Food as Care Infrastructure:
A Framework for Alternative Food Networks in the Neighbourhood of Jane and Finch, Toronto

by

Simone Samy Helmy Hanna

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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

This thesis examines the conventional food system and its relationship to urban issues, including food insecurity and climate change. The conventional food system is embedded in a centralized global market that commodifies food, relying on the excessive extraction of natural resources, fossil fuel use, genetic modification, chemical-intensive production, exploitation of cheap labour, and destruction of natural habitats. This system was conceived in the Industrial Age when food landscapes in cities diminished in the wake of industrial agriculture. This marked the beginning of the urban-rural dichotomy, where food production was attributed as a rural issue and not an urban one, severing the relationship between urban consumers and their food. Issues of pollution, poverty and malnutrition were prevalent in that period, leading social activists and visionaries to reimagine city landscapes with more equitable food landscapes. As such, this thesis explores the diverse spatial potential of existing (sub)urban landscapes to address challenges exacerbated by the conventional food system on its consumers and the climate. This is demonstrated through research on the implementation of municipal food policies and various scales of food infrastructure, which have the potential to address the gaps left by the conventional food system. This research is emphasized through a conceptual design proposal in the Black Creek neighbourhood in Jane-Finch, Toronto, which suffers from unprecedented levels of food insecurity. The design illustrates the potential for alternative food networks at the neighbourhood scale, featuring a Community Food Centre and farm at its heart to foster a more sustainable and resilient local food system focused on consumer well-being and environmental health.

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Table of Contents

Author's Declaration..... ii

Abstract..... iii

Acknowledgments..... iv

List of Figures..... vi

Introduction..... 1

Chapter 1: The Urban Rural Dichotomy..... 9

Chapter 2: City Farming..... 33

Chapter 3: The Framework For Designing 'Flourishing Foodscapes' 47

Chapter 4: Designing Diverse Foodscapes in The Neighbourhood of Jane & Finch, Toronto..... 91

Bibliography..... 205

List of Figures

Chapter 1

1.1. City of Toronto. 1961 Aerial Photograph over Jane and Finch. 1961. Photograph. Aerial Photographs, City of Toronto. https://www.toronto.ca/ext/archives/s0012/fl1961/s0012_fl1961_it0241.jpg.

1.2. City of Toronto. 1971 Aerial Photograph over Jane and Finch. 1971. Photograph. Aerial Photographs, City of Toronto. https://www.toronto.ca/ext/archives/s0012/fl1971/s0012_fl1971_it0242.jpg.

1.3. Illustrated map of Black Creek neighborhood in Jane and Finch, Toronto. Drawing by Author.

1.4. Toronto and Region Conservation Authority (TRCA). "Black Creek SNAP Community Garden." Digital image. Toronto and Region Conservation Authority. Accessed February 10,2024. https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/.

1.5. Black Creek Community Farm. "Partial Aerial View of Farm." Digital image. Black Creek Community Farm. Accessed April 9, 2024. https://www.blackcreekfarm.ca/about-us/.

1.6. Netchev, Simeon. "A map of the Fertile Crescent showing the eastern Mediterranean, Anatolia, and Mesopotamia." Digital illustration. World History Encyclopedia, 5 August, 2020. https://www.worldhistory.org/image/12521/map-of-the-fertile-crescent/.

1.7. Ogilby, John. Large and Accurate Map of the City of London of 1676, drawing. In *Hungry City: How Food Shapes Our Lives,* by Carolyn Steel, (London: Vintage Books, 2013), 118.

1.8. Speculative drawing of genetically modified seeds and natural seeds passed down from generation to generation. Drawing by Author.

1.9. Speculative drawing of the journey of food from farm, to market, to home. Drawing by Author.

1.10. Speculative drawing of food waste disposed in a landfill. Drawing by Author.

Chapter 2

2.1. Naidu, Sid. "Urban Farm on Toronto's hydro field." Digital image. The Narwhal News Society, January 4, 2024. https://thenarwhal.ca/hydro-fields-indigenous-farms/.

2.2. Howard, Ebenezer. The Three Magnets Diagram, drawing. In "Ebenezer Howard and the Marriage of Town and Country: An introduction to Howard's Garden Cities of To-morrow (Selections) / Excerpts from Garden Cities of To-morrow," by Clark Brett and Ebenezer Howard. Organization & Environment 16, no. 1 (March 2003): 102. https://www.proquest.com/docview/219876541/abstract/3505EDEF4AAE4D65PQ/1.

2.3. Howard, Ebenezer. Garden City Diagram, drawing. In "Ebenezer Howard and the Marriage of Town and Country: An introduction to Howard's Garden Cities of To-morrow (Selections) / Excerpts from Garden Cities of To-morrow," by Clark Brett and Ebenezer Howard. *Organization & Environment* 16, no. 1 (March 2003): 105. https://www.proquest.com/docview/219876541/abstract/3505EDEF4AAE4D65PQ/1.

2.4. Wright, Frank Lloyd. Broadacre City Physical Model, digital image. In "Broadacre City—Ideal and Nemesis," by Anthony Alofsin. American Art 25, no. 2 (July 2011): 23. https://doi.org/10.1086/661965.

2.5. Hirsch, Enver. "Aerial view of Shreber gardens." Digital image. Cabinet Magazine. Accessed April 9, 2024. https://www.cabinetmagazine.org/issues/6/turowski.php

2.6. Derks, Sanne. "Community garden Himmelbeet: people can gather and have a drink amid the urban garden." Digital image. Imagine5. Accessed April 9, 2024. https://imagine5.com/articles/the-urban-gardeners-of-berlin/.

Chapter 3

3.1. Millet, Jean-François. *The Gleaners*, 1857, oil on canvas, H. 83.5 x W. 110 cm, Musée d'Orsay. Accessed December 08, 2024. https://en.wikipedia.org/wiki/File:Jean-Fran%C3%A7ois_Millet_-_Gleaners_-_Google_Art_Project_2.jpg#filelinks.

3. 2. "Fallen Fruit of Sherman Oaks." Illustrated map. Fallen Fruit. Accessed October 14, 2024. https://fallenfruit.org/media/maps-2/kcet-fallenfruitofshermanoaks-tif/.

3. 3. Bowery Project. "School group visiting garden." Digital Image. Bowery Project. Accessed October 14, 2024. https://www.boweryproject.ca/vacantlots.

3. 4. Bowery Project. "Fall Harvest." Digital Image. Bowery Project. Accessed October 14, 2024. https://www.boweryproject.ca/vacantlots.

3.5. Rocha, Cecilia. Lunch at a Restaurante Popular, Belo Horizonte, image. In Flourishing Foodscapes : Designing City-Region Food Systems, by Wiskerke, Johannes S.C. and Saline Verhoeven, (Amsterdam: Valiz, 2018), 79.

3.6. SDG Associates LLC. "Detroit Food Commons Co-op Rendering." Digital image. SDG Architects + Planners, 2024. https://sdg-assoc.com/retail-corp-dfc.

3.7. SDG Associates LLC. "Discover Local Grocery Selection." Digital image. SDG Architects + Planners, 2024. https://sdg-assoc.com/retail-corp-dfc.

3.8. Estúdio Lava. "Isometric Drawing of Fazenda Cubo." Digital image. ArchDaily, 2019. https://www.archdaily.com/971055/fazenda-cubo-hydroponic-cultivation-estudio-lava?ad_medium=gallery.

3.9. Novoa, Julia. "Store Front of Fazenda Cubo." Digital image. ArchDaily, 2019. https://www.archdaily.com/971055/fazenda-cubo-hydroponic-cultivation-estudio-lava?ad_medium=gallery.

3.10. Novoa, Julia. "Entrance and produce counter of Fazenda Cubo." Digital image. ArchDaily, 2019. https://www.archdaily.com/971055/fazenda-cubo-hydroponic-cultivation-estudio-lava?ad_medium=gallery.

3.11. Novoa, Julia. "Hydroponics Cultivation of Fazenda Cubo." Digital image. ArchDaily, 2019. https://www.archdaily.com/971055/fazenda-cubo-hydroponic-cultivation-estudio-lava?ad_medium=gallery.

3.12. Architecture Action Lab. "Public Foods." Digital Image. Architecture Action Lab, 2022. https://archactionlab.org/Public-Foods-2.

3.13. EarthBox. "EarthBox Root & Veg." Illustrated diagram. EarthBox. Accessed October 14, 2024. https://earthbox.com/learning-center/how-earthbox-works/root-and-veg.

3.14. Makarova, Julia. "Homegrown Harvest." Digital Image. NPR, April 3, 2010. https://www.npr.org/2010/04/03/125504307/window-farming-a-do-it-yourself-veggie-venture.

3.15. Strong, Larry. "Recycling, Compost, Landfill – Recology." Digital image. United States Environmental Protection Agency, March 1, 2013. https://www.epa.gov/transforming-waste-tool/zero-waste-case-study-san-francisco.

3.16. Damonte, Bruce. "PS216 Edible Schoolyard in Brooklyn by WORKac." Digital image. WORKac, 2014. https://work.ac/work/edible-schoolyard-nyc-at-p-s-216/.

3.17. Baan, Iwan. "PS216 kitchen classroom." Digital image. WORKac, 2014. https://work.ac/work/edible-schoolyard-nyc-at-p-s-216/.

