

Sustainable High Density Affordable Housing The New York Housing Story



Presented by the AIA Housing Knowledge Community
www.aia.org/housing

Good design
makes a difference™



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OF ARCHITECTS

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Detailing for Durability

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April 2

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May 7

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The AIA Housing Knowledge Community explored the ways that architects use research to enhance the health, safety, social, economic and environmental performance of buildings as well as the experiences of housing residents through a series of five webinars in fall 2011. *At this time, the webinars are not available for on-demand CE credit.*

[Research in Practice](#) | [Greening Housing Research](#)
[Researching Resiliency](#) | [Affordable Housing Research](#)
[Healthy Homes Research](#)





Mark Ginsberg FAIA, LEED AP
Curtis + Ginsberg Architects

Submit a question to the moderator via the “questions” box. They will be answered as time allows.



William Stein FAIA
Dattner Architects

Moderator
Kathleen Simpson
The American Institute of Architects



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Course Description

This panel will explore innovative approaches to sustainable, high density, affordable housing in New York City through case studies and will examine the AIA New York Chapter's advocacy for affordable urban housing through the New Housing New York (NHNY) Project. The panel will demonstrate how architects contribute to improving the urban environment through design, professional advocacy and civic engagement. The case studies include two projects: the Fortune Castle Gardens, a new 113 unit mixed-use affordable housing development in Harlem and Via Verde, the Green Way, a new 222 unit mixed use, mixed income development in the South Bronx and winner of the NHNY Legacy competition. Both projects are partnerships between private and non-profit developers; both are key elements in the revitalization of urban neighborhoods; and both are designed to achieve LEED-NC Gold certification. Rick Bell FAIA, Executive Director of the AIA New York Chapter, will moderate the panel. Mark Ginsberg FAIA and William Stein FAIA will present the case studies with detailed descriptions of sustainable strategies. The panel will review the New Housing New York Project, which the AIA New York Chapter initiated to promote affordable urban housing, and discuss how NHNY helped frame public policy for New York City's ambitious affordable housing program.

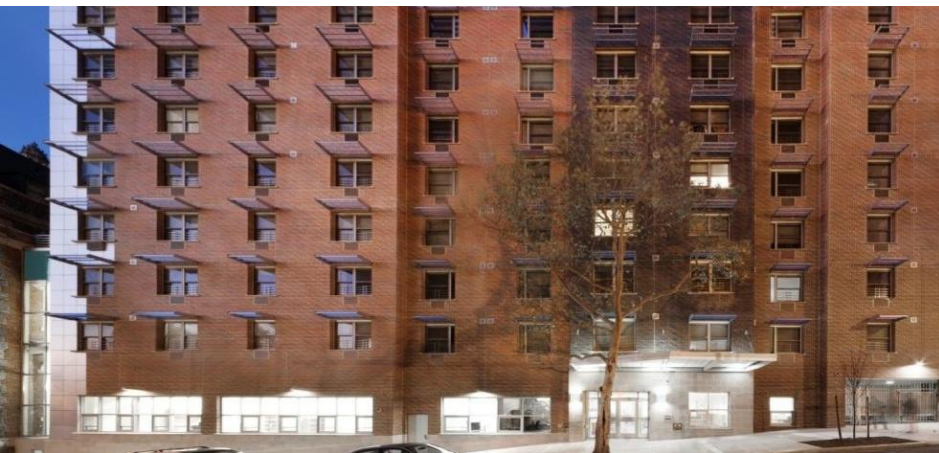


Learning Objectives

1. Learn about strategies for designing and implementing high density, sustainable, affordable housing.
2. Identify how architects can play a leadership role in advocating and guiding public policy for design excellence and sustainable design.
3. Learn about strategies for implementing sustainable features and LEED NC related to affordable housing.
4. Gain an understanding of how each case study was designed, developed and presented to gain community acceptance.



Sustainable High Density Affordable Housing: The New York Story



16 February 2012

Mark Ginsberg FAIA, LEED AP, Curtis + Ginsberg Architects

William Stein FAIA, Dattner Architects

Project Introduction

Fortune Castle Gardens

- Developers:
 - The Fortune Society
 - Jonathan Rose Companies
- Architects:
 - Curtis + Ginsberg Architects
- Contractor:
 - Lettire Construction
- LEED NC Goal:
 - Gold





