



## **Bronx River Houses**

*One of New York City Housing Authority's low income communities.*



# NYCHA Mathematical Landscapes



Landscape Mathematician + Civil Engineer



SAVE WATER



CAPTURE RAINWATER



INCREASE EFFICIENCY



AESTHETICS



COMMUNITY



FOOD

**SAVINGS**...insulating buildings saves money on heating and cooling bills

**HEALTH**...improved air quality and water quality; rooftop open space; better access to fresh food

**INFRASTRUCTURE**...reduced burden on City's sewer system

**NATURE**...reduced pollution and carbon emissions; increased biodiversity; connects NYCHA residents to the environment

### GOAL



MANAGE STORMWATER (BLUE ROOFS)



REDUCE CARBON EMISSIONS LOWERING URBAN HEAT ISLAND EFFECT (Built up areas are hotter than vegetated areas)



GROW FRESH, LOCAL FOOD (urban agriculture)



EDUCATION



EMPLOYMENT

### A NEW FRAMEWORK FOR STORMWATER MANAGEMENT

# NYCHA Mathematical Landscapes

## GREEN INFRASTRUCTURE

Many areas near NYCHA Bronx River Houses have incorporated green infrastructure features in recent years.



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THE YOUTH MINISTRIES FOR PEACE AND JUSTICE



Community group South of Bronx River Houses helped install a green roof and solar panels on a church next to their headquarters.



Rain garden system surrounding the Community Center

**EXISTING STORMWATER TACTICS**

Blue roof  
Rain gardens  
Perforated

YOU ARE HERE

VIA VERDE



Via Verde, Bronx. Photo Courtesy: Jonathan Rose Companies

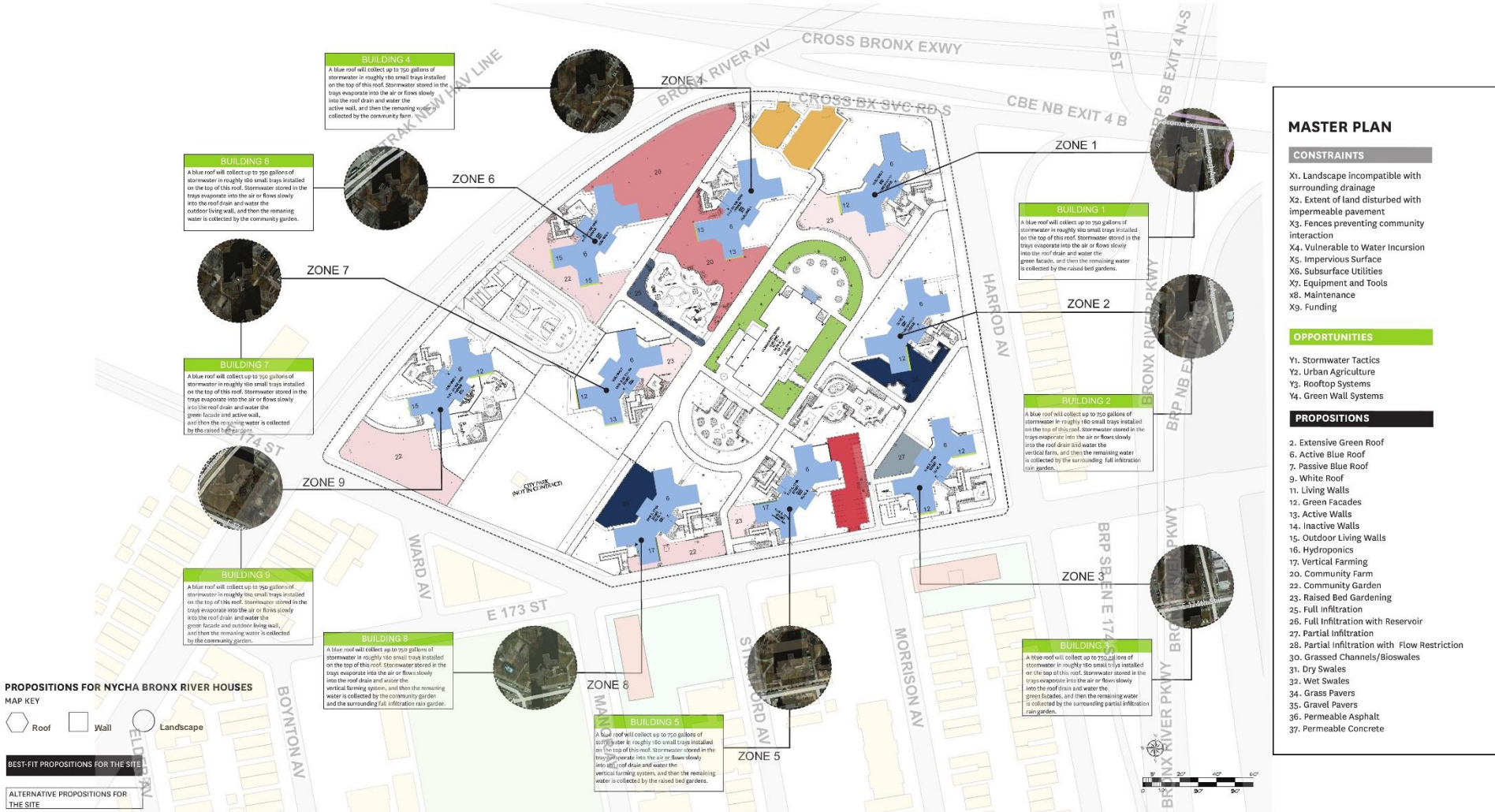
PRIVATE PROPERTY



Non-NYCHA residents community garden near site



# Roof-Wall-Landscape Matrix Network™ | Landscape Mathematics Global Project



| Building 1 - Zone 1 | Building 2 - Zone 2 | Building 3 - Zone 3 | Building 4 - Zone 4 | Building 5 - Zone 5 | Building 6 - Zone 6 | Building 7 - Zone 7 | Building 8 - Zone 8 | Building 9 - Zone 9 |
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| 15 30 31 32         | 15 30 31 32         | 15 30 31 32         | 13 30 31 32         | 15 30 31 32         | 15 30 31 32         | 13 30 31 32         | 13 30 31 32         | 15 30 31 32         |
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