

CRAFTING A COMMUNITY FROM ONE

Exploring the Viability and Design of a Denser Urban
Environment for Affordable Housing

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A Letter of Gratitude

As I stand on the precipice of a significant milestone in my life, I am compelled to pause and reflect on the journey that has brought me to this point. It is with a heart brimming with gratitude to express my deepest thanks for everyone's unwavering support, guidance, and encouragement throughout my pursuit of a Master's Degree in Architecture.

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As I embark on the next chapter of my professional life, I carry with me not only the knowledge and skills I have acquired but also the profound gratitude for each of you who have contributed to my journey. Your collective influence has been a guiding light, illuminating the path to this significant achievement.

Please accept my heartfelt thanks for your invaluable contribution to my success. I look forward to the opportunity to express my gratitude in person and to share the fruits of our collective efforts as I venture into the professional world of architecture.

Table of Contents

Chapter 1: Introduction	
1.1 Project Objectives	1
1.2 Introduction	2
1.3 What is a Housing Crisis?	4
Chapter 2: Background and Context	
2.1 Traditional Affordable Housing Models	7
2.2 Existing Innovative Approaches to Affordable Housing	8
2.2.1 Modular and Prefabricated Construction	8
2.2.2 Micro and Tiny Homes	8
2.2.3 3D Printed Housing	9
Chapter 3: Initial Research and Project Influence	
3.1 Housing Costs and Median Household Income	10
Chapter 4: Research Overview	
4.1 Understanding Tampa	13
4.2 Target Audience and Location	14
Chapter 5: Case Studies	
5.1 House for BEES	15
5.2 House in Los Hornos	16
5.3 El Nido Refuge	18
5.4 Escape Tampa Bay Village	20
5.5 Simple Life at Lakeshore	22
Chapter 6: Project Location Selection and Demographics	
6.1 Choosing Tampa Heights	24
6.2 Demographics of Tampa Heights.....	25
6.3 Lot Location	28
6.4 408 W Park Ave.	30
6.5 What is RM-24 Zoning?	31
Chapter 7: Redefining the Current Zoning	
7.1 What is Planned Development Zoning?	33
7.2 Utilizing Residential Small Lots in Tampa	35
7.3 Understanding Tandem Housing For Tampa Heights	37
7.4 Understanding Cottage Housing Development For Tampa Heights	39
Chapter 8: Construction Costs Opportunities	
8.1 Traditional Light Frame Wood Construction	41
8.2 Modular / Prefabricated Construction	42
8.3 3D Printing Construction	43
Chapter 9: Tampa Heights Characteristics	
9.1 Characteristics of Old Housing and New Housing	44
Chapter 10: Site Mapping Process	
10.1 Studying the Characteristics of the Lot	47
10.2 Studying the Characteristics of Parking	50
10.3 Studying the Characteristics of Green Space	53
10.4 Studying the Architectural Footprint	55
10.5 Integrating the Characteristics	57
Chapter 11: Overall Design Strategy	
11.1 Choosing the Construction Method	61
11.2 Creating a Unique Lot	62
11.3 Calculating the Overall Construction Costs	66
Chapter 12: Parcel Design and Construction	
12.1 Parcel 1	68
12.2 Parcel 2	73
12.3 Parcel 3	78
Chapter 13: Conclusions	
13.1 Ending Remarks	82
References	
Bibliography	83
List of Figures	85

Chapter 1: Introduction

1.1 Project Objectives

The goal of the project is to comprehensively analyze and propose solutions to address the escalating housing costs. Recognizing that this complex issue cannot be resolved instantly or through a single study, the approach aims to explore and apply innovative or proven strategies. By doing so, the research intends to spark a dialogue on potential avenues for future interventions that could mitigate the challenges of the rising housing costs. Housing, being a fundamental human necessity, directly impacts the overall well-being of the population. Addressing the shortage of affordable housing is paramount to achieving urban development goals, reducing poverty, and enhancing living standards. This study serves as a comprehensive guide in understanding the root causes of the crisis and provides actionable solutions, thereby contributing to societal advancement.

A thriving and stable housing sector is critical to the economic vitality of urban regions. Affordable housing not only provides shelter but stimulates local economies through job creation in construction and allied industries. The study highlights the economic value of revamping the affordable housing sector, spotlighting its potential as a driver for economic growth. By emphasizing sustainable design and construction methodologies, this study contributes to the broader dialogue on urban sustainability. As cities grapple with the challenges of climate change, sustainable housing solutions become indispensable. The research provides insights into eco-friendly building techniques that align with global sustainability targets. With a comprehensive assessment of existing regulatory frameworks and their impact on the housing crisis, the research can guide the formulation of robust policies that prioritize affordable housing.

The goal of the research and findings is to be a useful guide for private developers, architects, and construction firms in understanding the market dynamics of affordable housing. By highlighting successful models and practices, the research can pave the way for increased private sector investment in affordable housing ventures, combining profitability with social responsibility.

In essence, this study's significance goes beyond the academic realm, impacting real-world scenarios, influencing policy decisions, guiding industry practices, and, most importantly, enhancing the lives of millions in urban areas. By addressing the affordable housing challenge from multiple angles, the research holds the promise of transforming urban landscapes into inclusive, sustainable, and vibrant living spaces.

1.2 Introduction

The current housing crisis is evident in modern society. Households across the board are grappling with escalating living costs, leading to a significant strain on their financial well-being. Evictions and foreclosures, once rare, are now frequent occurrences. This crisis is further compounded by issues of segregation and poverty, alongside the growing challenges of displacement and unaffordability, which are now prominent features of our urban landscape. Both urban and suburban neighborhoods are undergoing significant transformations, driven largely by speculative development and decisions made by individuals who are often detached from the communities they are impacting. According to the affordability standards in America, not a single state offers a living situation where a one-bedroom dwelling is affordable for a full-time worker earning the minimum wage. This issue of housing affordability is widespread and deep-rooted, affecting urban and rural areas alike. Alarmingly, nearly half of all renting households nationwide are burdened with rent costs that consume an unsustainable portion of their income, a situation that is predicted to worsen. The challenge extends beyond the boundaries of major cities, with about 30% of rural households also struggling to afford their housing. These figures highlight a critical and growing national concern over housing affordability that demands immediate and effective design and construction attention.¹

The most common perspective in housing crisis discourse suggests that the housing system's dysfunction is a transient issue, one that can be rectified through specific, standalone interventions. The concept of housing is often approached with a limited scope. The task of providing adequate housing is predominantly viewed as a technical challenge, with solutions sought in the realms of advanced construction technologies, refined physical planning, innovative management techniques, increased homeownership, altered zoning laws, and relaxed land-use regulations. In this context, housing is predominantly considered the territory of professionals such as developers, architects, and economists. While there is no doubt that technical advancements can and should be made to improve the housing system, this view overlooks the more profound layers of the crisis.

The reality is that the housing crisis is rooted in deeper systemic issues that extend beyond mere technical fixes. It encompasses a range of social, economic, and political dimensions that are often overlooked in the search for quick solutions. Addressing the crisis effectively requires a holistic approach that goes beyond the expertise of developers and architects and involves a broader understanding of the socio-economic factors at play. It calls for a reevaluation of how housing is perceived and addressed in policy and public discourse, recognizing it as a fundamental human right rather than just a commodity or a technical problem to be solved.

Housing, by its very nature, prompts critical inquiries about the role of state intervention and the overarching economic framework. However, the manner in which these social conflicts and disparities influence housing dynamics is frequently overlooked or inadequately addressed. This understanding that is often stated highlights that housing is not just a matter of physical structures or market transactions but instead, it is deeply intertwined with societal power structures and economic policies. The decisions and policies that shape housing availability, affordability, and quality are often a reflection of broader societal values and priorities. As such, understanding and addressing housing issues requires a comprehensive approach that considers the political, economic, and social forces at play. Recognizing the political dimensions of residential issues is crucial for developing equitable and sustainable housing policies that truly address the needs and challenges of diverse communities.

The current landscape of housing reveals a profound conflict: on one side, there is housing as a lived, social space – a sanctuary that nurtures community and personal identity; on the other hand, housing is a vehicle for profit-making, where homes are viewed primarily as real estate assets. This dichotomy is meant to highlight the struggle between viewing housing as a fundamental human right and treating it as a commodity for financial gain.

While the house continues to shape our personal realms, the last two centuries have seen its construction and evolution deeply intertwined with broader dynamics: industrialization and national economic trends. The elite have utilized housing as a tool for nation-building and for defining class and racial divisions. This is especially true in Western societies, where the physical and cultural aspects of homes are often seen as national identity and social hierarchies.

Housing emerges as a battleground of diverse ideologies, economic interests, and political agendas. This arena is where differing visions for society's future – from policy approaches to economic strategies – clash and compete, each shaping the way we understand and interact with our living spaces.

Today's residential struggles are not products of other conflicts; they stand as significant political movements. Housing movements have emerged as influential actors, shaping policy and public discourse in their own right. While the housing question presents profound challenges that may not find complete resolution within the framework of capitalism, the housing system itself is not immutable. It is subject to influence, modification, and transformative change. This recognition empowers activists, policymakers, and communities to actively engage in reshaping the housing landscape, advocating for reforms and innovations that can lead to more equitable and sustainable housing solutions.

1.3 What is a Housing Crisis?

The rapid growth of cities worldwide have brought an arrangement of socio-economic challenges with the housing crisis standing as one of the most prominent and pressing issues. As cities swell with population, the demand for housing invariably increases. Similarly, as this demand surges, so does the cost of living, with housing prices often escalating beyond a point where the average consumer can afford. The increase in the cost of living does not help alleviate the price of a basic dwelling. This disparity between the need for housing and the ability of consumers to secure affordable housing forms the central point of the urban housing crisis.

Affordable housing is more than just a shelter. It provides stability, promotes well-being, ensures economic progress, and facilitates a sense of belonging in communities. However, traditional models of housing have often fallen short of addressing the specific requirements of rapidly expanding urban populations, especially concerning affordability. Factors such as land prices, construction costs, regulatory barriers, and sometimes a lack of political will or foresight have compounded the problem. Therefore, to reassess and redesign the standard of affordable housing is necessary to create possible solutions.

For over a century, the term "housing crisis" has been a rallying cry for critics, reformers, and activists, gaining renewed prominence in the wake of the global economic downturn in 2008. The notion of a 'crisis' suggests that inadequate or unaffordable housing is a one off phenomenon, a temporary deviation from a normally efficient system. However, for working-class and impoverished communities, the reality of a housing crisis is a perpetual state, not an exception.² Historically, inadequate housing has consistently been a recurring issue of marginalized and dominated groups, indicating that what is often termed a 'crisis' is, in fact, a longstanding and deeply entrenched issue within our social fabric. This perspective challenges us to reconsider our understanding of housing issues, recognizing them as systemic and enduring challenges rather than temporary or isolated disruptions.

In the United States, the rhetoric surrounding the housing crisis often targets state intervention in the housing market as a negative force. Conversely, in the UK, the same crisis narrative is employed to advocate for granting developers new legal powers to bypass local planning regulations. The persistent nature of housing crises can be traced back to a fundamental aspect of capitalist spatial development: housing is primarily produced and distributed not as a means to provide shelter for all, but as a commodity intended to generate wealth for a select few. Therefore, the housing crisis is not indicative of a malfunctioning system; rather, it is a predictable and consistent outcome of the system functioning precisely as designed.³

² Rachel G. Bratt, Michael E. Stone, and Chester W. Hartman, *A Right to Housing Foundation for a New Social Agenda* (Philadelphia, PA: Temple University Press, 2006).

³ Peter Marcuse and David Madden, "Whose Crisis? For the Oppressed, Housing Is Always in Crisis," Verso, November 42,

The goal is not to advocate for a mere resolution of what appears to be a temporary crisis, followed by a return to the normal status. Instead, the concept of ‘crisis’ is to highlight the inherently unsustainable nature of the contemporary housing system. By highlighting the crisis tendencies within housing under the current framework creates an urgent yet systemic nature of these issues. The focus is on showing the deep-rooted, structural problems that perpetuate housing instability and inequality, emphasizing the need for fundamental changes rather than short-term fixes.

The goal of the thesis is the advocate for housing as a fundamental resource accessible to everyone. Housing is a multifaceted role which holds different meanings for various groups. For residents, it is a home and a center for social life. Economically, it represents the heaviest expense for many households, while for others, it serves as a source of wealth, status, profit, or control. Housing is also a sector of employment for those involved in its construction, management, and maintenance. For investors and real estate professionals, it offers opportunities for speculative profit. For governments, it is both a generator of tax revenue and an area of fiscal expenditure. Moreover, housing plays a crucial role in shaping the structure and dynamics of cities. The focus is on recognizing and addressing these diverse implications of housing, ensuring it is not just a commodity for a few, but a basic right for all. Urbanization is not a recent phenomenon. Since the dawn of industrialization, people have flocked to cities in search of better economic opportunities, improved amenities, and the promise of a better life. However, in the past few decades, the rate of urban migration has reached unprecedented levels. According to the United Nations, approximately 55% of the world’s population lived in urban areas in 2018, and this is projected to increase to 68% by 2050.⁴ With this upswing growth comes an associated increase in the demand for housing, an issue worsened by socio-economic disparities, finite urban land resources, and often bureaucratic red tape.

In many urban environments, the real estate market has witnessed skyrocketing prices due to demand and supply disparities, speculative investments, and sometimes even deliberate policies or actions that favor upscale housing projects over affordable housing that meets the basic needs of individuals. Rental markets have not been immune to this trend either, with rents in many cities becoming unmanageable for the majority of the population. According to the Florida Atlantic University rent increase study, “(...) nationally, rents have increased 4.11 percent year-over-year in June, while (...) Tampa, 3.11 percent according to the Waller, Weeks and Johnson Rental Index.”⁵ Since September 2023, Florida has not imposed any legal restrictions on rent increases, empowering landlords to align rental charges with market demand. Despite this, influenced by national trends in rent escalation, numerous rental properties are adjusting their rates

2016, <https://www.versobooks.com/blogs/news/2962-whose-crisis-for-the-oppressed-housing-is-always-in-crisis>.

⁴ Hannah Ritchie, Veronika Samborska, and Max Roser, “Urbanization,” Our World in Data, February 23, 2024, <https://ourworldindata.org/urbanization#what-share-of-people-will-live-in-urban-areas-in-the-future>.

⁵ Amber Bonefont, “Study: Rent Increases in Eight Out of Nine Florida Cities at or Below National Average” Florida Atlantic University, July 24, 2023, <https://business.fau.edu/newsroom/press-releases/2023/florida-rental-increases-below-national-average.php>.

upwards. This strategy is aimed at remaining competitive in the market and optimizing the financial returns from real estate investments.

Gentrification is a phenomenon where older, often more affordable neighborhoods undergo a process of urban renewal leading to the influx of more affluent residents moving into the area. While it may bring improvements in infrastructure and amenities, it often results in the displacement of original residents who can no longer afford to live in their own neighborhoods. Over the years, various solutions have been proposed and implemented, ranging from government-subsidized housing projects to private sector-led initiatives. However, many of these have come with their own set of challenges. Public housing projects, for instance, have often been criticized for isolating low-income communities, leading to socio-economic ghettos with limited access to services and opportunities. On the other hand, while the private sector has managed to innovate in construction techniques and financing models, their primary motive of profit has sometimes sidelined the genuine need for affordability. As cities evolve and face the ever-growing pressures of population growth, migration, and limited resources, the initiative for affordable housing becomes even more crucial.

Chapter 2: Background and Context

2.1 Traditional Affordable Housing Models

Historically, the concept of housing was simultaneously tied with the idea of community. In many ancient civilizations, housing was not just a place to live but a reflection of one's status, profession, and role in society. However, as societies grew and urbanized, the need for affordable housing became evident. The traditional model of affordable housing emerged as a response to this need, prioritizing communal living, shared resources, and local materials.

Different cultures have utilized affordable housing through different techniques. In Asia, for example, the Chinese used 'Hutongs' which contained shared courtyards and narrow alleys.⁶ The Hutongs promote communal living with narrow corridors often turning corners and varying in size often being no more than 30 feet wide. In India, 'Chawls' are multi-storied structures with common balconies, which foster community interactions. These chawls also required families to share spaces to function on each floor.⁷ Similarly, in Africa, the 'Rondavels' or circular huts made of local materials, emphasize communal living and shared spaces. In Europe, the concept of 'Almshouses' provided housing for the poor, funded by charitable donations. These houses were often built around a shared courtyard, promoting community interactions. Such models highlight the importance of community and shared living in traditional affordable housing.

The emphasis on traditional affordable housing is its sustainability and the use of local materials. Whether it's the adobe houses in the Americas or the bamboo huts in Asia, traditional housing models leveraged what was locally available. This not only made them cost-effective but also environmentally sustainable. The houses were often designed to be naturally cool in the summer and warm in the winter, reducing the need for artificial heating or cooling.

The traditional affordable housing model showcases human ingenuity and the ability to adapt to changing circumstances. While the structures and materials may vary across cultures, the underlying principles of sustainability, and affordability remain consistent. As we grapple with the housing challenges of the 21st century, revisiting these traditional models can offer valuable insights and solutions.

⁶ Kate Liu, "History of Hutong," Beijing Hutong History, Origin, Development, November 29, 2023, <https://www.travelchinaguide.com/cityguides/beijing/hutong/history.htm>.

⁷ Tirthika Shah, "The Inception and Evolution of Chawls of Mumbai - Rethinking the Future," RTF | Rethinking The Future, February 1, 2022, <https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a892-the-inception-and-evolution-of-chawls-of-mumbai/>.

2.2 Existing Innovative Approaches to Affordable Housing

2.2.1 Modular and Prefabricated Construction

Modular and prefabricated construction is a modern approach to building that involves the production of components in a factory setting, which are then transported and assembled on-site. This method of construction offers several advantages over traditional construction methods, and its popularity has been on the rise in recent years. One of the primary benefits of modular and prefabricated construction is the speed at which buildings can be erected. Since components are manufactured in a controlled environment, there are fewer delays due to weather or other external factors. This ensures that projects can be completed in a shorter time frame compared to traditional construction methods.⁸ Additionally, the reduced construction time means lower labor costs. The controlled factory environment means there's less waste, and bulk purchasing of materials can lead to economies of scale. Despite being pre-made, modular components offer a high degree of customization. This means that buildings can be tailored to the specific needs and preferences of the end-user, ensuring that the final product is both functional and aesthetically pleasing. Components are built to exact specifications, ensuring that they fit perfectly when assembled on-site. This can lead to buildings that are more durable and require less maintenance in the long run.

The negative effects of modular and prefabricated homes are the transporting of large prefabricated modules from the manufacturing facility to the construction site can pose logistical challenges. The transportation of oversized modules may require special permits, specialized vehicles, and can lead to increased costs. Additionally, Modular construction heavily relies on manufacturers for the production of modules. Any delays or issues at the manufacturing facility can directly impact the construction timeline. This dependence can also lead to potential supply chain disruptions, especially in times of global crises or trade restrictions as well as possibility of damage while in transit. While modular construction can speed up the building process, the construction site still needs extensive preparation to accommodate the modules. This includes ensuring that the site is level, creating foundations that match the module specifications.

2.2.2 Micro and Tiny House

The increasing demand for affordable and sustainable housing has led to the emergence of micro and tiny homes as a viable alternative to traditional housing. These compact living spaces typically range from 100 to 400 square feet, and are designed to maximize functionality while minimizing environmental impact. Tiny homes have the ability to be built on a foundation such as the common houses found everywhere, or also have the ability to be built on wheels, like a recreational vehicle (RV) or trailer. Houses built on wheels (movables) are classified as RVs, meaning the only legal place they can park for an extended

⁸ "Pros and Cons of Modular Homes," Property Club, April 14, 2023, <https://propertyclub.nyc/article/pros-and-cons-of-modular-homes>.

period of time is in an RV park.⁹ The reduced size of these homes results in lower construction and maintenance costs, making them an attractive option for individuals seeking affordable housing solutions. Additionally, the compact design and use of eco-friendly materials contribute to their sustainability, with many tiny homes featuring solar panels, composting toilets to name a few.

Despite their benefits, micro and tiny homes also face several challenges such as zoning and building regulations which pose obstacles to the construction and placement of tiny homes. Many municipalities lack a clear guideline for these types of dwellings. Additionally, the limited space can be a drawback for individuals with families or those who require more room for work. Moreover, the financing and insurance options for tiny homes are limited compared to traditional homes. However, micro and tiny homes challenge traditional notions of success and consumerism, promoting a simpler, more eco-conscious lifestyle. Tiny homes have the potential to address housing shortages in urban areas, providing an innovative solution to the growing demand for affordable housing. Cities such as Portland and Seattle have implemented pilot programs to allow tiny homes as accessory dwelling units, providing a legal framework for their construction and use.

2.2.3 3D Print Homes

3D printed housing, also known as additive manufacturing, involves the use of large 3D printers to construct building components or entire structures layer by layer. 3D printed housing offers a range of benefits, including cost-effectiveness, and sustainability. One of the primary advantages is the potential for cost savings compared to traditional construction methods. 3D printing reduces labor costs, construction waste, and the need for expensive materials, making housing more affordable for both builders and homeowners. 3D printed homes can be designed with sustainability in mind, incorporating eco-friendly materials and energy-efficient features. The flexibility of 3D printing technology also allows for innovative and customized designs that can be tailored to the specific needs and preferences of homeowners.

This new innovative technology is still relatively new, and there are concerns about the structural integrity and durability of 3D printed homes. Additionally, the regulatory guidelines for 3D printed housing are still evolving, with many municipalities lacking clear guidelines and standards for these types of structures. Although the limited availability of 3D printing technology and expertise is scarce, the potential for widespread adoption can be seen in many cities that suffer from exponential growth in population. The rise of 3D printed housing reflects a broader shift towards more sustainable and innovative construction methods. These homes have the potential to address not only housing shortages, but affordability issues.

Chapter 3: Initial Research and Project Influence

3.1 Housing Costs and Median Household Income

The median household income is a critical benchmark for assessing the affordability of housing in any area. When housing costs exceed this median income, it creates a significant discrepancy that can have wide-reaching effects on the community and its residents. The initial research commenced with an examination of the median income in Hillsborough County alongside an analysis of average home sale prices. This discrepancy arises from various factors such as wage stagnation, rising housing prices due to market demand, and limited housing supply, especially in the affordable sector.

According to data from the Florida Housing Finance Corporation, in figure 1, the median household income in Hillsborough County stands at \$89,400. Guidelines from the Centreh County Housing and Land Trust in figure 4, suggest that housing costs should not surpass 30% of a household's total take-home salary. However, using a financial tool from Nerd Wallet in figure 2, designed to estimate the optimal

County (Metro)	Percentage Category	Income Limit by Number of Persons in Household										Rent Limit by Number of Bedrooms in Unit							
		1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5		
Hendry County	30%	14,580	19,720	24,860	30,000	34,700	37,250	39,850	42,400	Refer to HUD		364	428	621	808	931	1,028		
	50%	22,500	25,700	28,900	32,100	34,700	37,250	39,850	42,400	44,940	47,508	562	602	722	835	931	1,028		
	80%	35,950	41,100	46,250	51,350	55,500	59,600	63,700	67,800	71,904	76,013	898	963	1,156	1,335	1,490	1,643		
	Median:	47,800	120%	54,000	61,680	69,360	77,040	83,280	89,400	95,640	101,760	107,856	114,019	1,350	1,446	1,734	2,004	2,235	2,467
	140%	63,000	71,960	80,920	89,880	97,160	104,300	111,580	118,720	125,832	133,022	1,575	1,687	2,023	2,338	2,607	2,878		
Hernando County (Tampa-St.Petersburg-Clearwater MSA)	30%	18,250	20,850	24,860	30,000	35,140	40,280	45,420	50,560	Refer to HUD		456	488	621	814	1,007	1,199		
	50%	30,450	34,800	39,150	43,450	46,950	50,450	53,900	57,400	60,830	64,306	761	815	978	1,130	1,261	1,391		
	80%	48,650	55,600	62,550	69,500	75,100	80,650	86,200	91,750	97,328	102,890	1,216	1,303	1,563	1,807	2,016	2,224		
	Median:	89,400	120%	73,080	83,520	93,960	104,280	112,680	121,080	129,360	137,760	145,992	154,334	1,827	1,957	2,349	2,712	3,027	3,339
	140%	85,260	97,440	109,620	121,660	131,460	141,260	150,920	160,720	170,324	180,057	2,131	2,283	2,740	3,164	3,531	3,895		
Highlands County	30%	14,580	19,720	24,860	30,000	35,140	38,000	40,650	43,250	Refer to HUD		364	428	621	814	950	1,048		
	50%	22,950	26,200	29,500	32,750	35,400	38,000	40,650	43,250	45,850	48,470	573	614	737	851	950	1,048		
	80%	36,700	41,950	47,200	52,400	56,600	60,800	65,000	69,200	73,360	77,552	917	983	1,180	1,362	1,520	1,677		
	Median:	67,400	120%	55,080	62,880	70,800	78,600	84,960	91,200	97,560	103,800	110,040	116,328	1,377	1,474	1,770	2,044	2,280	2,517
	140%	64,260	73,360	82,600	91,700	99,120	106,400	113,820	121,100	128,380	135,716	1,606	1,720	2,065	2,385	2,660	2,936		
Hillsborough County (Tampa-St.Petersburg-Clearwater MSA)	30%	18,250	20,850	24,860	30,000	35,140	40,280	45,420	50,560	Refer to HUD		456	488	621	814	1,007	1,199		
	50%	30,450	34,800	39,150	43,450	46,950	50,450	53,900	57,400	60,830	64,306	761	815	978	1,130	1,261	1,391		
	80%	48,650	55,600	62,550	69,500	75,100	80,650	86,200	91,750	97,328	102,890	1,216	1,303	1,563	1,807	2,016	2,224		
	Median:	89,400	120%	73,080	83,520	93,960	104,280	112,680	121,080	129,360	137,760	145,992	154,334	1,827	1,957	2,349	2,712	3,027	3,339
	140%	85,260	97,440	109,620	121,660	131,460	141,260	150,920	160,720	170,324	180,057	2,131	2,283	2,740	3,164	3,531	3,895		

⁹ “Tiny Homes: An Affordable Housing Solution, or a Regulatory Nightmare?,” LexisNexis, April 2, 2019, <https://www.lexisnexis.com/community/insights/legal/b/industry-awareness/posts/tiny-homes-an-affordable-housing-solution-or-a-regulatory-nightmare>.

Florida Housing Finance Corporation (FHFC) income and rent limits are based upon figures provided by the United States Department of Housing and Urban Development (HUD) and are subject to change. Updated schedules will be provided when changes occur.

Figure 1: 2023 Hillsborough County Household Income

housing expenditure, the recommended amount a household should allocate towards purchasing a home is calculated to be \$263,122. Contrastingly, Zillow's 2023 data on home values and sales indicates an average home sale price of \$383,283 in the region. Even when the expenditure on housing is pushed to the upper limit, allowing for 50% of household income to be spent, it only amounts to \$374,772, still falling short of meeting the average home prices (figure 4). This scenario often forces families to allocate a higher percentage of their income towards housing costs, leaving less for other essentials such as healthcare, education, savings, and leisure, which are also important for a balanced lifestyle.

This substantial gap shows the challenges in housing affordability and highlights the need for further research into how homes can be made economically accessible while still offering households the opportunity to build equity in real estate. Moreover, when families spend more on housing, it decreases their financial flexibility, increasing vulnerability to economic downturns or personal financial crises. This can lead to a higher incidence of mortgage defaults and foreclosures, further destabilizing the housing market and the local economy. The issue of high home prices is made worse by the lack of available homes that fit within most families' budgets. This shortage means there are even fewer homes that meet specific needs like the right number of bedrooms and bathrooms, or a good location. As a result, many potential homeowners have to either settle for homes that don't fully meet their needs or consider living in less ideal areas. This makes it tough not only to afford a home but also to find one that matches all their preferences.

