

# ACSA/AIA Housing Design Education Award

2016-2017 Winner Submission Materials

RETROFITTING THE RUSTBELT CITY: Rethinking Resettlement and Urban Life Studios

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## RETHINKING RESETTLEMENT

### STRATEGIES FOR HOUSING BUFFALO'S REFUGEE POPULATION

How can architecture and urbanism contribute to the integration of refugee populations in an unfamiliar culture and promote the formation of authentic multicultural environments? How can we cultivate and maximize the latent potential of resettlement practices to encourage urban rejuvenation? The studio addressed these questions through research and design exploration via long-term rental housing and short-term transitory housing projects.

The students completed three separate tracks of inquiry in the first half of the semester: (1) case studies on supportive housing projects; (2) a holistic documentation of resettlement procedures in the US; and, (3) a multi-faceted analysis of Buffalo's East Side. The students were asked to develop the exact scope and location of their projects within a 4-square-mile catchment area in East Buffalo, a grossly under-served section of the city. In addition to housing, students were tasked with constructing effective but affordable programmatic mixes in order to facilitate social integration. We collaborated with a prominent resettlement agency, a neighborhood housing and community development group in East Baltimore, and scholars of social work and public health.

The studio served as an open platform for the collaborating nonprofit agencies to discuss potential development ideas. The research findings and the work of the studio were disseminated to the public health, social work, and resettlement communities through various venues. The students also exhibited their early schemes in a symposium on refugee health matters. Finally, the work was extensively covered in the local media, allowing us to contribute to the public debate at a high level.

### ARC 606- GRADUATE RESEARCH GROUP: INCLUSIVE DESIGN

- 1 GRADUATE STUDIO: RESEARCH
- 2 GRADUATE STUDIO: OCCUPYING THE BELTLINE
- 3 GRADUATE STUDIO: EAST SIDE COURTS
- 4 GRADUATE STUDIO: PADEREWSKI RETROFIT
- 5 GRADUATE STUDIO: "MARKET" HOUSING



# RESEARCH

THE HELP

UNHCR<sup>[1]</sup>



The Office of the United Nations High Commissioner for Refugees (UNHCR) was established on 14 December 1950 by United Nations General Assembly resolution

## Mandates<sup>[1]</sup>



Protecting



Supporting



Assisting

- Support refugees at the request of a government or the UN itself
- Provide protection for refugees and other persons of concern
- Provide assistance for refugees and other persons of concern

## Goals<sup>[1]</sup>

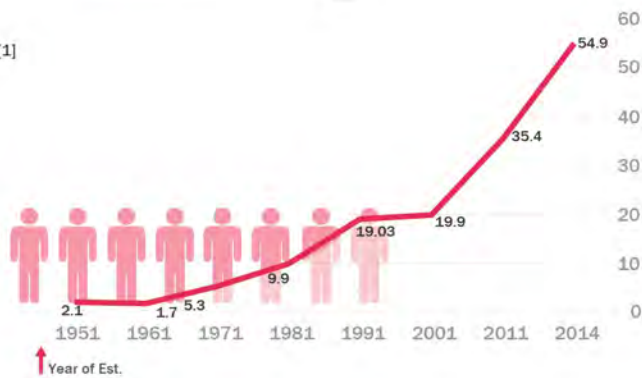


Well-being



Safety

Its primary purpose is to safeguard the rights and well-being of refugees.



UNHCR's Populations of Concern <sup>[1]</sup>

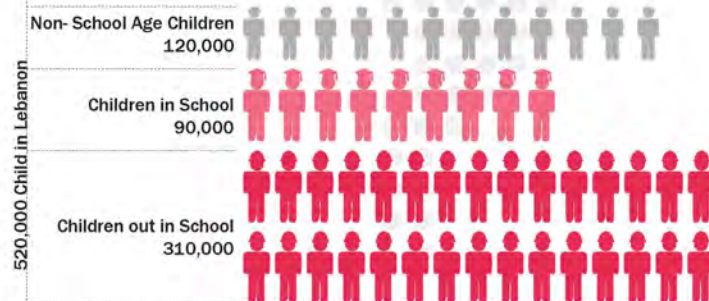
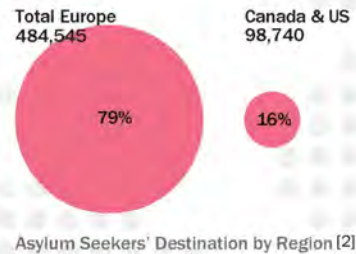
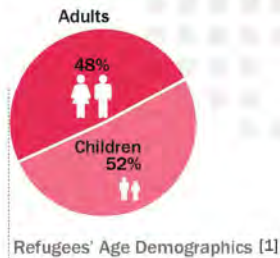


Contributions to UNHCR in Nominal and Real Terms (USD Billions) <sup>[1]</sup>

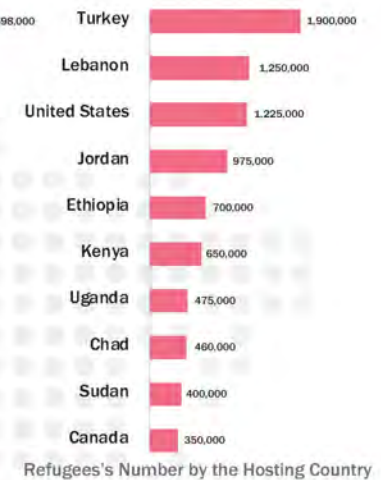
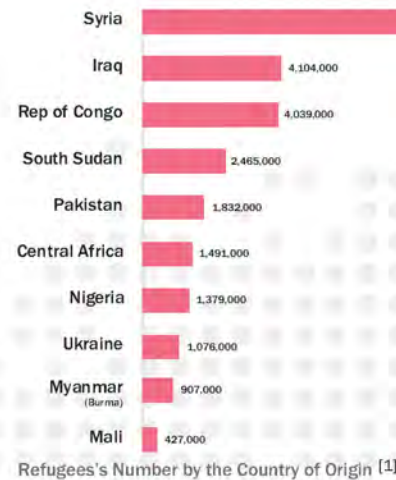