3.18. Baan, Iwan. "PS216 greenhouse." Digital image. WORKac, 2014. https://work.ac/work/edible-schoolyard-nyc-at-p-s-216/.

3.19. Raymond, Adams. "PS7 Edible Schoolyard in Harlem by WORKac." Digital image. WORKac, 2016. https://work.ac/work/edible-schoolyard-nyc-p-s-7/.

3.20. Raymond, Adams. "PS7 Rooftop Garden." Digital image. WORKac, 2016. https://work.ac/work/edible-schoolyard-nyc-p-s-7/.

3.21. Toronto and Region Conservation Authority (TRCA). "Sustainable Carpentry." Digital image. Toronto and Region Conservation Authority. Accessed October 14, 2024. https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/projects-san-romanoway-towers-revival/.

3.22. Toronto and Region Conservation Authority (TRCA). "Edible Balconies." Digital image. Toronto and Region Conservation Authority. Accessed October 14, 2024. https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/projects-san-romanoway-towers-revival/.

3.23. Toronto and Region Conservation Authority (TRCA). "San Romanoway Design Competition Winning Design." Digital Map. Toronto and Region Conservation Authority. Accessed October 14, 2024. https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/projects-san-romanoway-towers-revival/.

Chapter 4

4.1. Illustrated Map of the City of Toronto Districts highlighting the location of Jane and Finch. Drawing by Author.

4.2. Illustrated map of Black Creek neighborhood in Jane and Finch, Toronto. Drawing by Author.

4.3. Everdale. “A map shows the Black Creek Community Farm near Jane Street and Steeles Avenue West.” Digital Map. CBC/Radio Canada, October 16, 2013. https://www.cbc.ca/news/canada/toronto/urban-farm-near-jane-and-finch-to-receive-400-000-grant-1.2074258.

4.4. Katsarov, Christopher. “Corner Commons (top left) is a temporary community space in the parking lot of Jane and Finch Mall.” Aerial Photograph. The Local, September 26, 2023. https://thelocal.to/finch-west-lrt-metrolinx-jane-and-finch-community-benefits-the-hub/.

4.5. Guzman, Yader. “Corner Commons, a temporary community space in the parking lot of Jane Finch Mall on a Friday in September.” Aerial photograph. The Local, September 26, 2023. https://thelocal.to/finch-west-lrt-metrolinx-jane-and-finch-community-benefits-the-hub/.

4.6. Diagrammatic map illustrating existing foodscapes in Black Creek with accompanying diagrams. Drawing by Author.

4.7. Food System Diagram of the meso-, macro-. and micro-scale. Drawing by Author.

4.8. Diagrammatic map illustrating a school food network in Black Creek with accompanying diagrams. Drawing by Author.

4.9. Diagrammatic map illustrating a public food network in Black Creek with accompanying diagrams. Drawing by Author.

4.10. Diagrammatic map illustrating an alternative commercial food network in Black Creek with accompanying diagrams. Drawing by Author.

4.11. Diagrammatic map illustrating health and religious institutions as food networks in Black Creek with accompanying diagrams. Drawing by Author.

4.12. Diagrammatic map illustrating a new centralized food network in Black Creek with accompanying diagrams. Drawing by Author.

4.13. Diagrammatic map illustrating assemblages of food networks in Black Creek with accompanying diagrams. Drawing by Author.

4.14. Navigation signage of food services. Drawing by Author.

4.15. Site Plan highlighting location of Community Food Centre & Community Farm Park. Drawing by Author.

4.16. Illustrated map showing existing site context. Drawing by Author.

4.17. Existing site diagram with view markers at a 1:2000 scale. Drawing by Author.

4.18. South facing view looking towards No Frills & Yorkgate Mall from the walking trail in Spring. Photograph by Author.

4.19. East facing view from walking trail in Spring. Photograph by Author.

4.20. West facing view of the Hydro One Corridor from Jane Street in Spring. Photograph by Author.

4.21. West facing view of the Hydro One Corridor from Jane Street in Winter. Photograph by Author.

4.22. North facing view of the Hydro One Corridor from the walking trail in Winter. Photograph by Author.

4.23. Yorkgate Mall Food court. Photograph by Author.

4.24. Yorkgate Mall Food court seating area. Photograph by Author.

4.25. Existing Site diagram that highlights areas for improvement. Drawing by Author.

4.26. Community Farm Park Site Plan. Drawing by Author.

4.27. Floor Plan of Utility Shed, Seeding Room, Food Processing and Storage space on site. Drawing by Author

4.28. Drawing depicting the “Three Sisters.” Drawing by Author.

4.29. Plan of Indigenous Medicine Wheel in Community Farm Park. Drawing by Author.

4.30. Illustration of Apiary and Fruit Orchard. Drawing by Author.

4.31. Earthscape. “Presidio Tunnel Tops Natural Wood Playground climbing wall.” Digital drawing. Earthscape, 2022. https://www.earthscapeplay.com/project/presidio-tunnel-tops-natural-playground-san-francisco-california/.

4.32. Diagram of an adventure playground in the Community Farm Park. Drawing by Author.

4.33. Diagram of outdoor seating. Drawing by Author.

4.34. Diagrams of communal tables transforming into market stalls. Drawing by Author.

4.35. Drawing of accessible pathways. Drawing by Author.

4.36. Drawing of accessible planter beds. Drawing by Author.

4.37. Community Food Center Governance Hierarchy diagram. Diagram by Author.

4.38. Isometric view of Community Food Center with surrounding site context. Render by Author.

4.39. Massing Diagram of the Proposed Community Food Centre & No Frills Greenhouse Retrofit. Drawing by Author.

4.40. Urban-Agro Food diagram of Design Proposal. Drawing by Author.

4.41. Ground floor context plan with accompanying massing diagram. Drawing by Author.

4.42. Community Food Centre Ground Floor Plan at 1:250. Drawing by Author.

4.43. Retrofitted No Frills Ground Floor Plan. Drawing by Author.

4.44. Second floor context plan with accompanying massing diagram. Drawing by Author.

4.45. Community Food Centre Second Floor Plan at 1:250. Drawing by Author.

4.46. Community Food Centre Populated Second Floor Plan at 1:250. Drawing by Author.

4.47. Diagram of flexible program space during a farmer's market. Drawing by Author.

4.48. Diagram of flexible program space as an additional seating/event space. Drawing by Author.

4.49. Render of the communal eatery looking up towards the greenhouse. Render by Author.

4.50. Second Floor plan with Community Farm Park pedestrian circulation. Drawing by Author.

4.51. Third Floor context plan with accompanying massing diagram. Drawing by Author.

4.52. Third Floor plan of Community Food Centre. Drawing by Author.

4.53. No Frills Second Floor Greenhouse. Drawing by Author.

4.54. No Frills Retrofitted Rooftop Plan. Drawing by Author.

4.55. Illustrations of different types of Hydroponic technology. Drawing by Author.

4.56. Render of Hydroponic Cultivation. Render by Author.

4.57. Section AA at 1:250. Drawing by Author.

4.58. North Elevation with context at 1:250. Drawing by Author.

4.59. East Elevation with context at 1:300. Drawing by Author.

4.60. East Elevation at 1:150. Drawing by Author.

4.61. Cross Section BB of the Community Food Centre and Farm Park. Drawing by Author.

4.62. Cross Section BB at 1:100. Drawing by Author.

4.63. Section through Farm Park showing outdoor food market and flexible seating. Drawing by Author.

4.64. Section through Farm Park showing adventure playground, regenerative agriculture, and the fruit orchard. Drawing by Author.

Introduction

Food has shaped the social and physical landscapes of communities and cities since ancient times.[1] The commoditization of land and food has fractured people's relationship to the natural systems sustaining them, shifting value toward wealth accumulation rather than its capacity to shape self-sufficient communities. As such, my thesis intends to integrate food infrastructure in the Black Creek neighbourhood of Jane and Finch to spatialize food systems needed to tackle food insecurity and promote food agency in this urban community. This initiative seeks to bridge the urban-rural gap while addressing food insecurity and climate change fueled by the inequities of the industrial food system that has shaped the built environment.

The neighbourhood of Jane and Finch in North York, Ontario, like many towns and cities in history, was once a natural landscape where Indigenous hunters and gatherers thrived off of the land.[2] Five acres worth of land along Black Creek, situated on what is now called Black Creek Pioneer Village, was identified as an archaeological site by Professor Norman Emerson in 1948.[3] The site was initially home to Woodland Iroquoians between 1000-1400 A.D., which marked the transition from a hunting and gathering culture to the development of agricultural production.[4] Eventually, the Iroquoian community moved on to lands further north due to the depletion of resources no longer able to support the growing community.[5] By the late 1700s and early 1800s, European settlers formed a small agricultural community on the same land.[6] As they established their farmlands, they unearthed archaeological traces of the Iroquoian community that had occupied the land prior to them, leaving traces of their cultural and cultivation practices behind the earth.[7] As the European settlements grew, woodlands were cleared for more plots of agricultural land allowed by the government in the late 1820s.[8] They depended on the resources offered by the land as well as from their agricultural practices. Farmers produced plentiful crops of corn and barley, while the natural flow of Black Creek, a tributary of the Humber River, was abundant with freshwater fish such as salmon.[9] According to history as documented by the Downsview Action Community, "[t]he farms here were very close to being self-sufficient – the cattle provided milk for drinking and for

1 Carolyn Steel, *Hungry City : How Food Shapes Our Lives* (London: Vintage Books, 2013), ix-x.
2 Downsview Weston Action Community, *From Longhouse to Highrise: Pioneering in Our Coner of North York* (North York, ON: Downsview Weston Action Community, 1986), 5.
3 "Black Creek Site," *Toronto Historical Association* (blog), accessed March 24, 2024, http://www.torontohistory.net/black-creek-site/.
4 Ibid.
5 Downsview Weston Action Community, *From Longhouse to Highrise,* 5.
6 Ibid, 3.
7 Ibid.
8 Ibid, 9-11.
9 Ibid, 9.

making other dairy products such as cheese and butter. The chickens supplied eggs and the hogs, pork. Surplus produce was traded for special tools which could not be manufactured on the farm and for material clothing." [10] With the development of early transportation in 1853, "The Northern" railway allowed farmers to easily transport their produce to Toronto from York Station.[11] The Iroquoian and European settlers both left behind a legacy of agriculture that defined the historical food landscape of Jane and Finch.

