

University of Virginia School of Architecture | M.Arch and MLA Thesis

THE INNER CORE OF RETENTION MINNEAPOLIS, MN

A non-degree-required thesis submitted to the
Master of Architecture Program
Department of Architecture

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University of Virginia
School of Architecture

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ABSTRACT

As Minneapolis enters the new chapter of development to accommodate the current and future population growth and housing needs increase, the new vision for 2040 continues to accommodate more infrastructure, especially housing units, with a change in zoning and built forms. This project, the Inner Core of Retention, seeks to assist the above vision by suggesting new opportunities for the existing residential cores equipped with a network of empty traffic alleys to transform into impactful public and amenity spaces through zoning changes and residents' participation. The Inner Core of Retention provides initial tool kit options for two piloting neighborhoods, Shingle Creek (a residential neighborhood) and Midtown Phillips (a residential neighborhood with a commercial corridor), tackling the needs for healthy food access, meaningful public activities and services, additional exercise options, sharing of culture and art, and spaces for remote work and self-study. The recommended structures will efficiently use the interior of urban blocks to facilitate and encourage collaboration among programs with different goals: financial incomes (like a coffee shop), shared activities (like a teaching kitchen), balanced individual and communal benefits (like a market garden), or public spaces (a communal BBQ area for example) with the help of additional zoning regulations.



MINNEAPOLIS 2040 AT A GLANCE

According to Minneapolis 2040 (Minneapolis 2040, 2018), the goal for the city includes the following goals:

- “• Eliminate disparities
- More residents and jobs
- Affordable and accessible housing
- Living-wage jobs
- **Healthy, safe, and connected people**
- **High-quality physical environment**
- **History and culture**
- **Creative, cultural, and natural amenities**
- **Complete neighborhoods**
- **Climate change resilience**
- **Clean environment**
- Healthy, sustainable, and diverse economy
- Proactive, accessible, and sustainable government
- Equitable civic participation system”

The new change in zoning also comes with an increase in allowable built density for all of the new Urban Neighborhood Zones of upto 3 units/lot and Urban Neighborhoods are the most dominant zones in Minneapolis where residential houses are located. (City of Minneapolis, 2020, p. 798) However, the increase in allowable building density comes at a more extensive level compared to the new park network (City of Minneapolis, 2023, p. 10) Therefore, the Inner Core of Retention seeks to propose an opportunity to empower the residents of Minneapolis to restructure their inner blocks to facilitate more shared uses and human interactions.

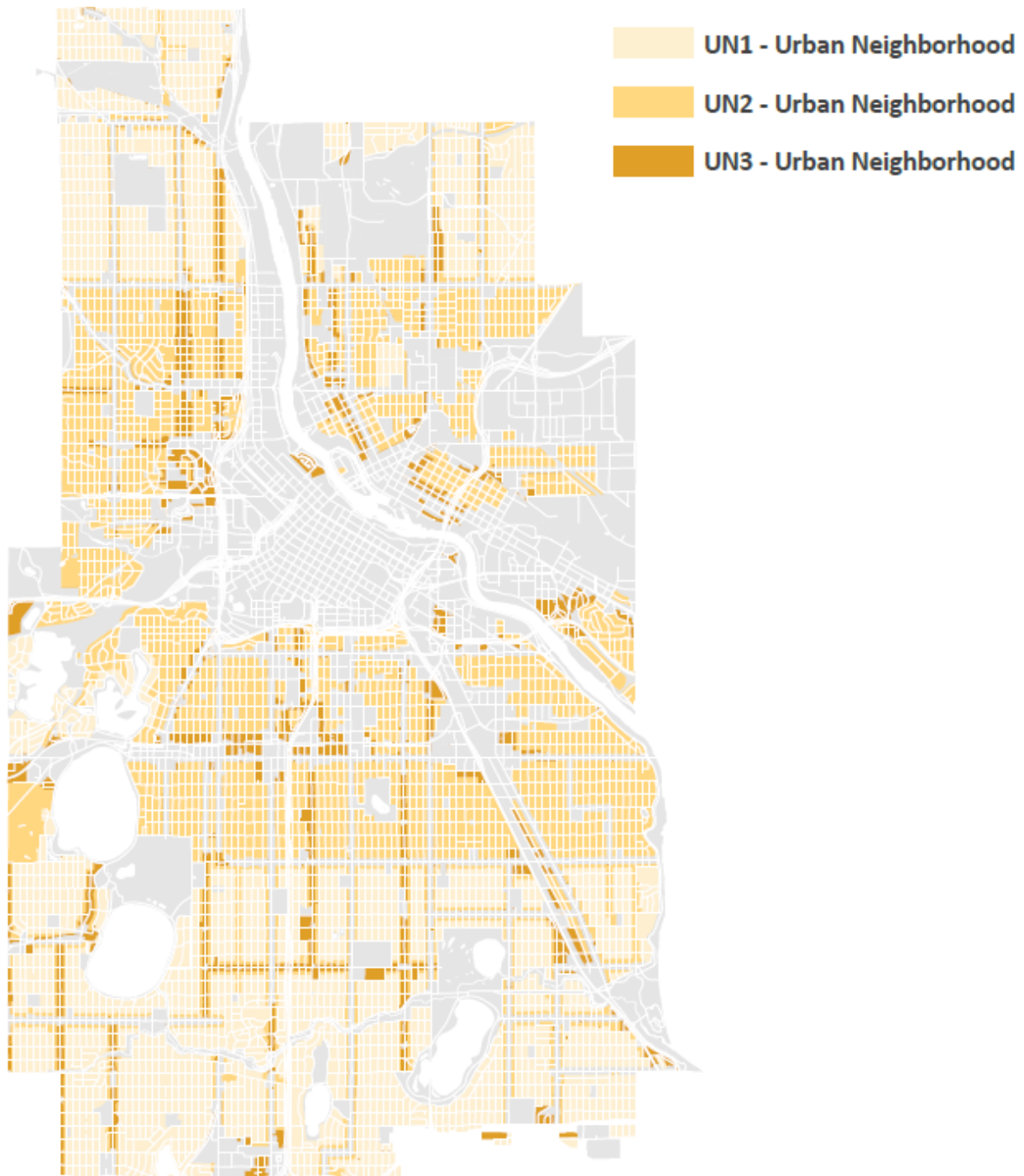


Figure 1: Minneapolis new Urban Neighborhood zones, by City of Minneapolis, 2023, retrieved from City of Minneapolis. "Land Use Rezoning Study Draft - Informational Handout." Land Use Rezoning Study, February 2023. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://minneapolis2040.com/media/1944/lurs-draft-informational-handout.pdf, P. 4

EXISTING INTERIOR OF A BLOCK

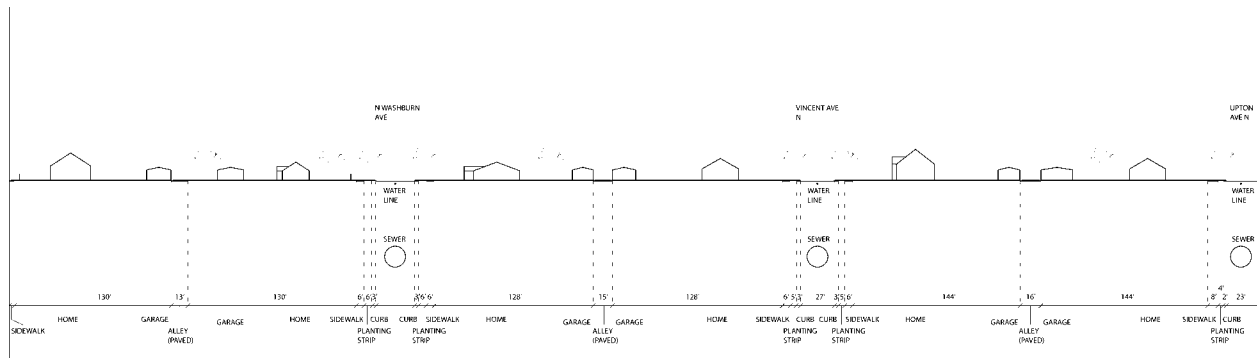


Figure 2: A street section in the Shingle Creek Neighborhood, Minneapolis. The alleys don't accommodate utility lines.