# RESEARCH

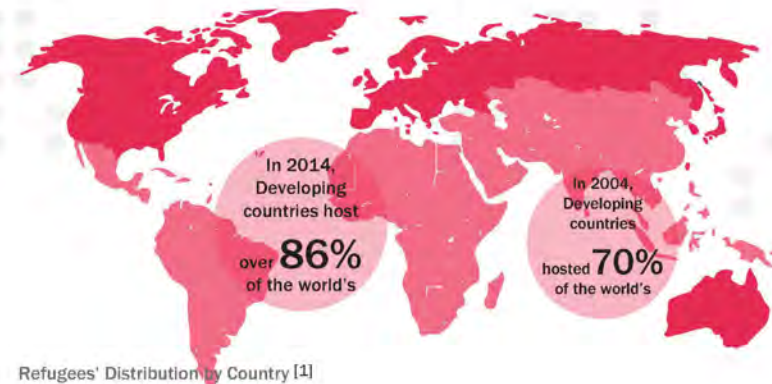
## GLOBAL STATISTICS



Syrian Refugee Children in Lebanon [1]



**42,500** persons per day were forced to leave their homes and seek protection elsewhere, either within the borders of their countries or in other countries due to conflict and persecution forced in 2014. [1]



## OCCUPYING THE BELTLINE



PROPOSED COURTYARD



FLEXIBLE UNIT CONFIGURATION



INTERIOR

This group identified a number of industrial buildings forming a ring around the city connected by an underused freight rail line, called the Beltline. There are long term plans to convert this piece of infrastructure into an effective part of the transit system. Furthermore, many of these buildings are eligible for historic preservation tax credits, rendering them feasible options for mixed-use developments intended for refugees and low-income groups. By adding austere but carefully designed architectural armatures containing social and commercial programs, this project proposes to mix diverse communities by sharing much-needed amenities such as day-care facilities, educational programs, and communal kitchens.



