

productive architecture

Project Portfolio 2010



**Kiss +
Cathcart,
Architects**

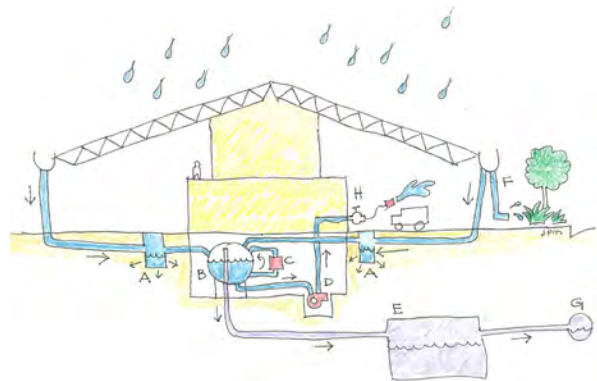
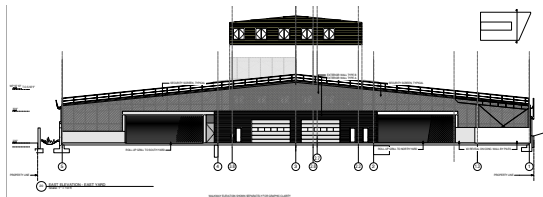
44 COURT ST. TOWER C, BROOKLYN, NY 11201 t +1 718 237 2786 f +1 718 237 2025
www.kisscathcart.com

nyc dep remsen maintenance facility

Remsen Yard Reconstruction is a 2.5 acre New York City Department of Environmental Protection maintenance facility, combining both water and sewer operations. The project is to exemplify New York City's commitment to design excellence and environmental sustainability.

Equipment and material storage, machine shops and tempered vehicle garages are located on the first floor, and administrative and support functions located on the second.

The two-story storage/administrative building is integrated into a large skylit roof over the vehicle parking, fueling operations and material piles. This scheme was developed from early consensus workshops with all user groups, to solve DEP operational issues as well as integrate the projects' high performance goals. Deemed "the productive roof", the roof shelters the yard operations and piles, and also collects rainwater for reuse and produces up to 50kw of electricity from integrated photovoltaic panels.



The Client:

NYC Department of Environmental Protection

The Team:

Kiss + Cathcart, Architects
Buro Happold
Saratoga Associates
Langan Engineering & Environmental Services
John G. Waite & Associates
Domingo Gonzalez Associates
AG Consulting Engineers
Chrisner Group
Construction Specifications, Inc

Project Details:

\$39,000,000
98,000 s.f.

LEED Gold Expected

Construction, Completion 2011





nyc dep remsen maintenance facility

Site

Surrounding the Remsen Avenue project are small commercial establishments, industrial repair shops and warehouses, and one and two family homes. The 2 ½ acre DEP facility is located on a vast unshaded lot in Canarsie, Brooklyn.

Landscape

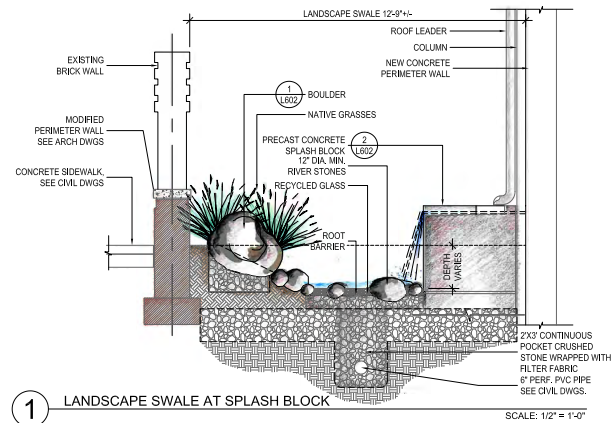
The landscape features swales with adaptable, low maintenance, drought tolerant and native plants.

