

HARMONY: A MODULAR APPROACH TO COHOUSING DESIGN

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December 2024





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INTRODUCTION

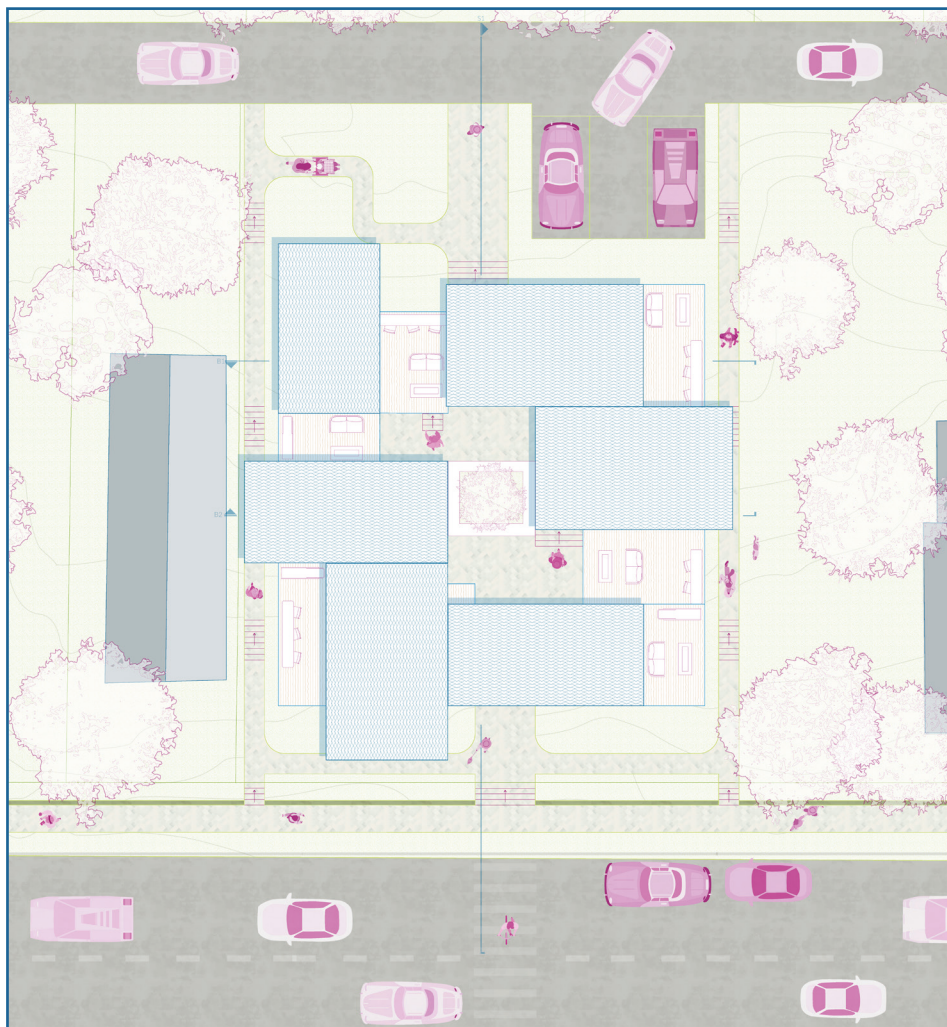
Designing a community rooted in harmony, we have provided spaces that encourage interconnectedness, sustainability, and inclusivity, all while valuing the input and involvement of the community. Our Block by Block - Stacked Commons project aims to achieve harmony in the aesthetic sense and in the functional arrangement of spaces within the community so that they are balanced and flourish at all levels. This paper explores the evolution of design, its fundamentals, and how modular elements contribute to an enhanced environment, with a strong emphasis on the community's role in this process. The modularity of the design ensures that each component of the development serves a distinct purpose, facilitating intergenerational relationships while preserving the natural environment.