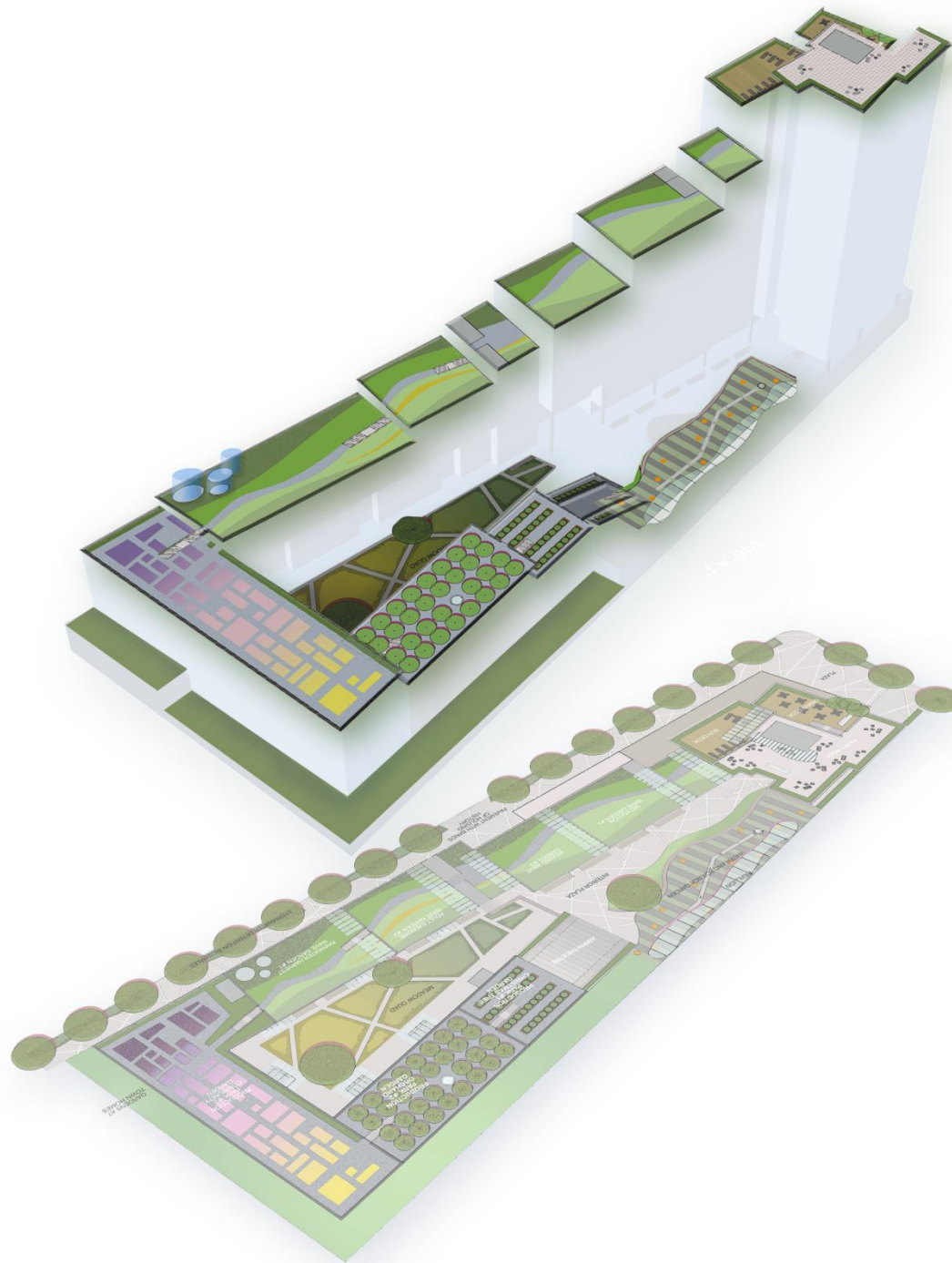


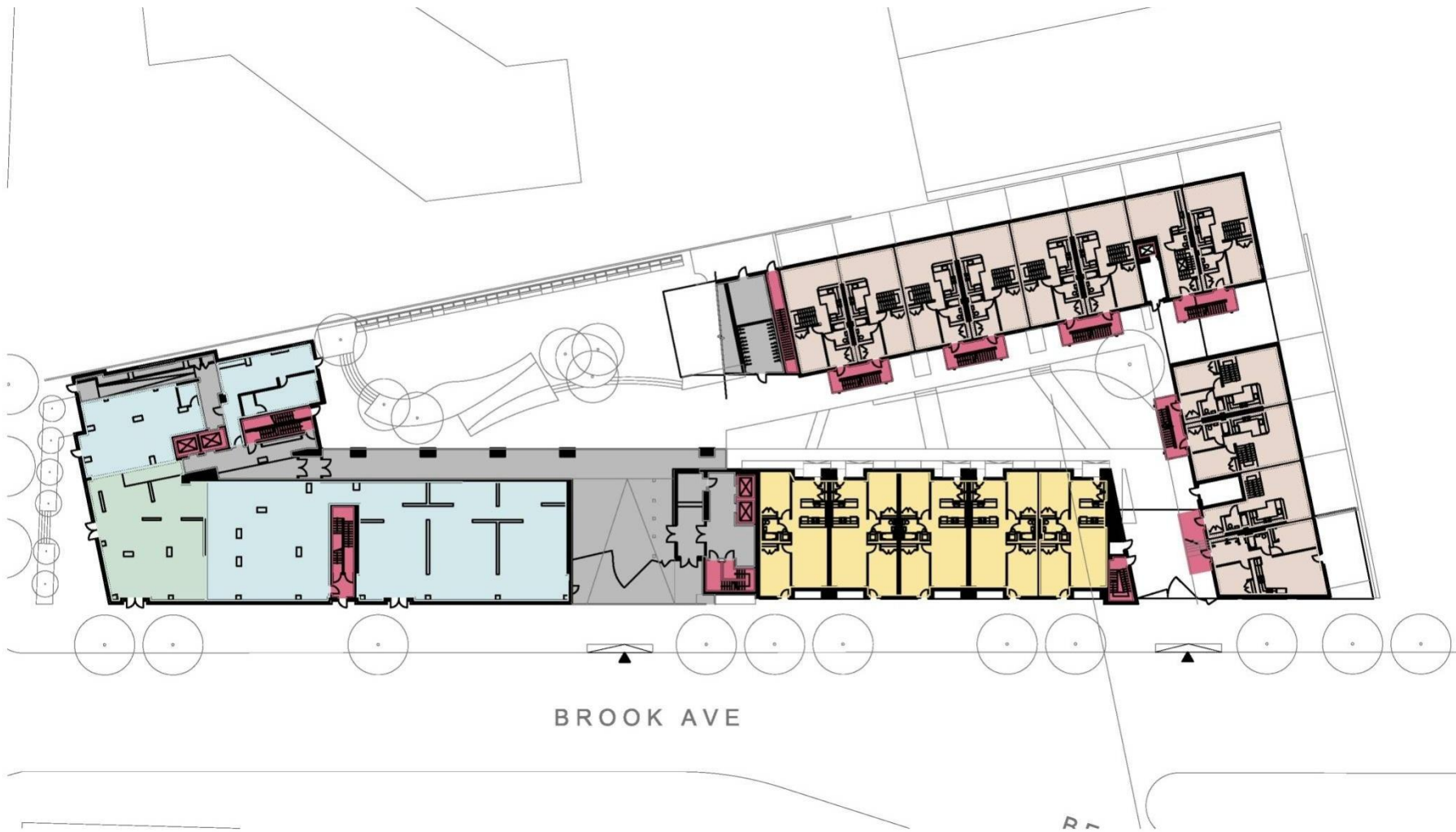
Project Introduction

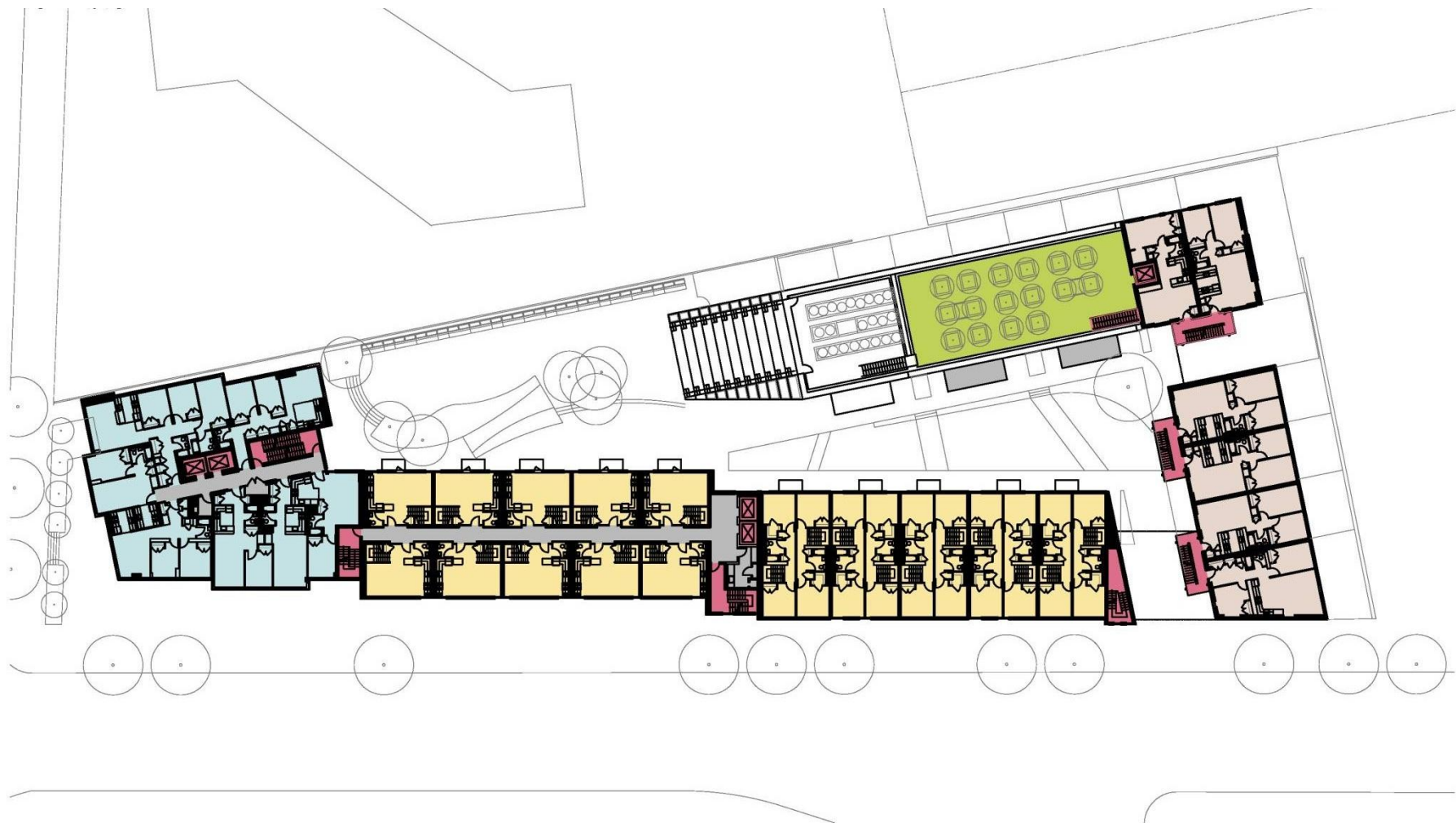
Via Verde – The Green Way

- Developers:
 - Jonathan Rose Companies
 - Phipps Houses Group
- Architects:
 - Dattner Architects
 - Grimshaw Architects
- Contractor:
 - Lettire Construction
- LEED NC Goal:
 - Gold









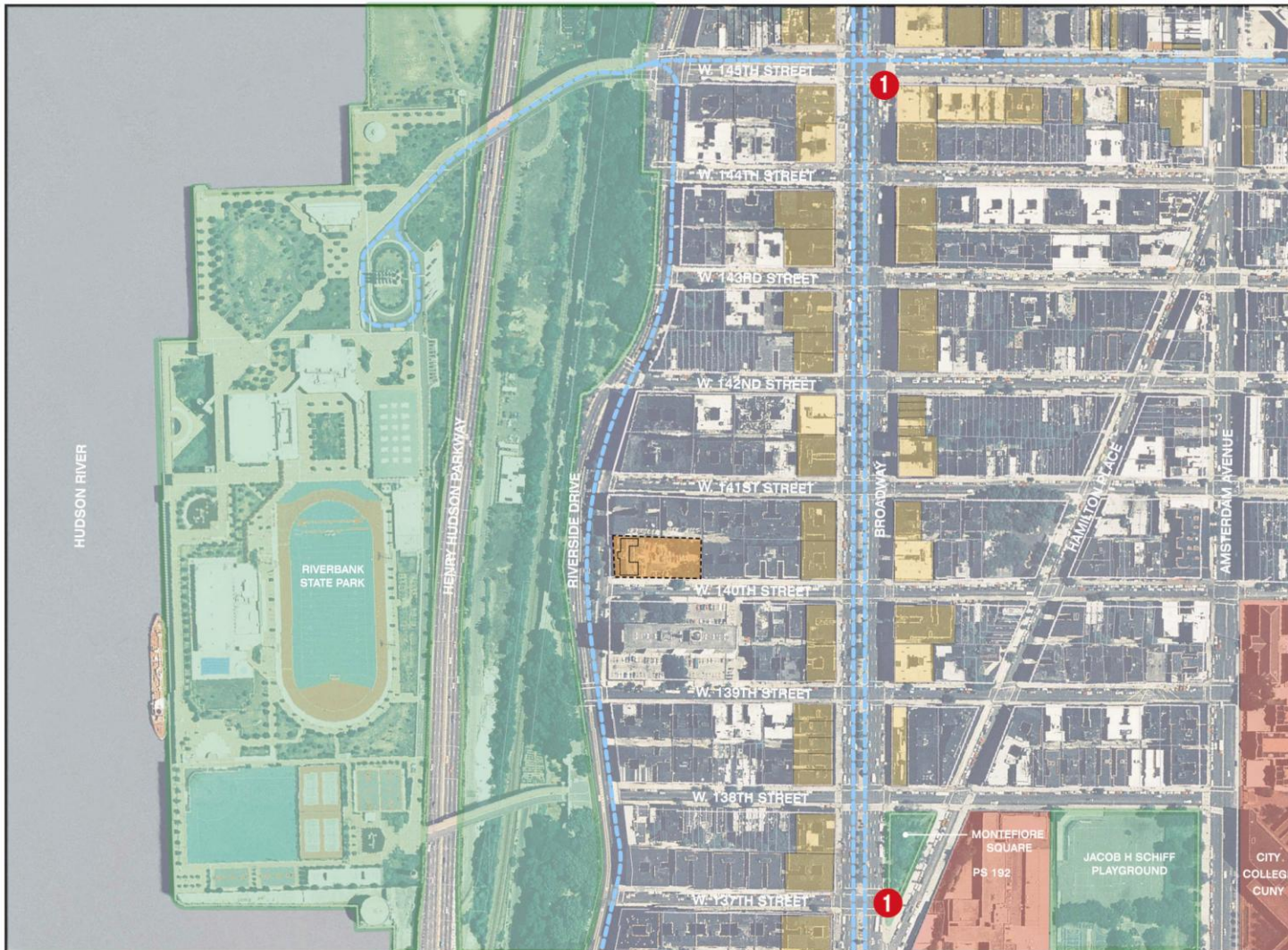


LEED-NC 2.2 Categories







- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Material and Resources
- Indoor Environmental Quality
- Innovation & Design Process

Sustainable Sites



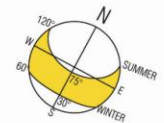


KEY

-  SITE
-  EDUC. + INSTITUTION
-  COMMERCIAL
-  PARK/PLAYGROUND
-  PUBLIC BUS
-  SUBWAY STATION

Land Use Information obtained from maps provided by OASIS of New York City.

