

An architectural rendering of a modern, multi-story residential building with a courtyard. The building features a mix of wood paneling and large glass windows. In the foreground, a woman and a young girl are walking along a paved path in the courtyard, which is landscaped with plants and a wooden fence. Other people are visible in the background, suggesting a community atmosphere. The entire image is overlaid with a semi-transparent blue filter.

# Costs and Benefits of Affordable Housing

What Makes the Design of Affordable Housing Unique?

ARCHITECTS  
**FORA**

A stylized graphic element consisting of a blue-outlined square with a diagonal cutout on the right side, positioned to the right of the word 'FORA'.

# Affordable Housing Design Outline

## 1 / Designing for Specific Populations

Resident Focused, Research on Special Needs, Amenities + Support Services

## 2 / Community Context

Designed to Reflect the Community, Community Engagement, Investing in Community Building

## 3 / Housing Crisis = Need for Higher Density

Capital A Affordable Housing, Maximize Use of the Site, Massing + Exterior Facade Moves

## 4 / Durability + Sustainability + Accessibility Goals

Funding Requirements, Ensuring Affordable Rentals for 55 Years



A photograph of a modern, multi-story residential building with a complex, layered facade. The building features horizontal siding, large windows, and cantilevered upper floors. The entire image is overlaid with a semi-transparent blue filter. A white diagonal shape cuts across the right side of the image. The text '01 / DESIGNING FOR SPECIFIC POPULATIONS' is centered in white, sans-serif font.

# 01 / DESIGNING FOR SPECIFIC POPULATIONS

Affordable Housing Design...

## SERVES SPECIFIC POPULATIONS

Low-Income  
Households

Large  
Families

Seniors

Transitional  
Age Youth  
Exiting the  
Foster System  
(TAY)

Adults with  
Intellectual  
Developmental  
Disabilities  
(IDD)

Veterans

Families at  
Risk of  
Experiencing  
Homelessness

Individuals  
who have  
Experienced  
Chronic  
Homelessness



Mitchell Park Apartments  
IDD Community + Low Income



Roosevelt Park Apartments  
Families + Transitional Foster Youth + Rapid Rehousing



Auzerais Apartments  
Permanent Supportive Housing + Low Income



Leigh Avenue Senior Apartments  
Seniors who have Experienced Chronic Homelessness



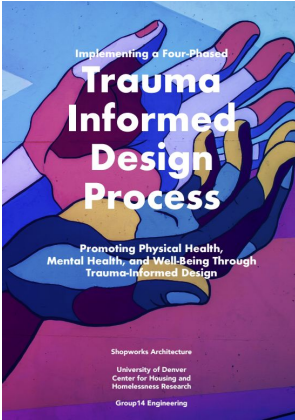
Jamesi Village  
Veterans + Formerly Homeless + Int. Dev. Disabled



Orchard Gardens Apartments  
Family + Rapid Rehousing + IDD + PSH



# Affordable Housing Design... IS BACKED BY RESEARCH



The Kelsey

Housing Design Standards for Accessibility and Inclusion  
ESSENTIAL ELEMENTS

**Trauma Informed Design**  
**The Kelsey: Design for Inclusion**  
**Human Experience Research**  
**Community Engagement with Potential Future Residents**  
**Working Sessions with Resident Service Providers**  
**Post Occupancy Evaluations**



**WAYMARKING: DESIGNING FOR PEOPLE**

**Waymarking** is a purpose, directed and intentional activity, and leads to leading such as signs, walls, or floor graphics to create a sense of direction and purpose.

The way humans navigate through space change as with age (Pruitt & Fisher 1987). And as people become more familiar with a space, they develop memory based on spatial relationships such as landmarks and spatial trails. From McCallister & Brown 2000, there are a number of ways that signs and markers can be used to assist people with navigation. Women use more color-coded, with less use more color-coded and generative or frame-related processes (Kilgus 2005). Studies show that wayfinding ability to improve may be due to a decrease in the ability to use cognitive strategies (Garrison et al., 2011), caused by age-related changes within the brain (Estroff, 2015).

**Wayfinding should include visual hierarchy and communicate the right message at the right time.**

**Internal Mapping**  
Cognitive maps are internal representations of experiences made in the external environment; however, they are not necessarily as easy to navigate through the space. They are able to capture and hold information about the space they're in. Research has shown that most people do not walk an exploratory path through an environment, but rely on the first major orientation cues, such as the color of walls, windows, doors, and signs to help them navigate. To develop a cognitive map, users need to have a clear and consistent knowledge of these experiences. In total, cognitive mapping is mostly related to: (1) identifying and marking spaces, (2) gauging scale and distance, (3) timing and sequencing spaces, and (4) communicating this information to the user.

**Memorable Forms**  
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**Identity**  
Wayfinding and the built environment has a large behavioral impact. Whether addressed through architecture or informational signs, the design of wayfinding systems should include: (1) Identifying and marking spaces, (2) gauging scale and distance, (3) timing and sequencing spaces, and (4) communicating this information to the user.

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## Trauma Informed Design

# Mitigate Sensory Overload, Allow for SENSORY DELIGHT



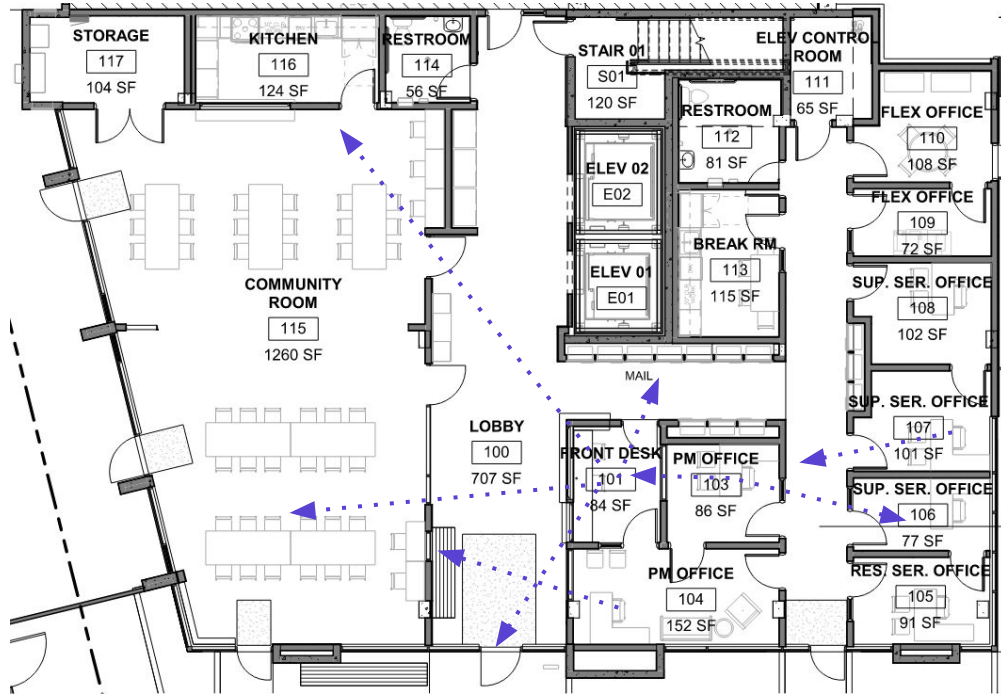
Unit Entry Alcove as a respite and transition between public and private spaces