SITE ANALYSIS AND CONCEPTUALIZATION

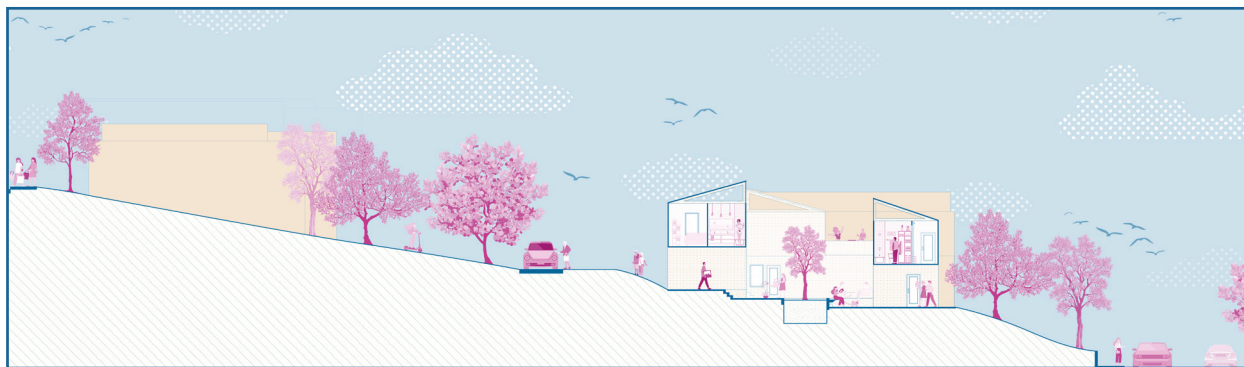
HARMONY WITH THE SITE

The Stacked Commons is in a built-up landscape, which has several distinctions. This landscape comprises gentle slopes and flat terrains, enabling us to develop different kinds of spaces depending on the requirements of various residents. Older adults could occupy the flat parts of the site by constructing low ranch-style one-story ADU units. In contrast, the sloped parts with greater complexity could accommodate young residents in multiple loft-type units.

This choice reinforces the idea of a stratified community, where older adults would occupy spatial areas with low slopes so that they do not have problems with movement. In comparison, younger adults, who are highly mobile, would occupy terrain that would allow them to be more sociable. The marriage of these two communities makes the system active, employs diversity, and provides the most humane social solidarity.



BOTTOM STREET IS
CASS AVE AND TOP
STREET IS THE ALLEY
INBETWEEN CASS
AVE AND TARPEN ST.



