

RETROFITTING SUBURBIA:
A Move Towards Multigenerational Living

by
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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

Multigenerational living has become an increasingly popular option in the midst of an impossible housing market and towering costs of living. As trends of multigenerational living intensify, most existing housing developments are built without considering the possibility of multigenerational occupation and its need for flexibility and adaptability. This thesis will explore the potential in existing suburban neighbourhoods, using methods of retrofit to redesign cookie-cutter single-family homes, both internally and externally, to better suit the modern day multigenerational household. The purpose of the thesis is not to challenge suburban architecture at a formal level, but to challenge it on a social level and its ability to perform.

The nature of the thesis is a hybrid of research and design. The scope of exploration includes an in depth understanding of the multigenerational household, its history, makeup and function. The multigenerational household is defined to consist of three generations of the same family under one roof. Each family is different in its needs and composition, thus the solution should be universally adaptable and scalable.

The design proposal will use a suburban neighbourhood in Markham Ontario as its site. Six different groupings made up of single detached family homes connected by a common landscape design will feature a set of retrofits meant for multigenerational living. The design proposal acts as an experiment in demonstrating not a site specific, single use solution, but one that shows a new, effective type of suburban multigenerational living.

ACKNOWLEDGEMENTS

The completion of this thesis was made possible due to a number of people supporting me throughout the process.

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Thank you to Kelsey, Michelle, Kristie, Charles, and all my closest friends for all of your words of encouragement and support- know that it has positively affected me more than you can imagine.

DEDICATION

Dedicated to my mom,

For being my best friend and role model.

You inspire me to not be afraid to pursue my dreams.

TABLE OF CONTENTS

<i>iii</i>	...	Author's Declaration
<i>v</i>	...	Abstract
<i>vii</i>	...	Acknowledgements
<i>ix</i>	...	Dedication
<i>xii</i>	...	List of Figures
1.	...	Introduction
2.	...	Context
3.	...	Literature Review
5.	...	Problem Statement
7.	...	Thesis Structure and Diagram
11.	...	Chapter 1: The " why "
12.	...	1.1 Aging and Multigenerational Living
18.	...	1.2 Multigenerational Living as a Culture
23.	...	Chapter 2: The " who " and " what "
24.	...	2.1 The Multigenerational Buildup
28.	...	2.2 Internet
32.	...	2.3 Women and their Role as a Couple
36.	...	2.4 Children in North America
39.	...	2.5 Aging and Retirement
43.	...	Chapter 3: The " how "

44.	...	3.1	The Death and Life of Suburbs
50.	...	3.2	Inside the Four Walls
69.	...	Chapter 4: The “ <i>where</i> ”	
70.	...	4.1	Markham
96.	...	Chapter 5: Design Proposal	
150.	...	Bibliography	
154.	...	Appendix	

LIST OF FIGURES

Chapter 1

Fig.	Pg.	Description and Source
1.01	14.	Fertility chart showing rates decreasing last few decades Image by author. Data source: https://www.bloomberg.com/graphics/2019-global-fertility-crash/
1.02	15.	Natural rates decrease as migratory rates increase Image by author. Data source: https://www150.statcan.gc.ca/n1/pub/11-630-x/11-630-x2014001-eng.htm
1.03	19.	Immigration charts on place of birth and destination in Canada Image by author. Data source: https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dv-vd/imm/index-eng.cfm
1.04	21.	New house prices comparing between 2013 and 2018 Image by author. Data source: https://edmonton.ctvnews.ca/new-homes-in-edmonton-see-largest-price-drop-in-canada-1.4590364

Chapter 2

Fig.	Pg.	Description and Source
2.01	25.	Each multigenerational family being unique and diverse in each of their needs Source: https://www.eplace.com.au/lifestyle/the-rise-of-multigenerational-living
2.02	29.	Children are exposed to the internet at a young age Source: https://www.cnn.com/2012/05/21/opinion/clinton-steyer-internet-kids/index.html
2.03	34.	Family Matters infographic released by Statistics Canada in 2020 Source: https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2020016-eng.htm
2.04	38.	How children are disciplined has changed greatly in the last century Source: https://www.cbc.ca/news/canada/saskatoon/take-a-time-out-from-time-outs-says-saskatoon-parenting-expert-1.5309368
2.05	41.	How can seniors play a role in multigenerational living? Source: https://www.keepingcurrentmatters.com/2019/10/23/5-reasons-to-consider-living-in-a-multigenerational-home/

Chapter 3

Fig.	Pg.	Description and Source	Fig.	Pg.	Description and Source
3.01	45.	Jane Jacob's four elements of design for neighbourhood parks Image by author. Source: The Death and Life of Great American Cities, pg. 103	3.07	57.	Great room uses Image by author.
3.02	46.	Jane Jacob's theory on how to create succesful neighbourhoods Image by author. Source: The Death and Life of Great American Cities, pg. 152-221	3.08	59.	Study room uses Image by author.
3.03	50.	How to interpret rooms within a house on how they are occupied Source: House Thinking, Cover Page	3.09	61.	Bedroom uses Image by author.
3.04	51.	Living room uses Image by author.	3.10	63.	Garage uses Image by author.
3.05	53.	Formal dining room uses Image by author.	3.11	65.	Basement uses Image by author.
3.06	55.	Kitchen and dining room uses Image by author.			

LIST OF FIGURES

Chapter 4

Fig.	Pg.	Description and Source	Fig.	Pg.	Description and Source
4.01	71.	Locating Markham within the Greater Toronto Area Image by author. Background image source: Google Earth	4.08	81.	Map showing types of housing within Markham Image by author. Data source: Google Earth
4.02	72.	Key neighbourhoods framing the site, Berczy Village Image by author. Background image source: Google Earth	4.09	83.	Nolli map of Markham Image by author. Data source: Google Earth and Markham Open Data
4.03	73.	Map showing levels of density within Markham Image by author. Background image source: Google Earth	4.10a	85.	Unionville Main Street Aerial Source: Google Earth
4.04	74.	Diagram relating levels of density with corresponding aerial shots Image by author. Background image source: Google Earth	4.10b	85.	Unionville Neighbourhood Aerial Source: Google Earth
4.05	75.	Comparison chart from large to small scale Image by author. Data source 1: https://business.financialpost.com/real-estate/multigenerational-living-may-be-the-new-old-solution-to-sky-high-housing-prices Data source 2: 2016 Statistics Canada Census	4.10c	86.	Cornelle Rouge Development Aerial Source: Google Earth
4.06	77.	Map showing key amenities within Markham Image by author. Data source: Google Earth	4.11a	87.	Unionville Main Street Lots Image by author.
4.07	79.	Map showing all public transportation routes in Markham Image by author. Data source: Google Earth and YRT	4.11b	87.	Unionville Neighbourhood Lots Image by author.
			4.11c	87.	Cornelle Rouge Development Lots Image by author.

Chapter 4

Fig.	Pg.	Description and Source	Fig.	Pg.	Description and Source
4.12a	88.	Enlarged Unionville Main Street Lot Image by author.	4.15b	92.	Map of site: Key amenities near site Image by author. Data source: Google Earth
4.12b	88.	Enlarged Unionville Neighbourhood Lot Image by author.	4.15c	94.	Map of site: Transit Routes near site Image by author. Data source: Google Earth
4.12c	88.	Enlarged Cornelle Rouge Development Lot Image by author.	4.15d	94.	Map of site: Walking distance to key locations near site Image by author. Data source: Google Earth
4.13a	89.	Unionville Main Street Section Image by author.			
4.13b	89.	Unionville Neighbourhood Section Image by author.			
4.13c	89.	Cornelle Rouge Development Section Image by author.			
4.14	91.	Map of Berczy Village, Markham Image by author. Data source: Google Earth			
4.15a	92.	Map of site: Bridle Walk Development Plan Image by author. Data source: Google Earth and www.monarchgroup.net			

LIST OF FIGURES

Chapter 5

Fig.	Pg.	Description and Source	Fig.	Pg.	Description and Source
5.01	97.	Design goals that were integrated into the proposal Image by author.	5.09	112.	Playing in the community garden Image by author.
5.02	98.	Key suburban site issues to be addressed Image by author.	5.10	112.	Underneath bridges connecting two houses together Image by author.
5.03	100- 101.	Site Axonometric Image by author.	5.11	113.	Soccer field converts to skating rink during winter Image by author.
5.04	102- 103.	Different compositions based on block size Image by author.	5.12	113.	Use of bike storage Image by author.
5.05	104- 105.	Legend for scalability diagram Image by author.	5.13	114.	Key internal design concepts to be implemented Image by author.
5.06	106- 107.	Different compositions based on block size Image by author.	5.14	116.	Site plan with 6 compositions highlighted Image by author.
5.07	108.	Full scale neighbourhood plan Image by author.	5.15a	118.	Single house ground floor Image by author.
5.08	110.	Enlarged plan of one neighbourhood block Image by author.	5.15b	119.	Single house basement Image by author.

Chapter 5

Fig.	Pg.	Description and Source	Fig.	Pg.	Description and Source
5.15c	119.	Single house second floor Image by author.	5.18b	125.	Corner plus one basement Image by author.
5.16a	120.	Side by side ground floor Image by author.	5.18c	125.	Corner plus one second floor Image by author.
5.16b	121.	Side by side basement Image by author.	5.19	126- 127.	Corner plus one street elevation plus key plan Image by author.
5.16c	121.	Side by side second floor Image by author.	5.20a	128- 129.	Back to back mid-block ground floor Image by author.
5.17a	122.	Corner ground floor Image by author.	5.20b	130.	Back to back mid-block basement Image by author.
5.17b	123.	Corner basement Image by author.	5.20c	130.	Back to back mid-block second floor Image by author.
5.17c	123.	Corner second floor Image by author.	5.21a	132- 133.	Back to back corner ground floor Image by author.
5.18a	124.	Corner plus one ground floor Image by author.	5.21b	134.	Back to back corner basement Image by author.

LIST OF FIGURES

Chapter 5

Fig.	Pg.	Description and Source	Fig.	Pg.	Description and Source
5.21c	134.	Back to back corner second floor Image by author.	5.28b	142.	Side by side ground floor axonometric Image by author.
5.22	136- 137.	Back to back corner street elevation plus key plan Image by author.	5.28c	143.	Side by side second floor axonometric Image by author.
5.23	138.	Looking into sunken courtyard from basement Image by author.	5.29	144.	Kitchen and flexible workspace Image by author.
5.24	138.	Walking across the bridge Image by author.	5.30	144.	Sitting on the deck overlooking courtyard Image by author.
5.25	139.	Stepping into the internal courtyard from basement Image by author.	5.31	145.	Kitchen and flexible workspace Image by author.
5.26	139.	Walking out of internal courtyard at night Image by author.	5.32	146- 147.	Perspective section connecting indoor and outdoor space Image by author.
5.27	140.	Fictional multigenerational family tree Image by author.			
5.28a	141.	Side by side basement axonometric Image by author.			

Appendix

Fig.	Pg.	Description and Source
6.01	152-153.	Mindmap showing the consideration of research topics from M1 Image by author.
6.02	154.	Bridle path floor plan "The Willow" Image Source: www.monarchgroup.net
6.03	155.	Bridle path floor plan "The Pine" Image Source: www.monarchgroup.net
6.04	156.	Bridle path floor plan "The Spruce" Image Source: www.monarchgroup.net
6.05	157.	Bridle path floor plan "The Princeton" Image Source: www.monarchgroup.net

INTRODUCTION

CONTEXT OF THESIS

The thesis discusses multigenerational living within a suburban context. It will use a typical residential neighbourhood in Markham, Ontario as the site for its design proposal. While the thesis addresses characteristics unique to Markham, its solutions and suggestions are meant to initiate a conversation on how to universally retrofit suburban neighbourhoods into multigenerational communities.

LITERATURE REVIEW

The following section will highlight key texts that have been influential in the writing and positioning of this thesis. In categorization based on theme, the texts are as follows:

Demography

Globally, the population is aging, and in a matter of a few years, it is hypothesized to fall into a never-ending decline.¹ The book, *Empty Planet*, by Darrell Bricker and John Ibbitson, discusses the decline as a result of many contributing factors, but mainly due to the rise in women's equality and urbanization, no matter the country. Understanding notions of how the global population will transform and shift, will press importance on who to build for, not only now, but in the future.

Most statistical data will be sourced from the 2016 Statistics Canada Census, in three scales: Canada, Ontario and Markham. The data is meant to support arguments, compare between the three regional scales, and challenge design solutions on its application.

¹ Darrell Bricker and John Ibbitson, *Empty Planet* (New York: Crown Publishing Group, 2019), 2.

Sociology

A series of scholarly articles will provide insight on the efficacy of modern day multigenerational households. Its rise in popularity in North America has created interest in its functionality and how it can be transferred into design. The variation in generations existing together within a family creates certain dynamics that can be translated towards the design proposal.

The sociological aspect of aging has also become a point of interest due to the global aging population. In the design proposal, it will address concepts not only technically like accessibility, but theoretically on how to improve aging as a mindful exercise. The book that offers sentiments on aging and how to approach it is *Aging as a Spiritual Practice: A Contemplative Guide to Growing Older and Wiser* by Lewis Richmond. While aging is constantly regarded in a physical manner, it is more important to consider it as a continuous mental transition from within. The sociological understanding of aging will contribute towards the design proposal, benefitting not only seniors, but all.

Urban Planning

A key text that will be referenced in this thesis with regards to reshaping the site and its surroundings will be *The Death and Life of Great American Cities* by Jane Jacobs. Understanding how people occupy and traverse through space will benefit the outcome of this thesis. One of the main goals in this thesis is to propose ways of repurposing existing suburban neighbourhoods using somewhat unconventional practices. The Radburn model, a design pushed forward in the 1920s in northern New Jersey as part of the American Planning Movement, with its main goals being “decentralized, self-contained settlements, organized to promote environmental considerations by conserving open space, harnessing the automobile, and promoting community life.”²

The bylaws of Markham will be addressed within this thesis not as a barrier, but a set of guidelines in choosing what shall be challenged and what can be incorporated. The design proposal is meant to push boundaries where it can, while being completely feasible and realistic. The proposed will comply with the Ontario Building Code and follow standard accessibility requirements where needed.

² Eugenie Birch, “Radburn and the American Planning Movement the Persistence of an Idea.” *Journal of the American Planning Association* – J AMER PLANN ASSN 46, (1980): 123, doi:10.1080/01944368008977075.

PROBLEM STATEMENT

Homeownership has always been a symbol of independence and has become a common long-term, culminating goal set by many, until recently, individuals find themselves in a position where this goal is drifting further and further out of reach. Considering the inflated housing market, followed by student debt and high costs of living, the notion of moving out has become more of a pipe dream than a realistic target. In 2017, Statistics Canada reported close to 1.9 million people of the adult population aged 25 to 64, lived with one or more of their parents, doubling the figure since 1995.³ On the other end of the spectrum, seniors face similar struggles, whether it be the same issue of rising housing costs or the over saturation in existing nursing homes. The formation of a multigenerational household then occurs as both young and old generations find themselves with a lack of better alternatives.

The 2016 Census by Stats Canada defines the multigenerational household as having at least three generations of the same family. It is highlighted as the fastest growing housing

typology between 2001 and 2016 of all private households.⁴ While multigenerational living becomes more and more relevant, most existing housing developments are built without considering the possibility of multigenerational occupation and its need for flexibility and adaptability.

As one finds themselves in a situation where moving out and purchasing property is no longer viable, this thesis hopes to invite more into the possibility of functional, effective, multigenerational living.

³ “The number of adults living with a parent has more than doubled,” *Family Matters: Adults living with their parents*, Statistics Canada, last modified February 20, 2019, <https://www150.statcan.gc.ca/n1/daily-quotidien/190215/dq190215a-eng.htm>

⁴ “Multigenerational households are the fastest growing type of household,” *Families, households and marital status: Key results from the 2016 Census*, Statistics Canada, last modified August 2, 2017, <https://www150.statcan.gc.ca/n1/daily-quotidien/170802/dq170802a-eng.htm>

THESIS STRUCTURE DIAGRAM

THESIS
MULTIGENERATIONAL LIVING

WHY?

AGING

CULTURE

INFLATION

WHO AND WHAT?
MULTIGENERATIONAL FAMILY

HOW?
RETROFIT

EXTERNAL

Urban scale improvements to the suburban neighbourhood.

INTERNAL

Retrofits to improve internal circulation and programming.

WHERE?
MARKHAM

DESIGN SOLUTION

Multiple design solutions applicable to a wide range of multigenerational households.

THESIS STRUCTURE

The author will use the 5 W's (and 1 H) to interrogate the efficacy of the thesis proposal. The thesis will be separated into five main chapters, ending with a wide set of universal design solutions in retrofitting single family suburban homes into a more fitting multigenerational setting.

The first chapter will address the subjects of problem and cause, answering the question of “*why*.” Multigenerational households have always been relevant in continents all but North America- until recently. The chapter will identify key trends and shifts in both continental and global scale that have resulted in the surge of multigenerational households.

The second chapter will address the audience, answering the questions of “*who*” and “*what*.” While the multigenerational household has its own straightforward definition, the chapter challenges the extent of what it includes and its possibilities. It will discuss the sociology of the multigenerational household.

The third chapter will address the method and goals of design, answering the question of “*how*.” It will discuss design strategies both inside and outside of a home. On external strategies relating to site and urban planning, the focus will be on how to better connect and activate suburban neighbourhood blocks. On internal strategies, the focus will include matters relating to programming and the organization of the home itself.

The fourth chapter will address the context of the thesis, answering the question of “*where*.” The thesis situates itself within the suburban landscape of Markham, Ontario. Its characteristics will lead decisions made on retrofitting the single family suburban home, conducted in the following chapter.

The fifth chapter is a synthesis of the research addressed in the previous chapters in the form of proposed retrofits to a series of single family detached homes within a neighbourhood, under different variations and combinations, connected within a redesigned landscape plan meant to redefine multigenerational living.

Regarding the question of “*when*,” the answer is now.

CHAPTER 1

1.1 Aging and Multigenerational Living

Within the last two centuries, the world population has grown eightfold, from 1 billion to an astounding 7.7 billion at time of writing.¹ The United Nations have released a report showing an estimated peak of 11.2 billion people by 2100.² There is the lingering fear of a continuously growing population, overcrowding the earth to a point of famine and war, but is that really what is to be expected in the next century? Is this fear well placed?

Some, like Darrell Bricker and John Ibbitson, authors of *Empty Planet*, would argue otherwise based on assessing what is currently going on in the world. The world is at an unprecedented state of ageing where children under the age of 5 have been outnumbered by those over the age of 65, and it has no signs of stopping.³ An aging population is predominantly caused by two main factors: increasing life expectancy and lowering fertility rates. The questions then become why these trends are occurring, and will the peak be happening in 2100 or is it coming much sooner? And what does any of this have to do with multigenerational living?

¹ Max Roser, Hannah Ritchie, and Esteban Ortiz-Ospina, "World Population Growth," *Our World in Data*, last modified May 2019. <https://ourworldindata.org/world-population-growth#citation>

² "Population," *Our growing population*, United Nations, accessed April 3, 2020, <https://www.un.org/en/sections/issues-depth/population/index.html>

³ "Aging," *Trends in Population Ageing*, accessed April 4, 2020, <https://www.un.org/en/sections/issues-depth/ageing/>

*"The great defining event of the twenty-first century - one of the great defining events in human history - will occur in three decades, give or take, when the global population starts to decline. Once that decline begins, it will never end."*³

- Darrell Bricker and John Ibbitson

On the topic of the first factor, global life expectancy has reached 73 years old as of 2019.⁴ Medical advancements have given better chances for one to live life at its fullest capacity, giving time to spend with loved ones or to realize long sought after dreams. As people are capable of growing older and older, there also becomes a struggle in accruing adequate savings that can last well into their final years. Comparing the current global life expectancy to that of two decades ago at the turn of the 21st century, there has been an increase of seven years from 66 years of age.⁵ Assuming a conservative spending of \$30,000 a year, seniors are required to account for an additional \$210,000 in these extra seven years gained. Although life is never predictable and the seven extra years on average may not apply to all and some more than others, there will be an acknowledgement

³ Darrell Bricker and John Ibbitson, *Empty Planet* (New York: Crown Publishing Group, 2019), 2.

⁴ Max Roser, Hannah Ritchie, and Esteban Ortiz-Ospina, "Life Expectancy," *Our World in Data*, last modified October 2019. <https://ourworldindata.org/life-expectancy>

⁵ *Ibid.*

that more money in general must be saved for the future. Between having inadequate savings and increasing costs of living, seniors may not be able to live independently anymore with regards to feasibility.

On the topic of the second factor, over the last century, women have gained significant advancements in their position, whether it be at home or at work. The creation of birth control has empowered women with full reign over their bodies and the opportunity, for once, to choose for themselves and chase their own goals whether it be the reward of motherhood or the success of building a career from the ground up. This newfound opportunity, or knowledge of it, shifted the mindset of women globally, regardless of income, where having children was no longer their sole purpose. This power that was provided gave women a chance at anything they set their eyes on.

*"Once a woman receives enough information and autonomy to make an informed and self-directed choice about when to have children, and how many to have, she immediately has fewer of them, and has them later."*⁶

- Darrell Bricker and John Ibbitson

⁶ Darrell Bricker and John Ibbitson, *Empty Planet* (New York: Crown Publishing Group, 2019), 46.

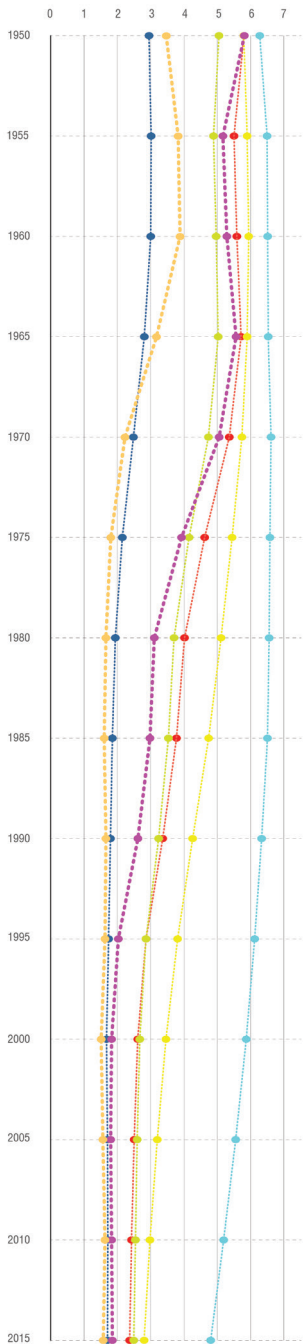


fig 1. 01
 Fertility chart showing rates decreasing in the last few decades

- WORLD
- CANADA
- HIGH INCOME +\$12,615
- UPPER MIDDLE INCOME \$4,086-\$12,615
- MIDDLE INCOME +/- \$4,085
- LOW MIDDLE INCOME \$1,036-\$4,085
- LOW INCOME -\$1,035

The young, modern day couple then exists where both men and women focus on building themselves. They will opt for the five year business degree and a month long excursion to hike the Camino trail over getting married and starting a family. The thought of having children becomes a back burner idea in the midst of everything else happening in life. Before, having more children meant having more hands on deck, running errands, doing the dishes, preparing dinner. It was like a quick return on investment. Now, one child easily becomes an 18 year financial liability. On the website MoneySense, they estimated the cost of raising a child in Canada from 0 to 18 years of age to be \$243,656.⁷ Adding in student debt from a post graduate degree to the equation, the burden becomes unfathomable. It is just not trendy to have as many children anymore, or as quickly.

The downwards drop in fertility rate takes no survivors, it is happening regardless of location. Most countries are at or below the 2.1 fertility rate required in maintaining its population. Canada is no exception, with a 1.496 fertility rate as of 2017.⁸ While the number is alarmingly low, the statistic is not particularly concerning to demographers thanks to its consistently high migratory rate.

⁷ Mark Brown, "The real cost of raising kids," MoneySense, April 15, 2015. <https://www.moneysense.ca/save/financial-planning/the-real-cost-of-raising-a-child/>

⁸ "Fertility rate, total (births per woman) - Canada," Data, The World Bank, accessed April 4, 2020. <https://data.worldbank.org/indicator/SP.DYN.TFRT.IN?locations=CA>

Since the 1990s, Canada has relied on its migratory increase over its natural increase for its population growth, giving it its multicultural, melting pot identity. Immigration allows for economic and cultural prosperity and is necessary in keeping a country flourishing. As of 2016, 22% of Canada's population were immigrants, meaning 1 in 5 Canadians were born outside of the country.⁹

*"As we moved, we invented breakthrough technologies such as the wheel and the sail to help us traverse the vast oceans and continents. We got so good at moving that by the early twentieth century, most of the world that could be settled by humans had been. And still we move, for reasons both as ancient as the race and as new as the latest headline. Things push us and pull us. Push: war, famine, upheaval, ethnic or religious persecution, catastrophe. Things that make it too dangerous to continue living where we are. We flee for our lives. Pull: There are richer fields or better jobs over those hills, or on the other side of that sea. There's a chance for a new and better life for us, or at least for our children."*¹⁰

- Darrell Bricker and John Ibbitson

⁹ "Census Profile," 2016 Census, Statistics Canada, last modified August 9, 2019. <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=PR&Code1=01&Geo2=PR&Code2=01&Data=Count&SearchText=01&SearchType=Begin&SearchPR=01&B1=All&Custom=&TABID=3&>

¹⁰ Darrell Bricker and John Ibbitson, *Empty Planet* (New York: Crown Publishing Group, 2019), 141.

ANNUAL NATURAL AND MIGRATORY INCREASES IN CANADA 1991-2013

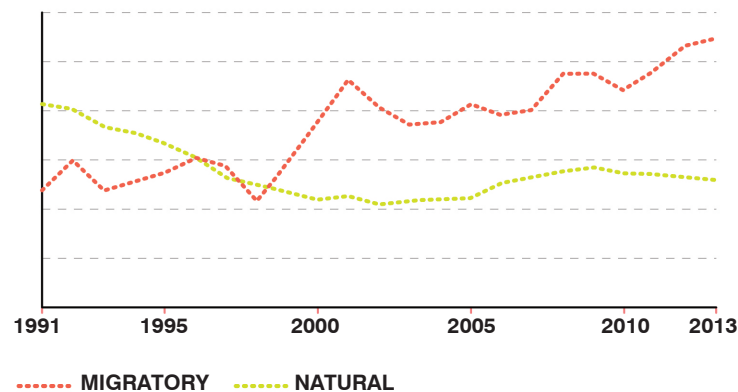


fig 1.02

Natural rates decrease as migratory rates increase in Canada

Regardless of push or pull, immigrants from all over moved to Canada with a vision of better living conditions, work opportunities and a safe environment to raise a family. In taking the risk of leaving behind ones' past for something new and unfamiliar, there exists the expectation of a reward, something that was worth uprooting their life. The reward may simply be to comfortably support their family by putting a roof over their heads and food on the table.

The three key players in the midst of an aging population include the senior, the young couple and the immigrant, all converging into one dilemma: acquiring property in the midst of an inflated and oversaturated housing market. A common representation of success and achievement is often materialized in the form of property. In the case of these three characters, they all find the unideal solution to this dilemma, the multigenerational household. Statistics Canada defines the multigenerational household as having at least three or more generations of the same family.¹¹ The senior forfeits their home of 40 years and begrudgingly retreats into their child's family home as they have cannot sustain themselves financially and physically. The young couple finds themselves comfortable in

their parents' home with no hurry to marry, slowly accumulating savings and paying off their student debt. The immigrant brings their entire family over from Hong Kong, living together under one roof as a form of comfort and familiarity. The multigenerational home occurs naturally, as it becomes the least unfavorable solution, with not much to choose from.

¹¹ "Multigenerational households are the fastest growing type of household," *Families, households and marital status: Key results from the 2016 Census, Statistics Canada, last modified August 2, 2017,* <https://www150.statcan.gc.ca/n1/daily-quotidien/170802/dq170802a-eng.htm>

1.2 Multigeneration Living as a Culture

Multigenerational living has positive connotation around the world with the exception of North America- until recently. In Canada between 2001 and 2016, the multigenerational household was the fastest growing housing typology (+37.5%) of all private households, with roughly 2.2 million people reported to have lived in one.¹² In 2016, the United States had roughly 64 million people or 20% of its population, live in a multigenerational household.¹³ Its developing popularity is a product of an impossible housing market and a growing influence from its immigrants.

In Asia, multigenerational living is traditionally linked to the concept of filial piety, written as the Chinese character 孝 (xiao). A document named The Classic of Filial Piety (孝經) dates back to 200 B.C., written as a conversation between Confucius (孔子), the teacher, and Zengzi (子輿), the student.¹⁴ Its principals emphasize the importance of providing ones' parents with care and protection till

¹² "Multigenerational households are the fastest growing type of household," *Families, households and marital status: Key results from the 2016 Census, Statistics Canada*, last modified August 2, 2017, <https://www150.statcan.gc.ca/n1/daily-quotidien/170802/dq170802a-eng.htm>

¹³ D'Vera Cohn and Jeffrey Passel, "A record 64 million Americans live in multigenerational households," *FACTTANK, Pew Research Center*, last modified April 5, 2018, <https://www.pewresearch.org/fact-tank/2018/04/05/a-record-64-million-americans-live-in-multigenerational-households/>

¹⁴ "北宋李公麟孝經圖卷 *The Classic of Filial Piety*," *TheMet*, accessed April 5, 2020. <https://www.metmuseum.org/art/collection/search/39895>

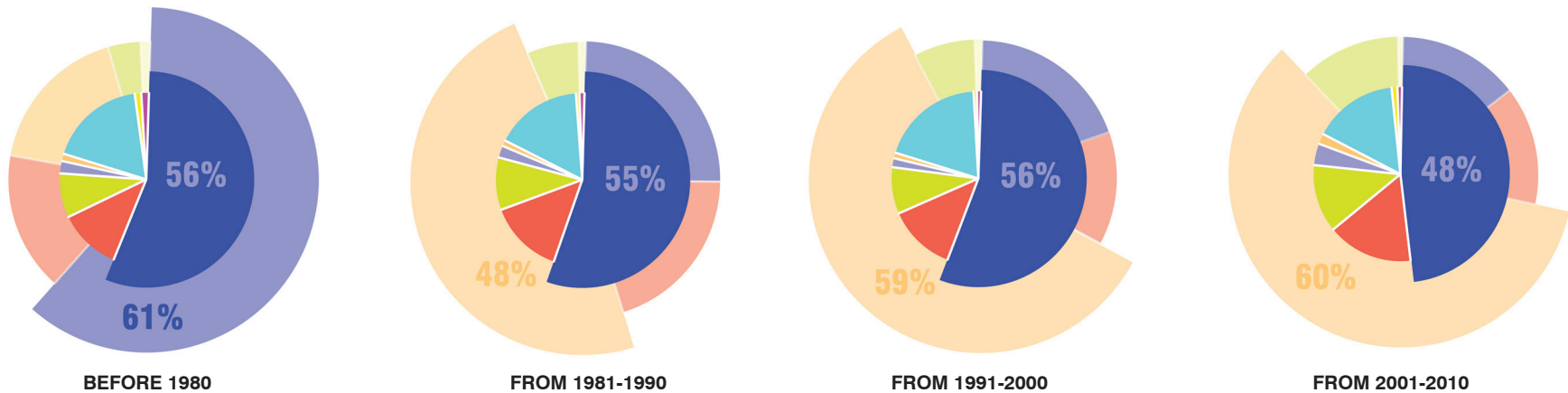
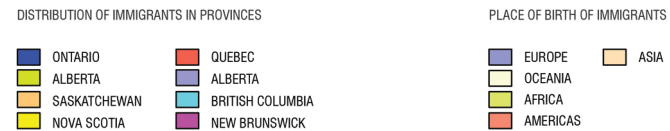


fig 1. 03

Immigration charts on place of birth and destination in Canada



the end of their lives. This principal is essential in all households and is strictly carried forward as a lifelong promise. Multigenerational living is neither special or odd, rather, it is common and typically preferred as it nurtures and provides opportunity for the child to uphold their duty.

During the late 1990s, Canada experienced an influx in Hong Kong immigrants due to the Handover of Hong Kong. Causing a shroud of uncertainty, many applications were filed for residency in Canada, amongst other countries, to flee the eventual communist grasp of China over Hong Kong in a matter of 50 years. Over the 10

years leading up to the Handover, 225,000 immigrants have flown to Canada from Hong Kong.¹⁵ This phenomenon was also known as the Hong Kong Tide.

Above, the charts show beginning from the 1990s, immigrants from Asia started to account for a majority of the total immigrant population in Canada. A young couple will immigrate together to start a family in Canada to give their children Canadian citizenship. A few years down the line, the young couple will urge their parents to immigrate as well and join them in Canada as it gives

¹⁵ "From the 1960s onwards, increasing diversity," 150 years of immigration in Canada, Statistics Canada, last modified May 17, 2018, <https://www150.statcan.gc.ca/n1/pub/11-630-x/11-630-x2016006-eng.htm>

them better opportunities to take care of them. This sequence of events is common to many Asian families, specifically in Markham, Ontario where this thesis is contextually situated. The development of the multigenerational household then begins.

In most parts of Europe, multigenerational living has been a long standing, successful typology, growing more and more relevant. In 2014, a survey conducted of 28 European countries showed 48%, or 36.7 million adults aged 18-30 stayed with their parents. Italy holds the spot for the highest percentage of young adults living with their parents at 79%. That suggests 4 of 5 young adults never makes it out of the nest.¹⁶ The Coldiretti president, Sergio Marini, says, “The Solidarity between generations on which the Italian family is founded is a winning model for living and staying well together.”¹⁷ Considering the Italian Mafia, it holds its strength in numbers and familial connections, existing as an extremely close knit group. The family business is expected to be passed on from generation to generation, with elders propped up with the highest level of respect. The multigenerational relationship exists successfully in Italian

¹⁶ Shiv Malik, “The dependent generation: half young European adults live with their parents,” *Young People, The Guardian*, last modified March 24, 2014, <https://www.theguardian.com/society/2014/mar/24/dependent-generation-half-young-european-adults-live-parents>.

¹⁷ Andrea Vogt, “Third of Italian adults live with their parents, report finds,” *Italy, The Guardian*, last modified September 19, 2012, <https://www.theguardian.com/world/2012/sep/19/third-italians-live-with-parents>.

culture, whether it be established through familial dependency or by financial dependency.