Seasonal Sun Angles



625 W. 140th STREET, Manhattan, NY

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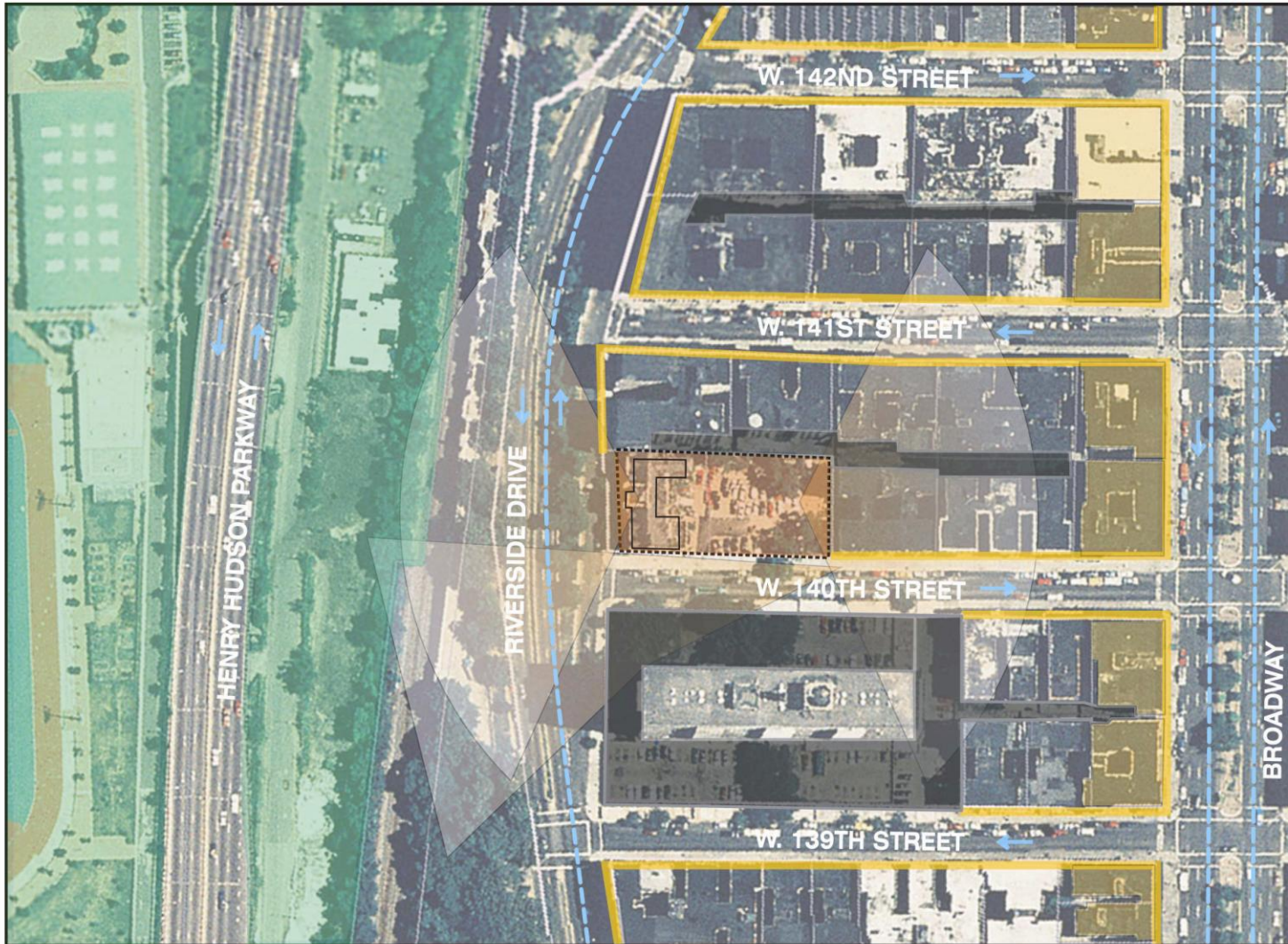
JONATHAN ROSE COMPANIES LLP

area analysis

CURTIS + GINSBERG ARCHITECTS LLP

02

FORTUNE SOCIETY

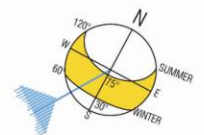


KEY

-  SITE
-  COMMERCIAL
-  PARK/ PLAYGROUND
-  OPEN SPACE / REAR YARD
-  STREET WALL
-  VEHICULAR TRAFFIC
-  PUBLIC BUS
-  VIEW CORRIDORS
-  PREVAILING WINDS

Land Use Information obtained from maps provided by OASIS of New York City.

Seasonal Sun Angles



625 W. 140th STREET, Manhattan, NY

site analysis

03

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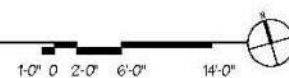
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FORTUNE SOCIETY