Jane and Finch remained a small agricultural community that was almost entirely "rural zoning" until the 1950s.[12] With the development of Highway 400 connecting growing industries and presenting opportunities for urban sprawl in North York, developers began purchasing farmland in the area.[13] As a result, the Humber River Valley Conservation Authority obtained 14 acres of land designated as heritage zones, which included Black Creek Pioneer Village which was built upon the land previously occupied by Iroquoian settlers.[14] Rapid urbanization arrived in North York in the early 1960s due to overcrowding in Toronto and demand for more housing.[15] Development over agricultural land in Jane and Finch made way for low- and high-density housing to accommodate the growing population of Toronto.[16] According to the Downsview Action Community, "[w]hile the official plan was being prepared for land use, density and population growth, the pace of development had outstripped the planning process. Only five years after the official plan was approved in 1969, 90% of the development projected by 1990 had already been completed." [17] The density of Jane Heights and Black Creek neighbourhoods in Jane and Finch increased from 1,301 in 1961 to 33,030 in 1971.[18] In this time frame, Italian, Caribbean, South American, Asian, Indian, and African settlers populated the growing community.[19] "By 1975 more than half of all residential units in these neighborhoods were apartments and the population had reached almost 50,000".[20] Figures 1.1 and 1.2 demonstrate the rapid urbanization of Jane and Finch. Due to the rapid development of these neighbourhoods before official plans were completed, consideration of the housing and social needs of the various ethnicities settling in the area were not planned out, resulting in social and economic disparities throughout the neighbourhood that have been present since today.[21] In addition, rapid development led to inadequate archaeological assessments, resulting in the partial

10 Ibid., 11.
11 Ibid, 17.
12 Ibid, 22-23.
13 Ibid, 23.
14 Ibid, 23-25.
15 Ibid, 3.
16 Ibid, 27.
17 Ibid.
18 Ibid.
19 Ibid, 3-4.
20 Ibid, 27.
21 Ibid, 30.

destruction of a late Iroquoian settlement dating back to 1550 along the Humber River Valley.[22] The *Parsons* site, located beneath the Hydro One transmission corridor overlooking Black Creek (as shown in Figure 1.3), was discovered by J. Norman Emerson in the 1950s, who was conducting field school training for students.[23] In 1962, efforts were made "to turn Parsons into a reconstructed village with an associated educational component. However, construction projects in 1977 and the early 1980s were allowed to proceed without proper archaeological evaluations."[24] As a result, the damage inflicted on-site was only discovered in 1989, when Archaeological Services Inc. (ASI) conducted a partial site excavation.[25] The settlement patterns suggested the growth and longevity of the village due to the extension and rebuilding of structures found on site. This settlement was nearly double the size of earlier villages along the Humber Valley and is believed to be the amalgamation of several villages due to "the growing hostilities of the period, separating the people of Parsons from the greater community."[26] Today, a walking trail runs through the site with signs informing people about the Indigenous heritage of the area.



Figure 1.1. 1961 aerial photograph over Jane and Finch farmland



Figure 1.2. 1971 aerial photograph showing urbanization of Jane and Finch

22 Lanna Crucefix, "ASI Heritage - The Parsons Site," ASI Heritage, accessed October 3, 2024, https://asiheritage.ca/publication/the-parsons-site/.
23 Ibid.
24 Ibid.
25 Ibid.
26 Ibid.

BLACK CREEK NEIGHBOURHOOD

in Jane & Finch, Toronto

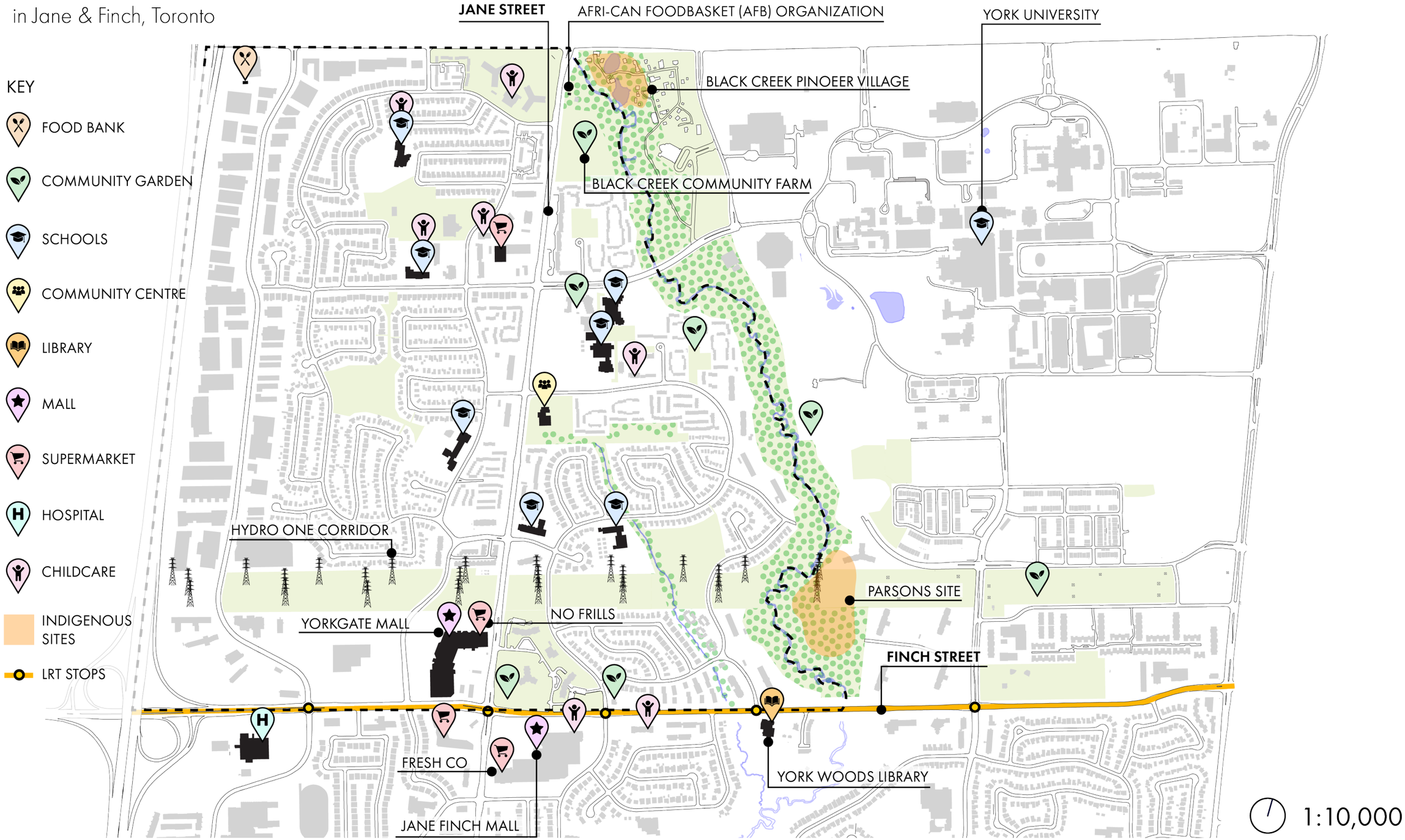


Figure 1.3. Illustrated map of Black Creek neighborhood in Jane and Finch, Toronto. Indigenous sites are highlighted in orange.

Despite its rapid urbanization and loss of much of its food and cultural landscape, Jane and Finch saw a resurgence of agriculture in the 1980s.[27] An oil crisis in the late 70s and early 80s prompted oil companies in the area to lease vacant land they owned to Italian farmers who grew tomatoes, peas, and corn, and to waive municipal land tax fees on their properties.[28] The Italian farmers continued working with food gardens & markets into the 2000s, reconnecting producers and consumers in the urban landscape.[29] In 1995, food activist Anan Lololi began growing culturally appropriate food in his backyard to address the rising costs of imported food and started a "food-buying club" to provide the neighbourhood access to affordable cultural foods.[30] His backyard urban farm marked the beginning of the African Food Basket organization, which continues to provide culturally appropriate foods to marginalized communities.[31] By 2012, initiatives such as the Sustainable Neighborhood Action Program (SNAP) and Black Creek Community Farm promoted the expansion of urban agriculture throughout the neighbourhood to provide access to healthy, local, organic produce.[32] These initiatives support the production of food in urban areas to address issues of accessibility, affordability, and food insecurity. Since the COVID-19 pandemic, the struggle of food insecurity increased drastically in Toronto and the surrounding urban areas of the city.[33] Based on food bank reports from 2023, the amount of food bank users in North York increased by 54% compared to the previous year, showing a rapidly growing trend of food bank visits each year since the pandemic started.[34] This emphasizes the fragility and the insufficiency of food provisioning systems in Ontario, as many rely on food banks to survive.