DESIGN STRATEGY: MODULAR HOUSING AND COMMUNITY SPACES

HARMONY IN THE MODULAR SYSTEM

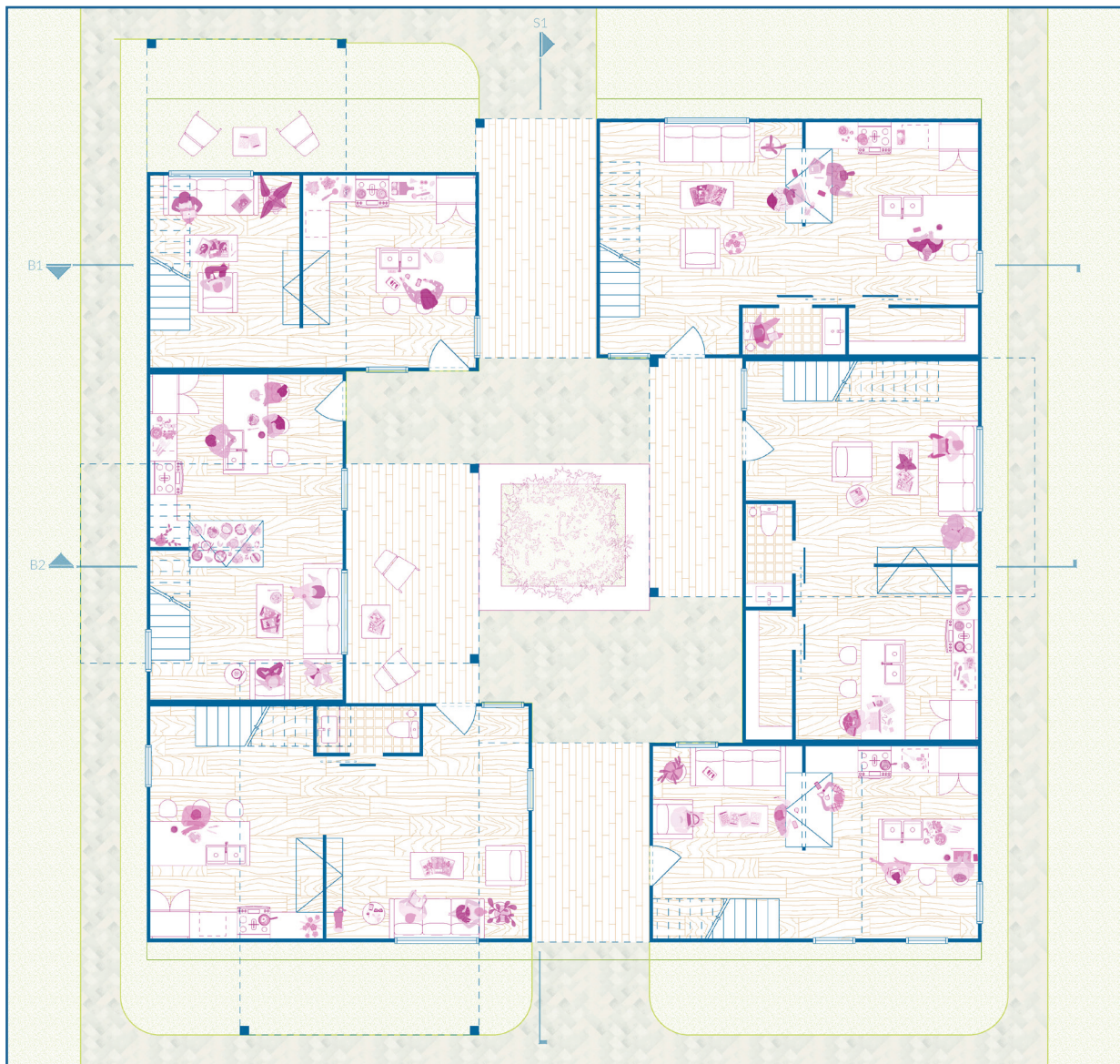
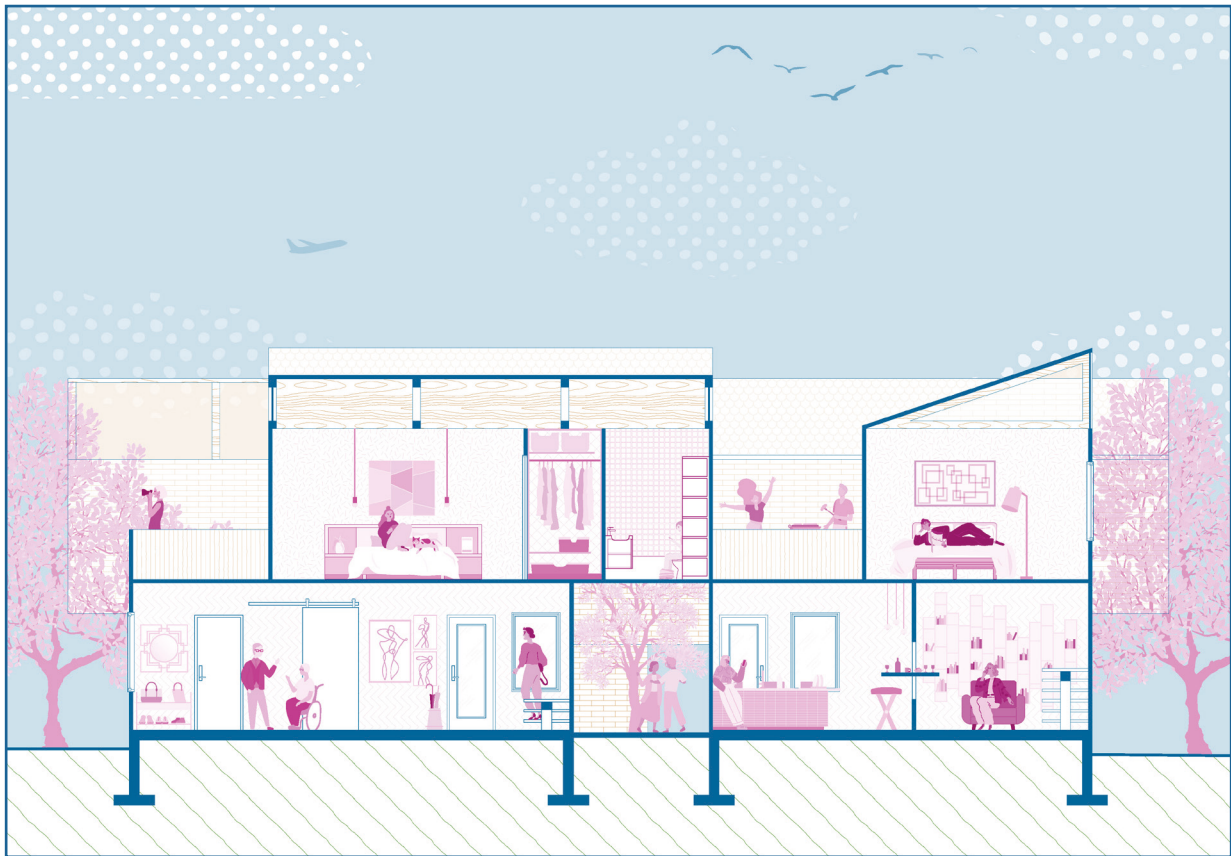
The Stacked Commons design expands on the notion of ADUs through the modularity of the units. Constructed with mass plywood panels, the units are lightweight and easily assembled while being environmentally friendly. This allows for quick construction and the option to grow or adjust as changes within the community occur. Each unit has been made practical as it provides enough space for one or two individuals, while shared areas enable more people to engage with one another.

