

C.L.I.M.B. studio 155street (City Life Is Moving Bodies)



#### Kubi Ackerman - MArch 2007 (with Charlotte Dean, Laura Gabby)





### Strategy:

Physical connection between the parks of upper Manhattan Urban parks as catalyst for socio-economic transformation



#### **Program:**

Network of pathways to facilitate neighborhood interconnectivity Dispersed, varied uses reintegrate park into surrounding urban environment



#### **Design:**

Rooftop rainwater collection irrigates native plant nursery, Visitors Center and Research Center provide employment opportunities and establish Highbridge as a destination



#### Jonathan Chen - MSAAD 2007 (with Kasandra Scales)





**Strategy:** Stretching the scales to benefit both neighborhood and city. Reduce traffic with a park and ride accessibility. Streets become more friendly.



## **Program:** Location restores the area's identity by providing a green park, park and ride and retail



**Design:** integrated landscape in site and serves as green roof technology & biofiltration system to filter the air from the exhaust fumes



#### Sabri Farouki - MArch 2007 (with Irmak Turan, Leticia Crispin, Kay Cheng)





## **Strategy:** The last stitch to Manhattan's Waterfront Greenway



### **Program:** "Path Park" and "Play Parking"



## **Design:** Rainwater Collection and Filtration system to irrigate the intensive Green Roof



#### Swati Salgaocar - MArch 2007 (with Eloise Allsop, Alisha Goldstein)



#### Columbia University, Graduate School of Architecture Planning and Preservation, The FU Foundation School of Engineering and Applied Science, Mailman School of Public Health, The Earth Institute Urban Design Lab

### **Strategy: •** Sustainable design using free natural resources Reduce living costs and provide employment

#### AVERAGE MONTHLY SAVINGS = \$720

TOTAL GREENHOUSE PLANTING = 40.000 sq.ff.

#### AVERAGE MONTHLY SAVINGS = \$2,350

NYC COMMINED WATER AND SEWAGE RATE = \$4,69/748 GALLONS

POST-REER BARNING

TOTAL GREENHOUSE WATER REQUIREMENT PER MONTH = 300,000 GALLONS TOTAL MONTHLY COST OF WATER FOR GREENHOUSES @ \$1.81/748 GALLONS = \$720 VOLUME OF WETLAND RETENTION POND = 370,000 GALLONS (> 300,000)



#### AVERAGE MONTHLY SAVINGS = \$1160

AVERAGE WEEKLY COLLECTION AND DISPOSAL SPENDING = \$290

AVERAGE WEEKLY WASTE = 1 TON

10 LOCAL RESTAURANTS



AVERAGE MONTHLY SAVINGS = \$5,220

A VERAGE WEEKLY COLLECTION AND DISPOSAL SPENDING = \$1,305

AVERAGE WEEKLY WASTE = 4.5 TONS

POLO GROUNDS

\$5,220







TOTAL VOLUME OF WATER COLLECTED FROM FACADES AND ROOF - 370.000 GALLONS/MONTH

A VERAGE MONTHLY ELECTRICITY BILL = \$30,000 AVERAGE MONTHLY SAVINGS = \$20

BUILDING (400 UNITS) AVERAGE MONTHLY GRO USAGE= 150000 kWH



550000







Program: • Self-sustaining system driven by improved facade• Output and waste from all program used within system



## Design: • Facade restoration through "active skin" installation• Solar energy collection and rainwater harvesting



#### Citra Soedarsono - MSAAD 2007 (with Geoffrey Kelly, Kay Cheng)



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#### need for affordable housing in NYC

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The Underutilized Park:

#### rather than functioning as a connector, the existing park becomes a physical and social barrier that divides the site into four quadrants



Housing + Park Hybrid

In the new housing+park typology, the housing acts as a connector for the site that will help rejuvenate the Park.

# **Strategy:** Reutilize the park and satisfy the needs for affordable housing with a hybrid "park-housing" scheme



**Program:** Polo Grounds Towers versus Polo Grounds Houses. The new residential area will be accompanied by the necessary park-friendly programs to satisfy the public and the residents' needs.