SECTION



## OCCUPYING THE BELTLINE



COURTYARD

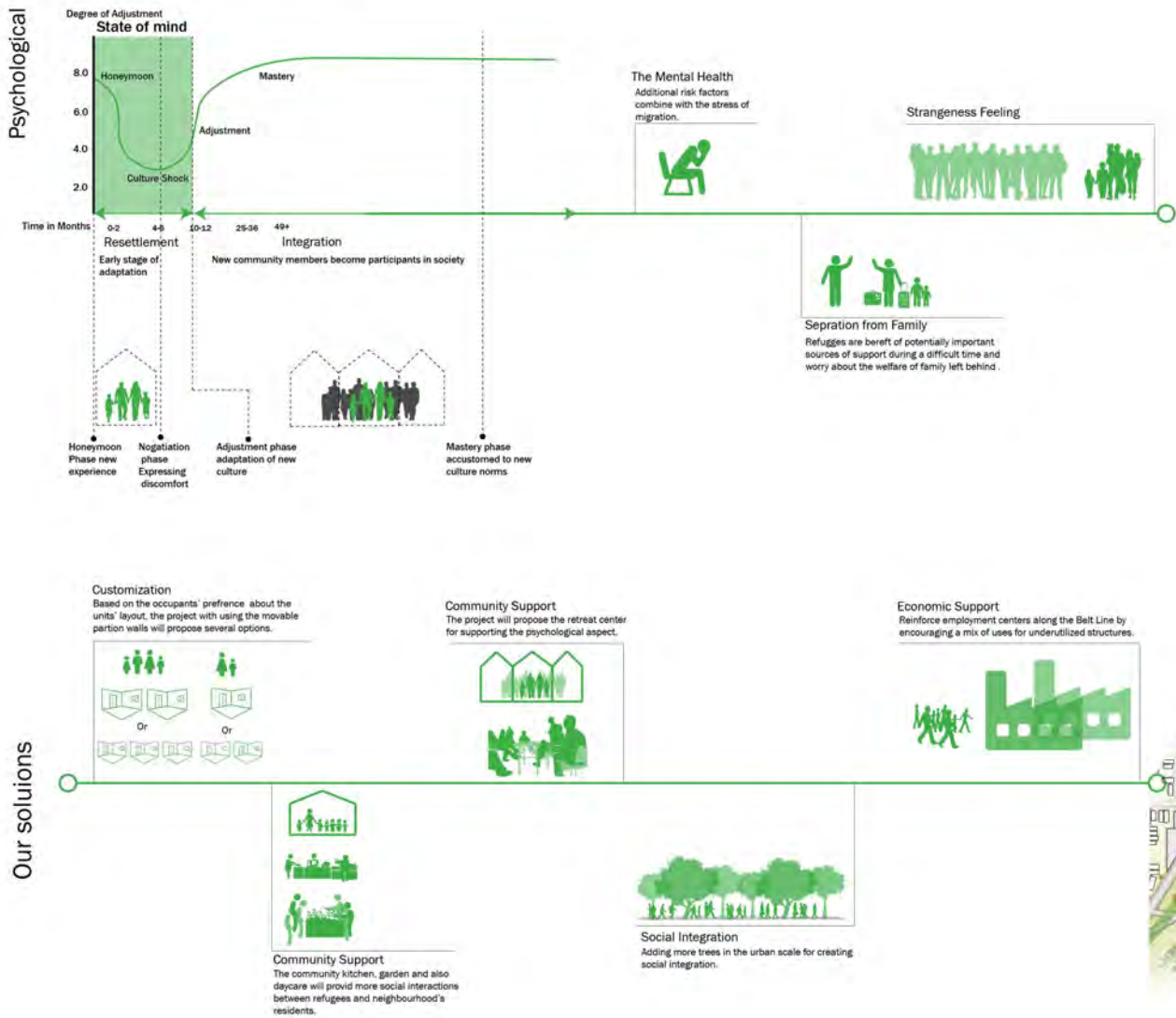


AERIAL VIEW



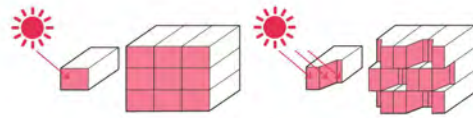
SITE PLAN

# OCCUPYING THE BELTLINE





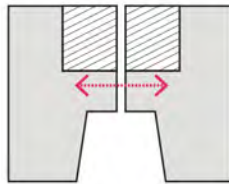
## EAST SIDE COURTS



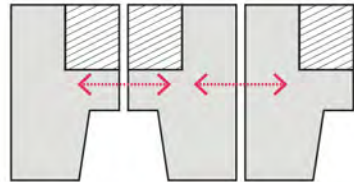
1- bedroom Unit



2- bedroom Unit



3- bedroom and 4- bedroom Units



MODULAR UNITS



COURTYARD VIEW

Given the continued influx of refugees to Buffalo, the resettlement agencies need to expand in capacity. As such, this group proposed a transitional housing development with embedded amenities, in which the refugees and homeless individuals could be accommodated for up to 90 days. The site is strategically located combining carefully identified affordable lots at an optimum walking distance to many urban assets and existing bus routes. The project employs prefabricated building modules, a growing strategic know-how in the region.



