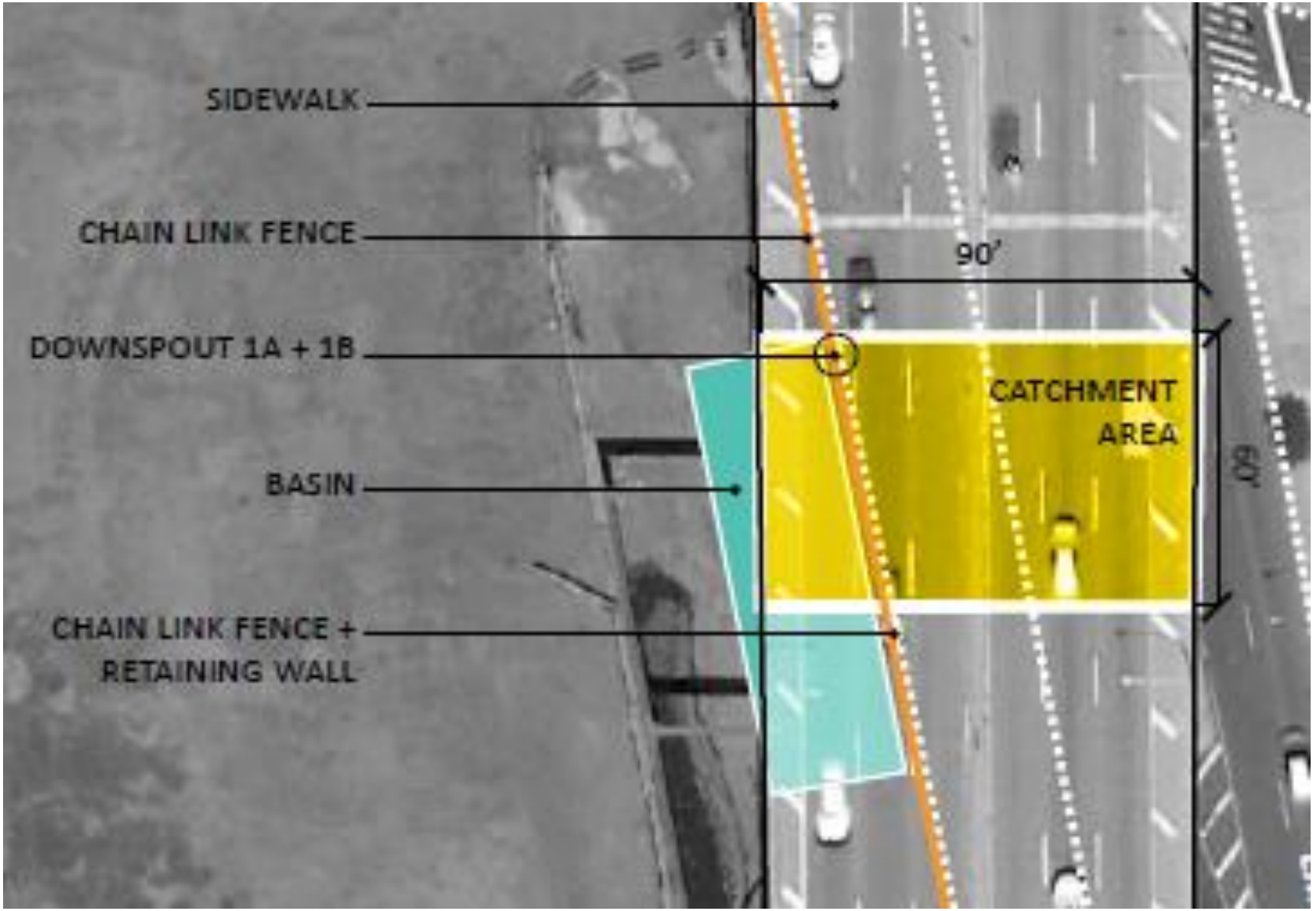


SITE OVERVIEW

The proposed site for the proposed storm water treatment basin is located on Pier 5 in Bronx, NY. Currently, Pier 5 is an under utilized parcel bound by elevated vehicular infrastructure on East and South and by the recently constructed Mill Pond Park on the North. Runoff from Major Deegan Expressway drains into Harlem River via existing storm drains on Exterior Street and Pier 5 is a brownfield site.