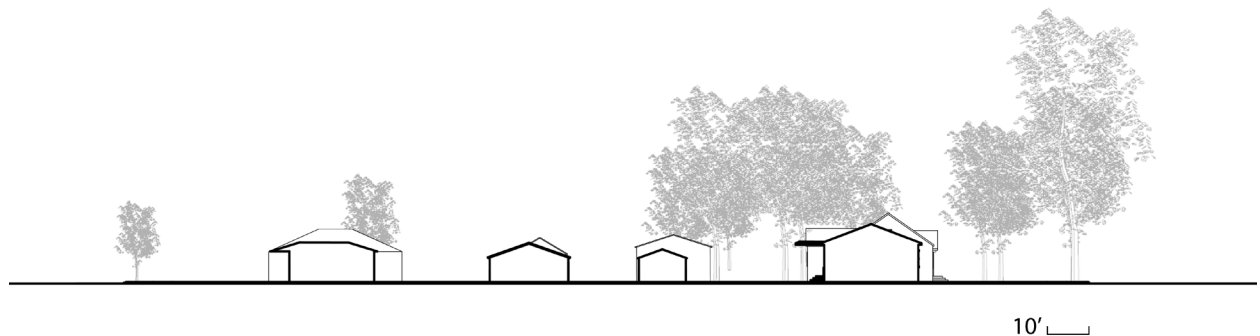


Figure 4: Cross section of an urban block in Minneapolis

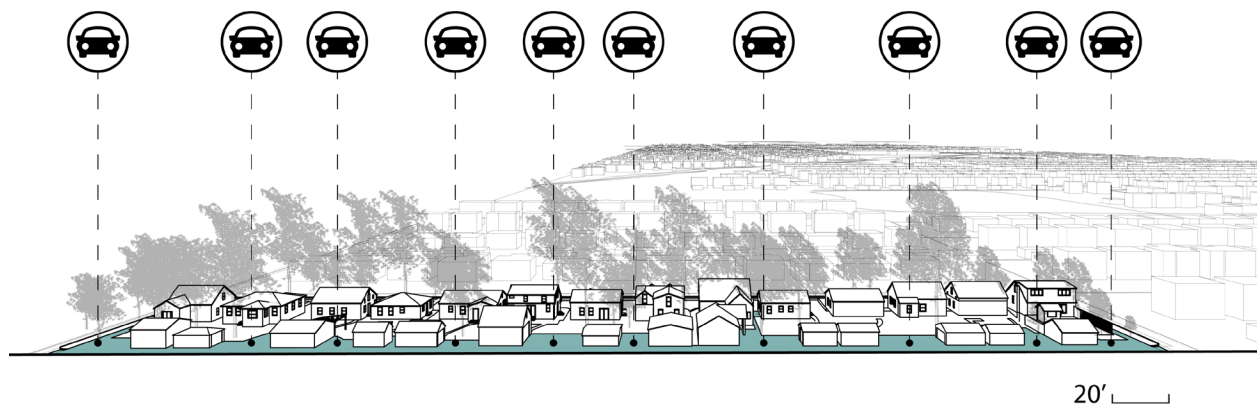
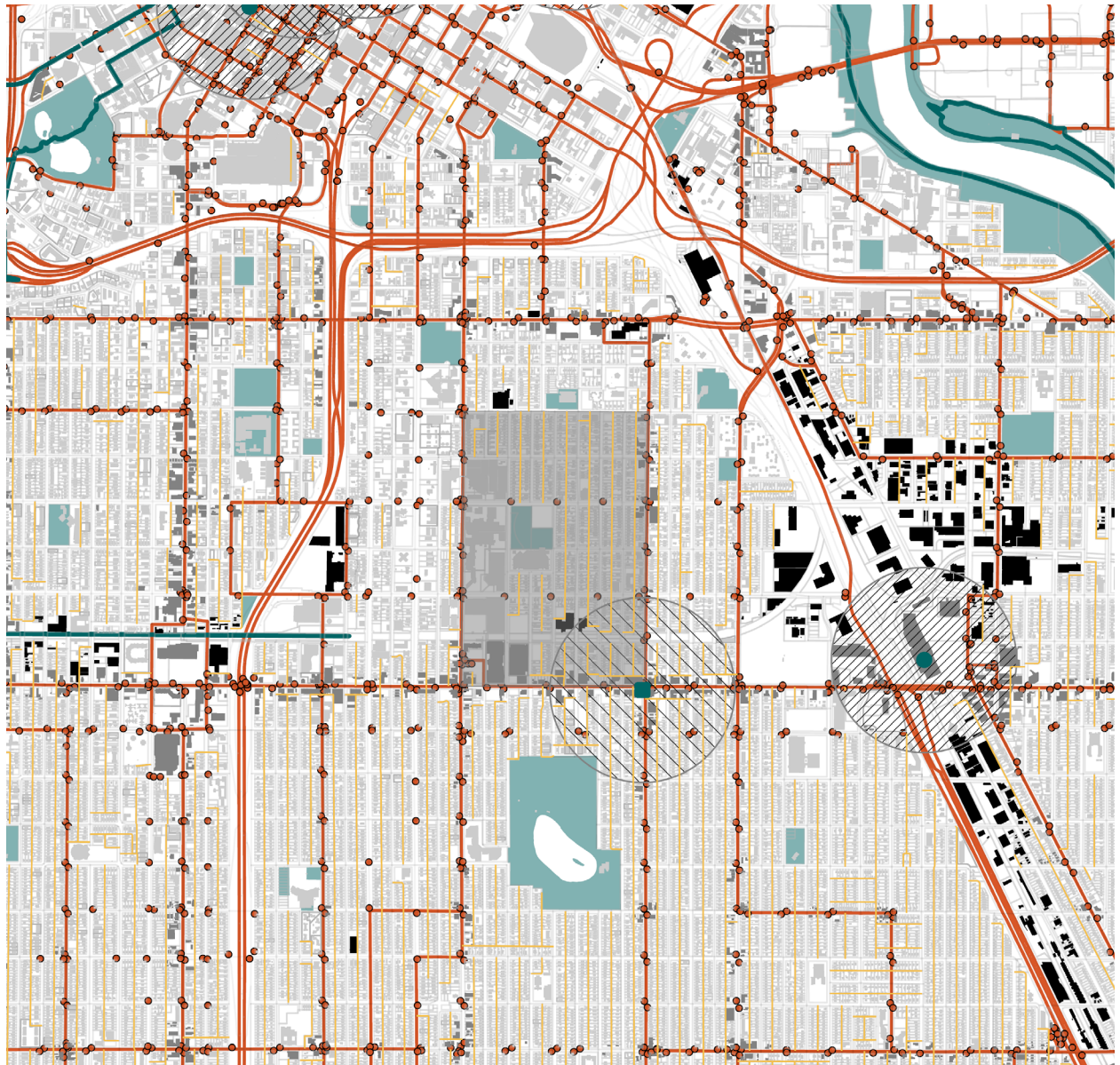


Figure 4: Longitudinal condition of an urban neighborhood 1 block: most interior spaces are dedicated to garages and car access.

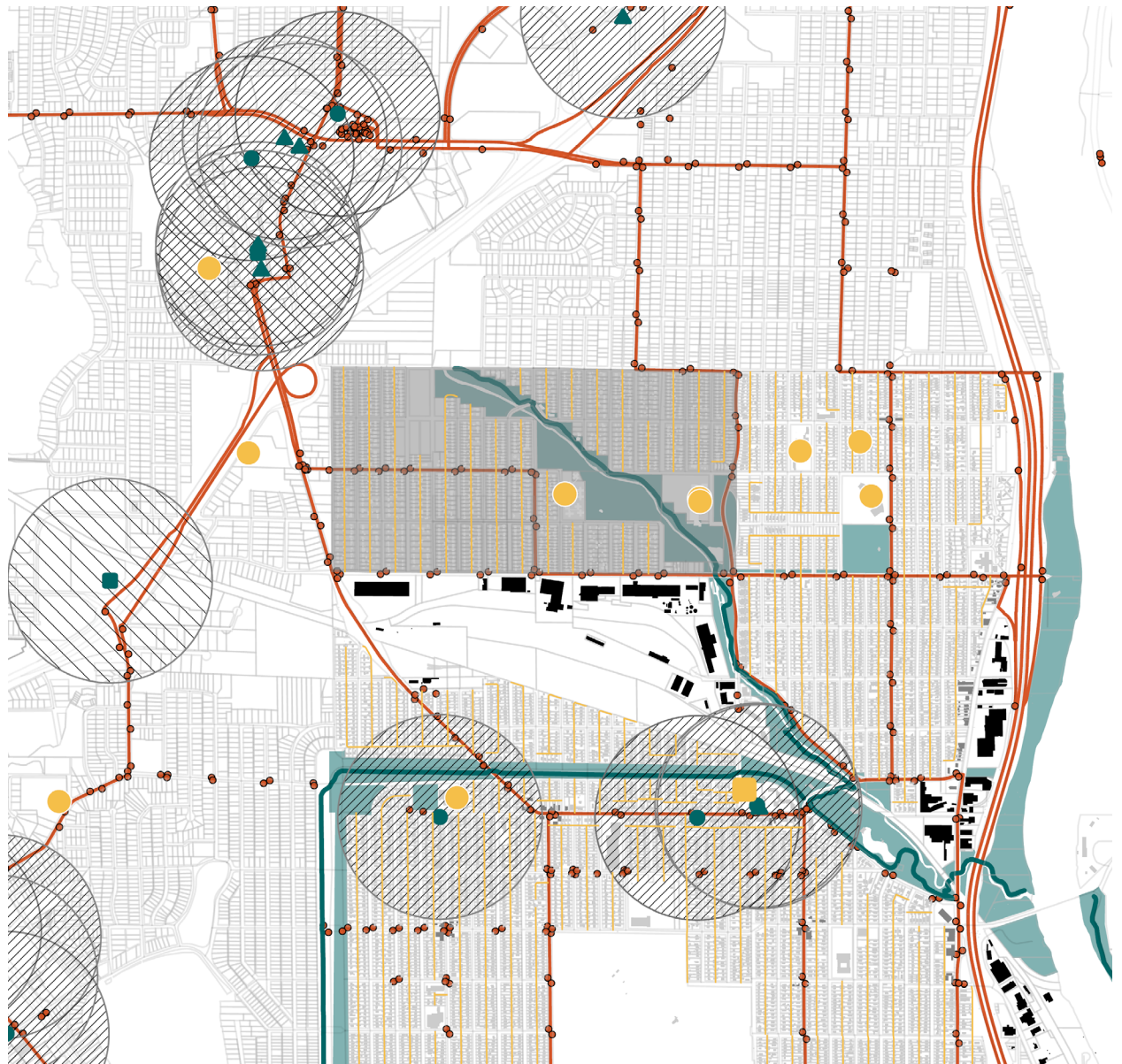
EXAMPLE NEIGHBORHOOD STUDY

01 - MIDTOWN PHILLIPS



EXAMPLE NEIGHBORHOOD STUDY

02 - SHINGLE CREEK



Residential/Insitutional/Religious Commercial Industrial Parks

Greenway Transit Route Alley

School Library Transit station Grocery access Restaurant Coffee/Juice shop

EXAMPLE NEIGHBORHOOD STUDY

02 - SHINGLE CREEK

Shingle Creek neighborhood provides all residents convenient access to large park spaces thanks to the green amenities around the Shingle Creek running through the neighborhood and the two lakes to the West of the community. Therefore, the need for communal parks is not the priority for this area. However, with its residential dominance, the neighborhood lacks walkable food and grocery sources, especially for communities to the West of the Creek. Residents to the East side of the Creek can only access two grocery stores, one restaurant, and two food providers within a ten-minute walk, while the West side cannot access any food sources by walking. Therefore, urban agriculture strategies will be an excellent fit for the area since they can facilitate human interactions and connections beyond the function of providing an excellent food source for the community. According to Professor Karl Linn, satisfaction and fulfillment were achieved as participants worked together to achieve a greater goal, which came from voluntary collaboration and the acknowledgment of human-to-human interdependency (1990, p. 34). Shared exercise spaces or playgrounds can also facilitate meaningful interaction. A basketball court or book-sharing shelves can extend the bonding time for students, strengthening the communities around the two local schools in Shingle Creek. Artwork displays and cultural/community centers can enrich local values and provide learning experiences for children.