RIVERSIDE DRIVE



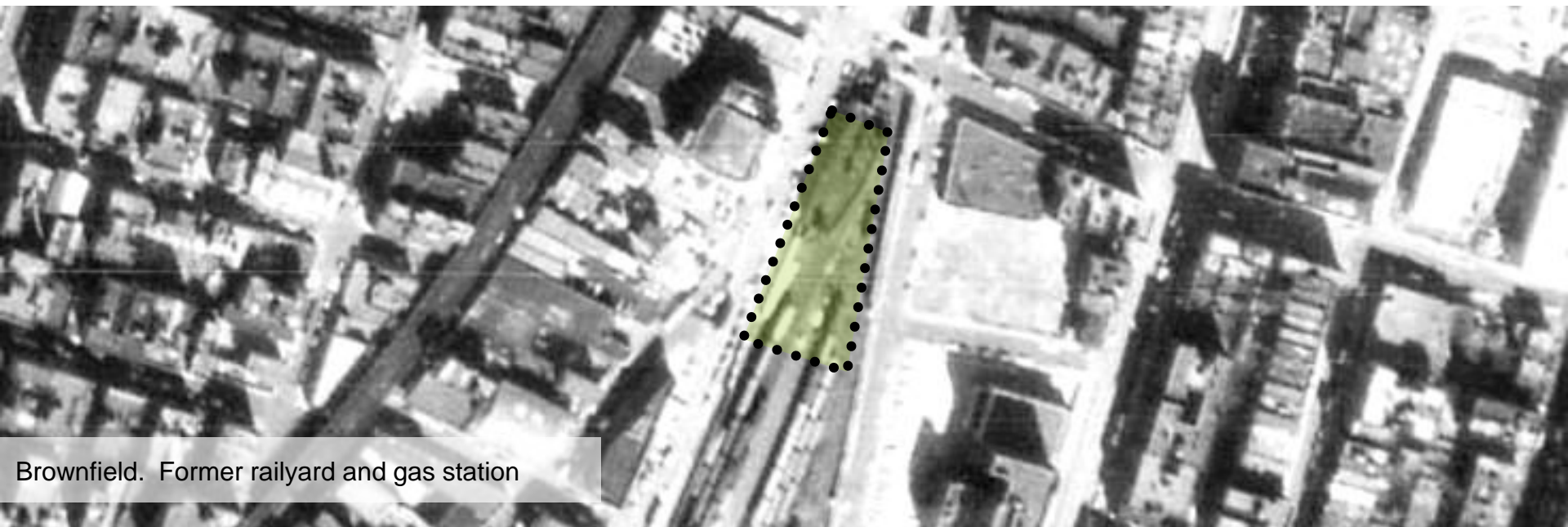
SITE PLAN
CASTLE GARDENS



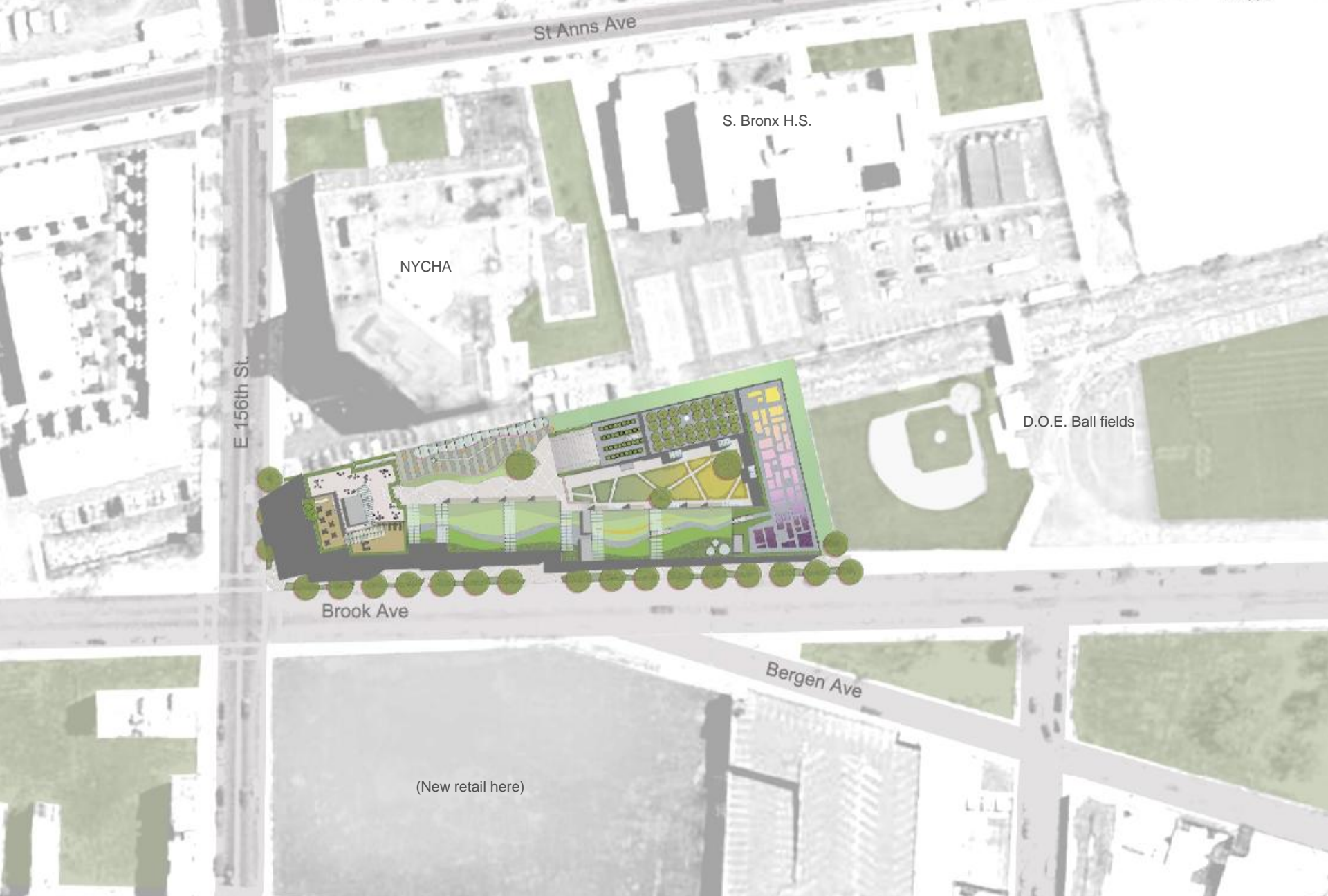


Fortune Castle Gardens





Brownfield. Former railyard and gas station



St Anns Ave

S. Bronx H.S.

NYCHA

E 156th St

D.O.E. Ball fields

Brook Ave

Bergen Ave

(New retail here)

Water Efficiency



Water Efficient Systems



Faucets with Occupancy Sensors



Dual Flush Toilet



Waterless Urinal



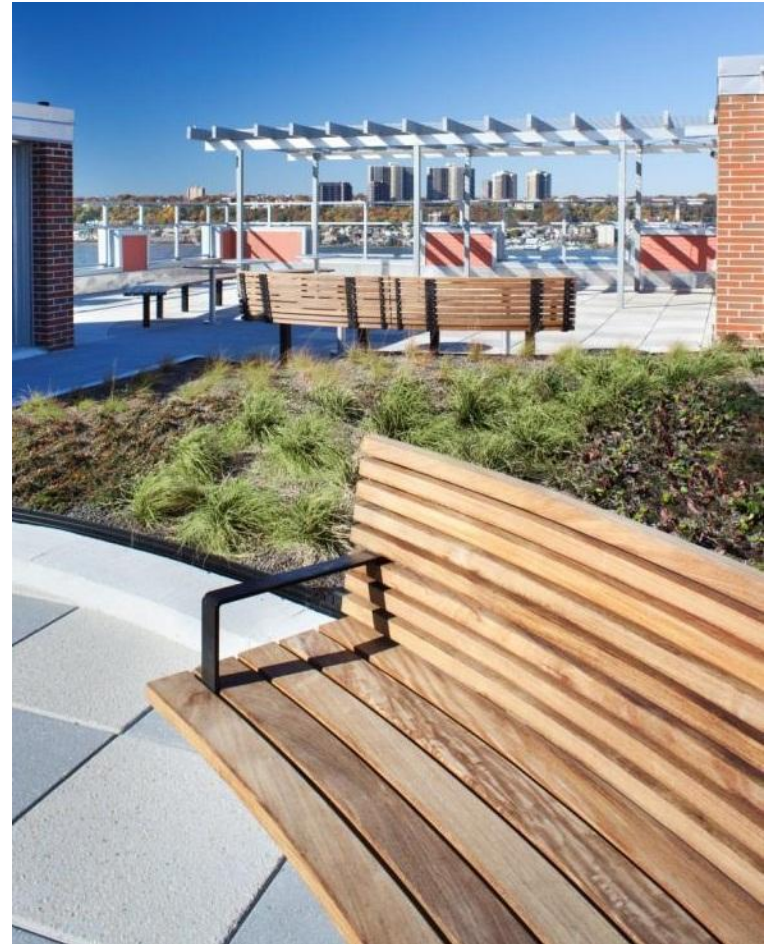
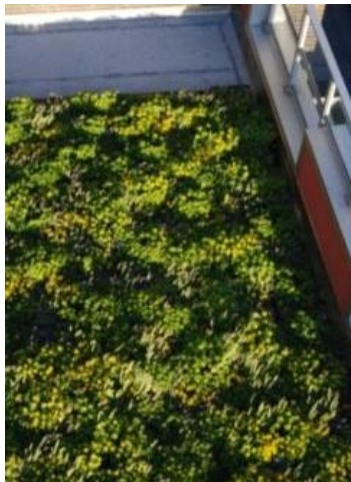
Low Flow Shower Head



Faucet Low Flow Aerator

Rain Water Harvesting



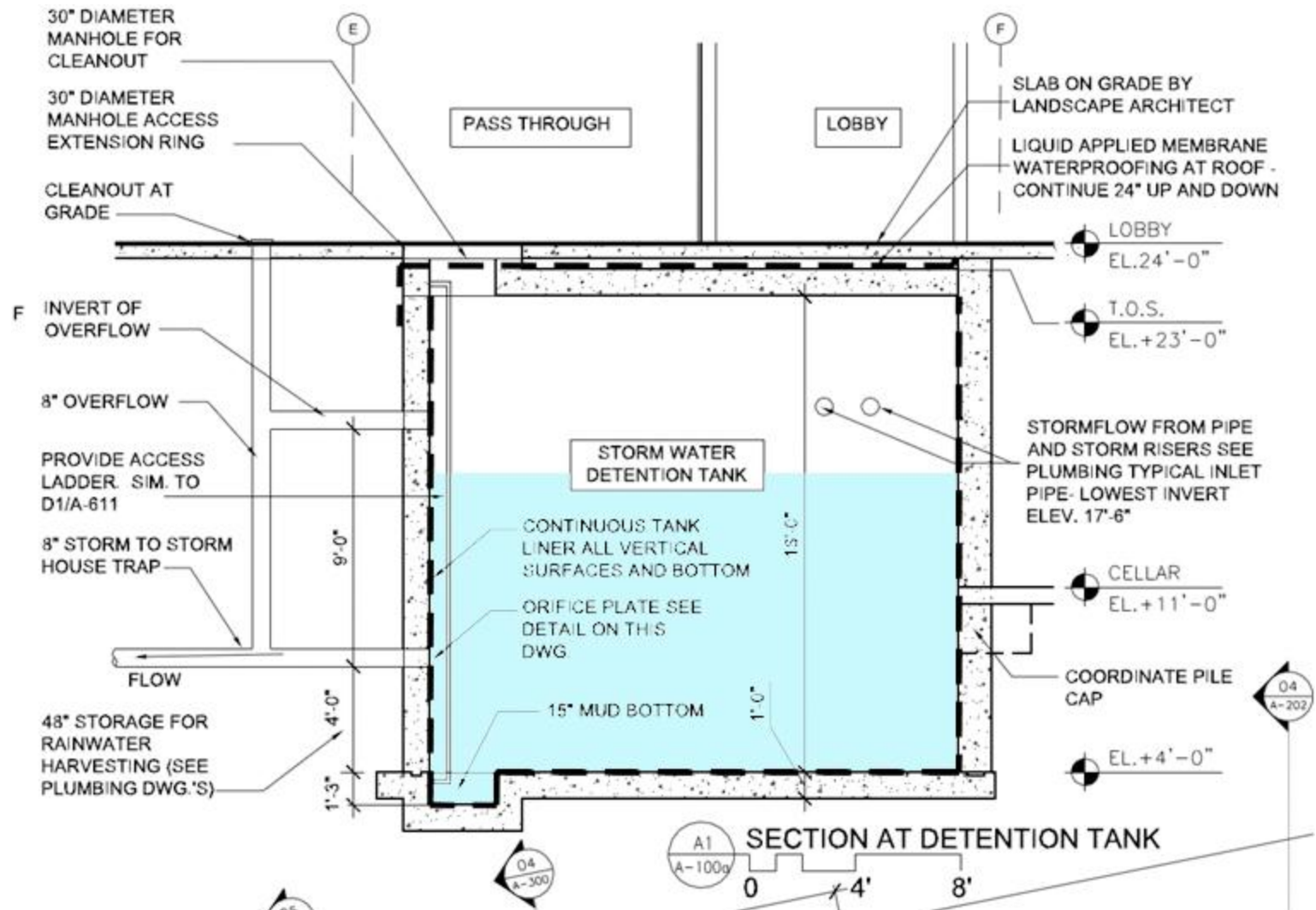


Fortune Castle Gardens



Stormwater Control

Slows stormwater surge and harvests rainwater for use in project's irrigation system. 5,000 cubic feet capacity