AERIAL VIEW

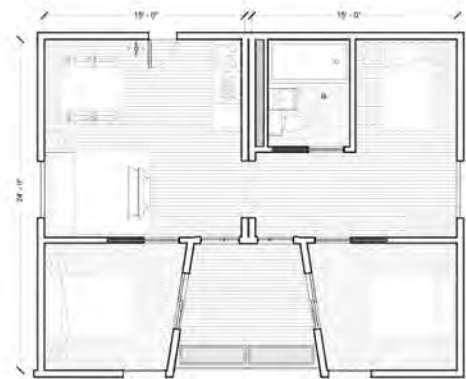


# EAST SIDE COURTS



**Bathroom**   **Kitchen**   **Living/Bedroom**

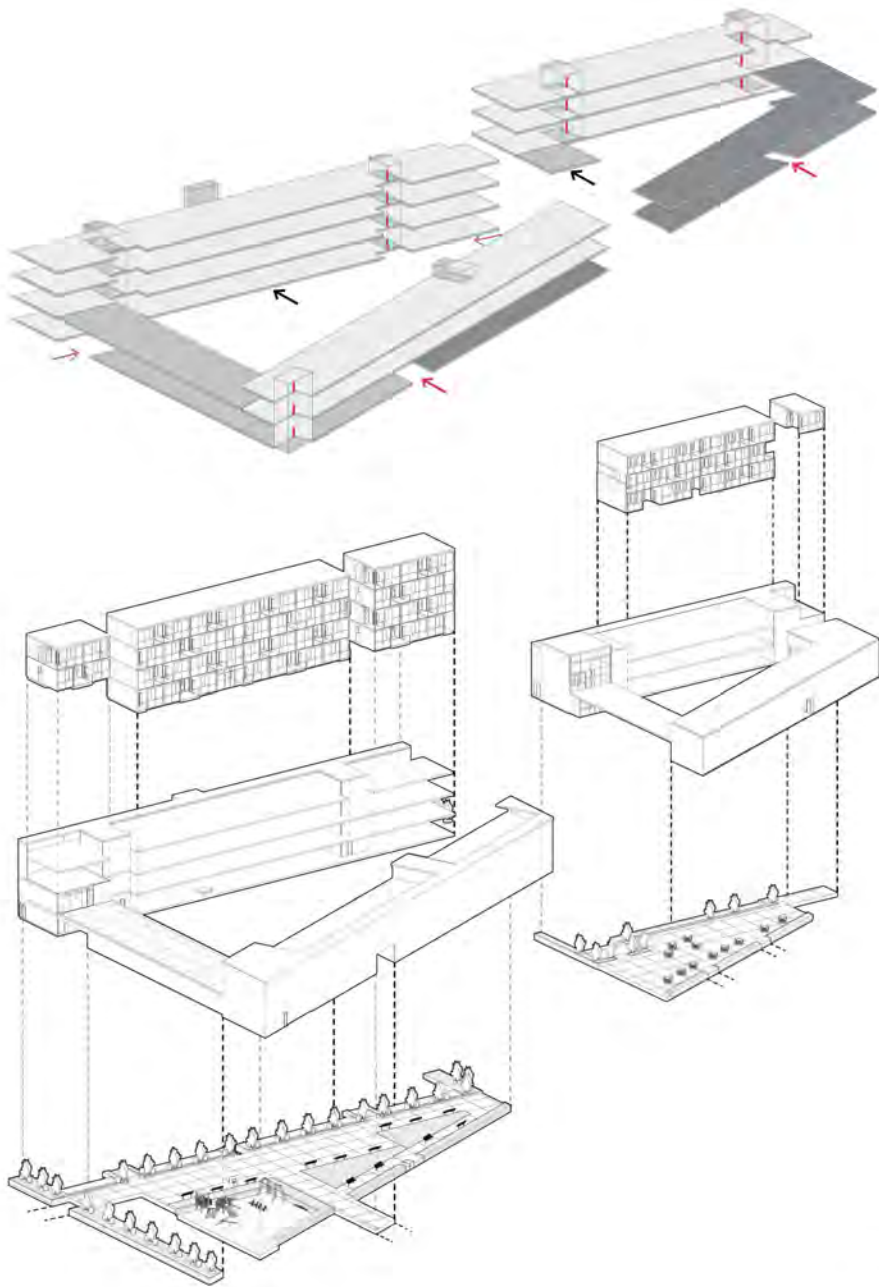
PLAN STRATEGY



LAYOUT

- |                                  |                                      |
|----------------------------------|--------------------------------------|
| <b>Commercial: 13,200 sq.ft</b>  | <b>Public Services: 10,700 sq.ft</b> |
| Store                            | English Class                        |
| Restaurant                       | Job Training                         |
| Cultural Stores                  | Indoor Playgrounds                   |
| Agricultural Farms (Green House) | Child Care                           |
| Retail                           | Second Hand Clothing Room            |
|                                  | Classrooms                           |
|                                  | Offices                              |
|                                  | Green House                          |
|                                  | Clinic                               |
|                                  | Gym                                  |

PROGRAM



# PADEREWSKI RETROFIT



EXISTING SHOTGUN HOUSE



EXISTING POLISH COTTAGES



NEW MODULAR HOUSE



MODULAR HOUSING TYPOLOGY



LONG TERM MODULAR APARTMENT



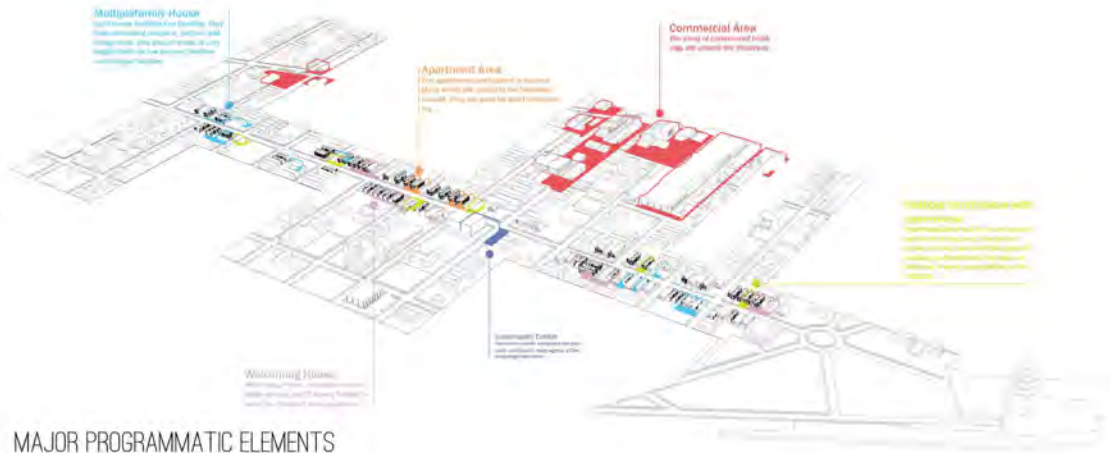
MIXED-USE N&S RETAIL HOUSE



MIXED-USE E&W RETAIL HOUSE



Seemingly stable urban-ethnic identities are often malleable, and could evolve over time toward rich and culturally hybrid neighborhoods. Focusing on a secondary street, Paderewski Drive, housing several educational, social, and commercial assets, this project proposes to retrofit and complete a historically Polish-American neighborhood inundated with vacant lots and dilapidated properties. By relying on existing resilient housing typologies and strategically reconfiguring the lot orientations, these simple modular dwellings provide well-calibrated urban relationships to create new conditions of frontage, programmatic richness, and an improved streetscape.



MAJOR PROGRAMMATIC ELEMENTS



SOFT SCAPE



## "MARKET" HOUSING

Based on the observation that air travel costs incurred by a refugee family is often higher than the average property values in East Buffalo, this project proposed a wealth building network through home ownership and business incubation. Starting with a careful survey of the district for vacant, foreclosed, and dilapidated properties, the project cataloged cost-effective renovation methods using cooperative networks. Building on an existing urban farming program and successful schemes, resettled and low-income families would become stakeholders in several urban farms while rejuvenating an existing but underused wholesale market building as a major community asset.



ARRIVAL

2017



RESETTLEMENT

EDUCATION



EMPLOYMENT



HOME OWNERSHIP



BUSINESS OWNERSHIP



NEW BUFFALONIANS WITH BRIGHTER FUTURE AND ALSO HELPING THE COMMUNITIES GROWTH.

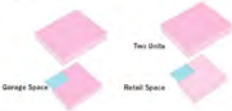
# "MARKET" HOUSING



House 01



One Unit

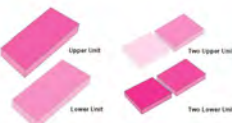


Garage Space

Retail Space



House 02

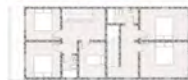


Upper Unit

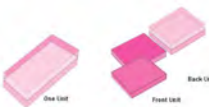
Lower Unit

Two Upper Units

Two Lower Units



House 03



One Unit

Back Unit



HOUSING STUDY

SECTION



## URBAN LIFE: SELF + SOCIETY

Last studio in the undergraduate curriculum, the housing studio brief asks the students to take on a wide set of multifaceted parameters from urban to tectonic scales. The work in my studio tends to be differentiated by deliberate formal research for complex configurations capable of addressing these diverse set of scales, while revealing, activating, and maximizing the latent potential of existing urban assets formally and programmatically. The students are asked to think about and anticipate the kinds of improved living habits their projects could foster at individual and collective levels.