Mass plywood was chosen for its capital, constructability, and sustainability merits. This not only is a more ecologically responsible option but also contributes to the natural aesthetic required in the green infrastructure of the project. It also resonates with the idea of harmony by incorporating natural materials such as plywood to provide warmth and tranquility to the inhabitants.

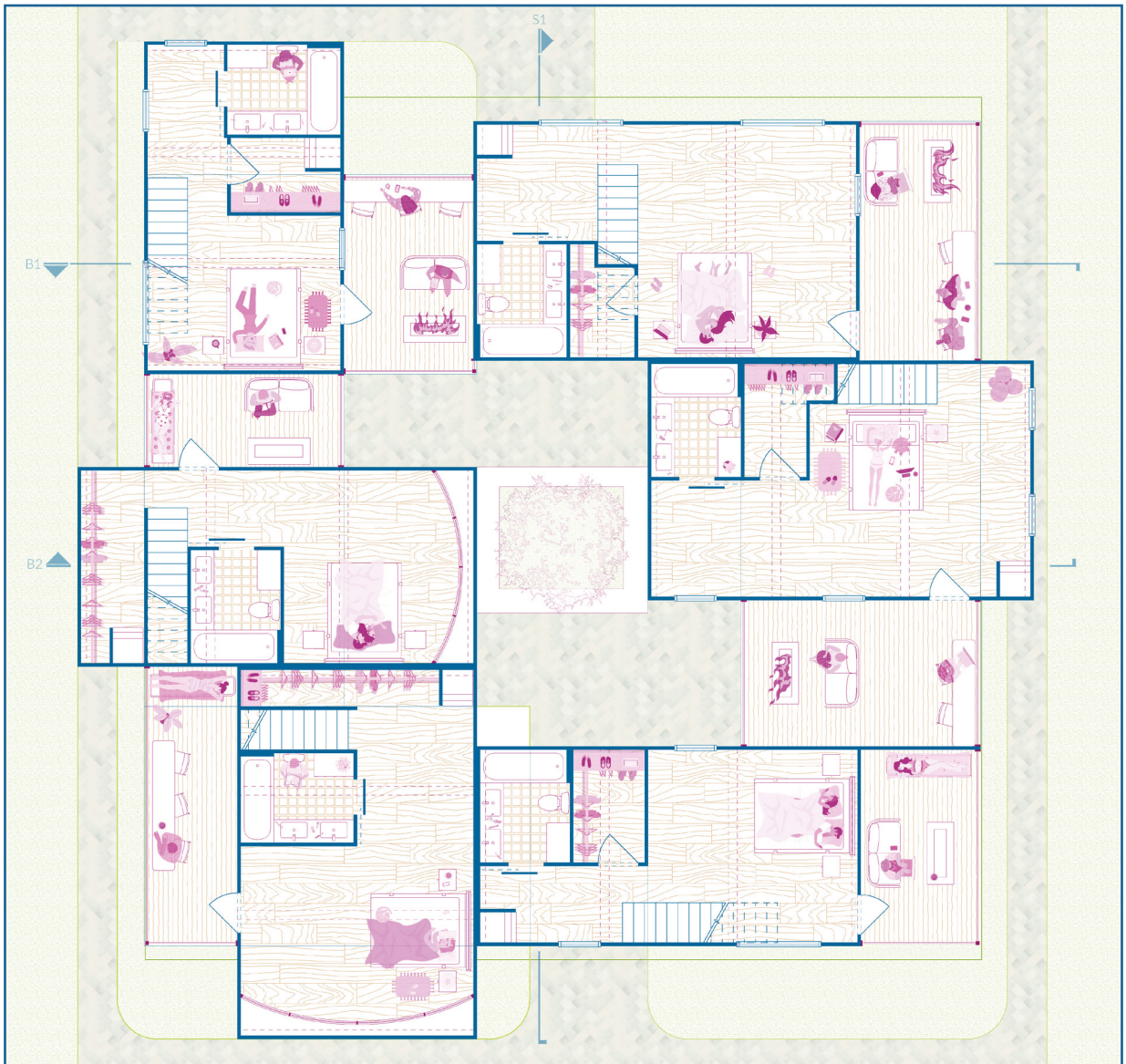
FOSTERING ENGAGEMENT THROUGH SHARED SPACES

The architecture of the Stacked Commons is more than just a housing design and goes beyond the landscape, where the role of the community spaces is critical. Common facilities such as community gardens, common areas, and the central center are added to the project to promote involvement. Some of the spaces are to be scattered to facilitate interaction and, at the same time, provide seclusion to residents if necessary.

The community center forms the project's core as a social node and a place where formal events and activities are held. The rationale for the centrality of this facility is that it is construed as the community's functional and symbolic center of gravity. Residents residing close to the community facilities are said to enhance the chances of their interaction, thereby enhancing cohesion and a sense of togetherness among residents.



