



THE GROVE

Project Location:

2000 S.Industrial Hwy, Ann Arbor, MI 48104

Project Team Members:

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Systems Studio Section: In The Mix

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Arch 672 Systems Studio Fall 2022

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PROJECT NARRATIVE

The Grove is a mixed use complex focusing on supportive family housing on 2000 S. Industrial street. The scheme encompasses offices for the Ann Arbor Housing Commission (AAHC), maintenance facilities, a retail space and a range of residential amenities for the residents. The Grove also incorporates a linear site zoning strategy to ensure uncluttered circulation while achieving privacy within residential zones through green buffer spaces. The plant screens at the perimeter of the site helps reinforce the site strategy to act as a noise buffer and draw clear site lines. The project is based on sustainable design principles and maintains a compact shape achieving a low envelope to volume ratio, deploying a 4-over-1 Mass Timber over Concrete structure.

Site Strategy

The linear organization creates the clear divide between spaces but we use the groves landscape as a connectivity between residents and the AAHC. The northern portion of the site is reserved for the AAHC that houses Offices, maintenance area, maintenance and municipal vehicles. 2 pumps for municipal vehicle fueling. 6 EV charging stations Access to the water tower and Farmers market. Southern portion of the site for residential purposes and green spaces

- We have 4 residential buildings
- 3 designated green zones
- Eastern portion of the site is for amenities
- The vehicular entrances are minimized and have clear access to the site to give ample space for pedestrian circulation.
- Parking is limited to under the building and in the northern most portion of the site
- Total of 146 parking spaces
- Ultimately this zoning encloses the heart of the project, the central courtyard grove. This area remains protected from the industrial surroundings by the built and landscaped features of the site, making it a safe space to play and explore.



Structural Concept

- Both the 2 and 3 building achieve this lightness
- The transfer waffle slab distributes the weight of the structure above evenly to the ground below
- Type 4 over 1 - CLT- glulam post and beam construction makes for an economical and sustainable construction.
- 4 over 1 construction
- Structural columns and beams sizes in mind.
- Warmth of wood - exposed bc we didn't need to fire rate it

Environmental Strategy

The project makes use of a 60x60 compact massing typology that adds to the building thermal performance. The squares help achieve the ideal building envelope: volume ratio that helps building thermal performance overall. Additionally, the materials for the structure, making use of mass timber allow for a sustainable development with low carbon footprint.

Unit Typology and Social Agenda



- Units per building. 128 Units total
 - 2 bedroom units - 96
 - 1016 square feet
 - 3 bedroom units - 32
 - 1327 square feet

- The primary usergroup of the proposal is for families of 2-3 bedroom units. This is based on the market analysis and to create an atmosphere that is conducive for families.

Facade Concept and Materiality

- Switch of balconies in alternate floors to create a staggered section
- Glulam beam construction supports the change - light stick framing tying into the structure acting as an anchoring point for facade and window systems.
- Vertical elements emphasizing the verticality of raised buildings
- Extending our material palette through to the exterior

NAME OF STUDENT PROJECT

Project Team Members
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Project Statistics

Total gross floor area	353,408 sf
Lot area	174,733 sf 4 acres
FAR	57%
Number of floors	5
Building height	55'-0"
Dwelling unit count and bedroom count	112 units 56 beds
Dwelling units/acre	28
Total area of commercial space	15,528 sf
Total net leasable area	23,670 sf
Efficiency rate in %	68%
Unit Access typology	Double load- ed corridor
Building Typology	
Number of on-site parking spaces	146
Parking spaces per unit	1.30