### ARC 403- UNDERGRADUATE DESIGN STUDIO

- 6** FALL 2015: UNDERGRADUATE SENIOR STUDIO: HOUSING FOR RESTAURANT WORKERS
- 7** FALL 2015: UNDERGRADUATE SENIOR STUDIO: HOUSING FOR LONG-TERM REHABILITATION PATIENTS
- 8** FALL 2015: UNDERGRADUATE SENIOR STUDIO: LIVE-WORK HOUSING
- 9** FALL 2014: UNDERGRADUATE SENIOR STUDIO: HOUSING WITH A SUSTAINABLE PUBLIC POOL
- 10** FALL 2014: UNDERGRADUATE SENIOR STUDIO: HOUSING FOR LARGE FAMILIES

## HOUSING FOR RESTAURANT WORKERS



INTERIOR MODEL VIEWS



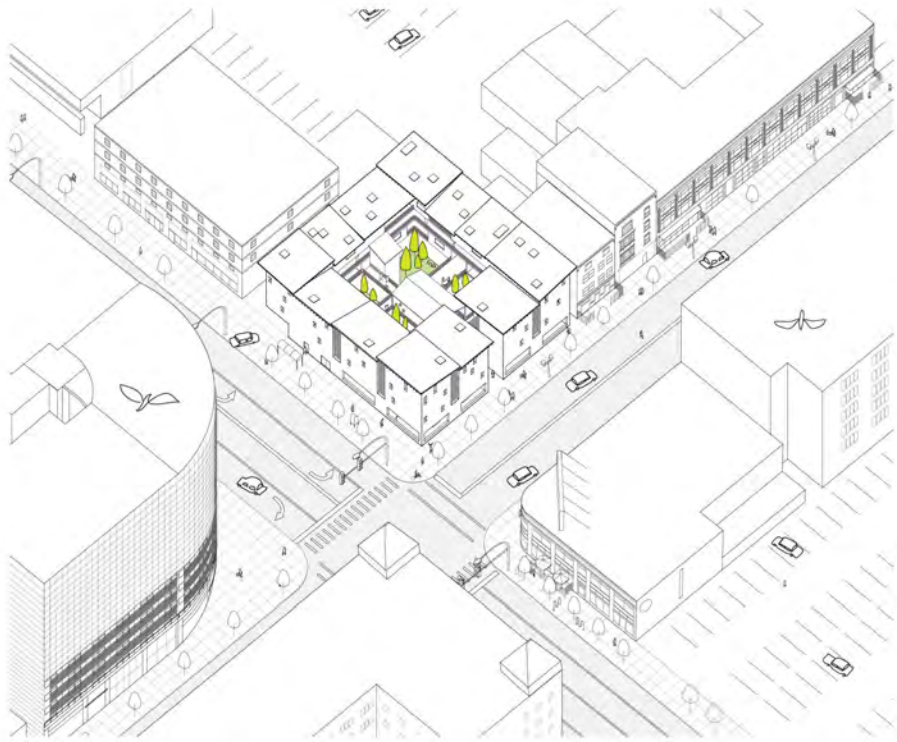
ELEVATION



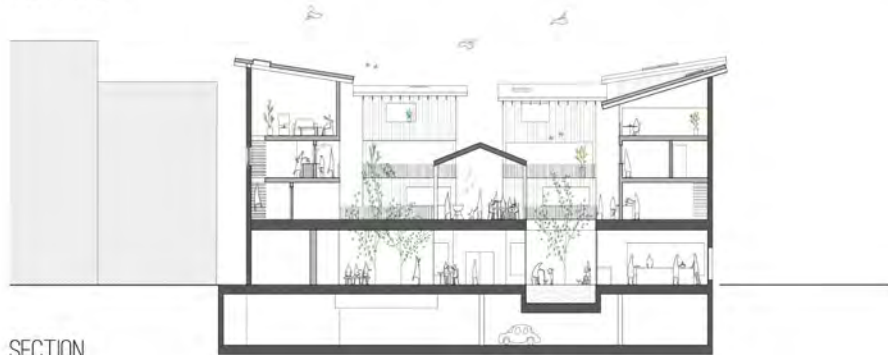
SECTION MODEL



## HOUSING FOR RESTAURANT WORKERS



AERIAL VIEW

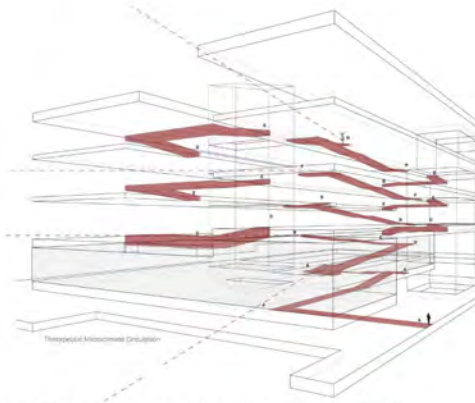


SECTION



TECTONIC AXON