Views to art that reflect the local flora and fauna

**Murals by Morgan:**  
Central Courtyard (left)  
Street Side Elevation (center)  
Parking Garage Entry (right)

# Create Opportunities for VISUAL Connection for **Safety** and Calming





# UNIVERSAL AND INCLUSIVE DESIGN

Section 4 / Elements / Element Details: Building Components

3.8

## Wayfinding Directional Signage

### Impact Areas



### Additional Benefits



1

Point Value

**Level 1 - Design building directional signage to be clear and broadly usable. ESSENTIAL ELEMENT**

- Signage includes room name or use in addition to room numbers, in both raised text and braille
- Signs are high-contrast (light text on a dark field yields the least glare)
- Signs have pictograms for non-English speakers, children, and others who cannot read
- Coordinate signage for the site and the building to use a consistent set of pictograms, wording, font style, etc.
- Directional signage: Position to face the direction of approach at intersecting routes and include arrows with room number groups or other primary rooms and functions
- In-stair signage indicates the floor number and direction to exit clearly
- Reference: [SITE - OVERALL DESIGN / SITE DIRECTIONAL SIGNAGE](#)

2

Point Value

**Level 2 - Use tactile building orientation / evacuation maps.**

- Tactile maps showing rooms and circulation spaces let people who are blind navigate spaces easier - can be 3D printed or built up. Locate at all primary entrances the primary access point to each floor, and all corridor intersections
- Consider having this available as printout for people to memorize/carry with them, especially if it contains evacuation information

3

Point Value

**Level 3 - Augment signage with QR codes.**

- Provides a link to additional online resources (information about the room, a link to get assistance or report a problem, etc.)

simple painted walls

wayfinding signage in pop color zone

dusty blue + wood to match lobby and exterior color

resident art opportunity / or bulletin?

2 strips of molding at 2nd floor, 3 strips for 3rd floor, etc.



# UNIVERSAL AND INCLUSIVE DESIGN

Section 4 / Elements / Element Details: Site

## 2.8

### Gardens and Courtyards Sensory Garden

#### Impact Areas



#### Additional Benefits



#### Sources

ELS for Autism School,  
Mikitan Architecture,  
National Disability Authority

1

Point Value

#### Include a sensory garden and aromatic plantings.

- Plants in a sensory garden are selected to stimulate and appeal to the five senses
- Fragrant plants at building entrances aid in wayfinding, particularly for people with cognitive, mental, or visual disabilities



Sensory garden mock-up



# HUMAN EXPERIENCE DESIGN

## Resident and Staff Personas

Our goal is to understand and empathize with these personas as representatives of real people as we progress through design and decision making process to ensure the built project/development/home best serves the real people who will live and work there.

Who are the people who will live at 38th Avenue? Who are the staff who will work/live at 38th Avenue?



LYDIA

### SAMUEL + LYDIA

- Samuel works in as a police officer, and Lydia is the primary care provider to their 6 children: Martin (16 yrs), Hugo (14 yrs), Martina (10 yrs), Mateo (8 yrs), Sofia (4 yrs), and Leo (2 yrs).
- The two older children go to Soquel High School and two middle children attend Soquel Elementary. Sofia and Leo are home with Lydia during the day.
- Their previous living conditions were unstable and not suitable for an 8 person family.



SAMUEL



JAMES

### JAMES

- James is a client of CCAH who lives in a studio unit on the ground floor
- He is on a fixed income through the state and receives health coverage through Medicare
- He has a physical disability that makes it difficult for him to drive, so he relies on the bus to get around town.
- James is sensitive to a lot of stimulation and would like access to quieter, semi-private outdoor spaces



BETTY

### BETTY

- Betty is 72 years old, and uses a wheelchair because of a recent hip replacement surgery
- She used to be a school teacher.
- She has a small 9-year-old chihuahua.
- She has 8 kids and 6 of them visit her regularly with their families.
- She's moving from a larger home to a smaller apartment, and is having a hard time downsizing.
- She likes spending time outside where she can have natural interactions with neighbors.



MARIA

### MARIA

- Maria is a single, working mom of two children: Luis (5 yrs) and Xavier (1 yr).
- She works as a dental assistant in Santa Cruz.
- Luis is in kindergarten at Soquel Elementary School.
- Maria's mom, Sonia, lives next door in the mobile home park and watches Xavier during the day.
- Maria is meeting with Cradle to Career coaches to become a better advocate for her children.
- Luis and Xavier have a lot of energy and need space to move around inside and outside.