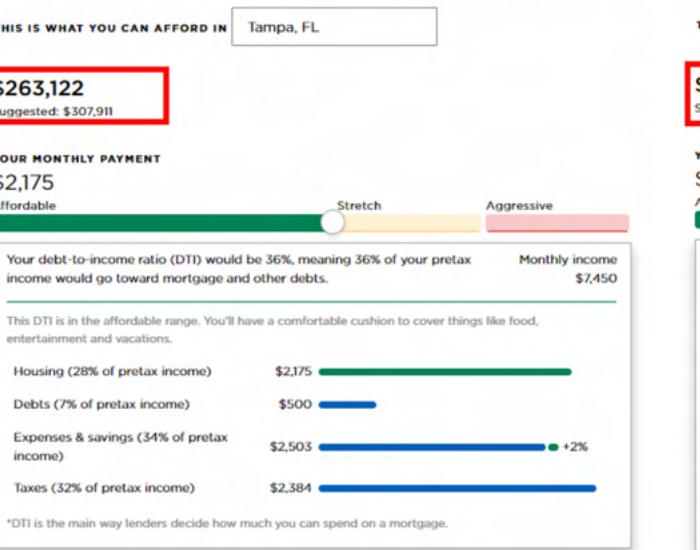


Figure 2: Nerd Wallet Mortgage Calculator

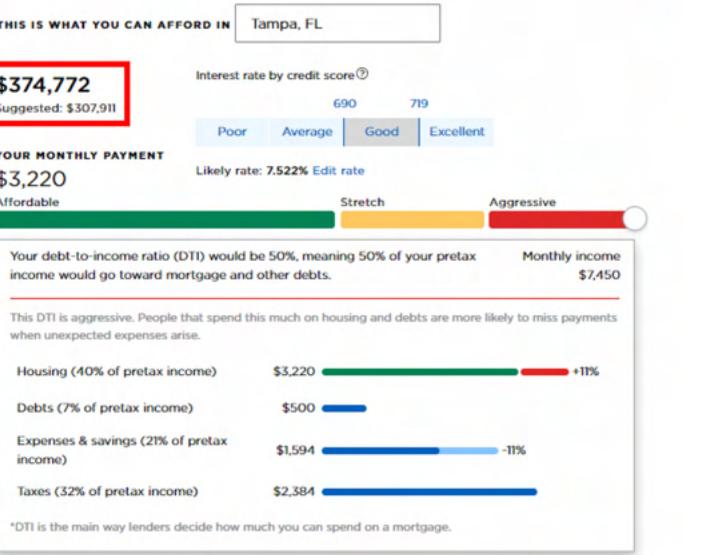


Figure 3: Nerd Wallet Mortgage Calculator

ing the "affordable method," the median household income could afford a home priced \$263,122. However, by assuming more risk and allocating 50% of the household income towards housing, the maximum affordable home price increases to \$374,772. This is still

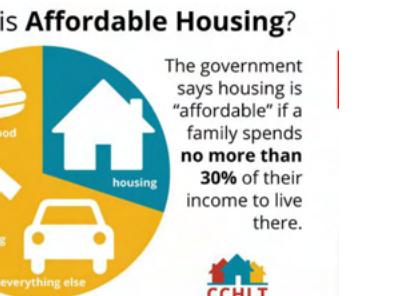


Figure 4: Graphic of Affordable Housing

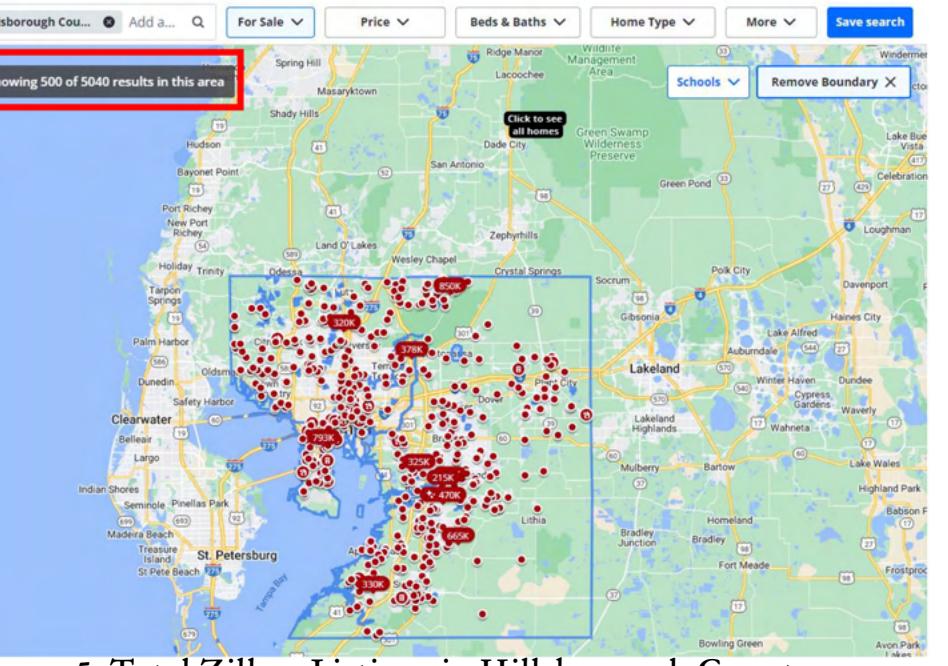


Figure 5: Total Zillow Listings in Hillsborough County

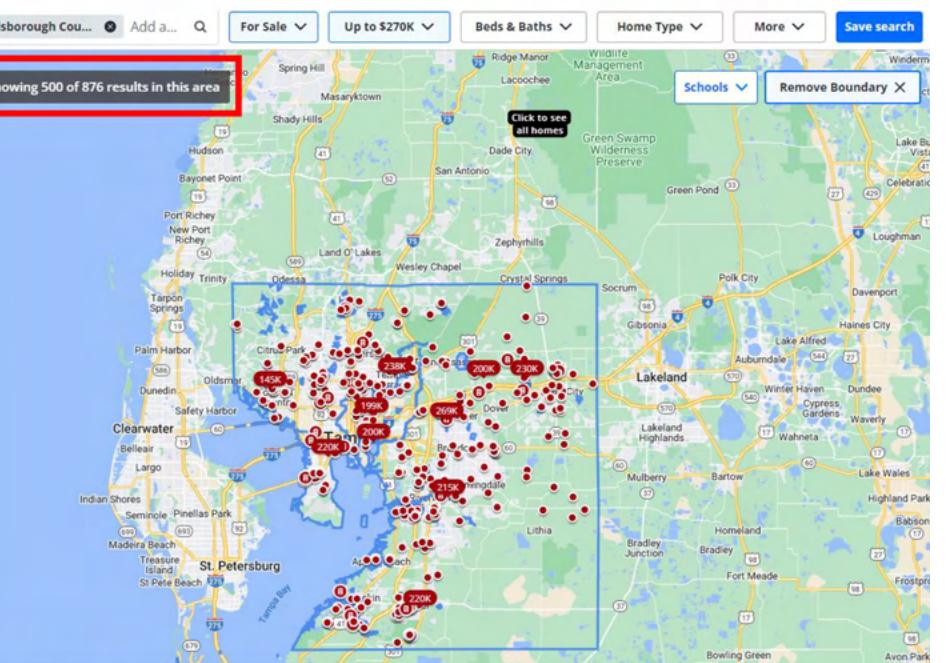


Figure 6: Filtered Zillow Listings in Hillsborough County

Utilizing Zillow filter list to see all available single-family homes in Hillsborough county, the total number of homes listed was 5,040 results. However, these results are all homes in Hillsborough ranging from all prices. This data is then filtered based on the home values that do not exceed the maximum list price of \$263,122 and the results becoming increasingly shortened from 5,040 results to 876 results. Therefore 17.38% of listing fall into the "affordable" housing range which does not consider all other needs based on family size or location.

This dramatic decrease in affordable homes creates an issue on future generations and current generations of families that did not previously own property now needing to make more than the current median salary to have an opportunity in affording a home today. The urban density of these affordable homes is also sparse, typically located in areas of high crime rates which does not incentive families to leave their current living situation which many times are renting and not generating wealth through property investments.

Chapter 4: Research Overview

4.1 Understanding Tampa

The main idea is subdividing a single lot into multiple smaller lots, each accommodating its own single-family home. This multiple step process involves innovative zoning and planning strategies.

This approach can be particularly useful for developing tiny home communities, where maximizing space while ensuring a quality living environment is important. Traditional zoning laws often cater to



Figure 7: Color Mapping of Tampa Neighborhoods

single-family homes on sizeable plots or multi-family buildings such as townhomes or condos. To create multiple tiny homes on a single lot, zoning laws might need to be adjusted. This process generally involves working with local zoning boards to obtain variances or advocate for amendments to existing zoning regulations. These changes could focus on reducing lot size minimums, adjusting setback requirements, and changing the density limits to allow for multiple dwellings on a single plot.

To determine the best location in Tampa for developing a pseudo lot that incorporates the concept of tiny homes, comprehensive research was essential, focusing on three promising neighborhoods: Tampa Heights, Ybor, and Hyde Park. Each area was analyzed for its suitability based on a range of factors including market and demographic trends, zoning laws, site characteristics, economic feasibility, and community willingness and engagement.

4.2 Target Audience and Location

In the current research for the ideal community, the proximity to downtown Tampa was a crucial factor due to the targeted demographic; millennials and early career professionals. These individuals often prioritize locations that offer convenience, lifestyle amenities, and career opportunities, all of which are abundant in urban centers like downtown Tampa.

In figure 6, a site map of downtown and the proximity of the focus areas shows the importance of the target audience and what locations could work best for the research. Millennials and early professionals often seek employment in dynamic urban environments. Proximity to downtown means reduced commute times and easy access to main business districts, making daily commutes more manageable and environmentally friendly, especially for those who prefer walking, biking, or public transit.

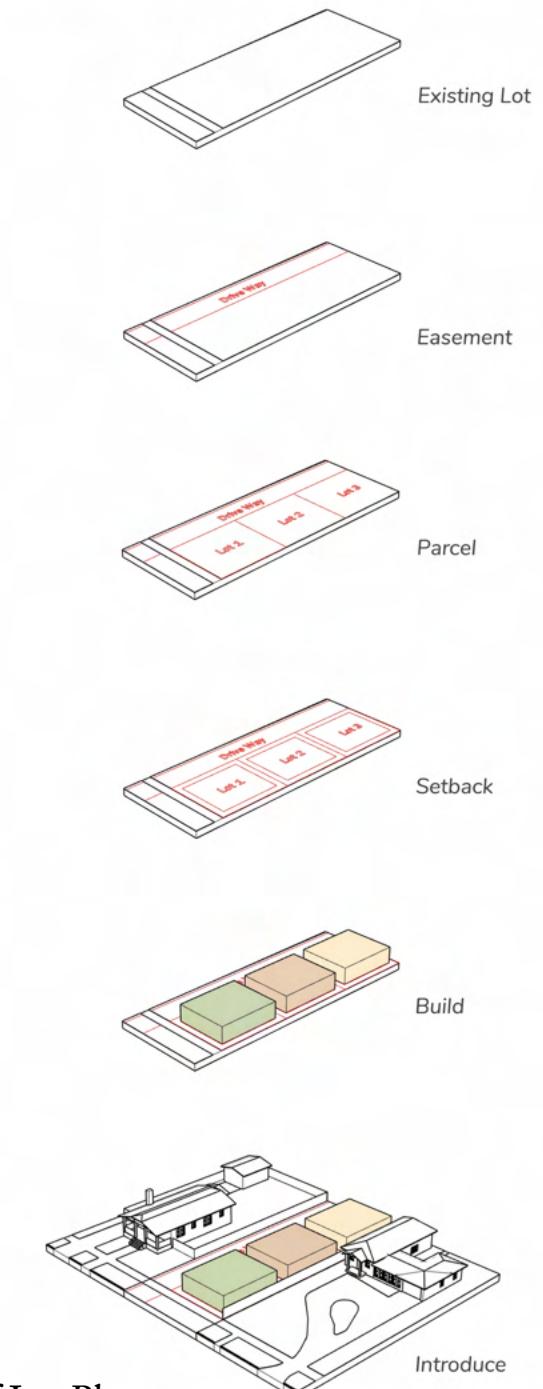


Figure 8: Axonometric of Lot Placement

Chapter 5: Case Studies

5.1 House for BEES

House for BEES, named after the clients' initials and their interest in native beekeeping, this project exemplifies a bespoke, collaborative design approach, catering to a family of four in their Mosman Federation home. The design transforms the space into a 'garden room,' positioning the kitchen, living, and dining areas under a sweeping, light-catching roof that fosters engagement with the garden through its open structure and retractable doors. They desired a spacious kitchen and casual living area that maximizes the home's orientation and connection to its natural surroundings, ensuring year-round passive sustainability.

The property, located near Sydney Harbour's ridgeline, enjoys privacy and unique vantage points due to its deep backyard and staggered neighboring homes. The architectural solution mirrors the family's outdoor lifestyle, symbolizing a picnic beneath a sheltering canopy. Positioned to minimize disruption and maximize garden space, the addition features four key elements: a protective back wall, an open front screen, a foundational platform, and a strategically folded roof.¹⁰ This design not only connects with nature but also employs materials chosen for durability and sustainability.

All of these strategies effectively combine privacy with spatial efficiency. This project serves as an exemplary model for leveraging the natural characteristics of the site and its climate to enhance cooling techniques. It draws parallels with homes in Tampa and other areas of Florida, where similar approaches are used to optimize the surrounding environment for greater livability and comfort.

10 1. Hana Abdel, "House for Bees / Downie North Architects," ArchDaily, January 22, 2024, <https://www.archdaily.com/1012443/house-for-bees-downie-north-architects>.

Figure 9: Interior Photo



Figure 10: Interior Photo



Figure 11: Exterior Photo



5.2 House in Los Hornos

"Quinta Tetuán" is nestled in the semi-rural outskirts of La Plata, where the landscape is marked by large rows of eucalyptus trees that segment the property. This setting is alive with scattered structures, orchards, and a variety of animals that animate the space. Nearby, the productive region of Los Hornos, historically renowned for its brick-making that supported the capital's infrastructure, now thrives with intensive fruit and horticultural activities that define its structured landscape and visual impressions.

The project at Quinta Tetuán seeks to harmonize the constructed environment with its traditional practices and materials, integrating them into a proposed landscape and lifestyle. Adapting the principle of using locally sourced materials could enhance sustainability and cost-effectiveness in Tampa. Materials like wood and perhaps local stone could be used for construction, reflecting the local style and ensuring the building materials blend with the natural surroundings. It embraces an architectural approach that aligns with industrial, scalable methods suited to a specialized society, aiming to offer a flexible framework for various applications within defined dimensional, climatic, and contextual parameters. The design includes a prefabricated, movable object, tailored through careful analysis to fit seamlessly into its specific setting.

The use of prefabricated, interconnected modules in the design offers flexibility and efficiency in construction. This approach could be particularly beneficial in Tampa, where rapid development and housing demand often call for quicker construction methods. Modular homes can also be designed to withstand Florida's hurricane-prone weather with the proper structural reinforcements.

Structurally, the design incorporates locally available materials to support a mix of covered and semi-covered spaces. The main building comprises a series of seven interconnected



Figure 12: Diagram of Construction

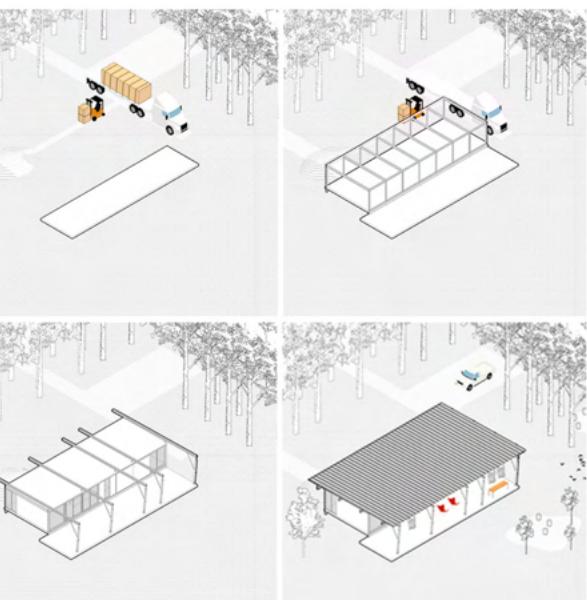


Figure 13: Diagram of Construction

modules, each measuring 2.40 x 6.00 x 2.90 meters, creating a total volume of 6.00 x 16.80 x 2.90 meters that stands slightly elevated from the natural ground. Overhead, an independent metallic roof spans 12.00 x 18.20 meters, positioned slightly above the main structure, creating a transitional space between nature and the built environment.¹¹ Using materials that reflect sunlight or are darker to integrate with the natural surroundings could be adapted to better suit Tampa's bright conditions. Lighter colors that reflect heat might be more appropriate to help keep the home cool.

Externally, the design aims to minimize its impact on the surrounding vegetation, mirroring some of the metallic sheds and structures in the area with its dark hues and reflective glass panels. Inside, the atmosphere shifts dramatically to a light wood-clad interior that defines clear thresholds, creating a distinct separation from the outside world.

The resultant gallery space, formed by the interaction between the floor, roof, and main volume, is deliberately designed to address climatic concerns and usage patterns, echoing the character of local and national historical gathering spaces. This area becomes a quintessential meeting place, expansive, versatile, and vibrant, truly embodying the spirit of "Quinta Tetuán."

¹¹ Valeria Silva, "House in Los Hornos / Bianchi-Fucile + Bertone," ArchDaily, August 6, 2021, <https://www.archdaily.com/966213/casa-quinta-en-los-hornos-bianchi-fucile>.



Figure 14: Exterior Photo



Figure 15: Exterior Photo



Figure 16: Exterior Photo

5.3 El Nido Refuge

Nestled in the heart of the expansive and fertile valley between the districts of Lurín and Pachacamac on the southern fringes of Lima, the El Nido project is a testament to the region's rich pre-Hispanic heritage. The cabin, a serene retreat serves as a sanctuary in the nearby Lomas de Lúcumo.¹²

Designed with meticulous attention to the natural environment, the cabin merges discreetly with its surroundings. It is thoughtfully oriented to capture the evolving light from dawn to dusk, enhancing natural ventilation that breathes along with its occupant. The architectural design presents a fluid spatial gradient, transitioning from private to public spaces, reminiscent of the ancient coastal cultures and their ceremonial architectures.

The entrance, marked by a tunnel of trees and shrubs, builds anticipation, leading to a structure that appears to float, supported by a lightweight and efficient structural system. This design not only allows air and mist to circulate freely beneath and between its dual roofs but also employs passive strategies to ensure comfort through the humid winters and hot summers.

Materials such as wood and cane, traditional to the coastal region, are strategically used to delineate the private and public areas—dense for privacy and porous for social interaction. Rotatable panels in the social areas offer flexible scenes—open or closed, seen or unseen, inside or out—allowing the inhabitant to control their level of engagement with the environment.

This living space is not just a physical structure but an experience in itself, accentuating the phenomenological aspects of its design. From the honeysuckle-marked entrance to the cane-shaded private quarters, each element is carefully crafted to enhance the sensory journey.

¹² Valeria Silva, "El Nido Refuge," ArchDaily, May 12, 2022, <https://www.arch-daily.com/981749/el-nido-refuge-carlos-pastor-santa-maria-arquitectos-colaboradores>.

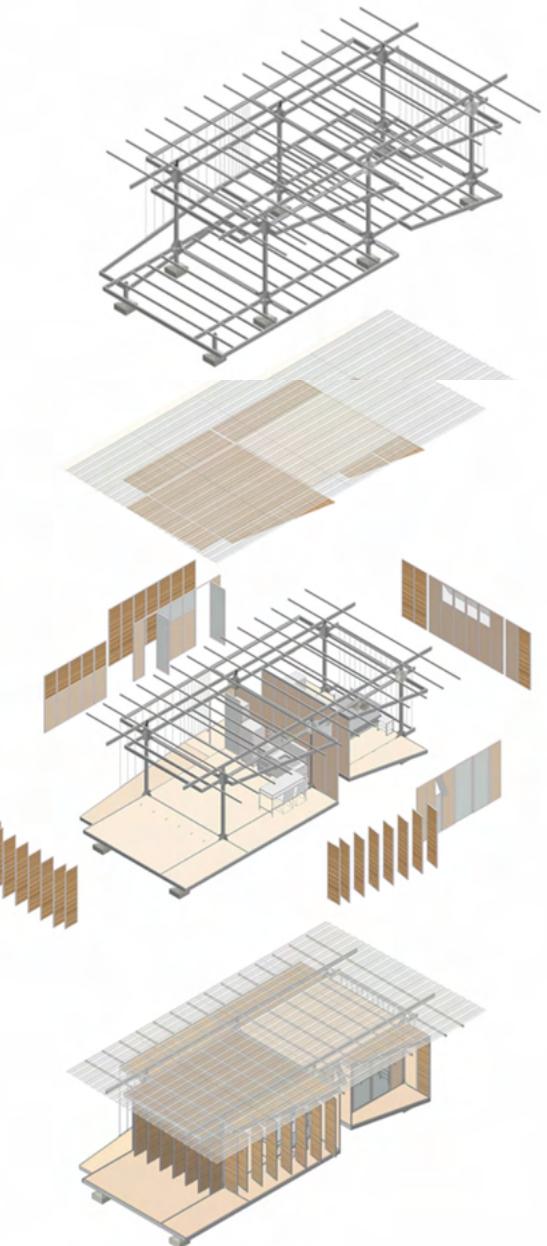


Figure 17: Diagram of Construction

In a region marked by distinct seasonal changes, each architectural component is an integral part of a system that incorporates the surrounding flora, completing the refuge and enriching it with textures, colors, and scents. Like a nest adapting to its environment, El Nido offers a harmonious blend of nature and architecture, a perfect retreat from the bustling city of Lima.



Figure 18: Exterior Photo



Figure 20: Perspective Corner Render

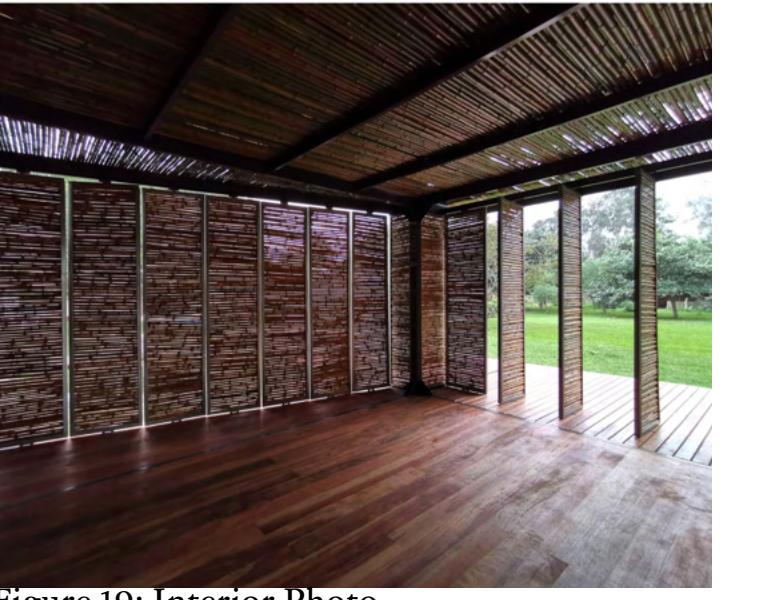


Figure 19: Interior Photo

5.4 Escape Tampa Bay Village

Escape Tampa Bay Village offers a unique approach to living that diverges significantly from the typical suburban or urban lifestyle. Situated in Tampa, Florida, this eco-friendly and self-sustaining tiny home community presents an alternative living arrangement that harmonizes modern amenities with a strong commitment to environmental sustainability.

At its core, Escape Tampa Bay Village is not just a place to live; it's a lifestyle choice that promotes minimalism, community, and a closer connection to nature. The village consists of various aesthetically pleasing and efficiently designed tiny homes that offer residents the opportunity to downsize their living space without compromising on comfort or functionality. These homes are built with high-quality materials that ensure durability while also emphasizing eco-friendly practices, such as the use of renewable resources and energy-efficient appliances.

One of the most compelling aspects of Escape Tampa Bay Village is its commitment to creating a sustainable environment. The village incorporates green spaces and community gardens where residents can grow their own produce, thus fostering a sense of community and cooperation among neighbors. Additionally, the inclusion of solar panels and water conservation systems exemplifies the village's dedication to reducing the carbon footprint of its residents.

The location of the village in Tampa provides the perfect backdrop for this unique living experience. The village's design and location also allow for easy access to the city's amenities, providing the best of both worlds—peaceful, sustainable living close to urban conveniences.¹³

¹³ "Home: Escape Tampa Bay Village," Tampa Bay Village, accessed Spring 15, 2024, <https://www.escapetampabay.com/>.



Figure 21: Exterior Photo



Figure 22: Aerial Photo



Figure 23: Exterior Photo

Escape Tampa Bay Village represents a forward-thinking model of living that responds to growing concerns about sustainability and environmental impact. This example of housing is an alternative to the traditional housing model and could be used as a study to understand the economics and codes behind crafting a community such as Escape Tampa Bay Village.



Figure 24: Map of Escape Tampa Bay Village

5.5 Simple Life at Lakeshore

Located in Central Florida, this community offers a relaxed lifestyle characterized by charming cottage homes ranging from 725 to 1,100 square feet. Positioned conveniently close to an array of shops, restaurants, and medical facilities, perfect for those eager to explore Florida's vibrant landscapes.

The cottage homes are available in two- and three-bedroom layouts, each boasting bright, open spaces designed to enhance comfort and reduce energy costs. High-quality finishes like quartz countertops, porcelain tiles, double-paned insulated windows, and durable metal roofs elevate the living experience, providing a sense of luxury and ease rarely found in such compact designs.

The approach of the community is to manage the development costs without compromising on quality.¹⁴ By partnering with builders and manufacturers who specialize in creating small footprint homes, optimizing every square foot for usability and efficiency.

¹⁴ "New Cottage Homes: Lifestyle Communities," Simple Life at Lakeshore, April 12, 2024, <https://simple-life.com/>.



Figure 25: Map of Simple Life at Lakeshore

The one- and two-bedroom cottage homes and tiny homes are designed to be low-maintenance and highly efficient. They offer affordability and customization options that cater to diverse needs and preferences. This approach allows the community to provide residents with a low-maintenance, amenity-rich living environment that balances quality with sustainability and affordability. The main takeaway of this study is to understand the cost management of creating a small home with adding importance to its environmental impact and sustainability, as well as its efficiency towards space.



Figure 26: Exterior Photo



Figure 27: Exterior Photo



Figure 28: Exterior Photo

Chapter 6: Project Location Selection and Demographics

6.1 Choosing Tampa Heights

Tampa Heights, one of the oldest neighborhoods in Tampa, Florida, presents a compelling case for being an ideal location for the site. This vibrant community, situated just north of downtown Tampa, offers a unique blend of historical charm, strategic geographic advantages, and a rapidly evolving cultural scene that makes it a highly attractive option for potential homeowners and developers alike.

This history is reflected in its rich architectural diversity, featuring Victorian, Mediterranean, and Bungalow styles that appeal to those who appreciate aesthetic variety and historical charm. The preservation of these historical properties, combined with opportunities for new developments, provides a balanced mix of old and new that can cater to a wide range of tastes and preferences.

One of Tampa Heights' most significant advantages is its proximity to downtown Tampa. This closeness allows residents easy access to the city's main business, entertainment, and cultural centers, making it particularly appealing for professionals who work in downtown areas but prefer a quieter, neighborhood atmosphere to reside in. Additionally, Tampa Heights is near major highways and transportation hubs, which facilitates commuting and connectivity to other parts of Tampa and surrounding areas.

Tampa Heights has been experiencing a surge in economic growth and redevelopment in recent years, spurred by both public and private investments. Notable projects like the Armature Works, a mixed-use commercial space hosting high-end eateries, workspace, and market stalls, have revitalized the area, increasing its attractiveness to young professionals and families alike. This revitalization has not only enhanced the local economy but also significantly increased property values, making it a wise choice for real estate investment.



Figure 29: Color Map of Tampa Heights



Figure 30: Map of Future Development



Figure 31: Future Development Render

Despite its urban setting, Tampa Heights offers several parks and green spaces, such as the famous Tampa Riverwalk, which provides residents with ample opportunities for outdoor activities. These green spaces are not only crucial for recreation but also for the community's overall health and well-being, offering peaceful retreats from the urban hustle and bustle.

6.2 Demographics of Tampa Heights

Tampa Heights is known for its diverse population, which includes a mix of long-standing residents and newer arrivals attracted by the area's urban revitalization efforts and proximity to downtown Tampa. The neighborhood is home to a wide range of age groups, with a significant number of young professionals and families with children, alongside older adults who have lived in the community for decades. This age diversity adds to the vibrancy of the neighborhood, fostering a community environment where traditional

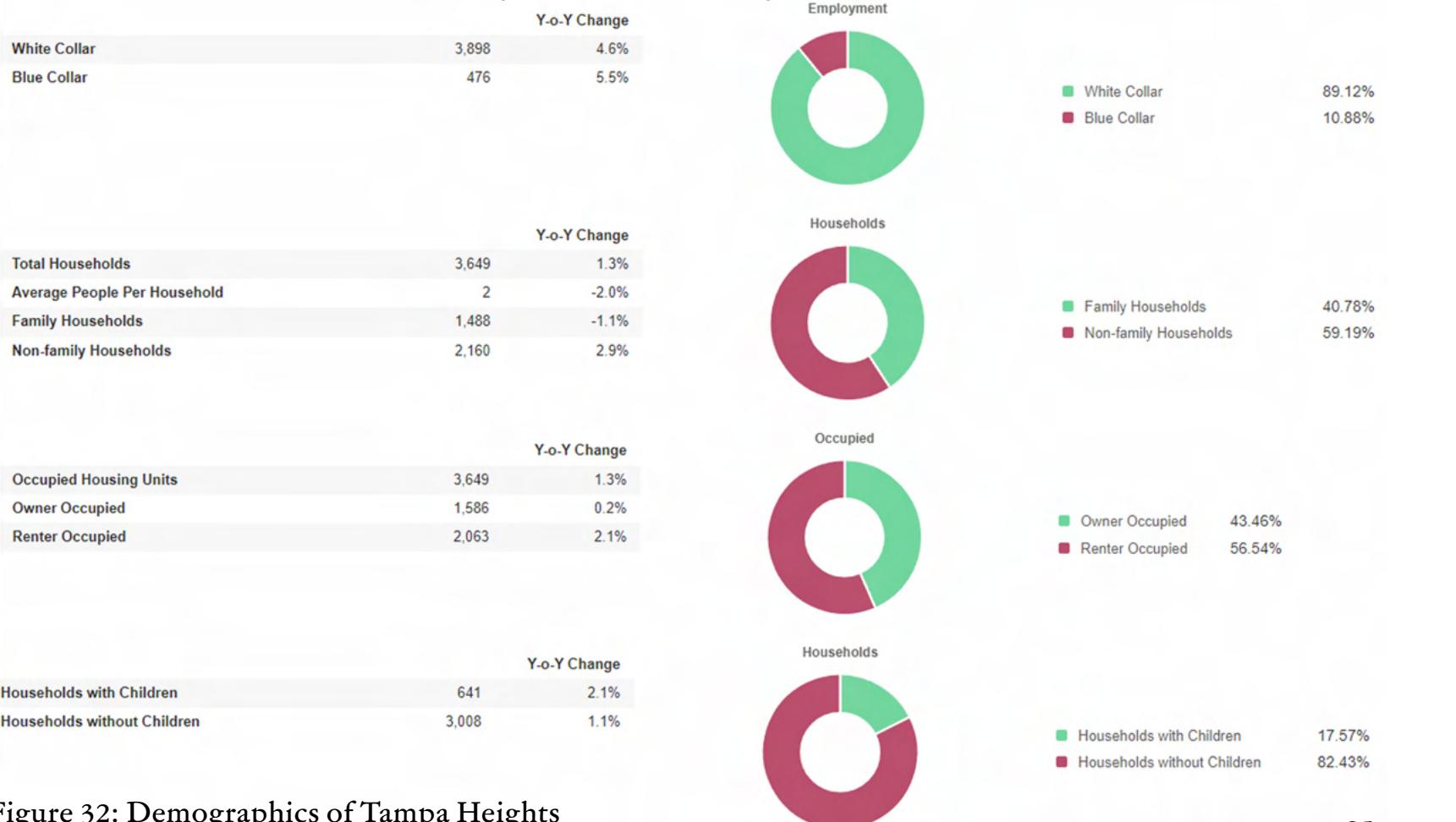


Figure 32: Demographics of Tampa Heights

values meet modern urban lifestyles. The racial and ethnic composition of Tampa Heights is varied, reflecting broader national trends towards greater diversity. The community includes substantial Hispanic and African American populations, alongside White non-Hispanic residents and smaller groups from other backgrounds, including Asian and mixed-race individuals. This multicultural makeup enriches the neighborhood, contributing to a rich tapestry of cultural practices, languages, and traditions that are celebrated throughout the community.