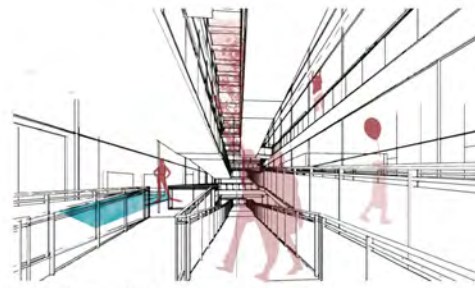
# HOUSING FOR LONG-TERM REHABILITATION PATIENTS



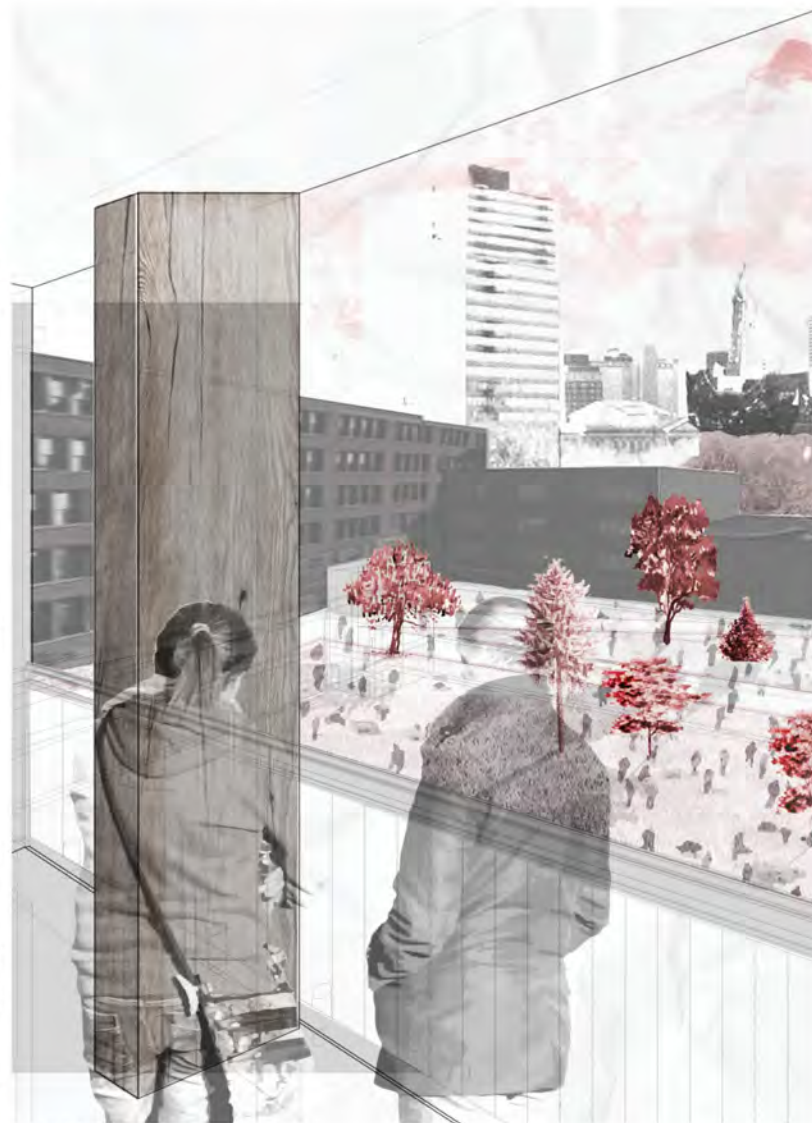
THERAPEUTIC MICRO-CLIMATE CIRCULATION



AERIAL VIEW



FIRST LEVEL INTERIOR ATRIUM VIEW



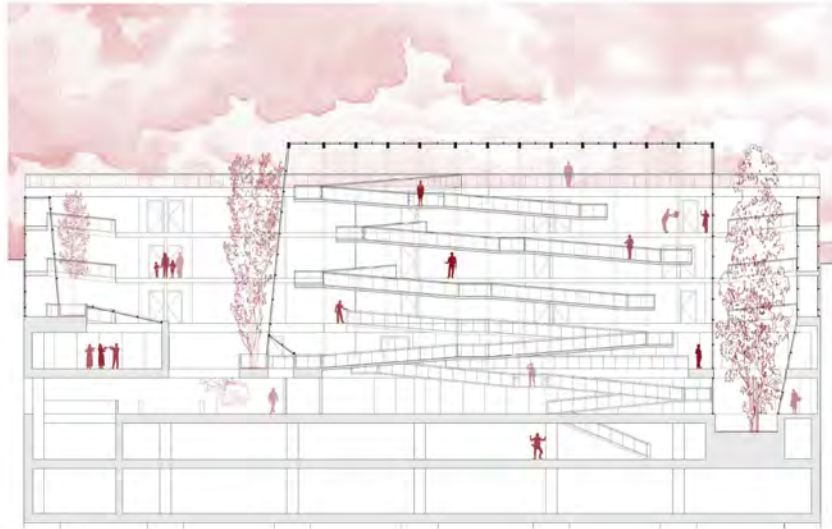
BALCONY VIEW TOWARDS PARK



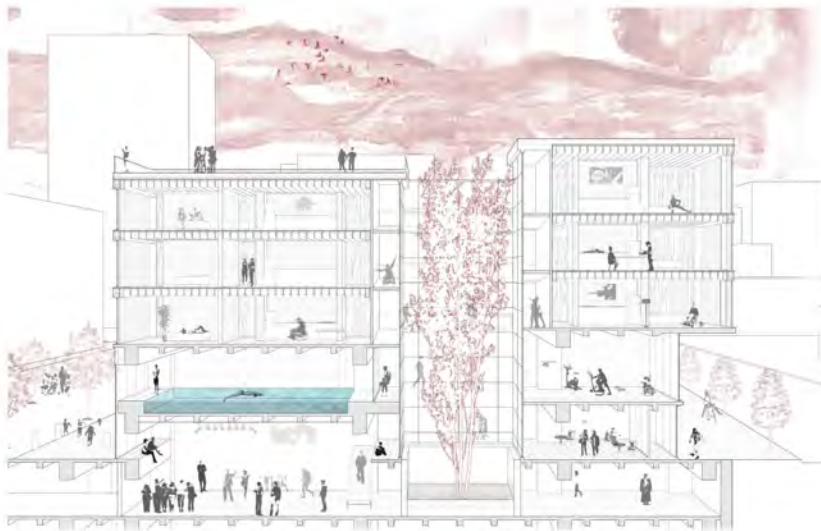
DELAWARE AVENUE ENTRY



# HOUSING FOR LONG-TERM REHABILITATION PATIENTS



SECTION



SECTION

Front Façade Wall  
Wood framed glazed storefront with  
tempered safety glass  
Wood framed glazed operable window  
with tempered safety glass  
Clear safety glass

External Wall and Beam  
Wall System: sandwich of beams and  
columns  
12 x 24 inch cast in place concrete beam  
with 4 #8 reinforcement  
#4 column ties 16 in O.C.