The development of various food programs to improve food security in the neighbourhood highlights gaps in the conventional food provisioning system that need to be addressed by alternative approaches. Therefore, this thesis aims to implement local food infrastructure at multiple scales to support and expand existing food initiatives, creating a more resilient and sustainable framework for local food provisioning networks.

27 Michael Hough, *Cities and Natural Process*, 2nd ed. (London: Routledge, 2004), 179.
28 Ibid.
29 Ibid.
30 Gerda R. Wekerle and Michael Classens, "Challenging Property Relations and Access to Land for Urban Food Production," in *Urban Gardening as Politics*, ed. Chiara Tornaghi and Chiara Certoma, Routledge Equity, Justice and the Sustainable City (New York: Routledge, 2019), 98.
31 Ibid, 98-99.
32 "Black Creek SNAP," Toronto and Region Conservation Authority (TRCA), accessed February 10, 2024, https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/.
33 "Who's Hungry Report 2023" (Daily Bread Food Bank and North York Harvest Food Bank, 2023), https://www.dailybread.ca/wp-content/uploads/2023/11/DB-WhosHungryReport-2023-Digital.pdf.
34 Ibid.



Figure 1.4. SNAP Community Garden in front of residential towers in Jane and Finch.



Figure 1.5. Partial aerial view of Black Creek Community Farm in Jane and Finch.

Chapter 1

The Urban-Rural Dichotomy

1.0 - Investigating the Urban-Rural Dichotomy

Cities are multifaceted entities shaped by their social, economic, political, and environmental dynamics.[35] As such, there is no singular, static definition of what constitutes a city.[36] The concept of a city has evolved and been interpreted differently throughout the history of human civilization.[37] Within the constructs of the urban-rural dichotomy, a city is defined as "a permanent and densely settled place with boundaries that are administratively defined, [and] is the accomplishment of a population whose members work primarily on non-agricultural tasks."[38] The exclusion of agricultural tasks greatly contradicts the urban dynamics of cities since ancient times. Architect Carolyn Steel, author of *Hungry City*, speaks to humanity's inherent relationship to food and the advancement of civilizations through the practice of growing it.

In 3500 BC, the ancient city of Uruk in Mesopotamia (Iraq) is believed by experts to be the first city to exist due to the establishment of a civic administration that was primarily dedicated to "managing the agricultural hinterland".[39] The administration developed sophisticated methods of food production by shaping the natural landscape to feed the city, and "the complexity of this task led the Sumerians to invent writing".[40] Figure 1.6 depicts the fertile crescent, denoting where evidence of different crops and animals were located throughout Mesopotamia. The land was rich in minerals due to "annual flooding of the Tigris and Euphrates rivers", making the land primed for growing crops, however, the flooding was sometimes "unpredictable" and arrived late for the growing season.[41] As a solution, the Sumerians shaped the land to create an irrigation system from massive levees that allowed them to contain and distribute the river to other farms, developing "the first municipal public works ever undertaken."[42] Their act of shaping the land to meet their needs to survive was foundational to the framework needed to form an urban civilization.[43] As Steel explains:

> Their municipal market gardens were the world's first artificial landscapes, showing how nature might be modified to serve urban man. City and country combined to form a single entity, the city-state, and their mutual dependence, so clear in the ancient world and so obscure in ours, has underpinned urban existence ever since.[44]

35 Roger W. Caves, *Encyclopedia of the City* (London ; Routledge, 2005), 22.
36 Ibid.
37 Ibid.
38 Ibid, 66.
39 Steel, *Hungry City*, 13-14.
40 Ibid, 14.
41 Ibid.
42 Ibid.
43 Ibid.
44 Ibid.

In addition, the Indigenous peoples of the Americas represent civilizations that have significantly shaped agriculture and the food we eat today. Archaeological evidence shows Indigenous agriculture is nearly as old as the fertile crescent and has "five agricultural centers of origin… where multiple species were cultivated or domesticated."[45] American crops like potatoes were the first to be domesticated in the Andes approximately ten thousand years ago. In Central America, corn, squash, and beans were domesticated over a thousand years later.[46] Indigenous Agriculture spread to the eastern U.S. around 3,800 years ago. More than 1,500 years later, corn, beans, and squash from Mexico became dominant crops in the southeastern U.S. due to their high productivity, eventually spreading as far north as Manitoba, Canada in the 1400s.[47] The arrival of European colonizers led to the introduction of Eurasian crops such as wheat, barley and oats, while Indigenous crops such as corn, potatoes and tomatoes were introduced to Africa, Asia, and Europe, spreading Indigenous crops and influencing global food cultures.[48] Despite the loss of major Indigenous food landscapes and cultures due to colonization, the practice of growing the "Three Sisters" (corn, beans, and squash), along with other indigenous crops continues across the Americas.[49]



Figure 1.6. This illustration of the Fertile Crescent denotes where evidence of different crops and animals were located throughout Mesopotamia and Anatolia

45 "A Brief History of Indigenous Agriculture," Manitoba Museum, February 18, 2020, https://manitobamuseum.ca/a-brief-history-of-indigenous-agriculture/.
46 Ibid.
47 Ibid.
48 Ibid.
49 Ibid.

Moreover, Steel discusses the importance of food and the built landscape during the Graeco-Roman period to reiterate the inherent relationship between man and food. She refers to the Latin term *cultus*, the root word of 'culture' and 'cultivate', where she implies that cultivation and civilisation did not exist without each other.[50] This relationship to agriculture is echoed by the Ancient Greek term *sperma*, which was synonymous with the seed of both 'man' and 'grain', expressing the interdependency of the two in both "reality and myth".[51] "To Homer, man was, simply, 'bread-eater': a creature whom agriculture had transformed from a savage beast into a cultured, thinking being."[52] As the Roman and Greek empires grew, land for new settlements was selected by augurs who assessed the natural landscape's ability to support a new community, as the concept of man and grain were entangled in ancient city life.[53] These examples demonstrate the inherent relationship between human civilization and food throughout history.

Architect Michael Hough, author of *Cities & Natural Process*, speaks to the detachment that cities and their inhabitants have to natural processes that sustain life, and making these processes visible to adjust consumer values of what shapes a city. In his introduction, Hough shares the Brundtland Commission's definition of "sustainability as meeting the needs of the present without compromising the ability of future generations to meet their own."[54] Hough expresses that cities must be viewed through an environmental lens to ensure that social, economic, political, and spatial design processes are focused towards building a sustainable future as opposed to the values that have shaped cities and societies today: consumption and capitalism.[55]

During the pre-industrial age, cities and their inhabitants had relationships with the natural processes surrounding them.[56] Of the many natural processes that shape cities, Michael Hough highlights how food was a major connecter between city and country when inhabitants were aware of the natural process that sustained them.[57] Megacities such as New York, used to rely on fruits and vegetables produced locally in "market gardens" and employed basic recycling methods, where "nightly refuse" was used to nourish the soil.[58] Cities in the pre-industrial age had a better standing and awareness of the environment that supported them.[59] As such, they presented a model

50 Steel, *Hungry City*, 14.
51 Ibid.
52 Ibid, 14-15.
53 Ibid, 15.
54 Hough, *Cities and Natural Process*, 5.
55 Ibid, 5-6.
56 Ibid, 9.
57 Ibid.
58 Ibid.
59 Caves, *Encyclopedia of the City*, 18."ISBN":"9786610267521","language":"eng","number-of-pages":"xxx+564","-publisher":"Routledge","publisher-place":"London ;","source":"ocul-wtl.primo.exlibrisgroup.com","title":"Encyclopedia of the city","author":[{"family":"Caves","given":"Roger W."}],"issued":{"date-parts":[["2005"]]}}],"schema":"https://github.com/citation-style-language/schema/raw/master/csl-citation.json"}

for a 'balanced community', where activities and social integration into the natural environment were balanced.[60] The natural geographical location of a settlement defines its built landscape and limits the potential for population growth so as not to deplete the productive land sustaining the population.[61] This relationship to the natural landscape began to vanish because of the new transportation and technological innovations ushered in by the Industrial Revolution that led to urban sprawl.[62]

The Industrial Age brought forth a rise in capitalism that has shaped the economic and social urban dynamics of many cities.[63] The issue with the capitalist city model is the goal of wealth accumulation without consideration of the economic and social polarization it inflicts on a city's inhabitants, and how the polarization informs the built landscape to the detriment of the people and the environment.[64] A capitalist city is defined by "the alienation of assets and resources to private hands, their use for profit to meet the market's interests rather than individual needs, and the physical separation between the working class and those with capital."[65] As such, the issue of land value held great importance in this city model.[66] Land was seen as a commodity that yielded maximum profits through real estate investments.[67] Consequently, this promoted the loss of productive land transforming local-scale agriculture into industrial agriculture that continues to function on a global scale.[68] The natural process of growing food and caring for livestock was erased from the urban fabric, severing an essential symbiotic relationship people had with the natural world.[69] Deprived of the visual stimulus of natural processes in the urban landscape, city dwellers have been distanced, both physically and psychologically, from processes that sustain urban life.[70] As a result, Hough stresses how "[t]he urban environment serves to isolate us from an awareness of the natural and human processes that support life."[71]