EMILY



SONIA

### SONIA + EMILY

- Sonia and Emily are a young couple living in a one-bedroom apartment because they have a hard time affording the cost of living in the area.
- Emily recently received her Associates degree from Cabrillo college and works locally as a CNA at a skilled nursing facility.
- Sonia works at New Bohemia Brewing around the corner and is happy to be living within walking distance from her job.
- Together they like to volunteer teaching art classes at an art school program



WILL

### WILL

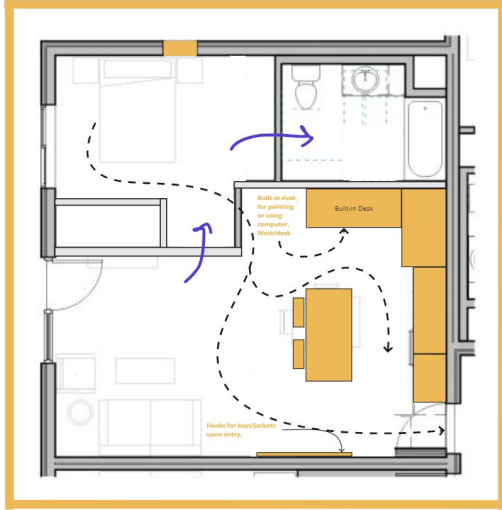
- Will is the onsite property manager for 38th Avenue and lives in Unit B12, a two bedroom unit on the 3rd floor.
- He has lived in Capitola his whole life and joined MidPen 1 year ago when construction was underway.
- He spends his weekends biking to his favorite local coffee shop, Verve Coffee Roasters on 41st Avenue and he surfs daily at Pleasure Point.
- He loves spending time with residents and connecting them with the resources they need.

Who are the people who will live and work at Capitola 38th?

Design with understanding and empathy. Consider the lived experience in every decision.

Ask questions to better understand each persona's typical day. Consider how the persona's day may start, how they will move throughout the site.

# HUMAN EXPERIENCE DESIGN



Issues to have bathroom accessible only through bedroom - might want to discuss with architect to see if they have any resident feedback about this.



**EMILY**

Small floor to see this change recommendation and discuss with owner then getting to see unit and see what they have to say with moving the desk.

My work schedule is hectic. I appreciate having two windows in our room. It helps to regulate my sleep cycle.

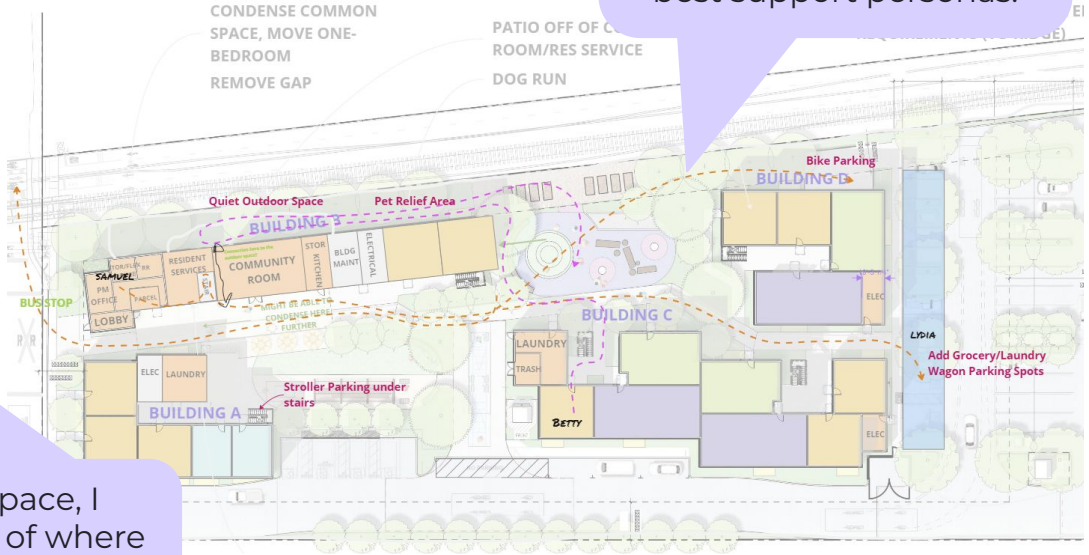


**SONIA**

Since we have limited space, I appreciate having options of where we spend our time in our home. I can work on my hobbies.

1-BEDROOM B FLOOR PLAN  $\frac{1}{4"} = 1'-0"$  3  
 $\frac{1}{1/32.11}$

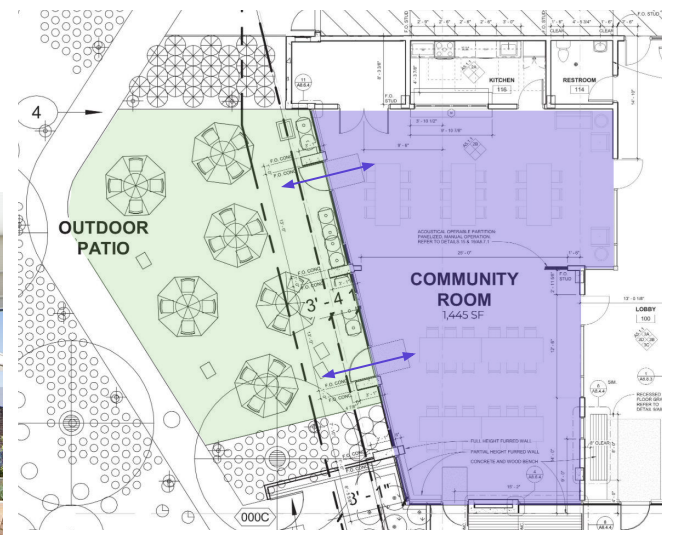
Since we have limited space, I appreciate having options of where we spend our time in our home. I can work on my hobbies.



Draw each persona's path of travel across site. Discuss strategies that may be implemented to best support personas.

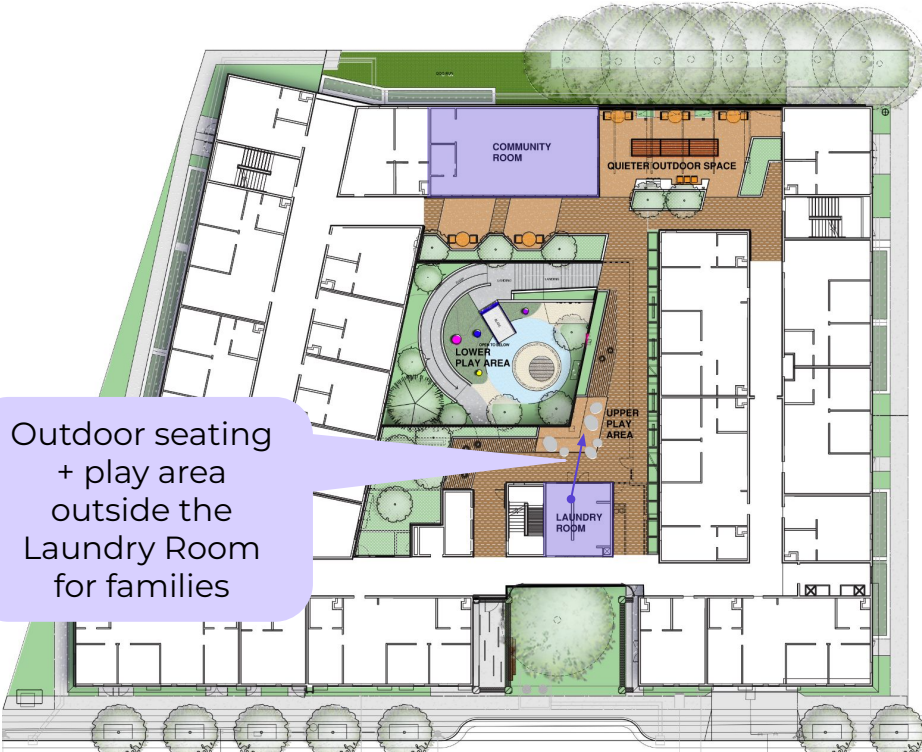
# Affordable Housing Design...