The pioneers of a designed multigenerational living condition originated in Denmark in the 1960s as cohousing. Denmark first debuted the idea of cohousing by a group led by Danish Architect Jan Gudman-Hoyer. The project was first completed by the end of 1973 in two communities: Saettedammen and Skraplanet.¹⁸ The development grouped common spaces and play areas in the center with an open expanse of green surrounding. Residential units framed the common space creating a small internalized community. The focus was to promote social interaction within families and become a safe space to raise children. The project became successful and gained traction, with more and more cohousing developments appearing all over Denmark. Cohousing allowed for families to live in close quarters, share space and bond together, creating a successful multigenerational dynamic. It has become a typical housing typology in Denmark.

Between cultural obligations, close familial bonds and innovative communities, the world with the exception of North America has embraced the concept of multigenerational living. Only recently has the trend started to pick up in North America, but

¹⁸ Danny Milman, “Where it all Began: Cohousing in Denmark,” *The History of Cohousing, Canadian Cohousing Network*, accessed April 5, 2020, <https://cohousing.ca/about-cohousing/history-of-cohousing/>

AVERAGE PRICES OF NEW HOUSES
FROM THE NHPI
FROM STATS CANADA

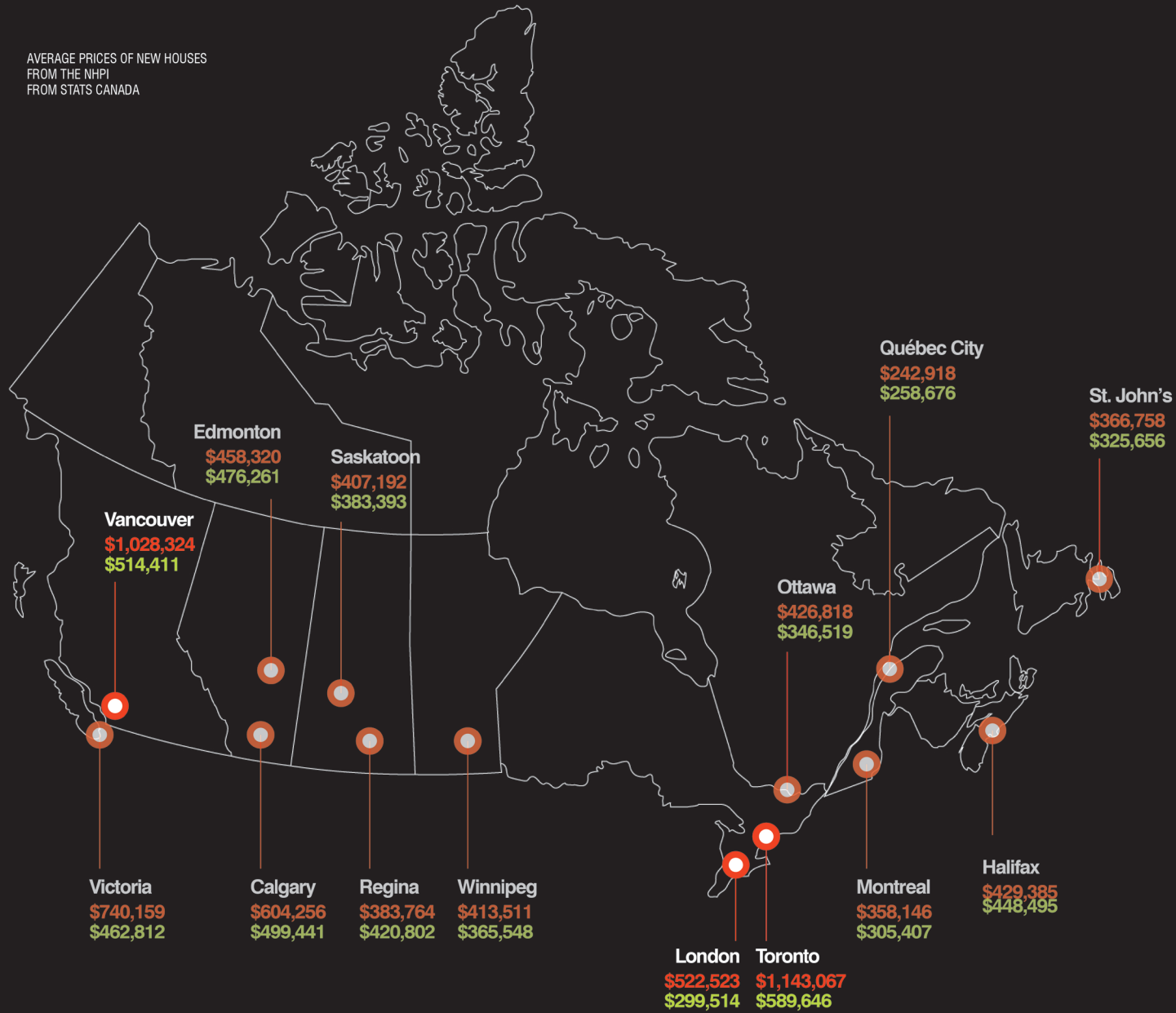


fig 1. 04

New house prices
comparing between 2013
(green) and 2018 (red)

only due to financial struggles rendering moving out an impossible thought. The descent to the basement becomes the new moving out, and in no means is it glorious or desired. How did this come to be? Owning a white picket fence home surrounded by a green yard symbolized the peak of the American Dream. Following the Second World War, transition into suburban living became popular due to the appeal of owning larger plots of land and larger homes. As an ideal, North Americans aimed towards realizing that vision. It became the picturesque image of where to raise a family and what it means to be successful. Thus, as children grow up in such an environment, their corresponding goal becomes to achieve something similar and to gain independence. As James Truslow Adams describes in his book *The Epic of America*, the American Dream is “that dream of a land in which life should be better and richer and fuller for everyone, with opportunity for each according to ability and achievement.”¹⁹

As the world moves forward from the 20th century into the 21st century, the American Dream is no longer within arms reach. Housing is no longer as affordable, student debt piles larger and larger, and the job market becomes more and more saturated. In a survey conducted in 2015, the average Canadian student carries

between \$15,300 to \$33,000 in debt post graduation.²⁰ In figure 1.04, the map shows the inflation of housing throughout Canada from 2013 to 2018. The greatest influx occurs in London, Toronto and Vancouver. The numbers begin to tower and the thought of becoming a property owner is but a fleeting image- the goal of the American Dream had to be changed into something more attainable.

While the multigenerational household has claimed the front runner spot in being the fastest growing housing typology in Canada, it was a product of non ideal solutions made by people lacking options. Presently, the percentage of multigenerational households is growing, yet minimal transitions in urban planning and architecture are running in parallel to mirror its growth. This thesis hopes to make the multigenerational living intentional and desired, planned and considered. From being the least horrible solution to one that is exciting and attractive. Understanding why it is occurring in North America and why it has been late in the game is important in painting the bigger picture within this thesis. Now the problem to dissect includes fully understanding what it truly is outside of its standard definition and who it caters to.

¹⁹ James Truslow Adams, *The Epic of America* (New York: Blue Ribbon Books, 1931), 214.

²⁰ “National Graduates Survey (NGS), student debt from all sources, by province of study and level of study,” Statistics Canada, accessed April 5, 2020, <https://doi.org/10.25318/3710003601-eng>

CHAPTER 2

2.1 The Multigenerational Buildup

This chapter will focus on the "*who*" and "*what*" of this thesis. Who is the multigenerational family? How has the multigenerational family evolved? How has the shift in gender and generation roles affected the functionality within the multigenerational family? This chapter will identify major factors that bring forth the present day multigenerational family, including the progression in women's rights, seniors and their aging, and how children are raised to fit into this dynamic. Understanding what a multigenerational family is and the new roles within it will inform design decisions on how to transition the single-family house to one that responds effectively to the family it houses.

As previously mentioned, a multigenerational household as defined by Statistics Canada is a minimum of three generations of the same family under one roof. While simplistic in definition, there still remains an infinite number of possibilities in compositions and relationships within a multigenerational family. The inclusion of extended family such as aunts, uncles and cousins, grandparents and cousins once removed, show how diverse one multigenerational family can be. The culminating design proposal hopes not to design for one specific family but understands the need for flexibility and customisability such that each multigenerational family can extract principles to mold towards their own unique preferences.



fig 2. 01 Each multigenerational family being unique and diverse in each of their needs.

Alot of cultures outside of North America have a strong focus on hospitality and familial relationships. While they do not fall under the definition as set by Statistics Canada on multigenerational households, the thesis hopes to include possibilities of inviting close friends to live under one household in the form of favours between one family to another, or any other reason.

2.2 Internet

Life has been moving at a much faster pace as people learn to effectively manage time and multitask. Much of this acceleration is due to the overwhelming technological advances within the last decade. Information is uploaded, shared and absorbed easier than it has ever been, with the use of internet and smartphones. In the 2018 Statistics Canada census, it was reported that 91% of Canadians over the age of 15 used the Internet, compared to 83% in 2012.¹ With a majority of people on the internet, a variety of tasks can now be transitioned to the online platform, from working to socializing, all the way to grocery shopping sent straight to the doorstep from the comfort of home. The internet has given the opportunity to complete the most basic tasks at home, changing the lifestyle of many. Home is no longer solely allocated for family, but for work, play, and everything between. The threshold between public and private space within a home has become blurred, making it more important to develop personal boundaries where possible.

As technology develops at a higher rate, the desire to complete tasks faster, expect faster return, all while using the minimal amount of effort, will intensify. Amazon Prime has become one of the largest subscriptions based services providing a one-stop-shop

¹ "Canadian Internet Use Survey," Statistics Canada, last modified October 29, 2019, <https://www150.statcan.gc.ca/n1/daily-quotidien/191029/dq191029a-eng.htm>



fig 2. 02 Children are exposed to the internet at a young age

for all basic needs, one of its greatest selling points is unlimited 2-day shipping for purchases made from its vendors. Of the 91% internet users in 2018, 84% bought goods or services online, amounting to \$57.4 billion in net sales, compared to \$18.9 billion in 2012, almost tripling the amount in the last 6 years.² Netflix, Amazon Prime, and other online streaming services have made cable TV redundant. Who wants to wait a week to watch one episode, or twenty ads sandwiched in-between a one hour show? As tasks become simplified and moved online, life moves at a faster and more independent rate. The chase to maximize efficiency within day to day tasks and the diversity in application of smartphones and computers has converted people into a more introverted lifestyle.

The family becomes more independent, with each individual moving in different agendas and paces, preferring efficiency over experience. Family schedules become more relaxed as there needs to be more flexibility to accommodate for each individual. While spending time together as a family remains important, it no longer occurs on a daily, consistent basis as it used to be, but a few times

a week, usually over a meal. A survey conducted by McDonalds Canada in 2019 reveals more than a quarter of Canadian parents lack the time to prepare proper homecooked meals and generally lack the opportunity to eat together as a family on a regular basis due to busy schedules. This is mainly due to parents work schedules (57%), children's extracurriculars (33%), and social commitments (23%). Another statistic from the same survey also shows the shift in eating together as a family less, as compared to previous generations, stating "Canadian parents...are cooking less for their kids (46%) and eating together as a family less often (40%) than their parents did with them."³ The desire and value for a family meal still exists, it just occurs less frequently as life no longer runs in the same slow and repetitive pattern anymore.

² "Canadian Internet Use Survey," Statistics Canada, last modified October 29, 2019, <https://www150.statcan.gc.ca/n1/daily-quotidien/191029/dq191029a-eng.htm>

³ "New study reveals that today's busy lifestyles are causing Canadian families to eat together less." Newsroom, last modified February 26, 2020, <https://news.mcdonalds.ca/press-releases-stories/new-study-reveals-todays-busy-lifestyles-are-causing-canadian-families-eat>

2.3 Women and Their Role in Couples

Perhaps the largest change that has occurred within the family is the couple dynamic and how it has started to equalize over the years. Double-income families have started to outnumber the traditional single breadwinner family in the last forty years, as stated by Statistics Canada. From 1976 to 2015, “the proportion of families where just one parent earned a paycheque fell by more than half, dropping from 59% to 27%. In turn, the proportion of dual-income families has nearly doubled from 36% to 69%.”⁴ As discussed in Chapter 1 on why multigenerational households are trending, similar arguments can be made as to why double-income families are experiencing similar growth: things cost more, and women are more capable of sharing the burden in expenses by means of education and experience.

Traditionally, the homemaking perspective has always been under the realm of women. Women burdened themselves with making the perfect retreat for their family from work and school. From cooking well-balanced meals, to washing and folding laundry, to disciplining and raising children, women were the main framework in keeping the home inline. Crowded with housework, women often lacked their own retreat within their own home. In the book, *Redesigning the American Dream*, by Dolores Hayden, she talks of women and their correlation to home. As women became the

⁴ “Dual-income families with kids have doubled in Canada over past 40 years, StatsCan says,” *CBC News*, Last Modified May 30, 2016, <https://www.cbc.ca/news/business/dual-income-families-1.3607212>

symbol of home making, they were further cornered into this role and lacked the opportunity of stretching beyond their limits.

*“While ‘man’s home is his castle,’ a woman often lacks any private space in her home. Society defines the ideal home as a warm, supportive place for men and children, but for homemakers it has always been a workplace, where a ‘woman’s work is never done.’”*⁵

-Dolores Hayden

Hayden then discusses efforts made by activists on balancing work and home at the turn of the industrial revolution. Communal kitchens shared over neighbourhoods to create separation of housework from the private realm, commercial and employer services in the form of daycares and male participation were concepts that started to illustrate the beginning steps in redefining a new role in women outside of her home.

Fast forward to the present, women have been achieving higher within the workplace and have started to equalize the gender gap. While there still exists some level of differences in pay and benefits, women have become as involved in the workplace as men have. This change has brought forth a transition in roles within the

⁵ Dolores Hayden, *Redesigning the American Dream* (New York: W. W. Norton & Company, 1984), 66.

household. An infographic released by Statistics Canada shows the division of household tasks shared by couples who were married or living in a common-law relationship. It states, “in 2017, the tasks of doing the dishes, grocery shopping and organizing the household’s social life were shared equally between men and women.”⁶ Tasks that were traditionally male orientated such as outdoor work and repairs remained under their domain while tasks that were traditionally female orientated started to balance between the couple. Where one partner was apart of the workforce and the other not, there were some discrepancies on who were in charge of which chore. There was a higher percentage of sharing tasks when both partners were working as opposed to a sole earner. As women begin to diversify their role within the family, there becomes a greater need to share responsibility in what needs to be done within the home. Designing for the new role of women within this design proposal includes additional workspace for their job, larger kitchen and laundry areas such that chores could be shared, and space allocated for private relaxation.

The multigenerational home provides a solution as there becomes a greater need for people to share the burden of household chores. As a standard, there is a common understanding where

⁶ “Family Matters: Splitting household tasks: Who does what?” Statistics Canada, Last modified February 19, 2020, <https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2020016-eng.htm>

everyone needs to pitch in towards the upkeep of their home. There is no more one-man team, but a collective effort in getting tasks done. This new level of organization starts from the bottom, with disciplining children and their recognition of their role within the family.



fig 2. 03 Family Matters infographic released by Statistics Canada in 2020

2.4 Children in North America

Shared responsibility and accountability become important values to be embedded within children at a young age. While that is the goal, children have been growing up differently with the exposure of electronics, especially in the last few decades. Parenting and disciplining have come a long way from strict household rules to be adhered to, followed by punishment and consequences, to a softer, more gentle way of teaching children. As millennials start to assume the parenthood, there will be a great shift on how children will be raised, and how it will be different from the way they were raised twenty to thirty years ago. There will be a new focus on treating children as individuals, and equals. Leonard Sax, a practicing physician, talks about the change in parenthood and how it has affected children growing up in his article, Don't Ask the Kids. A key difference Sax explains is how parents have lost authority.

“As recently as forty years ago, most American parents told their kids how to dress, what to eat, how to behave. Today American parents typically ask. The very notion of commanding rather than asking seems old fashioned or just down-right wrong.”⁷

-Leonard Sax

⁷ Leonard Sax, "Don't Ask the Kids," *First Things*, no. 266 (October 1, 2016): 21.

Parents have started leveraging pros and cons with their children whereas traditionally, the parents' word would be final, with no choice. Children have grown accustomed to receiving a reward when they completed a chore, and if the reward was not there, there would be no exchange. This kind of entitled behaviour stemmed from a lack of strictness and learning that with a little give or take, they could get what they wanted. As a result of choice and freedom at a young age where discipline has not been set, parents lose their position as an authoritative figure as children find ways to undermine them.

In a household with more freedom in growth and the undeniable influence of social media and pop culture, children are thrown into an accelerated, uncontrolled, rate of maturing. It becomes easy to absorb and adapt to information accessed online, without knowing right from wrong.

*"Instead of instructing kids in the Golden Rule, parents ask their kids, 'How would you feel if someone did that to you?' And parents don't know what to say when their son answers, 'If someone did that to me, I'd kick him in the nuts.'"*⁸

-Leonard Sax

Modern day parents have grown soft. In a world of constant criticism and judgement, parents opt for methods of soothing over methods of punishment. Fears of appearing abusive and unloving have created a shroud of over protection and coddling. Children become more sheltered and fragile, all while appearing more mature and independent. There becomes a need to rebuild a level of discipline and re-establish authoritative figures such that children growing up in a world so saturated and so accessible of negative influences online can decide right from wrong.

How does this all tie into multigenerational living? It becomes a solution in rebuilding discipline, with multiple adults available as guidance. A fine line is drawn between giving too much or too little independence for the present-day child. Creating a sense of connectivity and network within the multigenerational household is important, but also giving enough space for the child to breathe as they grow will be equally as important. Garnering a sense of independence at an earlier age has become a unanimous trend but how it is expressed is dependent on their upbringing. Creating a set of comfortable barriers, not removed from the rest of the household, becomes a key aspect in designing for the younger generation.

⁸ Leonard Sax, "Don't Ask the Kids," *First Things*, no. 266 (October 1, 2016): 22.



fig 2. 04 How children are disciplined has changed greatly in the last century

2.5 Aging and Retirement

Life expectancy is expected to experience a continuous upwards trend as technology and medicine advance hand in hand. In 2011, Statistics Canada released a report stating the average life expectancy for Canadians is 81.7 years, increasing by 24.6 years since 1921.⁹ That implies that following the typical retirement age of 65, Canadians are expected to live another 15 years, free of work and most responsibilities. Not only are Canadians living longer, they stay healthier longer too. In 2009, 56% of the population aged 65 and over were reported to be in good health.¹⁰ There is a large population of seniors growing older, living longer and are more capable than ever before.

Some seniors after retirement opt for travel, some opt for a new hobby, and some just relax and follow a semi-strict routine to keep themselves diligent. With a longer life expectancy, seniors must find outlets of productivity or a sense of purpose after they have quit their lifelong job. The thesis hopes to create a solution that is informed by age-in-place communities and how ones surrounding environment can positively affect its inhabitant mentally and physically. To do so in a holistic manner, considerations outside of accessibility become important in nurturing a healthy rate of aging, such as how to keep the mind and spirit young and intact.

⁹ "Ninety years of change in life expectancy," Statistics Canada, Last modified November 27, 2015, <https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2020016-eng.htm>

¹⁰ "Seniors," Statistics Canada, Last modified January 17, 2018, <https://www150.statcan.gc.ca/n1/pub/11-402-x/2011000/chap/seniors-aines/seniors-aines-eng.htm>

In the book, *Aging as a Spiritual Practice: A Contemplative Guide to Growing Older and Wiser* by Lewis Richmond, he discusses concepts of improving one's mentality as they age in a Buddhist lens. The first key point Richmond brings up is the rate of aging and how it can vary from person to person- it all depends on perspective. It is important to look less at the physical transformation of one's body but the journey within one's mind. Richmond uses a car analogy to explain what it means to experience aging.

*"To age means to feel the passage of time. It is a little like driving down a long desert highway. Each day or month is a passing road sign. We remember where we were, imagine where we might be going, and have distinct sense that the car keeps moving faster and faster."*¹¹

-Lewis Richmond

To age mindfully, there is great value in finding fulfillment and purpose throughout one's life such that the sense of this car moving faster and faster is diminished and replaced with enjoyment, exhilaration and the experience of living. Seniors in this generation are the first to live with the internet, computers and smartphones. In a way, it has allowed them to be able to easily fall into the comforts of being indoors and forgo pursuits that require going outside or

¹¹ Lewis Richmond, *Aging as a Spiritual Practice: A Contemplative Guide to Growing Older and Wiser* (New York: Gotham Books, 2012), 63-64.

interacting with other people. Being conscious of how the new development of technology can affect seniors and their proactivity in finding hobbies that can be truly fulfilling and productive for their mental health.

*"The boomer generation grew up without computers, iPods, and cellphones. In fact, we invented them. But we have now embraced them and are surrounded by them. Facebook, originally developed for teenagers, has seen its greatest growth among people over fifty. At a time when the over-fifties need the restorative power of nature more than ever, we are spending more of our time online."*¹²

-Lewis Richmond

This thesis, in an attempt to create a space that is restorative for all in their journey of aging, with its focus being on the older generation, will consider methods of encouraging outdoor activity and fostering a greater sense of interaction between family members. It will become a focus in stripping away the gravity that internet and smart devices hold and build towards developing a better sense of community and gathering physically. Considering seniors at present with them living longer and healthier lives than before, it will become increasingly important for them to foster a sense of self and purpose that carries through the rest of their lives.

¹² Lewis Richmond, *Aging as a Spiritual Practice: A Contemplative Guide to Growing Older and Wiser* (New York: Gotham Books, 2012), 90.



fig 2. 05 How can seniors play a role in multigenerational living and how can it improve the process of aging?

The multigenerational family exists in multiple shapes and forms, with each member being unique in their own way. To formulate a comprehensive design solution for the multigenerational family would be one that encourages a healthy level of codependency to grow together as a unit. Between the three factors that were discussed within this chapter being women and their increasing presence in the workforce, children and their accelerated growth, and seniors living longer and healthier lives, the key is how family can respond and reciprocate to each other's needs.

CHAPTER 3

3.1 The Death and Life of Suburbs

This section will draw from concepts covered by Jane Jacobs in her book, *The Death and Life of Great American Cities*, and how they can be integrated into suburban context. The thesis will use both Part 1: The Peculiar Nature of Cities and Part 2: The Conditions for Site Diversity as a two prong approach for both parks and public spaces, as well as the buildings themselves, in implementing a new block wide design proposal for suburbs. The key is to spark improved connectivity to the rest of the city, reinvigorate pedestrian life and better activate public park spaces such that they are used more effectively.

FOUR ELEMENTS OF DESIGN FOR NEIGHBOURHOOD PARKS



fig 3. 01 Jane Jacob's theory on design for effective, inviting, neighbourhood parks

In Part 1: The Peculiar Nature of Cities, Jane Jacobs talks of ways to improve public spaces within cities. Jacobs highlights the importance of the concept "eyes on the street", meaning higher pedestrian traffic will equate to less crime rates within cities as there are less opportunities.¹ Jacobs also discusses how sidewalk interactions can stimulate city life. Wider sidewalks allow for activities other than passing-by such as children play space.

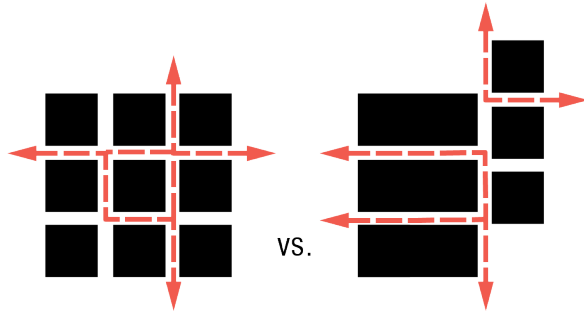
The key section within this chapter to be studied is how to improve neighbourhood parks. Intricacy means the park must be detailed in a way that multiple visits will not become boring or routine. There must be new, interesting ways to enjoy the park over time. Centering refers to a focal point that anchors the park where people may feel invited to stay and relax. Enclosure means creating a sense of boundary that defines the limits of the park. Sun refers to creating a variety of sun and shade zones throughout the day such that visitors can have choice in where they choose to spread out.²

Much of the parks in suburban neighbourhoods include one play structure and open fields, connected by one gravel path. They lack most of the four points listed above and would vastly improve if there was more thought given in the process of designing them.

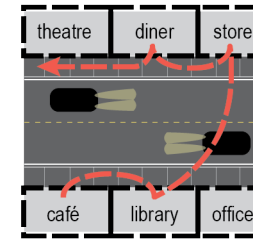
¹ Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961), 35.

² Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961), 103.

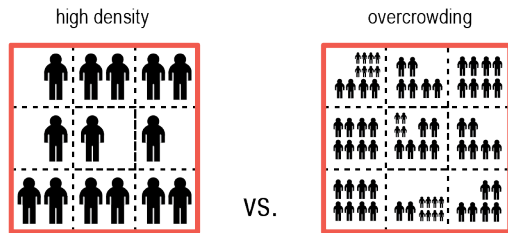
CONDITIONS FOR CITY DIVERSITY



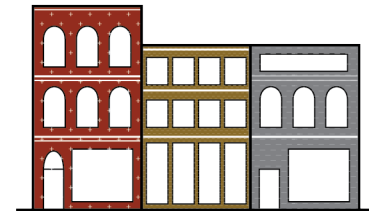
NEED FOR SMALL BLOCKS



NEED FOR PRIMARY MIXED USES



NEED FOR CONCENTRATION



NEED FOR AGED BUILDINGS

fig 3. 02 Jane Jacob's theory on how to create successful neighbourhoods

In Part 2: The Conditions for Site Diversity, Jacobs uses these four "needs" on how to bring out a city's full potential. These four "needs" can be translated into a suburban context to bring up pedestrianized traffic and streetlife.

On the need for small blocks, Jacobs believes it gives more opportunity for experimentation and for small businesses to exist outside of large intersections.³ Suburban blocks are large in nature as they want to maximize the number of houses to be built on the plot of land. Minimizing the number of houses in a row and creating small streets that cut midblock will create varied ways of getting to one destination, as well as the opportunity for at-home businesses to get some street frontage and pedestrian traffic. Currently, there is a long list of restrictions on what businesses can operate as a home-based enterprise within Markham, including retail, kennels, animal hospitals and restaurants.⁴ While it is not possible now, it can be opened up for future discussion on revitalizing suburban neighbourhoods.

³ Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961), 183.

⁴ "What you must know," *Home-based businesses, Markham*, accessed September 13, 2020, <https://www.markham.ca/wps/portal/home/about/city-hall/bylaws/bylaw-guide-for-home-owners/home-based-business#:~:text=See%20Noise%20By%20Law%20Summary,business%20anywhere%20outside%20these%20areas.>

The need for concentration refers to reaching a certain density such that the city can depend on itself and perpetuate city diversity. Jacobs makes the difference clear between high density and overcrowding. High densities refer to a large number of dwellings per acre of land whereas overcrowding refers to a large number of occupants per room.⁵ In the suburbs, this need for concentration can be satisfied by increasing the number of dwellings through multigenerational living.

The need for primary mixed uses is to stimulate pedestrian over vehicular travel as it clumps key locations within a neighbourhood together like the laundromat, the convenience store, bank, etc.

*"American downtowns are not declining mysteriously, because they are anachronisms, nor because their users are being drained away by automobiles. They are being witlessly murdered, in good part by deliberate policies of sorting out leisure uses from work uses, under the misapprehension that this is orderly city planning."*⁶

-Jane Jacobs

⁵ Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961), 205.

⁶ Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961), 171.

With programming added to suburban neighbourhoods that vary in time of operation, it could attract more residents to walk outdoors and explore, creating a stronger sense of community.

Finally, on the need for aged buildings, Jacobs explains the key in retaining those properties are for both economic reasons and architectural diversity. With regards to this thesis, while suburban architecture is plain and repetitive, it holds a certain charm in the way it is developed. The key is to add to its existing fabric and not strip it of its character, hence the method of retrofit.

Jacobs closes the chapter with the following quote:

*"Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody."*⁷

-Jane Jacobs

Considering Jacobs' four needs on what makes a successful city, this thesis will adapt a suburban neighbourhood in Markham, with the multigenerational household in mind, into one that becomes more lively and well used beyond its four walls.

⁷ Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961), 238.

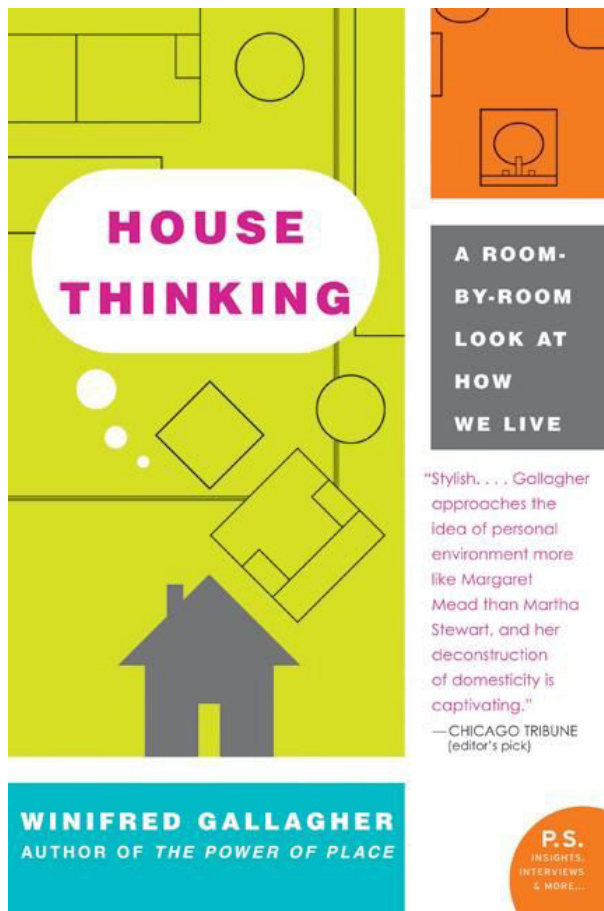


fig 3. 03 How to interpret rooms within a house on how they are occupied

3.2 Inside the Four Walls

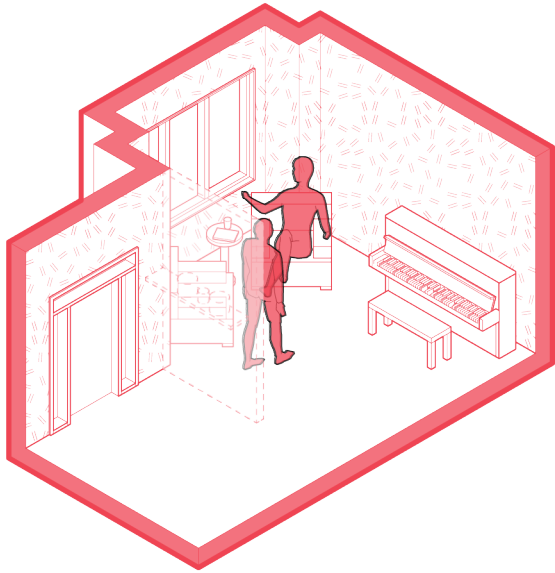
The traditional single family home in the suburbs follows a standard set of rules on what rooms are to be included, as well as how they are organized. Understanding the function of each room and how frequent they are used in current times will lead to how they can improve and if they should be reprogrammed into something more effective. The following section will refer to concepts within the book, *House Thinking*, by Winifred Gallagher on the importance of each room and how it is occupied. Gallagher begins the book by quoting Robert A.M. Stern on how people typically buy homes and what they desire.

*"Everyone wants the same things in a house - light, coziness, spaces for the family to gather, and other areas that let each person hide out, have a cry, read a book. It doesn't seem like a lot to ask, yet so many of us end up buying the house we hate the least."*⁸

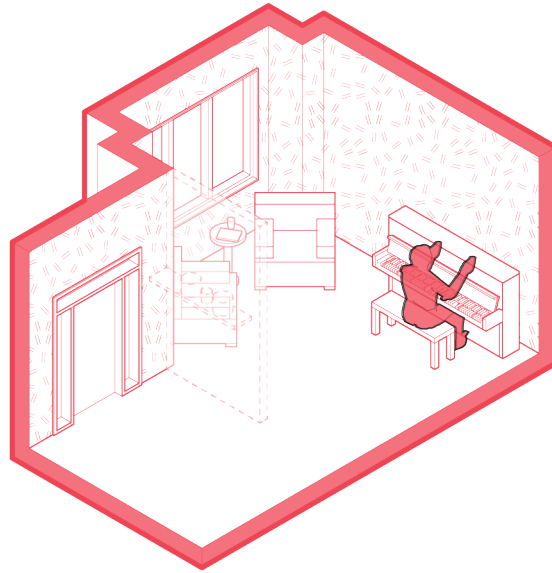
-Robert A.M. Stern

The goal of this thesis is to take a house that was bought under compromise into one that accurately reflects the needs of the family it holds.

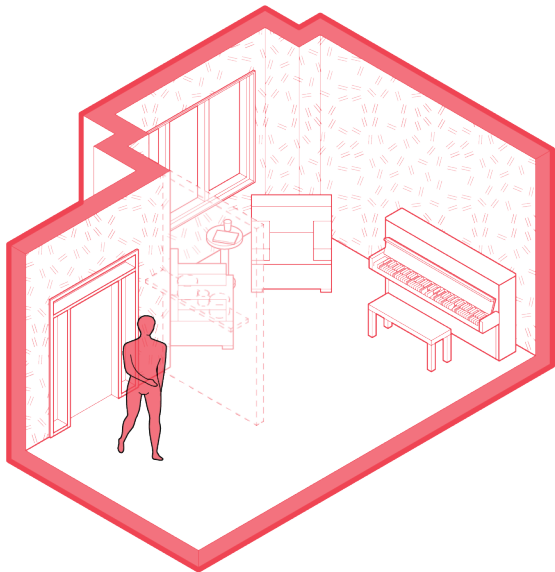
⁸ Winifred Gallagher, *Home Thinking* (New York: HarperCollins Publishers, 2006), 23.



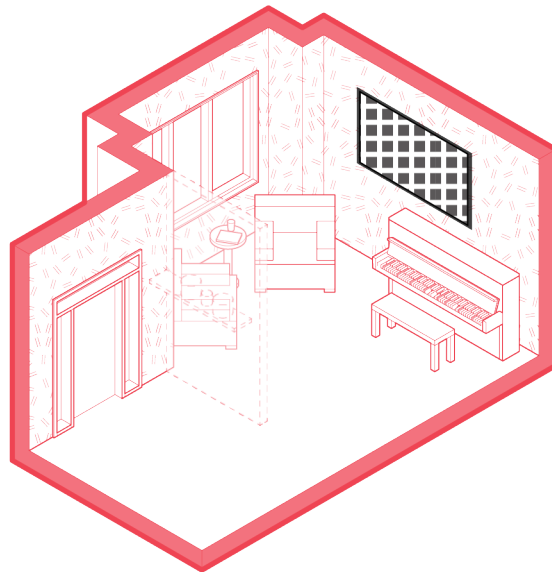
ENTERTAIN



PRACTICE



PASSAGE



DISPLAY

fig 3.04 Living room uses

LIVING ROOM

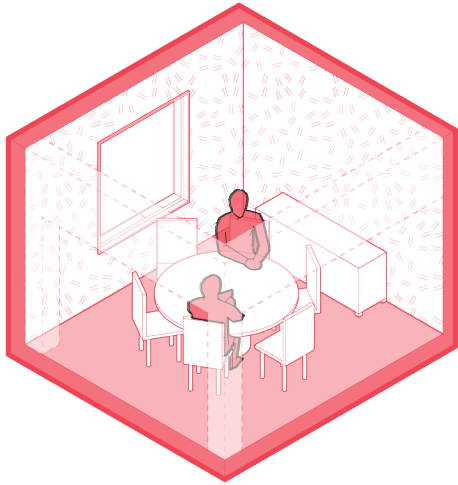
Living rooms are typically located near the front of the house as an intermediate entertaining room for guests. Traditionally known as the parlor, the living room was one of the most decorated rooms within the house for men to entertain up front, while women retreated to the kitchen in the back to prepare meals.