The neighborhood has historically had a mix of blue-collar and white-collar workers, and this continues today with professionals in various fields living alongside tradespeople, service workers, and others. The economic revitalization of Tampa Heights, spurred by developments like Armature Works and investments in infrastructure, has begun to attract higher-income residents and spur economic opportunities within the community.

Tampa Heights has benefited from broader economic growth in the Tampa Bay area, including job growth in sectors like finance, healthcare, and technology. Demographic trends such as the influx of millennials seeking urban lifestyles close to employment hubs have fueled demand for housing in urban neighborhoods. Real estate prices in Tampa Heights have been rising steadily, with significant year-over-year increases. This trend is expected to continue, given the ongoing developments and enhancements in the area. The average price per square foot has risen, reflecting heightened demand and the neighborhood's increasing desirability. Investment in Tampa Heights is seen as promising due to the area's potential for continued growth and appreciation.

According to Zillow's home sale evaluation chart, Tampa Heights commands higher home prices compared to nearby neighborhoods like Ybor and Old West Tampa. Even

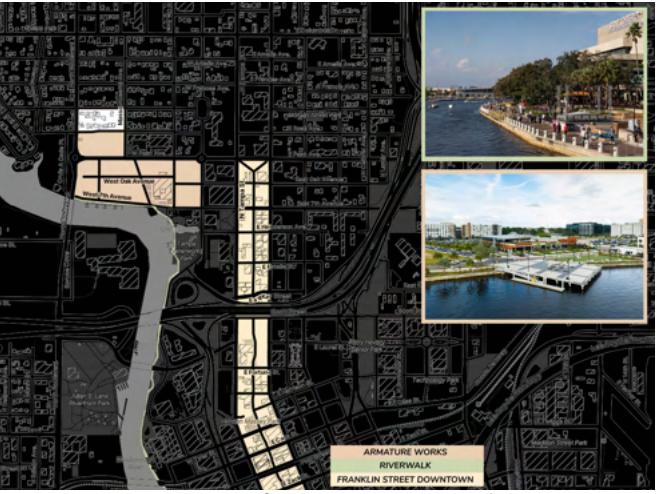


Figure 33: Points of Interest Graphic



Figure 34: Zillow Home Value Index

when compared with one of Tampa's more affluent areas, North Hyde Park, the prices in Tampa Heights are only 17.6% lower, indicating a relatively high price point for the area. Market trends show that housing prices in Tampa Heights have risen by 4.5% year over year, and this upward trajectory shows no signs of abating.

Tampa Heights' increasing popularity can also be attributed to its strategic location. The neighborhood's accessibility is a significant advantage, with extensive biking, walking, and public transit options that enhance its appeal. These transit opportunities and short transit times are crucial factors for those considering where to live, as they contribute significantly to the quality of urban life.

This mapping of accessible areas provides invaluable information for understanding why Tampa Heights is so sought after. It underscores the importance of this neighborhood as a focal point in research aimed at building a successful community. Maintaining the essence and affordability of Tampa Heights, despite its rising popularity, is key to sustaining its vibrant community spirit.

Market Overview

- ↑ -- 1-year Market Forecast
- 28** For sale inventory (February 29, 2024)
- 9** New listings (February 29, 2024)
- Median sale to list ratio
- Median sale price (January 31, 2024)
- \$550,750** Median list price (February 29, 2024)
- Percent of sales over list price
- Percent of sales under list price
- Median days to pending

Tampa Heights Key Takeaways

Typical Home Values: \$426,576

1-year Value Change: +4.5%

(Data through February 29, 2024)

Figure 35: Tampa Heights Market Overview

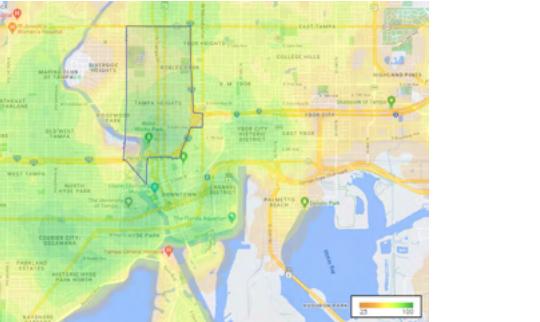


Figure 36: Walkability Score Map

Figure 37: Bike Score Map

Figure 38: Bike Lanes

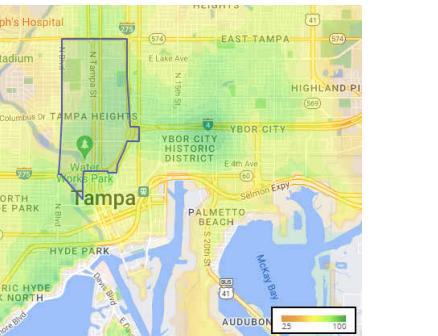
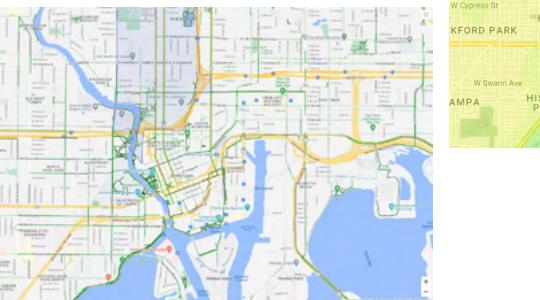


Figure 37: Bike Score Map

Figure 38: Bike Lanes

6.3 Lot Location

As previously highlighted, the proximity of Tampa Heights to downtown Tampa establishes it as an ideal location. After exploring various vacant lot options, an opportunity emerged involving four separate vacant lots. This presents the possibility of assessing the viability and creativity of developing a community on these multiple distinct plots. By maintaining the same lot density, the plan is to create a more condensed neighborhood that offers affordability while seamlessly integrating into the urban fabric of Tampa Heights. This approach could significantly enhance the cohesive community atmosphere while aligning with the area's existing architectural and cultural context.

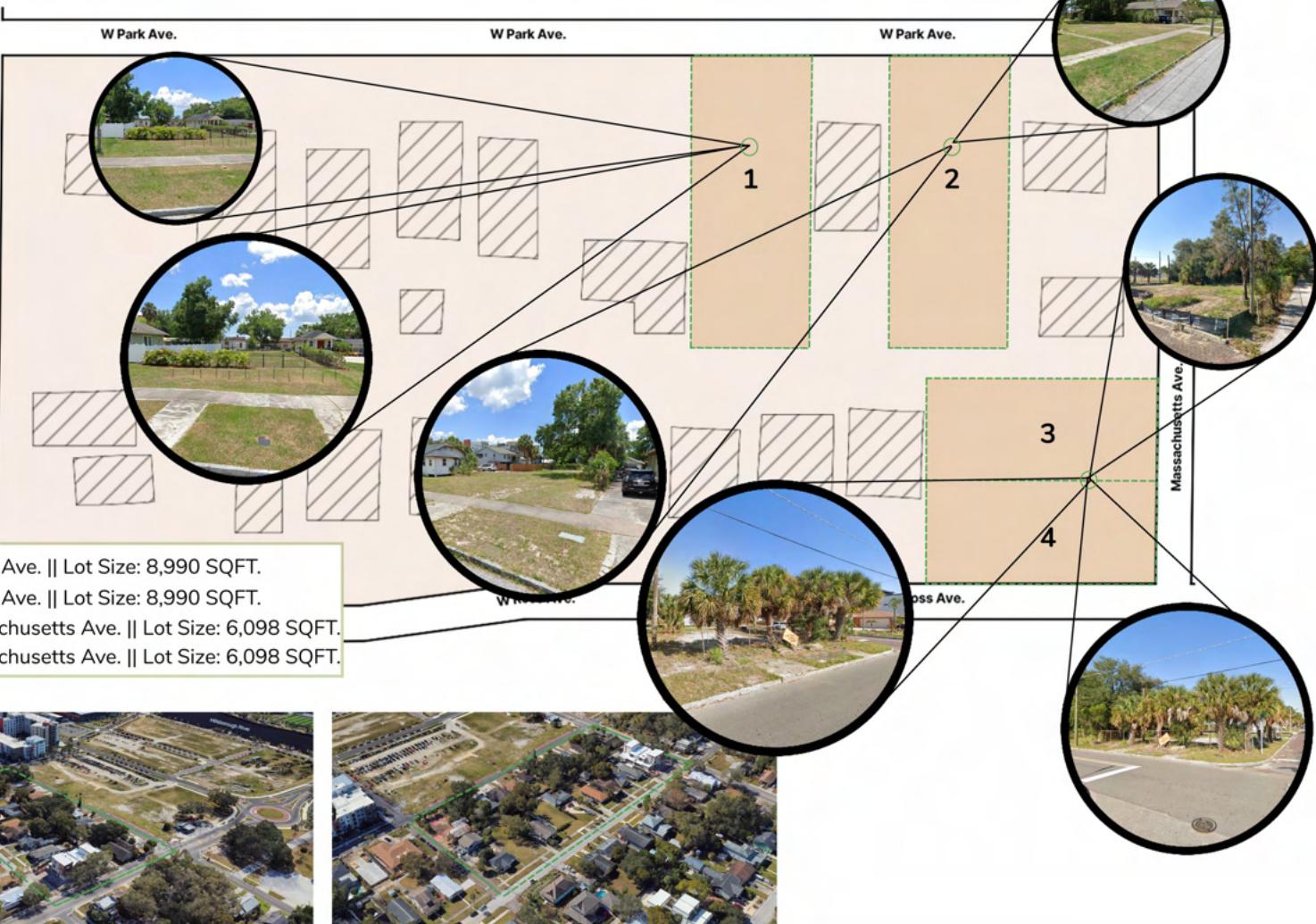


Figure 39: Mapping Diagram of Vacant Lots

The model of the W Park Ave and Ross St block was 3D printed to accurately represent the current lot dimensions and the surrounding urban landscape. This approach not only enhances the visualization of the area's heights and spatial arrangement but also vividly illustrates the potential for setbacks and optimal utilization of space within the district. By incorporating architectural housing models onto this detailed site replica, the research can assess the scale and diversity of potential residential developments. This will allow the exploration of variety of design alternatives and their impact on the neighborhood, thereby fostering a deeper understanding and generating creative ideas for future development projects. This model serves as a vital tool for planners and architects, offering a tangible area to strategize and refine architectural designs.

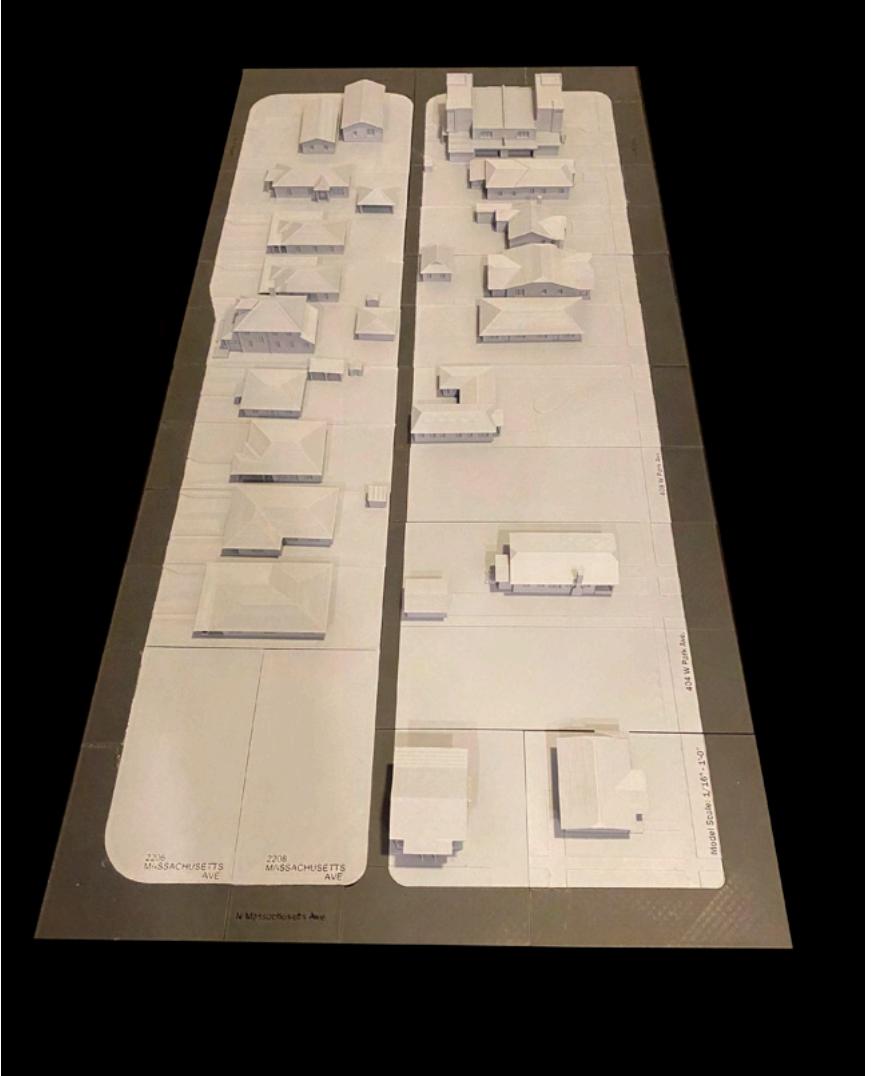


Figure 40: Site Model

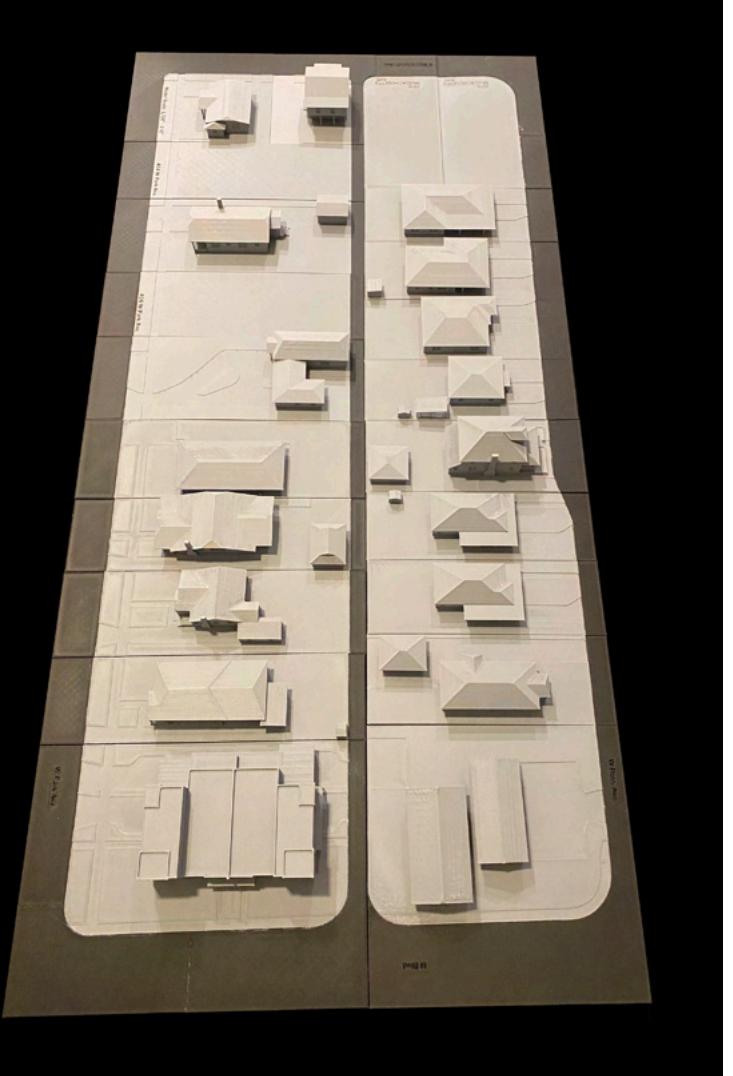


Figure 41: Site Model

6.4 408 W Park Ave.

The analysis of these vacant lots involved a comparative review using the latest zoning maps, alongside assessments of traffic patterns, walkability, and potential for future growth. After a thorough examination of the zoning classifications, one lot, 408 W Park Ave., distinguished by its RM-24 zoning, emerged as particularly advantageous due to the higher density it permits. Consequently, this lot was selected as the primary focus for the project, leveraging its capacity for greater density to optimize development potential.

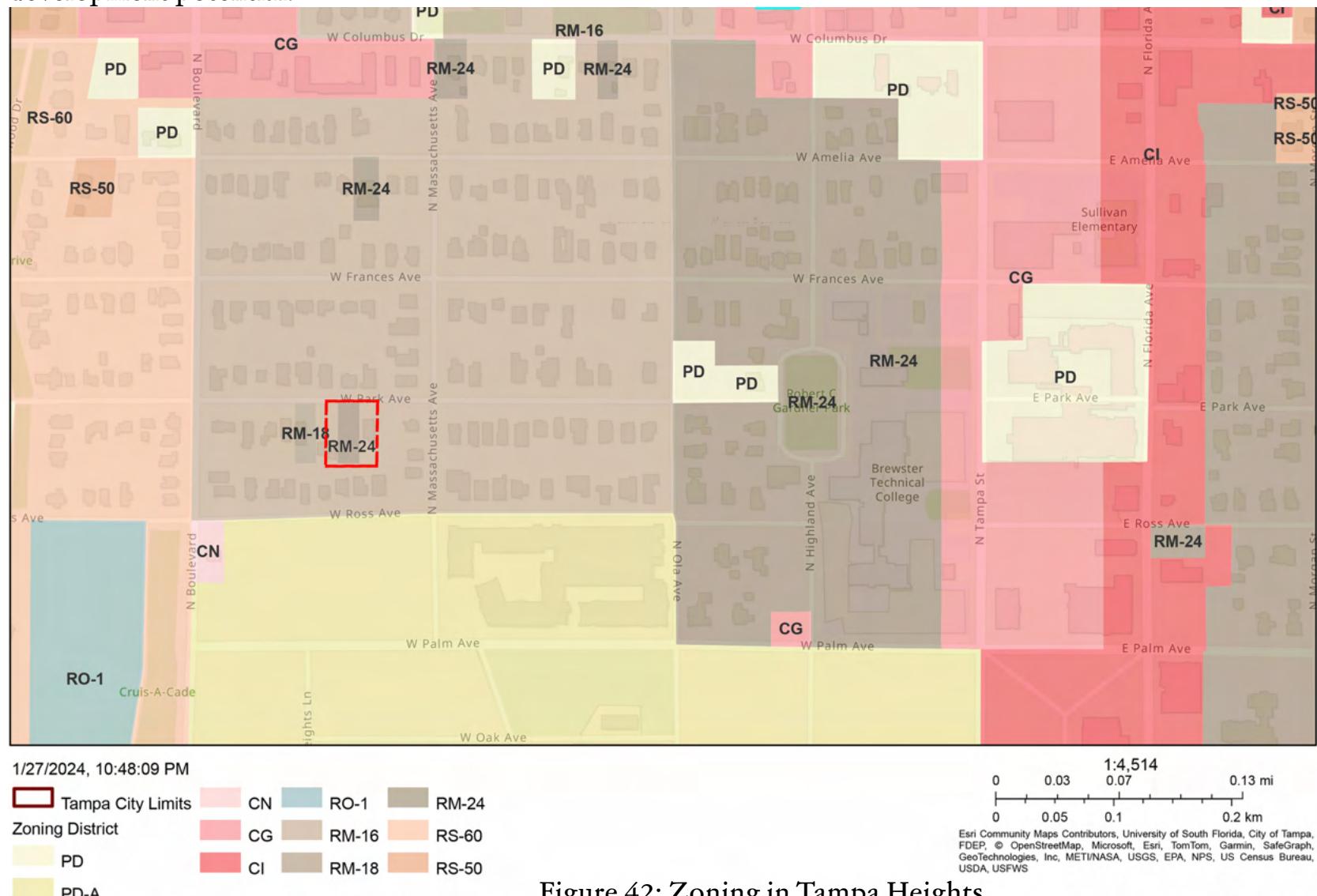


Figure 42: Zoning in Tampa Heights

6.5 What is RM-24 Zoning?

The RM-24 zoning designation over the RM-16 for a development site in Tampa, Florida, can provide a number of benefits, particularly in terms of increased density, which is critical in urban planning and development.

The RM-24 zoning designation plays a pivotal role in shaping the urban landscape of the city. Zoning regulations are critical for the planned development of urban areas, influencing not only the density of housing but also the type of community developments that can be supported. In this essay, I will explore the implications of the RM-24 zoning designation in Tampa, examining its benefits, potential drawbacks, and overall impact on the community.

The RM-24 zone, or Residential Multi-Family, is a classification used by the city of Tampa to designate areas primarily for multi-family residential units at a medium-high density. The “24” in RM-24 typically refers to the maximum number of dwelling units allowed per acre, which is 24. This zoning is intended to provide for efficient use of land while accommodating the need for higher density housing.

By allowing up to 24 units per acre, RM-24 zoning supports the development of apartment complexes and condominiums, which are essential in urban settings where land is at a premium. This density supports a larger population in a smaller footprint, which is crucial for a growing city like Tampa.

Figure 43: Table of Permitted use by District

TABLE 4-1 SCHEDULE OF PERMITTED, ACCESSORY, AND SPECIAL USES BY DISTRICT*													
*Legend:													
Uses	RS-150	RS-100	RS-75	RS-60	RS-50	RM-12	RM-16	RM-18	RM-24	RM-35	RM-50	RM-75	
Use Group A													
Adaptive reuse													
Bed and breakfast					S1								
Cemetery	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	
Congregate living facilities:													
Facilities of 6 or fewer residents ³	X	X	X	X	X	X	X	X	X	X	X	X	
Small group care facility	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	
Large group care facility								S1	S1	S1	S1	S1	
Dwelling, multiple-family					S1	S1	S1	X	X	X	X	X	
Dwelling, single-family, detached ³⁰	X	X	X	X	X	X	X	X	X	X	X	X	
Dwelling, single-family, semi-detached ⁴						X	X	X	X	X	X	X	
Dwelling, single-family, attached ⁵						X	X	X	X	X	X	X	
Dwelling, two-family						X	X	X	X	X	X	X	
Extended family residence	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	
Home based business ²²	A	A	A	A	A	A	A	A	A	A	A	A	
Private pleasure craft used as residence	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	
Professional residential facilities:													

As Tampa continues to grow, the role of RM-24 zoning will likely become increasingly significant. To maximize the benefits while minimizing the downsides, the city will need to invest in robust public transit solutions and infrastructure improvements. Furthermore, engaging with communities to address concerns and integrate their input into planning processes will be essential for the successful implementation of high-density residential projects.

Therefore choosing lot 408 W. Park Ave. as the site of focus is beneficial as the RM-24 zoning over RM-16 for a development in Tampa provides the opportunity to capitalize on the benefits of higher density, fostering more sustainable, economically viable, and vibrant communities. While higher density brings its own set of challenges, with strategic planning and community involvement, these can be effectively mitigated to create a thriving urban environment.

However, it became apparent that the specific opportunity targeted by this research does not currently meet the criteria for RM-24 zoning. Therefore, a zoning change to a Planned Development zoning type will be necessary to proceed with the project.

District	Minimum Area (sq. ft.)	Lot Size Width (ft.)	Dwelling Unit (sq. ft.)	Required Yards (ft.) ¹³				Maximum FAR ¹⁷	Maximum Height (ft.) ¹
				Front ¹⁴	Side ^{15, 16}	Rear Interior Lot/Corner Lot ⁸	Corner ⁸		
RM-16	5,000	50	2,723	25	7	15/15	7	—	35
RM-18	5,000	50	2,420	25	7	15/15	7	—	35
RM-24	5,000	50	1,815	25	7	20	7	—	60 ²
RM-35	5,000	50	1,243	25	7	20	7	—	120 ³

Figure 44: Table of Required Setbacks by District

Chapter 7: Redefining the Current Zoning

7.1 What is Planned Development Zoning?

Planned Development zoning in Tampa, Florida, is a unique and flexible zoning category designed to accommodate diverse land uses and innovative site planning that may not necessarily conform to standard zoning requirements. This type of zoning is particularly valuable in urban settings where mixed uses and creative allocation of space are essential for optimal development. The essence of Planned Development zoning lies in its adaptability. It allows developers to integrate a variety of residential and commercial uses within a single development project. This flexibility can encourage more efficient land use and enhance community characteristics by allowing developers to design projects that are closely tailored to the specific needs and goals of the surrounding area.

Referenced in figure 43, the process of rezoning a lot to Planned Development in Tampa involves several critical steps, beginning with a detailed understanding of the existing zoning laws and the specific criteria for Planned Development zoning. Developers must first propose a plan that outlines their project, detailing how the mixed-use development will fit into the community and what benefits it will bring.

One of the initial steps is the pre-application conference, where developers meet with city planning staff to discuss their project informally. This step is crucial as it provides insights into the feasibility of the project under the Planned Development guidelines and any potential challenges that might arise.

Following the pre-application conference, the developer must submit a formal application for rezoning. This application includes comprehensive details about the project, such as site plans, architectural designs, environmental assessments, and traffic impact studies. These documents must demonstrate how the proposed development will adhere to or exceed the standards typically required under more traditional zoning classifications.

Public hearings play a critical role in the rezoning process. These hearings allow community members to voice their opinions and concerns regarding the proposed development. The developer must effectively communicate the benefits of the project and how it aligns with the community's broader objectives, such as enhancing local economic development, providing much-needed housing, or improving public amenities.

After the public hearings, the application undergoes a review by the city planning commission. The commission evaluates the proposal based on its compliance with local planning goals, its potential impacts on the community, and the feedback received during public hearings. The planning commission then makes a recommendation to the city council, which has the final authority to approve or deny the rezoning request.

If the rezoning is approved, the developer may proceed with the project, adhering strictly to the terms set out in the Planned Development agreement. This agreement often includes specific conditions that the developer must meet, such as infrastructure improvements, public space provisions, or architectural standards.

Planned Development zoning provides a higher degree of flexibility compared to the RM-24 zoning. While RM-24 allows for a specific number of residential units per acre, Planned Development zoning enables developers to create a customized plan that may include a mix of housing types and densities tailored to the specific needs and characteristics of the area. This flexibility can result in a more optimized use of space and resources, potentially allowing for even greater density and diversity in housing options than RM-24 zoning would permit.

Sec. 27-138. - Review procedure.

- (1) *Preapplication plan review.* Prior to submitting a formal application for a site plan zoning district, the applicant shall confer with the zoning administrator and other agencies of the city involved in the review of said application.
- (2) *Review materials.*
 - a. *Site development plan.* As required by the zoning administrator, copies of a site development plan shall be provided by the applicant for a site plan district rezoning. At a minimum, the plan shall include (unless otherwise agreed upon by the zoning administrator):
 - b. *Transportation analysis.*
 - c. *Aerial photograph.* A recent aerial photograph which shows:
 - d. *Project narrative.* A project narrative of the major planning assumptions and objectives shall be submitted with the application. At a minimum, the project narrative shall include the following:
 - e. *List of adjacent property owners.* The latest ad valorem tax records, of every parcel of land within a distance of two hundred fifty (250) feet, including roads or streets, in all directions from the property line of the land upon which the applicant requests a change on the district zoning classifications.
 - (3) *Reviewing staff authority.* The appropriate city staff shall review all information submitted for the site plan zoning district and:
 - (4) *Development review and compliance (DRC) staff meeting.* Any application for a site plan zoning district, together with all materials prescribed herein, shall be submitted to the zoning administrator on or before the filing deadline. The purpose of the DRC meeting shall be to advise and assist the applicant regarding the applicable regulations in order to bring the application into conformity with those applicable regulations, and/or to define any justifiable variations from the application of such regulations.
 - (5) *City council public hearing and approval.* The city council, upon receipt of the consolidated report of the DRC, shall make a determination with regard to the appropriateness of the site plan zoning district for the particular site if the site development plan and the location are deemed to be acceptable and appropriate, the city council and city clerk shall date and endorse the certified site plan, and the plan shall be incorporated into the City of Tampa.
 - (6) *Construction after rezoning.*

Figure 45: Planned Development Review Procedure

7.2 Utilizing Residential Small Lots in Tampa

Residential Small Lot (RSL) zoning is most prevalent in Seattle, Washington, representing an innovative approach to urban planning aimed at increasing the availability of affordable housing while maintaining neighborhood character. As part of Seattle's broader Housing Affordability and Livability Agenda (HALA), RSL zoning is designed to create more diverse housing options in the city's single-family zones. This initiative responds to the urgent need for more housing in a city experiencing rapid population growth and escalating property prices.

The purpose of RSL zoning is to allow for the development of smaller, detached dwellings on traditionally sized lots. This zoning category is particularly suited for the construction of cottage housing, townhouses, rowhouses, and smaller single-family homes. By reducing the minimum lot size required for housing, Seattle aims to make better use of its available land and provide more economical housing options to its residents.

One of the primary advantages of RSL zoning is that it offers a more affordable entry point into homeownership. Smaller lots and homes require less material and land, which significantly reduces construction and purchase costs. This is particularly appealing to first-time homebuyers, downsizers, and moderate-income families who might otherwise be priced out of Seattle's competitive housing market.

RSL zoning also encourages the development of "infill housing," which utilizes vacant or underused land within existing urban areas. Infill development helps to curb urban sprawl by concentrating growth in the city center, which can lead to better sustainability practices. This type of development is less disruptive to existing communities than large-scale redevelopment projects, as it fits within the fabric of established neighborhoods while gently increasing their density.

Implementing RSL zoning involves planning and community engagement. The city has set guidelines to ensure that new developments respect the aesthetic and scale of existing neighborhoods. These include controls over building height, bulk, and the placement of homes on lots to preserve privacy and sunlight access for neighbors. Moreover, provisions are made for green spaces and landscaping to enhance the visual appeal and environmental value of the area.

Introducing Residential Small Lot (RSL) zoning into Tampa's urban planning framework could play a pivotal role in addressing the housing shortage while promoting sustainable development. While RSL zoning increases housing supply, it alone cannot solve all affordability issues in the city. It is a part of a larger strategy that includes various housing types and financial assistance programs to ensure a comprehensive approach to housing affordability. Tampa, like many growing cities, faces challenges in housing affordability and availability. The city's current zoning regulations, predominantly focused on

larger single-family homes and high-density multifamily buildings, leave a gap in the market for moderate-density, affordable housing. Residential Small Lot zoning, which has been successfully implemented in cities like Seattle, Washington, could bridge this gap by allowing the construction of smaller, more affordable homes on smaller lots. Examples of current codes for residential Small Lots are Tandem and cottage development, however, after reviewing the requirements to satisfy the zoning procedure, this lot in Tampa Heights could utilize both requirements to create a hybrid of both.