BUILDING SECTION 1 AND GROUND FLOOR PLAN



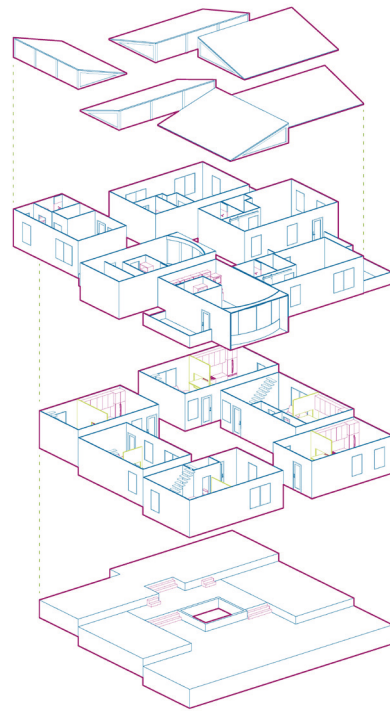
BUILDING SECTION 2 AND UPPER FLOOR PLAN

COMMUNITY ENGAGEMENT AND INCLUSIVITY

DESIGNING FOR ALL AGES

Attention has been paid to the overall site plan and the design of the housing units to address the various needs of the residents. The elderly residents are placed on the less sloped parts of the site where ranch-type ADUs are positioned. These units are structured in a manner that is easy to use; they include wide entrances, fewer steps to climb, and spaces that can easily accommodate wheelchairs or walkers.