"The stuffy parlor of olden days told its occupants that they had better conform to their formal surroundings. The free-flowing modern living area urged everyone to, as a '60s expression put it, "do your ownr thing."⁹

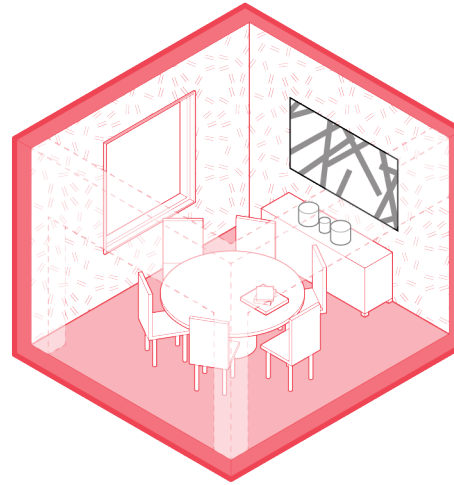
-Winifred Gallagher

Following the transition from the rigid, composed formal living room to one that exists in a more casual setting, formal living rooms started to lose their initial function as the one that entertains. In its place, the family room started to house more of that function due to the addition of the television, as well as its more relaxed atmosphere. The living room then typically becomes one that is underused within the home, more for display of upscale furniture and musical instruments, less for truly "living".

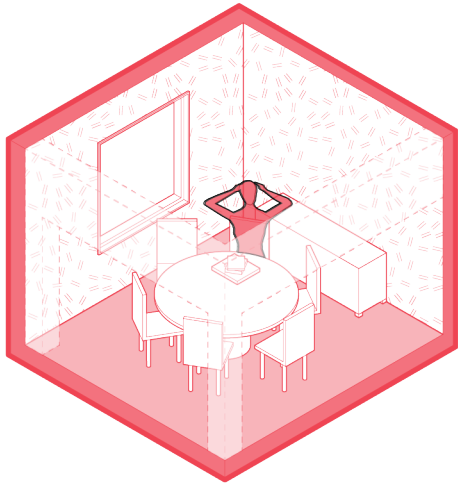
⁹ Winifred Gallagher, *Home Thinking* (New York: HarperCollins Publishers, 2006), 66.



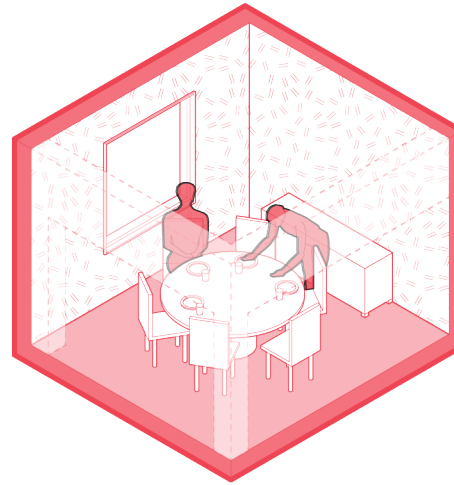
ENTERTAIN



DISPLAY



WORK



EATING

fig 3.05 Formal dining room uses

FORMAL DINING ROOM

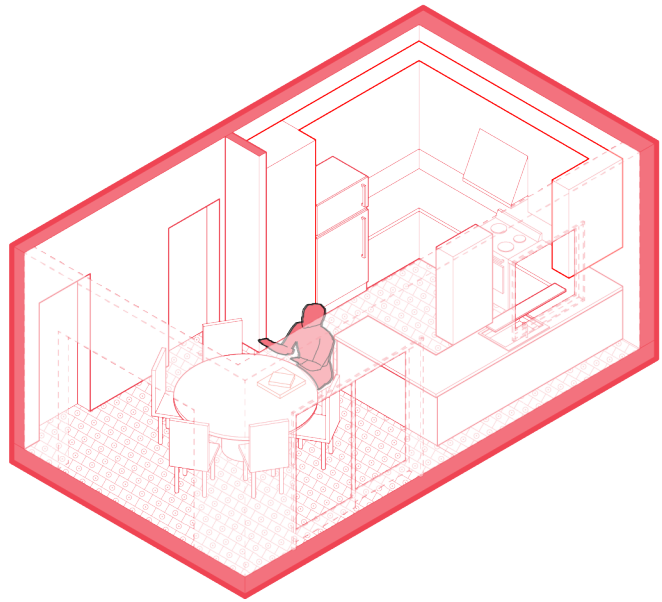
The formal dining room follows suit as families shift to a more casual lifestyle. While the space remains functional for large family gatherings, those events happen infrequently, perhaps five to ten times over the year. The formal dining room then adapts to other uses during the rest of the year, like a makeshift workspace or storage room. On the use of the dining room, Winifred Gallagher sees it as a symbol on how people use their home.

"Today when we ask ourselves, "What kind of people are we, and what kind of home do we want?" our different answers are often reflected in our dining space. If we think of ourselves and homes along the lines of "practical, friendly, and casual," we may decide that it's silly to waste space on a dining room when most meals are eaten informally in kitchens and great rooms. If we see ourselves as the kind of people who do things the right way, we may prefer to eat in a handsome formal dining room gleaming with silver." ¹⁰

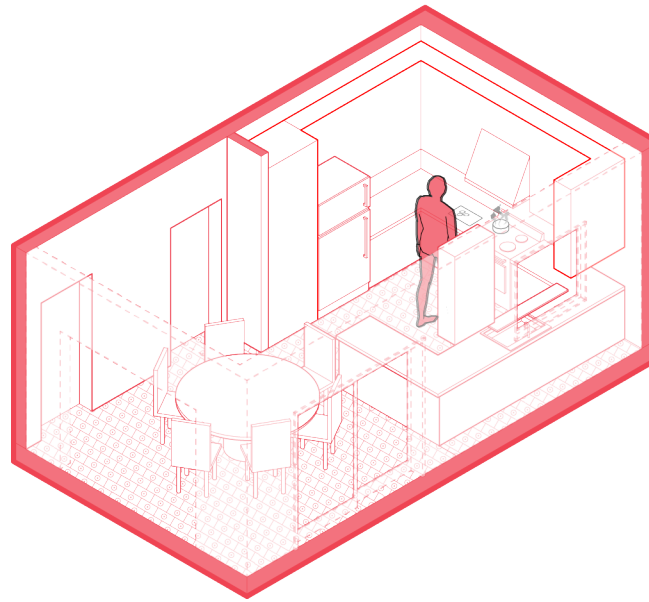
-Winifred Gallagher

The formal dining room is one that should be able to efficiently flex between uses depending on the family it serves. Like the quote above, one that prefers casual dining on a day-to-day basis should find methods of reusing this space. Removing it in its entirety would be a stretch, but shifting that from its main purpose should be considered.

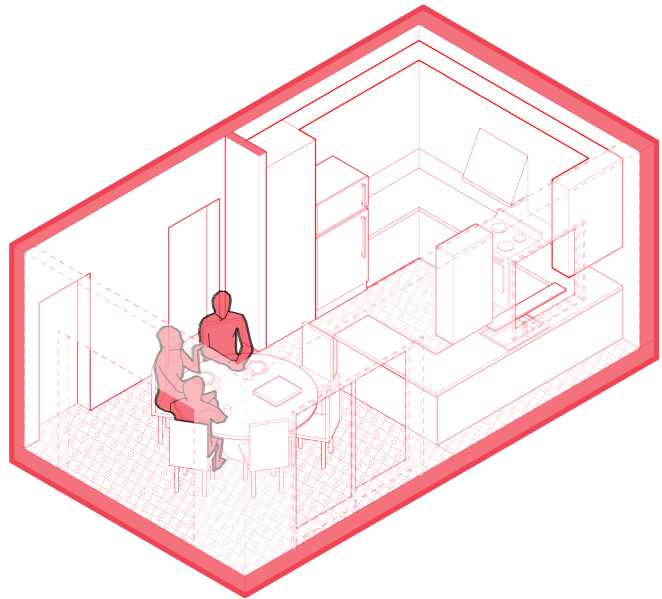
¹⁰ Winifred Gallagher, *Home Thinking* (New York: HarperCollins Publishers, 2006), 97.



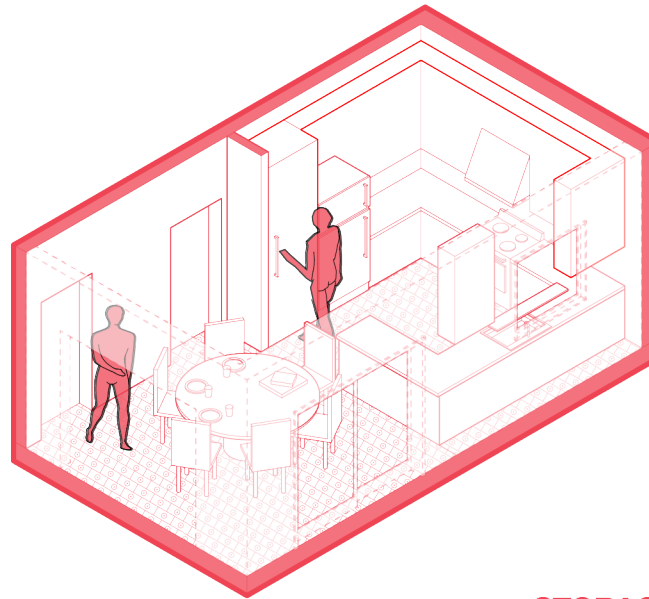
WORK



COOK



GATHER/EAT



STORAGE/
PASSAGE

fig 3.06 Kitchen and Dining room uses

KITCHEN AND DINING

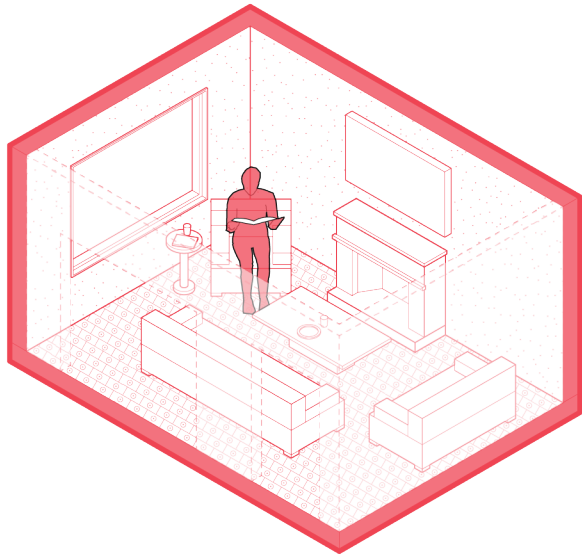
*"Just as women emerged from the home to compete in the larger world, the kitchen emerged from its lowly position the back of the house into the domestic spotlight."*¹¹

-Winifred Gallagher

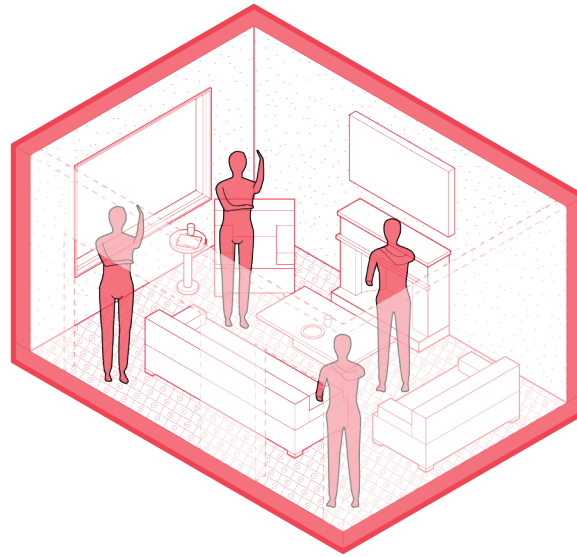
Kitchens have become equal, if not more of a statement than the formal living room within a home. As functionality remains critical, aesthetics have also become a must. Matching stainless steel appliances, intricate backsplashes and large center islands with an intricate lighting fixture hanging above have become part of many families' checklists. As the kitchen converts into a space of entertainment, it becomes the focus within a home.

Kitchens in single-family homes typically have enough space for a small casual dining space adjacent to it. It is often chosen over the formal dining room as a place for a quick meal due to its proximity to the kitchen. Retaining this nook is important as families start to value this space over the one that is traditionally designated for eating.

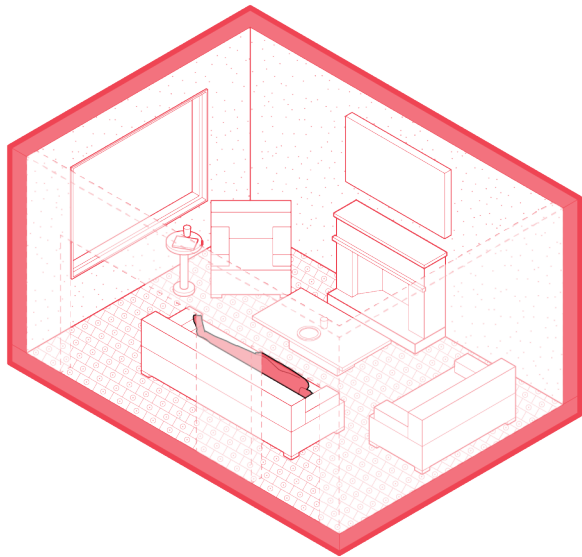
¹¹ Winifred Gallagher, *Home Thinking* (New York: HarperCollins Publishers, 2006), 83.



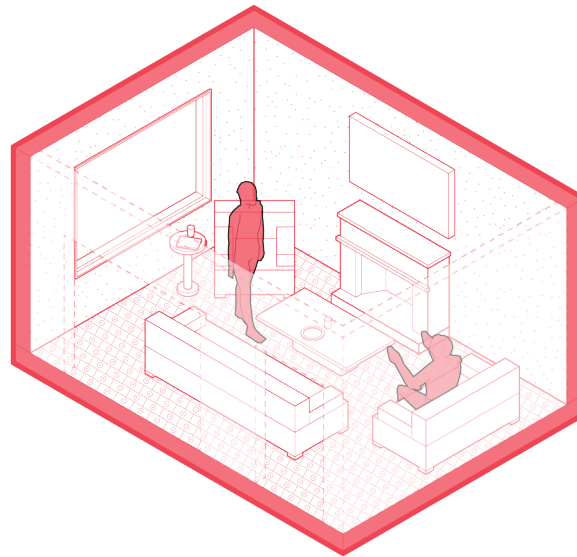
RELAX



PLAY



REST



ENTERTAIN

fig 3.07 Great room uses

GREAT ROOM

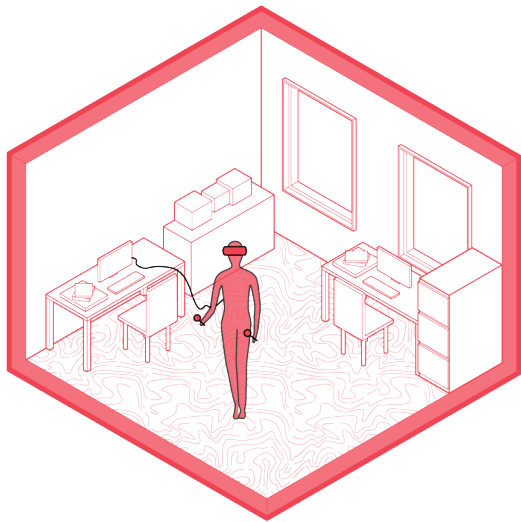
Great rooms have turned into one of the most important spaces of gathering within the home. Centered around the television, couches and recliners frame the space such that everyone can sit back, relax and enjoy each others' company. In terms of how to situate and address the great room, the only key is that it is inviting, comfortable and gives a certain degree of variety on what activities could be completed within it. Whether it be a retreat for one into an armchair to read a book or a full-on party with the entire family on the Xbox, the great room should be able to fulfill most tasks.



WORK



STORAGE



PLAY

fig 3.08 Study room uses

STUDY ROOM

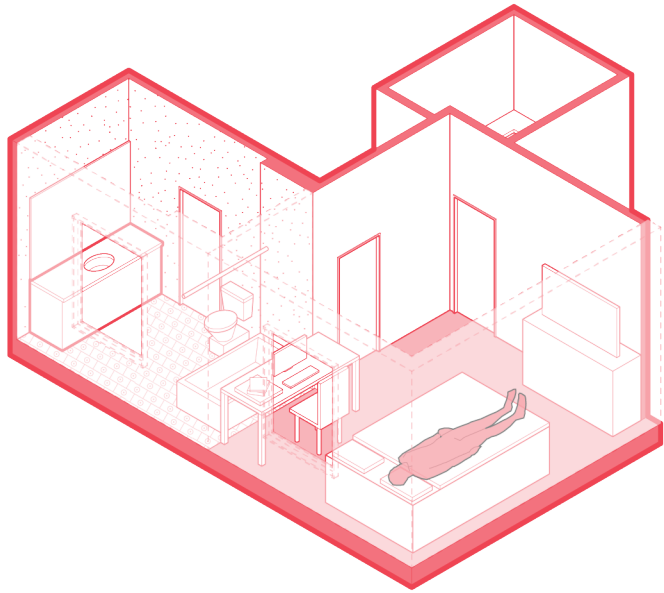
The study room or the home office has developed into an important item on the house-hunting checklist, after the gourmet kitchen. As working from home turned into a common solution for offices, a designated workspace becomes key. Study rooms typically exist within the single-family home, small and tucked away near the stairs. Giving the study room more space to breath and better connectivity to the rest of the home such that more users can access it will be important in house design. There can also be the option of creating separate study rooms to reflect each person's working habits.

*"For reasons from individual temperament to child-care duties, the location of an office that's ideal for one person might strike another as either too public or isolated."*¹²

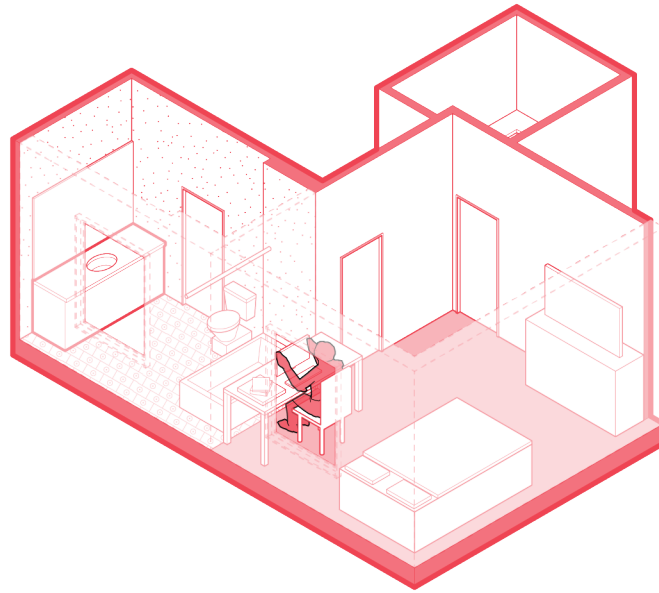
-Winifred Gallagher

Gallagher explains that women's workspace may be more open such that she can be aware of what is going on in her household, like her children playing in the living room, while men may prefer more closed off working environments.

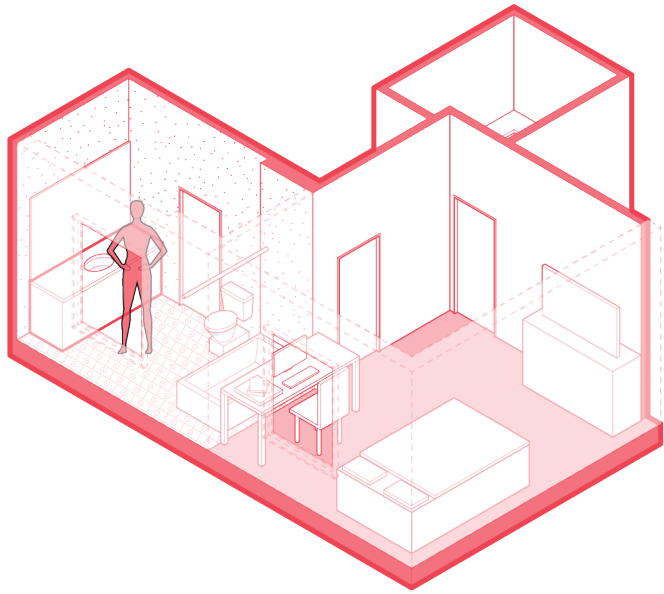
¹² Winifred Gallagher, *Home Thinking* (New York: HarperCollins Publishers, 2006), 210.



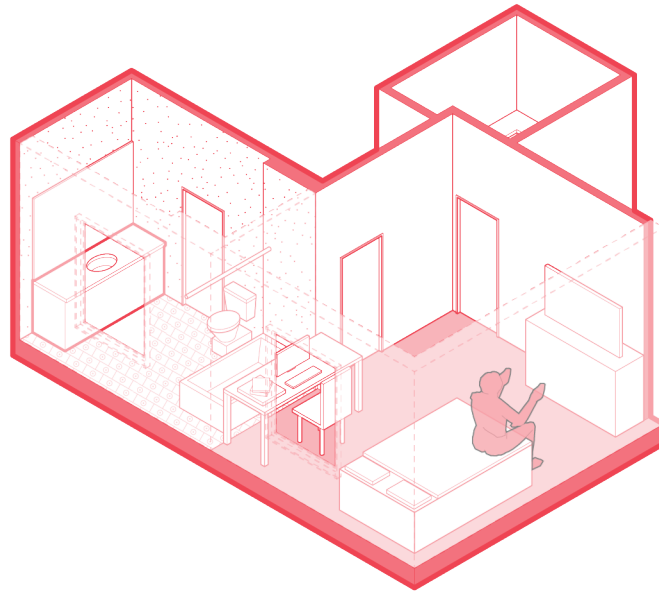
REST



WORK



REFRESH

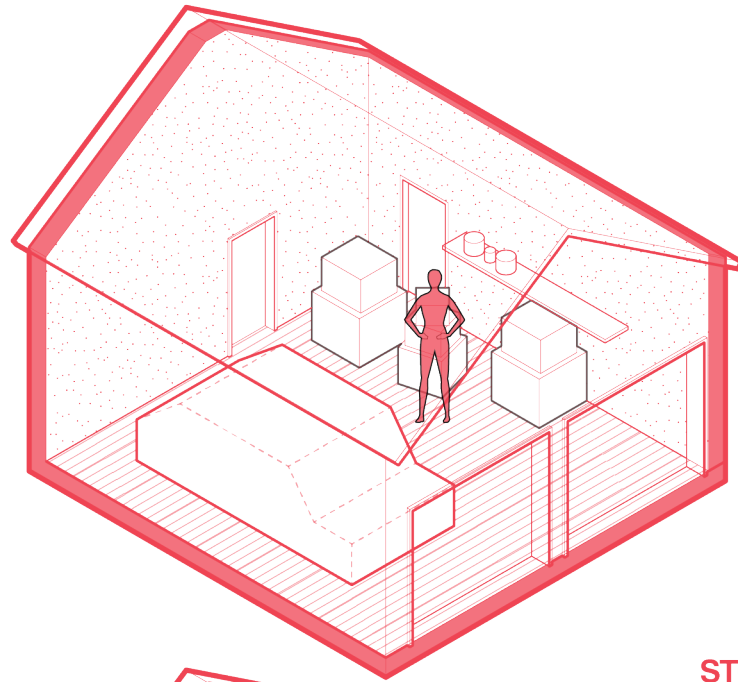


RELAX

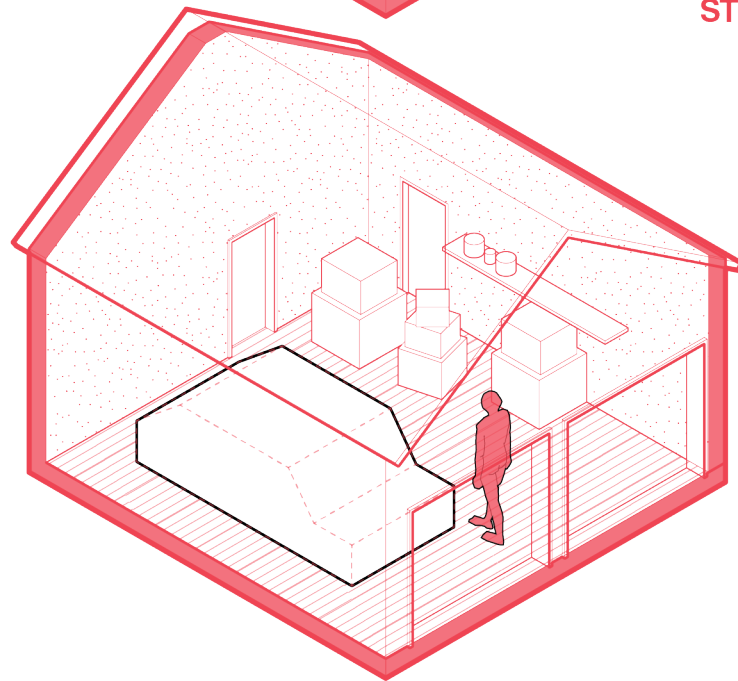
fig 3.09 Bedroom uses

BEDROOM

The bedroom is the one private refuge within a home. Having a space to oneself is very important in a multigenerational home considering the number of occupants. As bedrooms increase in size, so has its' functionality. Many bedrooms have a television and some sort of entertaining system, along with an adequately sized workstation. With the multiplicity of function it has gained, people tend to spend more time in their rooms than ever before. The proposition for the bedroom here is to consider each room as a self contained suite. An added ensuite to each room will allow more privacy and convenience to its user.



STORAGE

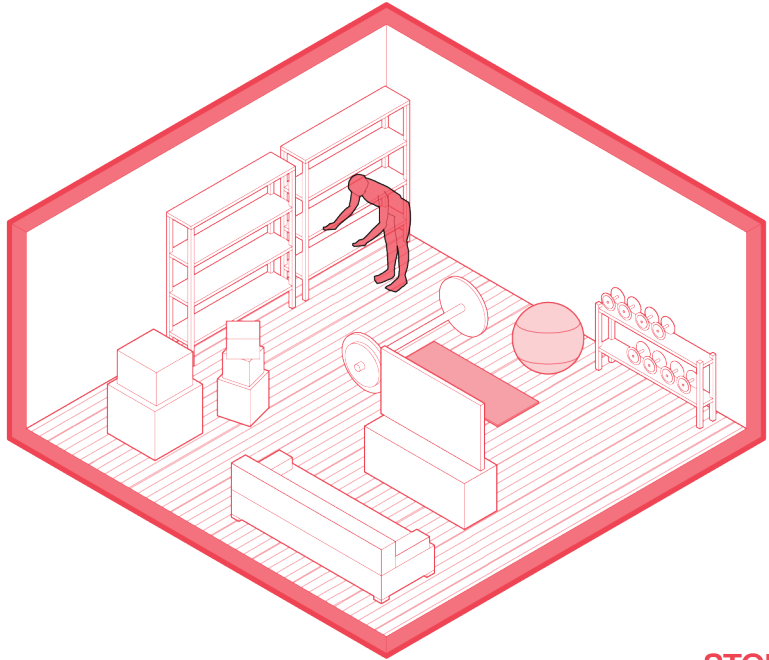


CAR

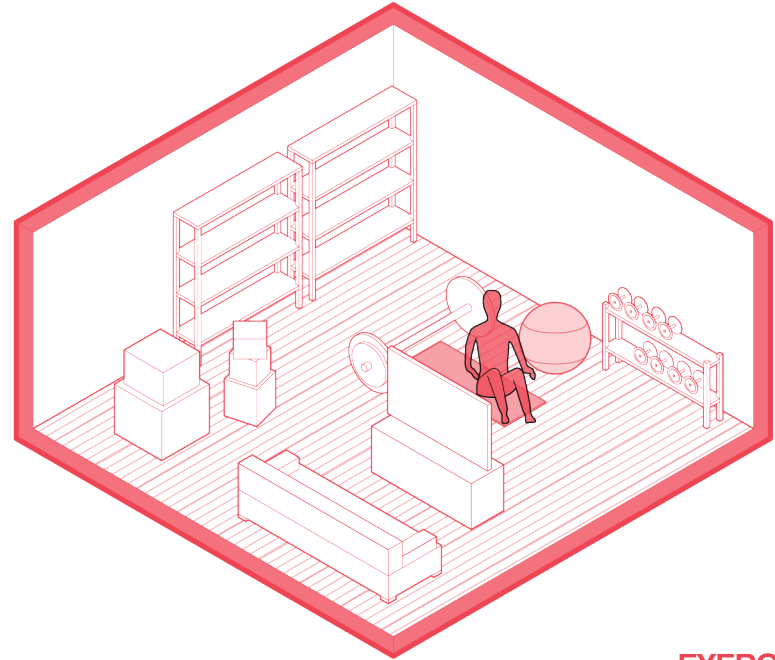
fig 3.10 Garage uses

GARAGE

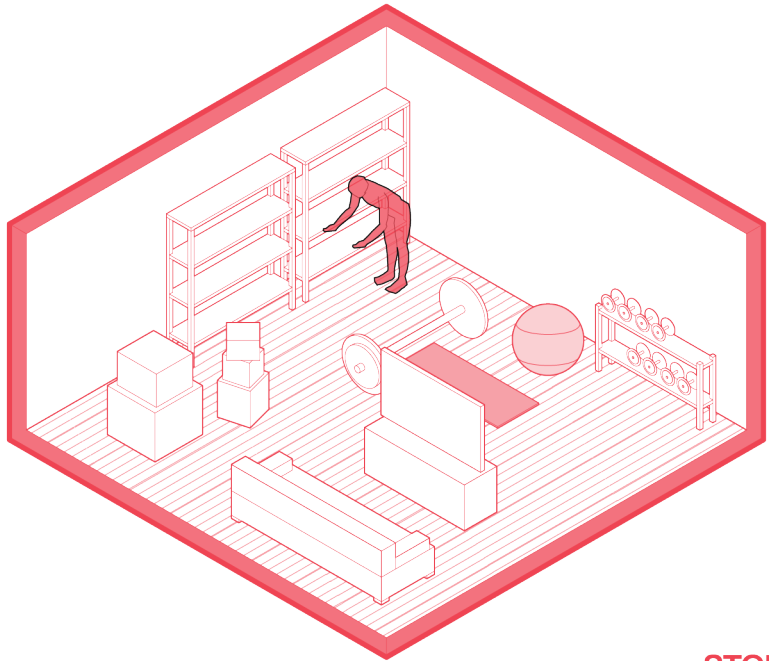
The garage within the single-family home is used differently in each family. Some use it for what it is supposed to do which is shelter vehicles. Some use it for storage for random junk that has no where else to go. Some repurpose it into a workshop space or art studio or some kind of hobby. The garage can become one that morphs into any program that the family desires. In a family that values vehicles and their convenience, it can stay as it is. Where the family needs more space, it can be finished and repurposed. Here, the garage can be seen as a wildcard of possibility in what it can become dependent on its users.



STORAGE



EXERCISE



STORAGE

fig 3.11 Basement

BASEMENT

The basement originally was a cold, damp, unfurnished space that was barely occupied due to its unpleasantness. Following the innovation of central air and dehumidifiers, a soft layer of carpet and a finished ceiling, the basement has taken large strides in its appearance and feel.¹³

The basement follows a similar character to that of the garage. It is open for interpretation as to what program it should follow. It can vary from an extra space of entertainment, like a karaoke station, or it can be a home gym with a few mats and a treadmill. It has also been stereotypically known as the "man-cave" when the husband adds a television, an old couch and a fully stocked mini-fridge.

The basement is important to the multigenerational home as it offers flexibility and opportunity for expansion. It can also be repurposed into a basement apartment. In Markham, the secondary suites in the form of both basement apartments and accessory apartments are not permitted except for a select few zoning areas or if it existed prior to November 16, 1995.¹⁴ In this thesis, the concept of a walkout basement apartment will be considered as one of the possibilities in programming due to the opportunity it provides for the multigenerational family.

¹³ Winifred Gallagher, *Home Thinking* (New York: HarperCollins Publishers, 2006), 192.

¹⁴ "Proposed Policy to Permit Second Suites," *Second Suites, Markham*, accessed September 13, 2020, <https://www.markham.ca/wps/portal/home/business/planning/planning-documents-and-studies/studies/second-suites>

CONCLUSION

This chapter discussed strategies on how to establish better connections between people inside and outside of the home. The commonalities between analysis would be the focus on variety and customisability dependent on the family and the neighbourhood it serves. With an understanding on how to approach the design, the next step becomes an analysis on where the design is to be located and its demographics.

CHAPTER 4

4.1 Markham

The thesis is located in Markham, a city just north of Toronto. It also borders Stouffville, Vaughan and Richmond Hill. Markham first started off as a town, but due to its growth, it was given the title of a city in the year 2012.¹ With the Unionville GO Station connecting Markham to Downtown Toronto, Markham has become a popular area to live with its easy commute and convenience to the many amenities that it offers.