MAXIMUM DEVELOPMENT POTENTIAL

RSL UPDATE

Lot Coverage	50%
Max Density	1 unit per 2000 sf of lot area
Floor Area Ratio (FAR) Max	.75
Height Limit	30'
Setbacks	
Front	10'
Rear	10'
Sides	5'
Parking	1 per unit, no min. in Urban Villages

COTTAGES



TANDEM HOUSING

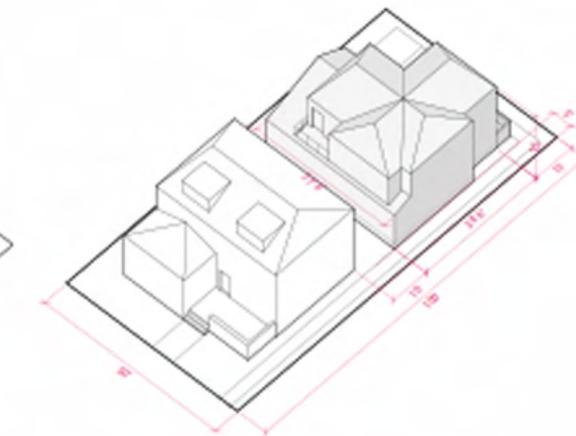


Figure 46: Maximum Development Potential for Residential Small Lots

7.3 Understanding Tandem Housing For Tampa Heights

Tandem housing, a unique residential arrangement where two separate homes are built on a single lot, one behind the other, offers a promising solution to Tampa Heights. This style of housing is gaining traction as a flexible and efficient use of land in densely populated cities.

The benefits of tandem housing in Tampa Heights are multifaceted, encompassing economic, and environmental advantages. Economically, tandem housing can make homeownership more accessible and affordable. By allowing two homes on a single lot, property owners can offset mortgage costs by renting out one of the homes. This arrangement makes it financially feasible for more people to invest in property and provides a stream of rental income, which is particularly appealing in a high-demand area.

Chapter 23.43 - RESIDENTIAL SMALL LOT

23.43.010 - Tandem housing

A. Density and Minimum Lot Area.

1. The maximum density shall be one (1) dwelling unit per two thousand five hundred (2,500) square feet of lot area.
2. A maximum of two (2) residential structures may be located on a lot used for tandem houses.
3. The minimum lot area for tandem houses shall be five thousand (5,000) square feet.

B. Height Limit and Roof Pitch.

1. The basic height limit for new principal structures shall be eighteen (18) feet. Existing structures may remain and be expanded, provided that new portions of the structure shall not exceed the height limits of this subsection.

C. Yards and setbacks

1. Front Yard. The front yard is required to be a minimum of 10 feet.
2. Interior Separation between Tandem Houses. The interior separation between the residential structures is required to be a minimum of 10 feet.
3. Total Combined Yards. The total of the front yard, rear yard (if any), and the interior separation is required to be a minimum of 35 feet.
4. Side Setbacks. The required minimum side setback is 5 feet. The side setback may be averaged. No portion of the side setback shall be less than 3 feet, except as follows:
 - b. If an easement is provided along a side lot line of the abutting lot sufficient to leave a 10 foot separation between the two principal structures of the two lots, the required side setback may be reduced from the requirement of Section 23.43.010.C.6. The easement shall be recorded with the King County Department of Records and Elections. The easement shall provide access for normal maintenance activities on the principal structure on the lot with less than the required side setback. No principal structure shall be located in the easement area, except that eaves of a principal structure may project a maximum of 18 inches into the easement area. No portion of any structure, including eaves shall cross the property line.

E. Parking.

1. One (1) parking space per dwelling unit shall be required, as provided for single-family structures in [Chapter 23.54](#).
2. Access. Access to parking shall be from the alley when the property abuts a platted alley improved to the standards of subsection C of [Section 23.53.030](#), Alley improvements in all zones, or when the Director determines that alley access is feasible and desirable to mitigate parking access impacts.
3. Location.
 - a. Parking shall be located on the same lot as the tandem houses.
 - b. Parking may be in or under a structure, or outside a structure, provided that:
 - (1) Parking shall not be located in the front yard;

Figure 47: Tandem Housing Codes in Residential Small Lots

Socially, tandem housing can contribute to the density of a neighborhood without significantly altering its character. Unlike large apartment complexes or high-rise buildings, tandem homes maintain a low-profile presence that blends into existing residential areas. This integration helps preserve the aesthetic and cultural integrity of neighborhoods while still contributing to increased housing density. For a community like Tampa Heights, which values its historical roots and tight-knit community vibe, tandem housing offers a way to accommodate growth without sacrificing its unique identity.

From an environmental perspective, tandem housing promotes more sustainable urban living. By increasing density, these homes can make more efficient use of urban land and resources. Higher density can lead to reduced urban sprawl, less dependency on automobiles, and greater use of public transportation, biking, and walking. Tampa Heights' location, close to downtown Tampa, amplifies these benefits, as residents can easily access city amenities and employment centers without long commutes, reducing their carbon footprint.

Tandem housing can stimulate local economies. With more residents in the area, local businesses such as restaurants, shops, and service providers experience higher customer traffic. This economic boost can lead to job creation and more vibrant local markets, which in turn attracts more residents and visitors, creating a positive cycle of growth and development.

Implementation of tandem housing in Tampa Heights can be increased to more parcels on a single lot. Although the housing opportunity to fit more residential units increases, it's essential to ensure that these developments include sufficient parking, privacy, and access to shared resources to avoid potential conflicts and logistical issues. Engaging with residents and incorporating their feedback into the planning process can help align the developments with community needs and preferences, ensuring that tandem housing is a welcome addition to the neighborhood.

According to the zoning regulations for tandem housing in Seattle, each tandem lot is limited to a maximum of two houses. However, in Tampa Heights, the potential exists to increase this number due to the larger typical lot size. In Tampa, lots average 8,000 square feet, compared to Seattle's 5,000 square feet. This additional 3,000 square feet per lot in Tampa Heights could be strategically used to accommodate more housing units while still adequately managing parking needs and maintaining desirable density levels.

Cottage home development provides a compelling model for this type of expansion. It offers a structured approach to increasing the number of units on a single lot without compromising on quality and community integration. By following guidelines that have proven successful in other regions with similar developments, Tampa Heights can effectively utilize its larger lot sizes. This approach maximizes land use but also aligns with sustainable growth practices, enhancing the overall livability and appeal of the area.

7.4 Understanding Cottage Housing Development For Tampa Heights

Cottage housing development represents a charming and practical housing solution that is particularly well-suited to the unique characteristics of Tampa Heights. Cottage housing, which typically consists of smaller, detached homes clustered around a common area, offers a number of benefits that can address these needs effectively.

Cottage housing provides a more affordable alternative to traditional single-family homes without requiring residents to compromise on privacy or space. These homes are designed to maximize efficiency in both layout and cost, making homeownership more accessible to a broader range of people, including first-time homebuyers. This can help diversify the demographic makeup of neighborhoods like Tampa Heights, bringing in new energy and sustaining a vibrant community.

Cottage housing promotes a strong sense of community. The design of these developments often includes shared spaces such as gardens, playgrounds, and courtyards, which encourage interactions among neighbors and foster a close-knit community atmosphere. This can be particularly beneficial in Tampa Heights, a neighborhood known for its rich history and tight community bonds.

Cottage housing is an attractive option as it encourages more sustainable living. The smaller size of the homes reduces energy consumption, and the communal layout can lead to more efficient land

23.43.012 - Cottage Housing Developments (CHDs)

B. Density and Minimum Lot Area.

1. In cottage housing developments (CHDs), the permitted density shall be one (1) dwelling unit per one thousand six hundred (1,600) square feet of lot area.
2. Cottage housing developments shall contain a minimum of four (4) cottages arranged on at least two (2) sides of a common open space, with a maximum of twelve (12) cottages per development.
3. The minimum lot area for a cottage housing development shall be six thousand four hundred (6,400) square feet.
4. On a lot to be used for a cottage housing development, existing detached single-family residential structures, which may be nonconforming with respect to the standards of this section, shall be permitted to remain, but the extent of the nonconformity may not be increased.

F. Required Open Space.

1. Quantity of Open Space. A minimum of four hundred (400) square feet per unit of landscaped open space is required. This quantity shall be allotted as follows:
 - a. A minimum of two hundred (200) square feet per unit shall be private usable open space; and
 - b. A minimum of one hundred fifty (150) square feet per dwelling unit shall be provided as common open space.

2. Development Standards.

1. Private usable open space shall be provided at ground level in one (1) contiguous parcel with a minimum area of two hundred (200) square feet. No horizontal dimension of the open space shall be less than ten (10) feet.
2. Required common open space shall be provided at ground level in one (1) contiguous parcel with a minimum area of one hundred fifty (150) square feet per unit. Each cottage shall abut the common open space, and the common open space shall have cottages abutting at least two (2) sides.
3. The minimum horizontal dimension for open space shall be ten (10) feet.

Figure 48: Cottage Housing Development Codes in Residential Small Lots

use. Furthermore, these developments often incorporate green building practices and materials, which minimize their environmental footprint. For Tampa Heights, this approach not only aligns with wider environmental goals but also enhances the neighborhood's appeal to environmentally conscious residents.

Cottage housing can act as a catalyst for revitalization in urban areas. In neighborhoods like Tampa Heights, where there may be underused plots of land, cottage housing developments can transform these areas into vibrant, desirable places to live. This can lead to increased property values contributing to the overall prosperity of the area. Considerations such as architectural design, scale, and placement need to be carefully managed to blend new developments with the historical aspects of the neighborhood. It's also important that these projects include sufficient infrastructure support, such as adequate parking and accessibility, to meet the needs of all residents.

The unique blend of cottage housing development and tandem housing offers a wealth of benefits that make it a suitable and a needed addition to Tampa Heights. By providing affordable, community-oriented, and environmentally friendly housing options, this unique blend of cottage and tandem housing can help meet the growing demand for housing while preserving the character and enhancing the vitality of the neighborhood. As Tampa Heights continues to grow and change, embracing innovative housing models will be key to creating a sustainable and inclusive urban future. Tampa Heights housing characteristics reflect a blend of historical richness and contemporary development trends, illustrating the neighborhood's ongoing transformation as Tampa continues to expand and diversify.



Figure 49: Cottage Development Example in Seattle, WA



Figure 50: Tandem Housing Graphic

Chapter 8: Construction Costs Opportunities

8.1 Traditional Light Frame Wood Construction

The primary allure of light frame wood construction lies in its cost-effectiveness. Wood is generally less expensive than other major building materials like steel or concrete, due not only to the lower material costs but also because of the reduced labor expenses. Wood's lightweight nature makes it easier and faster to work with, which significantly speeds up the construction timeline. Faster construction means reduced labor costs, less expenditure on construction financing, and earlier occupancy, all of which contribute to the economic efficiency of a project.

The housing market continually evolves, with increasing demands for affordable, high-quality homes. Light frame wood construction is well-positioned to meet these demands by providing cost-effective, sustainable, and versatile building solutions. As urbanization increases and the need for rapid construction of affordable housing grows, the methods and materials used in light frame wood construction are likely to gain further traction. The construction industry's like LEED, favors the use of sustainable materials such as wood. The push towards more sustainable construction practices will likely enhance the appeal of light frame wood construction further, as developers and architects in the housing market increasingly prioritize environmental impacts in their decision-making processes.

Average Cost	High Cost	Low Cost
\$295,000	\$350,000	\$240,000

Luxury: \$150 (and above) per square foot. Has high-quality material specifications for 90% of its main elements, including flooring, walls, and internal wall finishes.

Average: \$110 per square foot. The walls, floors, finishes, roofing, and other elements of this type of house are made of mid-quality materials, which makes it less expensive to build than a luxury house.

Minimum standard: \$60 per square foot. The superstructure is of standard quality, but the floor, wall finishes, and roof cover are on the cheaper side. This is typically the cheapest type of house to build.

Average Cost to Build a Home in Florida by Square Footage

The table below shows construction cost per square foot in Florida for different home sizes:

Home Size	Average Price Range
800 sq. ft.	\$117,600
1,000 sq. ft.	\$147,000
1,200 sq. ft.	\$176,400
1,400 sq. ft.	\$205,800
1,500 sq. ft.	\$220,000
1,700 sq. ft.	\$249,900
2,000 sq. ft.	\$294,000
2,500 sq. ft.	\$367,000
3,000 sq. ft.	\$441,000
4,000 sq. ft.	\$588,000
4,500 sq. ft.	\$661,500

Average Cost to Build a House in Florida by Cities

Here's how much it costs to build a house in popular cities/counties in Florida:

City/County	Average Building Costs per Sq. Ft.
Miami	\$125
Orlando	\$105
Tallahassee	\$115
Volusia County	\$103
Tampa	\$105

Figure 51: Cost Breakdown of Light Frame Construction 41

8.2 Modular / Prefabricated Construction

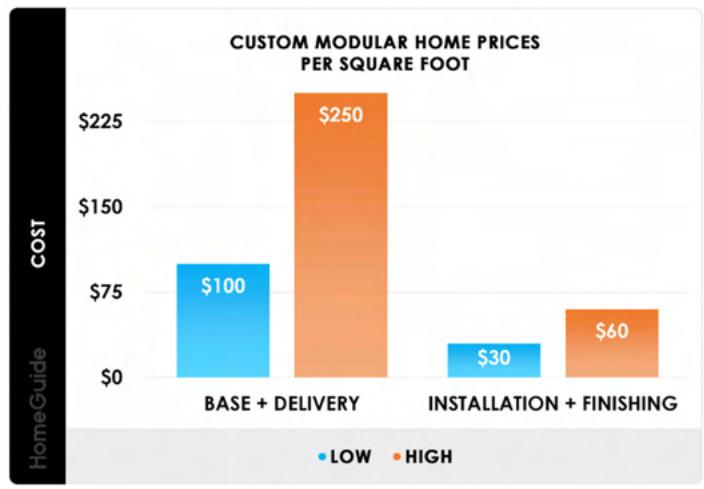
Prefabricated modular construction, by its very nature, presents several economic advantages that traditional construction methods struggle to match. The first, and perhaps most significant, of these is the reduction in overall construction time. Since modules are manufactured concurrently in a factory setting while the site is being prepared, the total build time can be reduced by as much as 50% compared to traditional methods. This accelerated construction timeline results in lower labor costs and earlier return on investment through quicker occupancy.

Another economic benefit is the reduction in construction waste. Modular construction enables precise material ordering and usage, minimizing the typical on-site waste seen in traditional construction by up to 90%. This not only reduces the cost associated with waste removal but also lowers material expenses, making it an economically and environmentally superior choice.

The adaptability of modular homes is another key factor contributing to their cost-effectiveness. Prefabricated homes can be designed to suit various land types and sizes, making them ideal for different markets and demographics. They can also be easily expanded or modified, which adds to their appeal in the rapidly changing housing market.

With an increasing focus on reducing housing deficits and the growing need for affordable housing solutions, the modular construction industry is poised for growth. The ability to mass-produce modules for single-family homes not only makes it possible to meet large-scale housing needs more rapidly but also reduces costs, making homeownership accessible to a broader population.

Modular Home Prices		
Square Footage	Base Model Cost	Total Finished Cost
1	\$50 - \$100	\$80 - \$160
800	\$40,000 - \$80,000	\$64,000 - \$128,000
1,000	\$50,000 - \$100,000	\$80,000 - \$160,000
1,200	\$60,000 - \$120,000	\$96,000 - \$192,000
1,500	\$75,000 - \$150,000	\$120,000 - \$240,000
2,000	\$100,000 - \$180,000	\$160,000 - \$300,000
2,500	\$125,000 - \$215,000	\$200,000 - \$365,000



Custom Modular Home Prices		
Square Footage	Base Model Cost	Total Finished Cost
1	\$100 - \$250	\$130 - \$310
1,000	\$100,000 - \$250,000	\$130,000 - \$310,000
1,500	\$150,000 - \$375,000	\$195,000 - \$465,000
2,000	\$200,000 - \$500,000	\$260,000 - \$620,000
2,500	\$250,000 - \$625,000	\$325,000 - \$775,000

Figure 52: Cost Breakdown of Modular Construction 42

8.3 3D Printing Construction

One of the primary advantages of 3D printed construction is its potential to significantly lower construction costs. This reduction is primarily achieved through decreased labor requirements and more efficient use of materials. Traditional construction typically requires multiple tradespeople, including framers, masons, and other specialists. In contrast, 3D printed buildings can be constructed with fewer laborers, since large parts of the structure can be printed with minimal human intervention. This automation not only reduces labor costs but also minimizes the human error factor, leading to more predictable and consistent construction outcomes.

With 3D printing technology, it allows for precise control over the amount of material used, substantially reducing waste. Traditional building methods often result in significant surplus materials that contribute to higher overall project costs. 3D printers, however, deposit exact quantities of building material only where needed, optimizing resource use and further driving down costs.

The market for 3D printed homes is still in its nascent stages but is poised for rapid growth. As public and regulatory bodies become more familiar with 3D printing technology, building codes and standards will evolve to better accommodate this innovative method. The cost advantages and speed of construction are likely to make 3D printed homes increasingly popular, especially in regions experiencing housing shortages or in need of rapid rebuilding due to disasters.

Project 1:

"We are currently building a 2,168 sq.ft. 4 bed 4 bath model home in Melbourne, FL. The total build cost is \$260k which breaks down to about \$119 per sq.ft. and this includes everything from the walls roof, foundation, septic, well, windows/doors, HVAC, flooring, appliances, TV, fireplace, etc, basically everything except the furniture."

-Director of Construction & Building Technologies at Apis Cor



Project 2:

Currently, the firm offers a few different pre-fabricated units that can act as accessory dwelling units or fully-fledged family homes ranging from 864 to 1,440 square feet.
~\$190,000 and up for variations



Project 3:

Not long ago, they listed the first ever 3D printed home for sale in the United States. The entire wall structure of the house was 3D printed in concrete, creating 1,500 sq. ft. of living space, plus a 2 ½ car garage that was 750 sq. ft.
~\$300,000



Figure 53: Cost Breakdown of 3D Printed Housing Projects

Chapter 9: Tampa Heights Characteristics

9.1 Characteristics of Old Housing and New Housing

Historically, Tampa Heights featured a variety of early 20th-century homes, which attracted middle-class residents with their charming architectural details and solid craftsmanship. These homes were typically single-family dwellings with spacious porches and large windows, often surrounded by mature oak trees that line the neighborhood's brick streets. The preservation of these historical homes has been a priority for the community, contributing to the neighborhood's distinctive aesthetic and appeal.

Over the years, Tampa Heights has experienced significant changes in its demographic and economic landscape, leading to shifts in its housing characteristics. As the neighborhood has become more integrated with the broader urban development of Tampa, there has been an influx of new construction and renovation projects. However these new developments have pushed away from the traditional form of architecture in the neighborhood as seen located towards the bottom right corner in figure 54. For instance, new developments in the area include modern townhomes and multifamily units that cater to a diverse population, from young professionals to families and retirees.

The introduction of mixed-use developments has also been a significant trend in Tampa Heights. These developments combine residential living with commercial and recreational spaces, enhancing the neighborhood's functionality and accessibility.

Affordability has become an increasingly pressing issue in Tampa Heights as the neighborhood's popularity has risen. The demand for housing in areas with easy access to downtown Tampa and other employment hubs has driven up property values and rents.

Efforts to introduce affordable housing units and maintain a mix of housing options are becoming less innovative as developers are looking at making higher revenues by creating luxury townhomes and apartments.



45



Figure 54: Housing Collage of Tampa Heights

46

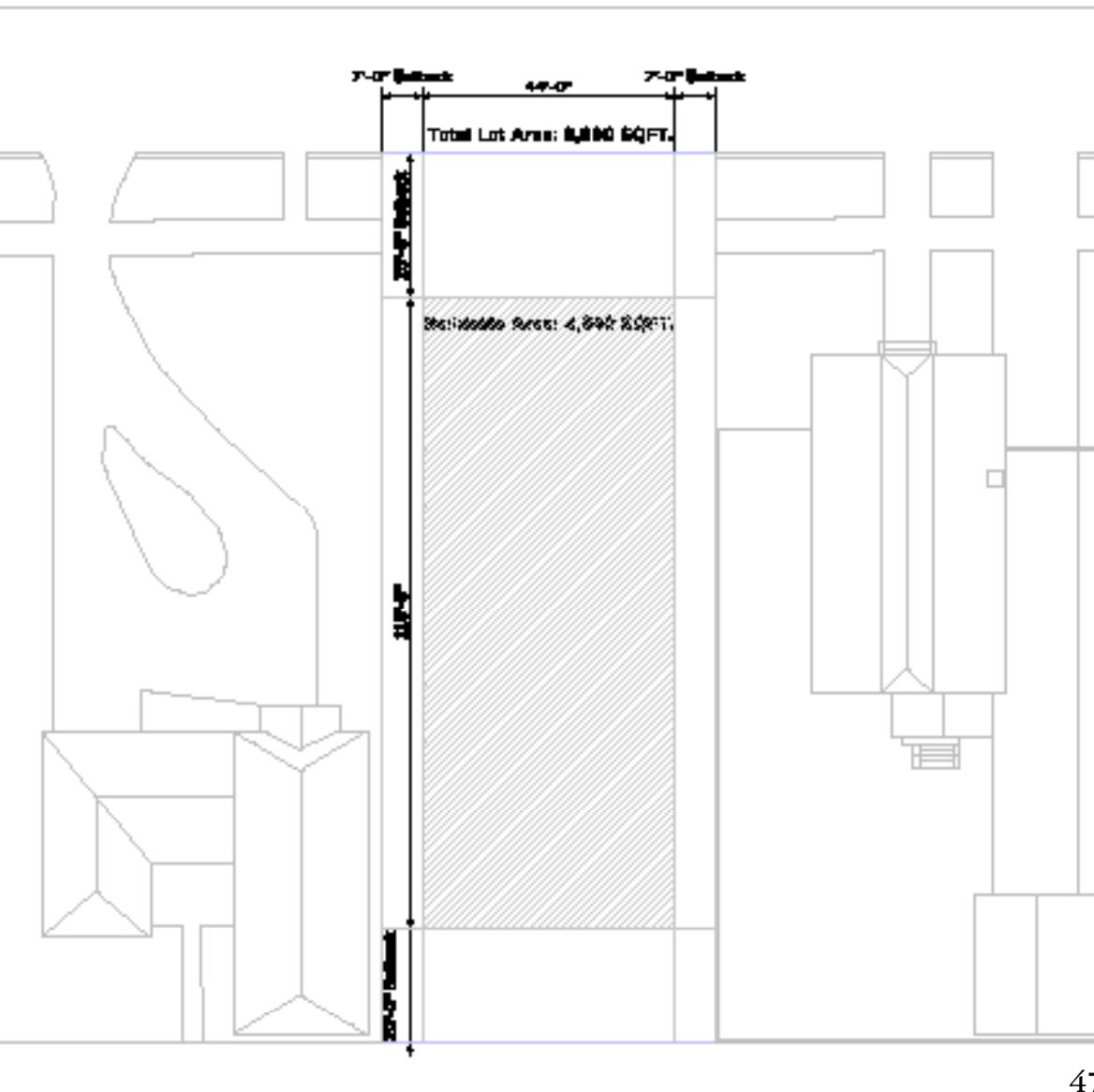
Chapter 10: Site Mapping Process

10.1 Studying the Characteristics of the Lot

The property at 408 W Park Avenue in Tampa, Florida, situated in the ZIP code 33602, represents a typical urban plot within a dynamic and evolving city landscape. Tampa is characterized by a diverse architectural and urban planning scheme that reflects its growth trajectory and the varied needs of its population. The current site is roughly 155 feet long by 58 feet wide accounting for 8,990 square feet.

The setbacks, a crucial component of urban planning, are implemented to ensure adequate light, air, and privacy for residents, while also preserving the aesthetic and structural integrity of neighborhoods. Therefore, these regulations assist in managing drainage and mitigating the impact of construction on adjacent properties.

In terms of specifics, the front setback—defined as the distance from the front property line to the nearest building part—is generally 20 feet for properties zoned RM-24 in Tampa. However, this can vary with specific overlay districts or planned developments. For the purposes of this analysis, a 25-foot front setback was mandated by the Florida



Building Code, which provides a clear indication of what is feasible when planning construction on this lot.

Regarding side setbacks, which measure the distance from the side property lines to the building, the typical range for RM-24 zoning is between 5 and 10 feet. This distance can differ based on whether the building is adjacent to residential or non-residential properties. For this site, the Florida Building Code specifies a 7-foot setback, which was used as a standard in the construction planning for all three parcels.

Lastly, the rear setback, which is the distance from the rear property line to the nearest part of the building, is usually about 20 feet for RM-24 zoned properties. In this instance, the lot designation necessitated a 20-foot rear setback, which was duly incorporated into the overall buildable area calculations.

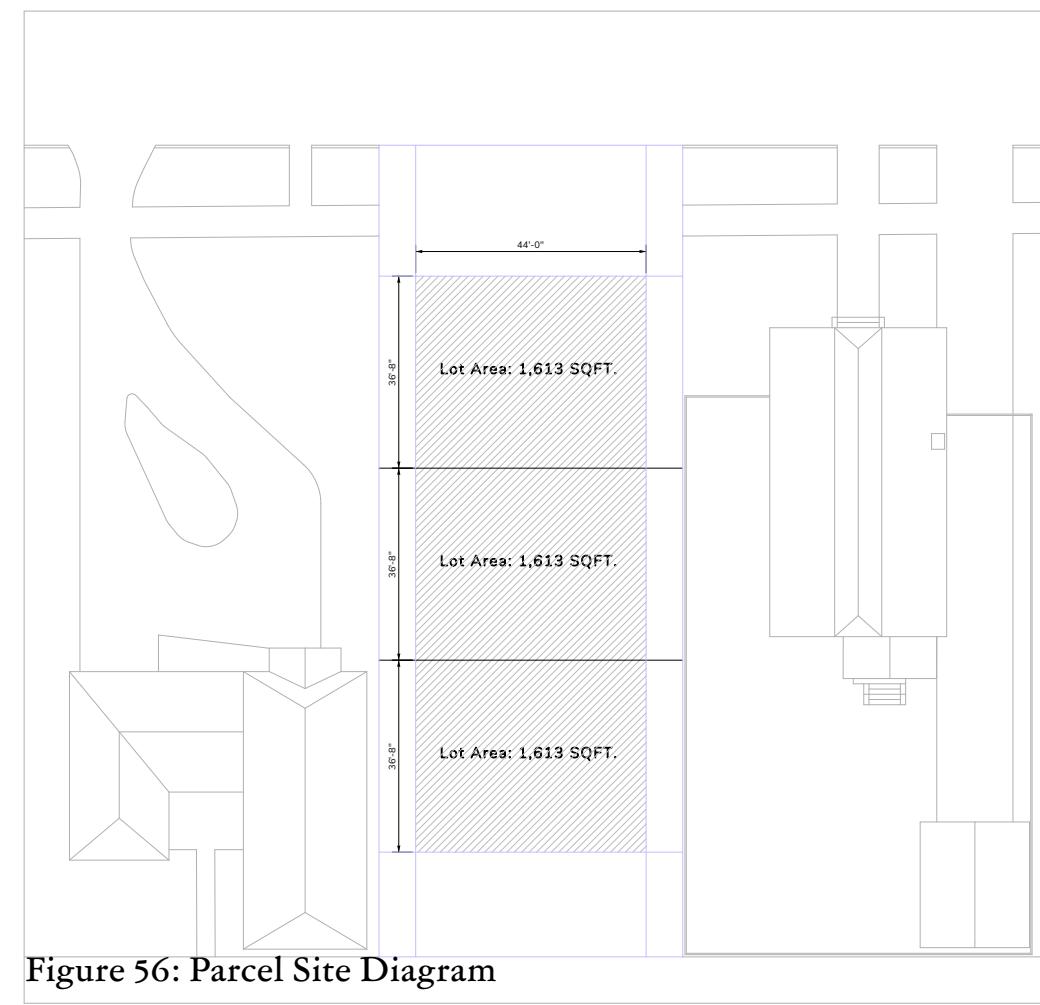


Figure 56: Parcel Site Diagram

These setback dimensions not only define the permissible building area but also reflect a balanced approach to urban development, ensuring that new constructions harmonize with Tampa Height's broader urban fabric. Utilizing these setbacks, the total buildable area is roughly 110 feet long by 44 feet wide making the total building area 4,840 square feet.

The buildable area was chosen to be divided into three equal parcels, each spanning 36 feet 8 inches in length and 44 feet in width. This layout was carefully crafted to maximize spatial efficiency and enhance the streetscape. The arrangement not only elevates the street-facing façade but also introduces distinctive architectural elements, fostering a visually cohesive yet uniquely engaging urban aesthetic. Each parcel, sharing identical dimensions, promotes uniformity throughout the development. Collectively, these parcels cover a total lot area of 1,613 square feet,

meeting the requirements for tandem development and confirming that maintaining three distinct parcels is viable under Tampa Heights zoning regulations.

Adhering strictly to local zoning mandates, the division of each lot was designed to comply with the required 5-foot setbacks. This stipulation demands a side setback of 2 feet 6 inches for each of the inner parcels. The outer parcels, however, are allowed to utilize the total boundary edge, taking full advantage of the allowances provided by the front and rear setback norms as stipulated in the Florida Building Code. After adjusting for the new side setback requirements, the total buildable area for each outer parcel is recalculated to 1,502 square feet, while the middle parcel is slightly reduced to 1,393 square feet. This reduction places significant emphasis on the middle parcel's orientation and necessitates careful planning and deliberation to ensure that the central unit maintains a prominent street presence. This is achieved while being flanked by two structures that, although they share a common design language, each possess distinct characteristics that contribute to the rich urban fabric of Tampa Heights.

This design strategy not only adheres to legal standards but also enhances the functionality and privacy of each unit. By applying these setback standards judiciously, the project strikes an optimal balance between density and spaciousness, crafting an environment that is both aesthetically appealing and practically suited for urban living. This approach ensures that each unit, while part of a cohesive whole, retains individuality and contributes positively to the community's landscape.