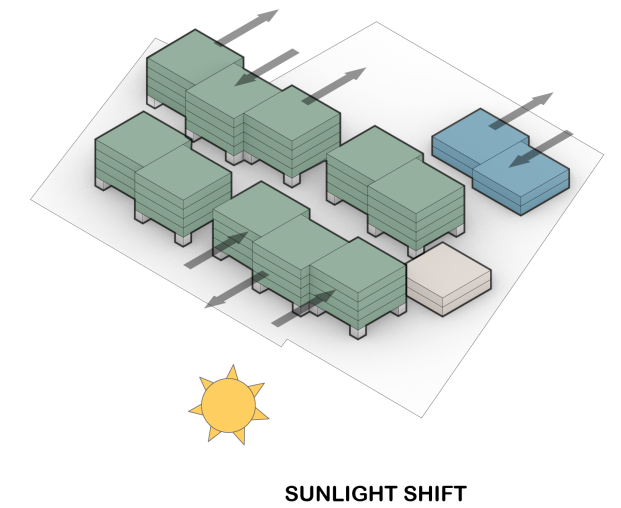
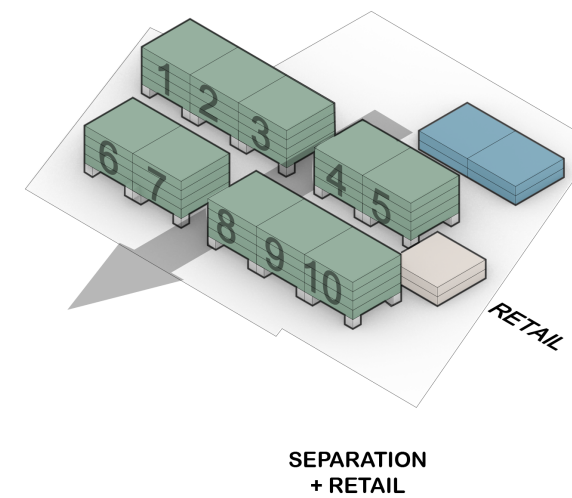
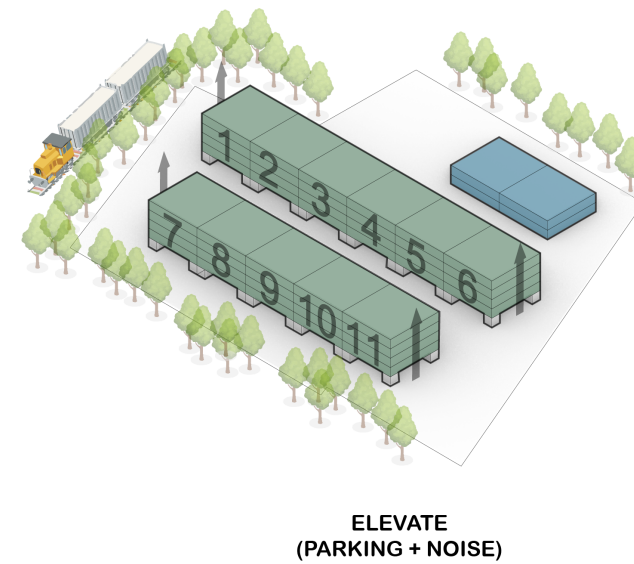
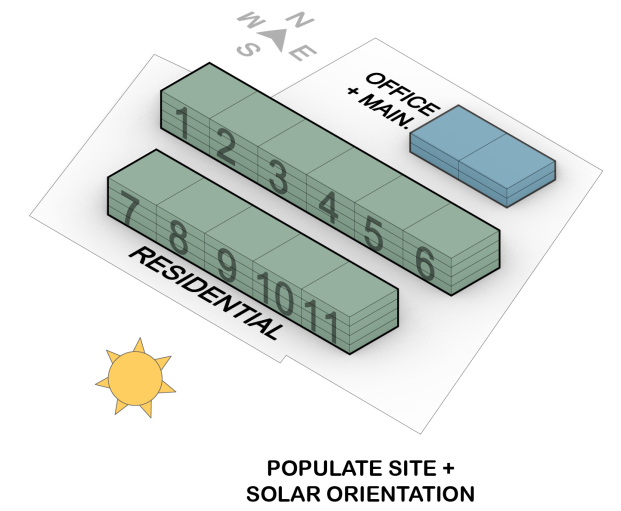
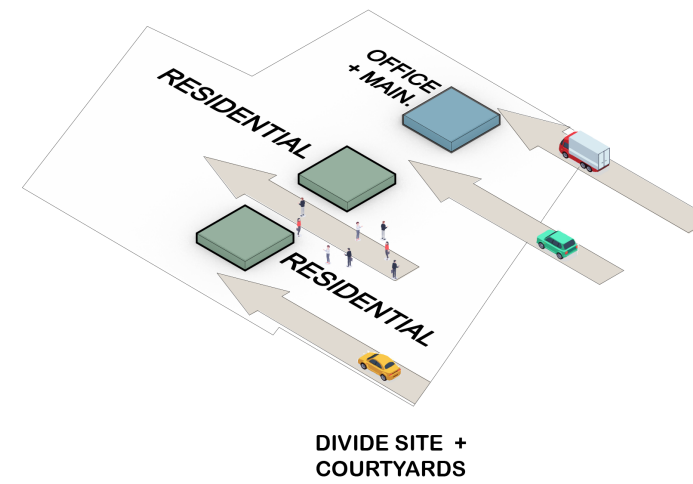
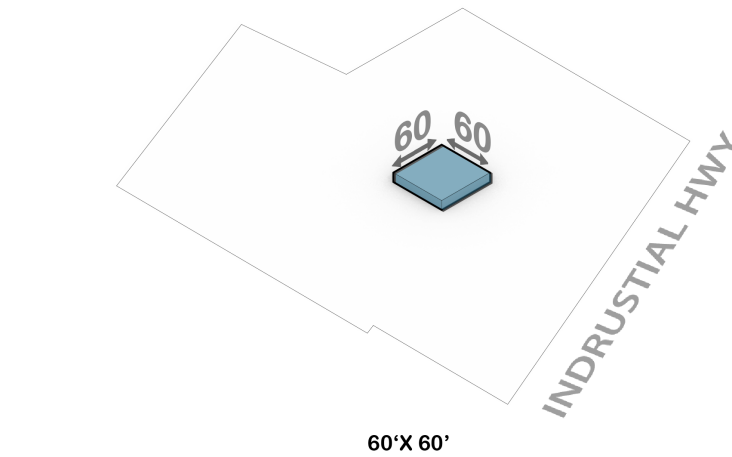
DESIGN PROPOSAL