¹ "Markham to change from town to city," *CBC News*, last modified May 20, 2012, <https://www.cbc.ca/news/canada/toronto/markham-to-change-from-town-to-city-1.1179129>

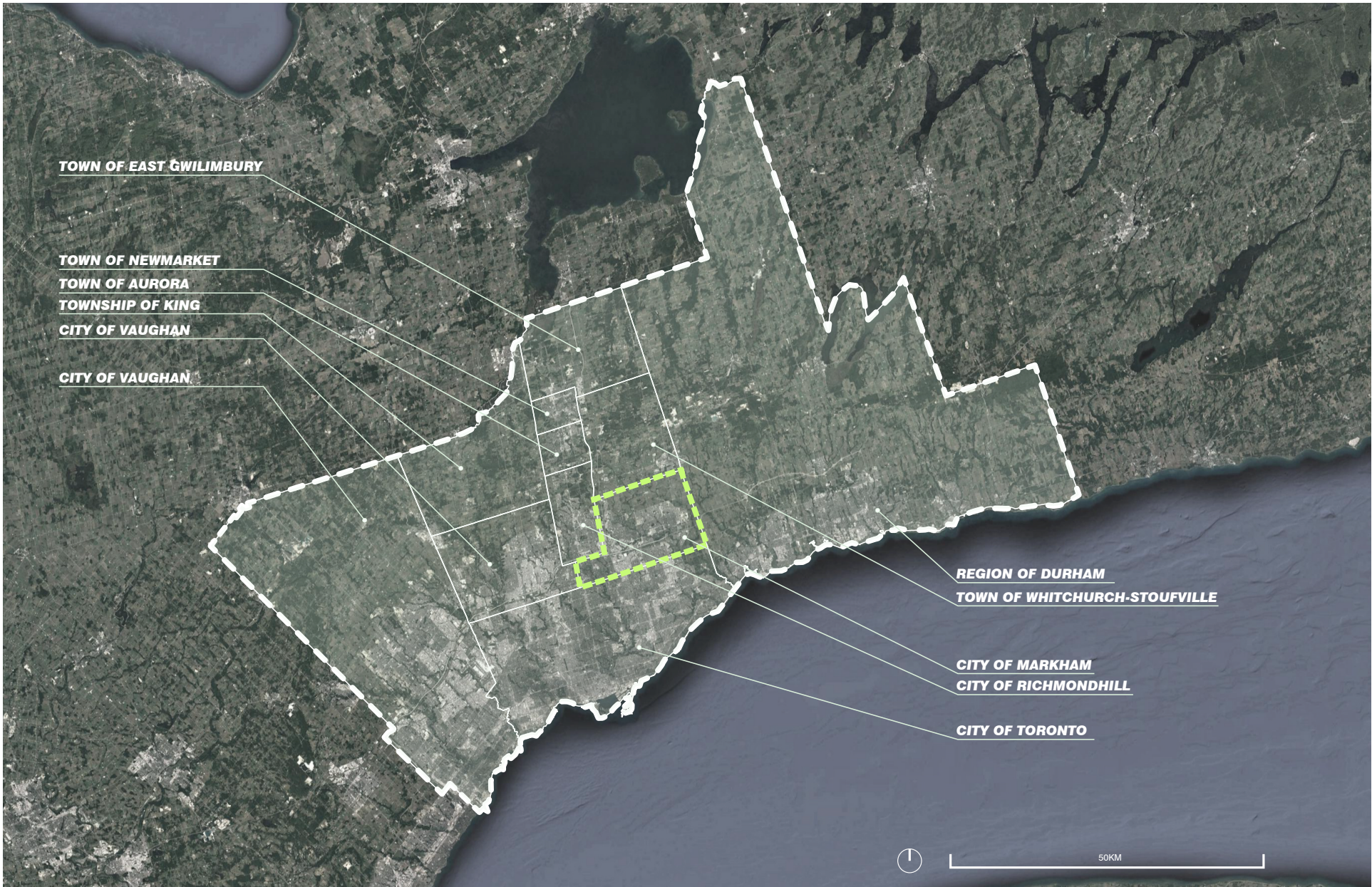


fig 4.01 Locating Markham within the Greater Toronto Area

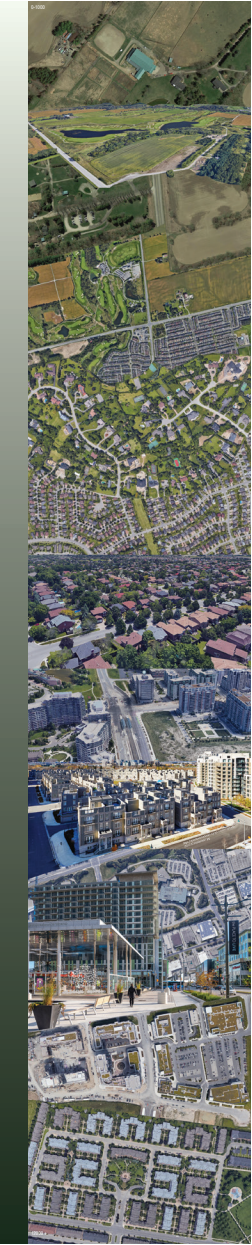


fig 4.02 Key neighbourhoods framing the site, Berczy Village









fig 4.03 Map showing levels of density within Markham, light being low density and dark being high density

fig 4.04 Diagram relating levels of density with corresponding aerial shots



DENSITY AND CHARACTER

This map shows the density of neighbourhoods in Markham. Highlighted in the dotted green line is the neighbourhood of which the site of this thesis is located. To provide context outside of the legend, figure 4.04 shows the density each green shade relates to.

	CANADA	ONTARIO	MARKHAM
 POPULATION	35,151,728	13,448,494	328,966
 % IMMIGRANT	22% (7,540,830)	30% (3,852,145)	59% (192,220)
 % ASIAN ETHNIC ORIGIN	17% (6,095,235)	23% (3,100,450)	74% (242,105)
 AVERAGE TOTAL HOUSEHOLD INCOME	\$92,764	\$97,856	\$113,087
 % MULTIGENERATIONAL HOUSEHOLD	2.9%	3.9%	18% ¹
 % SINGLE DETACHED HOUSE (PRIVATE)	54% (7,541,495)	54% (2,807,380)	59% (60,890)

2016 CENSUS STATISTICS

fig 4. 05 Comparison chart from large to small scale: Canada - Ontario - Markham

COMPARISON

The chart shows the comparison from Canada, to Ontario, to Markham. Markham has a very distinct identity in the population it houses. Of its entire population, 74% is of asian ethnicity. Its high multigenerational household percentage of 18% may be attributed to its significant asian population as it is a common household arrangement. The above average total household income indicates there is a level of financial stability that could perform retrofits to their homes should it be something of interest. The percentage of single detached houses is on par with the rest of Canada and Ontario, at 60%, meaning it is the majority of the housing stock in Markham.

With its high asian ethnicity, large number of single-family homes and higher than average household income, Markham becomes a compelling site for the design proposal of this thesis.

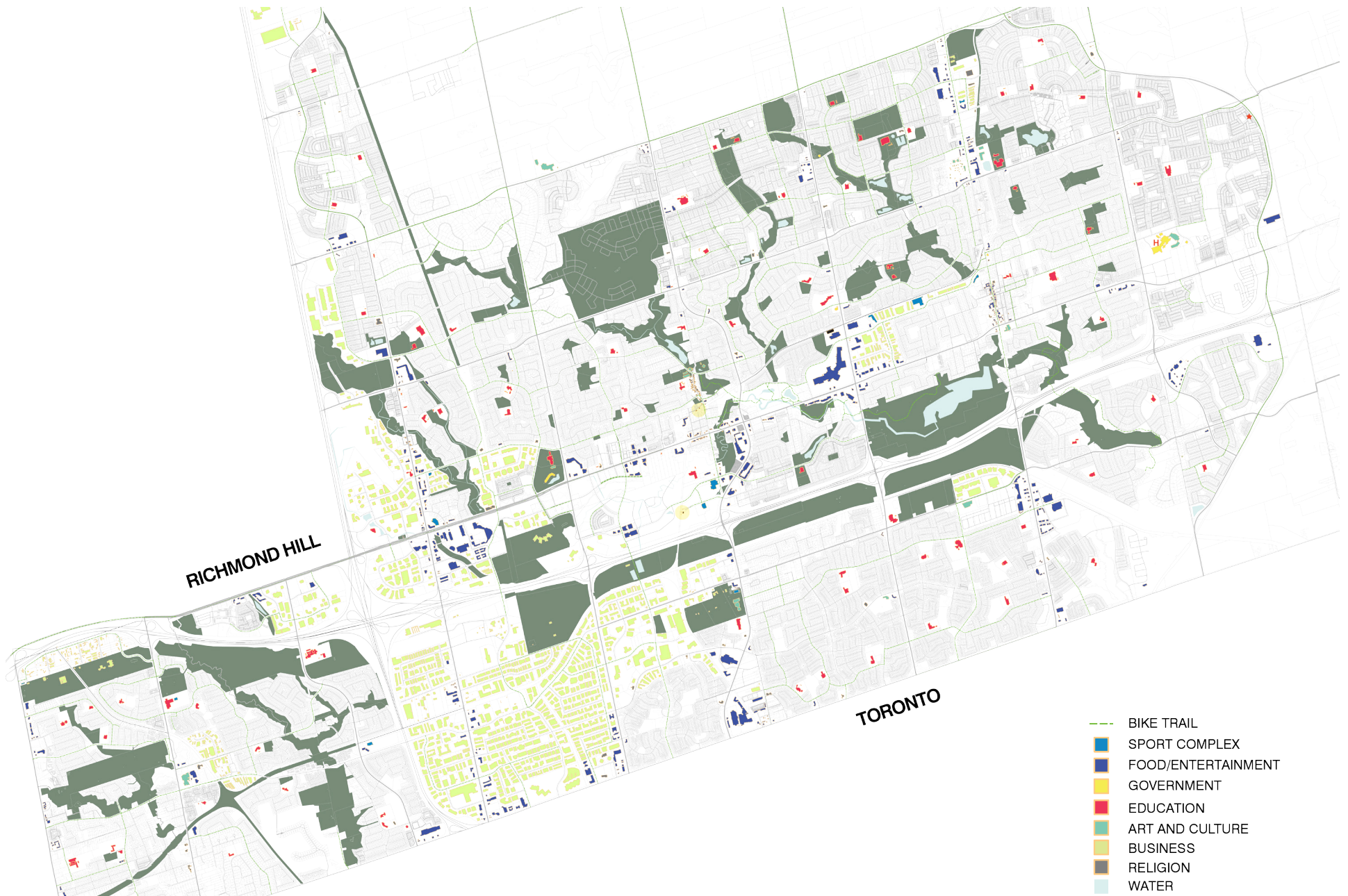


fig 4.06 Map showing key amenities within Markham

CONTEXT

The context map shows where the main amenities are located within Markham. The amenities are spread equally throughout and would typically require a vehicle to get from one location to another.

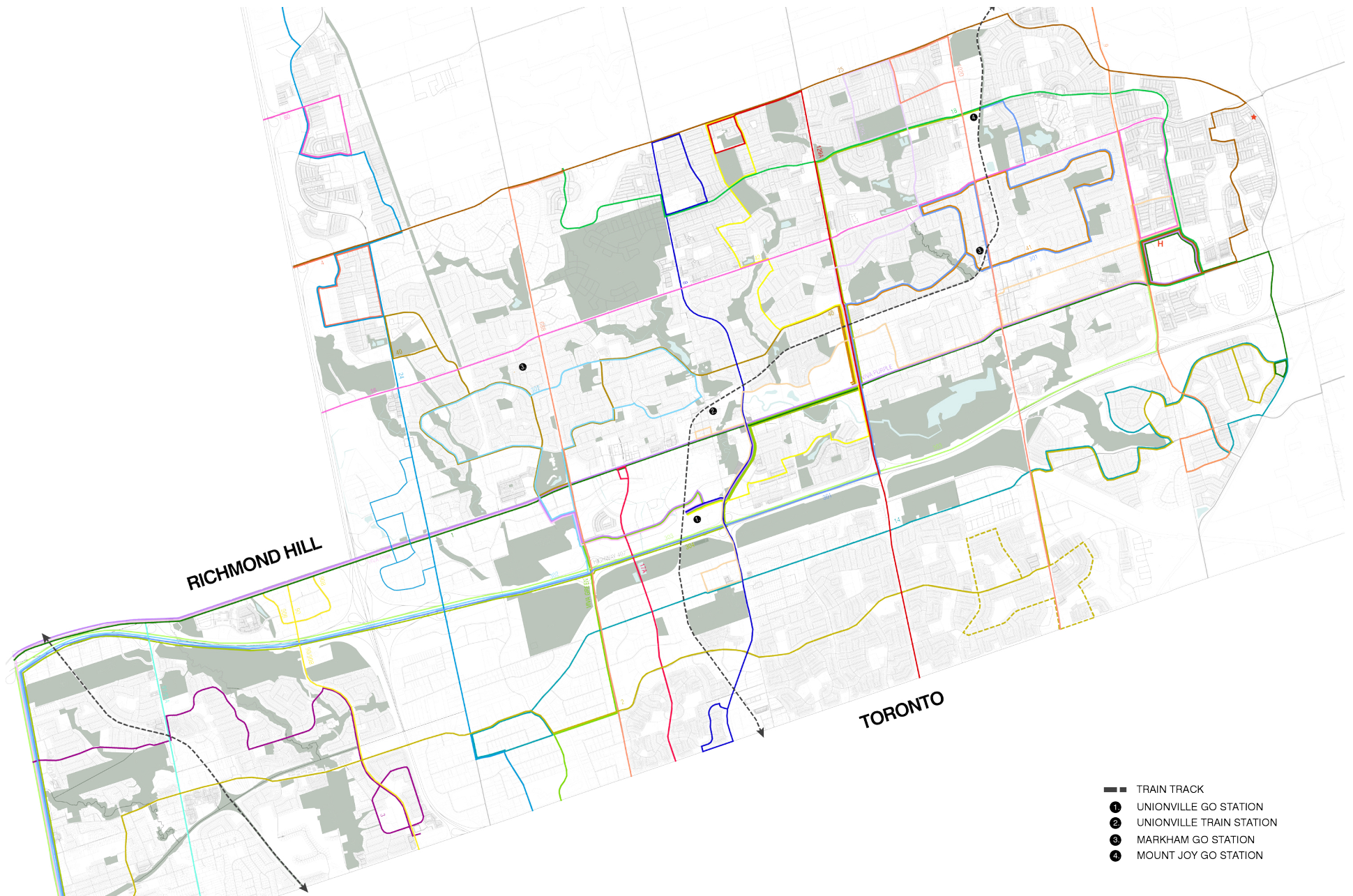


fig 4.07 Map showing all public transportation routes in Markham (bus and train)

TRANSIT

The public transit in Markham reaches most destinations with the number of routes it provides. The public transit only includes buses. There are designated bus lanes for high traffic, rush hour bus routes such as the VIVA lines. There are three GO Stations in Markham including the Unionville GO Station, Markham GO Station and Mount Joy GO Station. Each of these stations travel to Downtown Toronto, between 30-45 minutes.

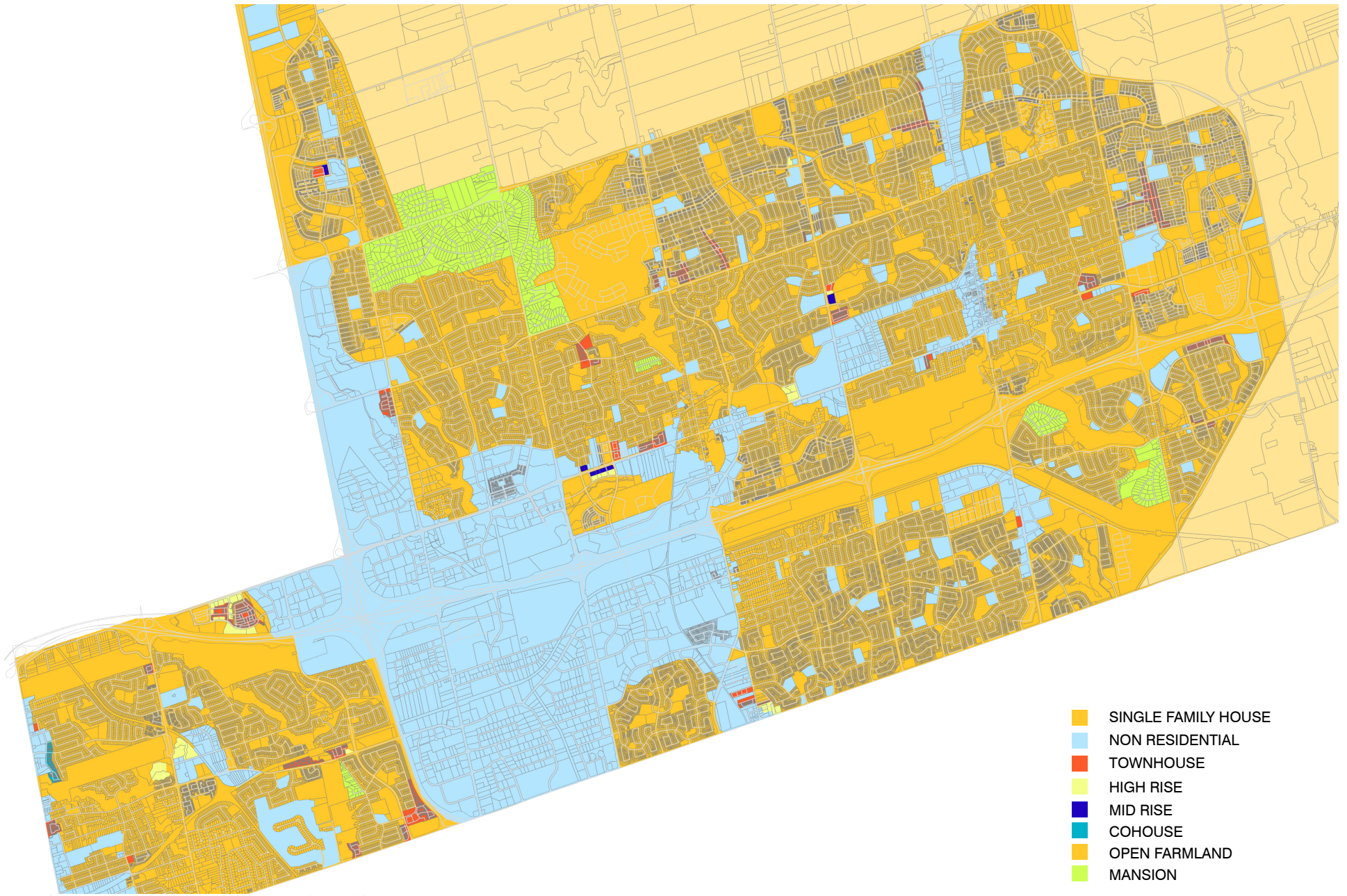


fig 4.08 Map showing types of housing within Markham

TYPES OF HOUSING

Markham consists of mostly single-family detached homes, represented as the yellow orange tone. A majority of the non-residential buildings are clumped together, represented as the light blue tone. Newer developments exist on the north east edges, bordering farmlands shown as the light yellow orange tone.

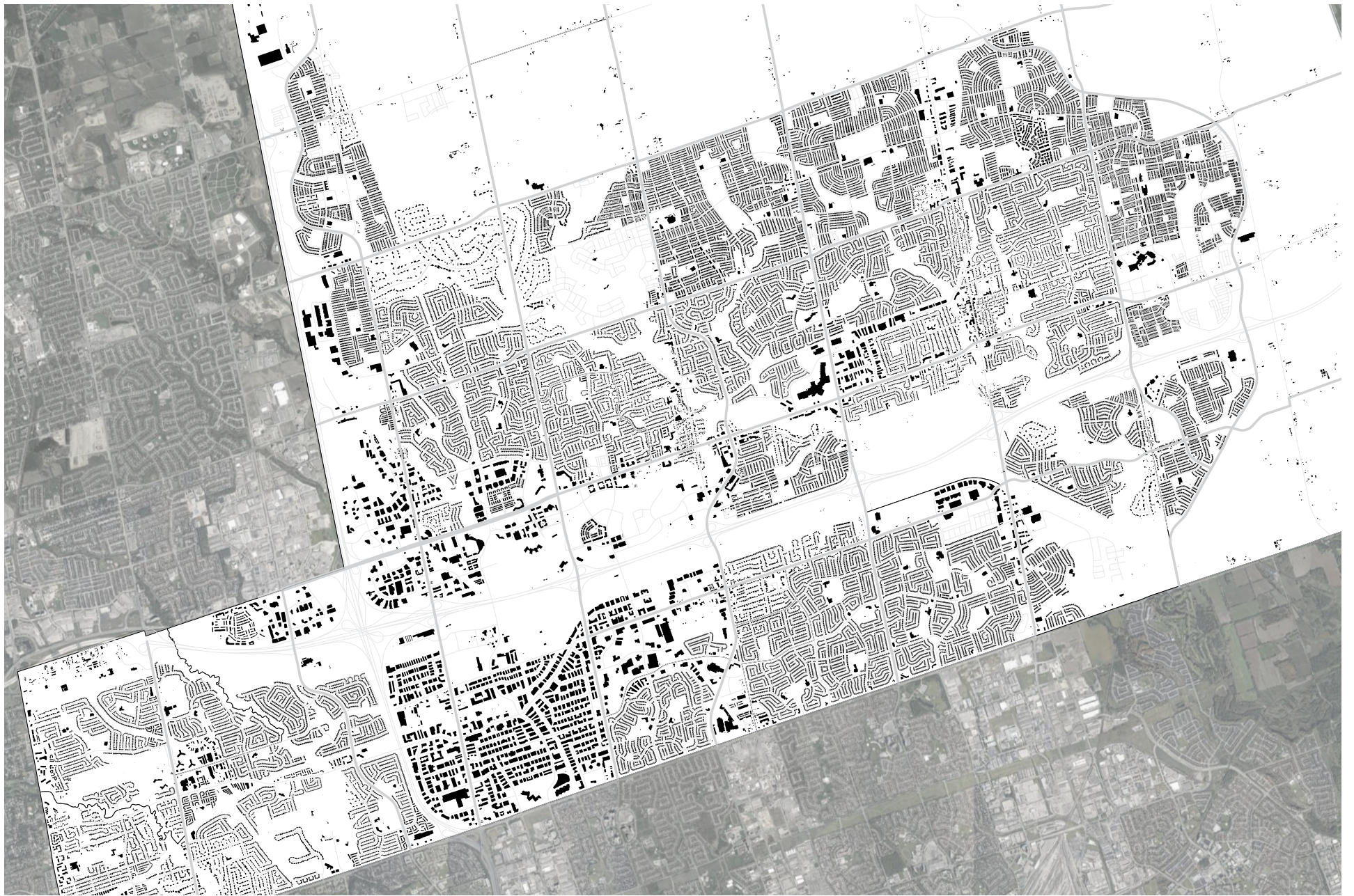


fig 4.09 Noli map of Markham

NOLLI DIAGRAM

The noli diagram shows the spacing in-between buildings and the patterns of the residential areas. The housing follows a rigorous pattern and creates repetition. Newer developments on the north to northeast area are more compact while older developments in the center are more generous in spacing. The noli diagram also shows the difference between residential blocks versus non-residential blocks.

LOT COMPARISON



fig 4. 10a Unionville Main Street



fig 4. 10b Unionville Neighbourhood



fig 4. 10c Cornell Rouge Development

Following the nolli diagram, three developments within Markham show the change in lot spacing over the last century. Unionville Main Street (figure 4.10a) was one of the first neighbourhoods to be developed in Markham. It houses unique homes filled with character on generous lots framed by mature oak trees. The second neighbourhood (figure 4.10 b) is one that was built between 1960-1980, close to the Unionville Main Street neighbourhood, with homes starting to follow a cookie-cutter pattern. The lots are still a respectable size with ample back and front yard space for play and gardening. The third neighbourhood is the Cornell Rouge Development (figure 4.10c) that was built in the last decade. In place of backyards, a laneway was added to access the garages. The only green space left is the front yard, which may be just a sliver in some cases.

Between the three developments, the most typical formation is the second neighbourhood with average sized lots with average looking houses sitting within each. The design proposal of this thesis is situated in Berczy Village, a neighbourhood in Markham that is similar to the second neighbourhood.

NEIGHBOURHOOD STUDIES 1:2500



fig 4. 11a Unionville Main Street

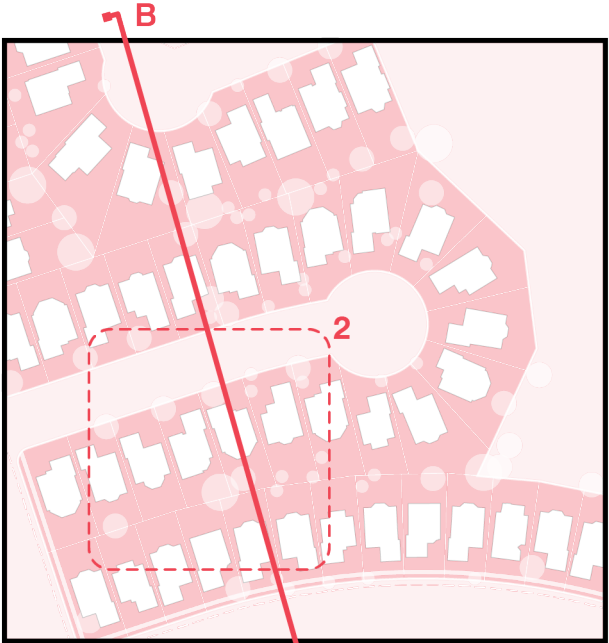


fig 4. 11b Unionville Neighbourhood

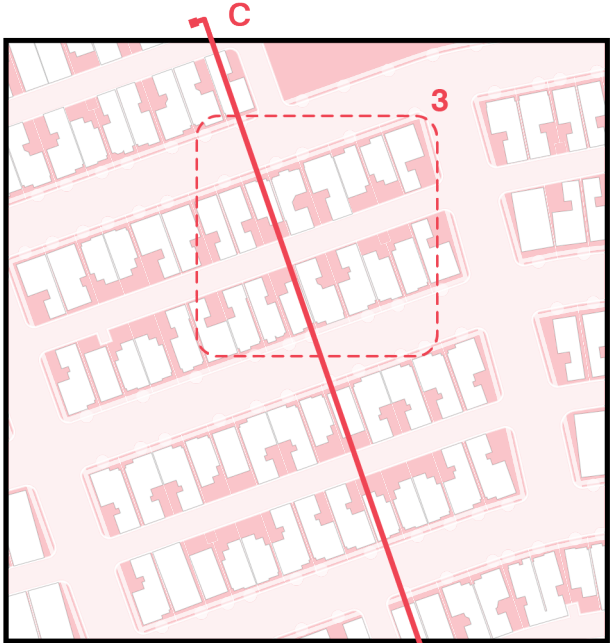


fig 4. 11c Cornelle Rouge Development

LOT STUDIES 1:1000

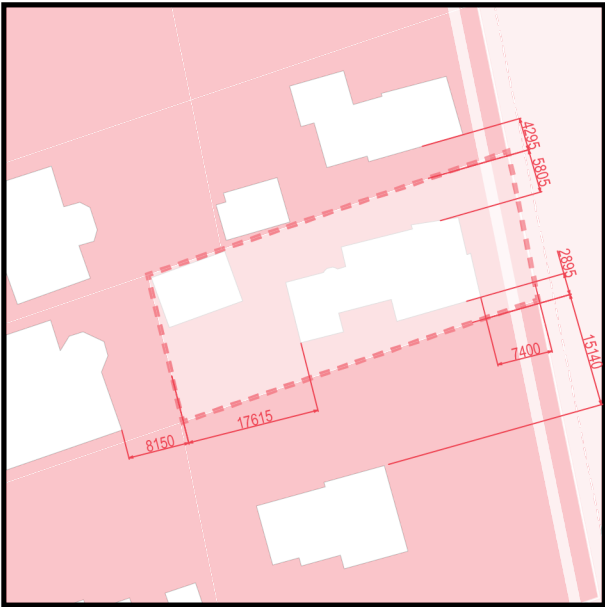


fig 4. 12a Unionville Main Street

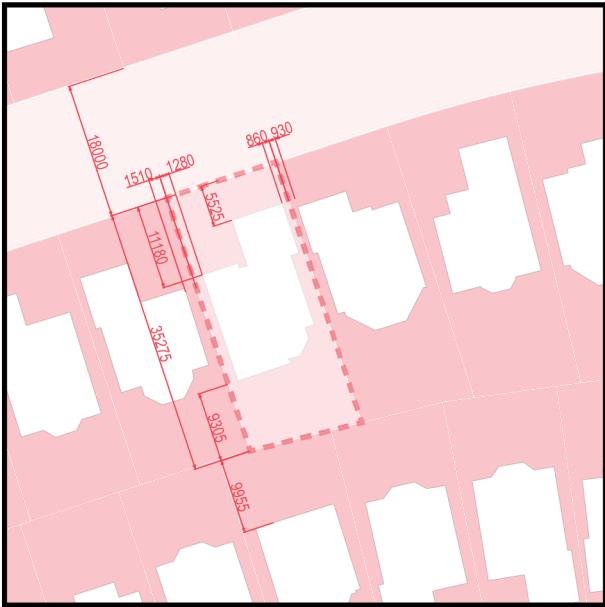


fig 4. 12b Unionville Neighbourhood

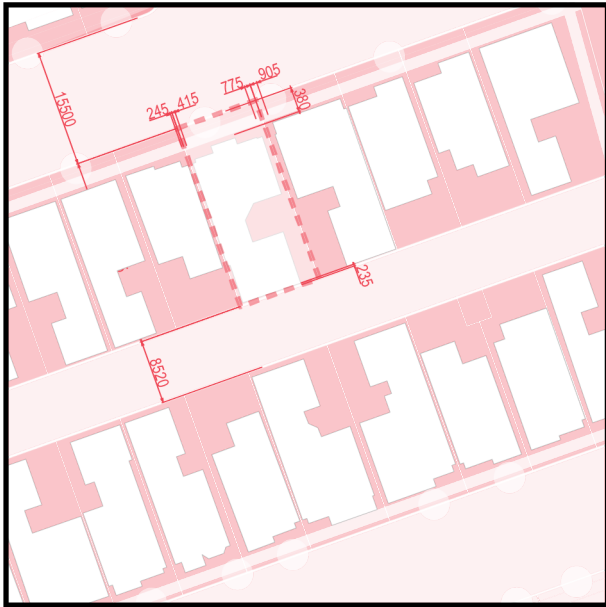


fig 4. 12c Cornelle Rouge Development

SECTIONS 1:1000

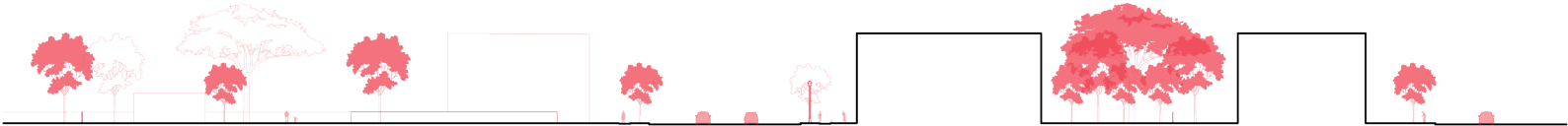


fig 4. 13a Unionville Main Street



fig 4. 13b Unionville Neighbourhood

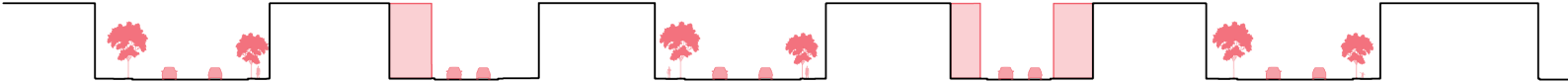
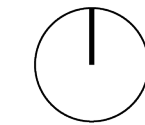


fig 4. 13c Cornelle Rouge Development

3.3 Berczy Village



1:40000







-  BUS STOP
-  UNDEVELOPED/FARM
-  PARK
-  WATER
-  BIKE LANE
-  CASE STUDY BLOCK



fig 4. 14 Map of Berczy Village, Markham



fig 4. 15a Bridle Walk Development Plan

The Bridle Walk Development Plan 1:5000

- 31 FOOT LOT
- 35 FOOT LOT
- 42 FOOT LOT
- 50 FOOT LOT



fig 4. 15b Key amenities near site

The Bridle Walk Roads, Sites and Parks 1:5000

BRIDLE PATH DEVELOPMENT

The Bridle Path development exists within the Berczy Village neighbourhood. The design proposal selected homes within this development for retrofit. Homes within this development are shaded in different colours depending on the size of the lot. Original floorplans distributed at sales center are located in the appendix.

KEY AMENITIES

Leaders point to key amenities within the site. There is a good selection within walking distance making it a convenient location.



fig 4. 15c Transit routes near site

The Bridle Walk
Transit Connection
1:5000

BIKE LANE
BUS PATH
BUS STOP

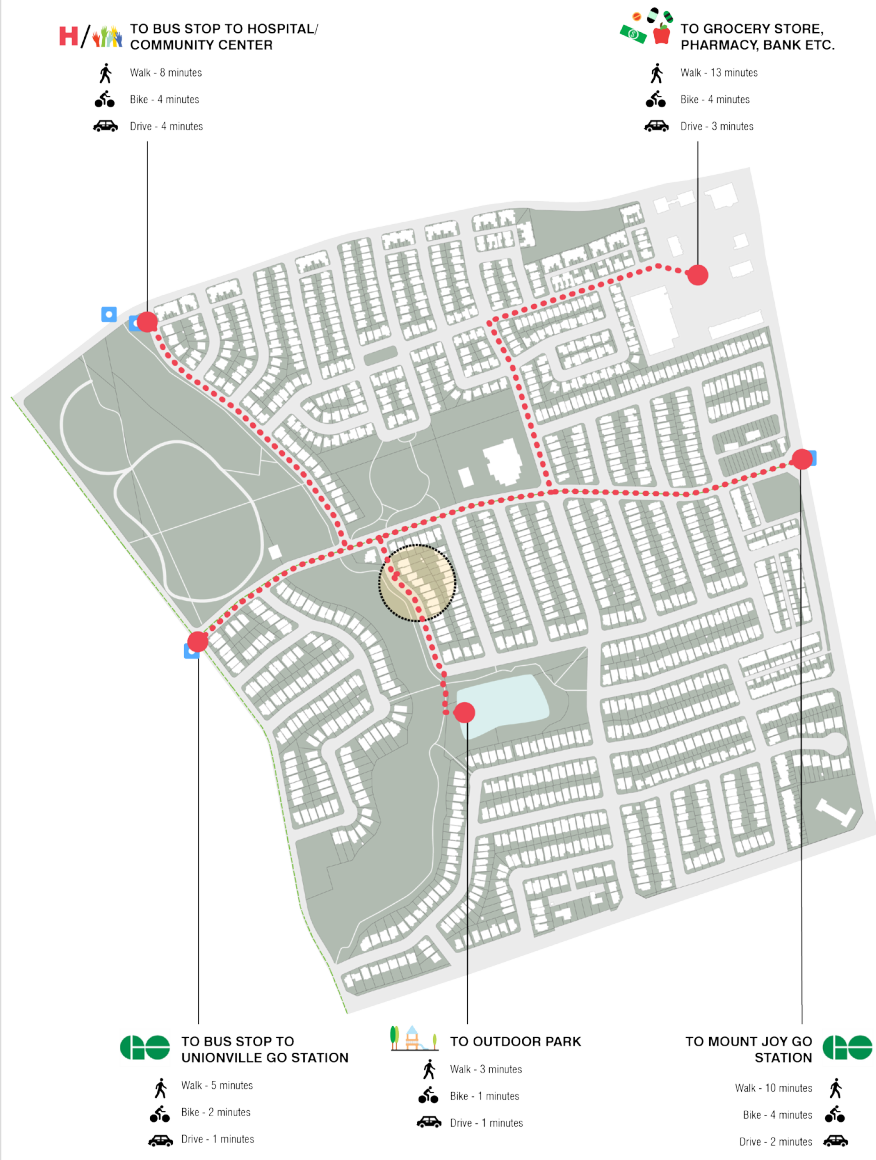


fig 4. 15d Walking distance to key locations near site

The Bridle Walk
Commute Distances
1:5000

TRANSIT

A number of bus stops frame this neighbourhood making it easy to travel to a number of locations without a car.