## AMENITY AND SERVICES RICH

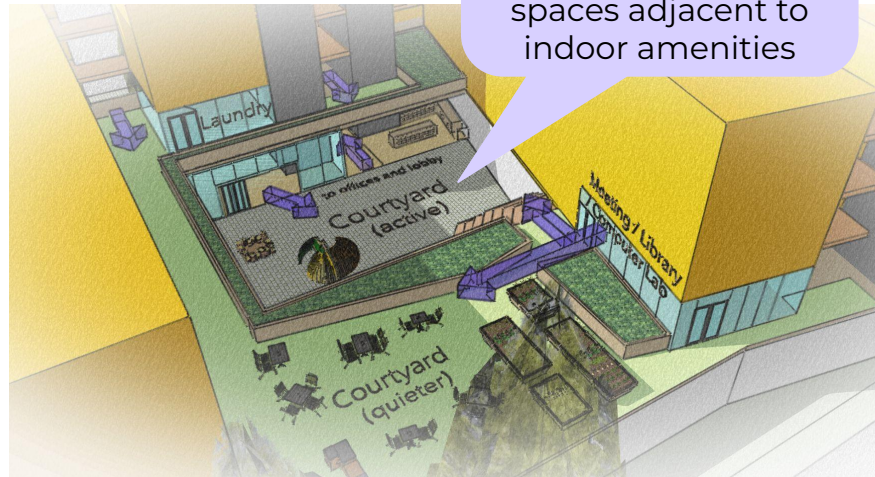


# Affordable Housing Design... AMENITY AND SERVICES RICH

Multi-level central courtyard allows for active play areas and quieter outdoor spaces adjacent to indoor amenities



Outdoor seating + play area outside the Laundry Room for families



## SITE FURNISHING AND AMENITY



PE-101  
STAINLESS STEEL EMBANKMENT  
SLIDE



PE-102  
EPDM PLAY SPHERES



PE-103  
CLIMBING WALL



# Affordable Housing Design...

## AMENITY AND SERVICES RICH



### Home First

Christina Figueroa, Services Director, Housing Retention  
 Kasandra Guerrero, Program Manager, Housing Retention  
 Lead Resident Service Provider for All Residents



Opening new doors for people with developmental disabilities

### Housing Choices

Alondra Chavez, Resident Coordinator  
 Luisa Curiel, Program Manager  
 Supporting Residents with Developmental Disabilities



### Veteran Affairs

Rhonda Staton, Supervisory Social Worker,  
 VA Supported Housing Program  
 Supporting Veteran Residents



### The John Stewart Company

Sonia Toor, Property Manager  
 Lynda Bright, Sr. Regional Director  
 Property Management for Entire Building





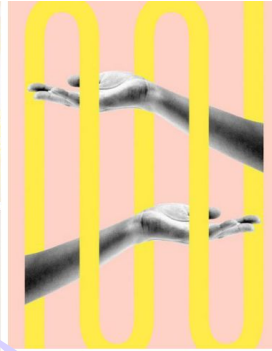
# 02 / COMMUNITY CONTEXT



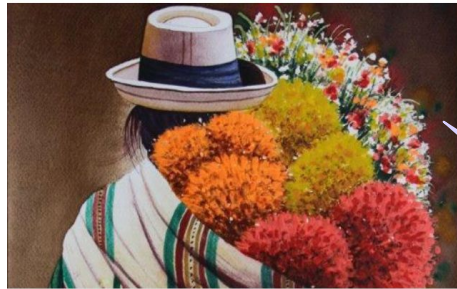
Affordable Housing Design...

# DESIGNED TO REFLECT THE COMMUNITY

Community:  
Spirited /  
Authentic / Seen



Taking a deep dive  
into history and  
culture to create  
buildings that  
celebrate place.



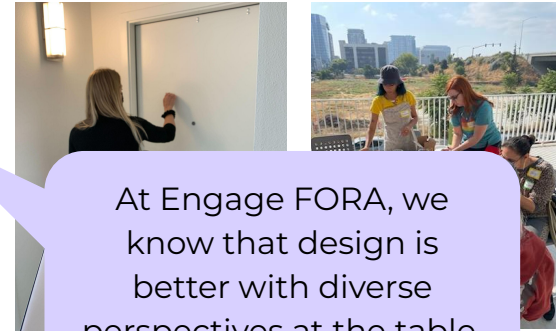
Reciprocal  
Preservation of  
Belonging:  
Exchange /  
Celebrate / Bound

Concept presentation courtesy of Determined By Design



Affordable Housing Design...

# PRIORITIZES COMMUNITY ENGAGEMENT



At Engage FORA, we know that design is better with diverse perspectives at the table.



