



SEED MIXED-USE MULTIFAMILY

# SYRACUSE



# EFFICIENT DESIGN

STATE UNIVERSITY OF NEW YORK COLLEGE OF ENVIRONMENTAL SCIENCE AND FORESTRY, SYRACUSE UNIVERSITY



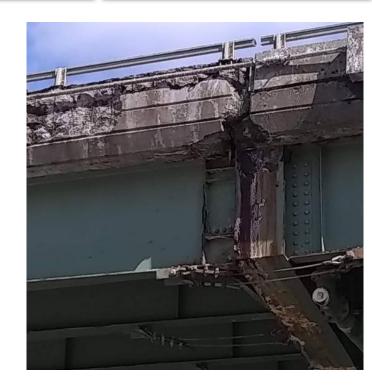












Interstate 81



Rethink 81

2 Syracuse Surge

3 Syracuse Housing Authority Redevelopment



































Environmental **Impact** 

Introduction

Health & Wellbeing

Affordability

Resiliency

Operations & Maintenance

Replicability



#### Codes and Standards



































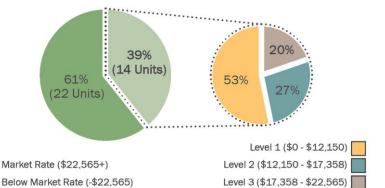
#### **Intended Occupants**





# Marketing Strategies







# Replicability





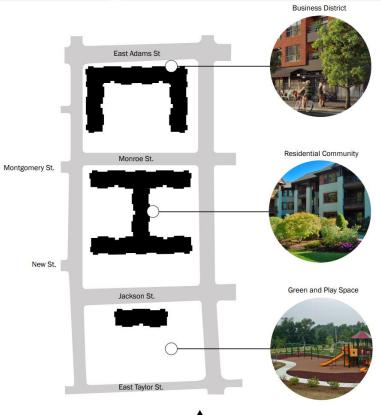
































SEED MIXED-USE MULTIFAMILY Site Plan





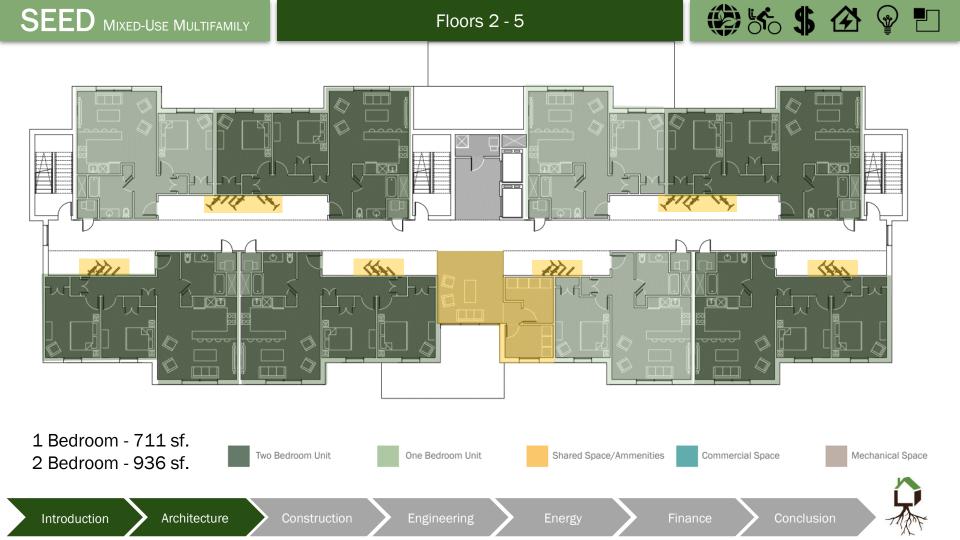












# Lobby Interior

















Introduction

#### **Ground Floor**

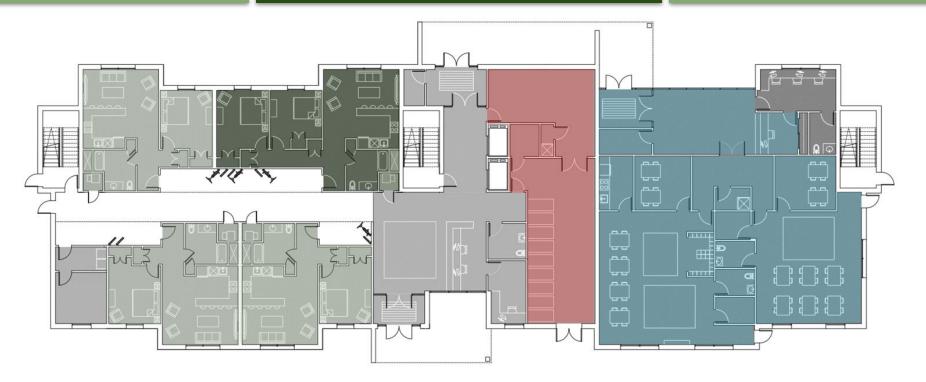














Two Bedroom Unit



One Bedroom Unit



Shared Space/Ammenities



Commercial Space



Mechanical Space

# **Commercial Space**

















# Constructability



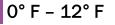