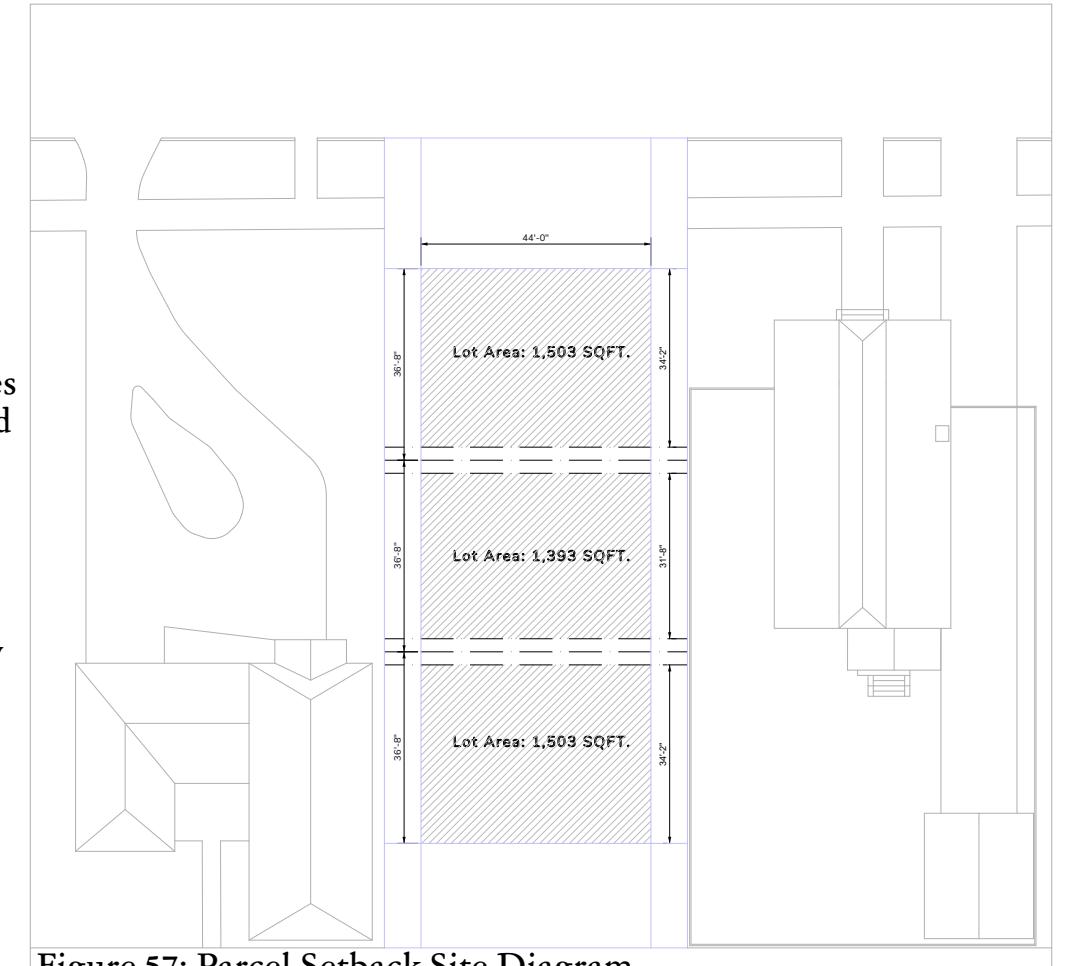


Figure 57: Parcel Setback Site Diagram

10.2 Studying the Characteristics of Parking

The research that was conducted in this exercise was to explore various parking configurations on a multi-parcel site illustrates a critical component of urban planning—optimizing limited space while addressing functional requirements and aesthetic considerations. Given the requirement that each parcel must accommodate at least one parking space, several models were studied to determine the most effective arrangement. These models included integrating parking on each individual parcel, positioning parking at the front or the back of the lot, and leveraging the alleyway. The most notable study involved utilizing the alleyway for parking. This approach emerged as the most advantageous for several reasons. Firstly, it avoids cluttering the front of the lot with vehicles, maintaining the curb appeal and aesthetic integrity of the

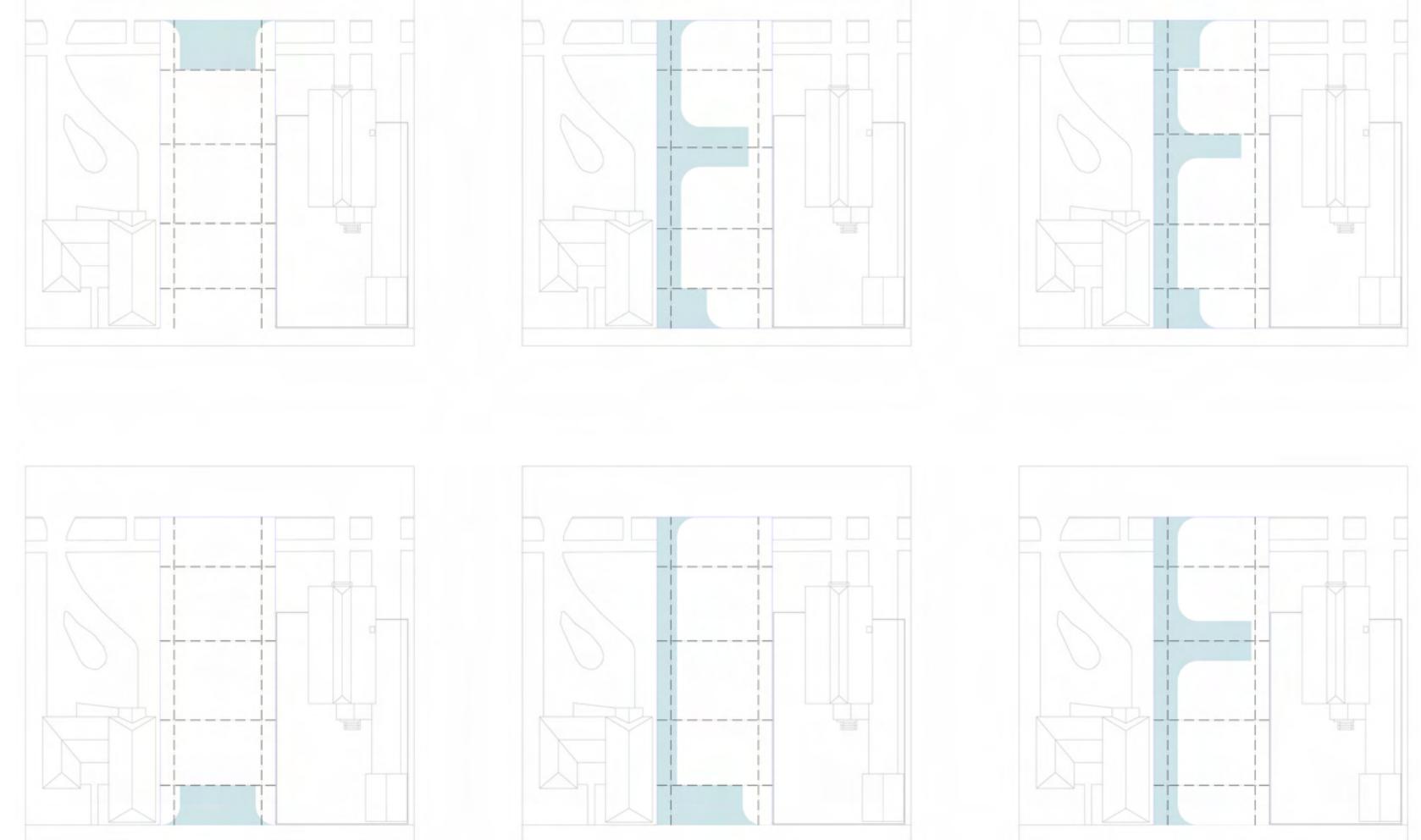


Figure 58: Parking Diagrams

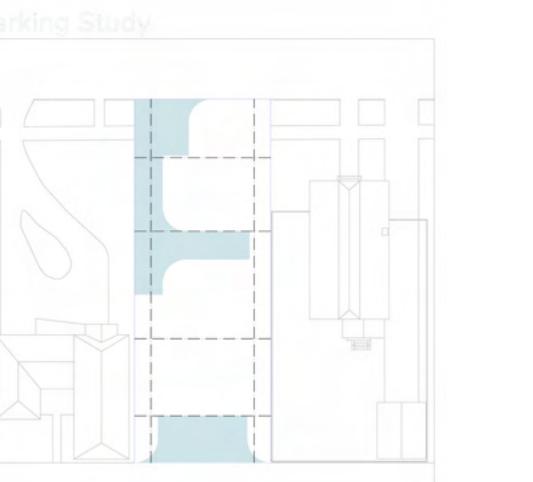
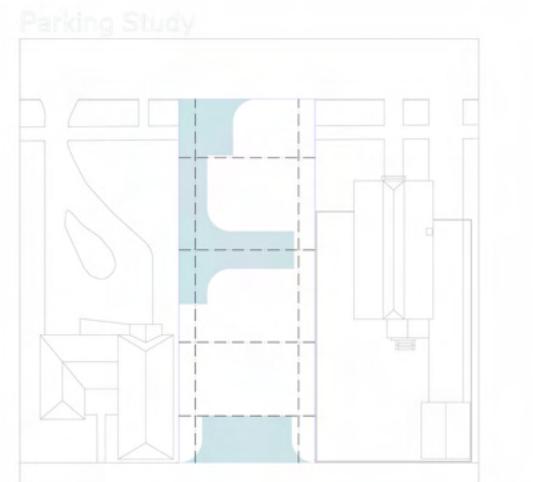
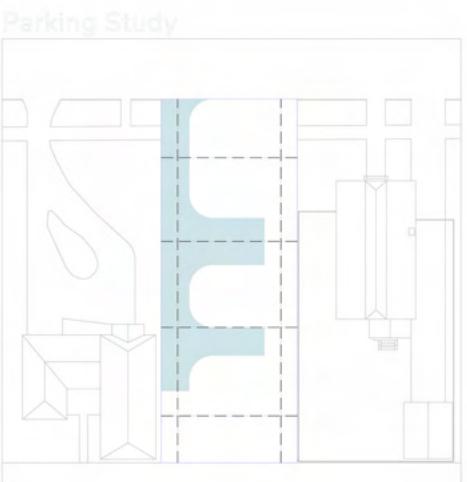
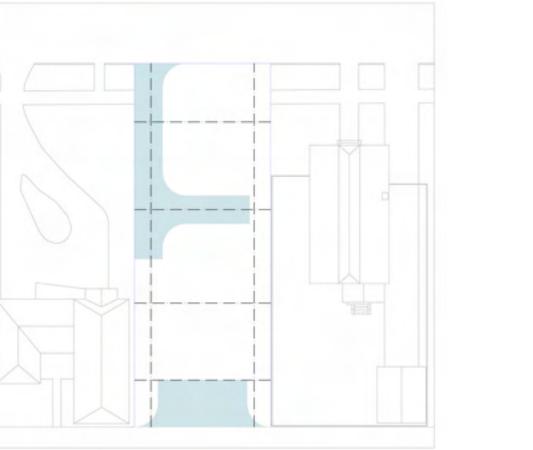
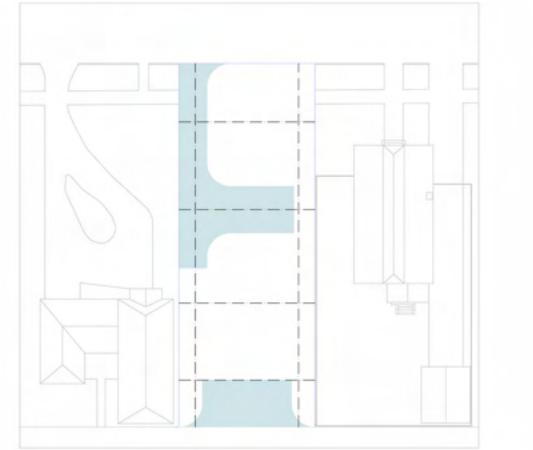
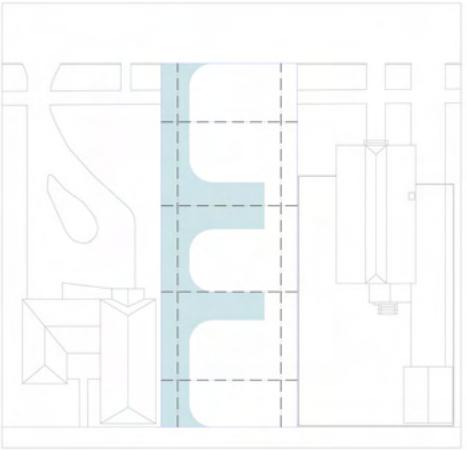


Figure 59: Parking Diagrams

streetscape. Secondly, it enhances the functionality of the alleyway, turning it into a practical component of the site's infrastructure rather than a neglected area. This configuration allows for a cleaner and more organized layout, facilitating easier access and better use of the available space.

Another model considered was using an easement as a driveway running through the front and back of the lot. This option was initially attractive because it could potentially streamline the flow of vehicles and improve access. However, this idea was ultimately rejected. It became apparent that dedicating this space to a driveway would sacrifice valuable green space and walkways that could enhance the livability and

environmental quality of each parcel. The decision was made to prioritize pedestrian-friendly areas and landscaping over additional driveway that would not be utilized other than for car movement that could not be used as parking space as it would be too narrow for other cars to navigate around.

The placement of parking towards the back of each lot, near the required setbacks, was evaluated. This strategy utilizes space that would otherwise remain undeveloped due to setback restrictions, allowing for a larger footprint for the main structures on each parcel. This method not only optimizes the buildable area but also separates the residential structures from the parking areas, enhancing privacy and reducing noise near the living spaces.

Incorporating parking within each individual parcel was also explored but found to be less favorable. Allocating space for parking within the parcel boundaries would significantly reduce the buildable area available for each unit, constraining the architectural possibilities and limiting the potential size of each dwelling.

The research analysis also recognized the availability of street parking as a resource for visitors or overnight parking, providing flexibility and additional parking capacity without imposing on the design and use of space within the lot.

Through research and modeling, the decision to utilize alleyway parking proved to be the most effective. This approach maximizes the functionality of underused spaces, enhances the architectural potential of each building, and preserves the aesthetic and practical value of the frontage and communal areas, contributing to a more cohesive and enjoyable urban environment.

10.3 Studying the Characteristics of Green Space

The integration of green spaces within urban housing developments is a critical factor in enhancing both the aesthetic appeal and livability of densely packed residential areas. Research into the optimal use of green space in housing is important to providing privacy, creating a sense of community. This is particularly significant in developments where lots are closely situated, necessitating creative solutions to maximize limited space while fostering an inviting and sustainable environment.

One approach to incorporating green spaces in such settings involves the placement and orientation of lots. For instance, positioning the lots diagonally relative to each other can enhance street presence and facilitate the inclusion of accessible green areas. These spaces are not only visually appealing from the street but also function as vital communal and private retreats for residents. The diagonal arrangement allows each unit to maintain a sense of individuality and privacy.

The cautious use of walkways that lead from the front to the back of the property is another essential element. These pathways offer practical benefits by ensuring easy access to all parts of the lot while also contributing aesthetically and environmentally. They encourage walking, reduce the reliance on paved surfaces, and integrate seamlessly with the surrounding greenery, thus minimizing the ecological footprint of the development.

The concept of a unified green corridor is a transformative idea that extends the benefits of individual green spaces by linking them together across the property. Such corridors serve a purpose of offering a private oasis for relaxation and play areas.

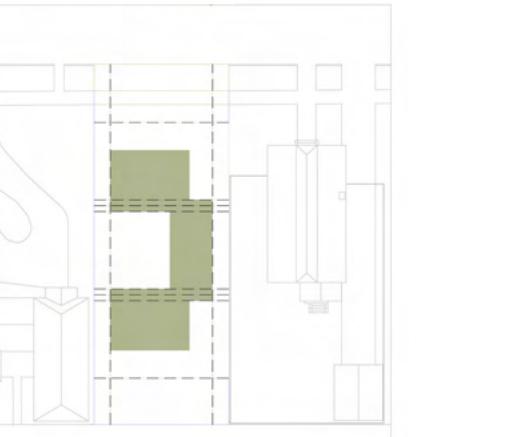
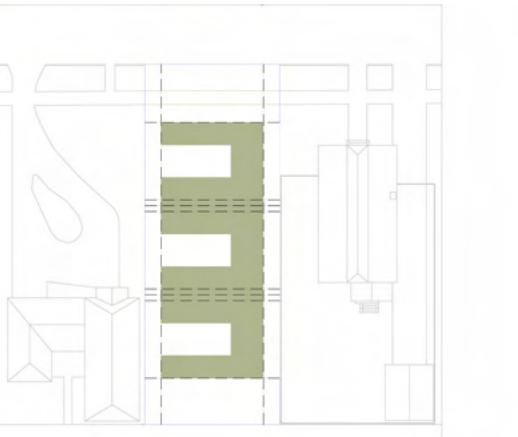
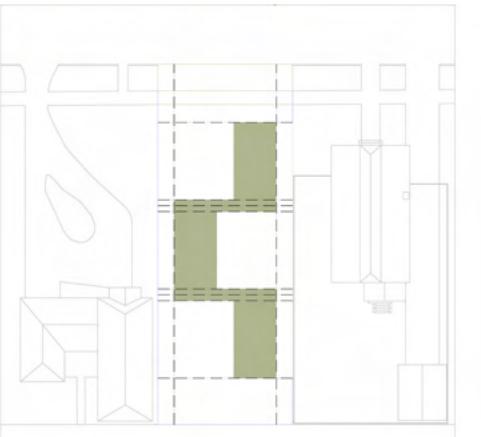


Figure 60: Green Space Diagrams

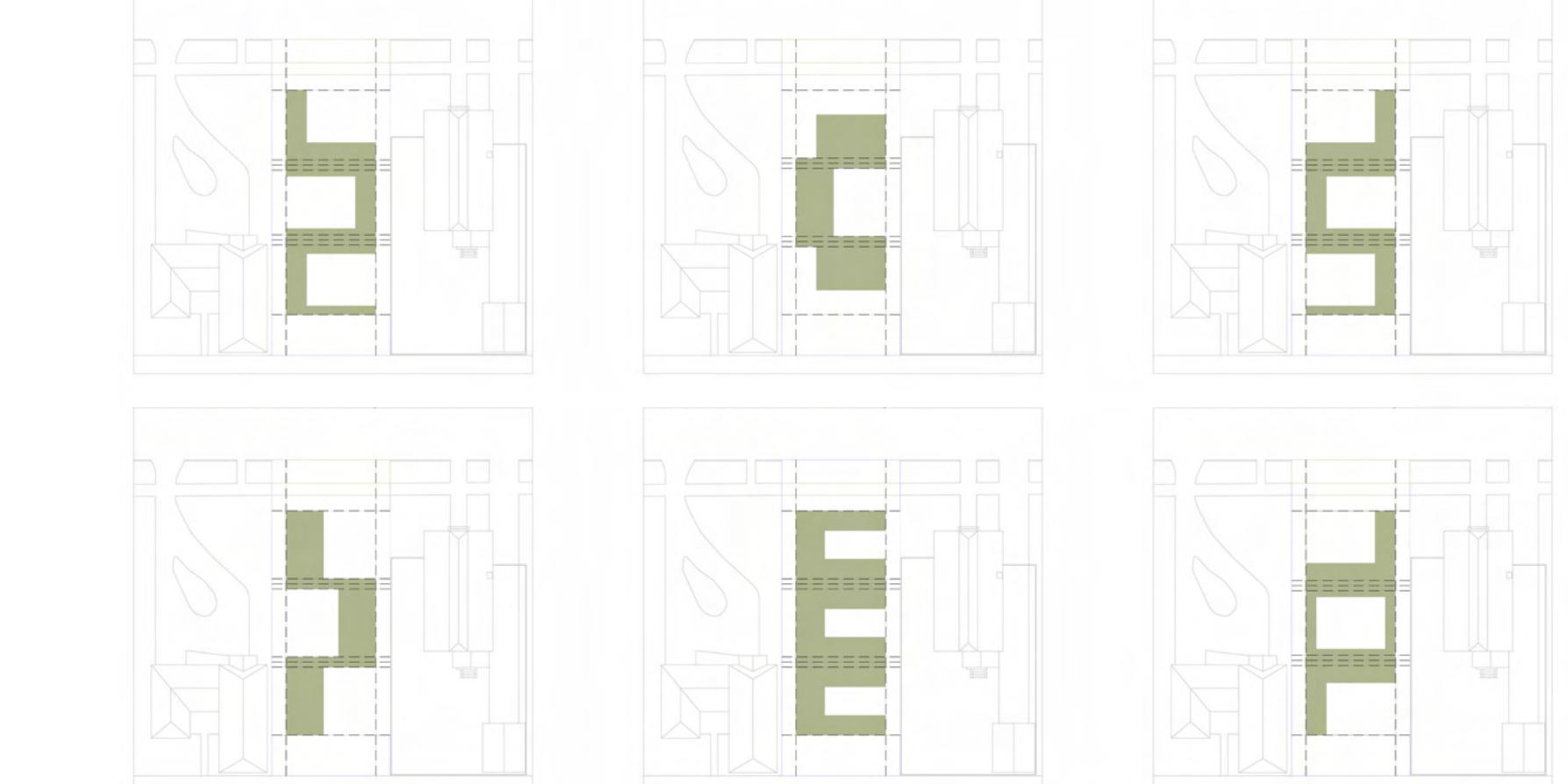


Figure 61: Green Space Diagrams

The emphasis on green space within urban housing designs reflects a broader understanding of the relationship between built environments and quality of life. Rather than utilizing the full square footage for housing alone—which could result in a stark, concrete-dominated landscape—allocating substantial areas for vegetation and outdoor activities creates “special moments” that seamlessly blend indoor and outdoor living. These green spaces become essential components of the living environment, contributing to the physical and psychological well-being of the residents.

By prioritizing green space, urban housing developments can achieve a balance between high-density living and the need for natural, private, and communal spaces. This approach not only makes urban environments more visually appealing but also fosters a stronger sense of community and connectivity to nature, which are crucial for sustainable and enjoyable urban living.

10.4 Studying the Architectural Footprint

Research into the design of building footprints within densely built urban environments like Tampa Heights focuses on the careful balancing of individual expression against the need to complement the existing urban fabric. In a neighborhood characterized by both historical and modern influences, each home within the development must both stand out as unique and seamlessly integrate with the surrounding community. The architectural approach to each home aims to achieve a distinct identity while maintaining a coherent look that resonates with Tampa Heights' unique character. This involves using construction methods that are consistent across the development to ensure structural harmony and efficiency. However, distinct architectural features—such as variations in facade treatments, roofing styles, or window arrangements—allow each home to express its individuality. These features are meticulously designed to ensure that while each home is unique, they collectively contribute to a cohesive streetscape.

The placement of each house on the lot is strategically decided not only to enhance individual identity but also to optimize street presence. This arrangement helps in defining the character of each home from a street-level perspective, making each property easily identifiable and adding to the aesthetic appeal of the neighborhood. This thoughtfully planned positioning enhances both the visual continuity of the community and the private enjoyment of each residence. The design of each home caters specifically to the needs of young single families, typically consisting of two people. The homes are designed with a functional layout that includes two bedrooms and one bathroom. The integration of nature into the living spaces is a key design element, with large windows, patios, or balconies that draw in natural light and offer views of green spaces, thereby blurring the lines between indoor and outdoor living.

In terms of privacy, the layout within each lot is carefully planned. Important gathering rooms such

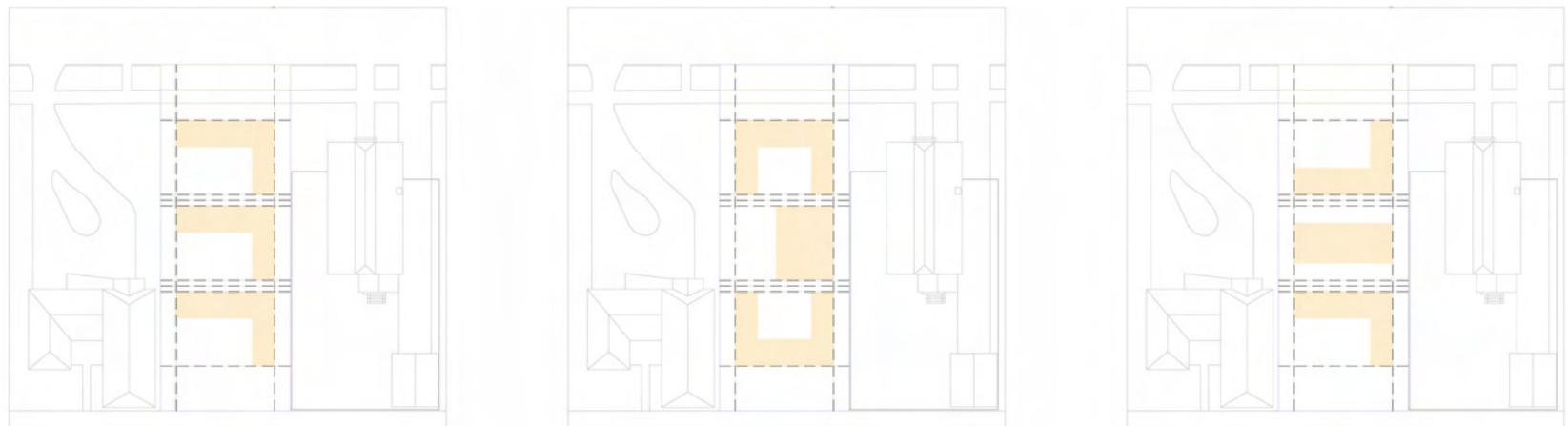


Figure 62: Building Footprint Diagrams

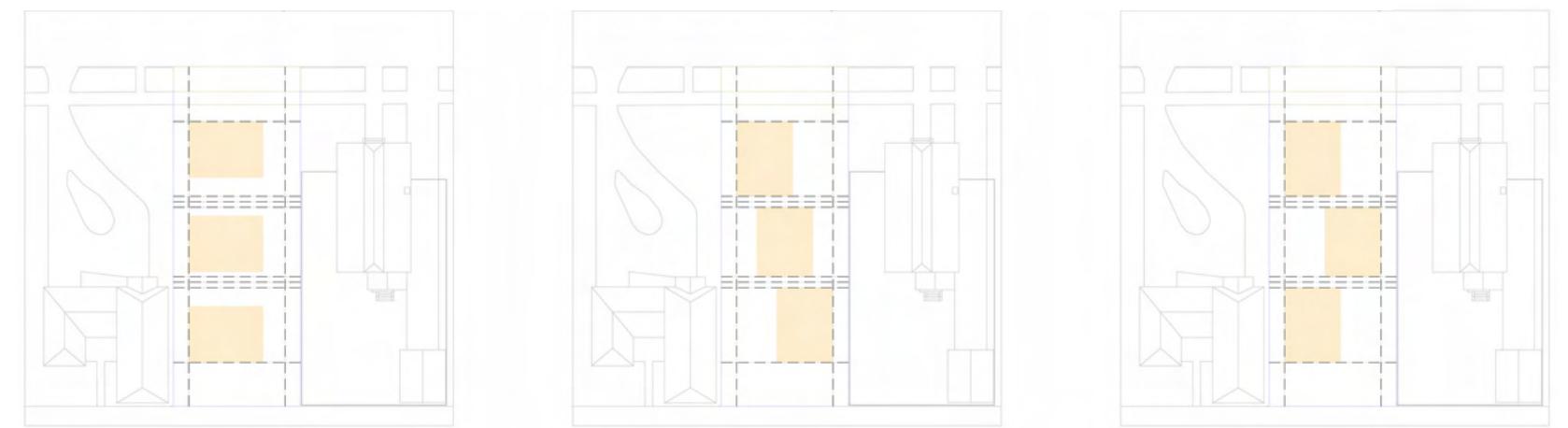
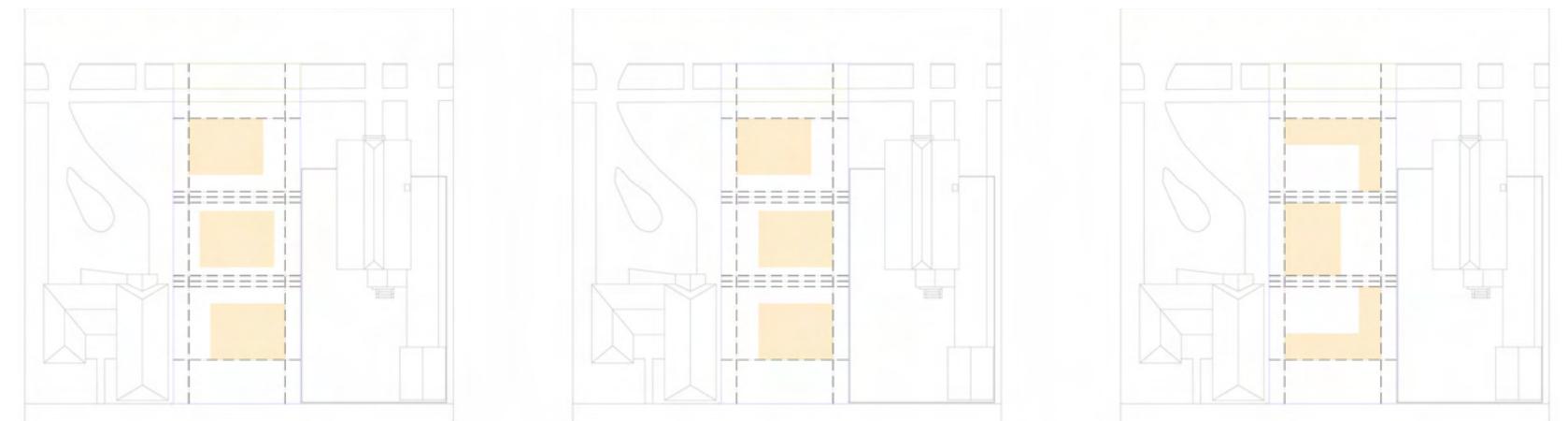


Figure 63: Building Footprint Diagrams

as bedrooms or personal offices are positioned to maximize privacy, possibly facing quieter, more secluded parts of the lot. Social spaces like living rooms or kitchens are oriented to overlook shared spaces or green areas, enhancing a sense of community and interaction with neighbors. This thoughtful placement helps in fostering a community atmosphere while respecting the need for personal space.

Another significant consideration is the internal circulation within each home, designed to be fluid and intuitive, with pathways that naturally lead inhabitants through various parts of the house. The incorporation of green spaces into these circulation areas further enhances this experience, creating serene transitions that not only connect different sections of the home but also integrate indoor living with the natural environment outside.