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# **Design:** Sustainable Design elements such as water filtration and recyclable system are intergrated within the landscape.



#### Alvaro Quintana - MSAAD 2007 (with James Mills, Stephen Samuel)





## **Strategy:** Polo Grounds Towers will be the new Manhattan's entrance to the Yankee Stadium



### Program: A sports culture as an economical development tool



**Design:** Extension of the Ruckers Basketball court becomes the physical and social linkage of Polo Grounds Towers to the City



#### Yang Joon Young - MSAAD 2007 (with Christina Brelsford, Kathryn Sargent)



























#### Strategy: The Urban Void - 5 Minute Walk - Public Educational Programs - Social and Physical Connection



**Program:** A Water Filtration Station as an Educationa Element of the City and a Visitor's Center to reconnect Jackie Robinson Park and High Bridge Park by opening old & new Trails



**Design:** A Building as a Ramp above existing Parking Lot that links the Polo Ground Towers with the rest of the City



#### Mario Valenti - Engineering Dept (with James Trummer)





# **Strategy:** Create circular interchange and connection between 4 disconnected neighborhoods and the two parks



# **Program:** a new multifunctional public space and "under roundabout" activities will tie together people and parks



# **Design:** Roundabout link to foster connectivity and water collection to reduce CSO



#### **Engineering Students:**

Eloise Louella Allsop Christina M Brelsford Charlotte Wan Dean Alisha Esther Goldstein Geoffrey David Kelly James Wesley Mills Stephen Henry Samuel Michael Dean Silberman James A. Trummer Irmak Ifakat Turan Mario Valenti

C.L.I.M.B. 155<sup>th</sup> street (city life is moving bodies)



#### The 4 quadrants



## water supply \_\_\_\_\_ NYC \_\_\_\_\_ waste water treatment

### CSO events contain:

pathogenic microorganisms suspended solids toxic pollutants oil and grease





### CSO events affect:

human health aquatic life and habitats waterway use aesthetic quality

![](_page_37_Picture_0.jpeg)

![](_page_37_Picture_1.jpeg)

### precipitation + consumption

![](_page_38_Picture_0.jpeg)

![](_page_38_Picture_1.jpeg)

![](_page_38_Picture_2.jpeg)

![](_page_38_Picture_3.jpeg)

![](_page_38_Picture_4.jpeg)

### runoff + wastewater + infiltration + evaporation

![](_page_39_Picture_0.jpeg)

![](_page_39_Picture_1.jpeg)

![](_page_39_Picture_2.jpeg)

![](_page_39_Picture_3.jpeg)

impervious pavements impervious roofs wasted water

#### slower water porous systems low impact development

![](_page_40_Picture_0.jpeg)

Catchment area: 1,000,000 ft<sup>2</sup> Wetland size: 91,000 ft<sup>2</sup>

![](_page_40_Figure_2.jpeg)

	2002	2003	2004	2005
Drought Days	2	2	1	5
Total Volume Piped $In(ft^3)$	21,788	$23,\!341$	6,707	$30,\!489$
Overflow Days	9	20	10	11
Total Overflow $Volume(ft^3)$	1,742,366	3,761,369	$2,\!099,\!063$	$2,\!617,\!044$
Average Depth(inches)	14.02	16.86	15.34	14.76
Largest Overflow Event	320, 332	$292,\!821$	340,144	$553,\!131$

# **Constructed Wetland:** Use existing topography to provide cleaner water

![](_page_41_Picture_0.jpeg)

![](_page_41_Figure_1.jpeg)

Green Roof Area: 44,375 sq. ft. Irrigation: 111,000 gallons/month Elevation change utilized for irrigation (gravity pump)

### Green Roof: Reduce CSO occurrence - Reduce energy use

![](_page_42_Figure_0.jpeg)

### Rainwater Harvesting: Reduce upstate reservoir use

## ....as goes the site, so goes the city....

### the end