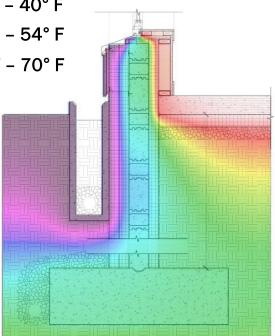


12° F – 30° F

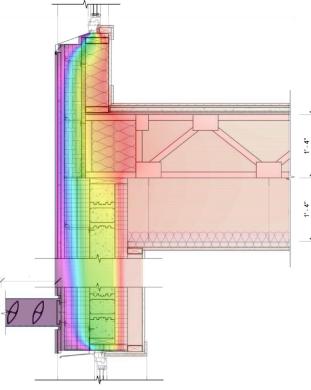
30° F – 40° F

40° F – 54° F

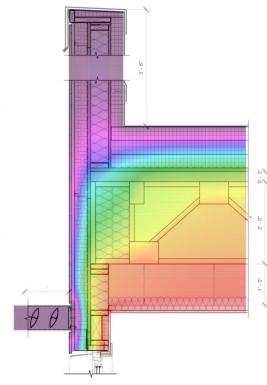
55° F – 70° F



Foundation Detail



First Floor to Second Floor Connection



Parapet Detail

# Air Sealing and Compartmentalization



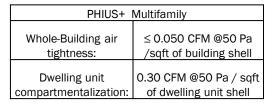


















**BEFORE** 

# SEED MIXED-USE MULTIFAMILY

#### **Source Control**

























Armstrong Wood Laminate Flooring







-Made from 60% Recycled Content -Low VOCs

-Immune to Pests and Bugs









-Use Post Consumer Recycled Content -Local Sourcing

-Tile Specific Recycling Program





#### Ventilation





















#### RenewAire HE Series ERV

- **Dual Premium Efficiency Motors**
- MERV 13 Filter
- **AHRI Certified**

#### **CERV II ERV**

- **Smart Control**
- Monitoring
- **Heat Pump**

#### **Duct Sealing**

- Simple Process
- Extremely Low VOC Sealant
- Longevity



# Space Heating and Cooling



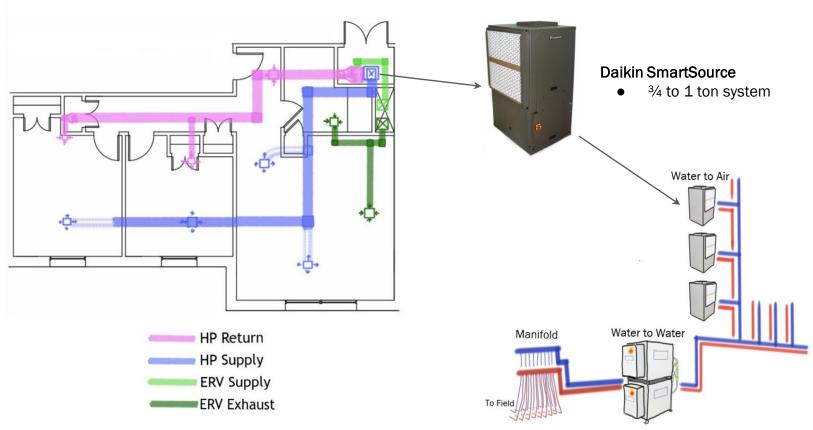














SEED MIXED-USE MULTIFAMILY Plumbing