THE GROVE



MASSING

The grove's formal strategy provides many of the experiential qualities of the project. The building forms are an aggregation of 60x60 building squares to make use of a double loaded corridor. These create buildings in a cluster of 2 of the 60x60 squares or a "2 building" and 3 squares or a "3 building". Maximizes natural sunlight and ventilation. We then divided the site into regions based on site programming. The aggregated forms were then arranged in a linear format which gives desirable southern orientation and created a large open central space. We then elevated the buildings to minimize noise for residential units, provide privacy by distancing residential units from the ground floor, provide condensed space for parking and create continuous circulation on the ground plane. An additional noise mitigation strategy was to plant landscape screenings to mitigate noise from South Industrial and the neighboring railroad, this also clearly defines the site boundary. We then employed a push pull strategy to maximize corner units for sunlight, diversity in building profile, and a staggered facade giving more opportunity for privacy.



SITE PLAN

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GROVE PERSPECTIVE

Beyond allowing parking to take place underneath the building, the lifting of the residential units also creates an interesting opportunity for connection throughout the project.

- The forest of parking columns and trees from the courtyard together create the grove as a method of exploration in the protected space

- There is fluid movement from the parking lot as one arrives and have the choice to go directly into the units or into the courtyards neighboring the buildings.



SITE SECTION

- The units connect to this ground plane through its stair cores and central atriums.
- Emphasis the push and pull strategy. Solid and void bringing light into these spaces
- These glass enclosed elements bring light into the space and provide clear vision for residents to safely observe their surroundings. It also provides pleasant views of the landscape as one enters their home.