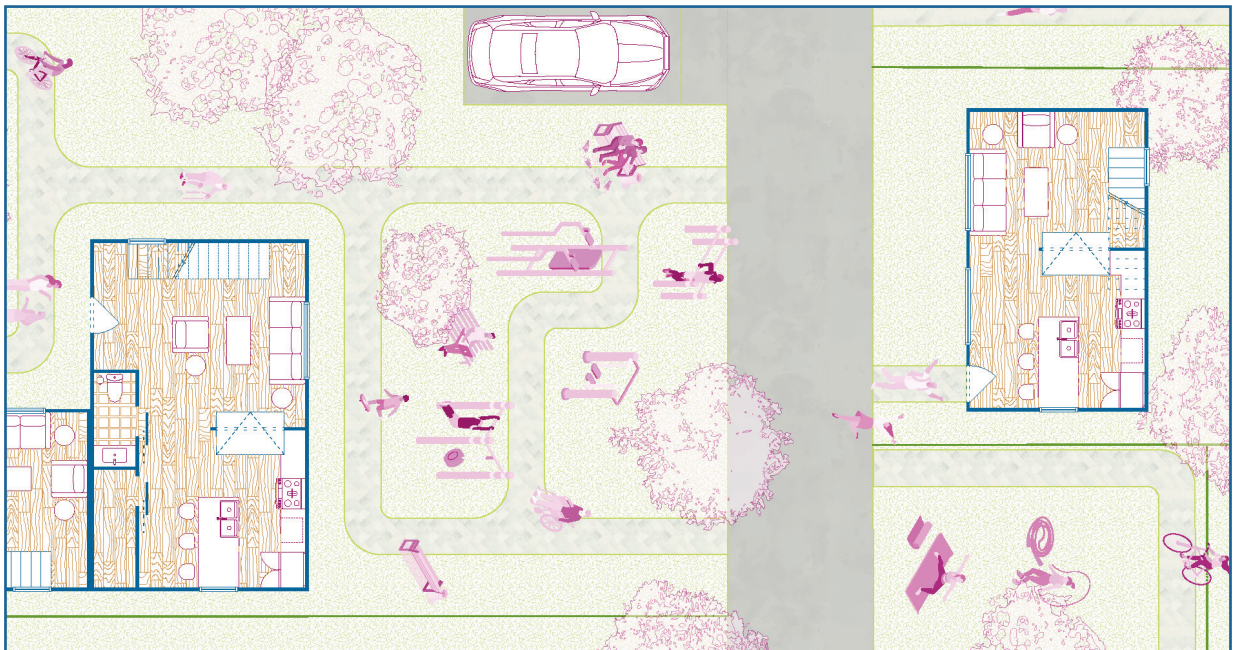
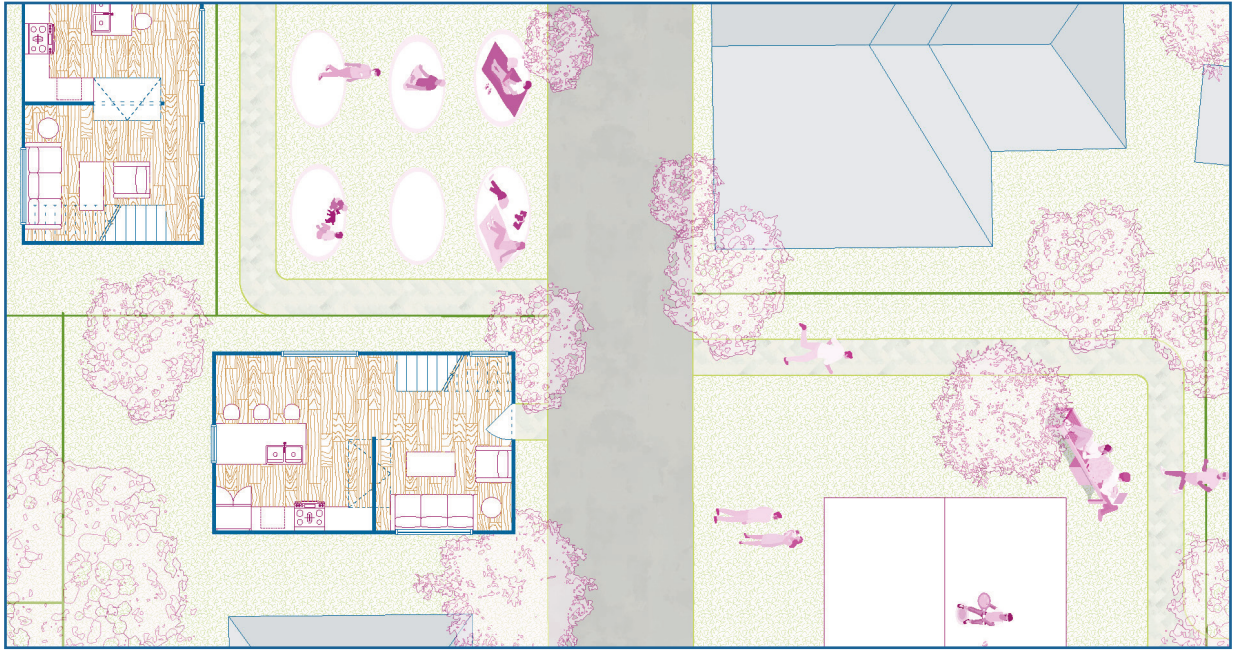
On the other hand, the younger residents who are more active are accommodated on the sloping portions of the site. Due to the landform, these portions have multi-story units, which also increases the area density. Such housing diversity reduces the impact of built form on internal community relations while enriching the community by addressing the needs of different and specific residents.