# Affordable Housing Design... SUPPORTS COMMUNITY BUILDING





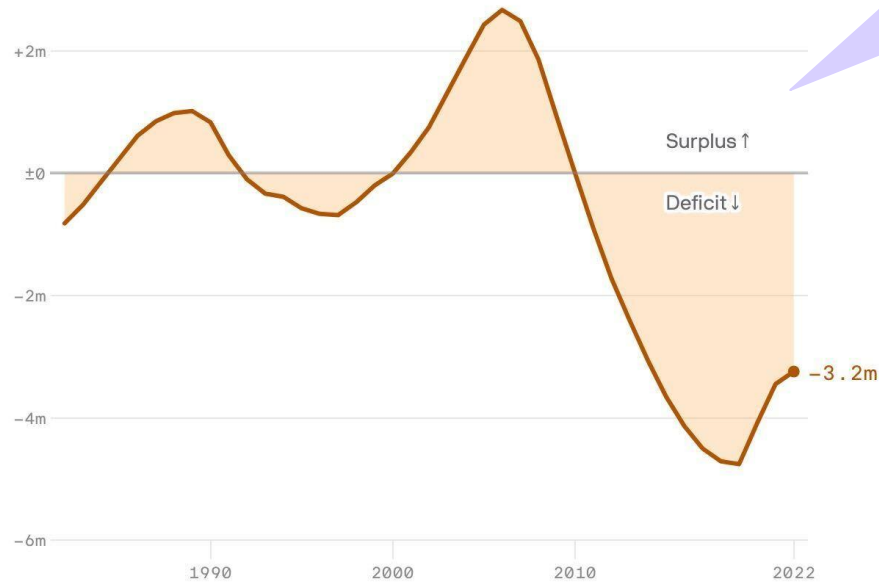
03 / HOUSING CRISIS =  
NEED FOR HIGHER DENSITY

We have been...

# UNDER PRODUCING HOUSING FOR DECADES

Existing housing units relative to population demand in the U.S.

Annually; 1982-2022



<https://www.axios.com/2023/12/16/housing-market-why-homes-expensive-chart-inventory>

**America is short around 3.2 million homes**, a big reason why prices are still high.

**Why it matters:** There aren't enough homes to keep up with the increase in households.

Between the lines: Apartment construction surged in recent years. **Yes, but:** Most newly built housing is high-end, and not widely affordable.

Affordable Housing Design...

# HIGHER DENSITY TO PROVIDE MORE HOMES



Part of property not zoned for multi-family housing - next to highway.



Property sandwiched next to raised highway and train tracks



Extremely odd shaped property - next to highway.

# Affordable Housing Design...

## HIGHER DENSITY TO PROVIDE MORE HOMES

### /1: LIGHT TOUCH

176  
Homes



- Maximizes the re-use of existing structures paired with renovation and strategic infill
- Minimize construction impacts from both sustainability and resident experience perspective
- Minimizes construction costs and timeline to completion

### /2: BALANCED APPROACH

267  
Homes



- Balanced approach to demolition of lower density and addition of higher density infill
- Prioritizes contextual scale and creating a central office + community hub
- Prioritizes clear project scopes and phasing to optimize number of relocations

### /3: HIGH IMPACT

347  
Homes



- Maximizes the number of homes added & corresponding service areas
- Prioritizes cost efficient development of larger scale, fully accessible buildings
- Optimizes for the long term maximization and best use of these sites



## Affordable Housing Design...

# WHY DOES IS COST SO MUCH?

### How is Affordable Housing financed?

Federal + State + Local sources, all with requirements associated:

Funding is Extremely Competitive:  
**Goal is to build as many units as cost effectively as possible**

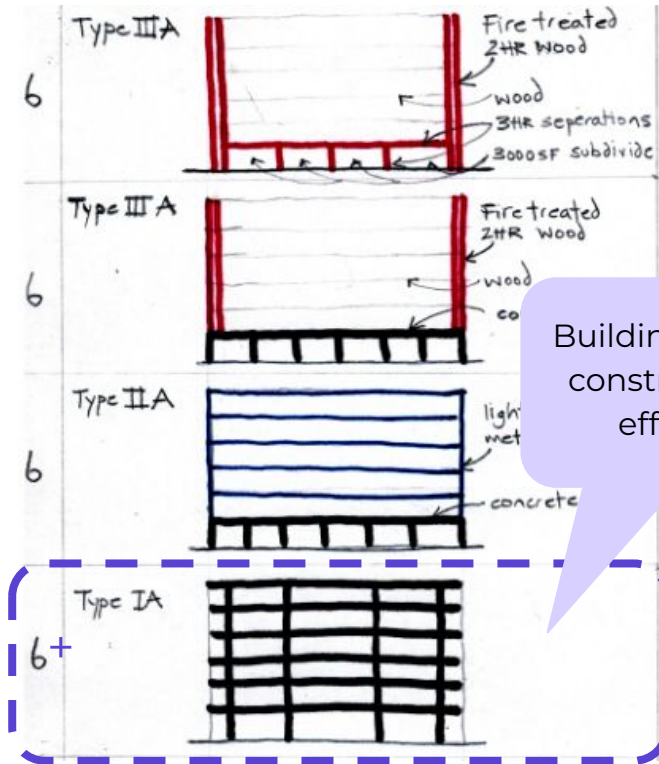
- Minimum size and mix of unit types ← - - - → Efficient unit sizes + greater clearances for accessibility
- Accessibility requirements and support spaces needed ← - - - → More support spaces + high level of safety requirements
- Construction and labor requirements ← - - - → Complicated construction types + prevailing wage labor rates
- Affordable rent rates for 55 years ← - - - → Durability key + keep operational costs low