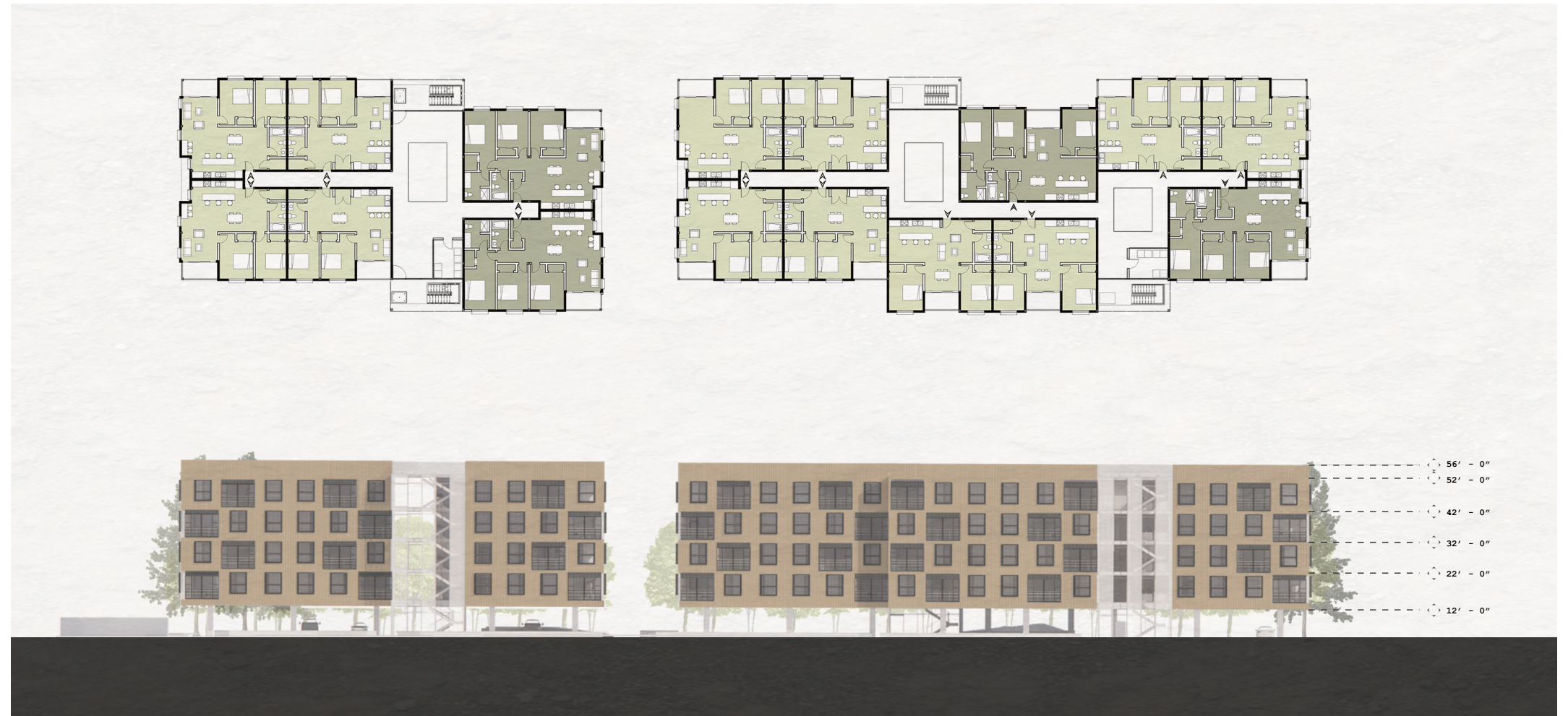
WAFFLE SLAB PERSPECTIVE

As one arrives home they begin to see the openness of the space. These residential units are raised on minimal, recessed concrete columns which support a transferring waffle slab. These elements work together to create a feeling of a floating building.



PLANS AND ELEVATIONS

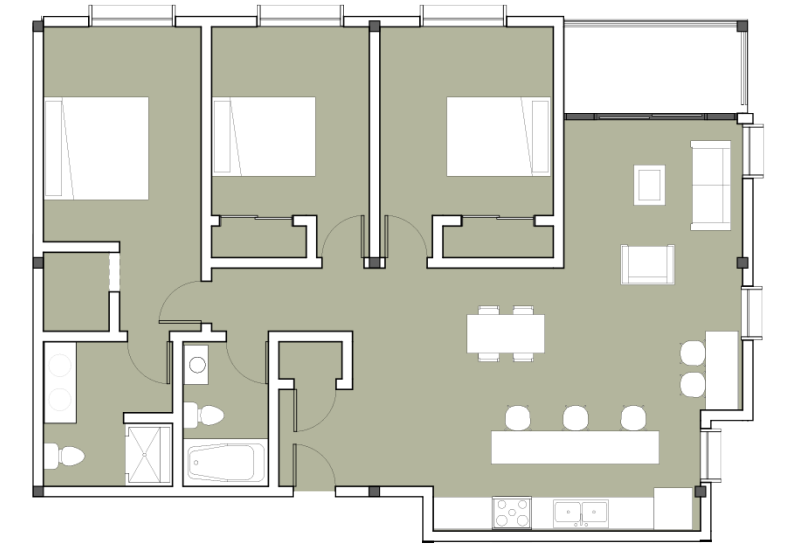
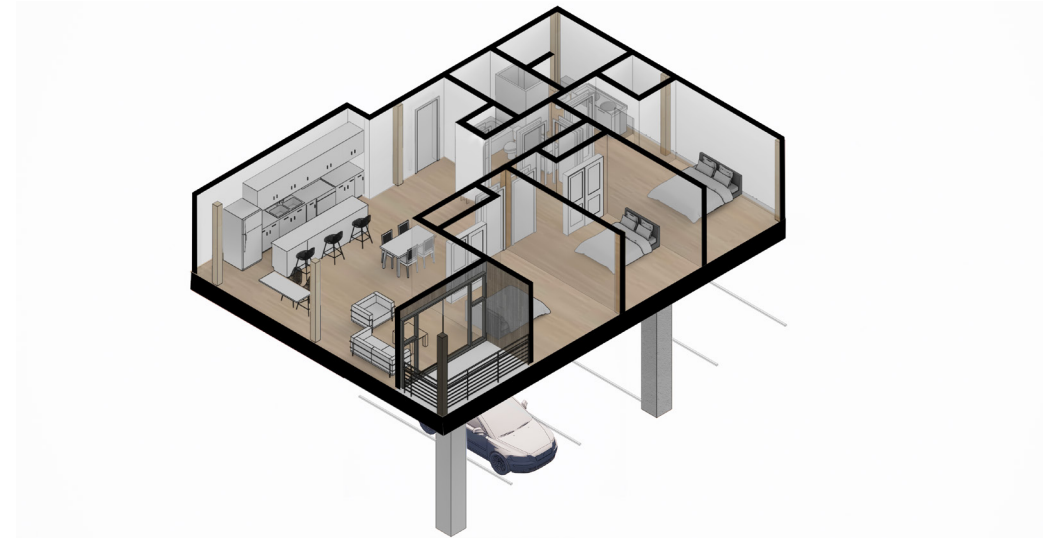
- Column structure provided an outline for 2-3 bed units for families situated around the atrium and staircores.
- Self sufficient units with the exception of laundry as a common space
- Recessed balconies in each unit
 - Create solids and voids and that the balconies and adjacent bedrooms alternate on each floor to create randomness in the facade
- Solid + voids created at balconies that add to the randomness of the facade
- Windows - larger on the north and south, smaller on east and west facades