02 - SHINGLE CREEK

The town of Camden was founded following the arrival of the two Johns, serving housing needs for a nearby mill's workers. (Twin Cities Properties Finder, 2016) The first mill by the Shingle Creek was a thirty-by-forty-feet two-story flour mill by David Morgan, which was burnt in 1890. However, Shingle Creek was known for the sawmills that came later and dominated the banks of Mississippi down to Minneapolis's center. (Shingle Creek Neighborhood Association, n. d and Shingle Creek and West Mississippi Watershed Management Commissions, n. d.) Rufus Farnham's sawmill in 1862 was the first of its kind in the area, and it produced shingles, which has given the neighborhood its name to this day. (Shingle Creek and West Mississippi Watershed Management Commissions, n. d.)

With over 20 lots owned by the government, there are nine open lands yet to be developed (Eight on the West of the Creek and one on the other side). These lots can be used to create anchoring public programs. The reconfiguration of the blocks can turn the existing alleys into meaningful spaces and network that complement the anchoring programs.

The idea of communities within a neighborhood can be used to guide and the connection between new interventions on the empty public lots and the new block connections through utilizing the existing pattern of the Jeffersonian grids on a smaller scale. The idea of township community by Jefferson is applied here at half scale (0.5x0.5 miles) to promote human interaction through shared activities within the 10-minute walk range.

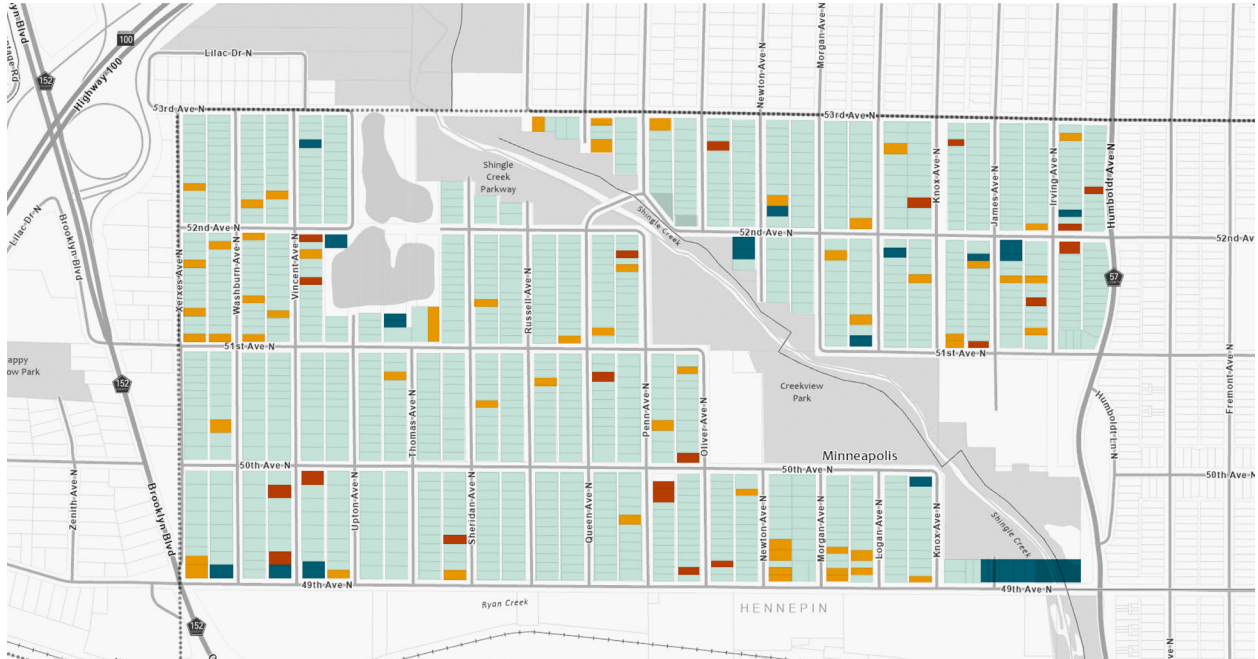
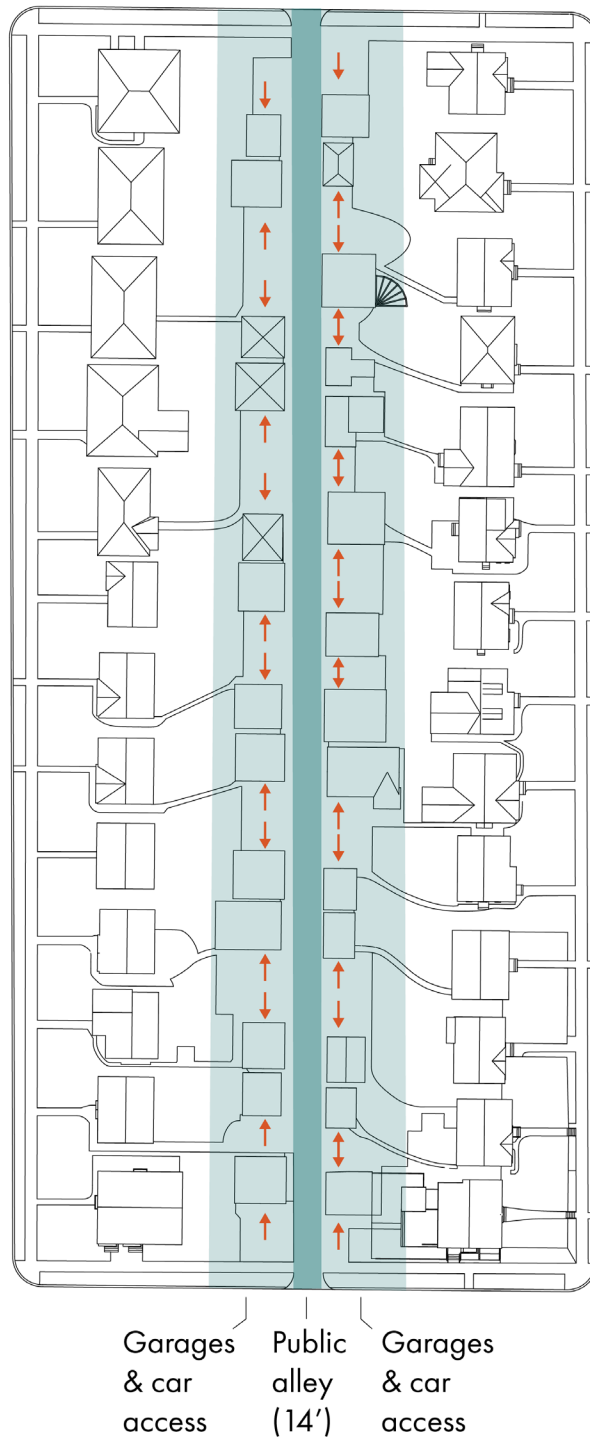
02 - SHINGLE CREEK

Figure 7: Land Ownership in Shingle Creek, Minneapolis. Diagram from the base map made by Hennepin County. (n.d.), retrieved November 2023 at <https://gis.hennepin.us/property/>



Figure 8: Neighborhoods within a neighborhood - Jeffersonian grids in Shingle Creek, Minneapolis

PROPOSED APPROACH

The existing interior structure of a residential block in Shingle Creek contains an alley and garages facing North or South, requiring extra paved areas to facilitate access.

A different approach that allows for direct turns to parking spaces from the N-S circulation on the alley could result in saving of spaces for other activities.