WALKING TIME

This map marks the walking time to some key locations including the grocery store plaza on the top right, to bus stops leading to Downtown Toronto (not including the trip to Downtown) and the park.

DESIGN PROPOSAL

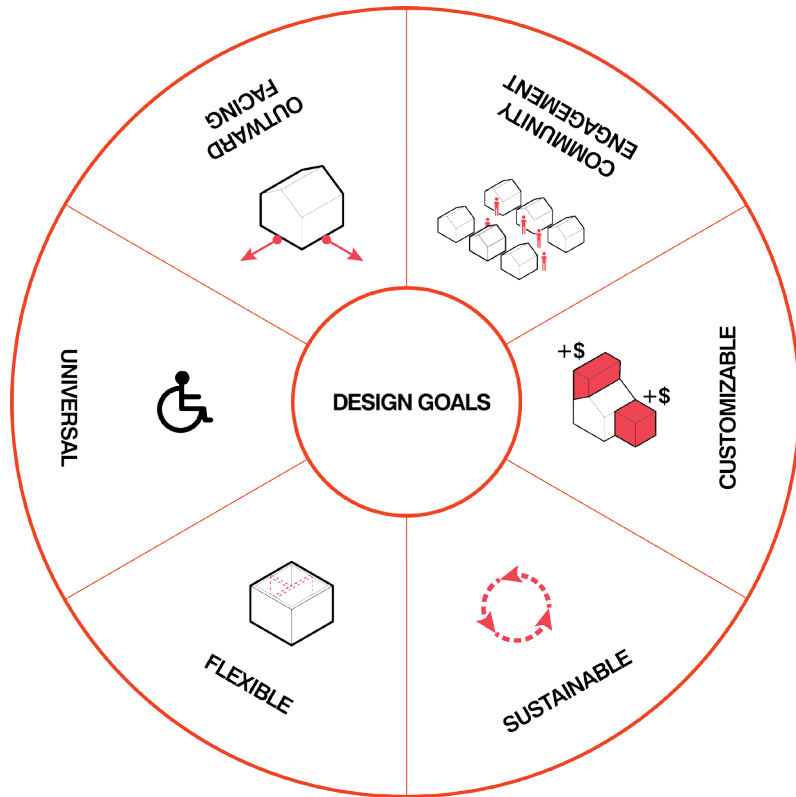
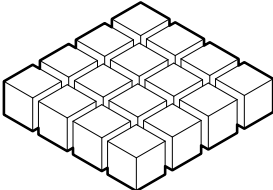


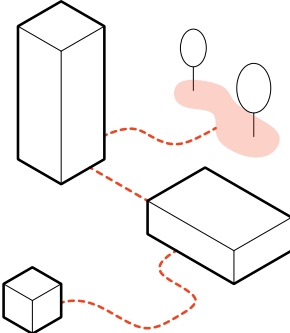
fig 5. 01 Design goals that were integrated into the proposal

The design proposal of this thesis will include a landscape plan that connects six different compositions of single-family homes to be retrofitted for the multigenerational family. Original plans from the Bridle Path development in Berczy Village, Markham were used as the starting point in the design proposal. The design goals listed acted as guides on decisions made within and outside of the homes.

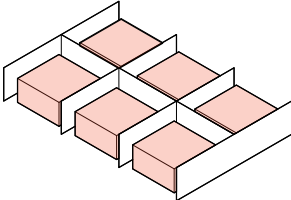
SUBURBAN ISSUES



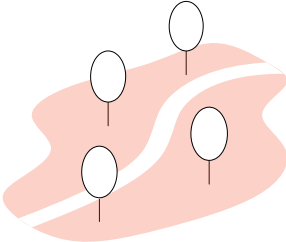
LARGE BLOCKS



DISCONNECTED FROM AMENITIES



LACK OF COMMUNITY



POOR PUBLIC SPACE

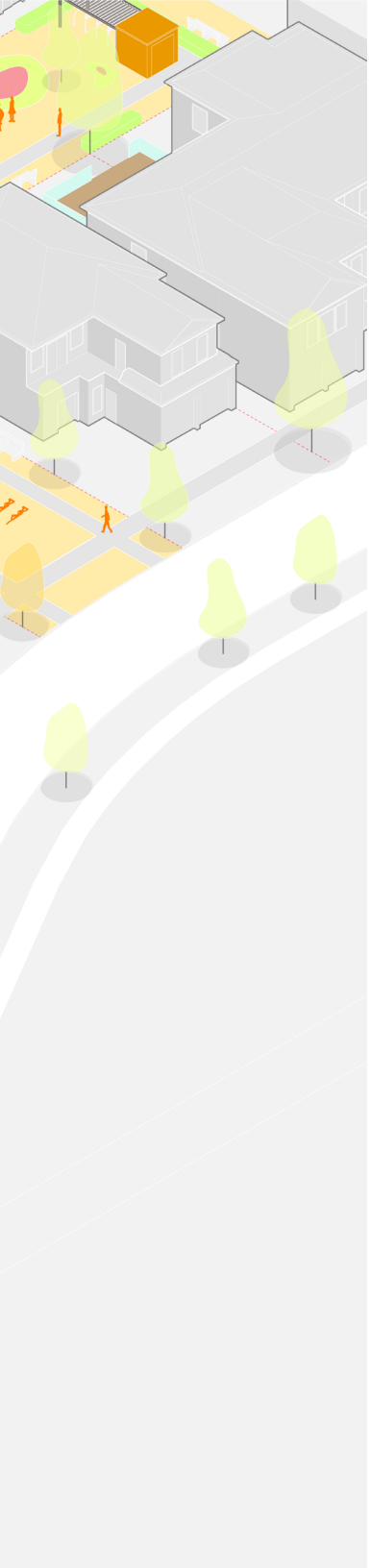
fig 5. 02 Key suburban site issues to be addressed

The landscape portion of the design proposal attacks key issues that suburban neighbourhoods face. These issues are identified in Chapter 3 on discussion of theories covered by Jane Jacobs in an urban context, like New York City.

In a suburban context, the landscape proposal will mitigate large blocks by creating a promenade midway to breakup long, monotonous residential streets. The disconnect from amenities is due to the distance between them and the convenience of vehicles. Adding amenities within the residential blocks are a way of closing the distance from home. A communal courtyard made by removing fences and connecting backyards together gathers enough space to include some amenities that draw pedestrians inwards. In doing so, the issue of lacking community will be improved as more people will venture out of their homes to enjoy the activities laid outside in their backyards. The landscape plan ties into the multigenerational narrative as it creates a space that could be enjoyed by all ages while developing both neighbourly and familial connections. A multigenerational environment focuses on collectiveness and interdependency which can be enhanced through landscape and outdoor programming.

To form these internal courtyards, they are designed with consideration of the four elements of design for neighbourhood parks as listed by Jane Jacobs including intricacy, centering, enclosure, and sun.



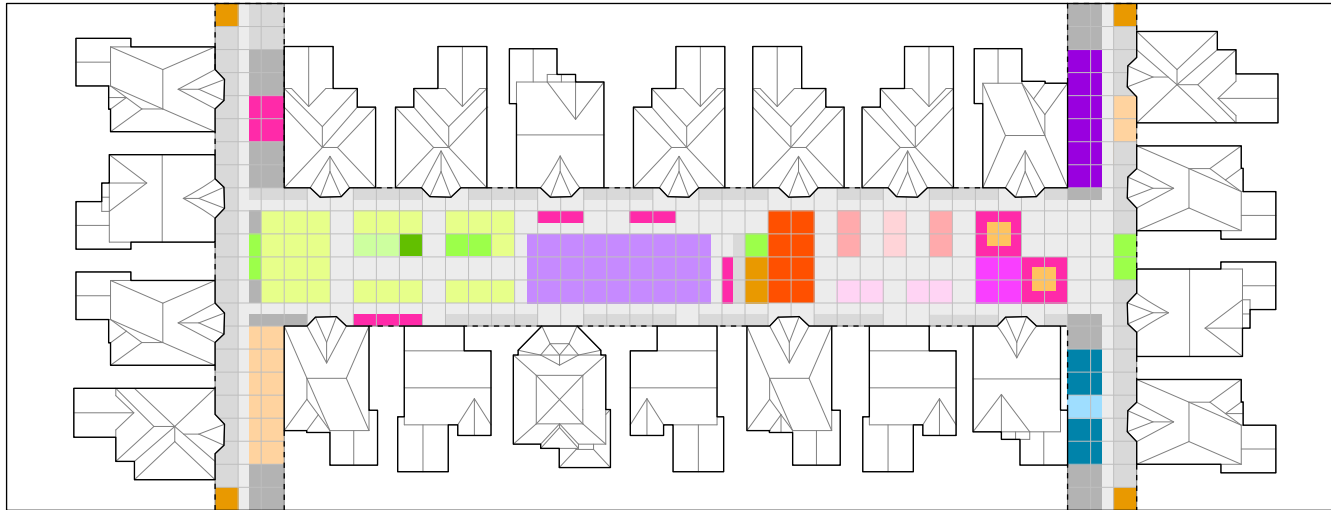


BLOCK WIDE DESIGN

The axonometric drawing shows a full scale block proposal which would require all homeowners within the block to approve. The central courtyard would be maintained and owned by the homeowners. Pathways separate the courtyard space from the backyards and create a sense of enclosure. Communal storage sheds and bike storage units will be placed every three to four lots, with programming in-between. The drawing shows a small scale soccer field, a community garden and park benches framing a water fountain.

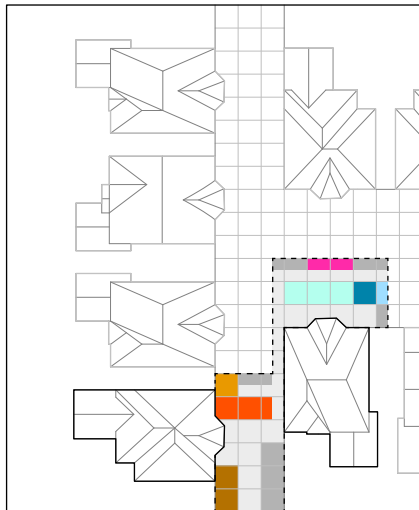
fig 5. 03 Site Axonometric

TYPICAL NEIGHBOURHOOD BLOCK

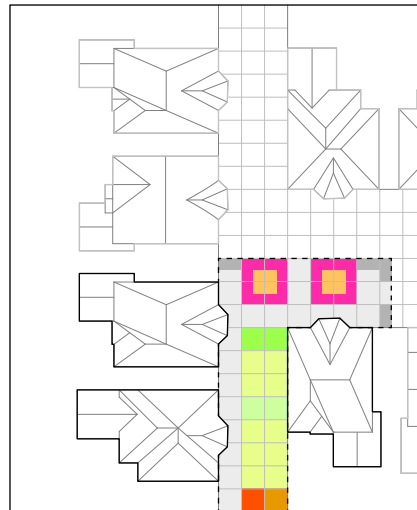


BLOCK SCALABILITY DIAGRAMS SCALE 1:1000

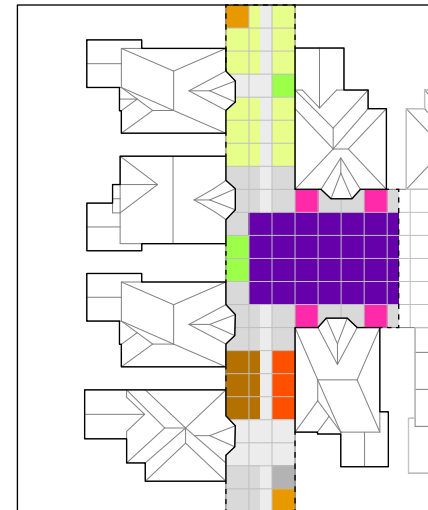
2 HOUSES SIDE TO CORNER



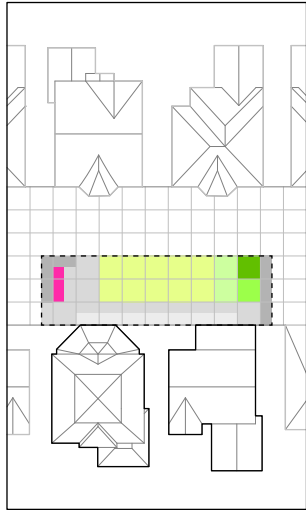
3 HOUSES SIDE TO CORNER



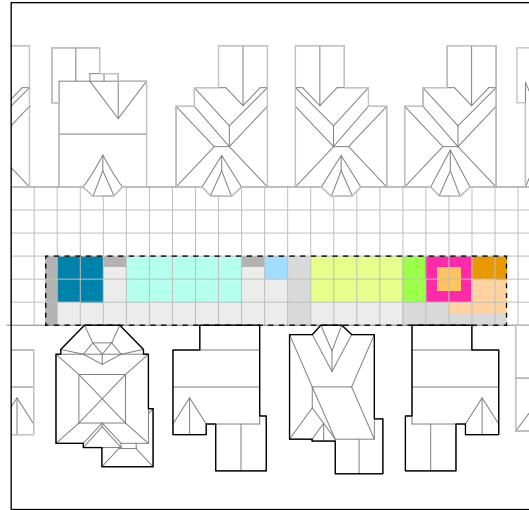
END OF BLOCK



2 HOUSES



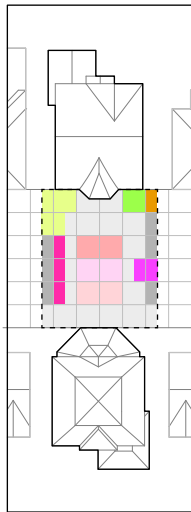
4 HOUSES



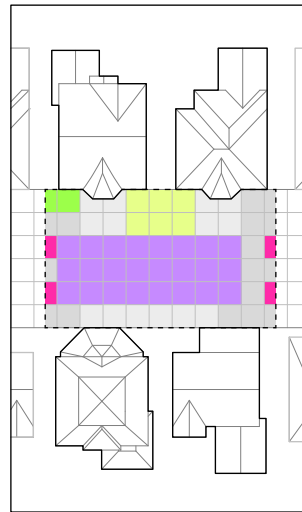
SCALABILITY

The full block scale is hard to achieve when all homeowners must be in agreement of the design and programming. Scalability is important to show that the design can be implemented for however many houses would like to be apart of the design.

2 HOUSES BACK TO BACK



4 HOUSES BACK TO BACK



4 HOUSES

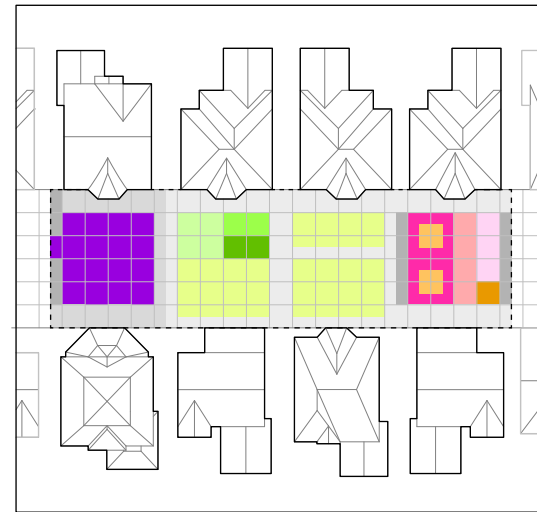


fig 5. 04 Different compositions based on block size



Open Green Space

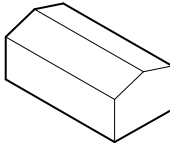


Sidewalk

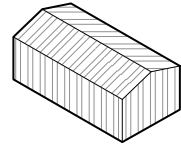
PROGRAM LEGEND



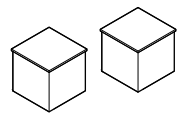
Community Garden



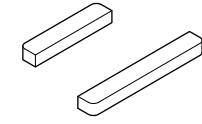
Garden Shed



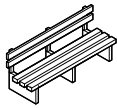
Greenhouse



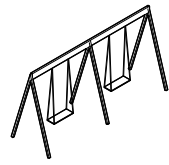
Food Storage



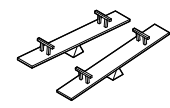
Shrubs/Plants



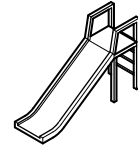
Park Seating



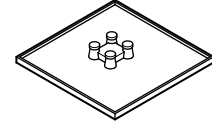
Swing Set



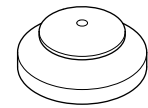
Seesaw Set



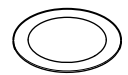
Slide



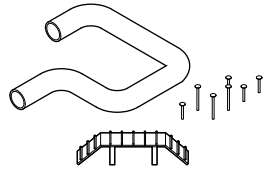
Sandbox



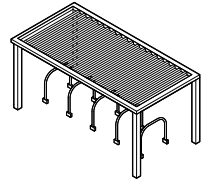
Fountain



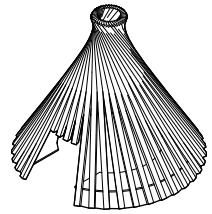
Barbecue Pits



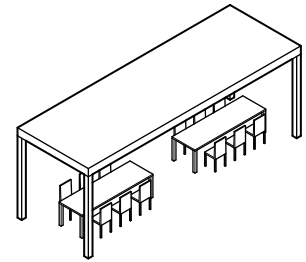
Pet Play Area



Bike Storage



Open Pavillion



Workshop

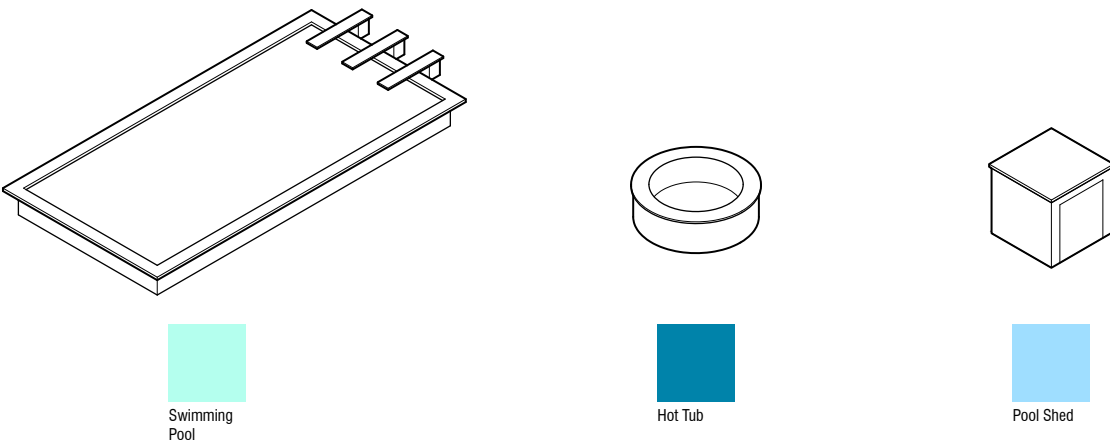
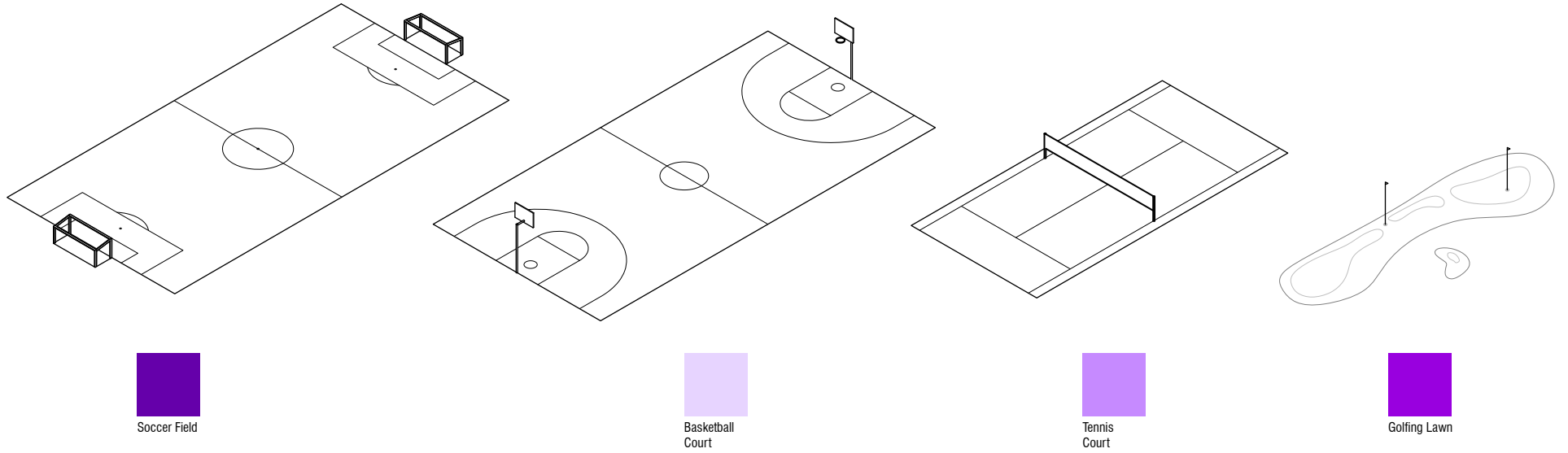
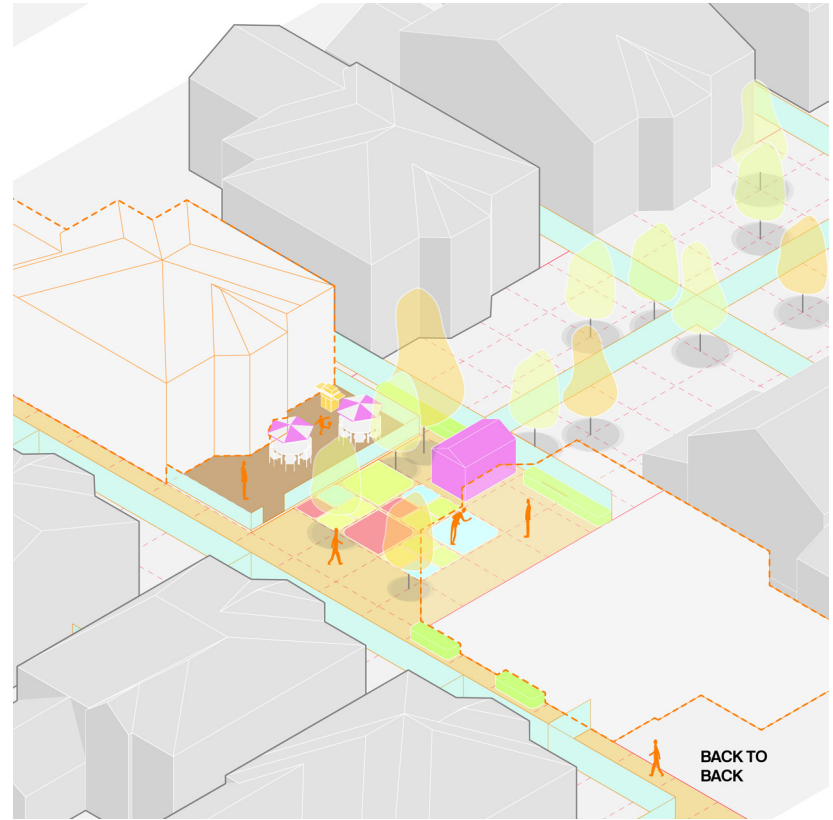


fig 5. 05 Legend for scalability diagram (pg.102-103)



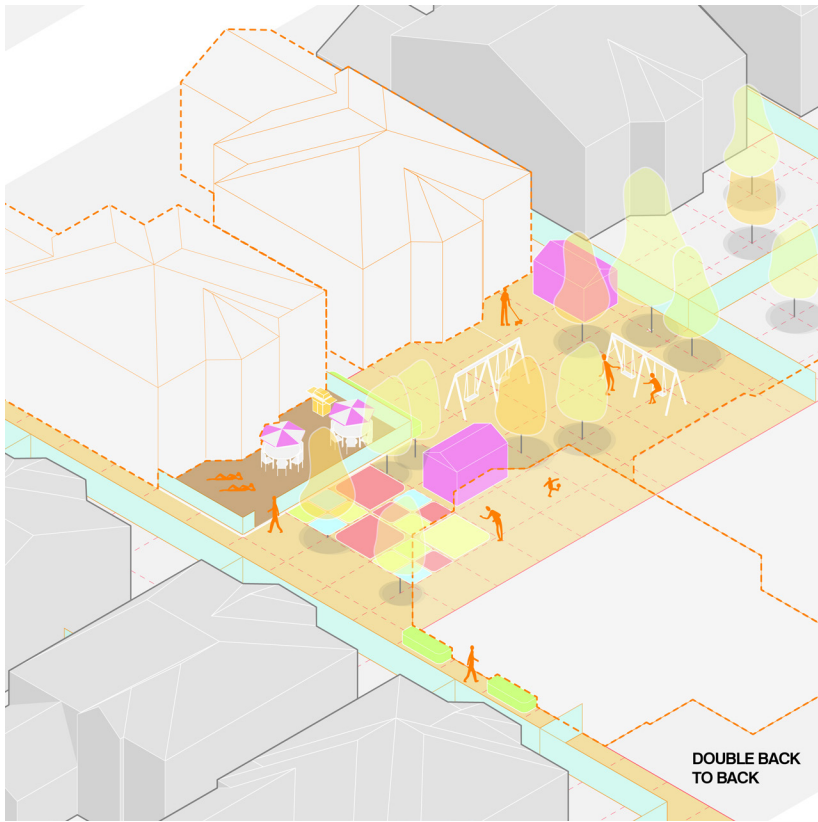


fig 5.06 Different compositions based on block size



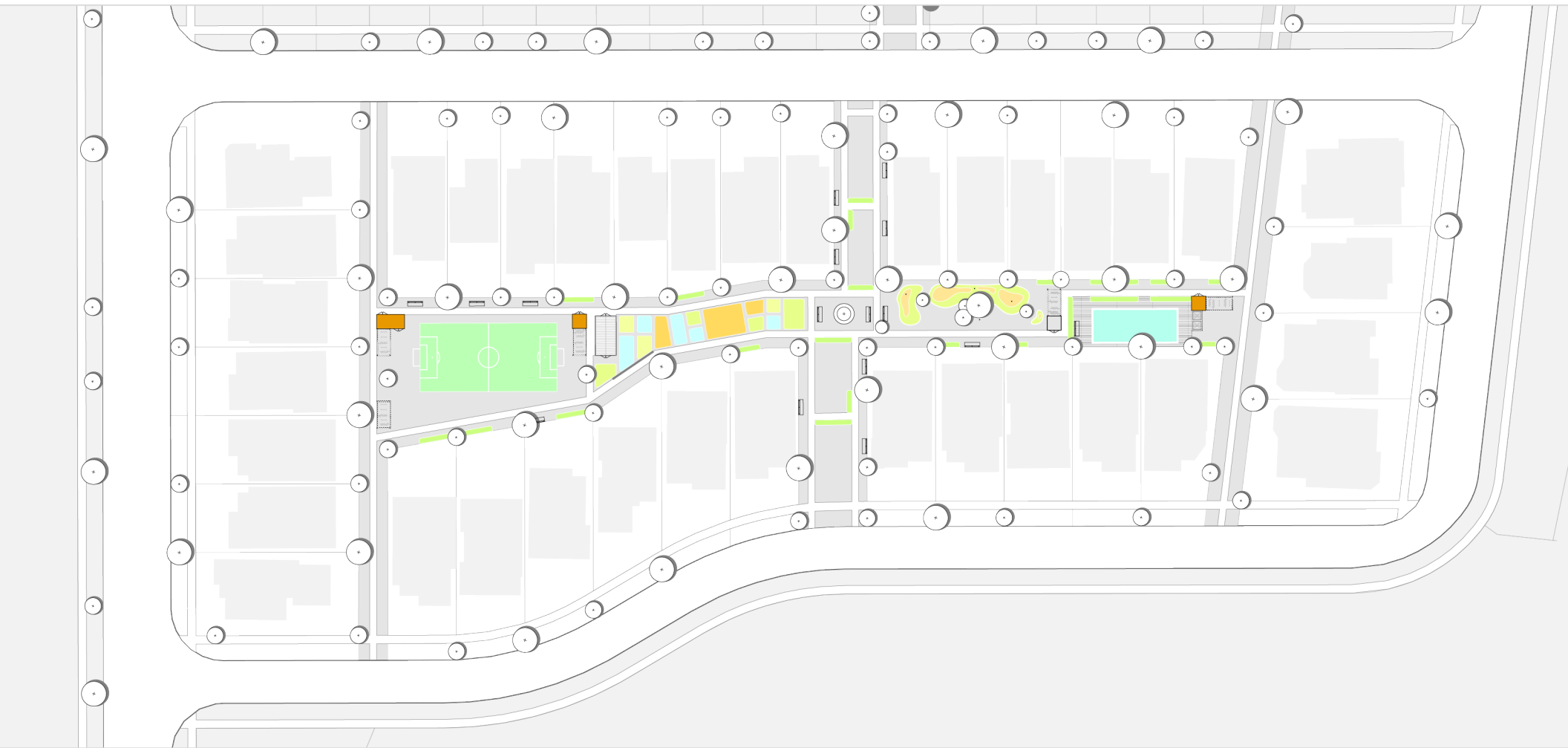
NEIGHBOURHOOD PLAN
1:1500



NEIGHBOURHOOD PLAN

The neighbourhood plan includes different kind of programming within each strip of courtyard in-between homes. The promenade running horizontally throughout each of the courtyards is meant to break up the long block as well as provide a new pedestrian route.

fig 5. 07 Full scale neighbourhood plan



1

ENLARGED LANDSCAPE PLAN
1:1000

fig 5.08 Enlarged plan of one neighbourhood block



fig 5. 09 Playing in the community garden



fig 5. 10 Underneath bridges connecting two houses together



fig 5. 11 Soccer field converts to skating rink during winter

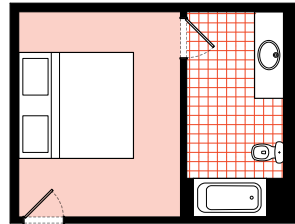


fig 5. 12 Use of bike storage

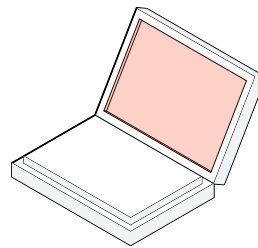
KEY DESIGN CONCEPTS



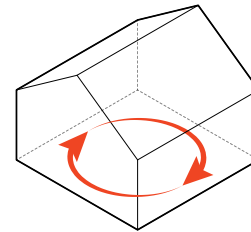
**MULTI-POINT
ENTRY**



**ALL ROOMS
AS SUITES**



**FLEXIBLE
WORK SPACE**



**OPEN
CIRCULATION**



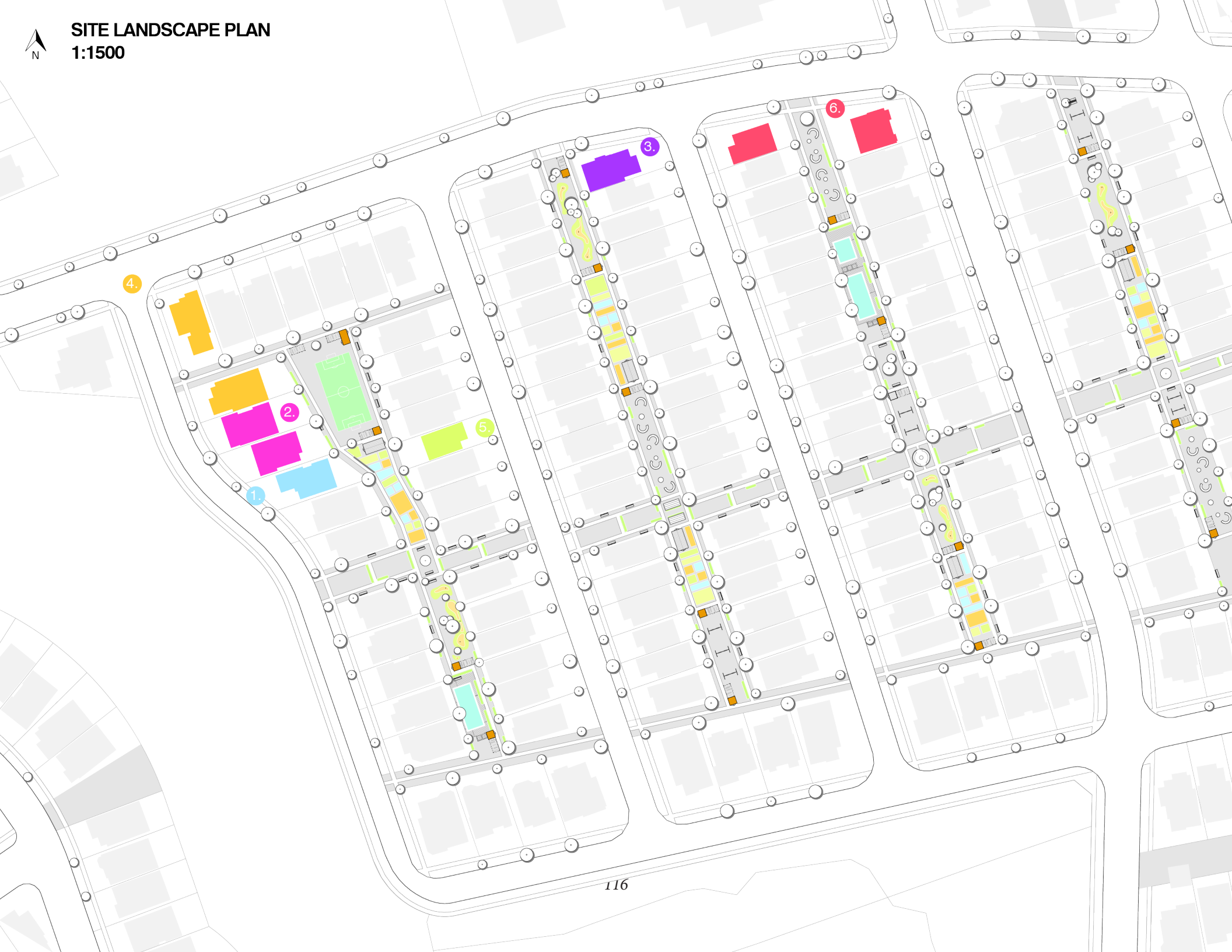
**ACCESSIBLE
GROUND
FLOOR SUITE**

fig 5. 13 Key internal design concepts to be implemented

Looking internally, the key design concepts that were implemented in each home include the following. Multi-point entry allows users to exit and enter the home in different ways. For entries that connect directly to a suite, it enhances the feeling of it being independent or stand-alone, to the rest of the house. All rooms as suites will give the same effect of added privacy and convenience. Flexible work space is important as the shift towards working from home increases. Multiple work stations within the home will be key such that all members will be able to have a designated spot for their jobs. Open circulation has been an ongoing trend over enclosed rooms. It gives the illusion of a larger space which would be important when the home is occupied by more people. Accessible ground floor suites were added in each of the homes as it gives seniors their own space where they can access all of the home's amenities conveniently.