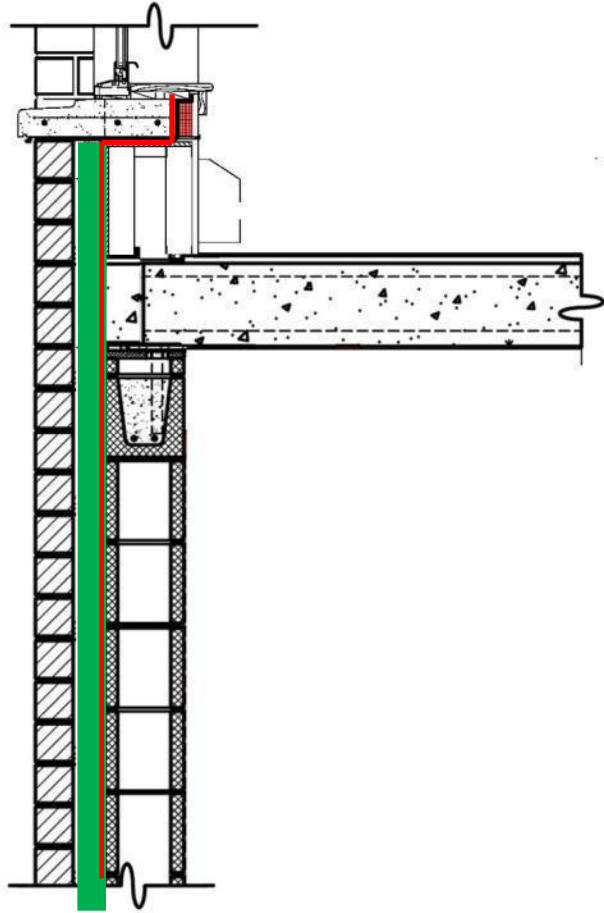
Stormwater Control



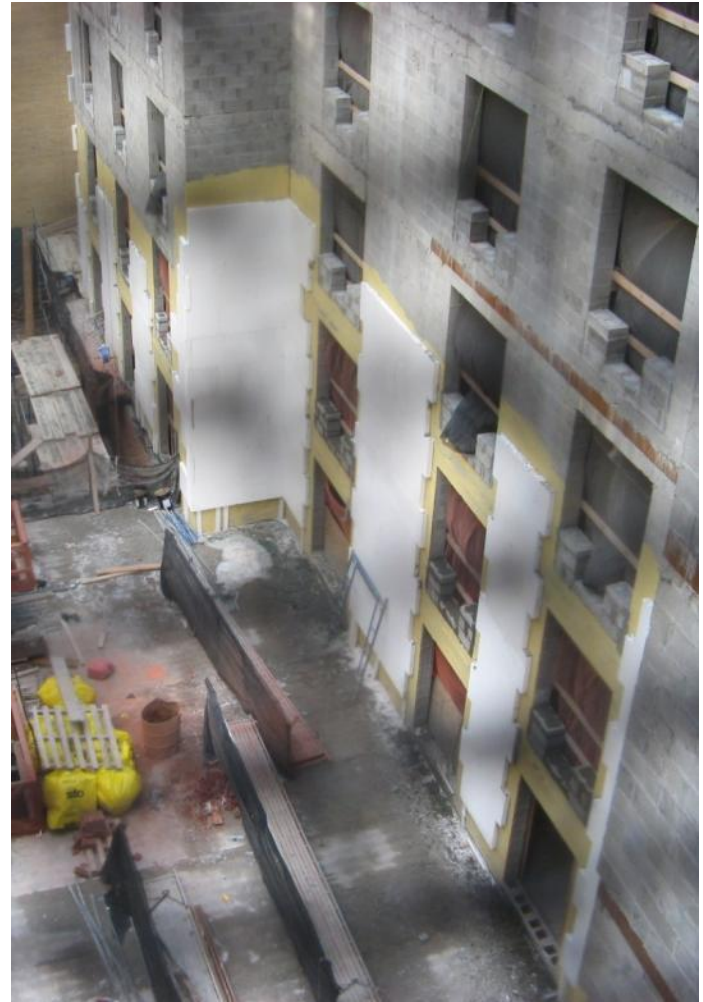
Energy and Atmosphere



Energy Efficient Envelope



Exterior Insulation



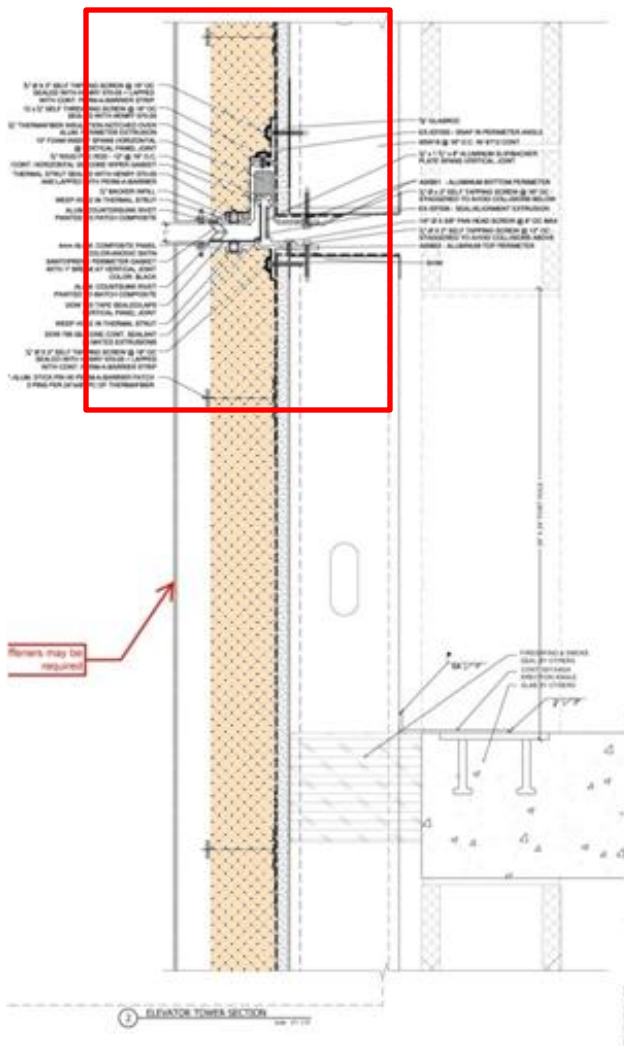
Cavity Wall Detail



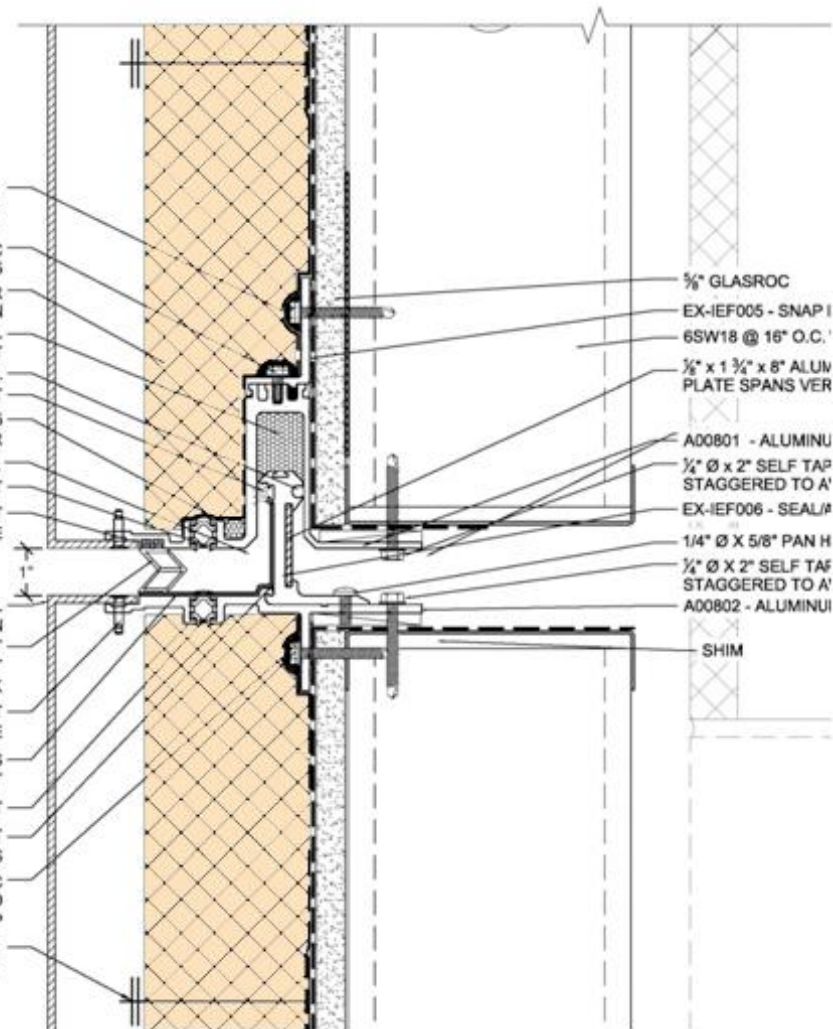
Pre-Fabricated Envelope



Pre-Fabricated Envelope

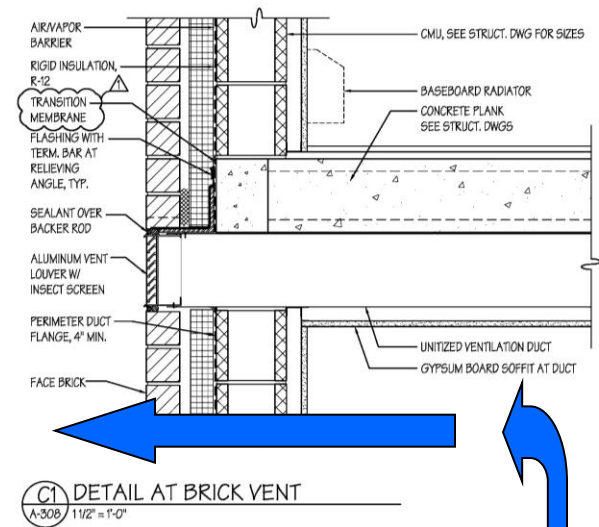
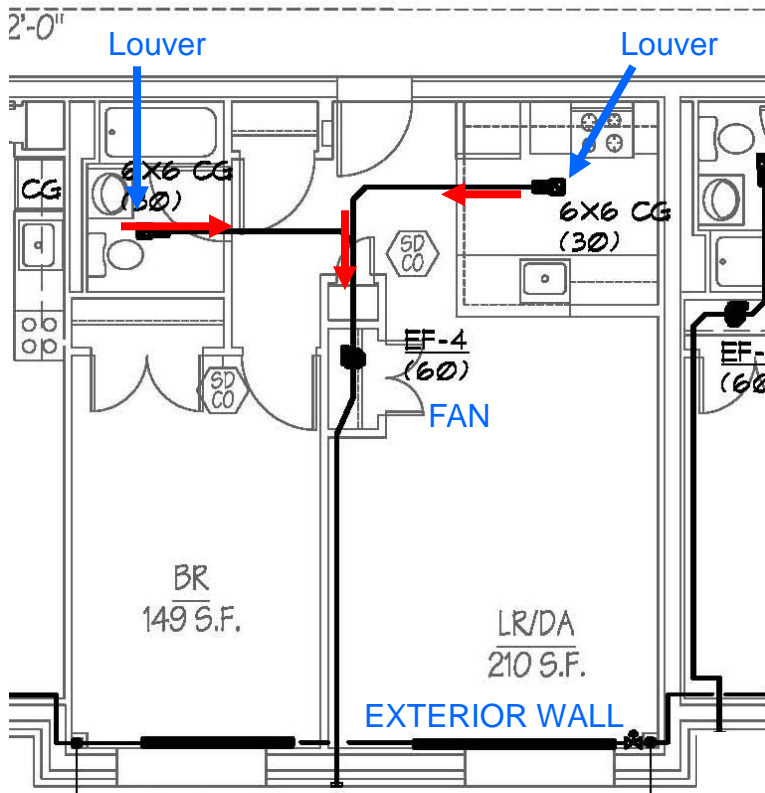