Figure 9: Existing access to residential garages

PROPOSED APPROACH

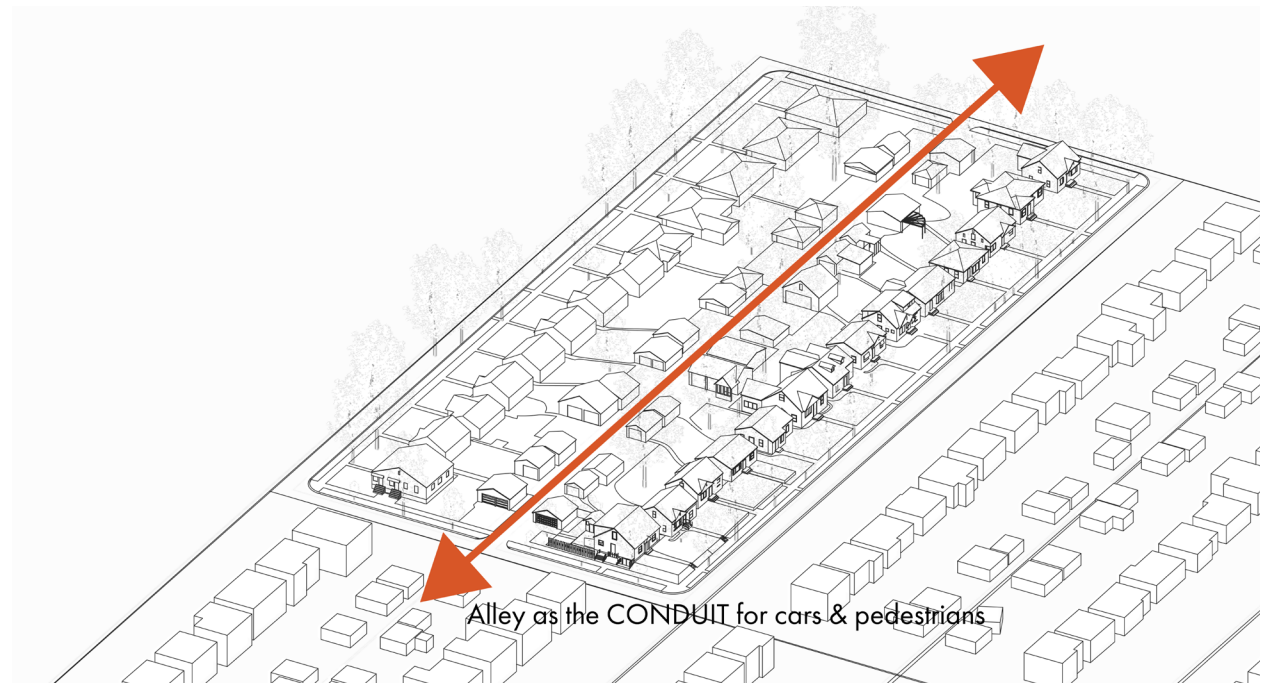


Figure 10: Existing block interior - Alleys as a conduit for vehicles

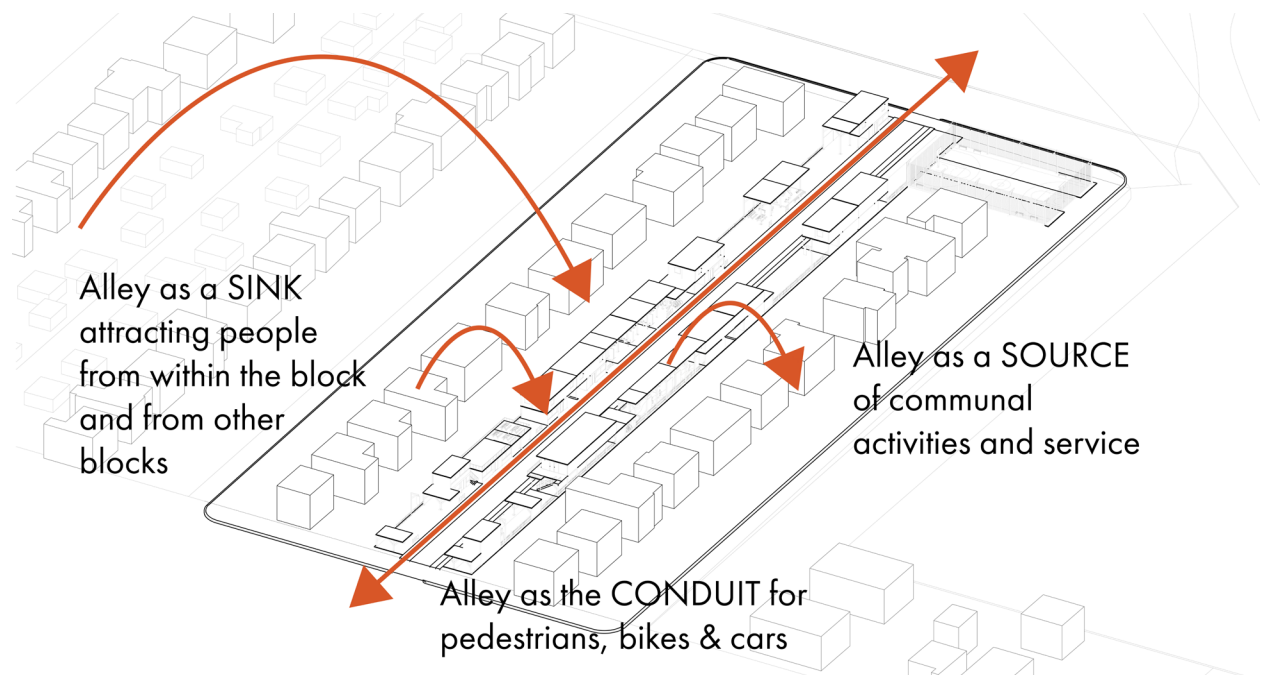


Figure 11: Proposed functions for alleys

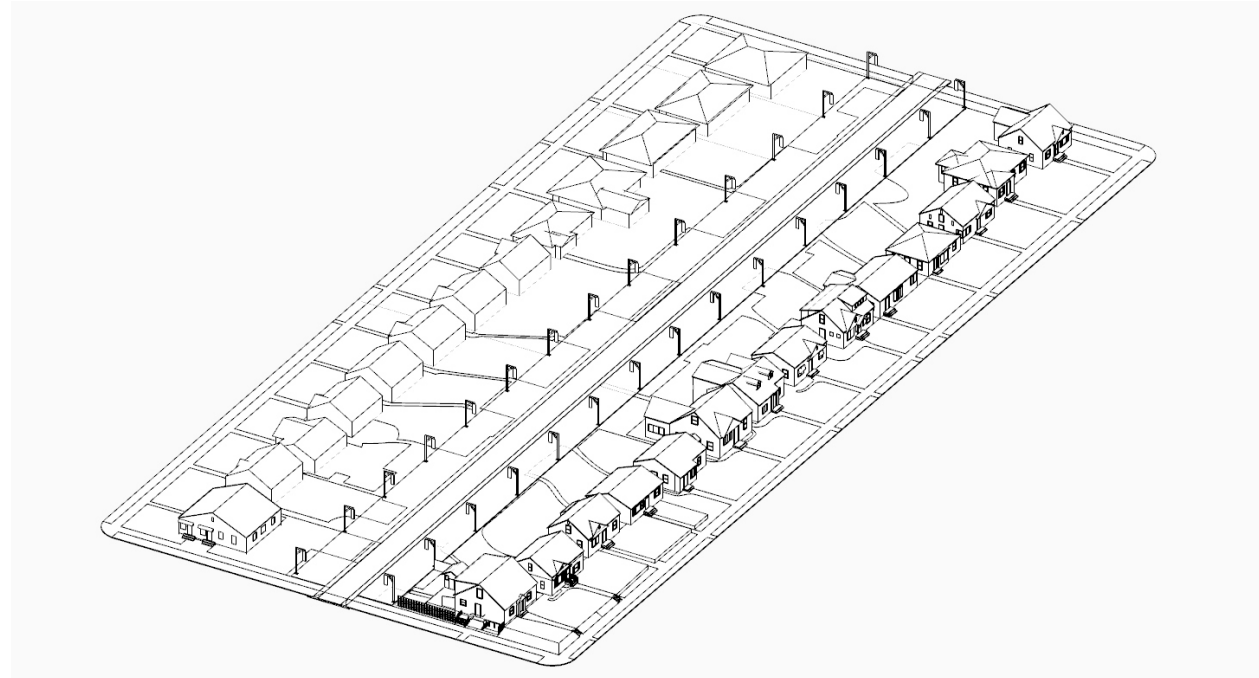
PROPOSED APPROACH

Figure 11: Initial step

The first step for the block reconfiguration require subdividing a portion of the interior of each block to reserve a 3'-wide pedestrian walkway, potential bike lane, and a 20'-wide area for potential interventions. The government could provide the first step of construction by building wood post in between lot boundaries as amenities for hanging flags or banners for communal events and gatherings within a block. These wooden posts will be constructed with 2x6 as a starting structure that residents can later build upon to customize their public realm within the small block community.

TOOL KITS

According to Professor Linn, satisfaction and fulfillment were achieved as participants worked together to achieve a greater goal, which came from voluntary collaboration and the acknowledgment of human-to-human interdependency. The sense of community was further promoted when everyone worked together to build a barbecue pit using leftover-worn bricks around the site. The new green commons were also appreciated by people who did not get in close contact with it, such as patients from nearby hospitals enjoying the green view. (1990, p. 34)

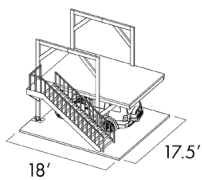
"Although a neighborhood commons is usually small in scale, it has to accommodate many uses," including "a neighborhood park and playground," "a sitting area and a plaza," and nature connection. (1990, p. 35)

Shingle Creek does not have a close relationship with their food sources nor access to any other public programs besides green parks and the restricted greenways that are mostly restricted to within the park boundary around the Creek. Furthermore, the neighborhood is home to two schools and sits within the 1/4-mile walking distance to three other schools to the East. Therefore, any effort to create more opportunities for out-of-school activities and self work/study will also greatly benefit the place.

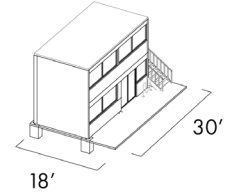
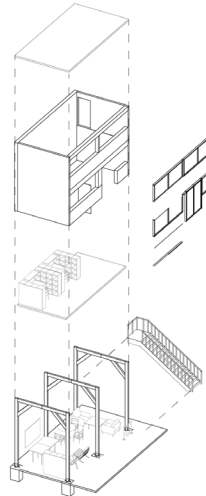
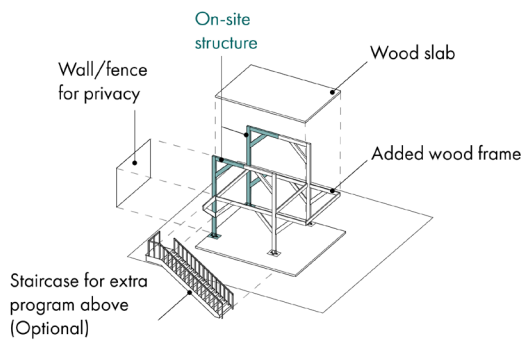
According to Minnesota Compass, the population of Shingle Creek spans all ages, with over 25% of children under 18 and 7.8% of seniors. (Minnesota Compass, 2017-2021) The homeownership status of Shingle Creek in 2021 was 1.75 homeowners to one renter, and over 36% of households had children. (Point2 Homes, 2021) Therefore, the additional units on each lot can be used for rent, multigenerational living, or other allowed programs besides residential in the future.

With the above goals, initial recommendations for program units are categorized into three different groups: privately provided services, food access, and community enrichment.