SITE LANDSCAPE PLAN
1:1500

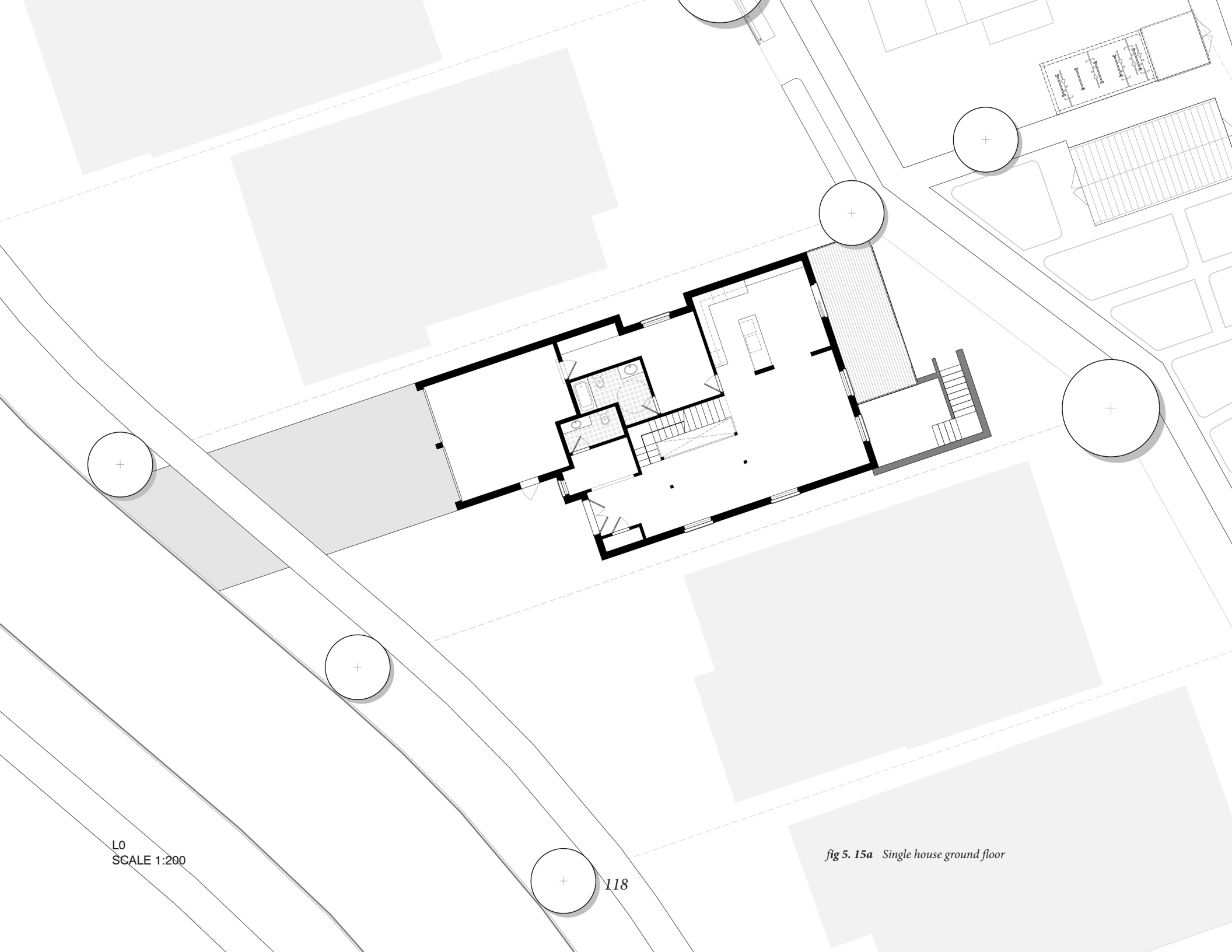


THE 6 COMPOSITIONS

The 6 compositions to be explored include:

The single house (1.), the side by side (2.), the corner (3.), the corner plus one (4.), the back to back mid-block (5.) and the back to back corner (6.).

fig 5. 14 Site plan with 6 compositions highlighted



L0
SCALE 1:200

118

fig 5. 15a Single house ground floor

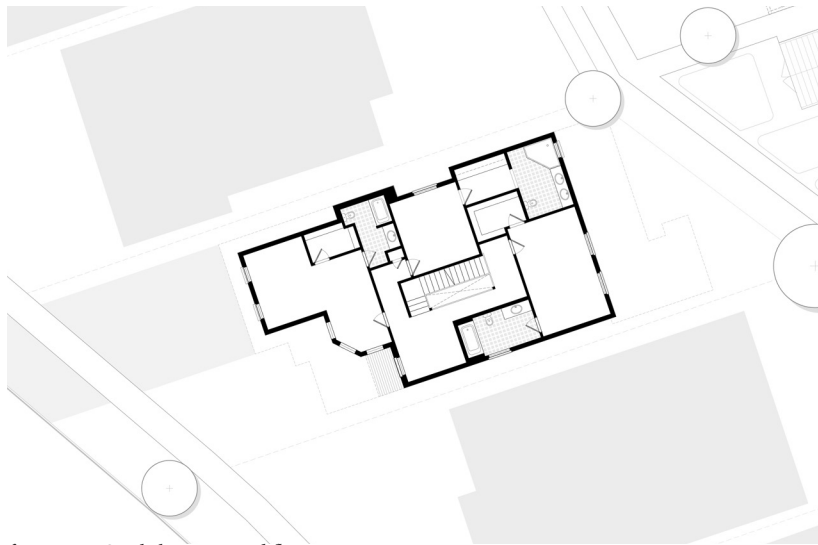


fig 5. 15c Single house second floor

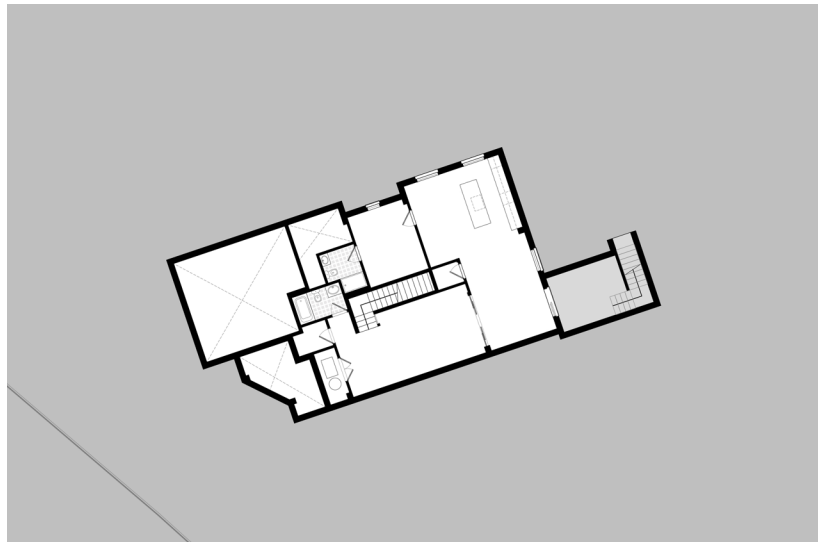
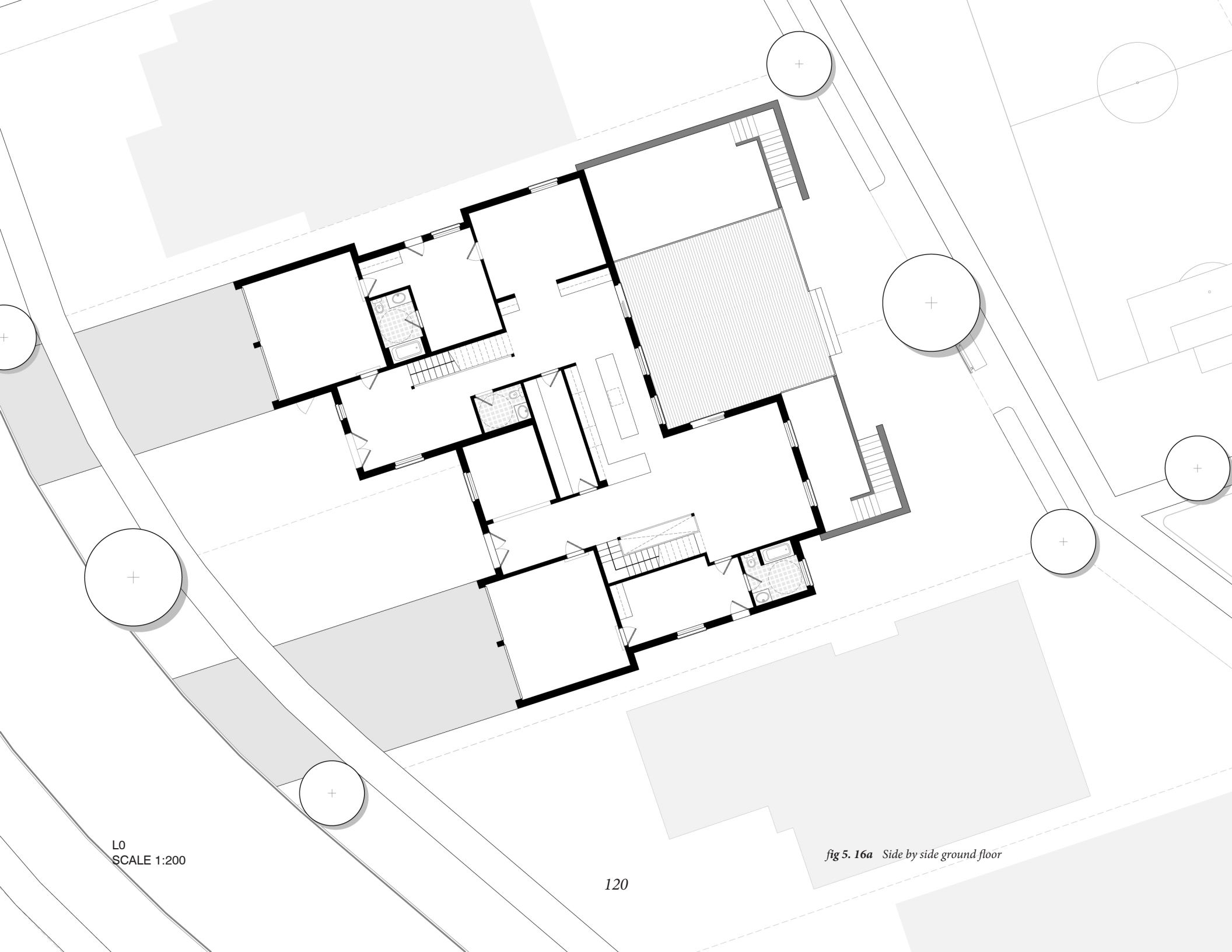


fig 5. 15b Single house basement

1. Single House

The single house proposal will act as the base for the five other compositions following. The basement shows a walkout apartment that connects to the courtyard. The walkout apartment has its own private sunken courtyard for gardening or lounging. There is an open space at the foot of the stairs that can be used as a home gym or an entertainment center. The ground floor shows an at grade suite that has a private entry that connects directly to the garage. On the other side, it is left open and can be used as a flexible work and live space depending on the family. The second level shows three bedrooms each with their own ensuite.



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SCALE 1:200

fig 5. 16a Side by side ground floor

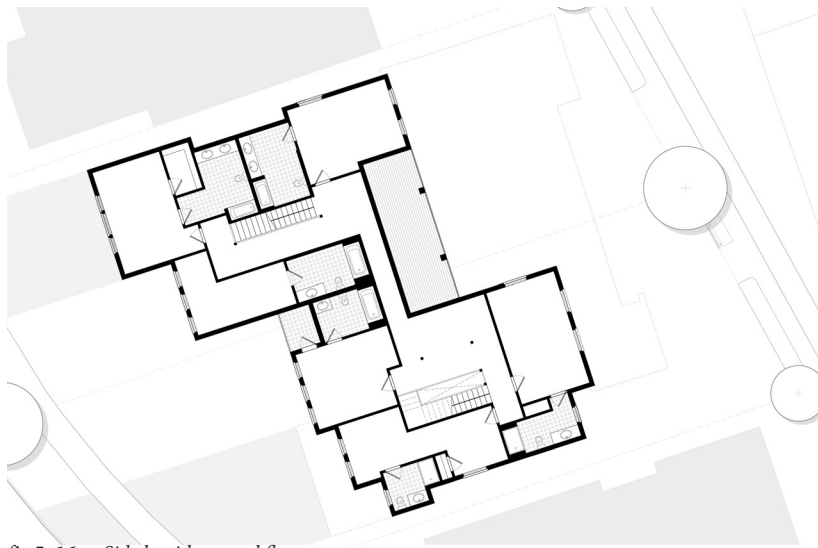


fig 5. 16c Side by side second floor

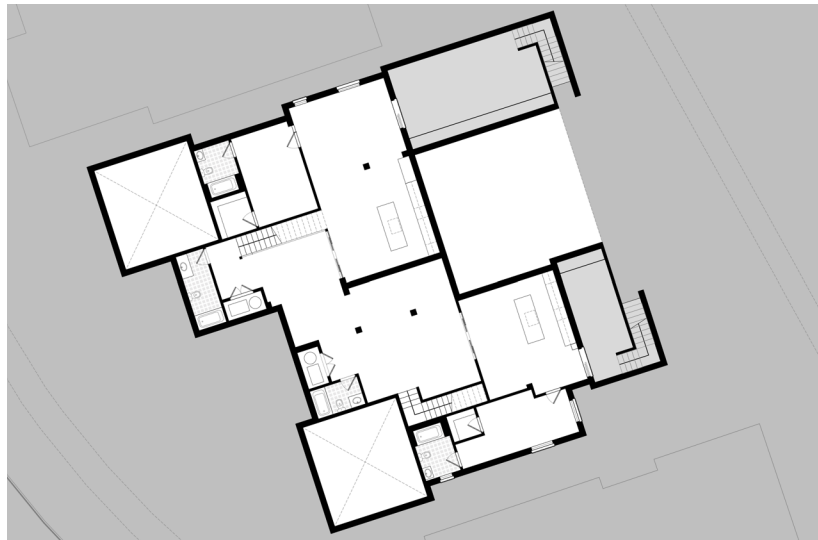
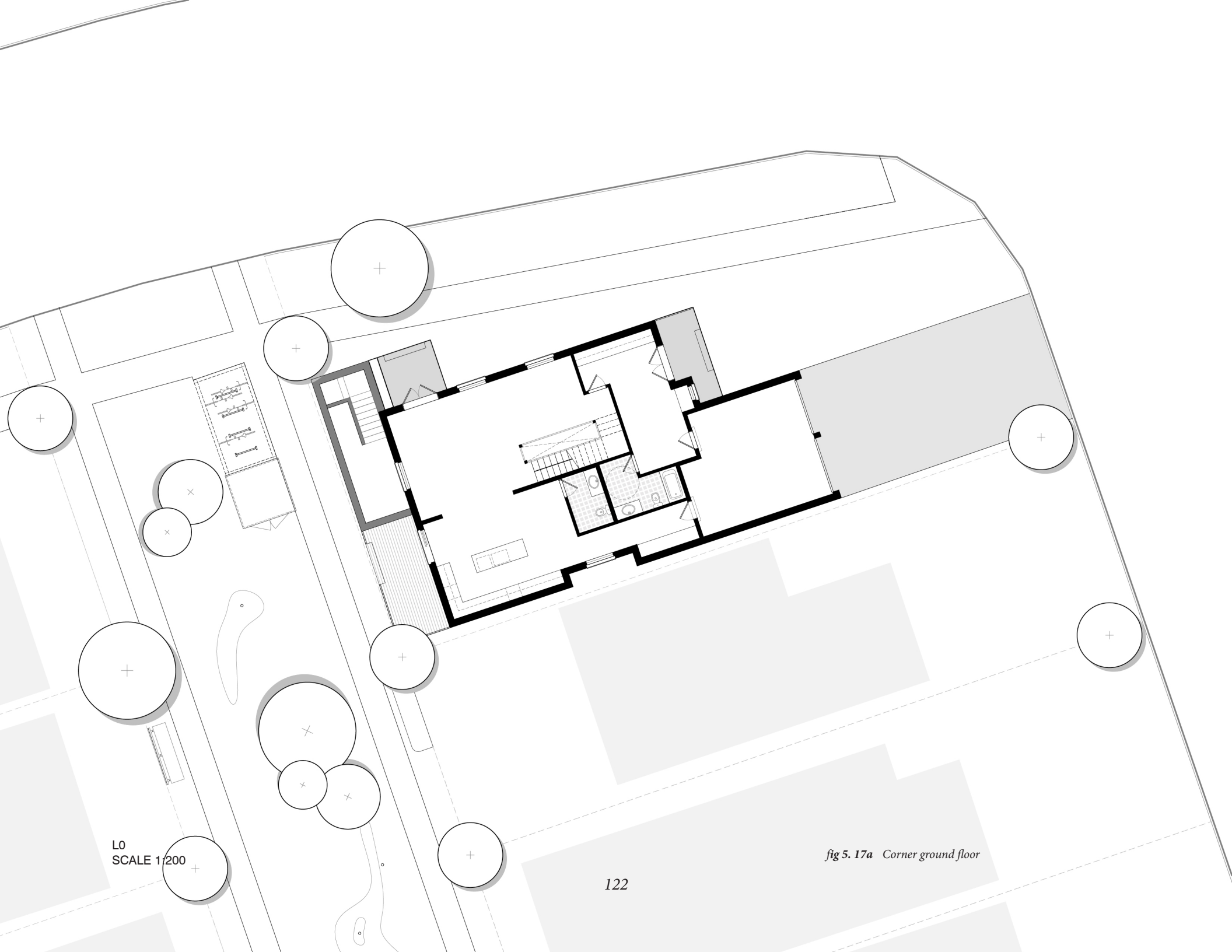


fig 5. 16b Side by side basement

2. Side by Side

The side by side composition fills in the gap in-between the two houses, increasing square footage. In the basement, there are two walkout apartments on each side connected by an open space that could be used as a home gym or entertainment center. On the ground level, two at grade suites are located on each side of the house, connecting to the garage, as well as a private entryway that exits onto the side lot. A large kitchen and pantry sit at the center of the house, with work and living spaces surrounding it. A family living space branches off the kitchen. A deck can be accessed by two sliding doors off the kitchen and living room. There is a total of three spaces on the ground floor that could be used as home offices. The second floor consists of six rooms each with their own ensuite. There is a large balcony that faces inwards to the courtyard, and a smaller private balcony that faces outwards to the street. The addition of these upstairs balconies is to provide new ways of enjoying the outdoors in a more private manner as a part of the backyard was taken away.



L0
SCALE 1/200

fig 5. 17a Corner ground floor

3. Corner

The corner composition creates a new entryway on another side of the house. The basement walkout apartment has a smaller sunken courtyard due to its proximity to the pathway. The ground floor has an at-grade suite connected to the garage, using the original main entrance as its own private entry. The new entryway leads directly into the kitchen and living area. There is opportuni for flexible work space left of the entryway. The second floor has three bedrooms each with their own ensuite.

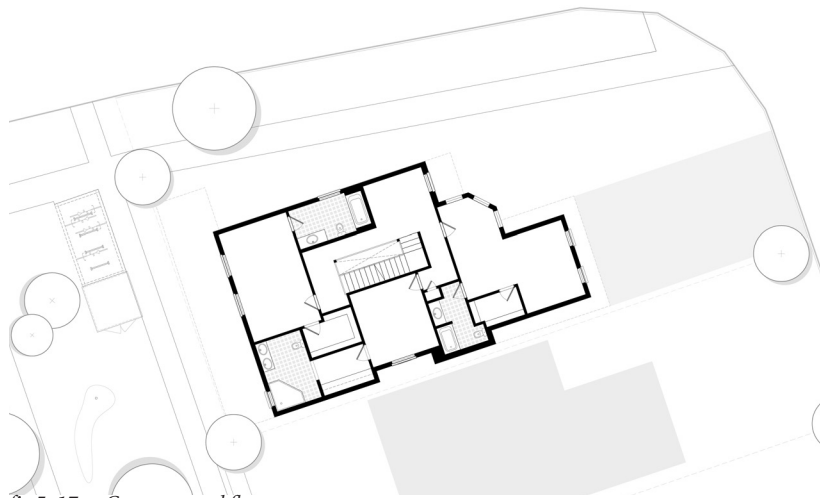


fig 5. 17c Corner second floor



fig 5. 17b Corner basement



L0
SCALE 1:200

124

fig 5. 18a Corner plus one ground floor

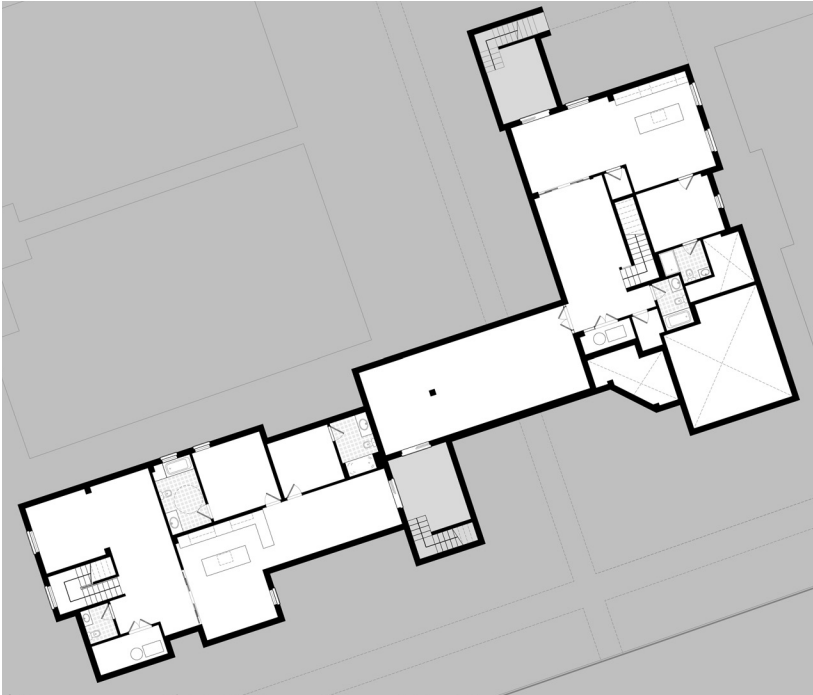


fig 5. 18b Corner plus one garage

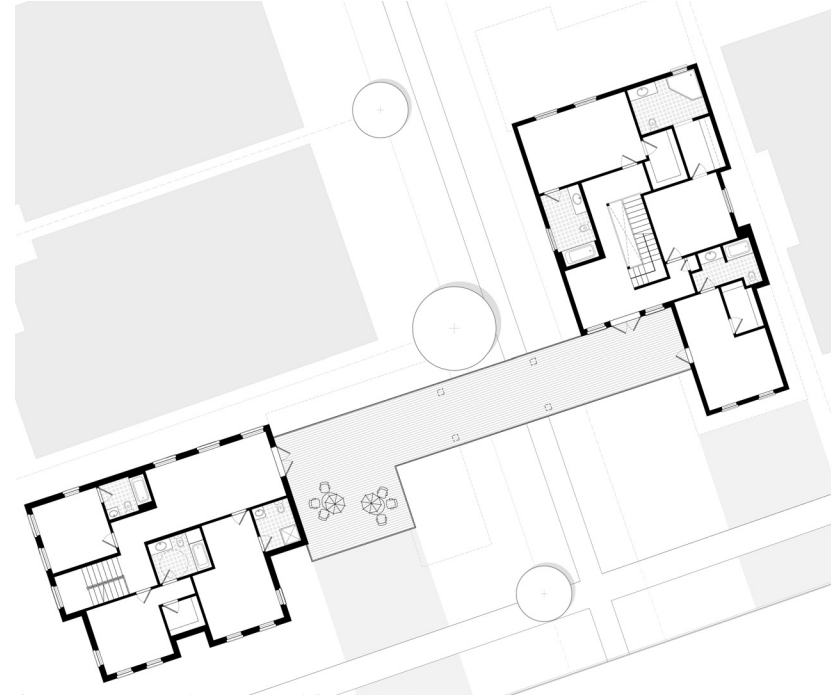


fig 5. 18c Corner plus one second floor

4. Corner Plus One

The corner plus one shows a physical bridging both underground and above ground. Underground, there is a walkout apartment on each side. The space connecting the two homes underground could be used as a space of gathering and entertaining. The ground floor shows the at-grade suites on each side. The second floor shows the bridge connection. The bridge can be used as a patio space for sun tanning, dining outdoors, and air drying laundry.



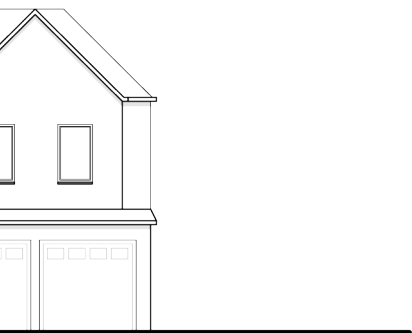
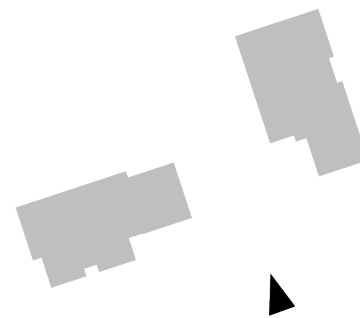
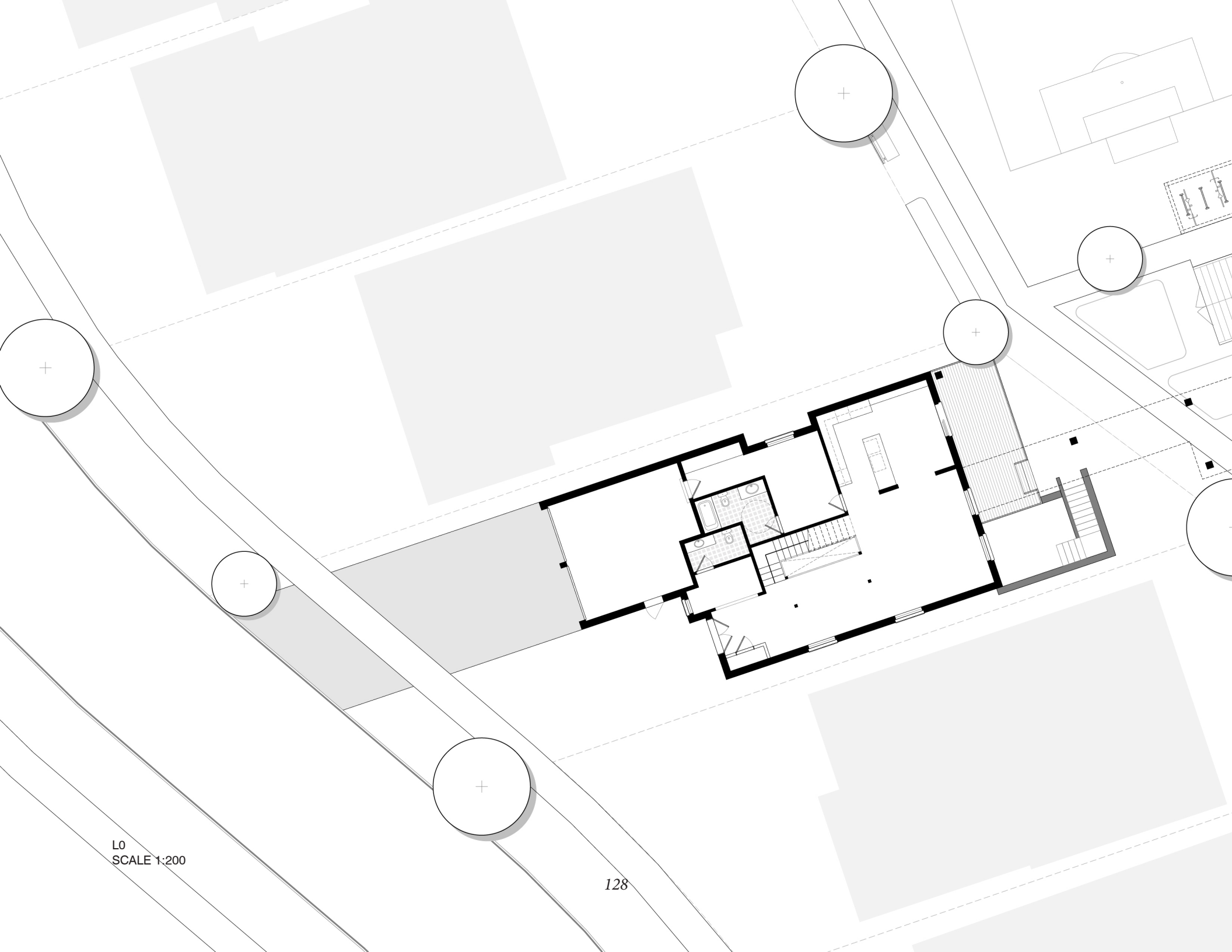


fig 5.19 Corner plus one street elevation



ELEVATION

The street view of the corner plus one shows the bridge connection. The elevation of the homes remain mostly untouched. The idea is to keep the retrofits of the house itself minimal such that it does not disrupt the pattern of suburban architecture.