The urban-rural divide is a product of industrialization. The spatial divide this created in humanity's relationship to natural systems is expanded upon by German philosopher Karl Marx. Marx developed the theory of 'metabolic rift' which speaks to the material separation that people in a capitalist society have from the natural systems key to their survival.[72] This is still the reality

60 Ibid.
61 Ibid, 442.
62 Ibid, 25.
63 Ibid, 45.
64 Ibid.
65 Ibid.
66 Ibid.
67 Ibid.
68 Hough, *Cities and Natural Process*, 11.
69 Ibid.
70 Ibid.
71 Ibid, 12.
72 Brett Clark and Ebenezer Howard, "Ebenezer Howard and the Marriage of Town and Country: An Introduction

of modern-day cities like Toronto in Canada. Therefore, Hough's comments on integrating an environmental lens on the social, economic, and political systems that shape cities will encourage the mindset needed to develop sustainable urban living.[73] As such, developing local food networks to reduce the environmental impact of the global food industry is part of the overarching theme in my thesis. By dissolving the boundary created by the urban-rural divide, normalizing food production within the city and integrating smaller food networks can aim to offset carbon emissions, exploitation of natural resources, and remedy food insecurity, all of which are by-products of the industrial food system that created this dichotomy.

1.1 - Agriculture in the Political Landscape

The urban inequalities necessitated under capitalism came under fire during its prevalence in the Industrial Revolution by philosophers and social activists who called for improved living conditions for the working classes.[74] This was most notably seen in London, the first city that fully embraced industrialization, setting in motion the loss of its food culture.[75] The voices of German philosophers, Karl Marx and Friedrich Engels, were highly influential to activists during London's industrial evolution.[76] After witnessing the repercussions of industrial agriculture and the decline of local agriculture in Britain, Marx argued that industrial agriculture and global trade influenced by capitalism exacerbated the metabolic rift between society and nature all the while contributing to city pollution.[77] Marx expressed how the "pursuit of profit sacrificed reinvestment in the land."[78] As a result, he advocated for the end of the urban-rural dichotomy to call attention to the investment of a "rational agriculture" system that had ecological considerations for maintaining land fertility.[79] Social activist William Morris was greatly influenced by Karl Marx and also sought the removal of the urban-rural dichotomy.[80] His work proposed transforming the industrial city "from the grimy back-yard of a workshop into a garden," through the sustainable integration of people and nature in the hopes of preventing the abuse of natural resources.[81] Morris's work was highly influential to Ebenezer Howard's Garden Cities of To-morrow, a conceptual model of a balanced community, where Howard married both town and country in an attempt to reconcile the rift between people and nature brought on by capitalism.[82]

to Howard's Garden Cities of To-Morrow (Selections) / Excerpts from Garden Cities of To-Morrow," *Organization & Environment* 16, no. 1 (March 2003): 87–97.

73 Hough, *Cities and Natural Process*, 5-6.
74 Clark, "Ebenezer Howard and the Marriage of Town and Country," 89-90.
75 Steel, *Hungry City*, 237.
76 Clark, "Ebenezer Howard and the Marriage of Town and Country," 89.
77 Ibid.
78 Ibid.
79 Ibid.
80 Ibid.
81 Ibid, 90.
82 Ibid.

Howard's proposal of transforming a capitalist society into a socialist one was a reflection of the urban issues at the time of its conception.[83] The rise of capitalism in the industrial age led to the degradation of the physical landscape and quality of living in cities, particularly for the working class.[84] The industrial waste that dirtied buildings and polluted the air and waterways marred the physical landscape of cities.[85] Pollution and poverty were further exacerbated by the global expansion of capitalism with long-distance trade, which ultimately led to an exodus of people from country to city, as local farmers could not compete in the new market and sought employment in the city.[86] With the high demand for jobs in the city, capitalists reduced wages to accommodate the new volume of workers flooding in.[87] As a result, people were not earning enough to buy adequate portions of food to support a balanced diet, adding to the growing issues of urban life that increased malnutrition, diseases, and stunted development.[88] These issues primarily affected the urban poor which brought forth a surge of activists calling for social reform.[89] Friedrich Engels believed that eliminating the capitalist "economic system could bring forth the possibility of a rationally organized city, free from the poverty necessitated under capitalism."[90]

As such, Ebenezer Howard's urban design concept, detailed in section 2.3, worked towards creating a socialist society offering an alternative solution that addresses the flaws of the capitalist model which exploits nature's resources and the urban poor.[91] However, by doing so, his urban concept "was not well received" and was deemed a "utopian socialist ideal" by the capitalist powers seeking profitable investment.[92] Though contested for its socialist tone, Howard's Garden City fully materialized in 1903.[93] The new town of Letchworth, located 35 miles from London, was funded by the Garden City Association which was composed of "freethinkers and businessmen."[94] The association hired architects Raymond Unwin and Barry Parker to design the buildings of the town, both of whom were inspired by the work of William Morris who was highly influential in Howard's conception of the Garden City.[95] Howard was initially the project manager, but he was pushed to the sidelines due to his socialist ideals, which interfered with the priorities of the other directors who were focused on pleasing the shareholders who invested in the project.[96] Clark argues that

83 Ibid, 88.
84 Ibid.
85 Ibid.
86 Ibid.
87 Ibid.
88 Ibid.
89 Ibid.
90 Ibid.
91 Ibid, 92.
92 April Philips, *Designing Urban Landscapes : A Complete Guide to the Planning, Design, Construction, Maintenance and Management of Edible Landscapes* (New Jersey: Wiley, 2013), 8.
93 Clark, "Ebenezer Howard and the Marriage of Town and Country," 94.
94 Ibid.
95 Ibid.
96 Ibid.

Irish political activist and artist, George Bernard Shaw, "had predicted that capitalists, although willing to invest in the establishment of the new community, would be unwilling to relinquish their control within the enterprise."[97] Despite this turn of events, Letchworth became the inspiration for "nonconformist freethinkers" and was a catalyst in the development of other garden cities in Britain and around the world.[98] Following the destruction of towns during the Second World War, the British government adopted his proposal as a template for suburban development to reduce urban overcrowding.[99] However, his work was divested of its socialist aims and used as a formal model to bring in park settings in the suburbs, losing the viability of the original proposal.[100]

Today, failing to acknowledge the need for a sustainable model of agriculture integrated with balanced communities suggests how out of touch urban planners and policymakers are with the natural systems that sustain cities. The following statement by Howard conveys the inherent connection people have to the environment that propels the logic behind The Garden Cities of To-morrow:

> All that we are and all that we have come from it. Our bodies are formed of it; to it they return. We are fed by it, clothed by it, and by it are we warmed and sheltered. On its bosom we rest. Its beauty is the inspiration of art, of music, of poetry. Its forces propel all the wheels of industry. It is the sources of all health, all wealth, all knowledge. But its fullness of joy and wisdom has not revealed itself to man. Nor can it ever, so long as this unholy, unnatural separation of society and nature endures. Town and country must be married, and out of this joyous union will spring a new hope, a new life, a new civilisation. [101]

Howard's position shares a likeness to ancient civilizations that embraced and celebrated their connection to the earth through ancient festivals revolving around food and tending to the land.[102] His model heavily emphasizes "the law of restitution", where what is taken from the land is given back to promote a healthy ecological cycle where both humans and nature live in harmony and benefit from one another.[103] This concept alludes to Hough's earlier comment about pre-industrial agriculture where the recycling of human waste back into the soil was done to enrich the land to achieve consistent harvests for the future.[104]

97 Ibid.
98 Ibid.
99 Ibid, 95.
100 Ibid.
101 Ibid, 102.
102 Steel, *Hungry City*, 15.
103 Clark, "Ebenezer Howard and the Marriage of Town and Country," 93.
104 Hough, *Cities and Natural Process*, 9.

The scale at which cities have grown, and continue to grow, has surpassed "the productive capacity of their rural hinterlands and this poses enormous challenges to urban food security and the sustainability of urban food provisioning systems."[105] As issues with industrial agriculture become more apparent to the public, the desire for change in the food provisioning system grows. Although Ebenezer Howard's work received significant resistance in its time, its consistent reappearance to modern-day alternatives for sustainable cities across the world speaks volumes to the desire to reshape cities into a productive sustainable model.[106] Howard's design proposal sought to reform the relationship between humans and the land by creating synergies with social and ecological systems. By living near productive land and recognizing its value in providing sustenance, Howard believed people would be prompted to care for the land to benefit from its abundance. His design ideology intended to address the issues of poverty and pollution faced by London's urban population at the time.[107] Carolyn Steel reiterates the effort it takes to feed modern-day cities such as London where

> enough food for thirty million meals must be produced, imported, sold, cooked, eaten and disposed of again, and that something similar must happen every day for every city on earth… Feeding cities… arguably has a greater social and physical impact on our lives and planet than anything else we do. Yet few of us in the West are conscious of the process. Food arrives on our plates as if by magic, and we rarely stop to wonder how it got there. [108]

Consumers of this system give power to food provisioning practices that are degrading the social and environmental dynamics of cities, ultimately harming people's quality of life. Michael Hough's call to reshape cities through an environmental lens is essential in devising alternative methods of food provisioning systems that shape the urban fabric of cities for the betterment of society and the environment. The current food system is influenced by capitalist ideologies that capitalize on the commoditization of food for profit. Localizing alternative food networks can democratize the food system by making it responsive to local consumer needs and relying on local producers and distributors. This approach not only fosters local economic growth but also reduces the ecological footprint of food production and promotes a more equitable food system.