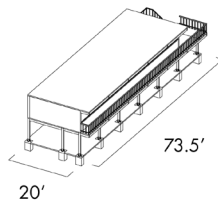
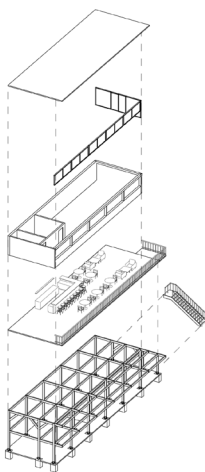
PRIVATELY PROVIDED SERVICES



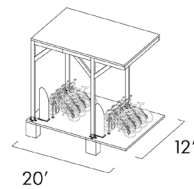
PARKING
Ownership: Private
Use: Private



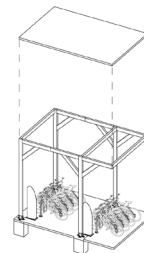
RENTAL WORKSPACE
Ownership: Private
Use: Private, profit, work/study



COFFEE / JUICE
Ownership: Private
Use: Private, profit, work/study



BIKE SHARE
Ownership: Private
Use: Public



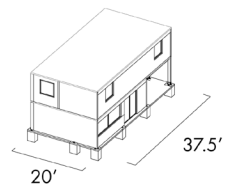
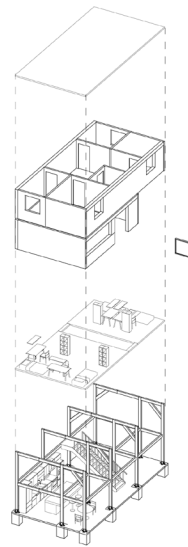
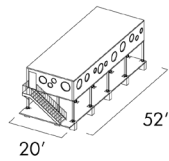
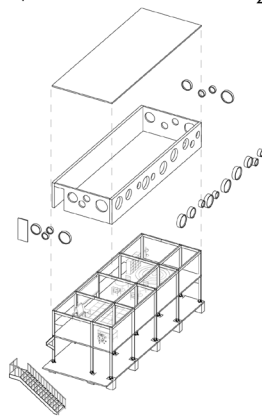
PRIVATELY PROVIDED SERVICES



CHILD CARE

Ownership: Private

Use: Private, profit

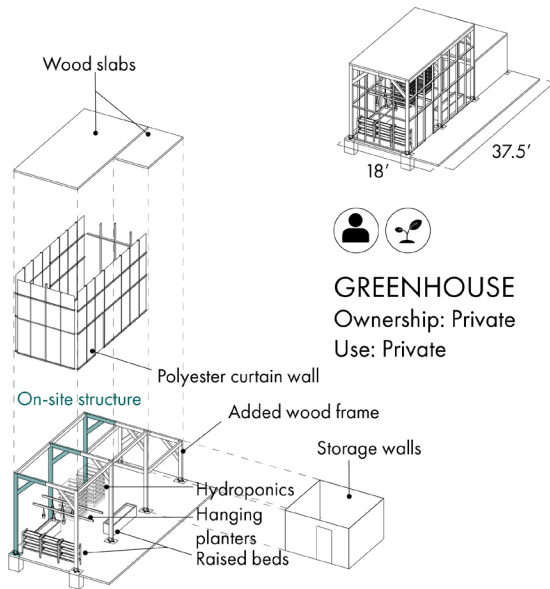


HOUSING UNIT

Ownership: Private

Use: Private, profit

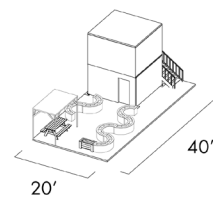
FOOD ACCESS



GREENHOUSE

Ownership: Private

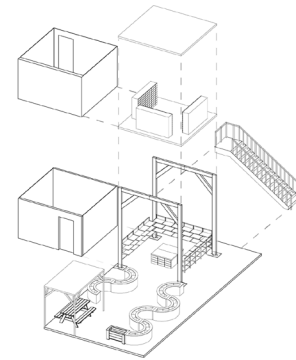
Use: Private



TEACHING GARDEN

Ownership: City

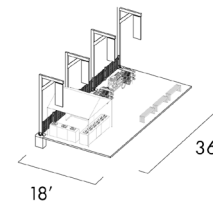
Use: Public



FARMERS' MARKET

Ownership: Private

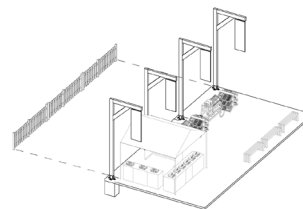
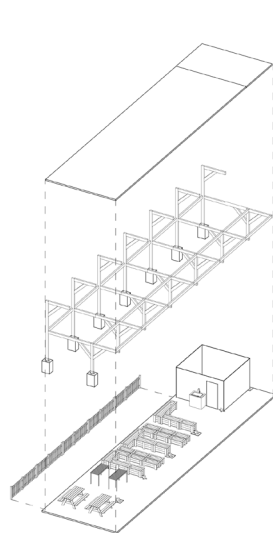
Use: Private, profit



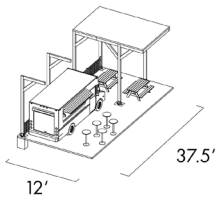
MARKET GARDEN

Ownership: Private

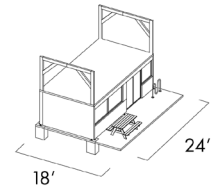
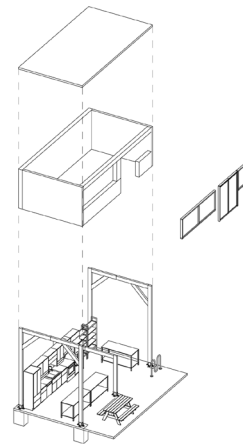
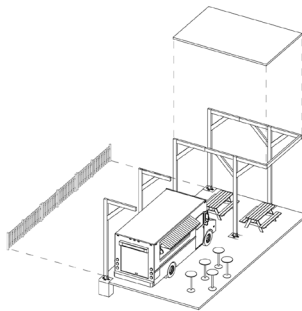
Use: Private, profit



FOOD ACCESS

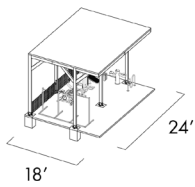


FOOD TRUCK
Ownership: Private
Use: Private, profit

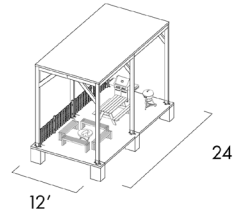
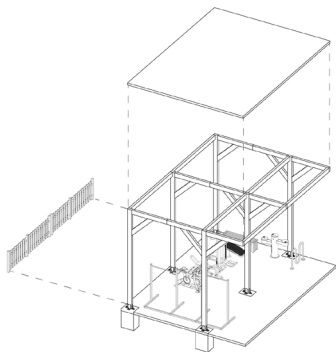


**TEACHING/RENTAL
KITCHEN**
Ownership: City
Use: Public

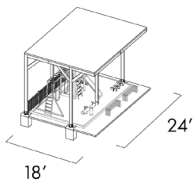
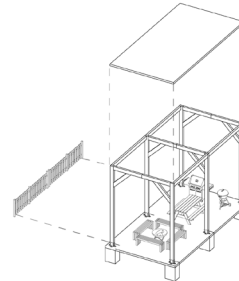
COMMUNITY ENRICHMENT