L0
SCALE 1:200

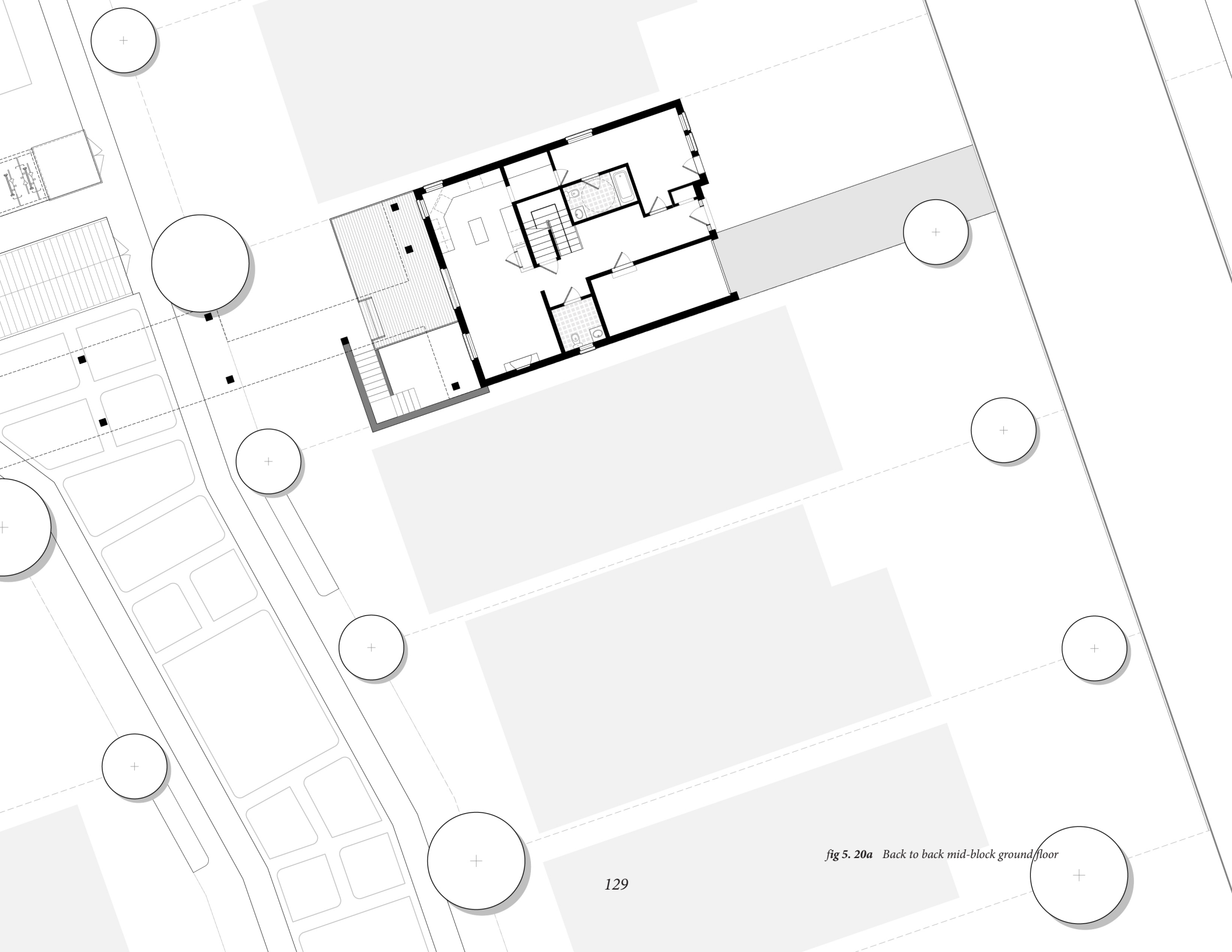


fig 5. 20a Back to back mid-block ground floor

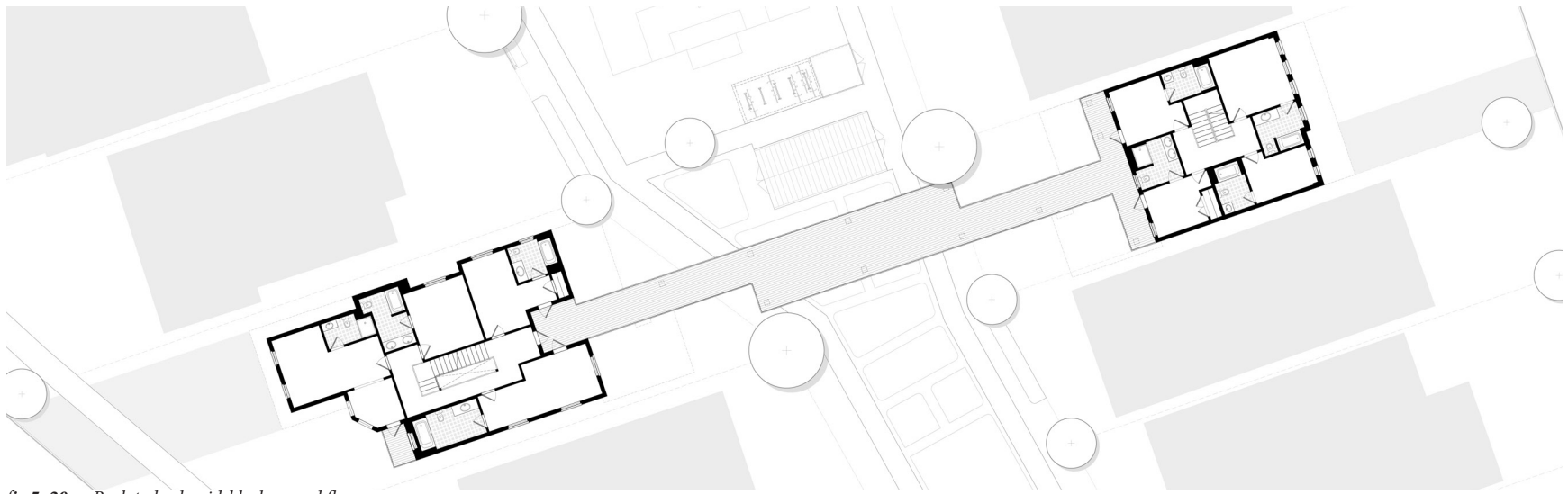


fig 5. 20c Back to back mid-block second floor

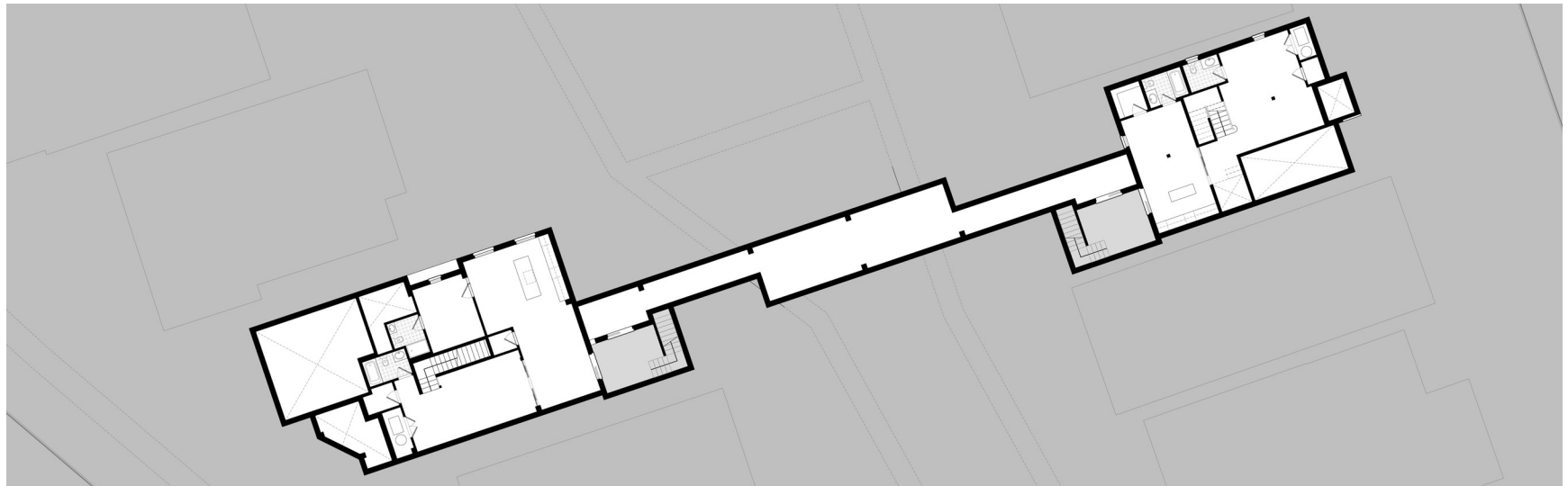
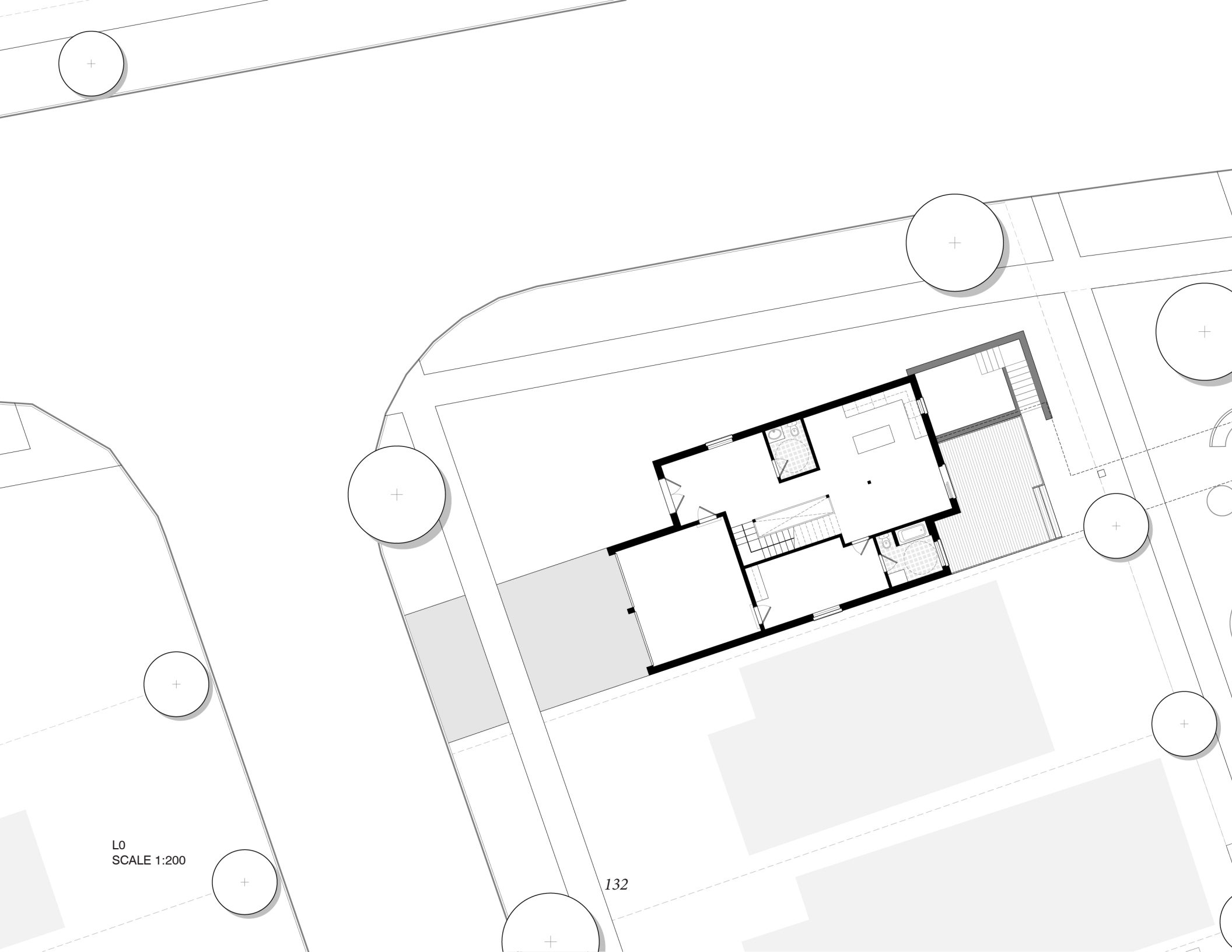


fig 5. 20b Back to back mid-block basement

5. Back to Back Mid-Block

The back to back mid-block design connects two homes that follow the single house design (1.) with a bridge both underground and above ground like the corner plus one (4.). The columns supporting the bridge will avoid the pathways underneath and be kept as open as possible. The bridge and underground passage can be used as gathering spaces, indoor and outdoor, as listed in the corner plus one (4.) composition.



L0
SCALE 1:200

132

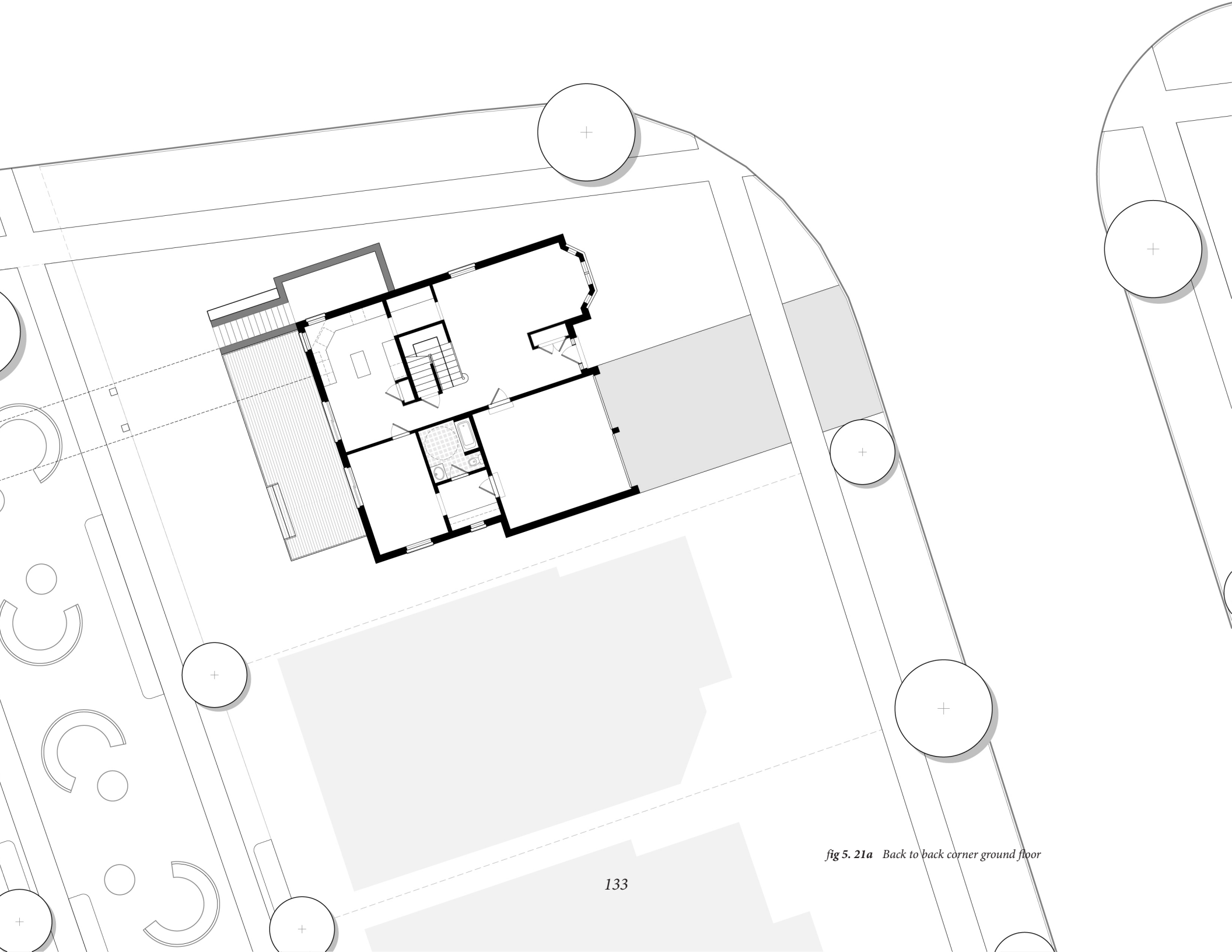


fig 5. 21a Back to back corner ground floor

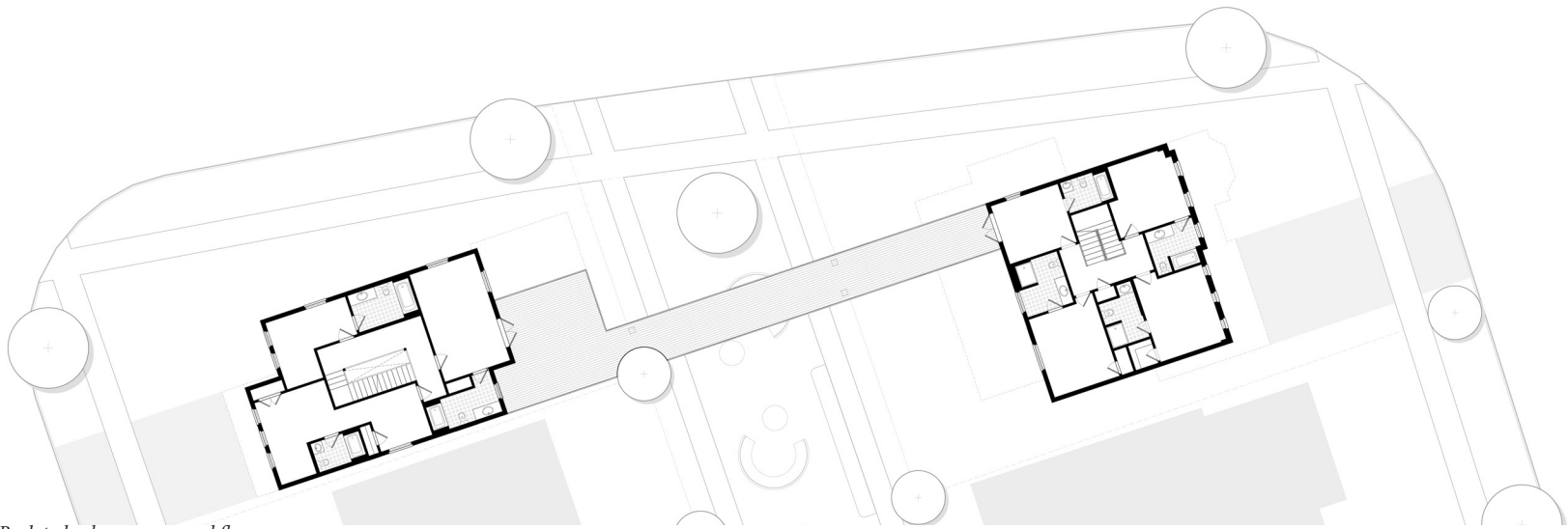


fig 5. 21c Back to back corner second floor

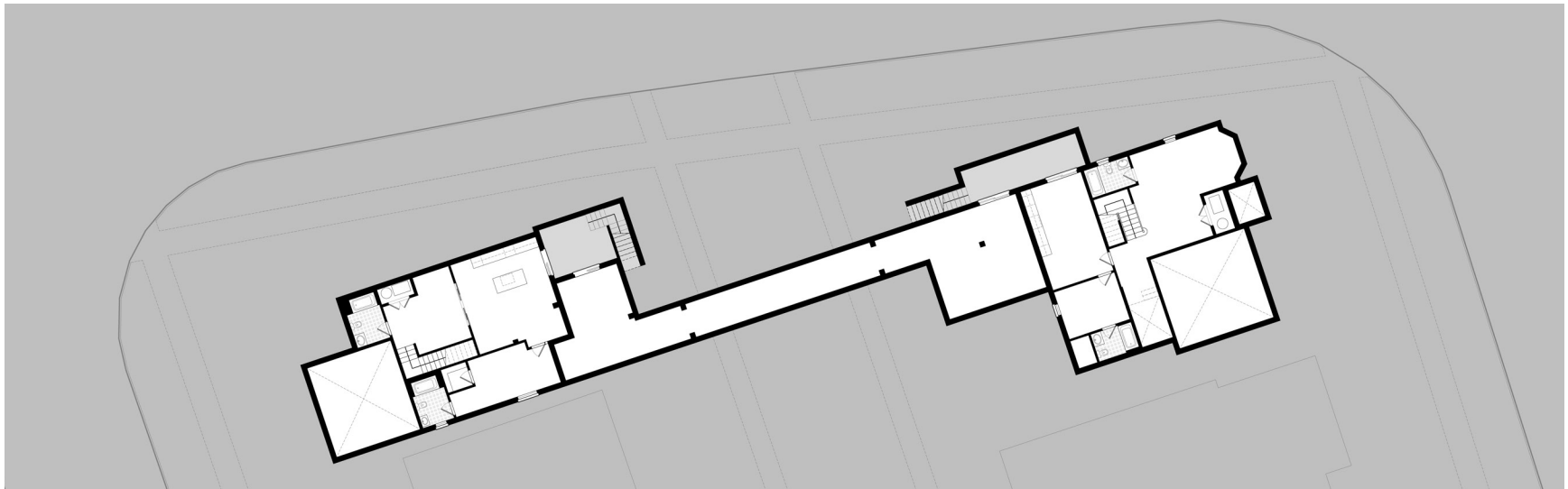
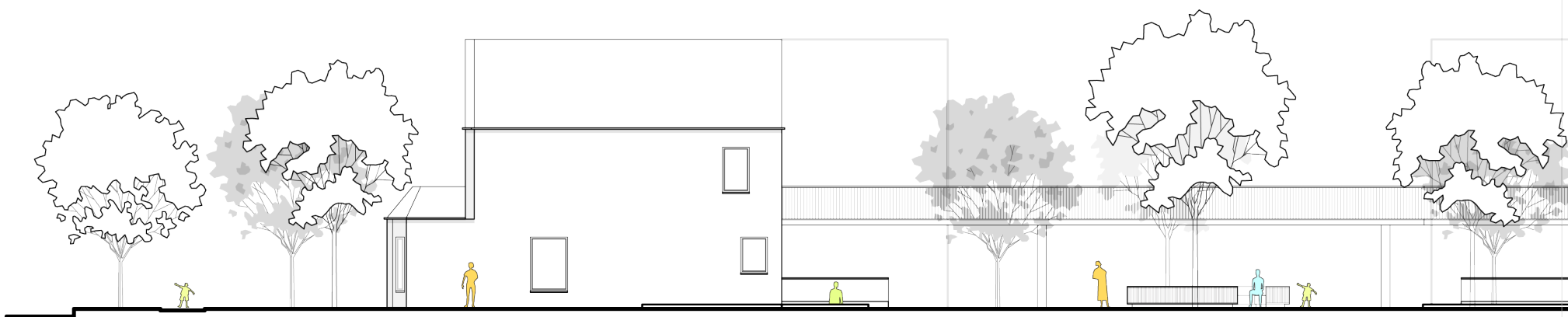


fig 5. 21b Back to back corner basement

6. Back to Back Corner

The back to back corner includes two homes that follow single house (1.) composition and the corner house (3.) composition. Due to the nature of the houses on the lot, a new entryway was not implemented similar to the corner house (3.). The bridge above and underground follow similar characters as the back to back mid-block (5.) and corner plus one (4.).



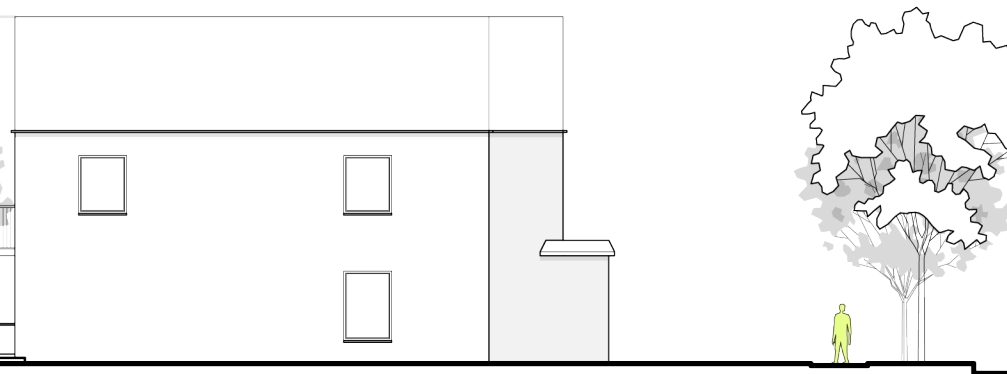


fig 5. 22 Back to back corner street elevation



ELEVATION

Similar to the elevation of the corner plus one (4.), the idea of the bridge and methods of retrofit were to retain the character of suburban architecture, keeping it minimal and simple.



fig 5. 23 Looking into sunken courtyard from basement



fig 5. 24 Walking across the bridge

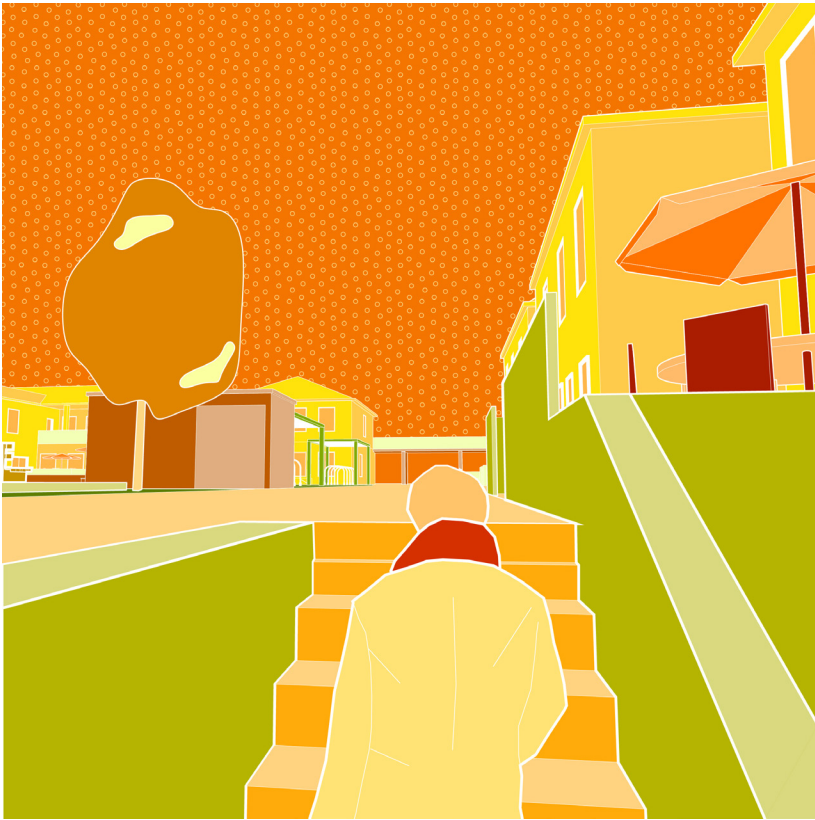


fig 5. 25 Stepping into the internal courtyard from basement



fig 5. 26 Walking out of internal courtyard at night

INTERNAL SPACE

Taking the side by side (2.) composition, a floor by floor axonometric drawing shows how the multigenerational home can be furnished and occupied. A fictional multigenerational family was drawn up to add to the narrative.

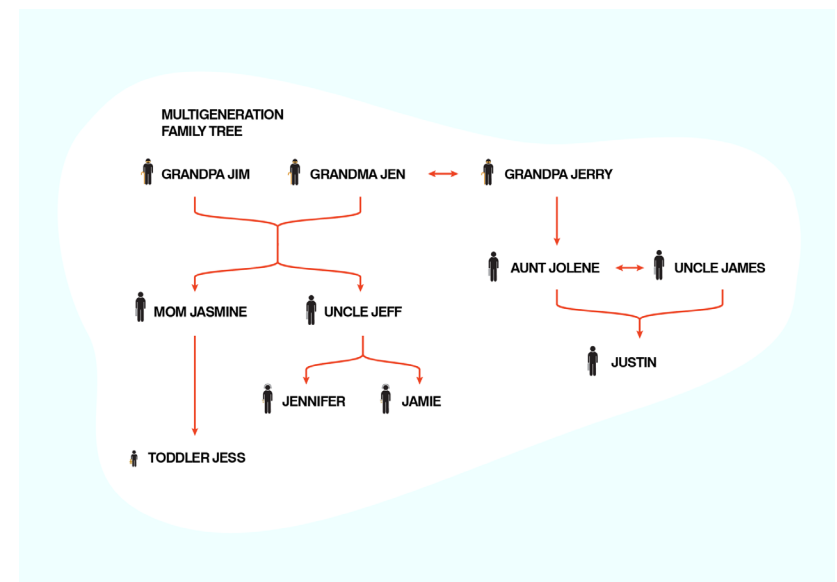
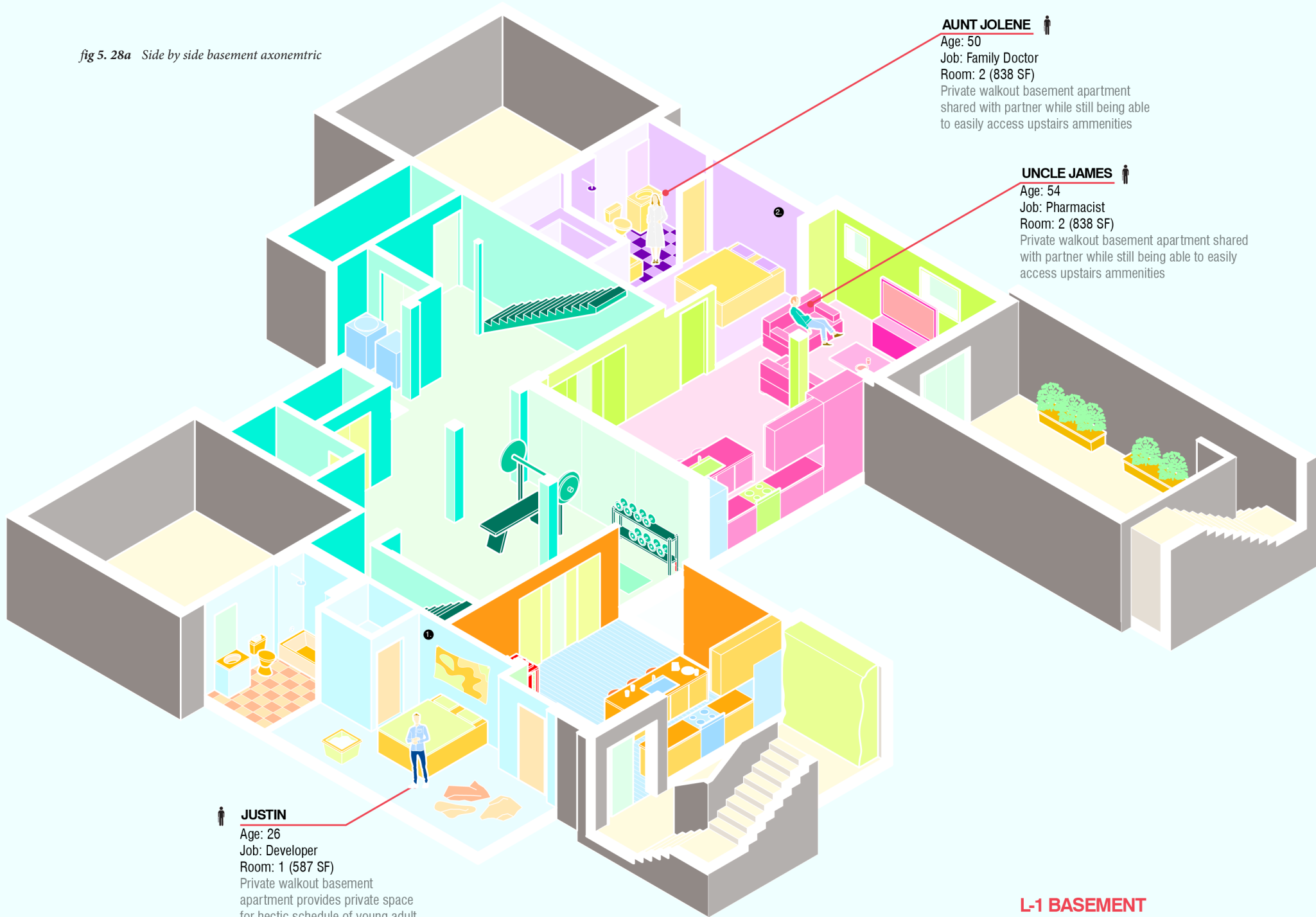


fig 5. 27 Fictional multigenerational family tree

fig 5. 28a Side by side basement axonometric



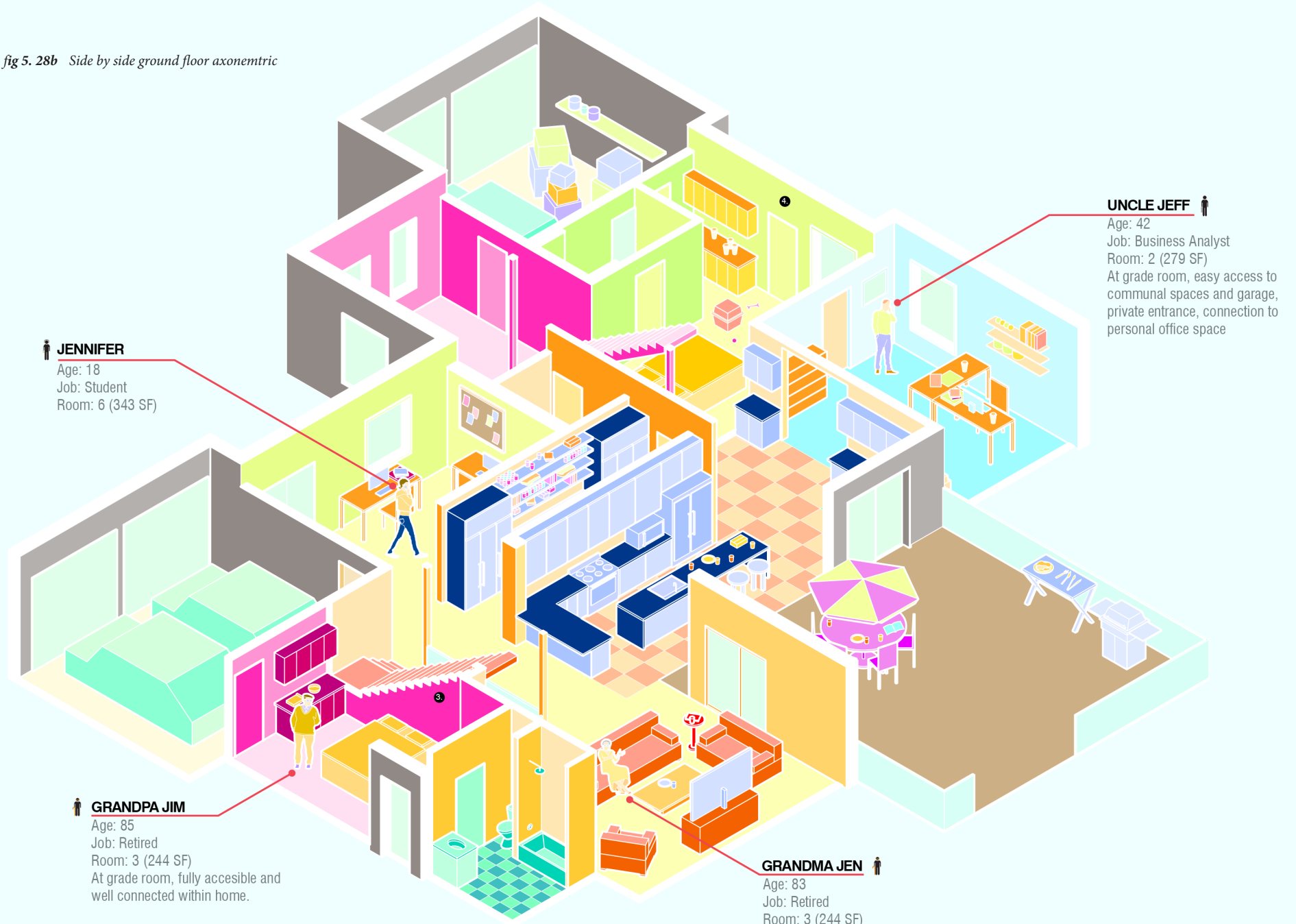
JUSTIN
Age: 26
Job: Developer
Room: 1 (587 SF)
Private walkout basement apartment provides private space for hectic schedule of young adult.

AUNT JOLENE
Age: 50
Job: Family Doctor
Room: 2 (838 SF)
Private walkout basement apartment shared with partner while still being able to easily access upstairs amenities

UNCLE JAMES
Age: 54
Job: Pharmacist
Room: 2 (838 SF)
Private walkout basement apartment shared with partner while still being able to easily access upstairs amenities

L-1 BASEMENT

fig 5. 28b Side by side ground floor axonometric



JENNIFER
Age: 18
Job: Student
Room: 6 (343 SF)

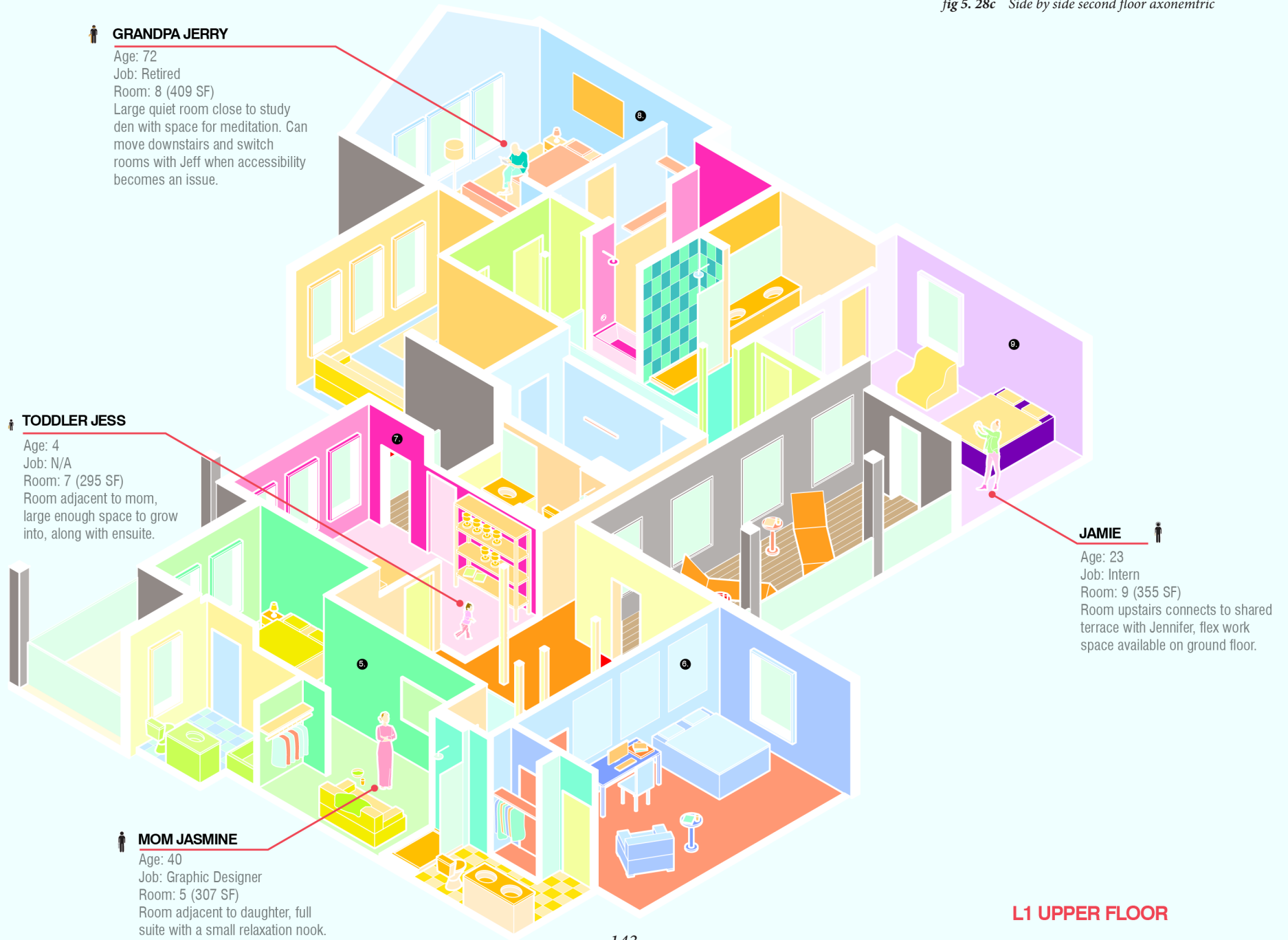
UNCLE JEFF
Age: 42
Job: Business Analyst
Room: 2 (279 SF)
At grade room, easy access to communal spaces and garage, private entrance, connection to personal office space

GRANDPA JIM
Age: 85
Job: Retired
Room: 3 (244 SF)
At grade room, fully accessible and well connected within home.