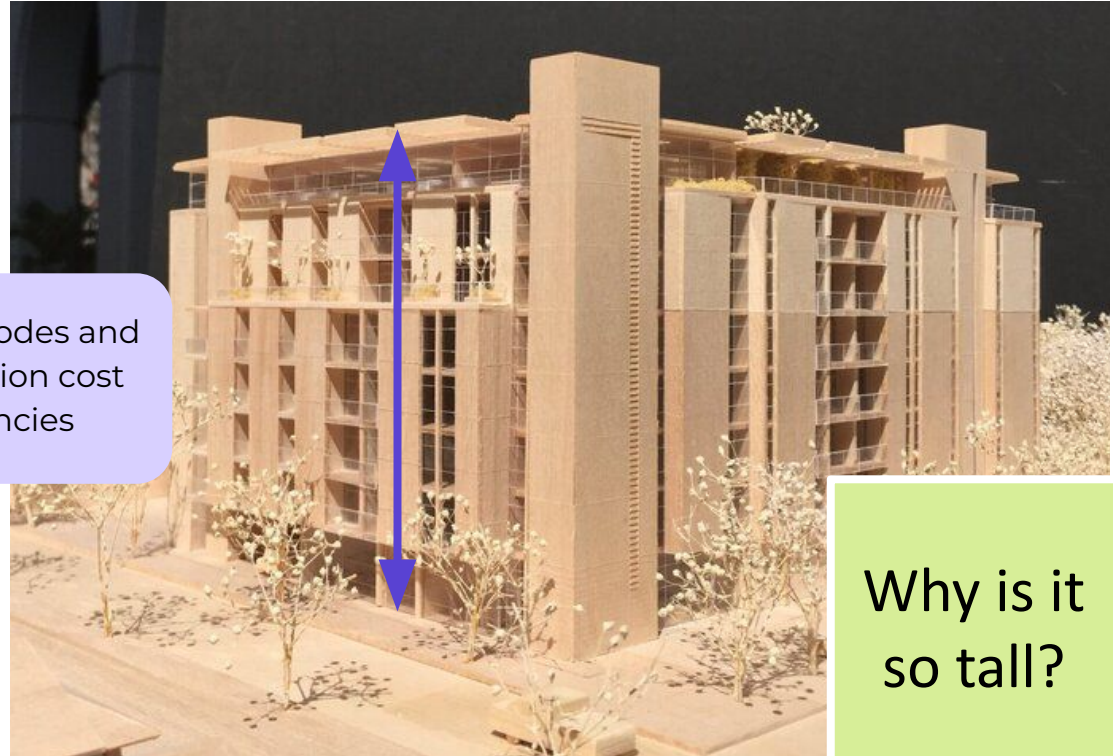


Affordable Housing Design...

# HIGHER DENSITY DRIVES DESIGN MOVES



Building codes and construction cost efficiencies



Why is it so tall?



Affordable Housing Design...

# HIGHER DENSITY DRIVES DESIGN MOVES



Why does the ground floor look like a concrete bunker?

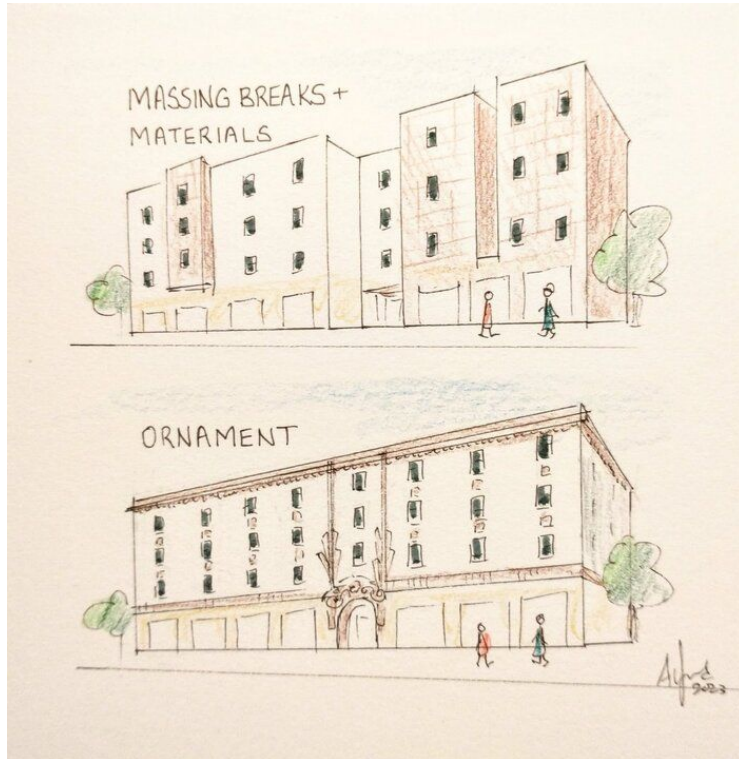


PARKING



Affordable Housing Design...

# HIGHER DENSITY DRIVES DESIGN MOVES



Why is it  
so  
boxy?

Maximizing number of  
units and efficiency of  
stacking units +

Affordable Housing Design...

# HIGHER DENSITY DRIVES DESIGN MOVES



16 Studios +  
4 Two-Bedrooms =  
20 NEW HOMES



Why are  
there so  
many  
windows?



Affordable Housing Design...

# HIGHER DENSITY DRIVES DESIGN MOVES

Do the residents have any privacy?



Fin walls are angled so windows do not look directly into other units

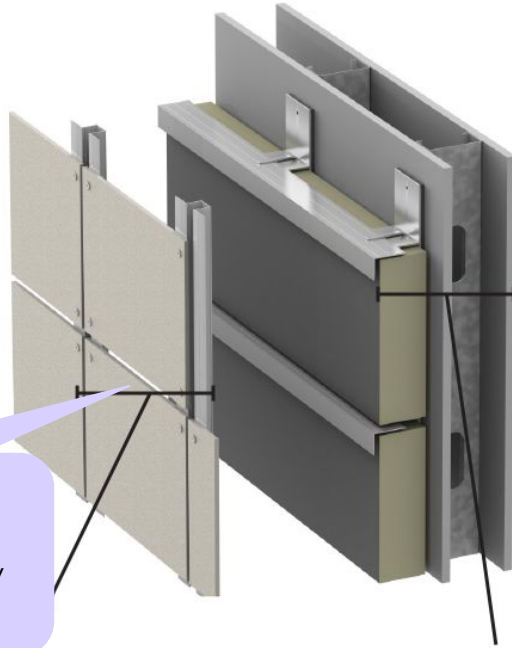


Affordable Housing Design...

# NEW TECHNOLOGY DRIVES DESIGN MOVES

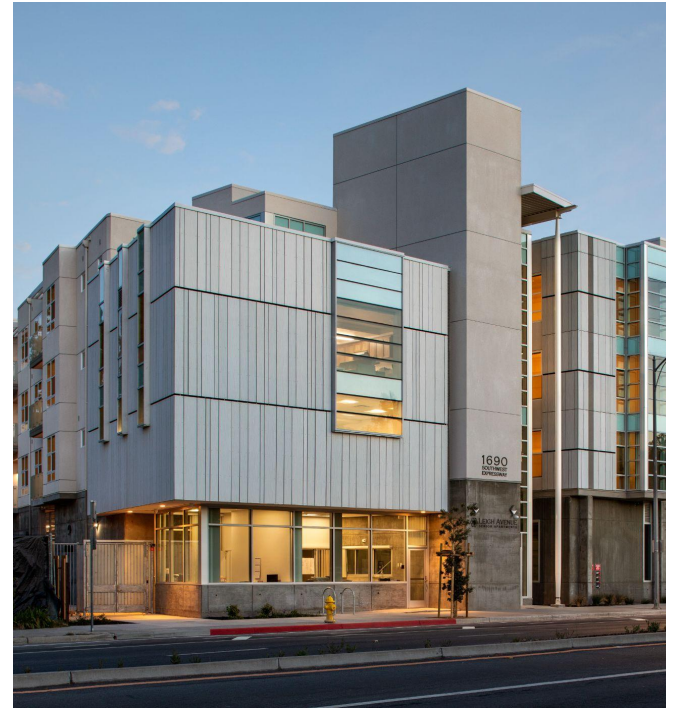
Why are all new buildings covered in rectangles?