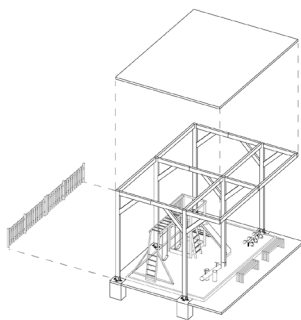
OUTDOOR GYM
Ownership: City
Use: Public



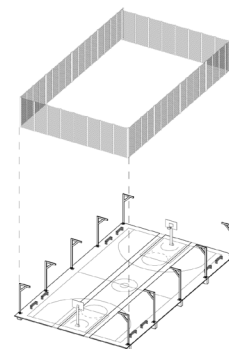
SHARED BBQ
Ownership: City
Use: Public



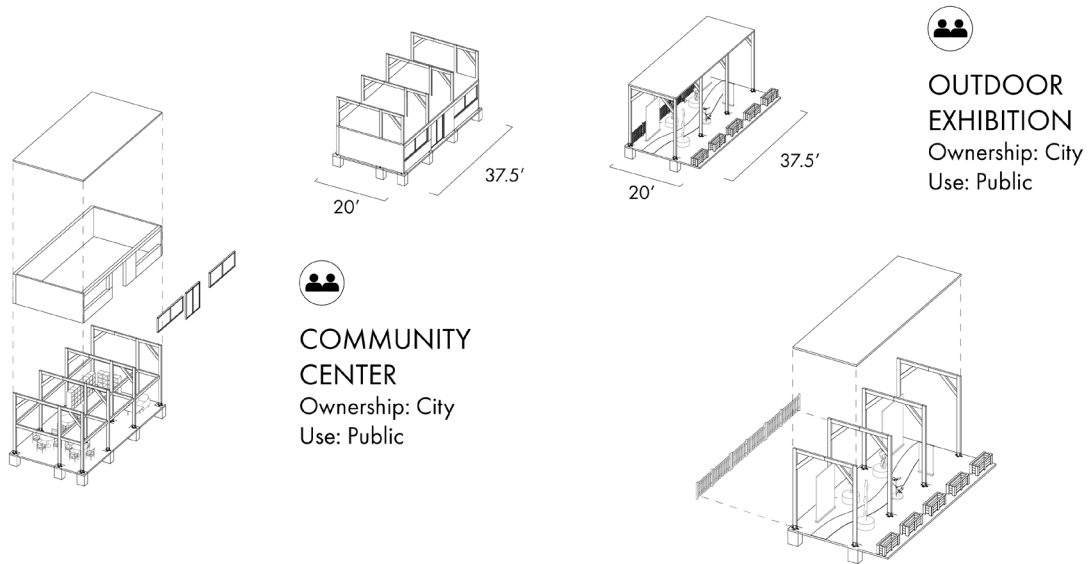
PLAYGROUND
Ownership: City
Use: Public



BASKETBALL COURT
Ownership: City
Use: Public



COMMUNITY ENRICHMENT



SHINGLE CREEK - URBAN CORES

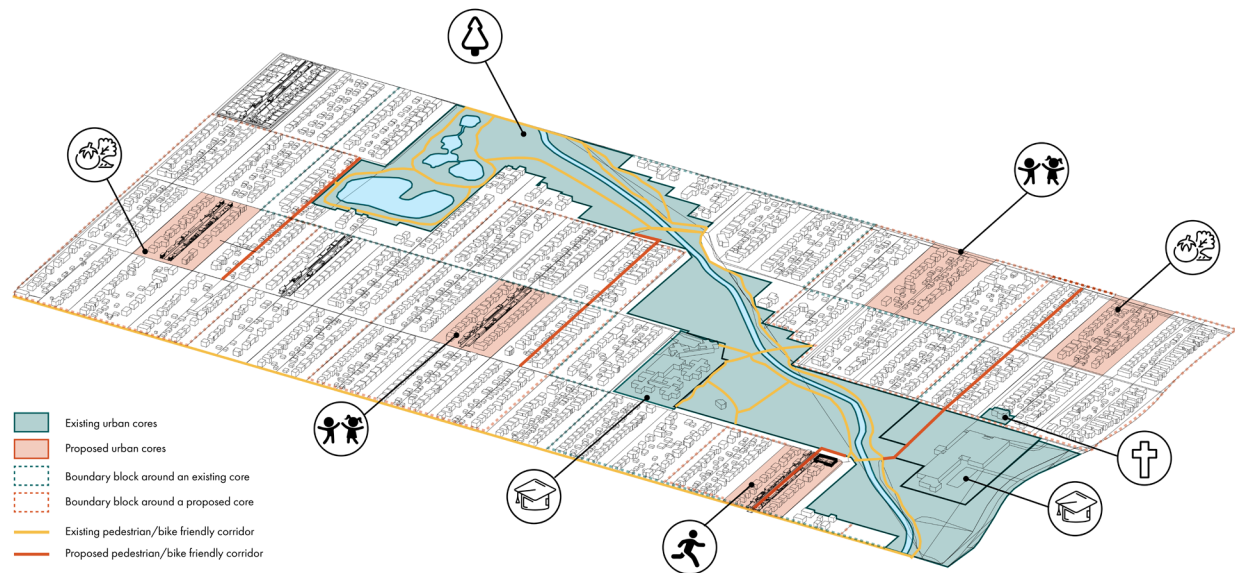


Figure 30: Existing and proposed urban cores of Shingle Creek

There are four urban cores in Shingle Creek: the primary park area, two schools, and a church to the East of the site. The car-free corridors (greenways and bike lanes), however, only exist within the park core and along the South edge facing the industrial area. The thesis recommends the establishment of five new cores across the neighborhood utilizing the new self-constructed inner blocks by residents. Two food cores sit close to the East and West wings to provide adequate access to residents in the area and from neighboring communities outside of Shingle Creek. A central place for child care and children activities will benefit both sides of the Creek. The block in between the two schools to the Southeast of the neighborhood serves best as an exercise hub for the area since the available public lot can adopt the basketball court unit and influence the design of the rest of the core with active programs. New bike lanes are also proposed to provide car-free access and connection between existing and new cores.

Boundary blocks around cores will be encouraged to guide their block design based on the function of the nearby core and ones that sit outside of the direct influence of urban cores can build according to the goal of Minneapolis 2040.

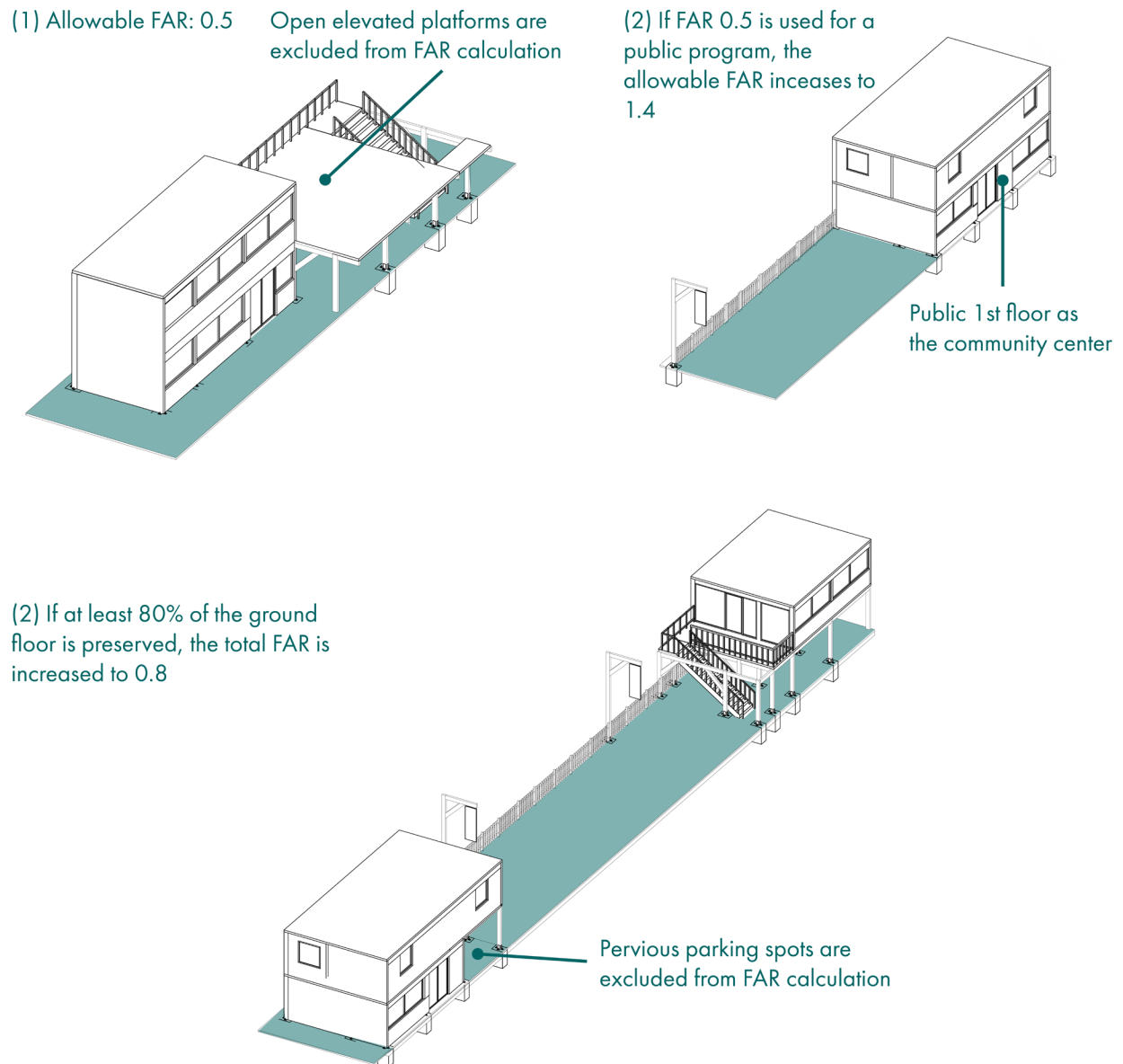
DESIGN GUIDELINES

Figure 31: FAR and height guidelines for a self-constructed unit inside an urban neighborhood block that encourages collaboration among lot owners and open spaces.

EXAMPLE CORES

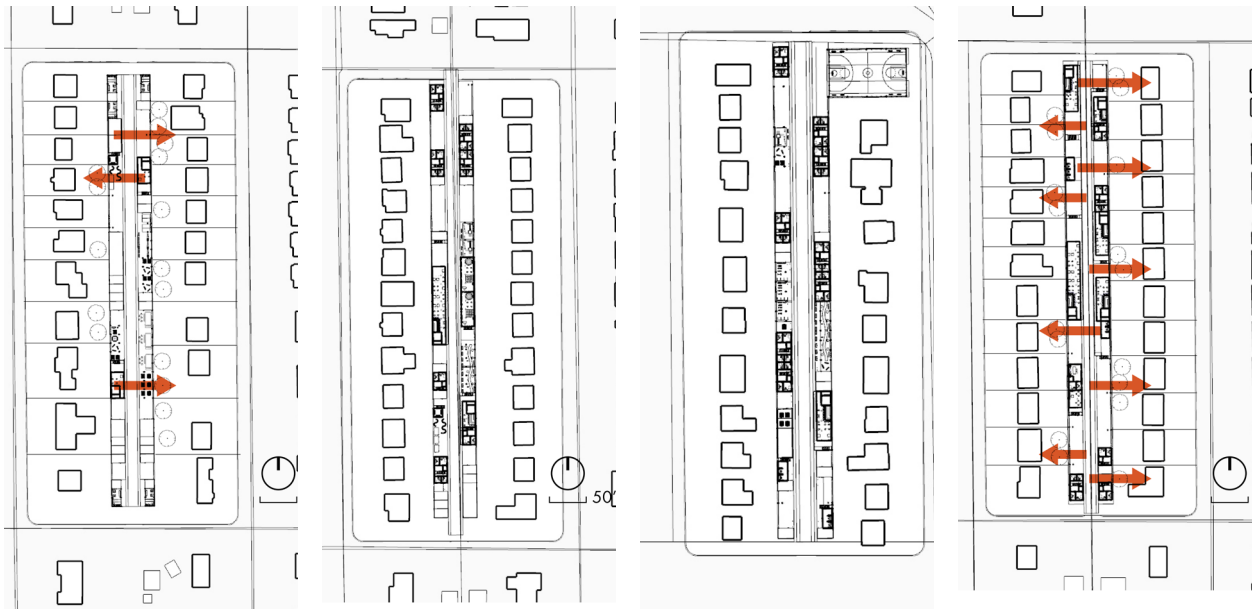


Figure 32: (From left to right) Food access core, children core, exercise core, non-core block plans