$\frac{1}{4}$ " \varnothing X 2" SELF TAPPING SCREW @ 16" OC
 SEALED WITH HENRY 570-05 + LAPPED
 WITH CONT. PERM-A-BARRIER STRIP
 12 x $\frac{1}{2}$ " SELF THREADING SCREW @ 16" OC
 SEALED WITH HENRY 570-05
 3 $\frac{1}{2}$ " THERMAFIBER INSULATION NOTCHED OVER
 ALUM. PERIMETER EXTRUSION
 10" FOAM INSERT SPANS HORIZONTAL
 @ VERTICAL PANEL JOINT
 $\frac{1}{4}$ " RIGID PVC ROD - 12" @ 16" O.C.
 CONT. HORIZONTAL SILICONE WIPER GASKET
 THERMAL STRUT SEALED WITH HENRY 570-05
 AND LAPPED WITH PERM-A-BARRIER
 $\frac{1}{2}$ " BACKER INFILL
 WEEP HOLE IN THERMAL STRUT
 ALUM. COUNTERSUNK RIVET
 PAINTED TO PATCH COMPOSITE
 4mm ALUM. COMPOSITE PANEL
 COLOR: ANODIC SATIN
 SANTOPRENE PERIMETER GASKET
 WITH 1" BREAK AT VERTICAL JOINT
 COLOR: BLACK
 ALUM. COUNTSUNK RIVET
 PAINTED TO MATCH COMPOSITE
 DOW 123 TAPE SEALED/LAPS
 VERTICAL PANEL JOINT
 WEEP HOLE IN THERMAL STRUT
 DOW 795 SILICONE CONT. SEALANT
 @ MATED EXTRUSIONS
 $\frac{1}{4}$ " \varnothing X 2" SELF TAPPING SCREW @ 16" OC
 SEALED WITH HENRY 570-05 + LAPPED
 WITH CONT. PERM-A-BARRIER STRIP
 4" ALUM. STICK PIN W/ PERM-A-BARRIER PATCH
 5 PINS PER 24"x48" PC OF THERMAFIBER



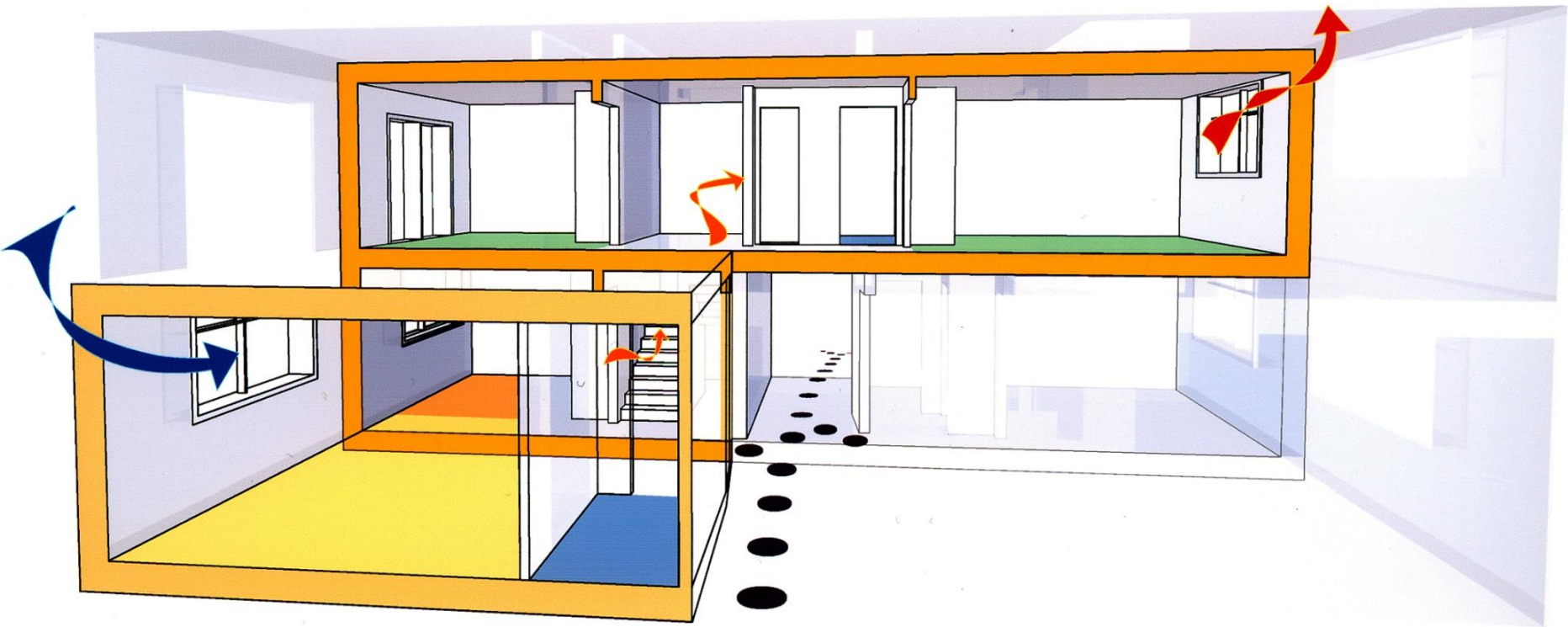


Unitized Ventilation

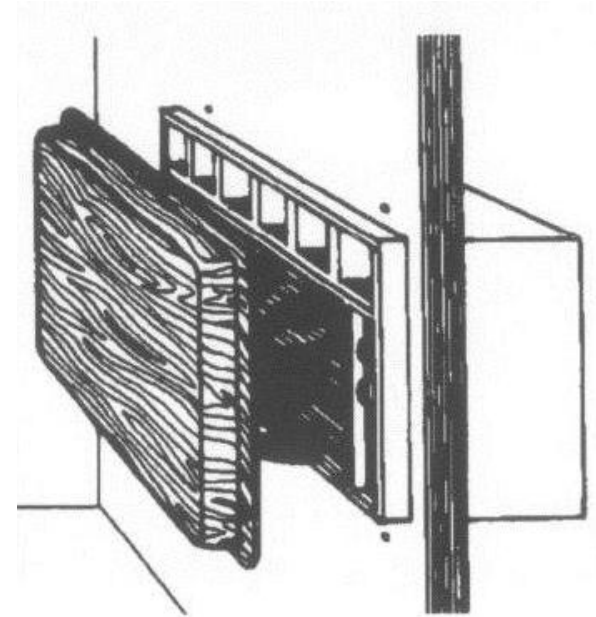


Cross-Ventilation

Each unit in Via Verde has double exposure windows and ceiling fans for improved ventilation. Duplex unit is entered off double loaded corridor at floor one then floor two twists to give cross ventilation.