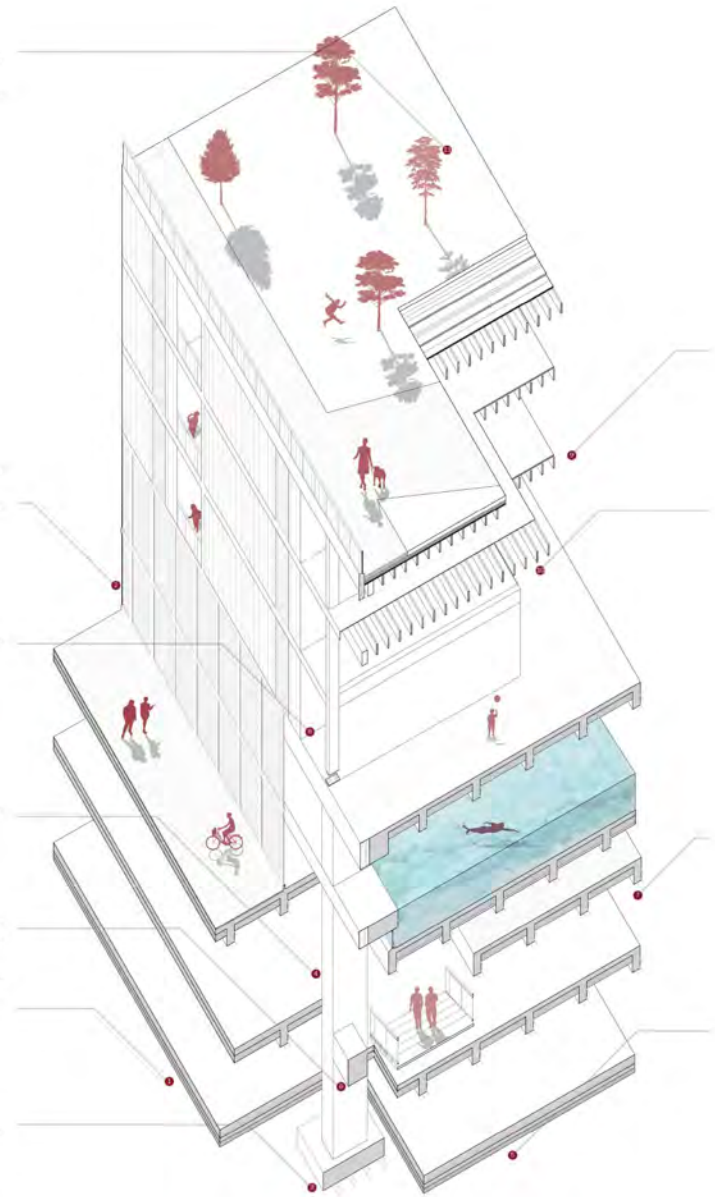
Column  
16 x 30 inch cast in place concrete with 8  
#8 vertical reinforcement  
#4 column ties 16 in O.C.

Beam  
30 x 36 inch cast in place concrete beam  
with 4 #8 reinforcement

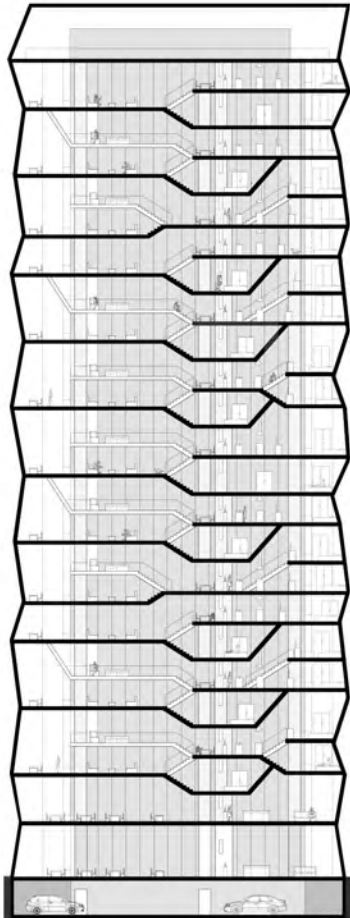
Front Façade Foundation  
1. 8 inch thick concrete slab footing with  
9 #8 reinforcement and #4 stirrups 12  
inches O.C.  
2. 10 inch thick precast PVC pipe with 6 inches  
of drain glass surrounded by 100 lb. fill

Drainage Foundation  
16 x 16 inch cast in place concrete post #4 in  
tube with #8 reinforcement