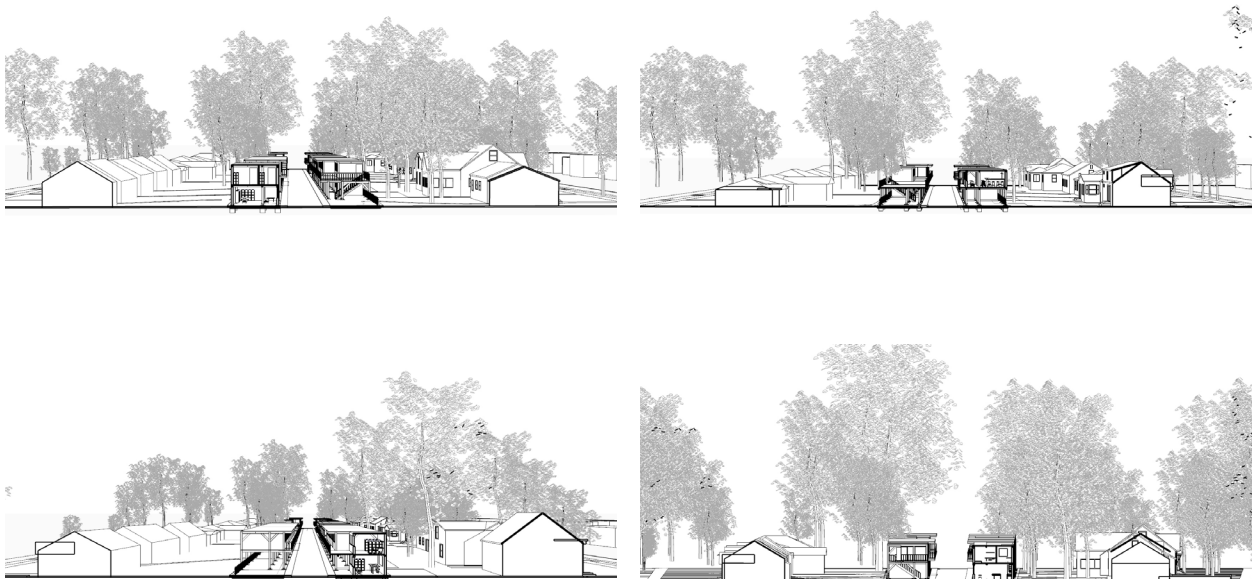
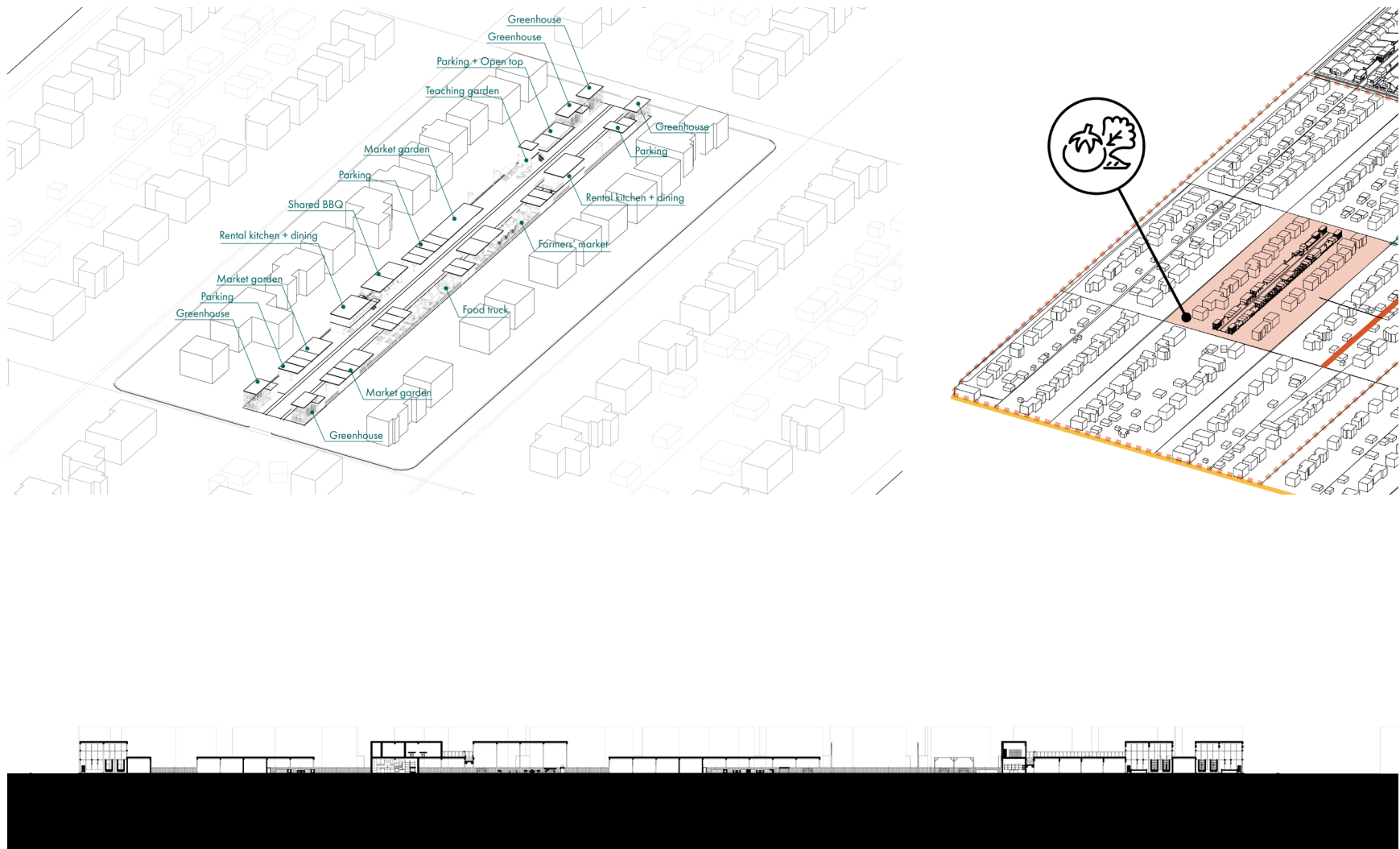
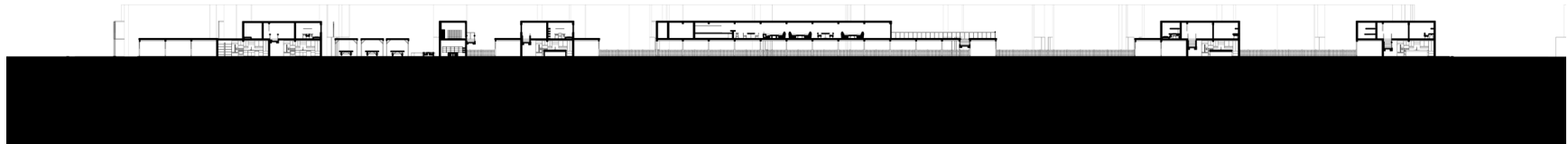
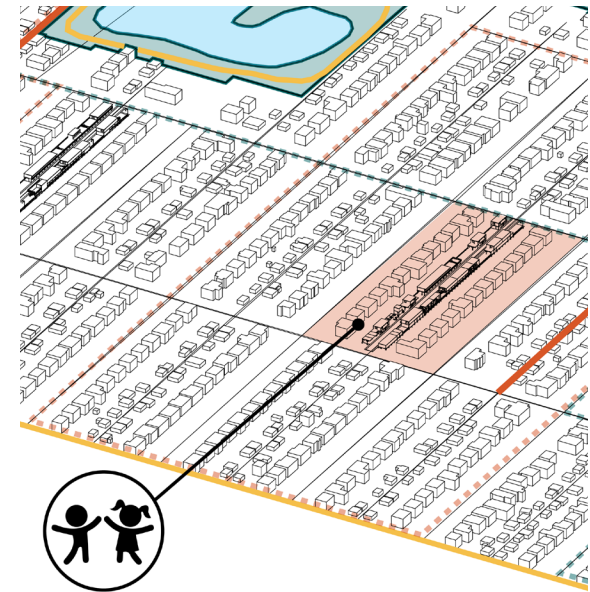
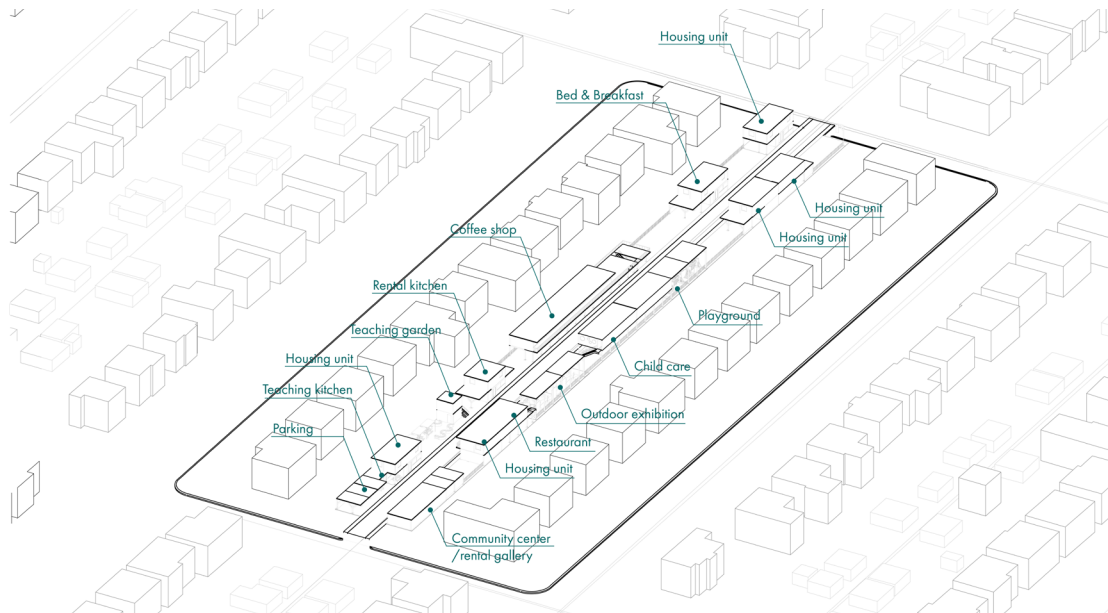