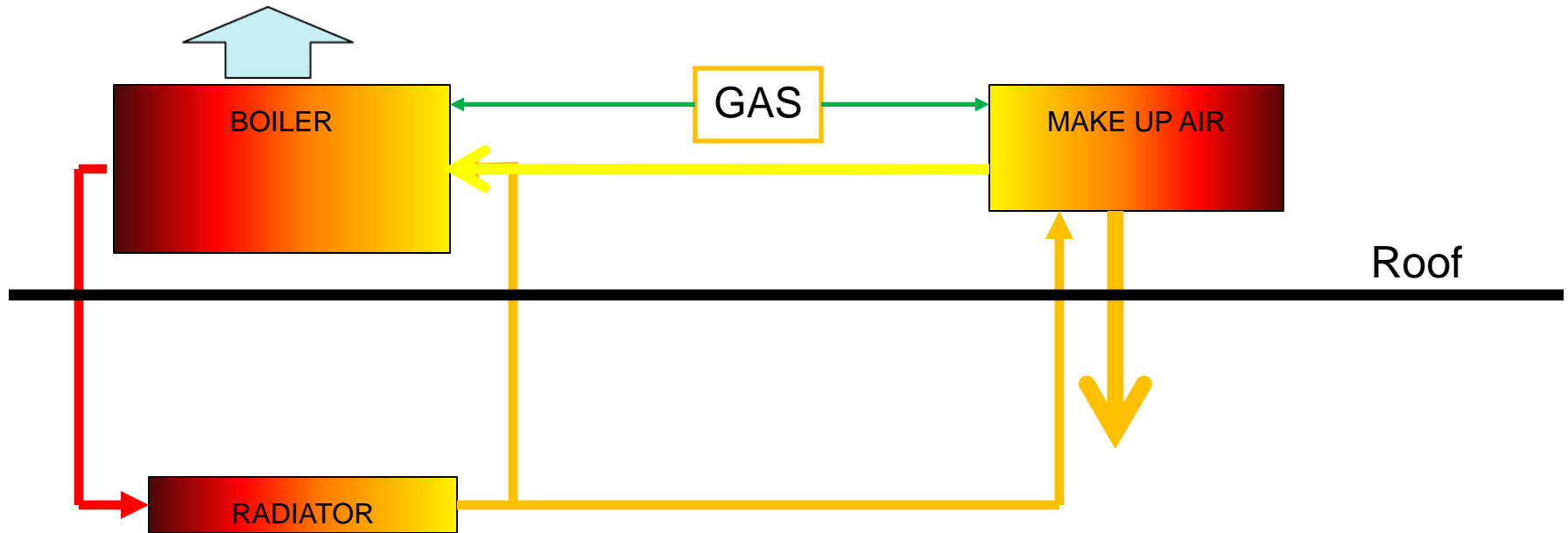


Heating and Cooling

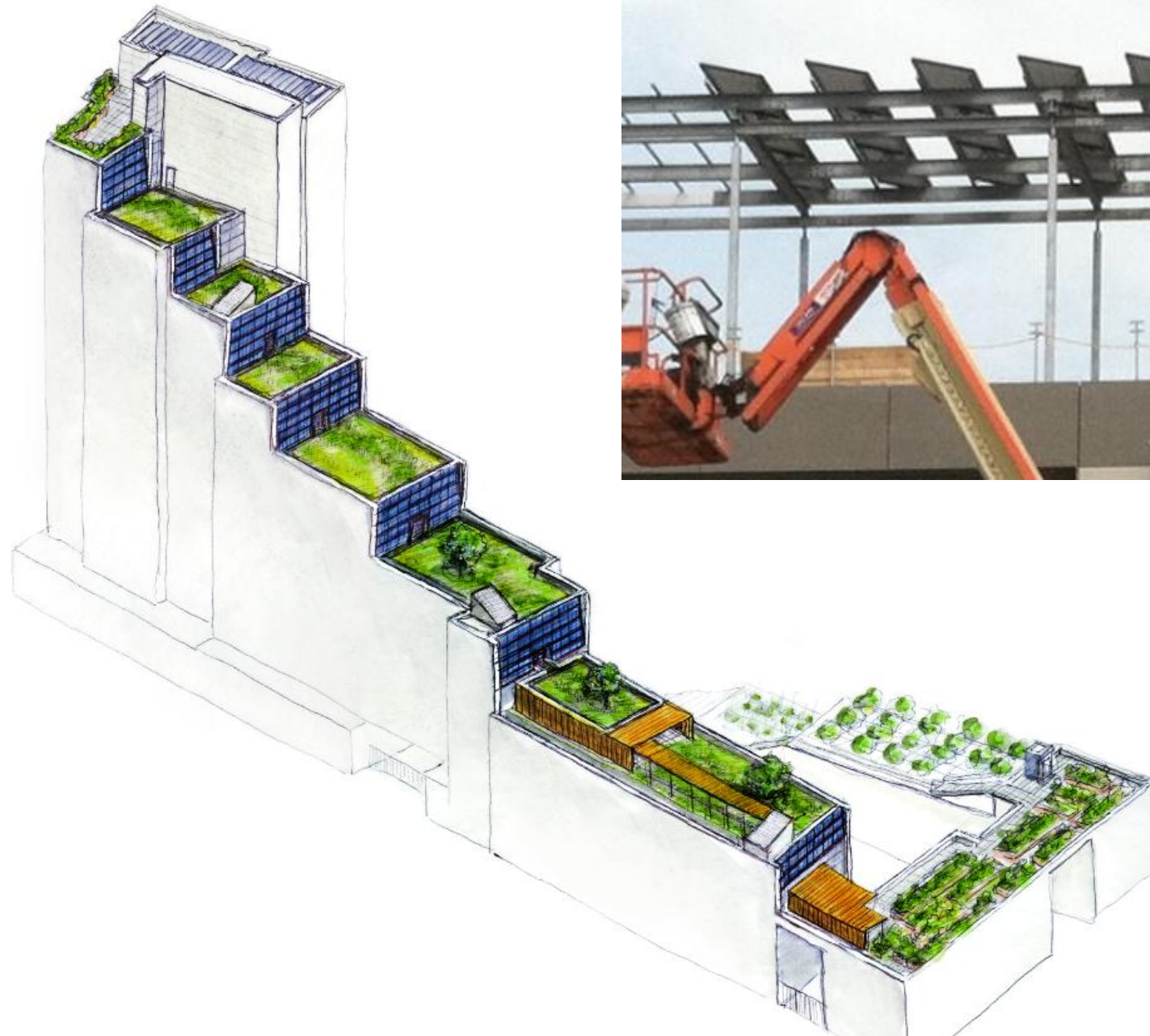


You can get something for nothing

Condensing raises boiler efficiency from 87% to close to 96%



Photovoltaics



Photovoltaics







Fortune Castle Gardens

Energy Efficient Lighting



LED Wall Mounted Exterior Fixtures



Motion Sensor Stairwell Light



Motion Sensor Energy Efficient Hall Lights







Materials and Resources



Recycled Materials



Regional Fabrication



Other Green Materials











Construction Waste Management Diversion Plan

Cardella Waste Services is a leading provider of construction and waste removal services for the New York and New Jersey metropolitan area. We are uniquely equipped for recovering recyclables from the waste stream with our own fully licensed material recovery facility.

The Cardella Waste team specializes in waste recycling and reporting for Leadership in Energy and Environmental Design (LEED) projects. We are also very active and members of the U.S. Green Building Council and the Association of New Jersey Recyclers.

Cardella Waste is fully committed to earth friendly practices and sustainability for a greener tomorrow.

Project Description

Via Verde

700 Brook Ave

Bronx, NY 10455

The Intent

- Divert construction and demolition debris from disposal in landfills.
- Redirect recyclable recovered resources back to the manufacturing process.
- Redirect reusable materials to appropriate sites.

Goals & Requirements

- To recover and divert a minimum of 80% of the waste stream produced from the project.
- To remove the waste from the project in a comingled state.
- Identify materials to be recovered and diverted from landfill.
- Report on all materials recovered, diverted, and disposed of on a monthly and project total basis.
- An 80% diversion of the waste generated on site will meet the requirements of the LEED Material and Resource Credits 2.1 and 2.2.

Indoor Environmental Quality





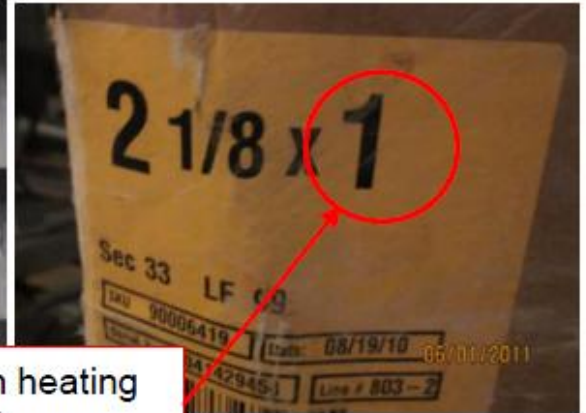
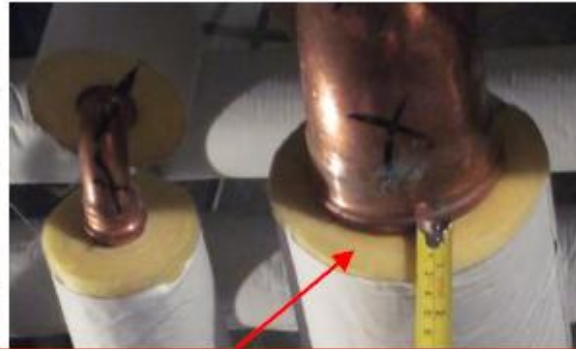
Tight seals at all exterior and demising walls combined with air infiltration testing.



NYSERDA Inspections / Commissioning

OBSERVATIONS

1. **Open Wall Inspection:** TRC performed an Open Wall Inspection and will issue a report of their findings. Representatives from Taitem Engineering and NYSERDA were also present.
2. **Pipe Insulation:** Installation of pipe insulation is in progress in basement. Insulation at elbows still need to be installed. 1" insulation is being installed on piping $>1\text{-}1/2"$. **All heating piping $>1\text{-}1/2"$ is required by NYSECC to be insulated with 2" pipe insulation. NYSERDA Minimum Performance Standards mandates that NYSECC be met.**



Additional 1" pipe insulation must be install on heating piping $>1\text{-}1/2"$ to achieve 2" code requirement.

Innovation and Design Process



Fortune Castle Gardens:

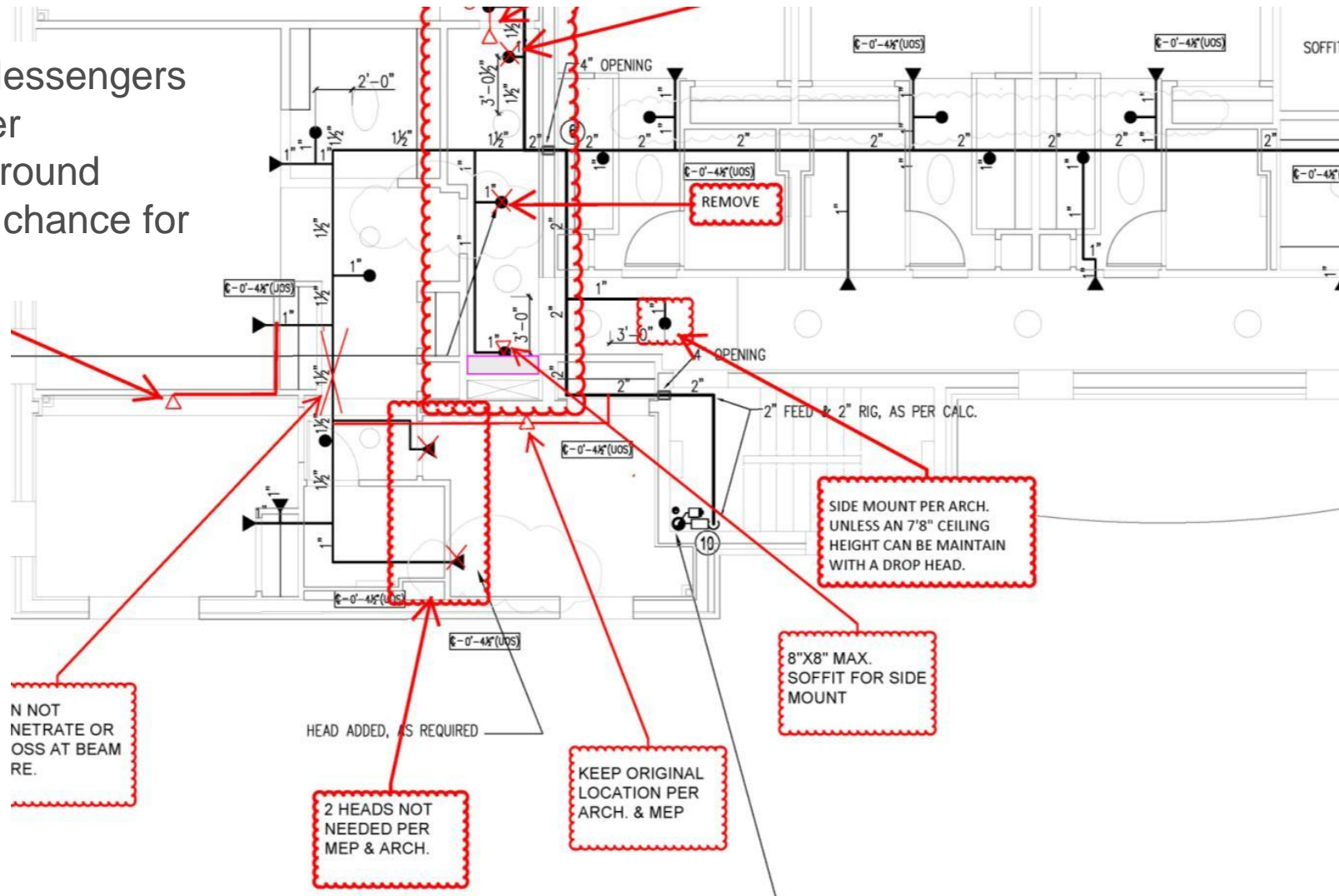
- High density development
- Access to public transportation
- 43.3% water savings
- Sustainable Education
- LEED Accredited Professional