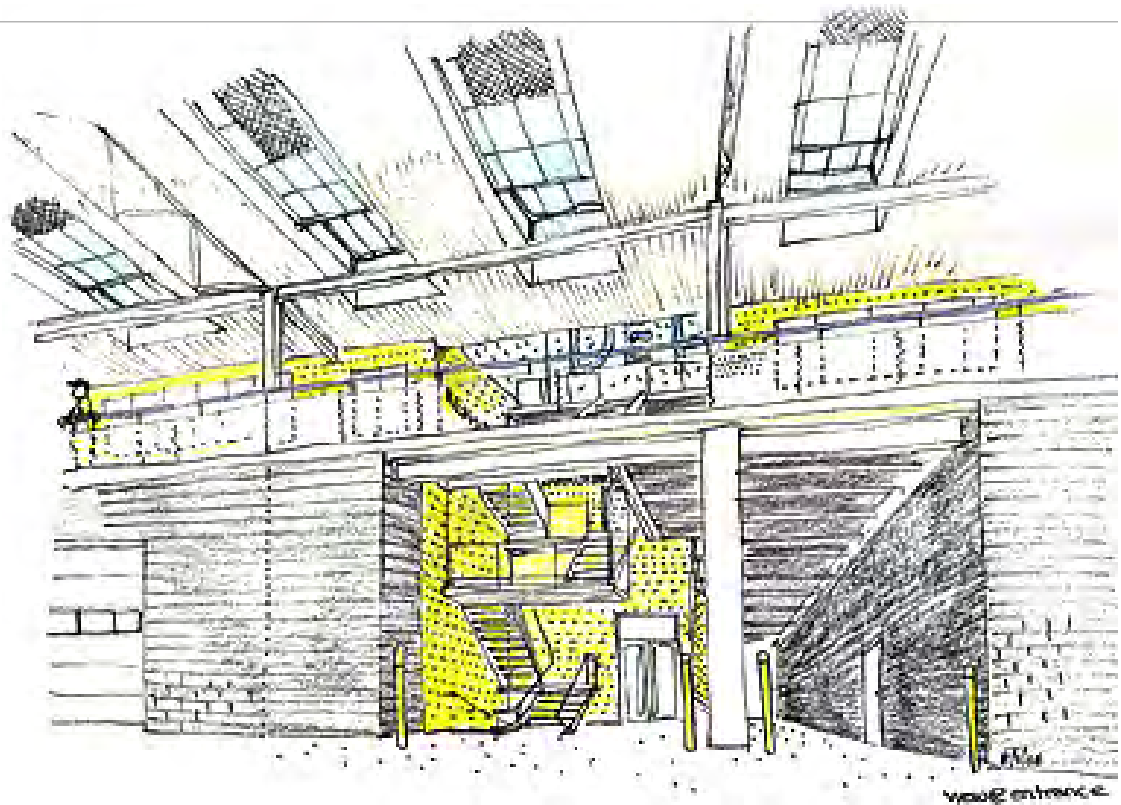
Materials

Local products and materials with recycled content were given preference during the design of the project. The existing brick wall and unique mosaic were salvaged and incorporated into the design of the new facility. The project utilizes light-colored, high-reflectance & low-emissivity roofing. Exterior materials are concrete, stainless steel and chain link fence.

Energy

The large roof is part of the integrated design concept of the “productive roof”: it shelters and shades the yard operations, vehicles, and piles while providing natural light through its skylight-integrated monocrystalline photovoltaic skylights. The monocrystalline photovoltaic skylights produce 33,700 kWh annually. All offices and occupied spaces have natural daylighting from exterior windows and/or skylights and are also controlled with automatic occupancy and daylight sensors. Each of the north and south yards are daylit with 16 long skylights each, reducing the need for turning on lights during the day.





Water

The rainwater harvesting strategy was to collect rainwater from the roof for yard activities to reduce site water use by over 40%. The vast 1.5 acre “productive roof” covers 72% of the site, sheltering the yard operations, vehicles, and piles while collecting over 1 million gallons of potable water annually for reuse. Rainwater collected from the roof is much cleaner than rainwater collected from vehicular pavement surfaces, so the oversized roof functions not only as shelter but as a watershed as well. Most of the rainwater off the roof will be collected through underground leaders to a 20,000-gallon tank, after passing through two first-flush drywell tanks. The rainwater will be treated per NYC health guidelines, and the water reused only for site-related activities, at dedicated exterior hose spigots. The dominant water usage of this project is in its exterior yard operations, washing trucks and misting piles for dust control, using an average of 6,600 gallons per day, or 95% of the total water demand of the facility. Remsen Yard does not utilize potable water irrigation. Approximately 16.5% of the roof watershed is dedicated to the landscaped swales. The Avenue D planting strip (“swale”) will be fed from six rainwater leaders that will deliver water only during rain events.