10.5 Integrating the Characteristics

The final graphic representation brings together individual studies to provide a holistic view of how each component—parking, green spaces, and building footprints—interacts within the urban fabric. This overarching design blueprint focuses on meeting the diverse needs highlighted in each study while ensuring that the integration results in a functional layout. The core aim is to create a living environment that respects and enhances the neighborhood's historical and architectural significance while introducing modern living spaces.

Each element within the design schematic acts as a lever, influencing and adjusting the overall plan. For instance, increasing green space might require a more compact architectural footprint or innovative parking solutions like side parking or rear parking. Alternatively, expanding the building footprint for



Figure 64: Integrated Diagrams

more spacious residences could reduce the area available for green spaces and necessitate efficient vertical parking solutions. This dynamic adjustment of design parameters ensures that each decision is made with a view toward balancing trade-offs, enhancing functionality, and improving the quality of urban life.

The research and resulting graphic also consider the impact of the new development on neighboring structures and the overall layout. By comparing proposed building footprints with surrounding architectural styles, the design aims to maintain a visual continuity and scale appropriate to Tampa Heights' established aesthetic. This sensitivity to the surrounding environment helps to avoid overwhelming small homes in the area and integrates new constructions smoothly into the existing streetscape.

The flexibility in manipulating design choices as levers allows urban planners and architects to explore various configurations that best meet the specific constraints and opportunities of the site. This approach fosters a creative problem-solving environment where different scenarios are tested and optimized. Each tweak in one aspect of the design influences others, providing a comprehensive view that supports informed decision-making, ensuring that no one feature disproportionately impacts another negatively.

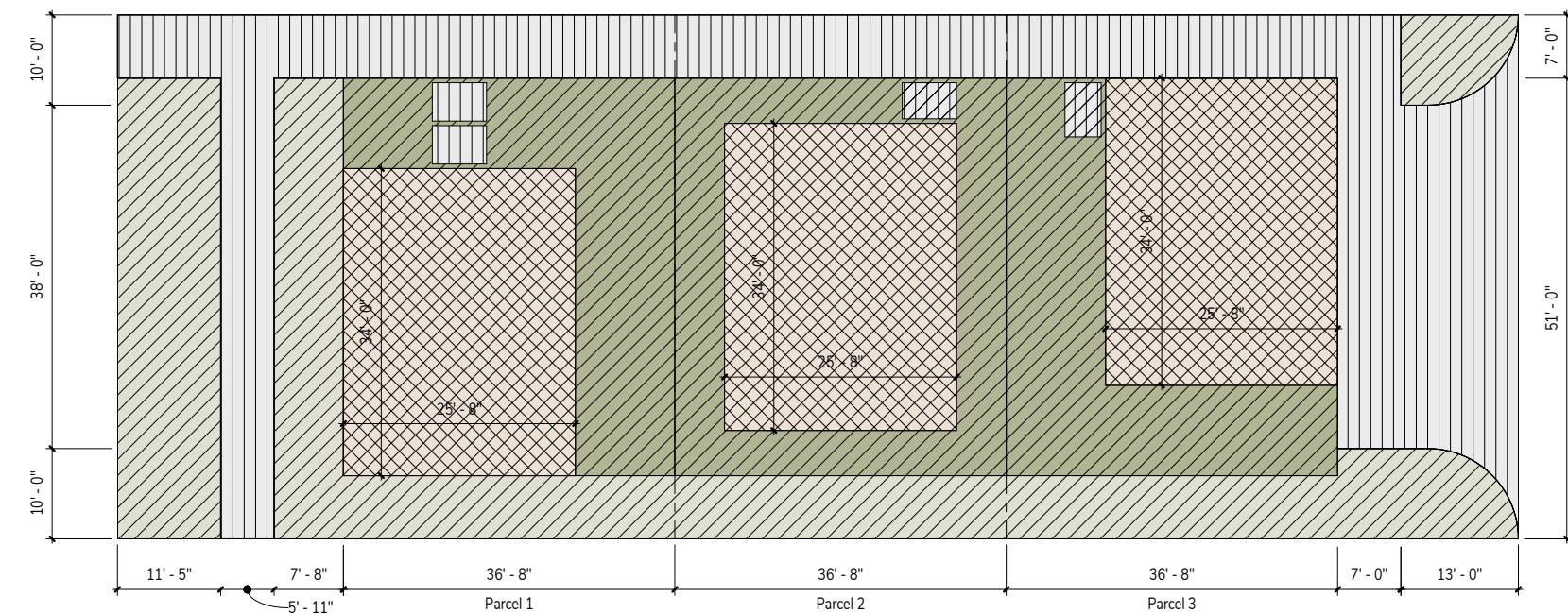


Figure 65: 408 W Park Lot Diagram



Figure 66: Site Model

The integration of these studies into a single comprehensive graphic serves not only as a practical tool for visualizing potential outcomes but also as a guide for stakeholders, including city planners, architects, developers, and community members. This inclusive and transparent approach ensures that the development not only meets technical and aesthetic standards but also aligns with community expectations and needs by carefully considering how each aspect of the design influences and complements the others.

Following the initial creation of the site study detailing the lot characteristics, individual houses were 3D printed and positioned on the site model. This placement was essential for gaining a more refined understanding of the scale and spatial relationships within the development. Subsequently, the decision to distribute these models across the entire site provided an enhanced perspective on potential density increases. This placement of these models allowed for a comprehensive evaluation of how heightened density could be seamlessly integrated not only within the specific site but also within the broader urban context.

Serving as a crucial corridor for circulation, the alley emerged as a significant element in the community's urban planning. Recognizing its potential beyond a mere transit route, the alley was envisioned as a primary access point to this denser area, thereby alleviating congestion on main streets. This approach aims to transform the alley into a lively urban artery, enhancing accessibility while maintaining the aesthetic and functionality of the main thoroughfares, free from vehicular clutter. This model shows the alley's role in fostering a more organized and efficient urban environment, highlighting its importance in the strategic development of high-density areas.

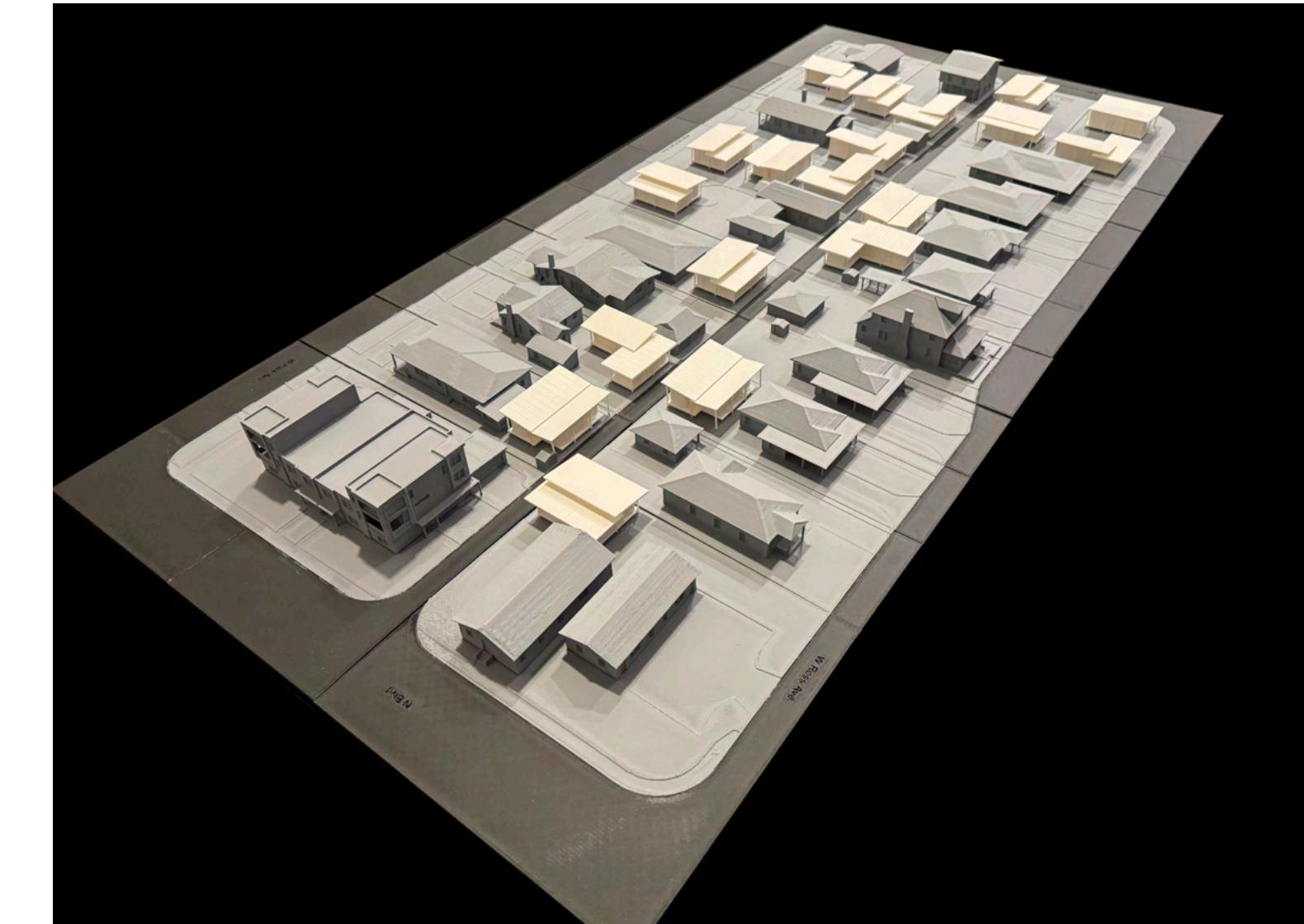


Figure 67: Site Model

Chapter 11: Overall Design Strategy

11.1 Choosing the Construction Method

Choosing the right construction method for residential single-family homes involves balancing a variety of factors. While traditional light frame wood construction has long been favored for its cost-effectiveness and design flexibility, and 3D printed construction offers groundbreaking potential for reducing labor and material costs, prefabricated modular construction emerges as the best option in the current housing landscape. This choice is especially relevant considering the increasing need for efficient building practices.

Prefabricated modular construction is distinguished by its combination of efficiency, and scalability, which is one of the primary advantages of modular construction. Modular construction significantly reduces construction time since modules are built in a controlled factory environment, the construction process is not subject to the delays typical of on-site building projects. This environment also allows for the construction process to be more predictable and less risky, which can be appealing to developers and investors who value time certainty and reduced on-site labor costs. Modular construction tends to have lower overall construction costs compared to 3D printing and traditional wood framing. While 3D printing technology promises to revolutionize building processes by reducing material waste and labor costs, it is still in its developmental phase and currently faces significant limitations in terms of material types, scalability, and regulatory approval processes. Traditional light frame wood construction, on the other hand, while well-understood and widely accepted, often involves higher costs due to longer construction times, higher labor costs, and material wastes.

In terms of quality and durability, modular construction also offers considerable advantages. The materials used in modular homes are typically the same as those used in traditional construction but are able to be assembled with greater precision in a factory setting. This controlled environment allows for better construction quality management and reduces the exposure of building materials to adverse weather conditions during construction, which can degrade material quality and lead to future maintenance issues. Modular construction has a smaller carbon footprint than traditional construction methods. The factory setting allows for more accurate material measurements and cuts, which significantly reduces waste. The reduced construction site activity and shorter construction period lessen the environmental disturbance typically associated with residential projects. This is increasingly important as more developers and consumers look for environmentally sustainable building options.

While each construction method has its merits and specific applications where it may be the most suitable choice, prefabricated modular construction offers a compelling blend of time and cost efficiency, environmental sustainability, making it the superior choice in many scenarios.

11.2 Creating a Unique Lot

The initial phase involved conducting detailed studies to understand the dynamics of the site-specific factors like sunlight, existing vegetation, and urban fabric. This research informed decisions regarding the optimal size and placement of building footprints, effective parking solutions, and the strategic allocation of green spaces. Each element was meticulously evaluated not just for its individual contribution but for its potential to enhance the collective usability and aesthetic of the development.

The transition from theoretical research to a 3D spatial model marked a significant advancement in the project. This step allowed for a more nuanced appreciation of the three-dimensional interplay between the proposed structures and the existing urban landscape. By modeling the site in 3D, architects and planners could better anticipate the real-world implications of their designs, particularly how new constructions would relate to the surrounding homes in terms of scale, style, and spatial distribution.

The core of the design strategy was to create a series of homes that not only addressed the practical needs of modern urban living but also resonated with the architectural makeup of Tampa Heights. The placement and orientation of each building were carefully crafted to maintain privacy while promoting social interaction through communal green spaces and accessible walkways. These pathways were strategically positioned to connect the individual parcels while also serving as mediators between the new structures and adjacent properties.

Previous research into parking management has concluded that for certain scenarios, a more effective solution involves situating parking at the rear of a lot and utilizing an alleyway, rather than allocating individual parking spaces on each parcel. This approach significantly reduces the demand for a larger, paved area, which offers no real benefit to the overarching design and purpose of the space. Prioritizing

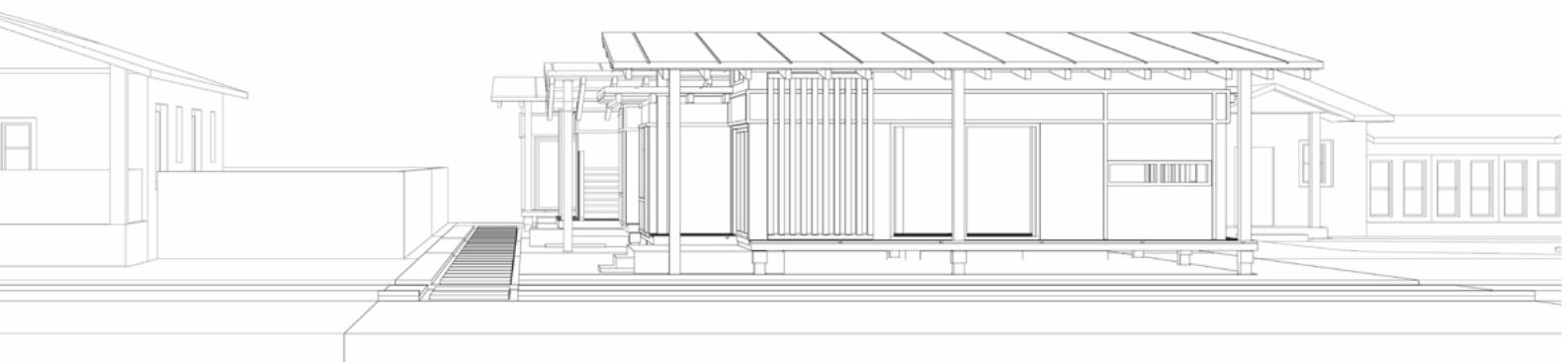
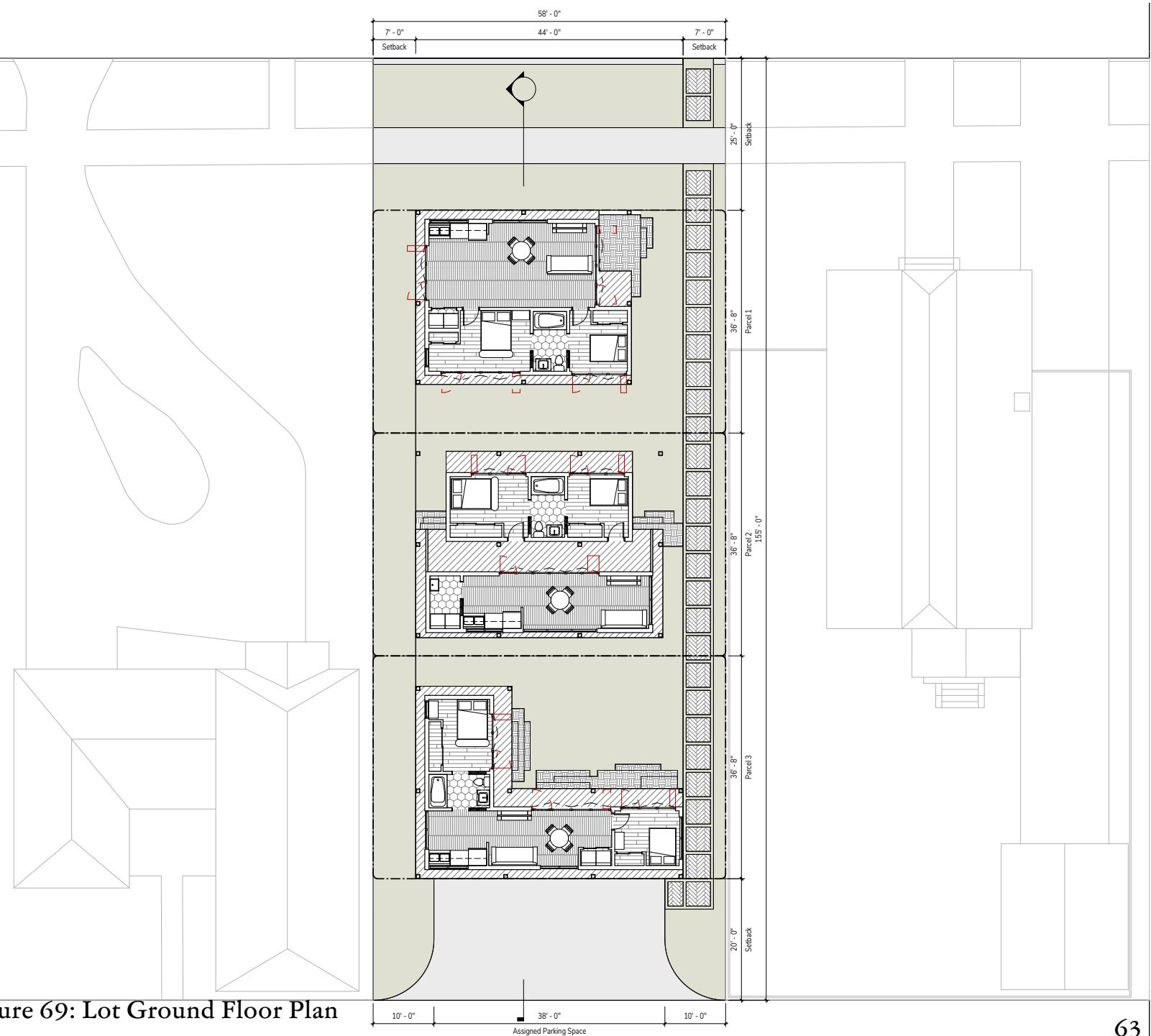


Figure 68: Elevation



63

green spaces and building footprints aligns better with sustainable design principles. Accessing parking via the alleyway ensures that the front of the lot remains undisturbed, enhancing the aesthetic appeal through thoughtful landscape design. This design strategy not only contributes to a more welcoming environment for pedestrians but also effectively conceals the visual impact of large vehicles. The inclusion of street parking, coupled with increased vegetation on the lot, supports a robust ecosystem. By planting native species of plants and fauna, these areas can foster biodiversity and offer environmental benefits to various living organisms within the vicinity. This holistic approach to parking and landscape planning creates a visually appealing and ecologically sustainable environment.

A crucial aspect of the site planning involved aligning the height of the new buildings with those of the neighboring homes. This approach was vital to avoid overpowering the existing smaller-scale homes, ensuring that the new development was a respectful addition to the neighborhood. By adjusting building heights and roof lines, the project successfully integrated into the local skyline, maintaining a balance that is visually pleasing and contextually appropriate.

The placement of each parcel was deliberated with the intent to enhance community interactions and aesthetic value. The layout was designed to maximize natural light access and views, both of which were instrumental in creating inviting living spaces. This placement strategy also facilitated a natural flow between private and communal areas, fostering a sense of community while respecting individual privacy.



Figure 70: Model Photo



Figure 71: Model Photo

The culmination of these detailed planning efforts resulted in a design that is both innovative and sensitive to its surroundings. Each home within the development not only serves the needs of its residents but also contributes to a larger vision of community and connectivity. The thoughtful arrangement of homes, their relationship to each other, and their integration with the

64

natural and built environment exemplify a model for future urban development.

The overall design strategy for the Tampa Heights project successfully synthesized individual research components into a comprehensive plan that respects and enhances the existing urban fabric. By considering the interdependencies of building footprint, parking, and green space within a 3D framework, the project highlights how thoughtful urban design can create harmonious and sustainable communities. This approach not only addresses the practical aspects of architectural development but also enriches the lives of those it aims to serve, crafting a neighborhood that is both functional and beautiful.



Figure 72: Model Photo



Figure 73: Model Photo

11.3 Calculating the Overall Construction Costs

When conducting research to estimate the costs associated with the construction of prefabricated modular homes, it's crucial to consider all relevant components of the building process. This includes the overall construction, site-specific work, and the cost of the land itself. Collaborating with companies such as Cactus Land Holding Inc.¹⁵ and Rocket Mortgage¹⁶ can provide an itemized breakdown of all necessary elements in the construction of such houses.

The pricing for construction varies significantly across different regions, which necessitates adjusting estimates to account for potential fluctuations in material and labor costs. For the purposes of this analysis, a buffer of 10% was added to the costs of building materials and labor to accommodate these regional price variations. The comprehensive cost analysis for the construction of these prefabricated modular homes includes several key components: the structure of the house itself, the on-site construction required to prepare and finish the property, and the materials used throughout the building process. The landscaping

¹⁵ "Modular Homes Pricing - Florida," Cactus Land Holdings Inc., January 6, 2022, <https://www.cactuslandholdings.com/pricing/>.

¹⁶ Sam Hawrylack, "Modular Home Prices: What To Expect When Buying," Modular Home Prices: What To Expect | Rocket Mortgage, April 19, 2024, <https://www.rocketmortgage.com/learn/modular-home-prices#:~:text=While%20modular%20home%20prices%20differ,Land%20preparation>.

Cost of Construction	
Delivery + Base Cost	\$120 / SQFT
Land Clearing / Site Prep	\$1,650 - \$3,000
Foundatin Plans + Foundation	\$800 + \$10 - \$30 / SQFT
Installation	\$5 - \$35 / SQFT
Survey Including Staking Lot	\$800 - \$1200
Termite Treatment	\$500 - \$750
Utility Set Up	\$8,000 - \$10,000
Water / Sewer Hookup	\$1,750 - \$2,500
Marriage Lines	\$1,750 - \$2,000
Electric Setup	\$3,250 - \$4,000
Air Conditioning	\$4,000 - \$6,500
Skirting (Hardie Plank to Ground)	\$6,000 - \$8,000
Steps (Wood)	\$700 - \$950
Landscaping and Irrigation	\$6,000 - \$7,000
Paving	\$3 - \$30 / SQFT
Permits and Fees	\$2,500 - \$5,000
Sales Tax (Florida)	6%

Figure 74: Cost of Construction Table

Total Cost of Construction	
Land Cost	\$155,232
Parcel 1	\$191,324
Parcel 2	\$183,395
Parcel 3	\$168,703
Grand Total	\$698,654
Average Cost per Parcel	\$232,885

Figure 75: Total Cost of Construction Table

Profit for Construction	
Parcel 1	\$295,000
Parcel 2	\$280,000
Parcel 3	\$265,000
Grand Total	\$840,000
Sales Tax	\$50,400.00
Return on Investment (R.O.I.)	12%

Figure 76: Profit for Construction Table

Chapter 12: Parcel Design and Construction

12.1 Parcel 1

costs are also considered, though they exclude specific vegetation such as trees and other plantings. Instead, a uniform budget item is used across all three parcels to establish a consistent and accurate figure for the landscape construction.

Financial assessment takes into account any applicable taxes related to building and design fees, ensuring that the final estimates provide a thorough and realistic view of the total investment required. This detailed approach to costing is essential for investors, builders, and potential homeowners to make informed decisions regarding the feasibility and budgeting of constructing prefabricated modular homes in various locations.

Total of Parcel						
Parcel	Total Lot Area (SQFT.)	Buildable Area (SQFT.)	Green Space (SQFT.)	Building Foot Print (SQFT.)	Air Condition Footprint (SQFT.)	Easement / Walkway (SQFT.)
1	2126.5	1,503	905.5	964	796	256.5
2	2126.5	1,393	751	1,118.50	720.5	256.5
3	2126.5	1,503	950.5	919	650	256.5

Figure 77: Total of Parcel Table

Percentage of Total Parcel						
Parcel	Total Lot Area	Buildable Area	Green Space	Building Foot Print	Air Condition Footprint	Easement / Walkway
1	N/A	71%	43%	45%	37%	12%
2	N/A	66%	35%	53%	34%	12%
3	N/A	71%	45%	43%	31%	12%

Figure 78: Percentage of Total Parcel Table

Total of Buildable Area						
Parcel	Total Lot Area	Buildable Area (SQFT.)	Green Space (SQFT.)	Building Foot Print (SQFT.)	Air Condition Footprint (SQFT.)	Easement / Walkway
1	N/A	1,503	649	964	796	N/A
2	N/A	1,393	494.5	1,118.50	720.5	N/A
3	N/A	1,503	694	919	650	N/A

Figure 79: Total of Buildable Area Table

Percentage of Buildable Area						
Parcel	Total Lot Area	Buildable Area	Green Space	Building Foot Print	Air Condition Footprint	Easement / Walkway
1	N/A	N/A	43%	64%	53%	N/A
2	N/A	N/A	35%	80%	52%	N/A
3	N/A	N/A	46%	61%	43%	N/A

Figure 80: Percentage of Buildable Area Table

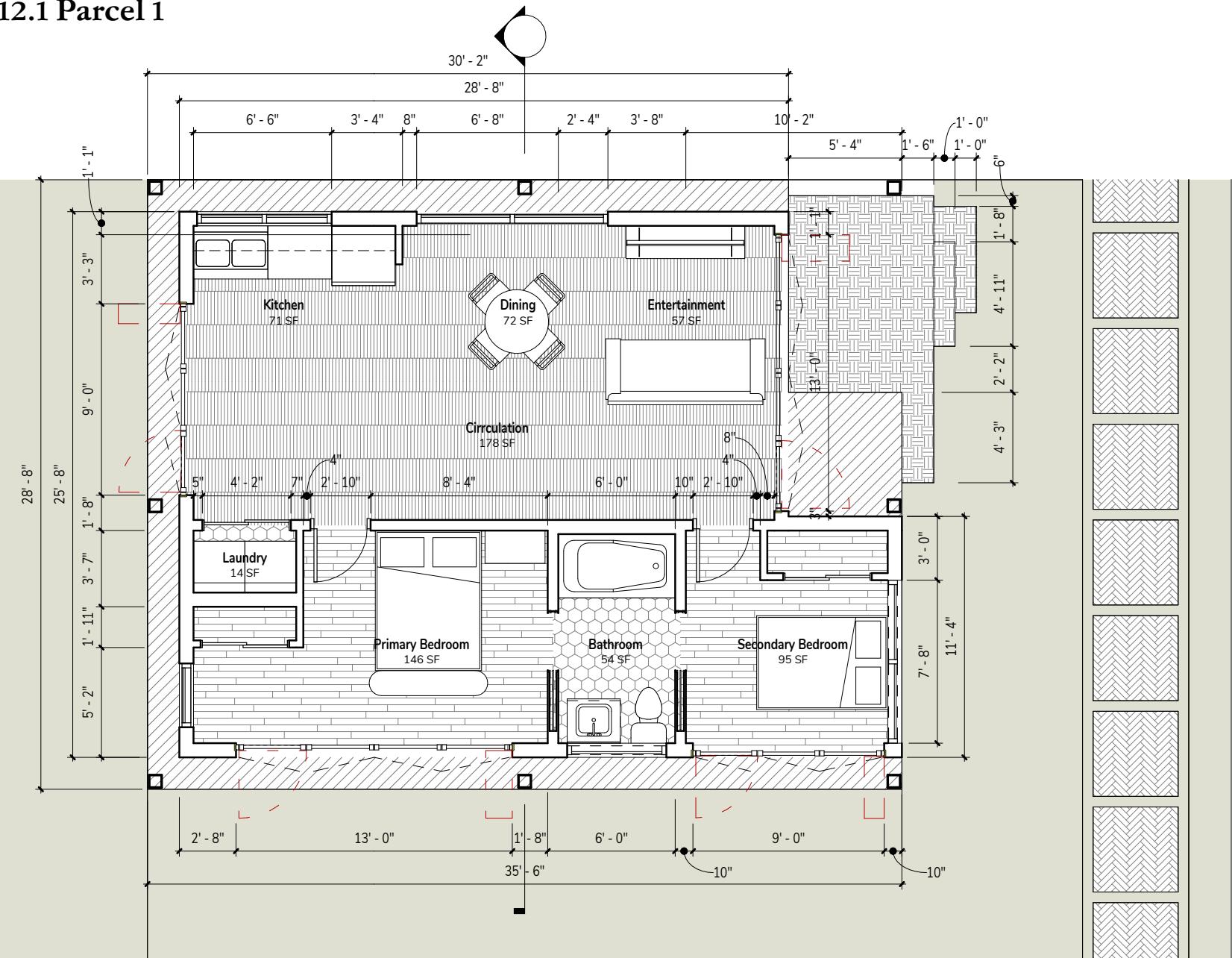


Figure 81: Parcel 1 Floor Plan

The architectural design of Parcel 1 takes a different approach by elevating the structure on a deck, integrating into the surrounding area characterized by stilt-based constructions. This elevation strategy not only harmonizes with the local architectural vernacular but also incorporates a crawl space beneath the home. This space is crucial for housing the necessary infrastructure such as plumbing, electrical systems, and air conditioning, effectively elevating the architecture both literally and metaphorically, giving the house a distinct "floating" sensation.

The interior of the home is designed with an open floor plan that merges the living, dining, and kitchen areas into one expansive, interconnected space. This layout enhances the sense of openness and fluidity, allowing activities to blend seamlessly, which is ideal for both family interactions and entertaining guests.

The strategic positioning of this combined space offers panoramic views from the main part of the house, fostering a cohesive living environment.

Privacy is thoughtfully addressed by situating the two main rooms on the southern end of the floor plan, away from the street to the north. This orientation not only ensures seclusion but also faces a meticulously designed private garden. This garden is not just a visual augmentation but also serves as a functional space for growing vegetation. The integration of large folding doors that transition seamlessly to the outdoors invites the external elements inside, creating a living space that is both expansive and intimately connected with nature. The utilization of extensive window walls enhances this connection, offering uninterrupted views of the serene garden.