GRANDMA JEN
Age: 83
Job: Retired
Room: 3 (244 SF)
At grade room, fully accesible and well connected within home.

L0 GROUND FLOOR

fig 5. 28c Side by side second floor axonometric



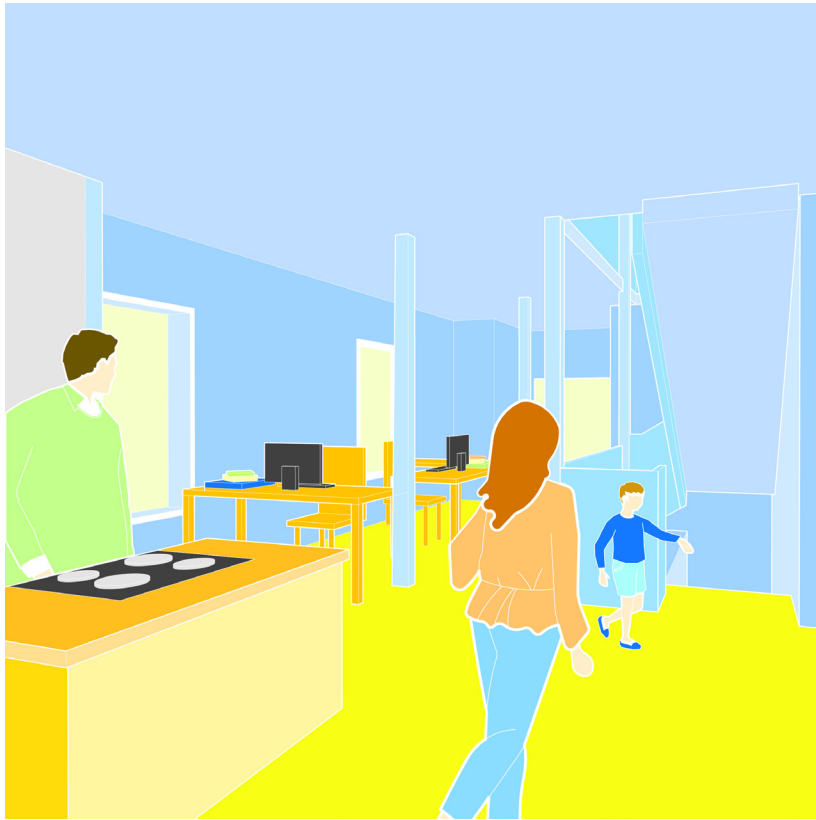


fig 5. 29 Kitchen and flexible workspace



fig 5. 30 Sitting on the deck overlooking courtyard

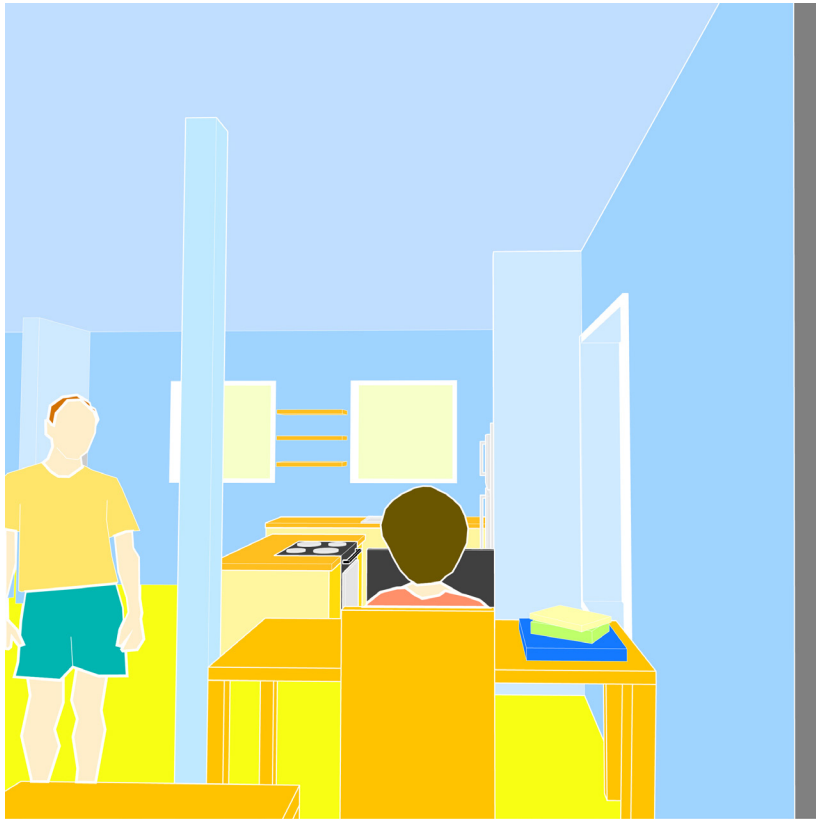


fig 5. 31 Kitchen and flexible workspace

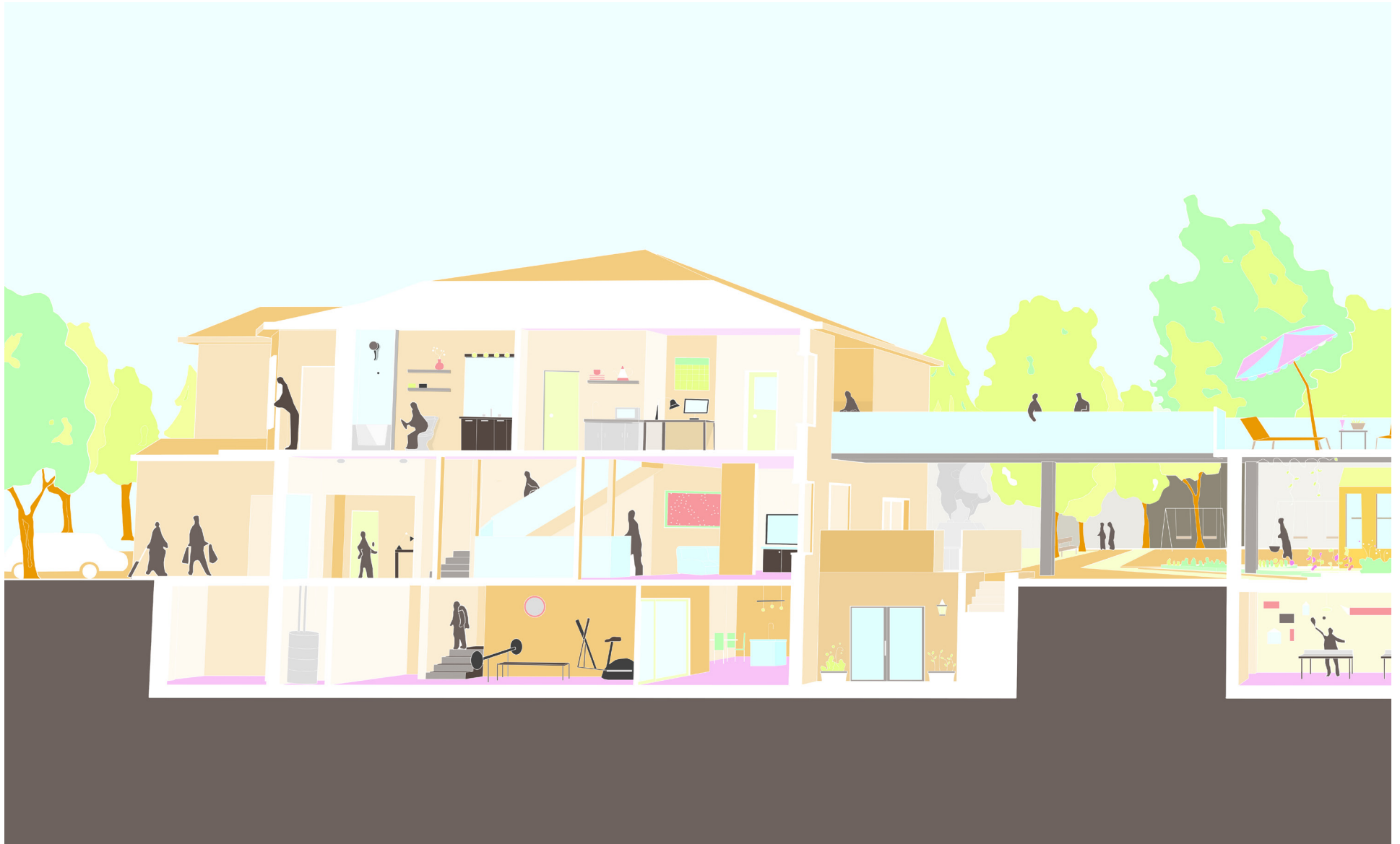




fig 5. 32 Perspective section connecting indoor and outdoor space

CONCLUSION

In creating an overarching landscape plan, it ties together a handful of multigenerational home compositions. A mix of both indoor and outdoor space weave in and out of the courtyard, creating a sense of liveliness and community. A culminating goal of all the design goals discussed at the beginning of the chapter is to create a convenient, welcoming habitat for diverse families and generations to congregate, both internally and externally. Each home is different for each family based on how they occupy the space. The project becomes a mosaic connecting families together into one larger, more colorful picture.

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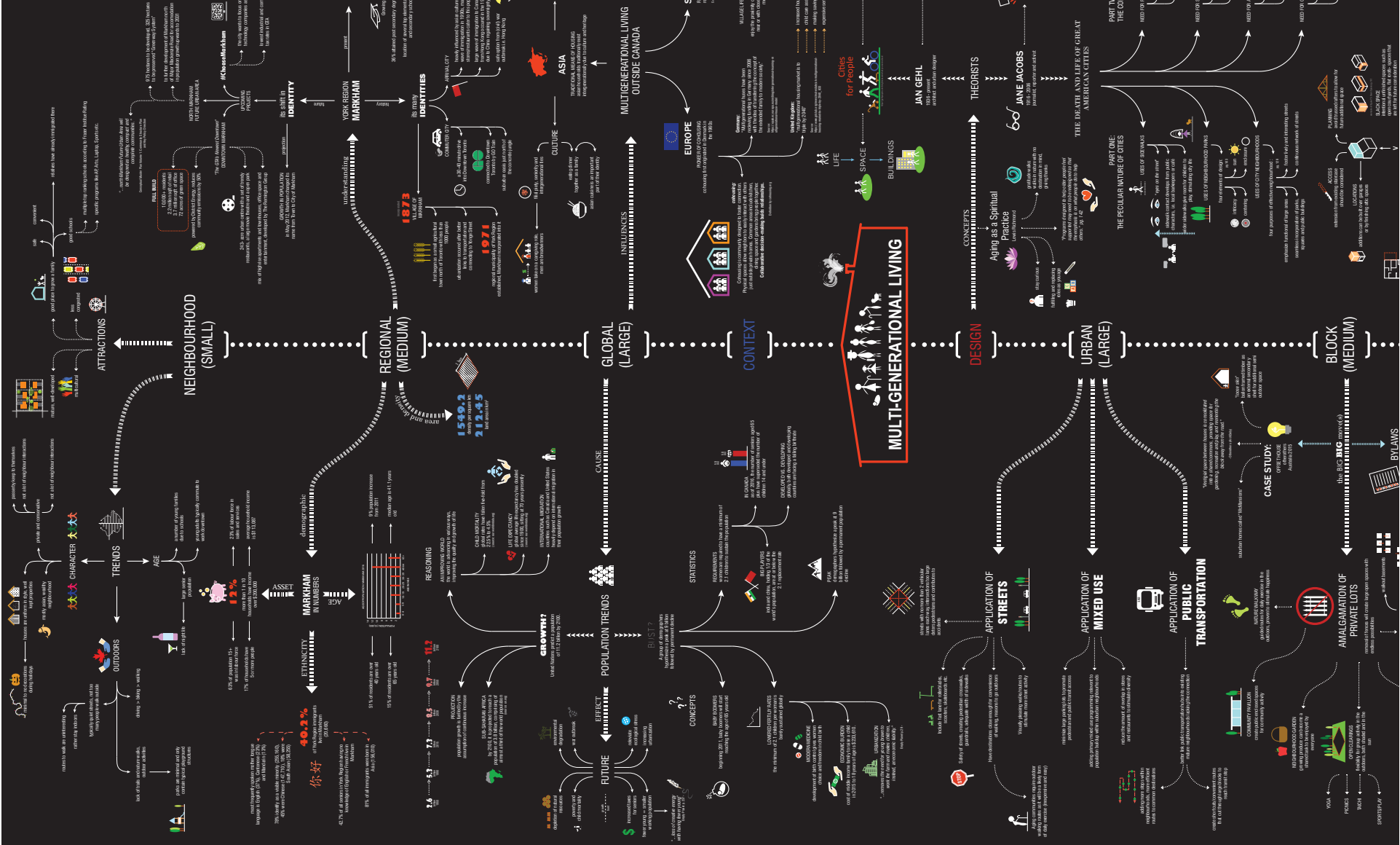
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APPENDIX

RESEARCH FLOW CHART A MOVIE TOWARDS MULTIGENERATIONAL LIVING



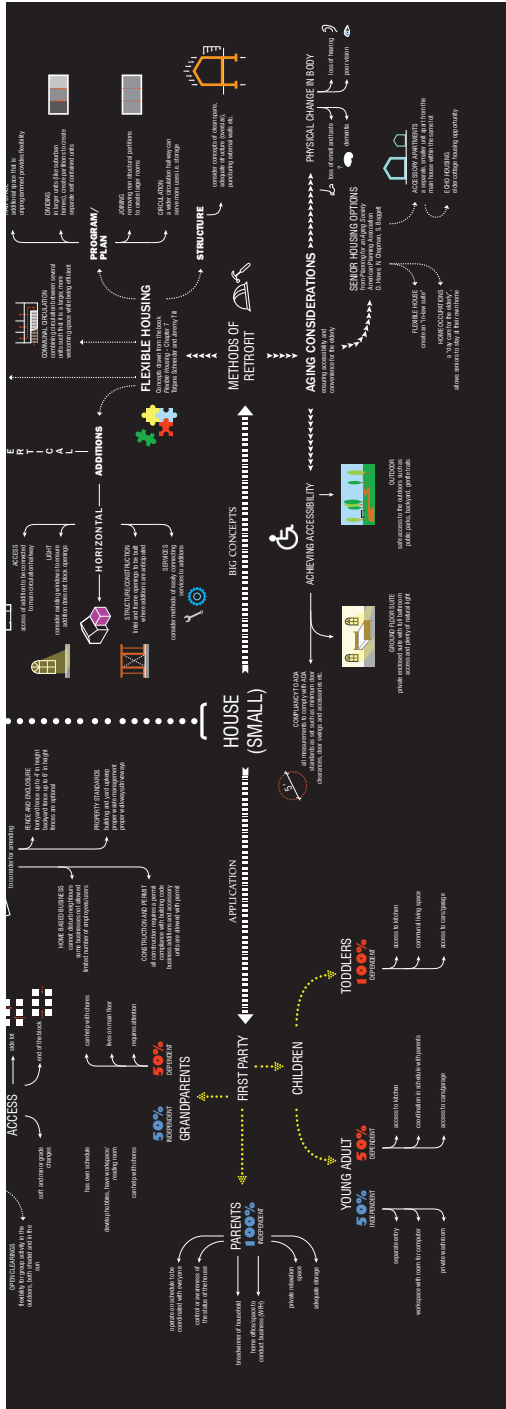
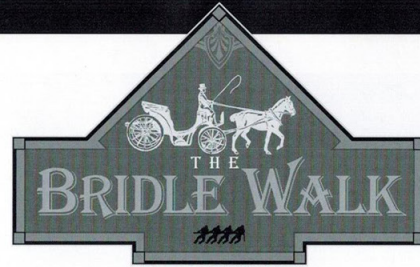
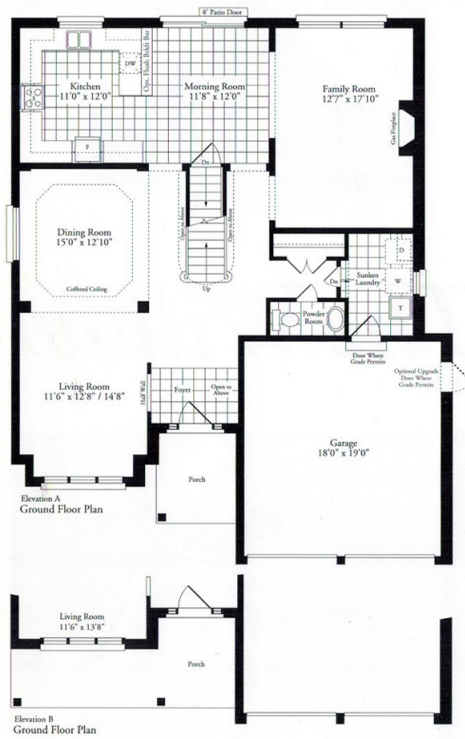
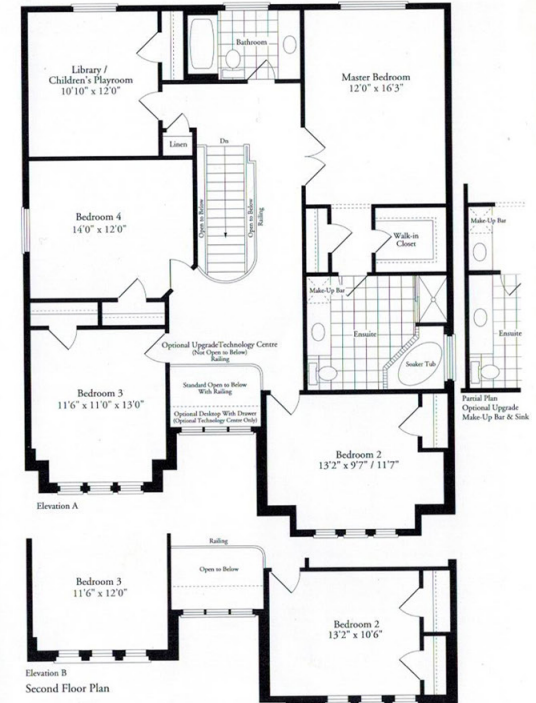
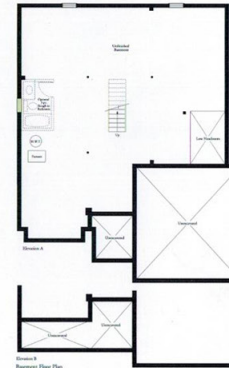
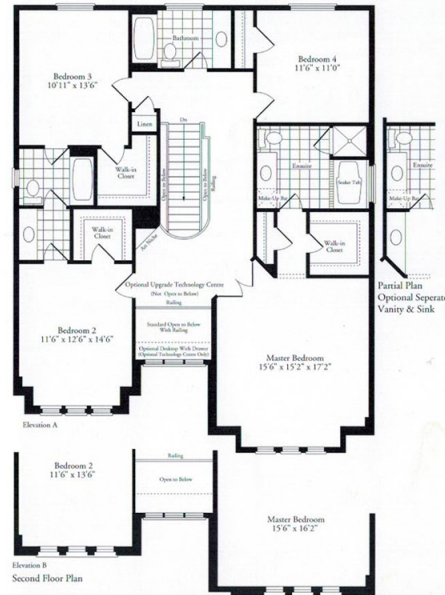


fig 6.01 Mindmap showing consideration of research topics from M1



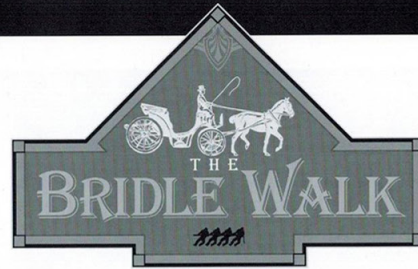
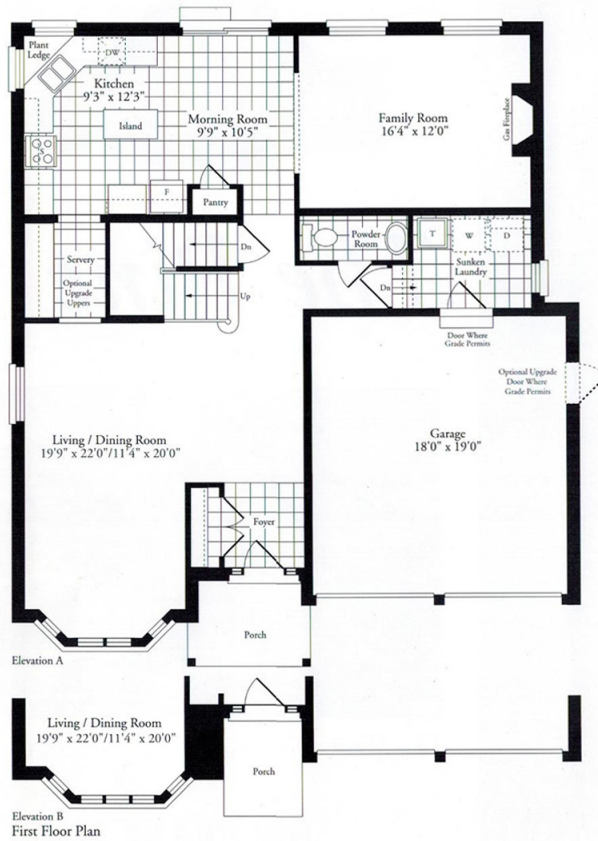
The Willow
 ELEVATION A 2,828 sq.ft.
 ELEVATION B 2,811 sq.ft.



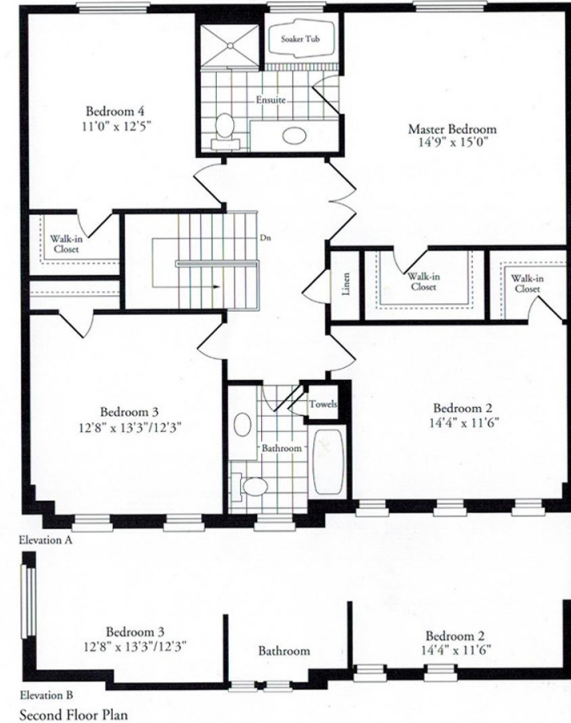
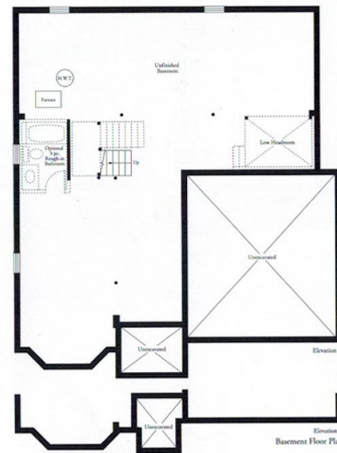
Powder room and laundry room ceiling heights may vary to accommodate mechanical(s). Step(s) may vary due to guidelines in garage and/or laundry room. Actual usable floor space may vary from the stated floor space. Specifications subject to change without notice. E.&O.E. October 2001.

MONARCH HOMES *AAAA*
 A TAYLOR WOODROW COMPANY

fig 6. 02 Bridle path floor plan "The Willow"



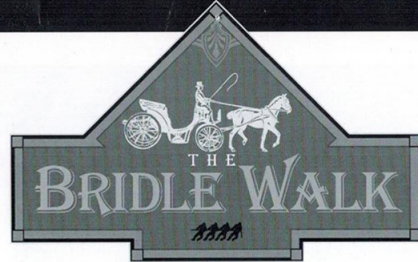
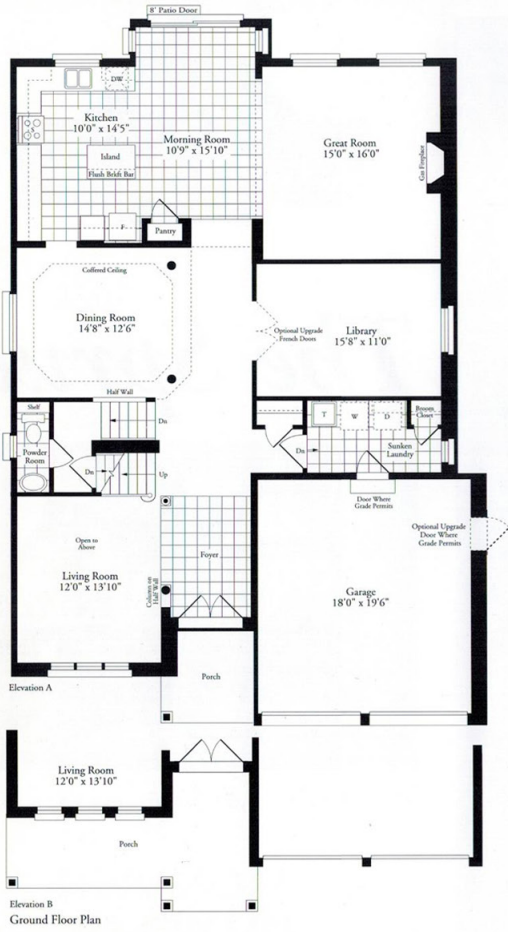
The Pine
 ELEVATION A 2,454 sq.ft.
 ELEVATION B 2,444 sq.ft.



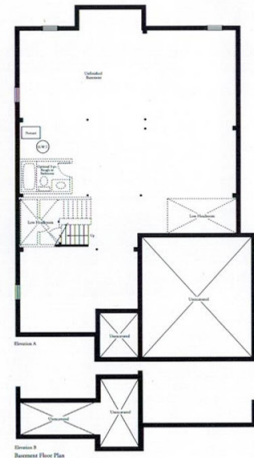
MONARCH HOMES
 A TAYLOR WOODROW COMPANY

Powder room and laundry room ceiling heights may vary to accommodate mechanical(s). Step(s) may vary due to guidelines in garage and/or laundry room. Actual usable floor space may vary from the stated floor space. Specifications subject to change without notice. E.&O.E. October 2001.

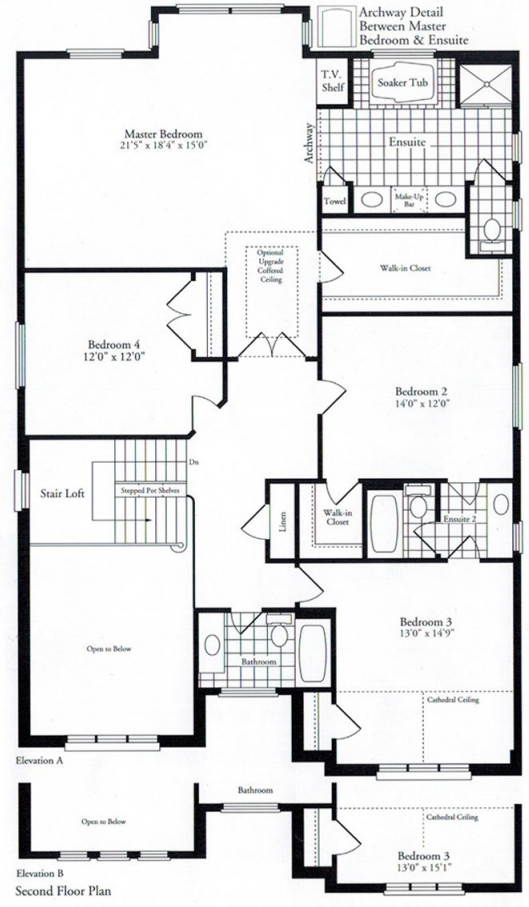
fig 6. 03 Bridle path floor plan "The Pine"



The Spruce
 ELEVATION A 3,452 sq.ft.
 ELEVATION B 3,445 sq.ft.



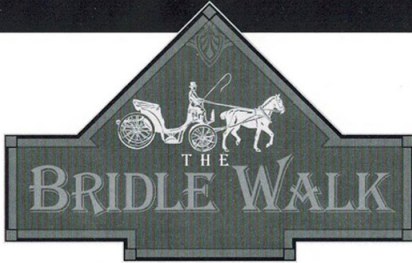
MONARCH HOMES
 A TAYLOR WOODROW COMPANY



Powder room and laundry room ceiling heights may vary to accommodate mechanical(s). Step(s) may vary due to guidelines in garage and/or laundry room. Actual usable floor space may vary from the stated floor space. Specifications subject to change without notice. E.&O.E. October 2001.

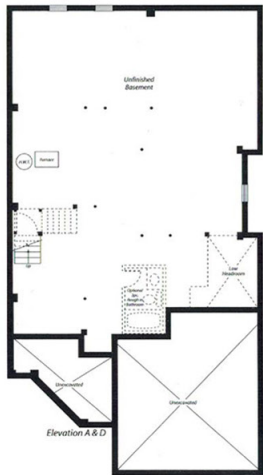
www.monarchgroup.net

fig 6. 04 Bridle path floor plan "The Spruce"



The Princeton

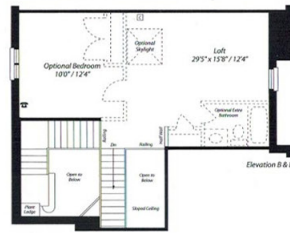
ELEVATION A 2,859 sq.ft.
 ELEVATION B 2,917 sq.ft.
 ELEVATION C 2,906 sq.ft.
 ELEVATION D 2,859 sq.ft.



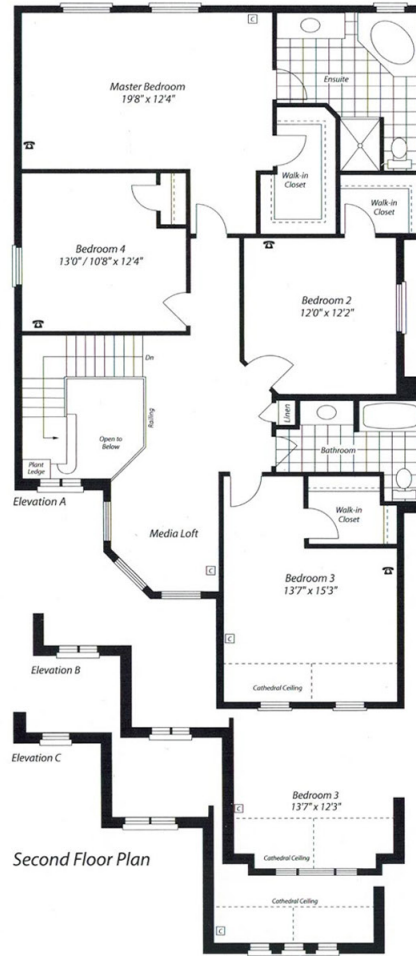
Basement Floor Plan
(Not to Scale)



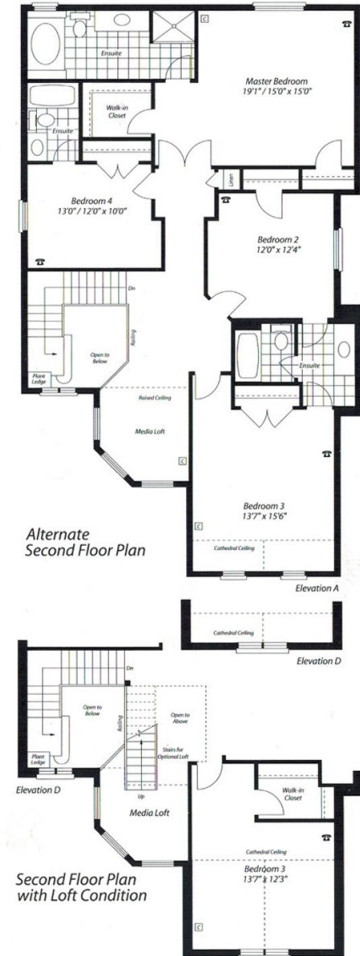
Elevation B
First Floor Plan



Loft Plan
3,374 sq.ft. with Loft



Elevation A
Elevation B
Elevation C
Second Floor Plan



Alternate Second Floor Plan

Second Floor Plan with Loft Condition

Actual usable floor space may vary from the stated floor space. 9ft. ceilings on first floor. Specifications subject to change without notice. E.&O.E. February 2003

fig 6.05 Bridle path floor plan "The Princeton"