COMMUNITY-INFORMED DESIGN

Utilizing the community's input when developing the final product has been crucial to ensure that we take into account the needs of all the residents of the target area. Throughout the architectural design process, this was incorporated into the design as a bottom-up approach and is in line with principles that Gary Hack discusses in his book *Site Planning* and the NACTO *Urban Street Design Guide*, where community involvement is central to creating sustainable and inclusive urban environments.

Gary Hack recalls in *Site Planning*, "The primary function of a site is to connect people to each other and to the larger context of their environment." Stacked Commons Project aims to achieve this design goal by creating spaces that unite people. This should ensure that the residents can move within those shared spaces without difficulty, thus promoting the community's togetherness.



BLOCK PLAN DETAILS



BLOCK PLAN



SUSTAINABILITY AND GREEN DESIGN

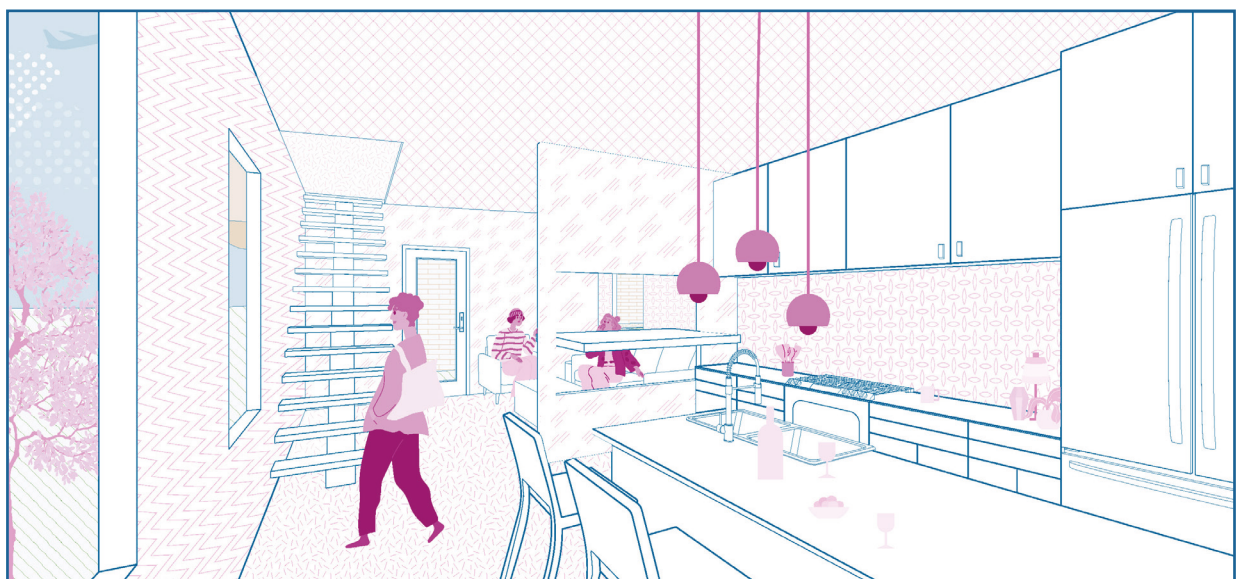
HARMONY WITH THE ENVIRONMENT

As the structural principles of the design allow, the Stacked Commons design embraces sustainability. It is a construction design that mitigates carbon emissions while providing a controlled indoor environment. In addition, the sloping roofs are built with canvas-lit triangular timber frames, allowing the units to receive light. This passively designed structure enables units to receive sufficient sunlight during the daytime, while canvas canopies reduce the need for heating and artificial lighting.

EXPANDING THE COMMUNITY: INTEGRATING THE WHOLE BLOCK

EXPANDING TO THE FULL BLOCK

The initial scope of the Stacked Commons project was confined to a smaller parcel; however, as a part of the assignment, the design was broadened to cover the entire site block. The other half expanded the integration of more housing units and more community spaces into the more prominent urban context. Consequently, the number of housing units increased as community space was incorporated into the broader urban context. However, this made it feasible to implement and incorporate multiple housing types as complex horizontal structures were made to integrate various kinds of community open spaces.





Extending modular design principles throughout the entire block, we were able to create a cross-generational community in which everyone can live, work, and spend time together. Parts of the block enlarged were publicly accessible spaces that aid people's sense of privacy and the public overall. These spaces are available to all residents, providing connectivity to the community.

CONCLUSION

The design of The Stacked Commons and how people share the space encapsulates the essence of the word harmony. We have provided a versatile solution catering to many residents by focusing on modular and sustainable buildings. Including community centers, vegetation, and a well-thought-out site plan ensures that this project will serve as a precedent for urban development in the coming years. The ever-elusive mix of privacy, societal integration, sustainability, and wholeness will be integral in constructing a robust society that works for everyone and anyone without any bias to age or capacity.

To quote Jan Gehl, "The human dimension is the key to sustainable urbanism". This factor in design encompasses that human dimension and creates an environment where people from different walks of life can thrive, co-exist, and form bonds that stand the test of time.

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