105 Johannes S.C. Wiskerke and Saline Verhoeven, *Flourishing Foodscapes : Designing City-Region Food Systems* (Amsterdam: Valiz, 2018), 40.
106 Clark, "Ebenezer Howard and the Marriage of Town and Country," 94-95.
107 Ibid, 88-90.
108 Steel, *Hungry City*, ix.



Figure 1.7 Large and Accurate Map of the City of London of 1676 by John Ogilby

1.2 - Evolution of Urban Food Landscapes

The global food supply chain is dependent on non-renewable energy and the excessive extraction of natural resources, disregarding both the long-term stability of the current system and its impact on the climate. This highlights the need to design more sustainable frameworks for food and other natural processes in the city.[109] The current state of the food supply chain is reflective of the values capitalism has attributed to urban and rural land, influencing consumer attitudes towards this dichotomy.[110] Steel conveys this change by examining the evolution of food landscapes in the city.[111] Local markets were once the nuclei of cities and represented the landscape that fed cities and brought "awareness of what it takes to sustain life."[112] The shaded portion of John Ogilby's map of London in Figure 1.7 demonstrates the locations of markets and their supply routes before industrialization.[113] Steel claims that "[u]p until the nineteenth century, food, and the natural geography that provided it, had determined where cities were built, and how large they could grow."[114] Railways led to the growth of urban sprawl, allowing cities to be built anywhere without much thought to the landscape of food needed to sustain rapid urbanization.[115] Markets were a

109 Hough, *Cities and Natural Process*, 162.
110 Ibid, 160.
111 Steel, *Hungry City*, 118.
112 Ibid,133.
113 Ibid, 118.
114 Ibid, 90.
115 Ibid.

social forum and played an important role in public expression but they were replaced by malls and supermarkets which redefined the urban fabric of towns and cities. Developers began using the term "urban regeneration" as the development of supermarkets and malls in the middle of nowhere were used to build neighbourhoods around them, becoming the new nuclei of towns.[116] However, unlike markets, supermarkets "have no civic role to play" and their main purpose was to accumulate wealth through the commoditization of food, and malls, according to Steel, were the death of public space.[117]

1.2.1 – Supermarket Urbanism

Throughout North America, suburbs are characterized by having industrial and commercial zones bordering residential areas to expand the capitalist economy beyond city centres through these additional settlements.[118] The neighbourhood of Jane and Finch is an example of this. Once a small agricultural community, Jane and Finch was transformed into an instant suburb in the 1960s from rapid urbanization to compensate for overcrowding issues in Toronto's densely populated city centre.[119] Based on-site observations, malls and supermarkets have become the nuclei of the Jane and Finch community. The supermarkets and malls are concentrated at the intersection of Jane Street and Finch Avenue West, the centre point of the neighbourhood. The community remains reliant on supermarkets and fast-food chains in malls, while others suffering from food insecurity must resort to food banks to survive. Jane and Finch is home to various ethnicities with rich food cultures, but their ability to portray their local identity through cultural expression is hindered due to the built landscape designed for the commoditization of food and land instead of a shared space for public expression.[120] Redefining the built landscape of Jane and Fish by spatializing essential food systems is needed to reiterate the value of food as a human right, not as a commodity.

The ubiquity of supermarkets has heavily influenced consumer habits and the built environment around us. These conglomerates have power over food, space, and ultimately, the consumers themselves. Consumer dependence on these establishments has only grown in time with the convenience of ready-made meals and fast-food chains, severing people's relationship to food by taking away the desire to cook and the ritual of setting up the dinner table.[121] In Britain, the loss of any pre-existing food culture can even be seen through the evolution of kitchen designs in the home. As the population lost interest and the skill to cook over time, "new-build family homes often

116 Ibid, 144-145.
117 Ibid, 145.
118 Caves, *Encyclopedia of the City*, 45.
119 Downsview Weston Action Community, *From Longhouse to Highrise,* 13-15.
120 Ibid, 3-4.
121 Steel, 163-164.

have kitchens too small to accommodate basic equipment such as fridges and washing machines, let alone a dining table."[122] Statistics gathered show that a kitchen for a 3-bedroom dwelling was no more than 6.5 square meters.[123] These space requirements were based on "marketing judgement of developers, in light of their assessment of their customers' requirements."[124] The attitude the British population have towards meal prep, cooking, and food in general, has allowed the powers that control the food industry to increase public dependency on them when developers reduce the domestic kitchen to an unusable cramped space that can barely function as a kitchen.[125] As such, the built environment has been orchestrated in a way to influence bad habits around food to ensure people's dependency as consumers on capital-producing food industries.

The built landscape of cities and towns is a further testament to this. Steel expresses how:
Streets are the building blocks of cities, providing something that supermarkets can never provide: a common space with which people identify, in which they have a stake. Above all, streets are shared spaces: in both their use and ownership, they form the basis of the urban public realm. It is no accident that 'street life' is synonymous with the social buzz of a busy city, and that no equivalent term exists for suburbia. The suburban ideal has always been one of autonomy: private ownership of your house and garden, garage and car. Now supermarkets are extending that notion to urban dwellings as a whole.[126]

Supermarkets were perceived as a threat to many European nations with strong food cultures. Out of concern for the identity of city centres and the food landscape of markets and local businesses, Italy, France, and Germany established strict legislation to hinder the growth of supermarkets in the interest of protecting local trade.[127] Supermarkets have populated Britain since the 1920s, however, the allure to implement larger-scale "American-style" superstores, resulted in the unregulated development of superstores across Britain in the 1970s and 80s.[128] Although, once Britain witnessed the decline of vibrant market towns, they followed the lead of their European counterparts and put restrictions on superstore growth in 1988.[129] However, major monopolies found loopholes in British legislation that allowed them the gain a foothold throughout towns and cities in 2005, expanding their growing food empires and paving the way for "supermarket urbanism".[130] Supermarkets impacted the social and physical landscape of cities, and in Steel's opinion led to urban destruction

122 Ibid, 196.
123 Ibid.
124 Ibid.
125 Ibid, 196-197.
126 Ibid, 145-146.
127 Ibid, 141.
128 Ibid, 140.
129 Ibid, 140-141.
130 Ibid, 143-144.

as opposed to urban regeneration.[131]

1.2.2 - Land & Food as a Commodity

With the rise of urbanization, as seen with the neighbourhood of Jane and Finch, farmland was no longer seen as a commodity solely for food production, but as a commodity for real estate developments needed to expand the borders of cities.[132] This demonstrates the consumerist and capitalist values society has held onto since the industrial age. This oversight fails to acknowledge how community gardens can increase land value as people want to live closer to them.[133] As Ladner writes, "A study in New York found that opening a community garden increases property values… within 1,000 feet of the garden", and over time that value grows.[134] This impact is seen clearly in impoverished neighbourhoods where "studies have shown that the presence of community gardens in inner-city neighbourhoods is positively correlated with decreases in crime, trash dumping, juvenile delinquency, fires, violent deaths and mental illness."[135] Productive land has great economic potential as well as social benefits of alleviating food insecurity and is a visual amenity in the urban landscape.[136] However, the potential of productive land was lost due to the overcrowding of cities and the monetary incentives to transform agricultural landscapes from an inner-city, "labour-intensive, low-energy, small-scale" endeavour to a "capital- and energy-intensive" model that to this day, focuses on increased efficiency, yield and a reduced workforce.[137] This transformation was done to feed more at minimum costs to maximize the profits of major monopolies controlling the food industry.[138] Despite the belief that large-scale farms would yield high quantities of crops, studies suggest otherwise. Hough came across studies done in Britain that investigated how large-scale farms were found to produce less food per hectare, which suggested that "policies aimed at amalgamating smaller farms into bigger ones in the interests of efficiency and increased production may be counterproductive."[139] This brings to question the effectiveness of industrial agriculture and large-scale farming, especially when it is argued to be more efficient than traditional means of agriculture. Consequently, the shift from traditional to industrial agriculture due to industrial capitalism has led to severe environmental and social costs.[140] In an attempt to achieve goals of productivity and efficiency, industrial farms employ the use of fertilizers, pesticides and machinery

131 Ibid, 145.
132 Hough, *Cities and Natural Process*, 11.
133 Peter Ladner, *The Urban Food Revolution : Changing the Way We Feed Cities* (Gabriola Island, BC: New Society Publishers, 2011), 185-186.
134 Ibid.
135 Ibid, 186.
136 Hough, *Cities and Natural Process*, 167.
137 Ibid, 161.
138 Ibid.
139 Ibid.
140 Ibid.