Echoing the historic shotgun-style homes of Tampa Heights, the design of the entrance promotes a linear perspective, allowing for an unobstructed visual corridor straight through to the rear of the home. This alignment facilitates natural ventilation and light flow, making it the main circulation axis of the space. The thoughtful inclusion of large overhanging roofs provides passive shading, crucial for comfort on the elevated deck. By raising a portion of the house

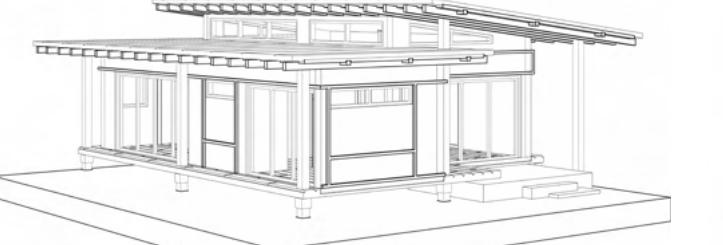


Figure 83: Parcel 1 Perspective

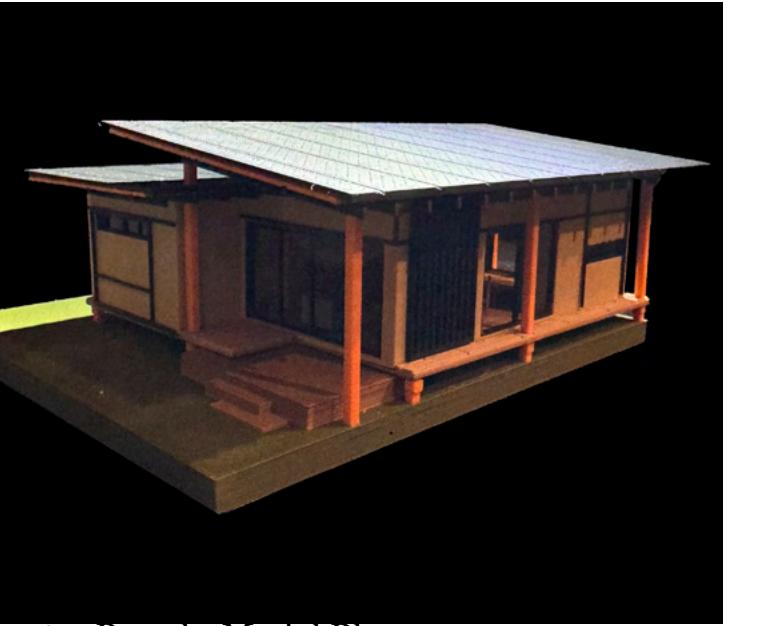


Figure 82: Parcel 1 Model Photo

enhances the penetration of natural light, creating an interior bathed in natural lighting throughout the day.

The design also pays homage to the traditional porches of Tampa Heights, a pivotal element in the neighborhood's architectural history. The porch is crafted to not only emulate this style but also to provide a comfortable space for relaxation and social interaction, further enriched by the ability to open the folding doors wide, merging indoor and outdoor living spaces effectively.

After applying previously established formulas to calculate total construction costs, which incorporate square footage and area, the total expense for this specific model was determined to be \$191,324. This results in a construction cost of \$240.35 per square foot. However, when considering the market dynamics, including architectural and construction fees, along with a reasonable return on investment, the market price escalates to \$370.60 per square foot. Consequently, this sets the total market value of the property at \$295,000.

Comparing this figure to the average home price in Tampa Heights, which stands at \$429,381, the proposed model is priced at 31.3% lower. This significant price difference highlights the model's potential to serve as an affordable housing option in the area, offering a substantial cost advantage without compromising on quality or location. This strategic pricing not only makes homeownership more accessible

Cost of Construction			
	Parcel 1 Information	Costs	Total Costs
Delivery + Base Cost	796 SQFT	\$120 / SQFT	\$95,520
Land Clearing / Site Prep		\$1,650 - \$3,000	\$2,325
Foundatin Plans + Foundation	964 SQFT	\$800 + \$10 - \$30 / SQFT	\$20,080
Installation	796 SQFT	\$5 - \$35 / SQFT	\$15,920
Survey Including Staking Lot		\$800 - \$1200	\$1,000
Termite Treatment		\$500 - \$750	\$875
Utility Set Up		\$8,000 - \$10,000	\$9,000
Water / Sewer Hookup		\$1,750 - \$2,500	\$2,125
Marriage Lines		\$1,750 - \$2,000	\$1,875
Electric Setup		\$3,250 - \$4,000	\$3,625
Air Conditioning		\$4,000 - \$6,500	\$5,250
Skirting (Hardie Plank to Ground)		\$6,000 - \$8,000	\$7,000
Steps (Wood)		\$700 - \$950	\$825
Landscaping and Irrigation		\$6,000 - \$7,000	\$6,500
Paving	268 SQFT	\$3 - \$30 / SQFT	\$4,824
Permits and Fees		\$2,500 - \$5,000	\$3,750
Sales Tax (Florida)		6%	\$10,830
Grand Total			\$191,324

Figure 84: Parcel 1 Cost of Construction Table

in Tampa Heights but also contributes positively to the community by expanding affordable housing opportunities.

Parcel 1 has been meticulously designed to achieve an optimal balance between its green space and building footprint, establishing a harmonious relationship between built and natural environments. This design philosophy is evident in the allocation of space, with 53% of the total area dedicated to air-conditioned living spaces and 43% devoted to green spaces. Such a distribution ensures that neither aspect of the parcel's design overwhelms the other, promoting a sense of proportion and scale that enhances the aesthetic and functional appeal of the property.

This approach to spatial distribution contributes significantly to the parcel's integration within its surroundings, allowing it to blend with

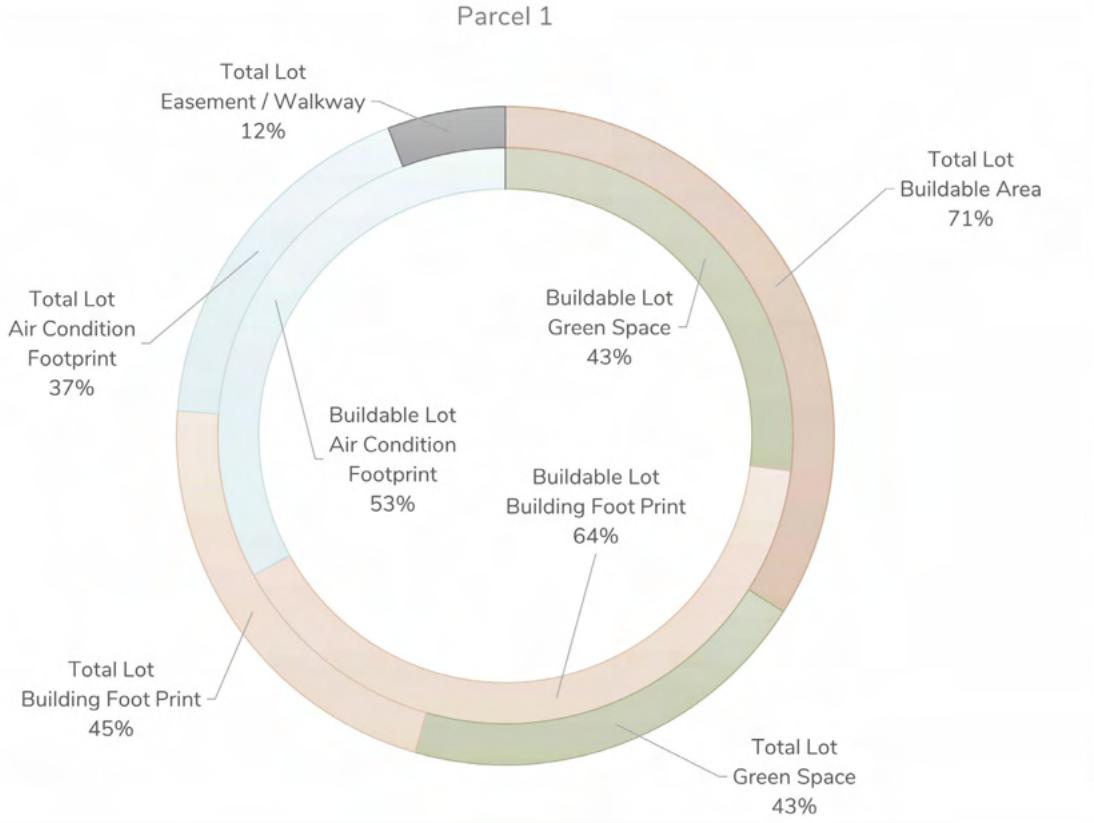


Figure 85: Parcel 1 Chart

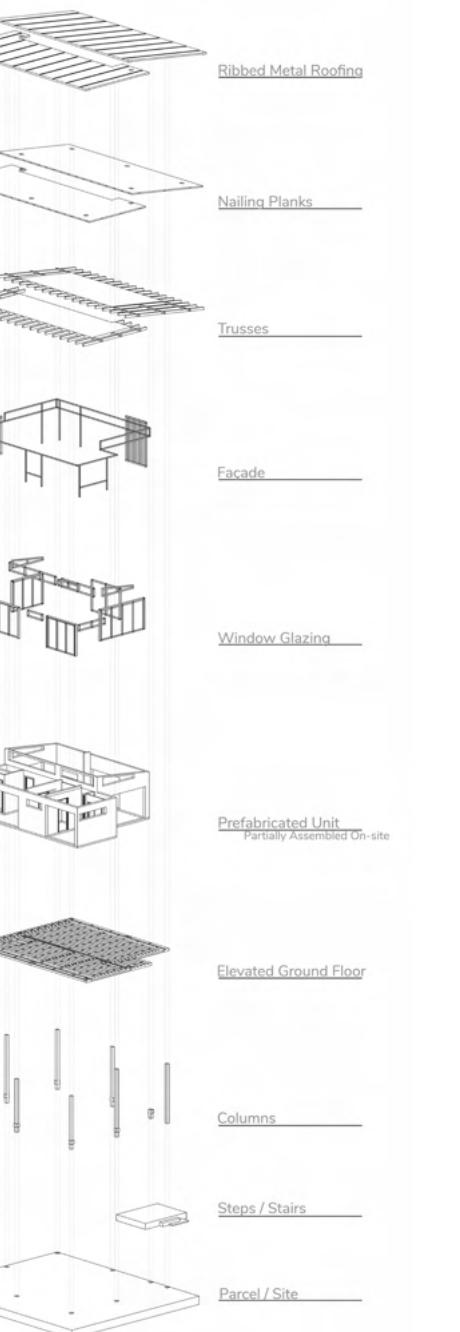


Figure 86: Parcel 1 Exploded Axo

the natural landscape. The focus on achieving balance does not merely serve aesthetic purposes but also underscores a commitment to sustainability and environmental sensitivity. By prioritizing green space to such a considerable extent, the design fosters a living environment that is not only pleasant and healthful but also ecologically responsible.

The use of landscaping plays a crucial role in melding the architectural elements with the natural environment, effectively softening the transition between the built structure and its surroundings. The selection of plants and the design of outdoor spaces are aimed at enhancing this integration, creating a cohesive and attractive setting that complements the overall lot size and character.

Parcel 1 stands out as a successful model of urban design, demonstrating how architectural innovation can coexist with natural beauty. The blend of architecture and nature not only makes the property visually appealing but also functional and adaptive to the needs of its inhabitants. This balance ensures that the development fits perfectly within its environment, making it a viable and attractive option for those seeking a residence that offers both comfort and a close connection to nature.

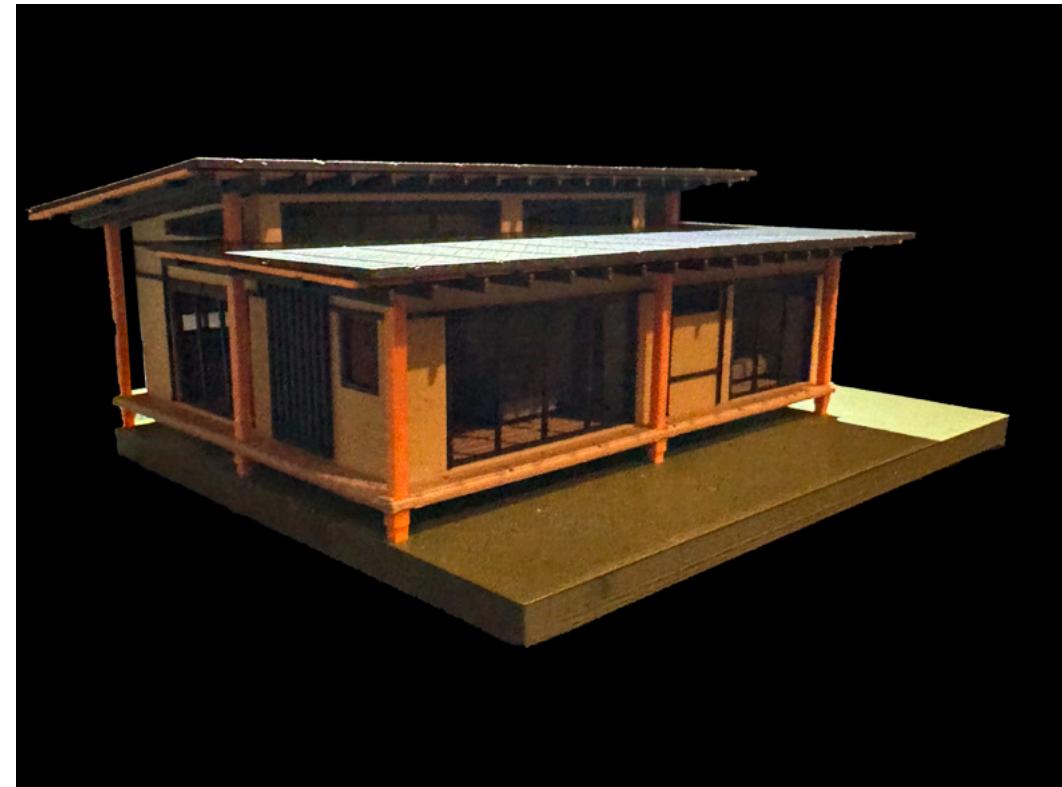


Figure 87: Parcel 1 Model Photo

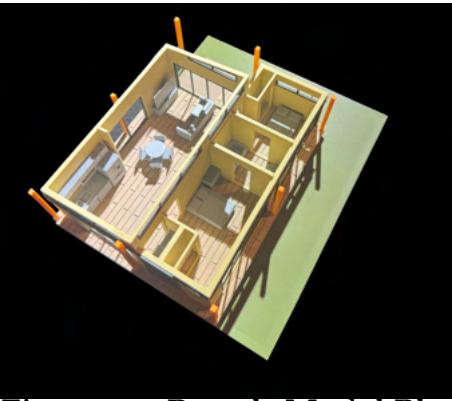


Figure 88: Parcel 1 Model Photo

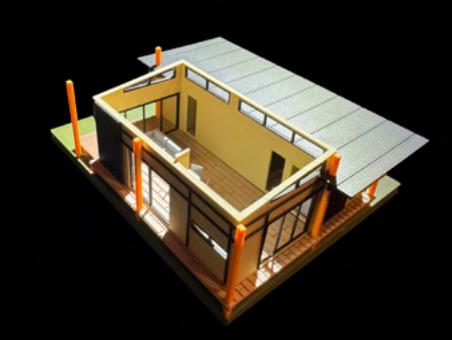


Figure 89: Parcel 1 Model Photo

12.2 Parcel 2

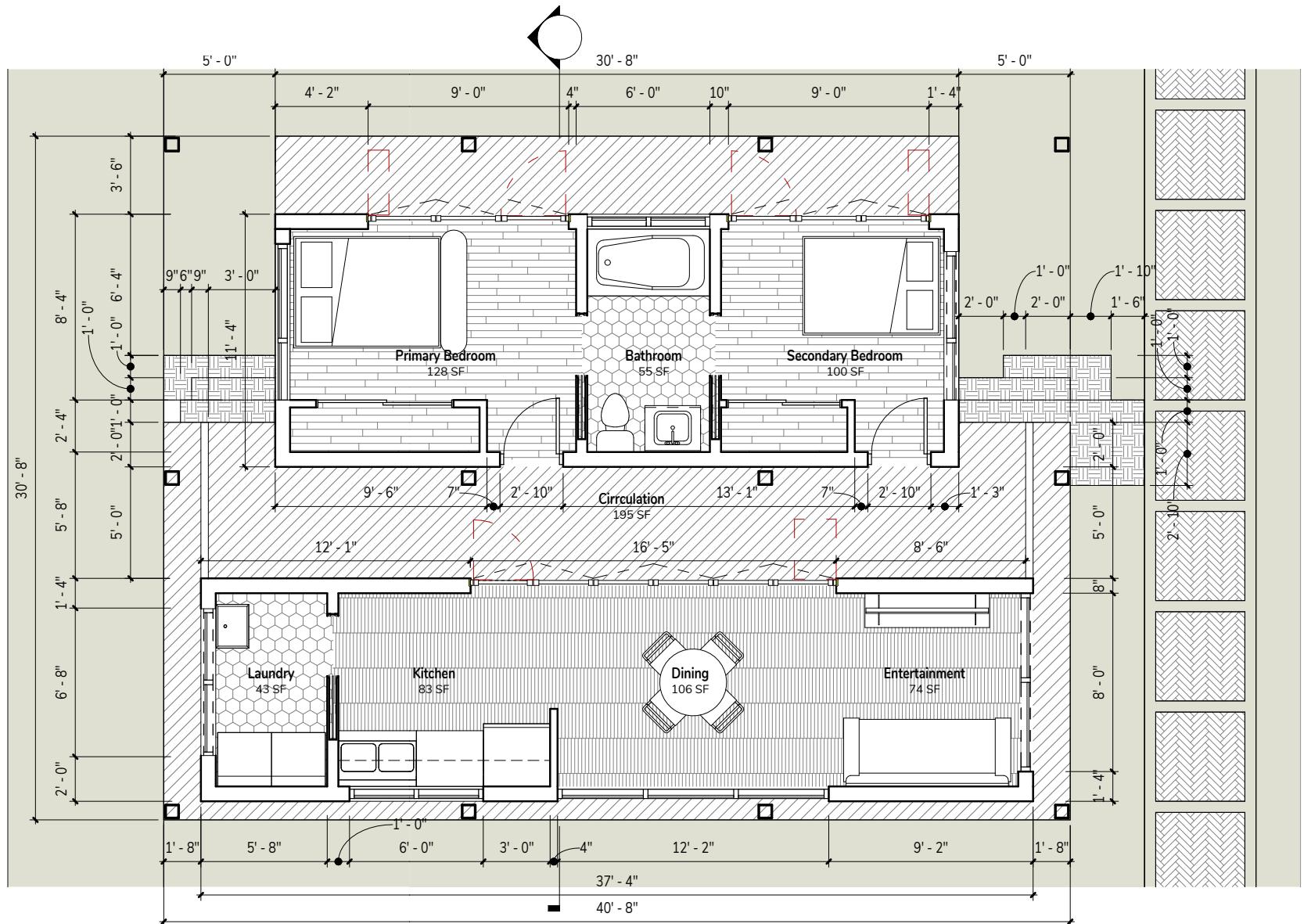


Figure 90: Parcel 2 Floor Plan

The architectural design of Parcel 2, much like its predecessor Parcel 1, adopts an elevated construction on a deck to mirror the prevalent stilt-based structures in the surrounding area. This innovative elevation strategy not only integrates the building into the local architectural dialogue but also facilitates a crawl space beneath the structure. This space is essential for accommodating all necessary utilities such as plumbing, electrical systems, and air conditioning, thereby elevating the architecture both physically and aesthetically to impart a "floating" sensation to the home.

The layout of Parcel 2 separates private and public areas with an exterior circulation space. This covered yet open corridor allows residents to experience outdoor conditions directly, enhancing their connection with the environment. The bedrooms are strategically located on the northern side of the floor plan, offering tranquil views of the garden space and ensuring privacy. Expanding on this design, the deck extends beyond the rooms, providing each with a private, elevated balcony space. The integration of folding doors enriches this experience by allowing the indoors and outdoors to merge effortlessly.

The central gathering area of the house is designed with heightened ceilings to enhance natural light inflow, which creates a dynamic play of light throughout the day. This design feature not only enriches the aesthetic appeal but also promotes energy efficiency through passive lighting. The gathering space is fitted with large folding doors that open up to the exterior circulation area, thus extending the living space and inviting the outdoors in, perfect for enjoying the beautiful Florida weather.

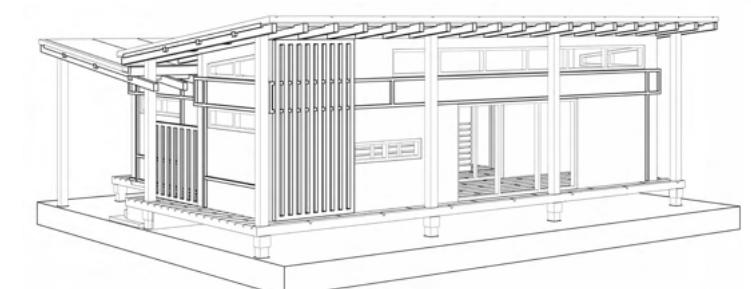


Figure 92: Parcel 2 Perspective

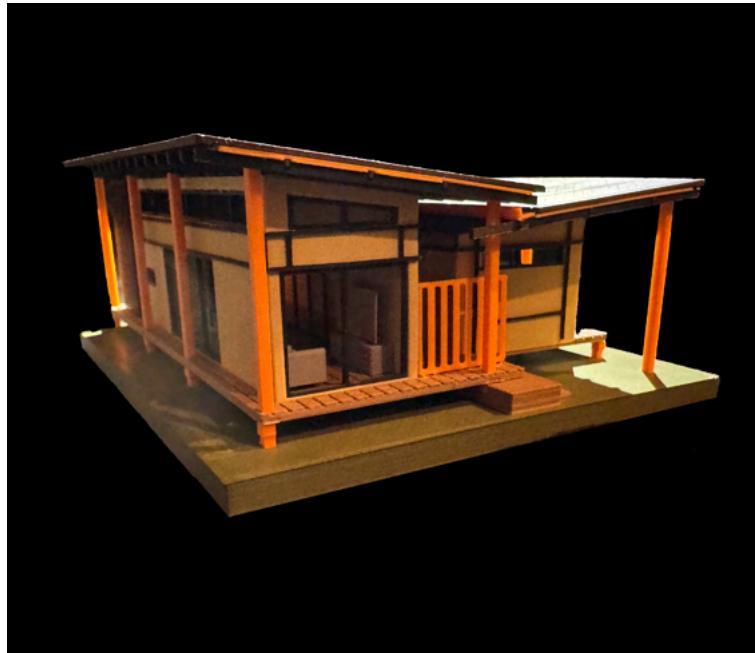


Figure 91: Parcel 2 Model Photo

Privacy considerations are addressed with the introduction of a privacy wall at the entrance, which shields the entry and exit points while still maintaining the functionality of a livable space. Echoing the historic shotgun-style homes of Tampa Heights, the entrance design facilitates a direct, unobstructed view through to the back of the home, enhancing both the aesthetic and functional flow of the space. The adoption of a large butterfly roof inspired overhang provides passive

shading over the deck, contributing to the comfort and sustainability of the building. The outdoor porch draws inspiration from the significant porches of Tampa Heights, designed to allow residents to relish the outdoors comfortably, further facilitated by the ability to open the folding doors and blend the indoor and outdoor environments. The bathroom, positioned between both rooms, serves as an accessible and discreet junction, ensuring functional ease and privacy.

In terms of cost, following established construction cost formulas and considering the area's square footage, Parcel 2 was built at a total cost of \$183,395, translating to \$254.53 per square foot in construction expenses. After incorporating architectural and construction fees, along with a decent return on investment, the market price per square foot rises to \$388.61. This pricing strategy sets the total market value at \$280,000. When this figure is juxtaposed with the average home price in Tampa Heights of \$429,381, it reveals that this model is 34.8% less expensive, underscoring its significant potential as an affordable housing solution in the area, thus contributing positively to the community by making home ownership more attainable and sustainable.

Parcel 2 has been designed to optimize its overall footprint, particularly due to its relatively smaller buildable area compared to Parcels 1 and 3. As the central parcel among the three, it uniquely addresses the challenge of maximizing space within a more confined layout. The design focus for this parcel is on enhancing its internal components, which is critical given its position as the middle parcel.

Cost of Construction			
	Parcel 2 Information	Costs	Total Costs
Delivery + Base Cost	720.50 SQFT	\$120 / SQFT	\$86,460
Land Clearing / Site Prep		\$1,650 - \$3,000	\$2,325
Foundatin Plans + Foundation	1,118.50 SQFT	\$800 + \$10 - \$30 / SQFT	\$23,170
Installation	720.50 SQFT	\$5 - \$35 / SQFT	\$14,410
Survey Including Staking Lot		\$800 - \$1200	\$1,000
Termite Treatment		\$500 - \$750	\$875
Utility Set Up		\$8,000 - \$10,000	\$9,000
Water / Sewer Hookup		\$1,750 - \$2,500	\$2,125
Marriage Lines		\$1,750 - \$2,000	\$1,875
Electric Setup		\$3,250 - \$4,000	\$3,625
Air Conditioning		\$4,000 - \$6,500	\$5,250
Skirting (Hardie Plank to Ground)		\$6,000 - \$8,000	\$7,000
Steps (Wood)		\$700 - \$950	\$825
Landscaping and Irrigation		\$6,000 - \$7,000	\$6,500
Paving	268 SQFT	\$3 - \$30 / SQFT	\$4,824
Permits and Fees		\$2,500 - \$5,000	\$3,750
Sales Tax (Florida)		6%	\$10,381
Grand Total			\$183,395

Figure 93: Parcel 2 Cost of Construction Table

Integrating outdoor elements such as covered circulation spaces not only maximizes the usable area but also preserves privacy—a key consideration for any middle parcel. These outdoor spaces are designed to blend indoor comfort with outdoor accessibility, allowing residents to enjoy the beautiful Florida weather without compromising on privacy or spatial utility. The architectural composition of Parcel 2 is also calculated to assert its presence and define its role within the trio of parcels. It occupies 80% of the total buildable lot, a substantial physical footprint and hierarchical importance in the overall building scheme. This extensive use of the buildable area reflects a deliberate architectural response to the parcel's central location, ensuring it remains distinct and functional amid its neighbors.

The design of Parcel 2 celebrates the local climate and outdoor

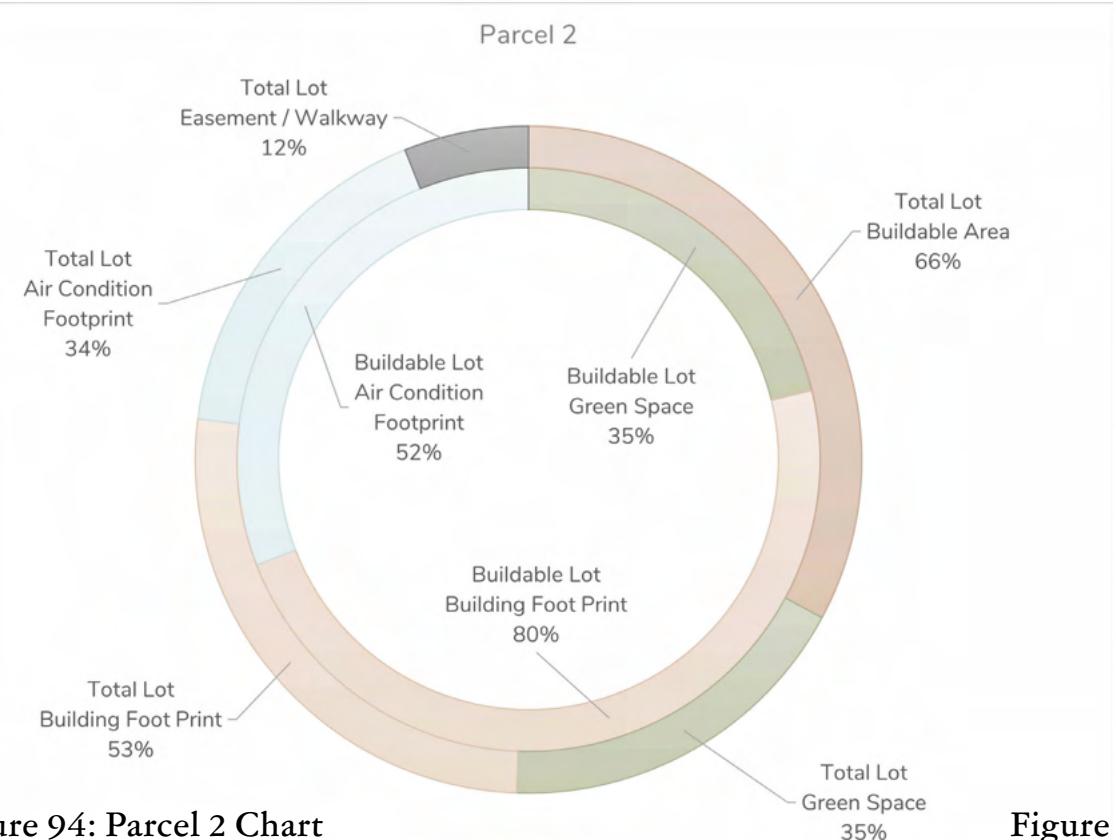


Figure 94: Parcel 2 Chart

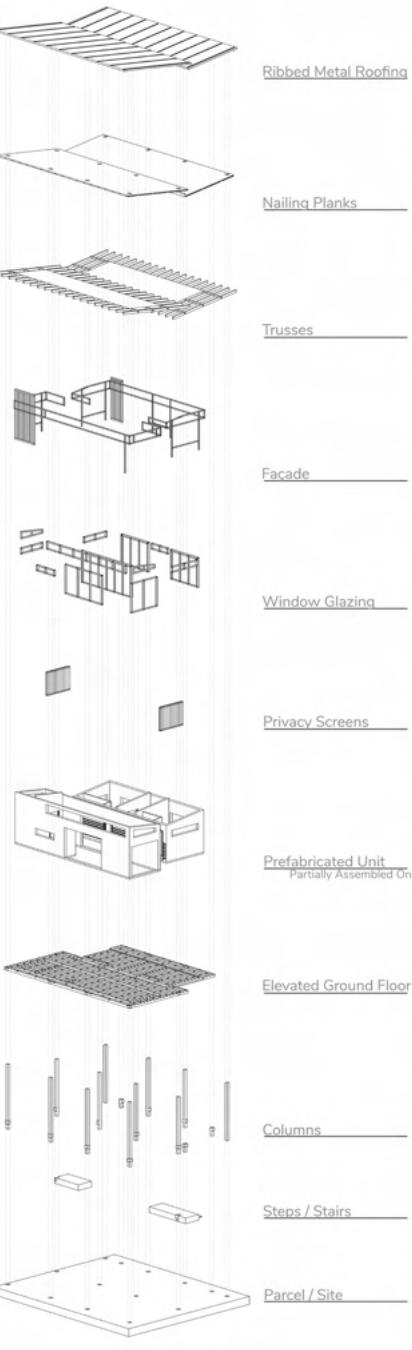


Figure 95: Parcel 2 Exploded Axo

lifestyle intrinsic to Florida living. More than 28% of the built area is dedicated to outdoor spaces, emphasizing the value placed on connectivity with the natural surroundings. Simultaneously, the air-conditioned spaces comprise 52% of the total buildable lot, balancing the need for comfortable indoor environments with ample opportunities for outdoor engagement.