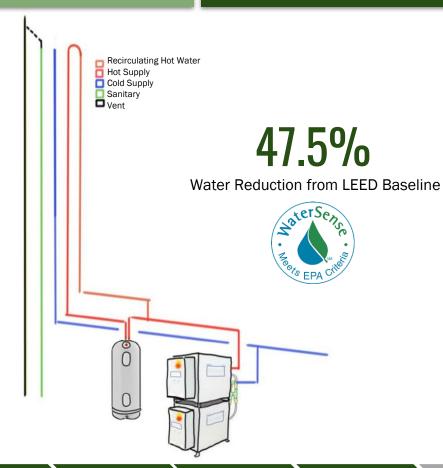


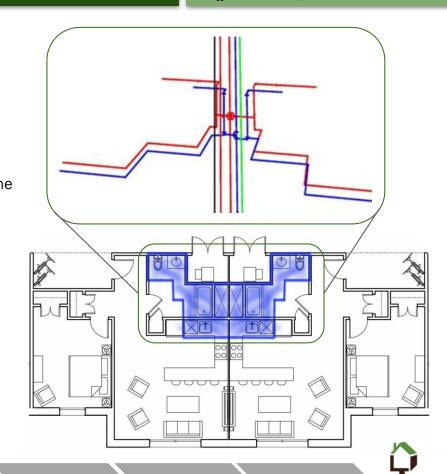


















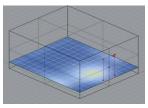


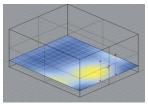


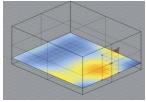


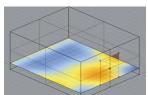




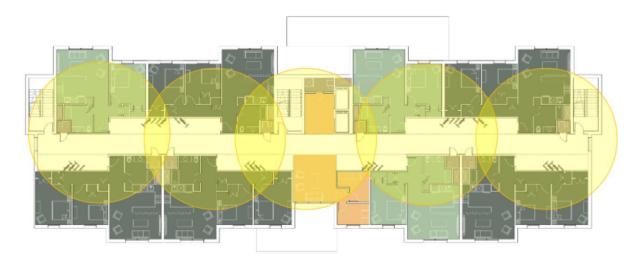








#### Sensored Occupancy-Zoned Lighting System



Energy



### **Demand Side Management**













Introduction







Photovoltaics



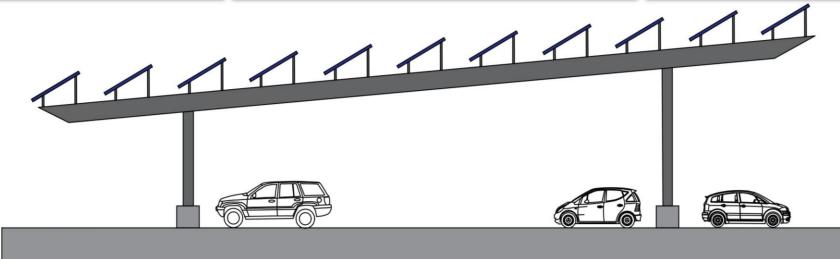












# Solar Car Port

- Size: 208.8 kw
- Production: 253,976 kWh/year
- Cost: \$750,000
- Cost With Incentives: \$386,920 (\$1.85/Watt)



Introduction







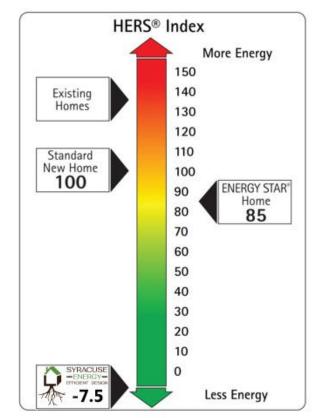








Net Source EUI:	33.6 kBTU/ft <sup>2</sup>
Net Site EUI:	10.6 kBTU/ft <sup>2</sup>
Annual Electric consumption:	487,761 kWh
Annual Electric production:	335,872 kWh
Annual Water consumption:	11.38 million gal.





#### Finance

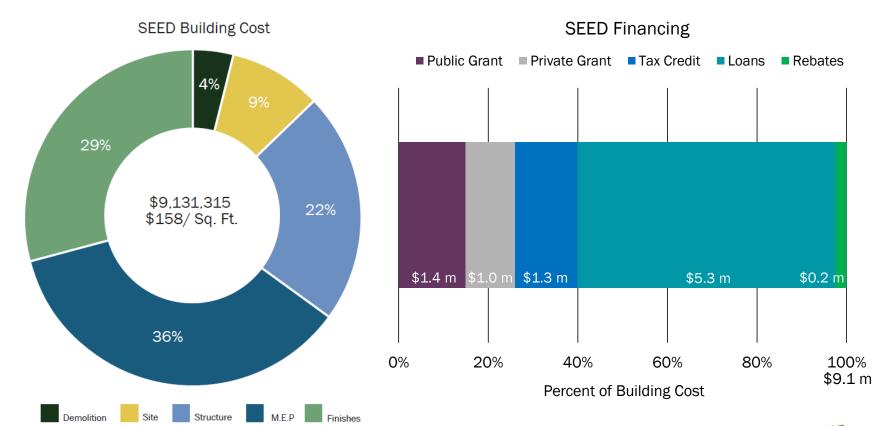














Introduction

Finance

Energy

# **Community Impact**















City blocks remade

1000+

Public housing units transformed

Acres covered