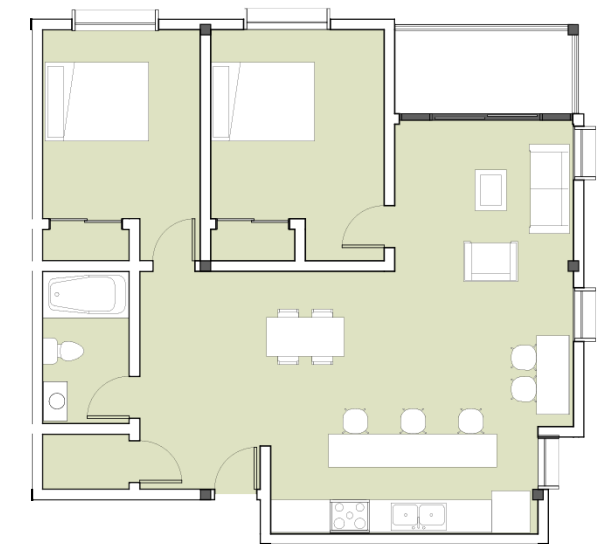
UNIT PLANS

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3 BEDROOM UNIT



2 BEDROOM UNIT



UNIT INTERIOR PERSPECTIVES

- Lightness in the units
- Exposed columns + structural materiality
 - Warmth of the palette contributing to the feeling of safety and familiarity/belonging in the grove's units
- Clear connection to grove

UNIT LIVING ROOM



ATRIUM PERSPECTIVE



WALL SECTION/ ELEVATION

- Switch of balconies in alternate floors to create a staggered section
- Glulam beam construction supports the change - light stick framing tying into the structure acting as an anchoring point for facade and window systems.
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GROVE DIAGRAM

- Grove has been divided into 3 different zones connected via pedestrian and vehicular paths.

- Central zone hosts the childrens play area, formal gathering space

- Formal gathering space is situated around the community center that acts as a space for the community to meet and congregate.

- Childrens play area is focused towards the central part of the scheme that provides clear site lines and a safe play space.

- North zone hosts the farmers market

- Farmers market on a weekend when the AAHC offices are closed, which allows for the extra space on the parking lot to be made use of.

- South Zone hosts the tree line trail that connects with the rest of the grove

- Treeline trail -walk, jog trails - quiet zone.



GROVE SEASONAL PERSPECTIVES

- A view from 1st floor balcony Relationship of the grove - trees - to the units with respect to various seasons



FALL PERSPECTIVE



WINTER PERSPECTIVE



SUMMER PERSPECTIVE

OFFICES + FACILITIES

- Groves connects with the offices + amenities and the Shared communal space
- The office is 15,000 soft hosting a range of programs for maintenance and AAHC - loading dock, workshop space, private bathrooms w/showers, private meeting spaces and an employees lounge.



AMENITIES

- The amenities is roughly 10,000 sqft hosting on site clinic, food pantry, computer lab, fitness room, private event space, daycare, game room + movie theater.



CONCLUSION

- In conclusion, the Grove is a sanctuary which provides families within the network of ann arbor housing commission living with a secure place to live and grow through privacy, security and connection to support.