12.3 Parcel 3

Overall, the design of Parcel 2 is the consideration of space utilization, and environmental integration. It showcases how architectural creativity can effectively transform potential spatial drawbacks into distinctive features that enhance the living experience. By focusing on internal efficiency and outdoor accessibility, Parcel 2 offers a compelling urban living that respects individual privacy.

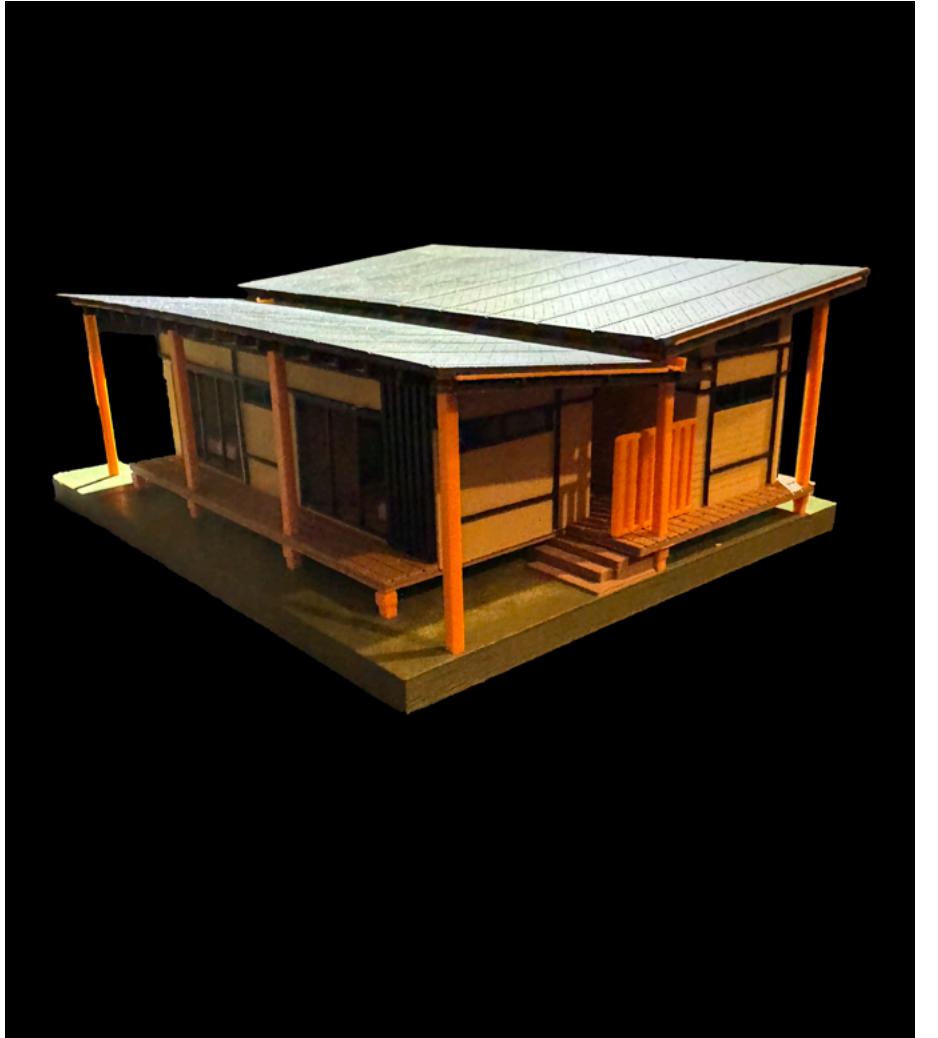


Figure 96: Parcel 2 Model Photo

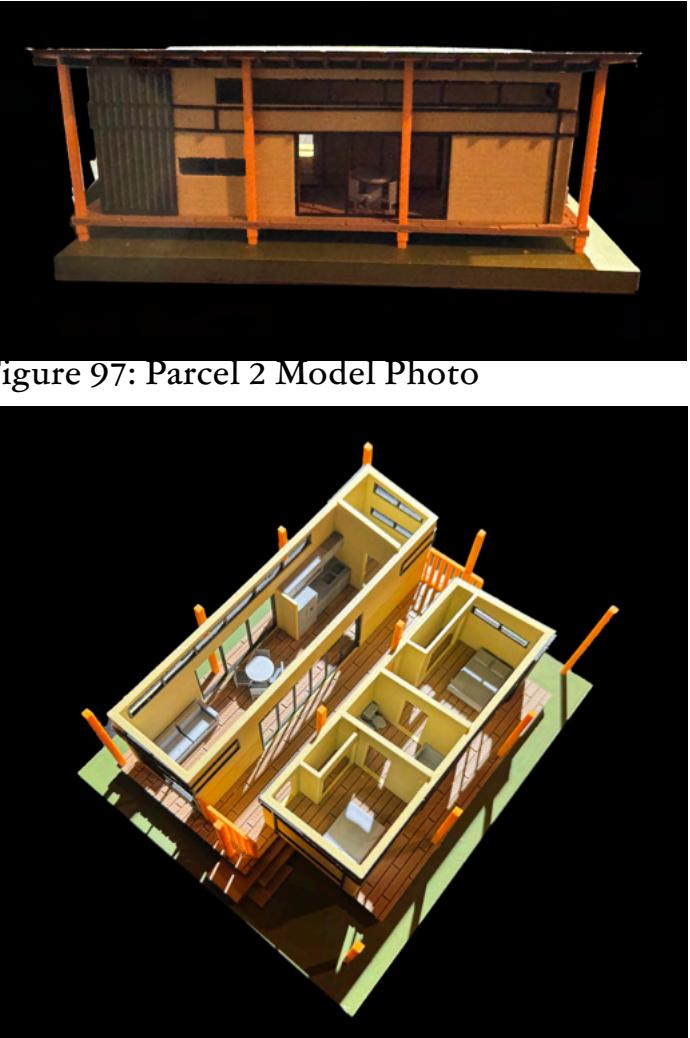


Figure 98: Parcel 2 Model Photo

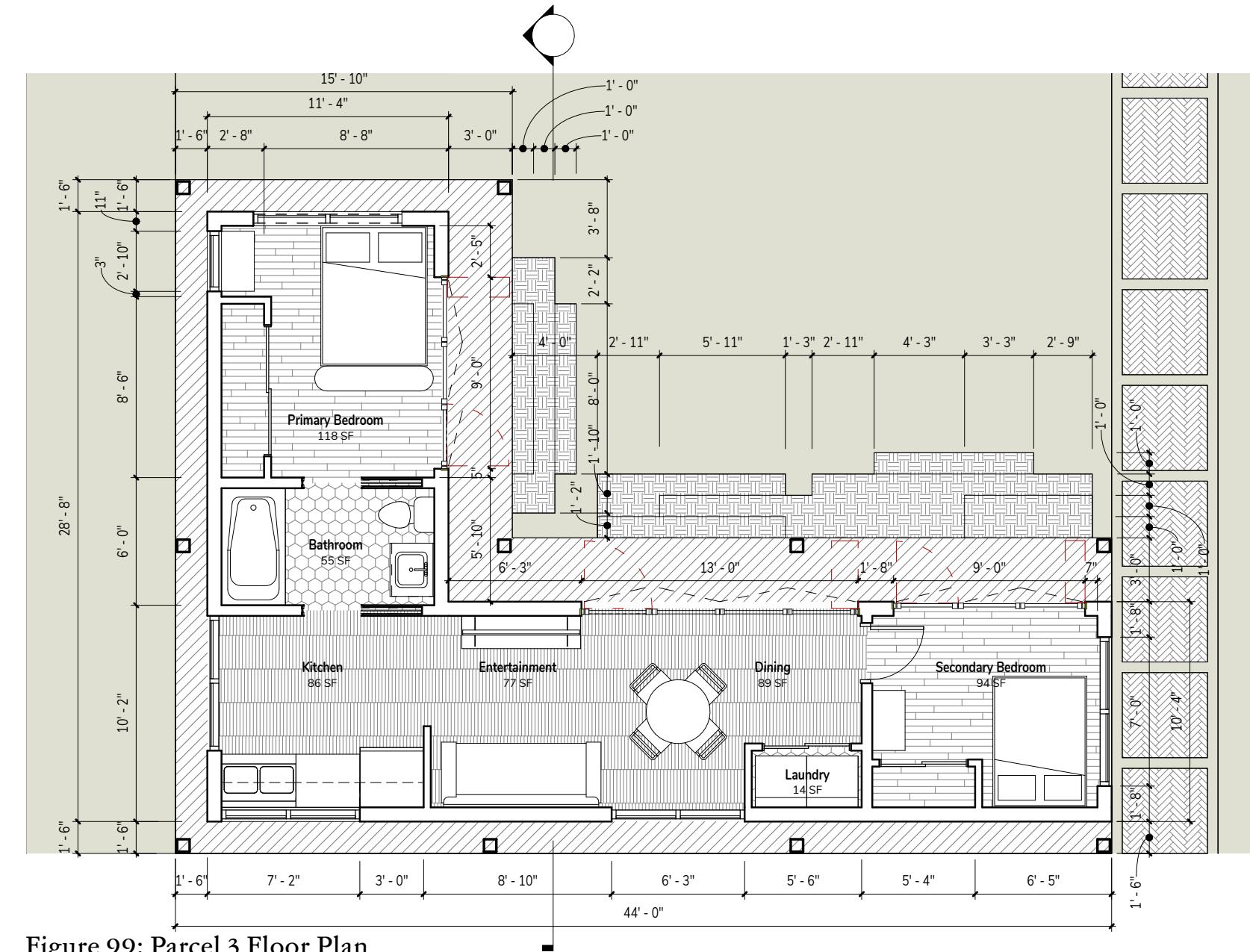


Figure 99: Parcel 3 Floor Plan

The architectural design of Parcel 3 follows a similar concept to Parcels 1 and 2, embracing the regional stilt-based construction style by elevating the structure on a deck. This elevation not only aligns with the architectural language of the surrounding area but also incorporates a functional crawl space beneath the home to house essential systems such as plumbing, electrical wiring, and air conditioning. This strategic elevation creates a distinctive “floating” sensation for the house, enhancing its aesthetic appeal and uniqueness.

The floor plan of Parcel 3 is designed in an “L” shape, strategically splitting the rooms into separate wings, each overlooking a meticulously curated private garden space that serves as the heart of the home. This layout emphasizes the importance of integrating indoor and outdoor living spaces, with a wrap-around porch that provides both a vantage point for enjoying the garden and

Figure 101: Parcel 3 Section
a functional entryway into different sections of the house. The covered exterior circulation space allows for seamless interaction with the outdoor conditions, fostering a living environment that is both open and integrated with nature.

This model utilizes the outer edges of the buildable area more extensively than the other two parcels, creating a spatial hierarchy that elevates the garden to the highest level of importance. The design of the entrance is somewhat blurred by the multiple access points offered by the rooms, each opening outwards, which welcomes guests directly into a spacious entry yard, offering expansive views into the home.

The roof features large overhangs that provide passive shading for the deck, enhancing comfort and reducing the need for artificial cooling. Inside, the traditional layout includes a primary bedroom with an attached bathroom, while a secondary, more private bedroom is located in the east wing, ideally suited for an office or quiet retreat.

After applying standard construction cost formulas, the total cost for building this model was calculated at \$168,703, which translates to \$259.54 per square

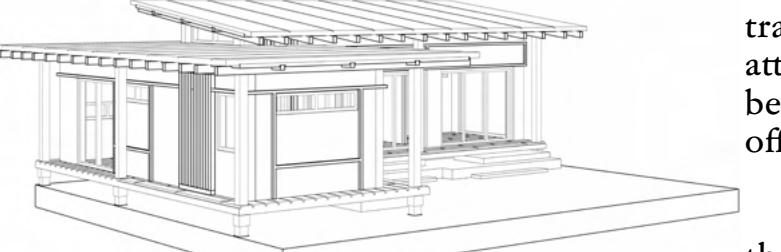


Figure 102: Parcel 3 Perspective

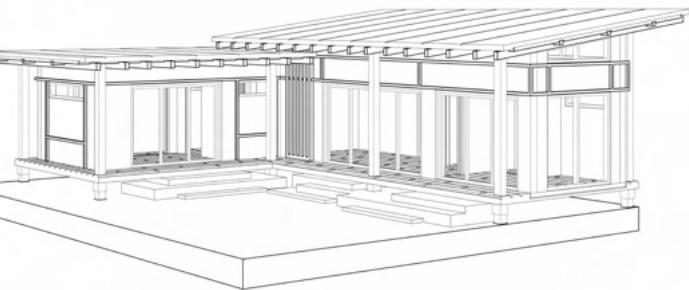


Figure 100: Parcel 3 Perspective

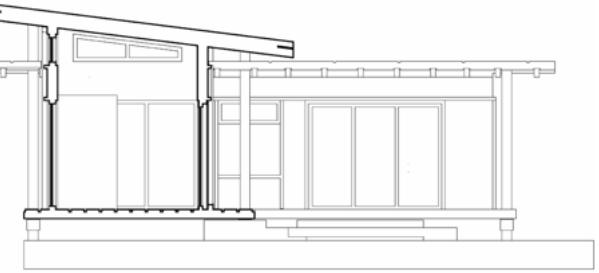


Figure 101: Parcel 3 Section

foot. Taking into account additional architectural and construction fees, as well as a targeted return on investment, the market price reaches \$407.69 per square foot, bringing the total market price to \$265,000. When compared to the average home price in Tampa Heights of \$429,381, this model offers

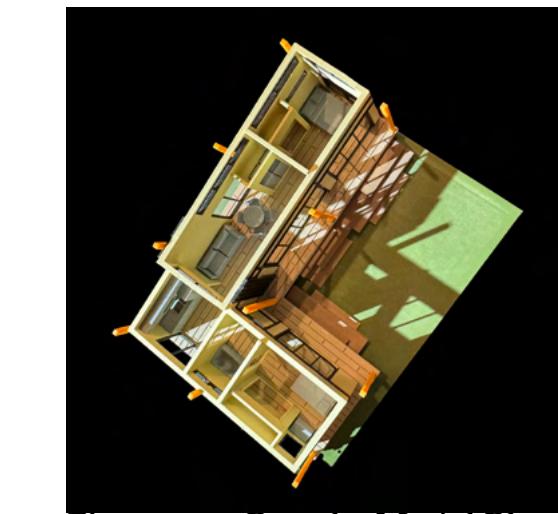


Figure 103: Parcel 3 Model Photo

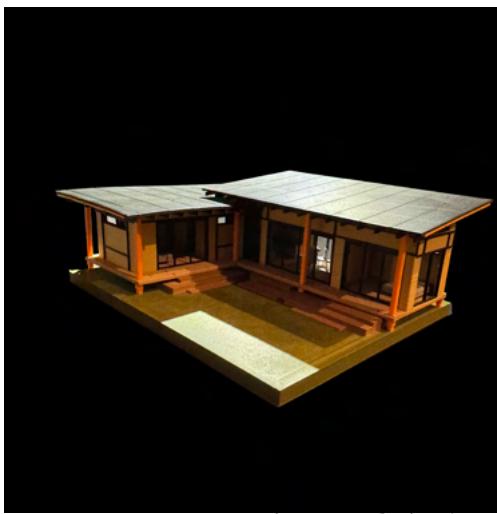


Figure 104: Parcel 3 Model Photo

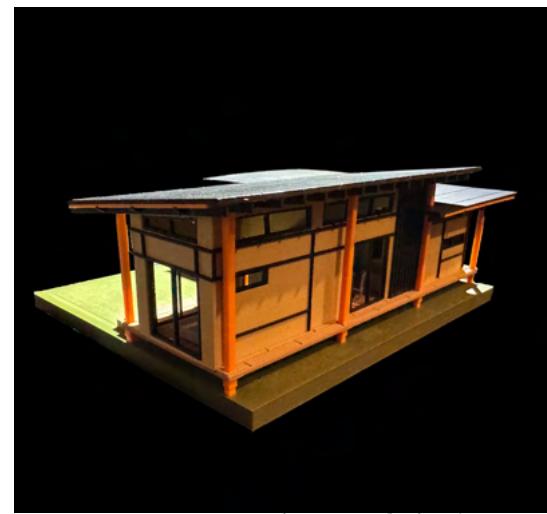


Figure 105: Parcel 3 Model Photo

	Cost of Construction		
	Parcel 3 Information	Costs	Total Costs
Delivery + Base Cost	650 SQFT	\$120 / SQFT	\$78,000
Land Clearing / Site Prep		\$1,650 - \$3,000	\$2,325
Foundatin Plans + Foundation Installation	919 SQFT 650 SQFT	\$800 + \$10 - \$30 / SQFT \$5 - \$35 / SQFT	\$19,180 \$13,000
Survey Including Staking Lot		\$800 - \$1200	\$1,000
Termite Treatment		\$500 - \$750	\$875
Utility Set Up		\$8,000 - \$10,000	\$9,000
Water / Sewer Hookup		\$1,750 - \$2,500	\$2,125
Marriage Lines		\$1,750 - \$2,000	\$1,875
Electric Setup		\$3,250 - \$4,000	\$3,625
Air Conditioning		\$4,000 - \$6,500	\$5,250
Skirting (Hardie Plank to Ground)		\$6,000 - \$8,000	\$7,000
Steps (Wood)		\$700 - \$950	\$825
Landscaping and Irrigation		\$6,000 - \$7,000	\$6,500
Paving	268 SQFT	\$3 - \$30 / SQFT	\$4,824
Permits and Fees		\$2,500 - \$5,000	\$3,750
Sales Tax (Florida)		6%	\$9,549
Grand Total			\$168,703

Figure 106: Parcel 3 Cost of Construction Table

a 38.3% price reduction, positioning it as a highly affordable option and significantly contributing to the availability of affordable housing within the community. This strategic pricing makes it an attractive choice for potential homeowners looking for quality and value in a vibrant urban area.

Parcel 3 allocates the largest proportion of its buildable area to green space among the three models, with 46% dedicated to landscaping. This emphasis on green space results in the smallest air-conditioned footprint, covering only 43% of the total buildable area. The choice of higher-quality, more expensive materials reflects this prioritization of outdoor space and sustainability.

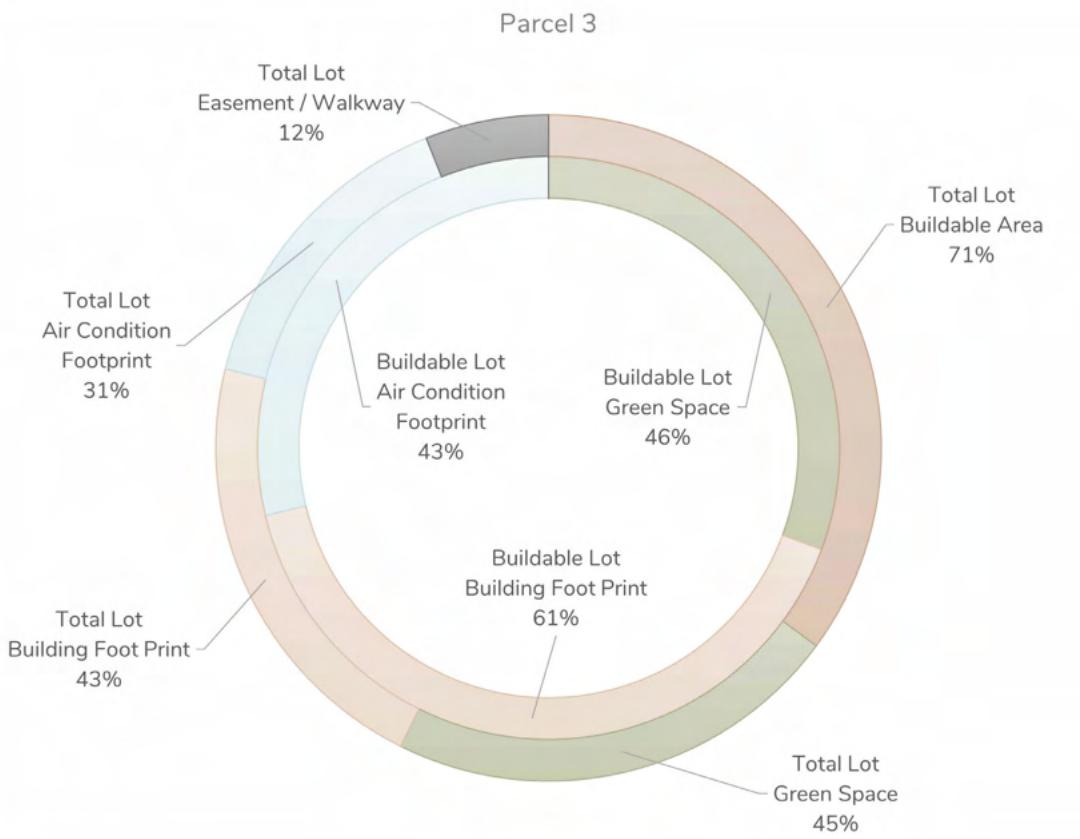


Figure 107: Parcel 3 Chart

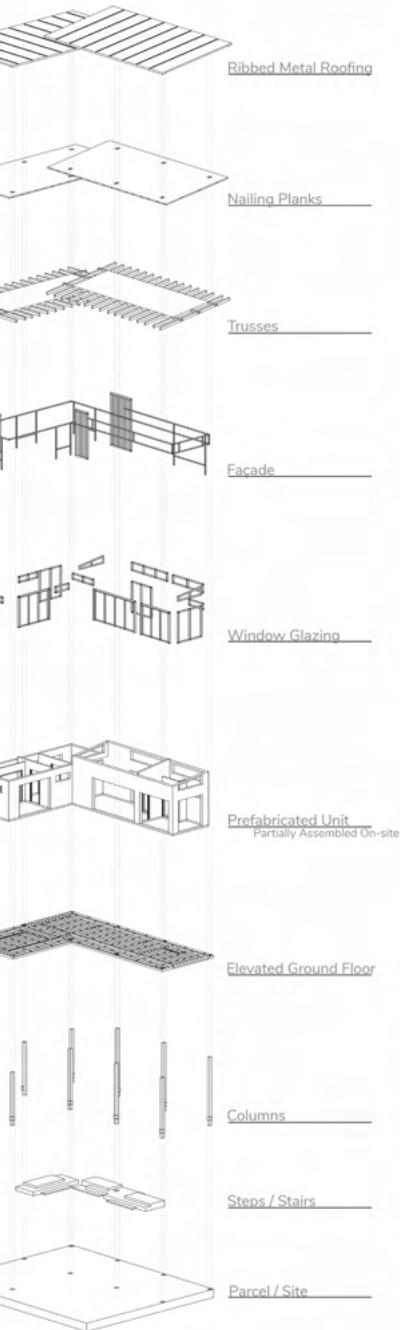


Figure 108: Parcel 3 Exploded Axo

Chapter 13: Conclusions

13.1 Ending Remarks

This thesis embarked on an exploration into the feasibility and potential opportunities for developing affordable housing in Tampa Heights. The challenge of constructing affordable residences in high-demand locations cannot be understated; it is complex and requires innovative solutions. The strategy proposed in this study seeks to address the affordable housing issue by creating opportunities for investors and developers. These stakeholders are encouraged to strive harder, not only to maintain profitability but also to transform the landscape of residential options. Currently, the single-family home model prevalent in the area is often financially out of reach for many, showing the need for a diverse range of housing options that could introduce greater socio-economic diversity into a region poised for growth.

By drawing inspiration from successful initiatives like the residential small lot developments in Seattle, this thesis advocates for viewing housing as a necessity rather than a luxury. It urges that housing solutions can be both aesthetically pleasing and affordable, serving the dual purpose of beauty and functionality. The research and solutions presented in this document are not intended as definitive answers to Tampa's housing crisis but as viable options that developers and architects can consider. These solutions illustrate the practicality of leveraging existing building and zoning codes to unlock new market opportunities for a broader range of Tampa's population, including those previously priced out of certain neighborhoods.

Fianlly, this thesis does not strictly prescribe specific models but rather showcases various construction methods that have not been fully explored within the study, such as the potential future use of 3D printing for building homes. The design examples provided for the parcels serve as conceptual frameworks to facilitate discussion around cost estimation and architectural possibilities, rather than fixed blueprints to be rigidly followed.

The core intent of this thesis is to foster an ongoing dialogue about the sustainability of traditional housing construction practices, which continue to pose barriers for individuals earning below the median income. By presenting a vision of what might be possible, the study encourages a rethinking of urban development in Tampa Heights. It suggests that the concept of small homes, adapted from global practices, could significantly alter the urban fabric of the area. In essence, this thesis is not the final word but rather an invitation to rethink conventional approaches to housing. It aims to spark a broader conversation about creating accessible, and affordable housing options that could open up new chapters of possibility for the future of Tampa and beyond. The potential for change exists; it is merely a matter of exploring and implementing innovative solutions that can accommodate a wider range of socioeconomic backgrounds.

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List of Figures

- Figure 1: 2023 Hillsborough County Household Income
Figure 2: Nerd Wallet Mortgage Calculator
Figure 3: Nerd Wallet Mortgage Calculator
Figure 4: Graphic of Affordable Housing
Figure 5: Total Zillow Listings in Hillsborough County
Figure 6: Filtered Zillow Listings in Hillsborough County
Figure 7: Color Mapping of Tampa Neighborhoods
Figure 8: Axonometric of Lot Placement
Figure 9: Interior Photo
Figure 10: Interior Photo
Figure 11: Exterior Photo
Figure 12: Diagram of Construction
Figure 13: Diagram of Construction
Figure 14: Exterior Photo
Figure 15: Exterior Photo
Figure 16: Exterior Photo
Figure 17: Diagram of Construction
Figure 18: Exterior Photo
Figure 19: Interior Photo
Figure 20: Perspective Corner Render
Figure 21: Exterior Photo
Figure 22: Aerial Photo
Figure 23: Exterior Photo
Figure 24: Map of Escape Tampa Bay Village
Figure 25: Map of Simple Life at Lakeshore
Figure 26: Exterior Photo
Figure 27: Exterior Photo
Figure 28: Exterior Photo
Figure 29: Color Map of Tampa Heights
Figure 30: Map of Future Development
Figure 31: Future Development Render
Figure 32: Demographics of Tampa Heights
Figure 33: Points of Interest Graphic

- Figure 34: Zillow Home Value Index
Figure 35: Tampa Heights Markey Overview
Figure 36: Walkability Score Map
Figure 37: Bike Score Map
Figure 38: Bike Lanes
Figure 39: Mapping Diagram of Vacant Lots
Figure 40: Site Model
Figure 41: Site Model
Figure 42: Zoning in Tampa Heights
Figure 43: Table of Permitted use by District
Figure 44: Table of Required Setbacks by District
Figure 45: Planned Development Review Procedure
Figure 46: Maximum Development Potential for Residential Small Lots
Figure 47: Tandem Housing Codes in Residential Small Lots
Figure 48: Cottage Housing Development Codes in Residential Small Lots
Figure 49: Cottage Development Example in Seattle, WA
Figure 50: Tandem Housing Graphic
Figure 51: Cost Breakdown of Light Frame Construction
Figure 52: Cost Breakdown of Modular Construction
Figure 53: Cost Breakdown of 3D Printed Housing Projects
Figure 54: Housing Collage of Tampa Heights
Figure 55: Lot Site Diagram
Figure 56: Parcel Site Diagram
Figure 57: Parcel Setback Site Diagram
Figure 58: Parking Diagrams
Figure 59: Parking Diagrams
Figure 60: Green Space Diagrams
Figure 61: Green Space Diagrams
Figure 62: Building Footprint Diagrams

- Figure 63: Building Footprint Diagrams
Figure 64: Integrated Diagrams
Figure 65: 408 W Park Lot Diagram
Figure 66: Site Model
Figure 67: Site Model
Figure 68: Elevation
Figure 69: Lot Ground Floor Plan
Figure 70: Model Photo
Figure 71: Model Photo
Figure 72: Model Photo
Figure 73: Model Photo
Figure 74: Cost of Construction Table
Figure 75: Total Cost of Construction Table
Figure 76: Profit for Construction Table
Figure 77: Total of Parcel Table
Figure 78: Percentage of Total Parcel Table
Figure 79: Total of Buildable Area Table
Figure 80: Percentage of Buildable Area Table
Figure 81: Parcel 1 Floor Plan
Figure 82: Parcel 1 Model Photo
Figure 83: Parcel 1 Perspective
Figure 84: Parcel 1 Cost of Construction Table
Figure 85: Parcel 1 Chart
Figure 86: Parcel 1 Exploded Axo
Figure 87: Parcel 1 Model Photo
Figure 88: Parcel 1 Model Photo
Figure 89: Parcel 1 Model Photo
Figure 90: Parcel 2 Floor Plan
Figure 91: Parcel 2 Model Photo
Figure 92: Parcel 2 Perspective
Figure 93: Parcel 2 Cost of Constrction Table
Figure 94: Parcel 2 Chart
Figure 95: Parcel 2 Exploded Axo
Figure 96: Parcel 2 Model Photo
Figure 97: Parcel 2 Model Photo
Figure 98: Parcel 2 Model Photo
Figure 99: Parcel 3 Floor Plan

- Figure 100: Parcel 3 Perspective
Figure 101: Parcel 3 Section
Figure 102: Parcel 3 Perspective
Figure 103: Parcel 3 Model Photo
Figure 104: Parcel 3 Model Photo
Figure 105: Parcel 3 Model Photo
Figure 106: Parcel 3 Cost of Construction Table
Figure 107: Parcel 3 Chart
Figure 108: Parcel 3 Exploded Axo