Building Technology advancement to provide better energy efficiency + durability



**PANEL SUB-FRAMING**

**C.I. SUB-FRAMING**

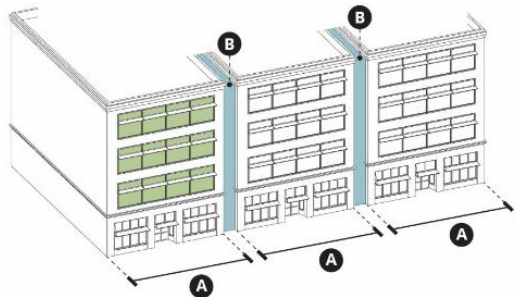


# Affordable Housing Design...

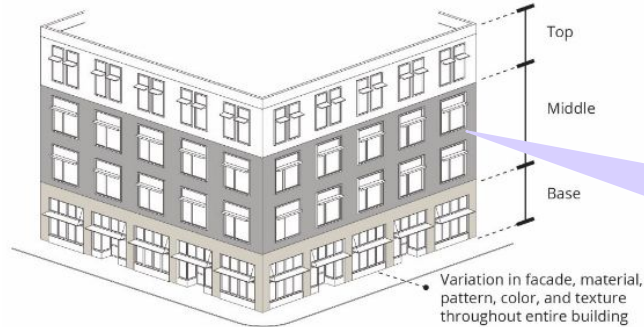
## CODE REQUIREMENTS DRIVE DESIGN MOVES



Why do they all look the same?



- A** Facade with horizontal articulation and fenestration pattern
- B** Vertical shift in modulation
- Horizontal articulation and fenestration pattern



Objective Standards



A photograph of a modern, multi-story building with a facade of horizontal siding. The building has several balconies and large windows. The image is overlaid with a semi-transparent blue filter. A white diagonal shape is on the right side of the image.

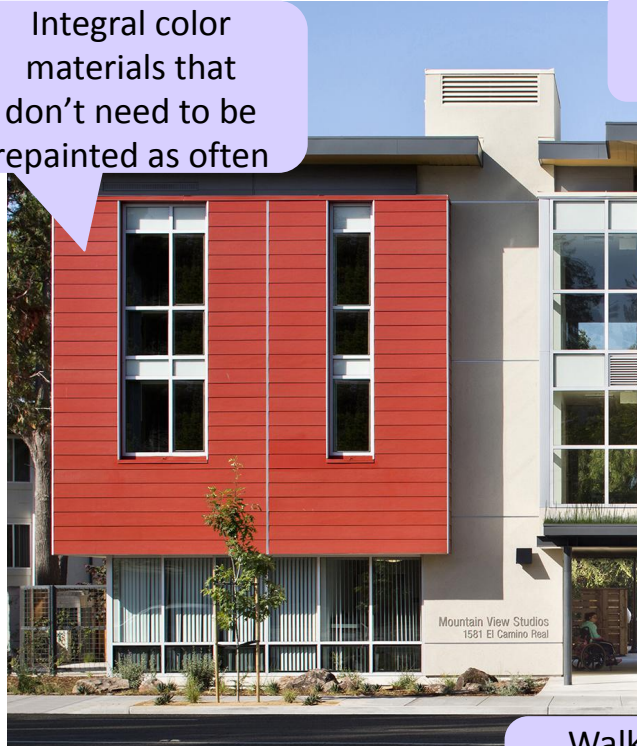
# 04 / DURABILITY + SUSTAINABILITY + ACCESSIBILITY GOALS



Affordable Housing Design...

# IS HIGH QUALITY + DURABLE

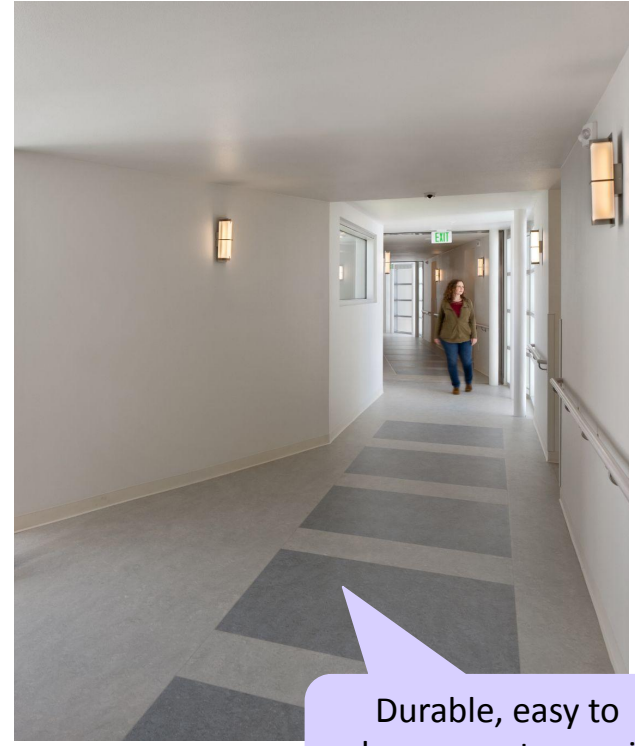
Integral color materials that don't need to be repainted as often