Figure 33: New cross section conditions

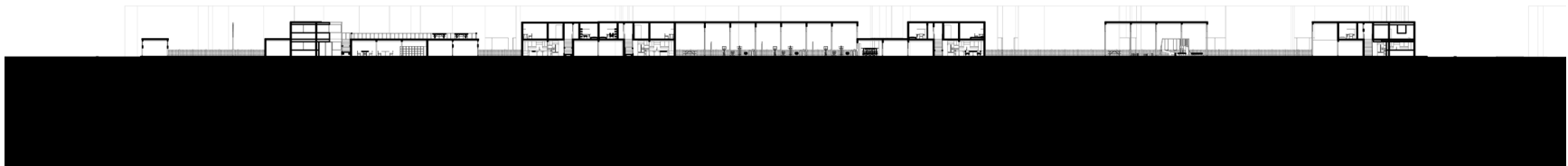
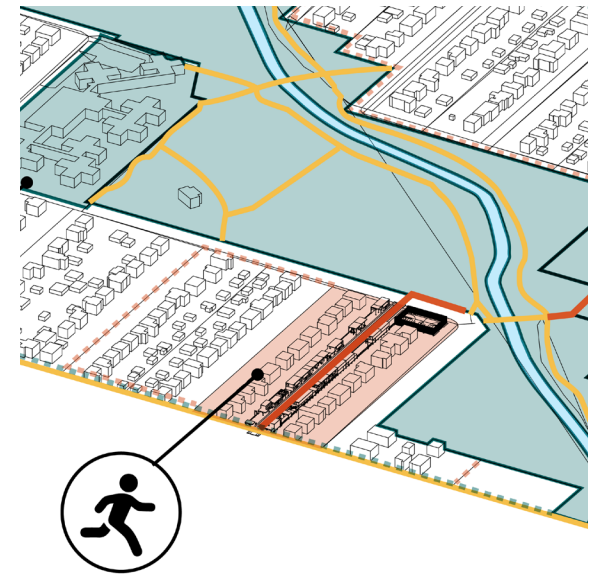
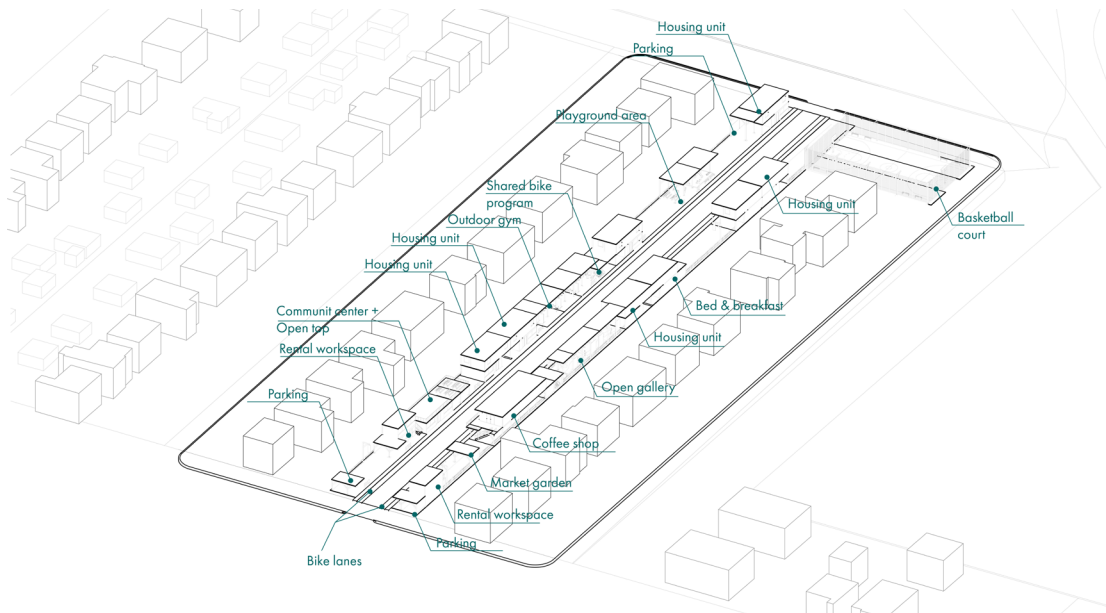
SHINGLE CREEK - FOOD ACCESS CORE



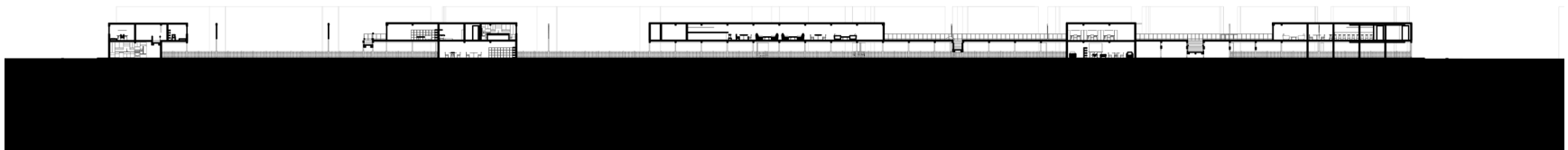
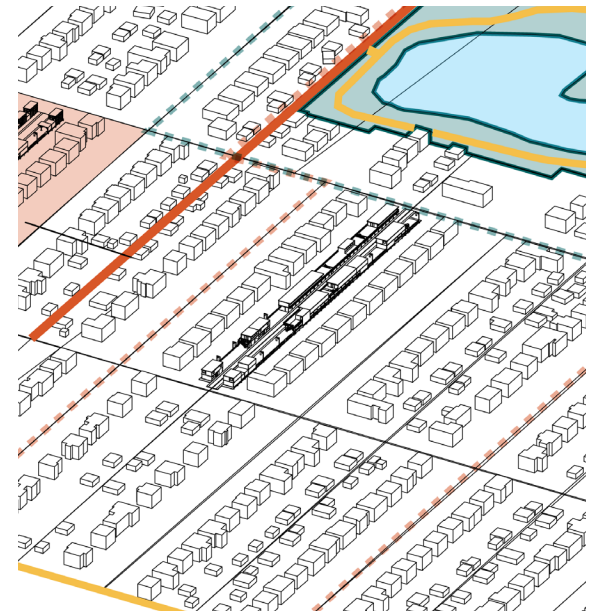
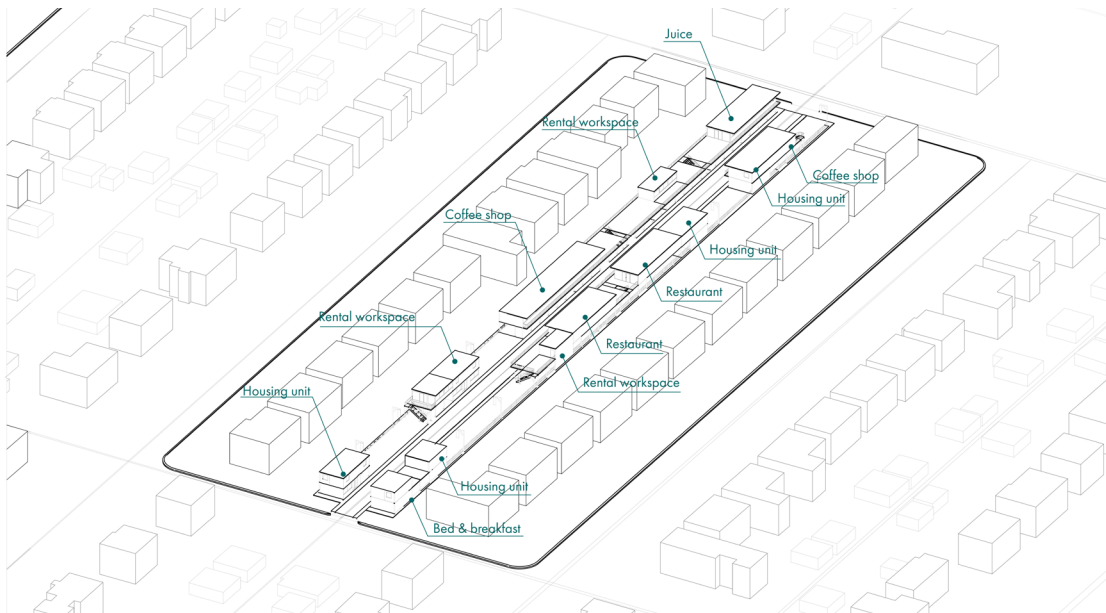
SHINGLE CREEK - CHILDREN CORE

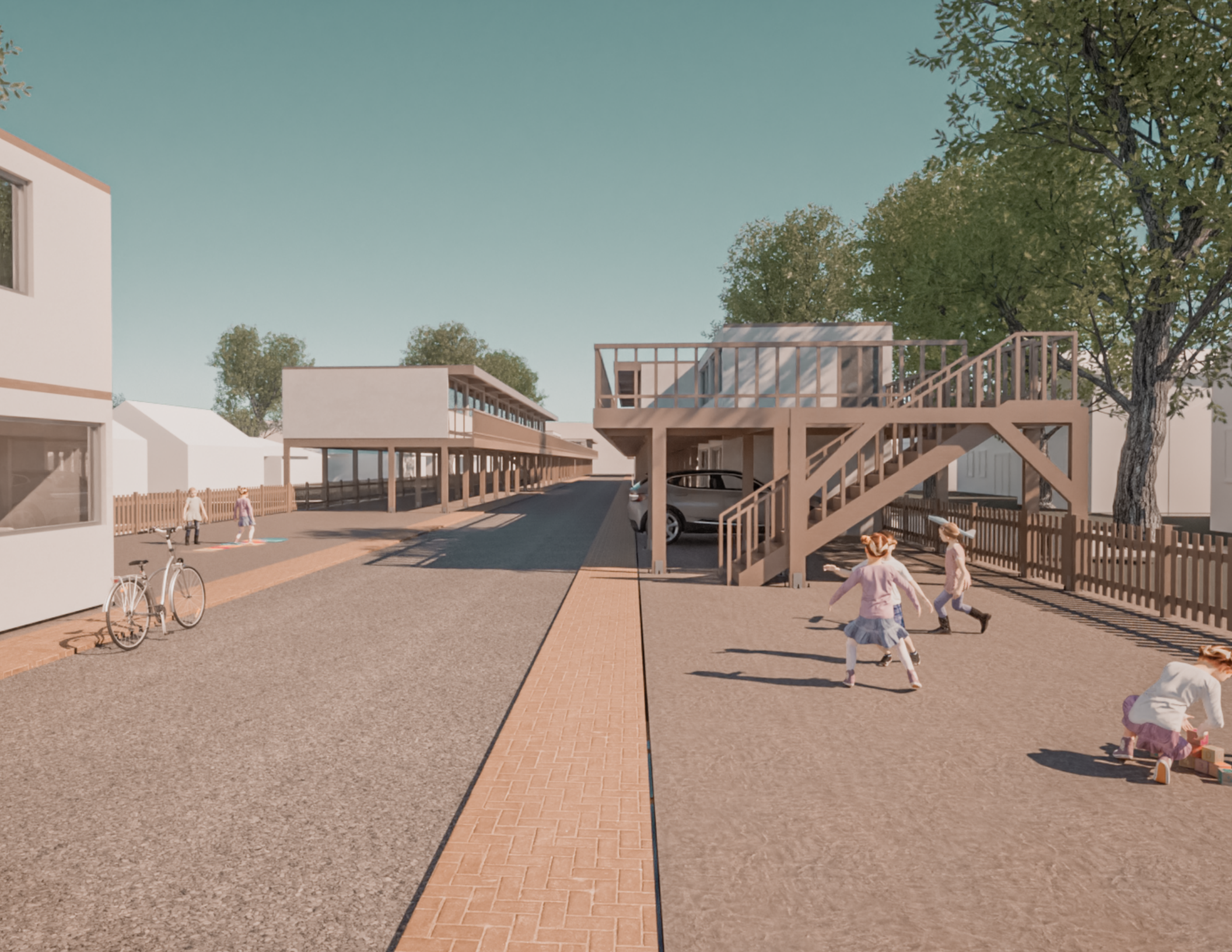


SHINGLE CREEK - EXERCISE CORE



SHINGLE CREEK - NON-CORE BLOCK





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