The storm water treatment basin will be located on Pier 5, Block 2356, West of the Major Deegan Expressway near the intersection of 150th and Exterior Street. Currently, stormwater runoff from the Major Deegan Expressway is directed to the storm drains located on Exterior Street. The pilot will intercept the runoff by redirecting the downspout and channeling the runoff into the Pop-Up basin that will collect sediments and evapotranspire 100% of the runoff.




SIDEWALK
CHAIN LINK FENCE
DOWNSPOUT 1A + 1B
BASIN
CHAIN LINK FENCE + RETAINING WALL
90'
CATCHMENT AREA
60'

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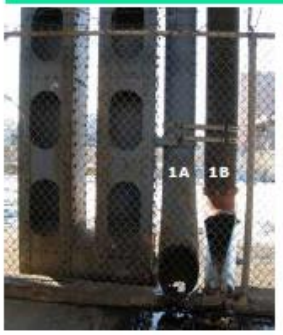






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DOWNSPOUTS 1A+1B





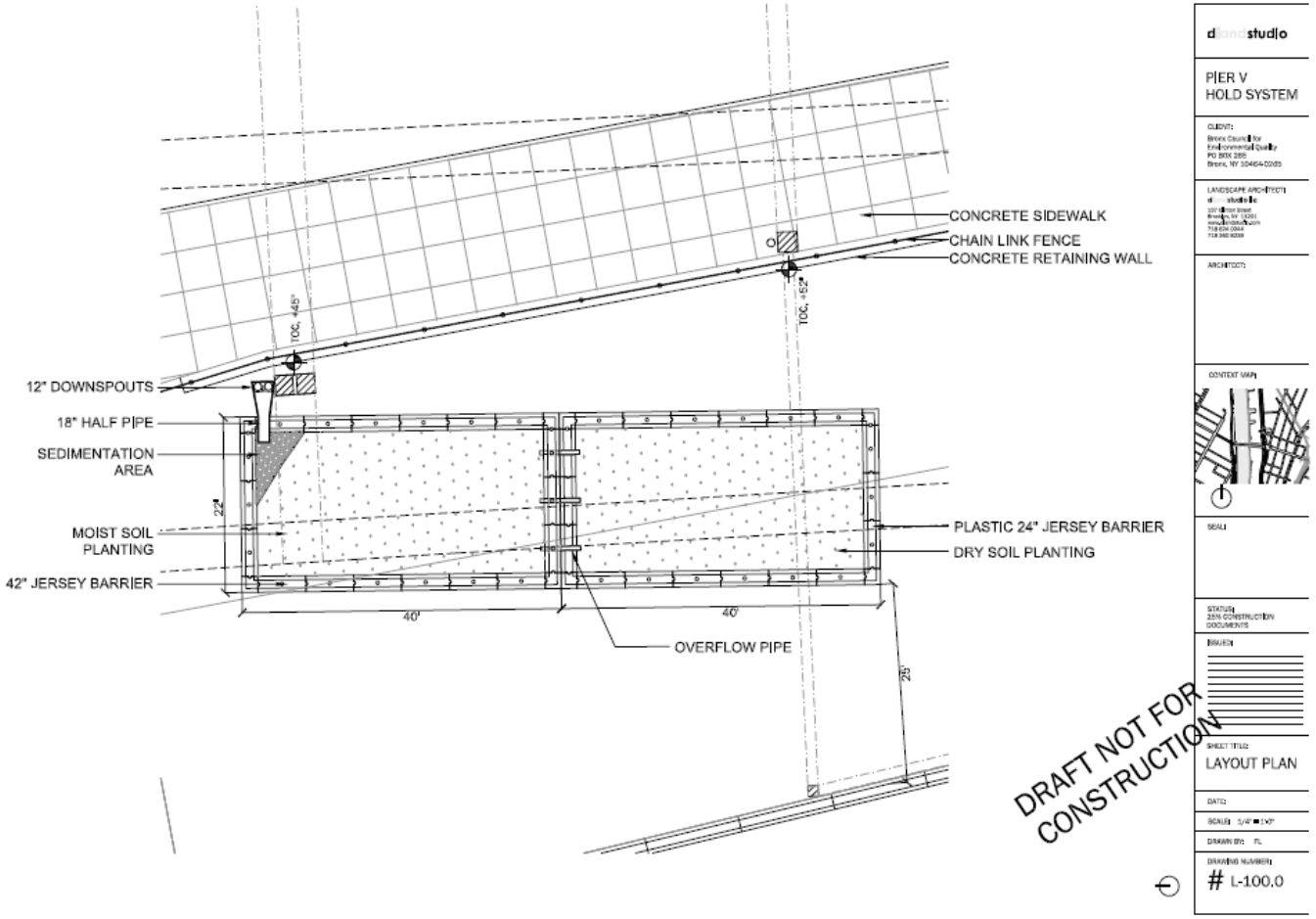


RUNOFF VOLUME CALCULATIONS:

Total Area = (90')(60') = 5400 sf*
0.1302 acres
P = 1.2
I = 100% (percent impervious cover)
Rv = 0.05+0.009(I) = 0.95*
*WQv = (P*Rv*A)/12 = 0.01237 acre-feet*
539 cf
Surface area required to evapotranspire 100% of runoff = 2700 sf



Proposed - *draft*



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REMEDIATIVE PLANTS
Plants selected for seasonal interest, tolerance to periods of drought and inundation, and proven efficacy from NYCDPR and NYC DEP bioswale projects.

ENGINEERED SOILS
Soils are designed to drain quickly and help support plant life.

RUNOFF
Water level changes depending on the volume of rain. Water placement under plants allows large volumes of water to be stored without exposing the community to standing water.