TECTONIC AXON



## LIVE-WORK HOUSING



SECTION



MODEL STUDIES





## HOUSING WITH A SUSTAINABLE PUBLIC POOL



RENDERS

9

FALL 2014: UNDERGRADUATE SENIOR STUDIO: HOUSING WITH A SUSTAINABLE PUBLIC POOL

PAGE 18

## HOUSING WITH A SUSTAINABLE PUBLIC POOL



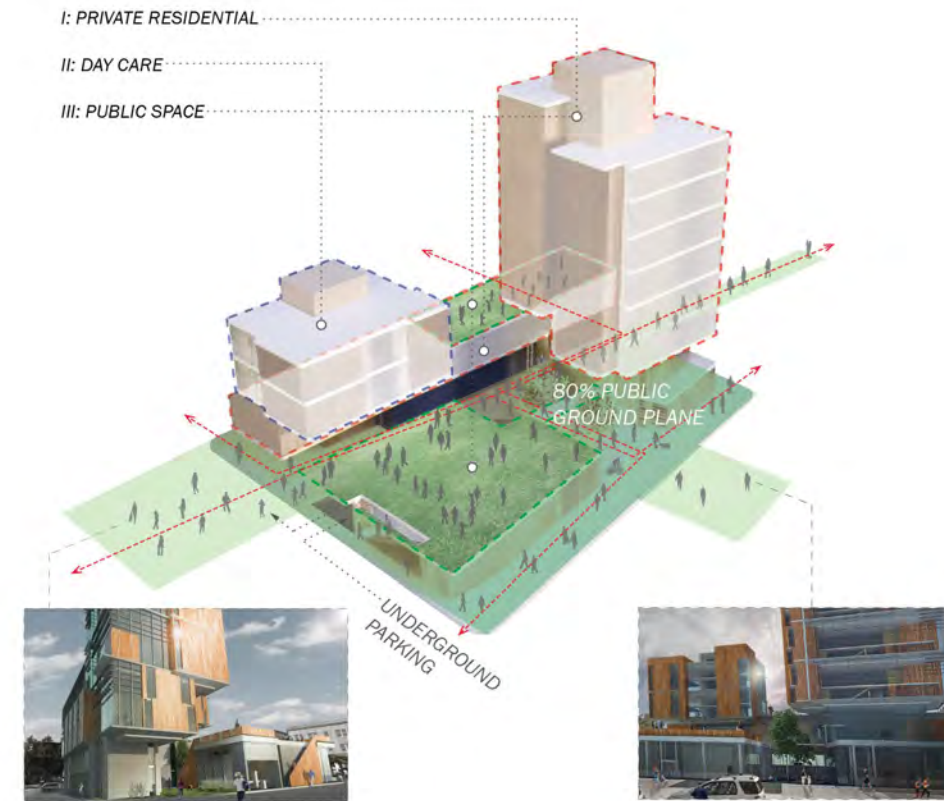
RENDER



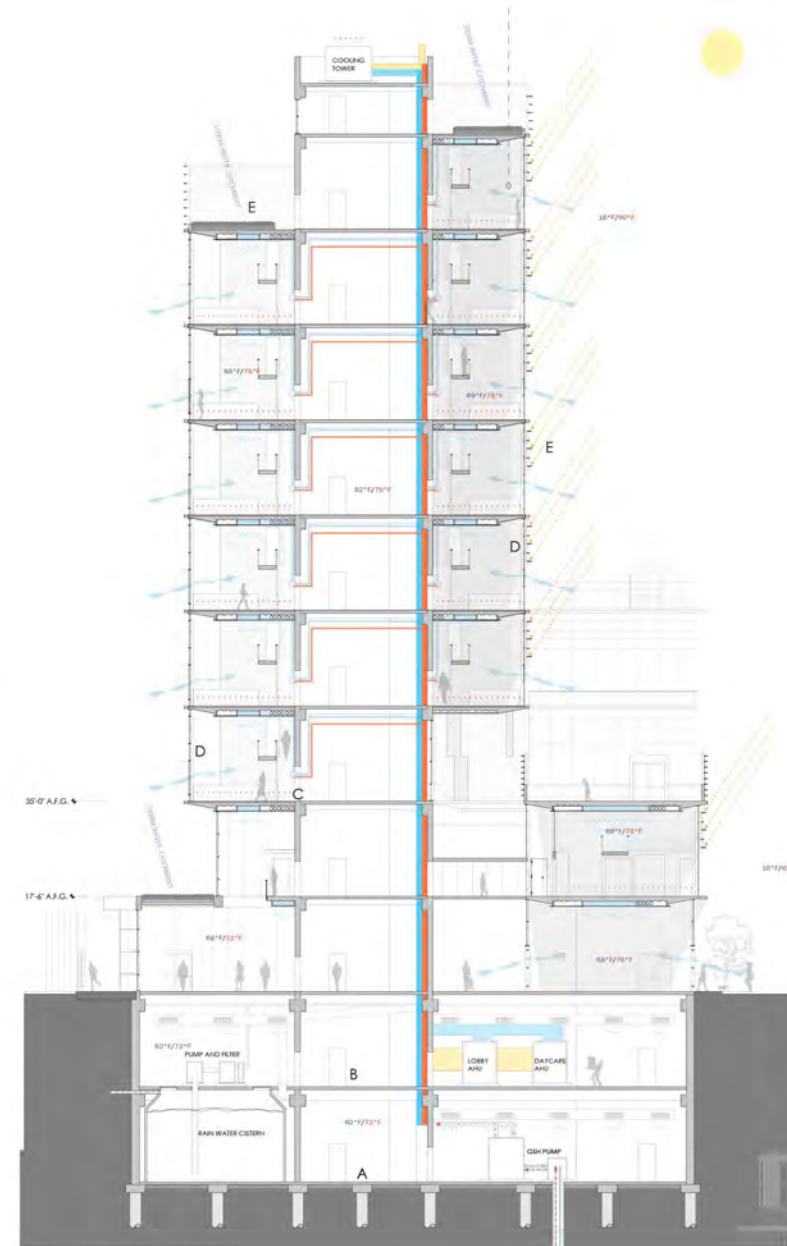
SECTION MODEL



## HOUSING FOR LARGE FAMILIES



URBAN DIAGRAM



SYSTEMATIC SECTION