running on fossil fuels, all of which have contributed to soil depletion, land erosion, humans and natural ecology suffering from pollution, unnatural food due to genetic modification and chemicals used for their growth, leading to illnesses and in severe cases, death.[141]

Despite this, the industrial food system prioritizes the commoditization of food to accumulate wealth through global trade rather than concern itself with its impact on environmental and social health. Food is typically imported from developing nations with sun all year round, where the exploitation of cheap labour and resources minimizes the cost of food, as growing food on home soil would be less cost-effective.[142] This conveys the extractive nature of globalized food production as it remains dependent on fossil fuels for the various modes of food transportation, polluting the air, seas, and oceans and depleting the land of nourishment by excessive use of chemicals and monoculture crop production. This system thrives off the labour of the working poor and deprives Indigenous people of crops they have been using for centuries in favour of crops that are high in demand in the global market. This illustrates how the global food system treats food as a commodity to accumulate wealth while degrading social and ecological systems. With the current climate crisis and fuel shortages, consumers are faced with over-inflated prices of food that have low nutritional value due to industrial farming methods.[143] Hough elaborates on this with the bigger picture in mind: "The economic and ecological costs are externalized, from the users and the purchasers of goods to the general public and natural systems. This translates into a question of the price of goods at the supermarket versus the actual cost of producing them. 'The market has the dollar; the real world has the ecological footprint.'"[144] Supermarkets are the main suppliers of food in the urban landscape, making the public reliant on conglomerates to provide their food.[145] This prevents individual consumers from having power and agency over the food they eat, as there are almost no other food alternatives to choose from. The escalating issue of unaffordable produce and food insecurity led to the creation of food banks in Canada in 1981.[146] From 1995 to 2011, food bank usage in Toronto had gone up by 79% and the intention of food banks as temporary emergency infrastructure has become a permanent necessity in today's market.[147]

141 Ibid, 160-162.
142 Steel, *Hungry City*, 60-61.
143 Ladner, *The Urban Food Revolution,* 98.
144 Hough, *Cities and Natural Process*,164.
145 Steel, *Hungry City*, 163.
146 Ladner, *The Urban Food Revolution,* 199.
147 Ibid.

The issues previously discussed are a cause for concern for the future of the industrial food system. Food has the potential "to transform not just landscapes, but political structures, public spaces, social relationships, cities. Its effects depend on who control it".[148] As such, consumers must "alter the power structures that currently control food… Politicians need our votes, just like supermarkets need customers. They only have power because we give it to them. We can change the way they think and act by changing the way we do."[149] Therefore, exploring alternative regional food production methods is crucial for establishing a sustainable food system that prioritizes environmental and social considerations over treating food as a commodity. Dedicated food infrastructure may effectively address the needs of food-insecure communities by spatially organizing necessary support systems. Urban visionaries over the centuries have attempted to integrate productive landscapes into new urban proposals to prioritize inner-city farming, as an alternative solution to the industrial economies that control the food supply, the built landscape, and capitalize on economic and social inequalities.

148 Steel, *Hungry City*, 307.
149 Ibid, 307-308.

The following pages shows a series of
speculative drawings
highlighting the current state of
the conventional food system

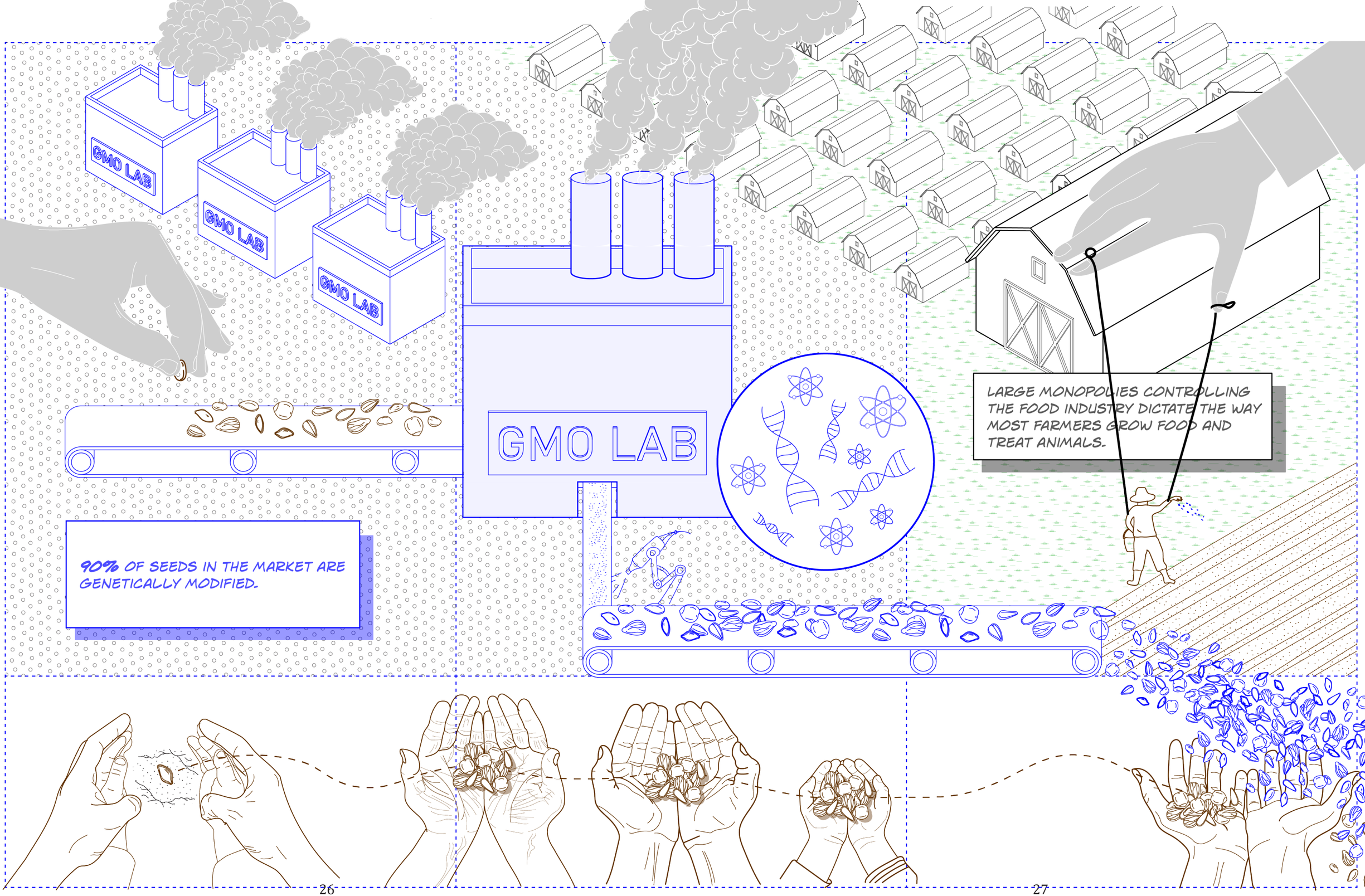


Figure 1.8. Speculative drawing of genetically modified seeds and natural seeds passed down from generation to generation.