RECYCLED PLASTIC JERSEY BARRIERS

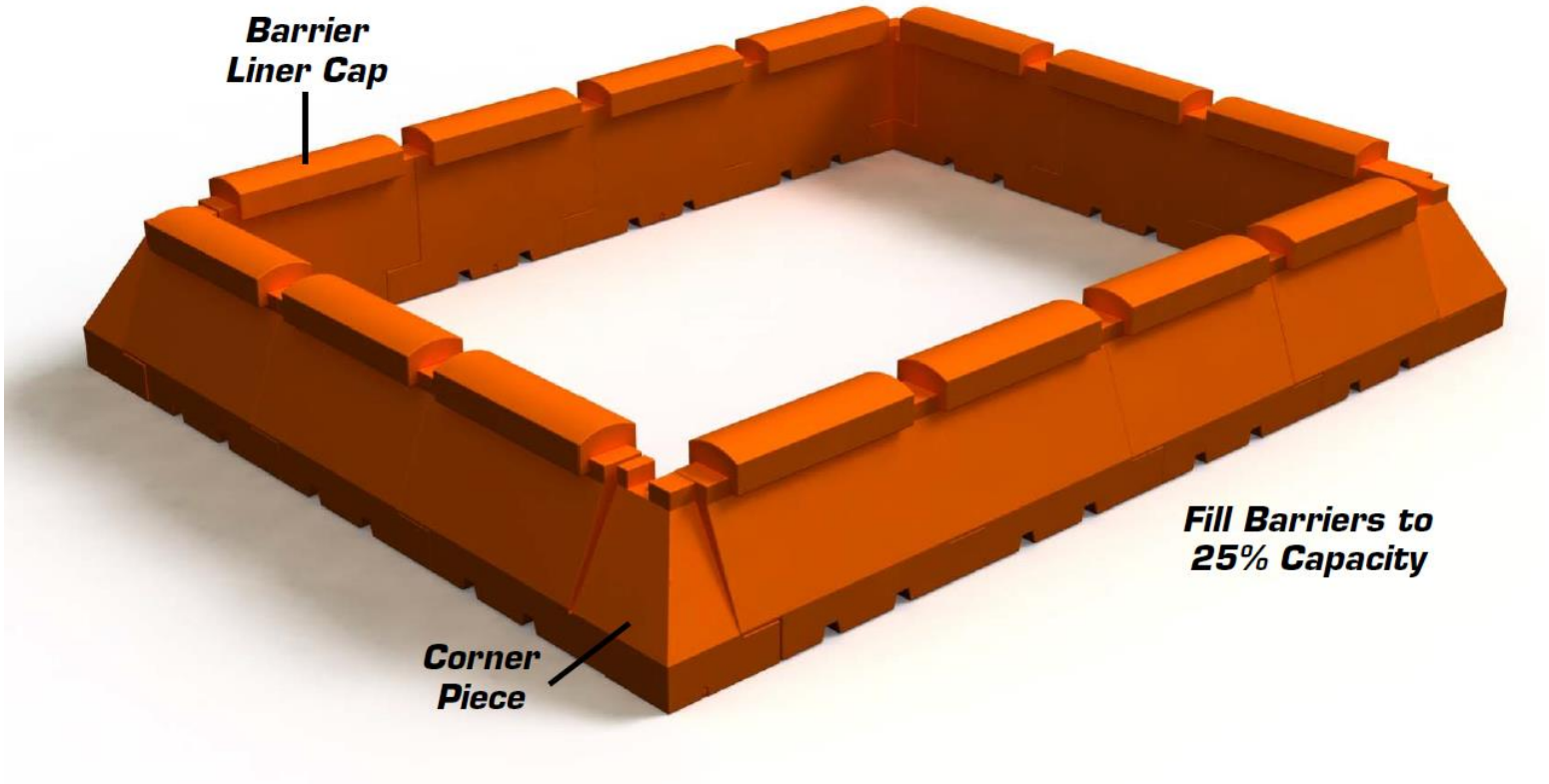
WATERPROOF LINER

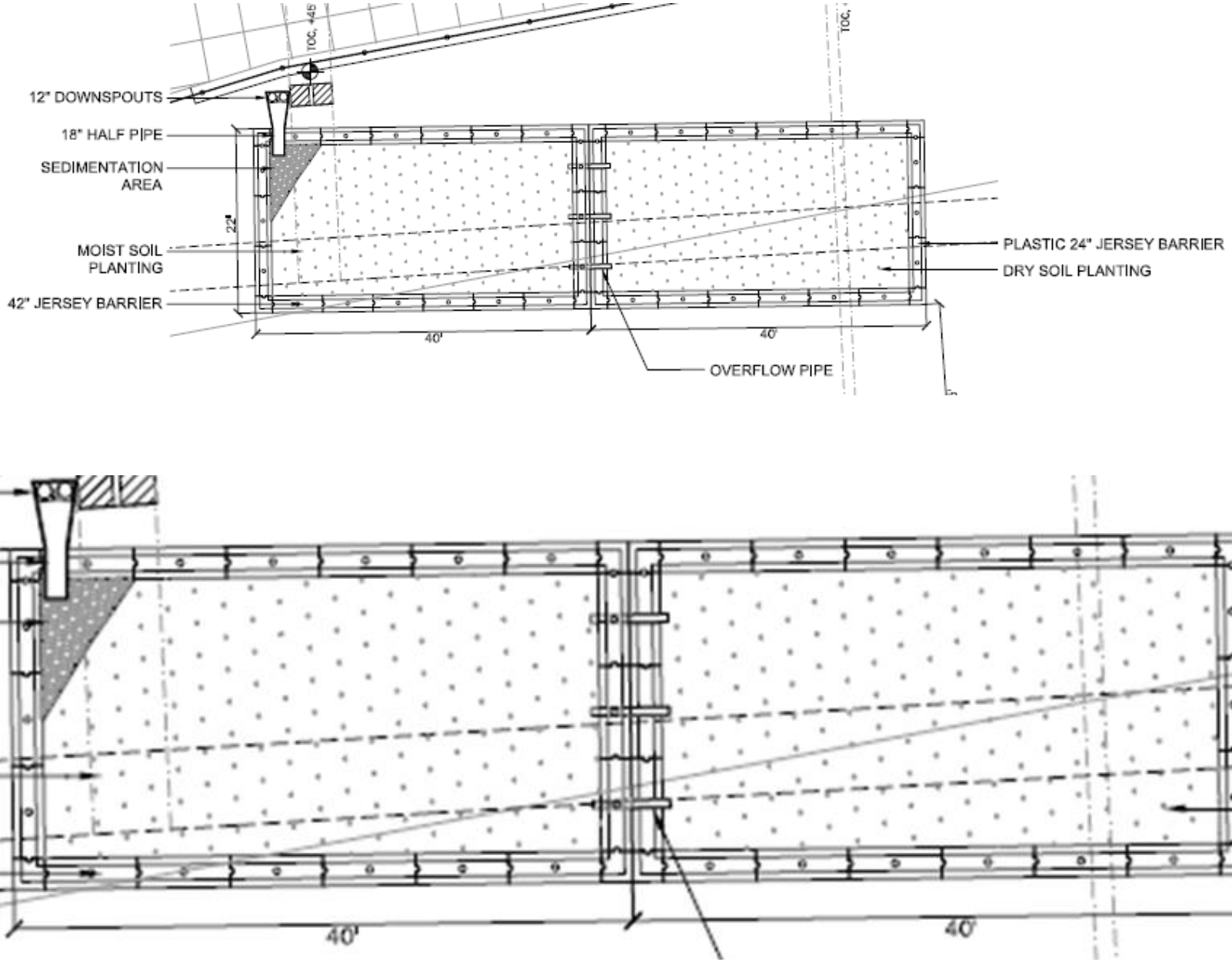
EXISTING GROUND

www.plasticjersey.com

360° Interlocking Containment Barrier

shallow containment barrier




12" DOWNSPOUTS
18" HALF PIPE
SEDIMENTATION AREA
MOIST SOIL PLANTING
42" JERSEY BARRIER
22'
40'
40'
PLASTIC 24" JERSEY BARRIER
DRY SOIL PLANTING
OVERFLOW PIPE
22'
40'
40'

Wetland





Prairie

August 28, 2013

Partners

Wildlife Conservation Society (WCS), **National Oceanic and Atmospheric Administration** (NOAA), and **Congressman Jose Serrano**

Bronx Council for Environmental Quality (BCEQ) Harlem River Brownfield Opportunity Area (BOA) Phase II Steering Committee (http://bit.ly/kVL94D), including Manhattan College and the NYS Soil and Water Conservation District; and others

Harlem River Working Group (HRWG – http://bit.ly/kVL94D), including the **Highbridge Community Life Center**, Friends of Brook Park, and others

Academic and scientific Advisors from the 2011 Site and Environmental Systems Planning practicum at the **Department of Urban Studies and Planning, School of Architecture + Planning at MIT** Massachusetts Institute of Technology (http://bronx.mit.edu/)

Green Infrastructure: **Landscape Architect Susannah Drake** of www.dlandstudios.com, **Biogeochemical Ecologist Paul Mankiewicz** of www.thegaiainstitute.org, Maintenance by **SmartRoofs LLC, a subsidiary of Sustainable South Bronx** (SSBx) at www.ssbx.org.

NYC Parks Department, Bronx Borough President Ruben Diaz' Office

Thank you