Corner trim for added protection

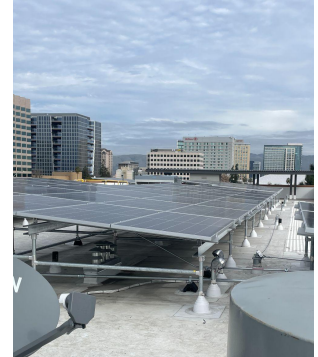
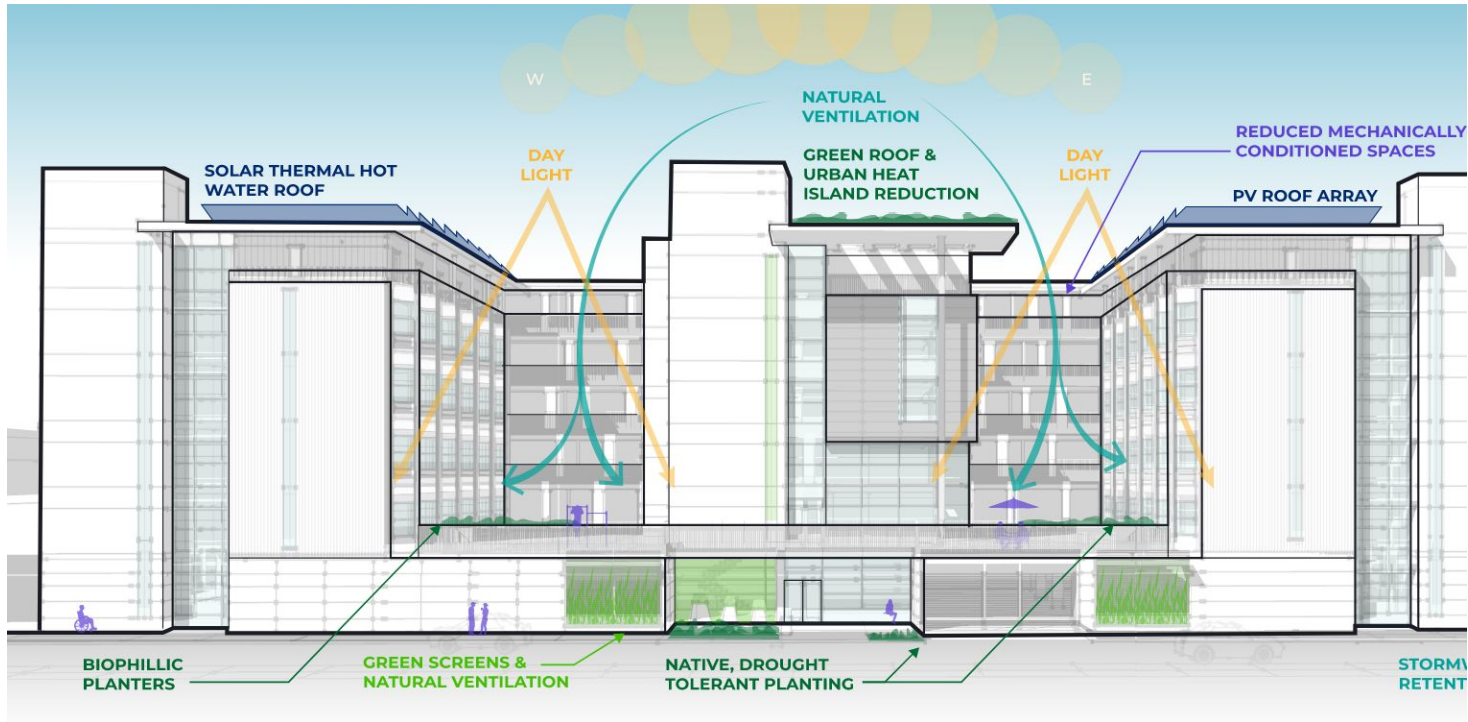


Walk-off entry mats at doors to units



Durable, easy to clean, easy to repair floor finishes

# Affordable Housing Design... IS SUSTAINABLE + RESILIENT



Affordable Housing Design...

# IS CONNECTED + TRANSIT-ORIENTED



# Affordable Housing Design... IS ACCESSIBLE FOR ALL ABILITIES

Basements of newly designed and existing buildings and facilities and existing buildings and facilities shall comply with the requirements.

**CONNECTED ELEMENTS** At least one continuous accessible building path shall connect accessible spaces and existing buildings and facilities, including otherwise connected by a ramp, lift, or other means, as required by Section 11B-404.1 through 404.7.

**DOOR SPACES** Within a doorway, door, or gateway, clearances shall comply with this Section 11B-404.2.

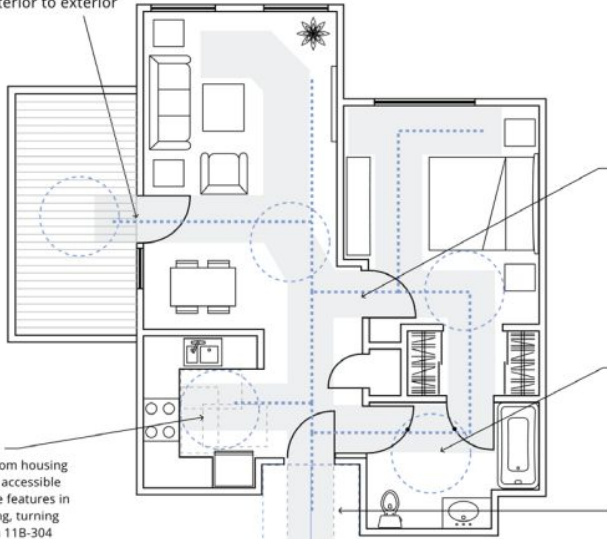
**ACCESSIBLE DWELLING UNITS** All accessible dwelling units required to be provided shall comply with Sections 11B-809.4, all doors and door passages shall comply with Section 11B-404.2.

## 11B-804.2.3 TURNING SPACE

In kitchens within multi-bedroom housing units and on floors containing accessible sleeping rooms with adaptable features in undergraduate student housing, turning spaces complying with Section 11B-304.2 shall be provided.

## ACCESSIBLE AND ADAPTABLE UNITS (CA Ch. 11B only) 36" WIDE MINIMUM ACCESSIBLE ROUTE THROUGH DWELLING UNIT

**WOOD DECK WITH SPACES**  
1/2" max change in level from interior to exterior



Accessible path of travel to unit entry must be provided.



# Affordable Housing Design...

Centers around the people who will live and work there.

Reflects its community context & supports community building.

Creatively responds to the need for more homes.

Is durable + sustainable + accessible for all.





Thank you!

Questions?

ARCHITECTS  
**FORA**