Via Verde:

- Residential fit out guide
- Green cleaning products used by building management
- Education via energy display panel, including PV statistics
- NYC's Active Design Guidelines Case Study

Electronic shop drawing review

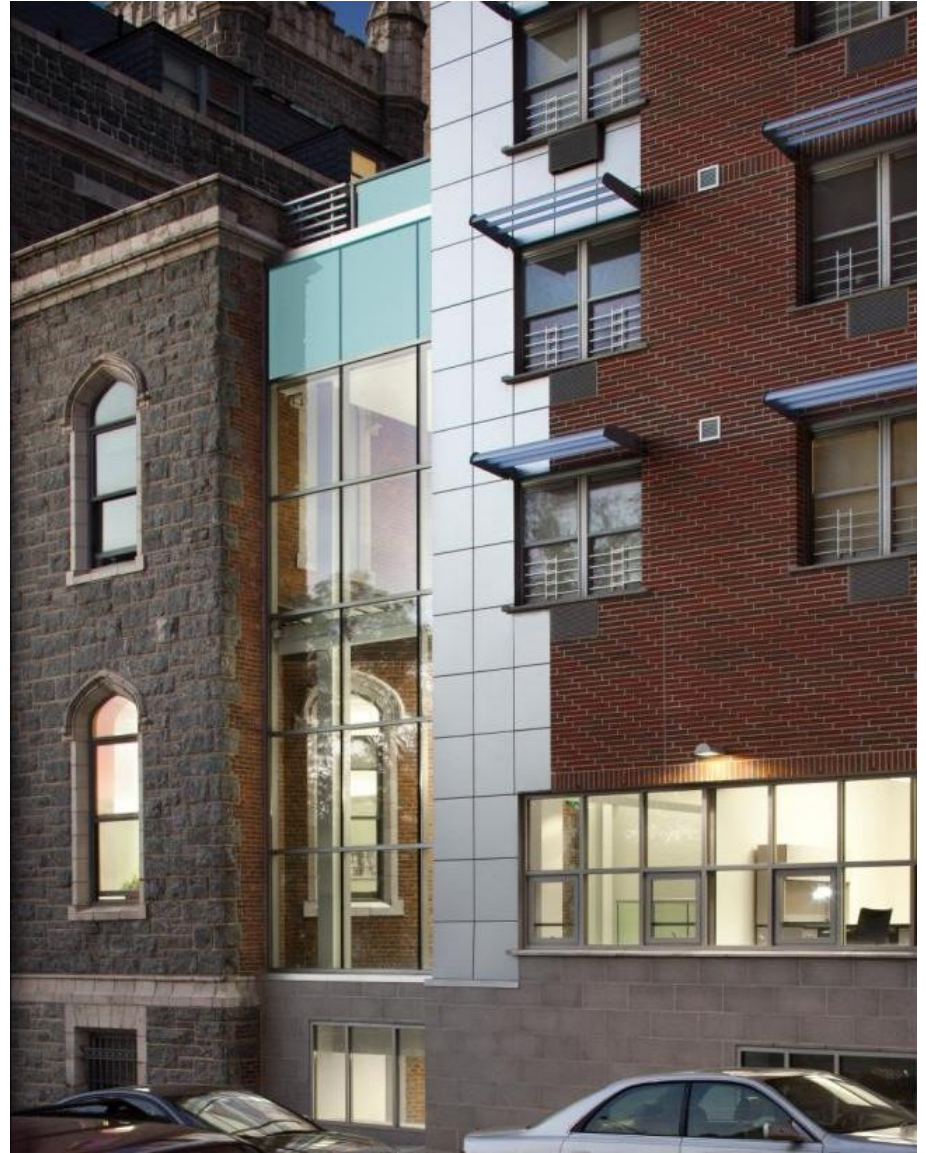
- No Messengers
- Faster turnaround
- Less chance for error



Use of existing building wall



Use of existing building wall



Operation is Key: Meet the Super.



Drip Irrigation



Active Design Guidelines

Burn Calories, Not Electricity



Take the Stairs!

Walking up the stairs just 2 minutes a day helps prevent weight gain. It also helps the environment.

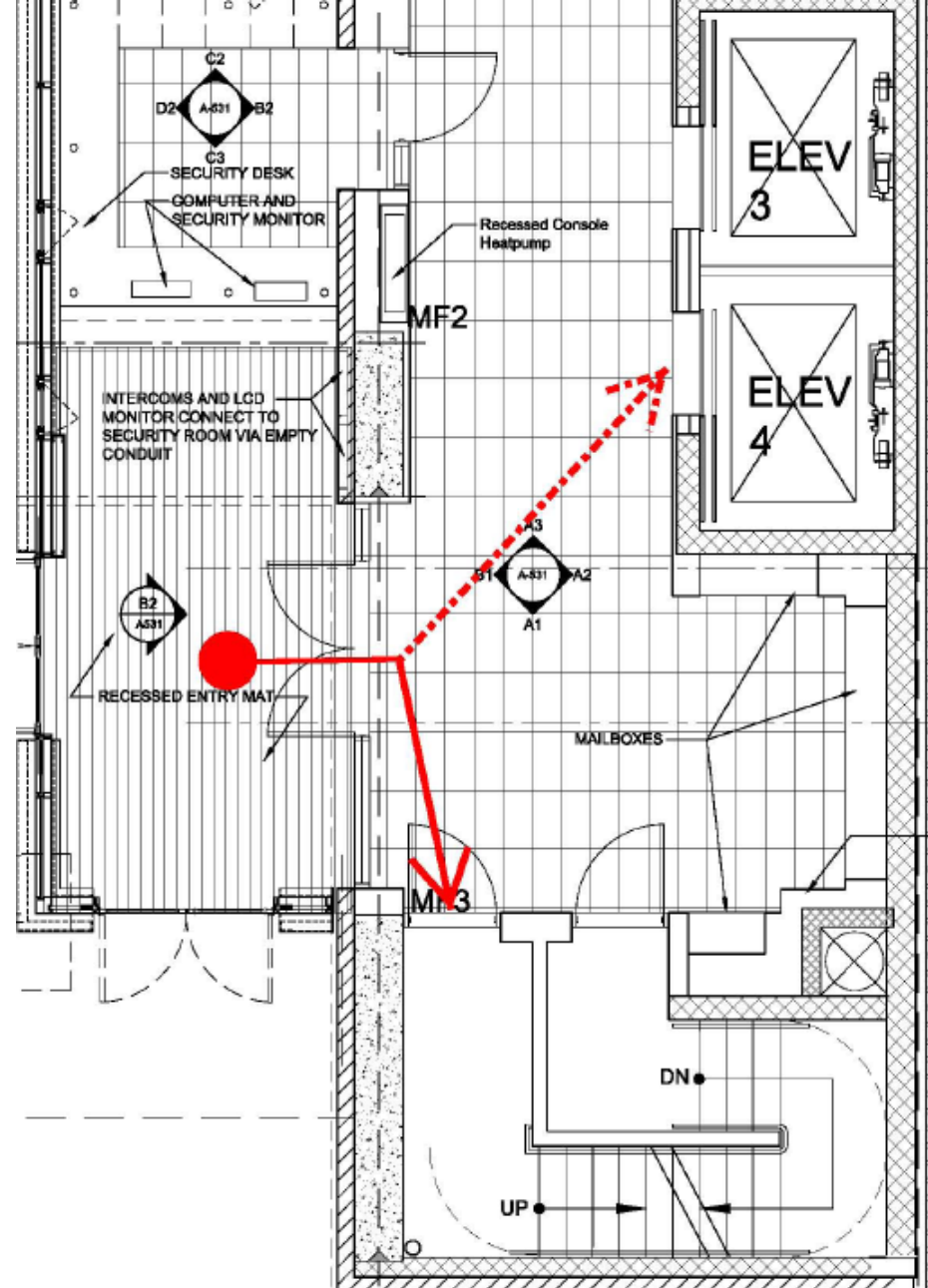
Learn more at www.nyc.gov or call 311.

Michael R. Bloomberg
Mayor

NYC



REBNY



Active Design Guidelines



Walk the rooftops:

1. Amphitheater
2. Coniferous Forest
3. Fruit Orchard
4. Vegetable Garden
5. Fitness Roof







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Moderator
Kathleen Simpson
The American Institute of Architects



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