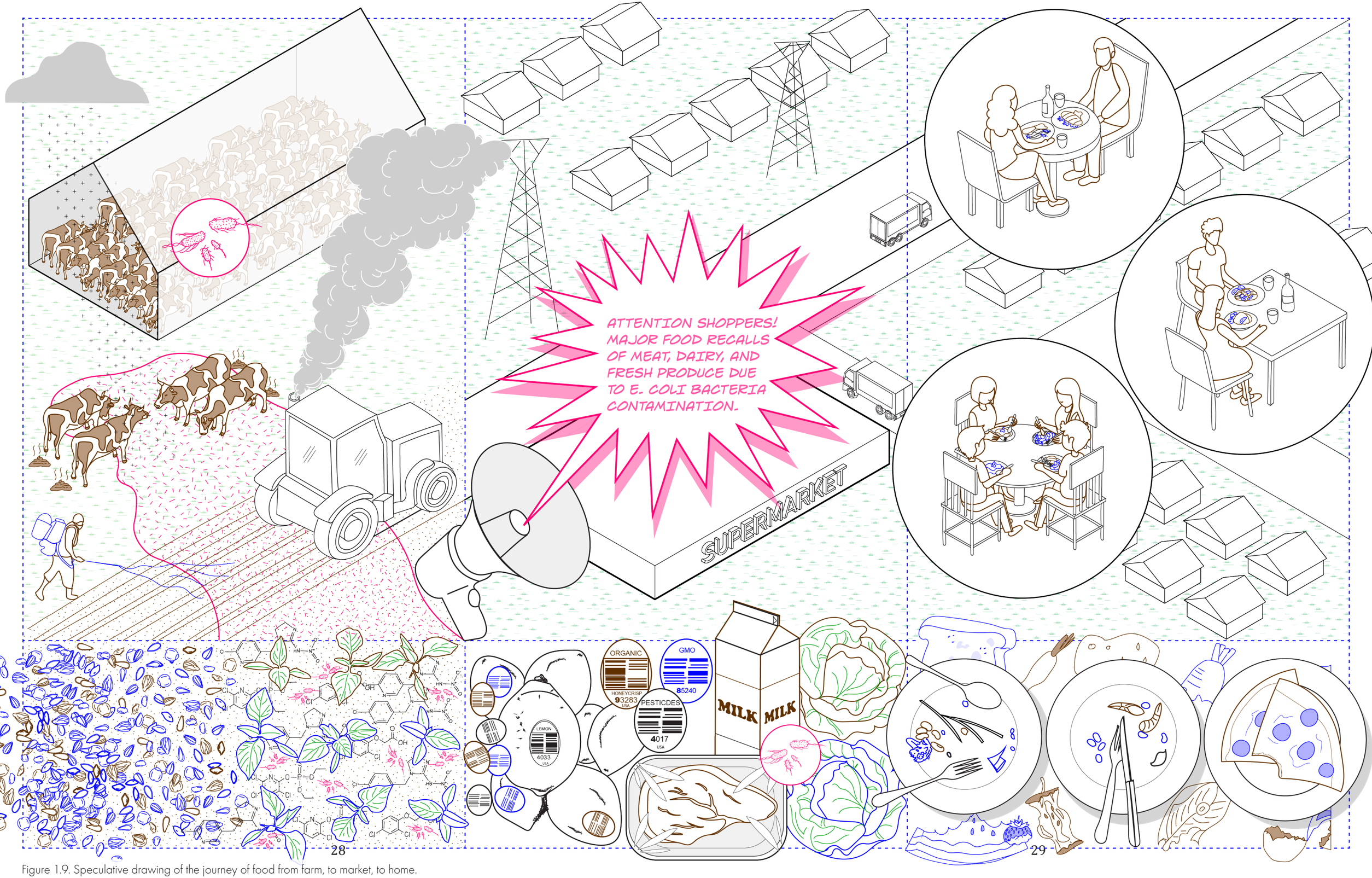


Figure 1.9. Speculative drawing of the journey of food from farm, to market, to home.

47% OF FOOD WASTE IN CANADA IS GENERATED AT THE HOUSEHOLD LEVEL. FRUITS AND VEGETABLES ACCOUNT FOR **45%** OF FOOD WASTE. WHEN FOOD ENDS UP IN LANDFILLS, IT ROTS AND CREATES METHANE, A GREENHOUSE GAS. METHANE IS 25 X MORE DAMAGING TO THE ENVIRONMENT THAN CARBON DIOXIDE.*

OVER **60%** OF CANADIAN HOUSEHOLD FOOD WASTE IS AVOIDABLE. REDIRECTING OR RESCUING SURPLUS EDIBLE FOOD COULD SAVE **3.82 TONNES** OF GREENHOUSE GAS EMISSIONS PER TONNE OF FOOD.*

Figure 1.10. Speculative drawing of food waste disposed in a landfill.

*Nicole Blair, "Food Waste Statistics in Canada," Made in CA, June 11, 2024, https://madeinca.ca/food-waste-canada-statistics/.

Chapter 2

City Farming

2.1 – Sustainable Agricultural Practices

The flawed methods of industrial farming have led to many urban issues detrimental to social and ecological systems. Ecologically sustainable practices offer valuable insights for developing alternative agricultural methods. Pre-industrial European farms used natural methods to grow healthy crops.[1] These methods employed the use of animals, the rotation of crops and their varieties each season, as well as "natural hedges and woodlands" to aid in soil nutrition and attacks from pests.[2] In Canada, the Haudenosaunee, made up of six First Nation alliances "(the Mohawk, Oneida, Onondaga, Cayuga, Seneca and Tuscarora)", use regenerative agricultural practices, demonstrated by the 'Three Sisters': corn, bean and squash.[3] These three plants are grown together as each plant supports the growth of the other in addition to providing nutrients back to the land.[4] The Corn sprouts first and becomes the support for the bean's vines to grow up towards the sunlight, which in turn supports the corn during strong winds as the vines coil around the corn, keeping it stable.[5] The beans fertilize the soil with nitrogen needed by the corn, and the squash, which sprouts last, remains low to the ground, allowing its leaves to protect the soil from the sun, "keeping it cool, moist and shady, while its prickly skin keep hungry animals at bay."[6] Indigenous author, Robin Wall Kimmerer addresses the 'Three Sisters' in her book *Braiding Sweetgrass*, as the plants that "feed the people, feed the land, and feed our imagination, telling us how we might live".[7] In addition, Kimmerer mentions how the practice of intercropping was seen as savagery and ineptitude in farming by invading colonialists, who were only familiar with monoculture farming and yet indulged in the food produced by the Indigenous people.[8] This incredible method of growing food disappeared with the colonization of agriculture. Today, Indigenous communities across North America continue to grow the 'Three Sisters' and educate others about their agricultural practices. In North York, Ontario, "two Anishinaabeg farmers are decolonizing Toronto's hydro fields" by growing their food there through traditional means to provide fresh food to the surrounding community.[9] Figure 2.1 shows the farm thriving beneath the Hydro One corridor. The Hydro One corridor cuts through the Jane and Finch neighbourhood, potentially providing the opportune space to grow food within the community. This Anishinaabeg urban farm creates food agency as people can have power and control over their well-being through the act of growing, consuming or purchasing food where there is clear transparency to how it was produced, reforging the connection between producer and consumer, and building trust with the surrounding collective community.

1 Hough, *Cities and Natural Process*, 160.
2 Ibid, 160.
3 Globe Content Studio, Globe Content Studio, "What the Story of the Three Sisters Teaches Us about Farming," *The Globe and Mail*, October 15, 2020, https://www.theglobeandmail.com/life/adv/article-what-the-story-of-the-three-sisters-teaches-us-about-farming/.
4 Ibid.
5 Ibid.
6 Ibid.
7 Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants* (Canada: Milkweed Editions, 2013), 129.
8 Ibid.
9 Sid Naidu, "Power Move: Two Anishinaabeg Farmers Are Decolonizing Toronto's Hydro Fields," *The Narwhal* (blog), January 4, 2024, https://thenarwhal.ca/hydro-fields-indigenous-farms/.



Figure 2.1. Urban farm in North York, Ontario below the Hydro One corridor is decolonizing space through Indigenous farming practices.

Pre-industrial agriculture demonstrated the collaboration between people and nature and an awareness of their relationship to natural processes through food. While some of those practices have translated to modern-day cities and farming practices, industrial agriculture remains dominant and has manipulated and deteriorated natural systems in the interest of lucrative agribusiness severing consumer ties to food. The main goal of maximising profits has resulted in the global food system being heavily reliant on specific regions across the world, which are exploited and burdened with producing food for the global population, leading to land infertility, high energy costs of producing and distributing food, all the while contributing to the climate crisis, putting future harvests at risk.[10] As a result, Hough conveys that the current path of the food supply chain will eventually fail to sustain us and will cause everlasting damage to the environment, and thus, urges us to divert agricultural production down a more sustainable path.

10 Hough, *Cities and Natural Process*, 162.

2.2 - Case Study 1 - Garden Cities: A Model of Sustainability

In an attempt to present an alternative cycle for natural food systems, Hough poses the question: "How large would a glass dome need to be for the city to sustain itself exclusively on the ecosystems that it contained?"[11] Hough is directing us to think back to the workings of pre-industrial towns and cities which had maintained connections to natural processes within their locality. He provides the example of Medieval cities where food was grown in private gardens and wealthy citizens would have "orchards and vineyards in the suburbs and kept cows and sheep on the common fields under the care of a municipal herdsman."[12] In addition, the application of a circular food cycle where "fields that produced food for the town, and the town that returned its refuse to enrich the fields, was necessary to ensure survival", and a healthy relationship to the environment.[13] This pre-industrial approach aligned well with Ebenezer Howard's proposal of eliminating "the alienation of human society from nature".[14]

Howard's *The Garden Cities of To-morrow* explores an ecological city model that speaks to self-sufficiency, sustainability, and democracy, through the harmonious integration of society and nature.[15] Howard understood that people were drawn to the city because of more opportunities for employment, social interaction and cultural activities, as well as the appeal of the country which offered the beauty of nature, fresh air, sunshine and fresh food.[16] He referred to the town and country as magnets and people are the needles drawn to them.[17] Howard's proposal creates a third magnet, "town-country", eliminating their dichotomy and merging the two to create all the benefits present in each and the absence of their drawbacks.[18] This is depicted in a diagram in Figure 2.2. His proposal required the garden city would be built on newly acquired land in the country that was valued at low cost, and that would support a population of up to 32,000 people.[19] Howard's conceptual design consists of six concentric circles marking different zones and boundaries of the city.[20] This is depicted in a diagram in Figure 2.3. The first zone is a "5-6 acre" garden at the centre of the city where the community can gather and interact, and surrounding the garden are buildings of political and cultural significance to the collective community.[21] The third zone is a park for recreation and lining its boundary is the "Crystal Palace", which is an open-air market and exhibition space where agricultural and manufactured products are sold under a glass canopy.[22] Zone four represents the residential domain where each home is to be unique in its form allowing for cultural expression and preventing a sea of "lifeless uniformity".[23] In addition, each home has generous yard space to give people the opportunity to have private outdoor space for their leisure or to produce food if they wish.[24] Lining residential blocks is a "wide Grand Avenue" where schools and additional gardens and parks are allocated.[25] Zone five lines the city's periphery where various local industries, such as allotment gardens, "factories, warehouses, dairies, markets and timber yards" were located.[26] Situated on the fringe of this zone is a railway surrounding the city as a means to reduce traffic congestion within the city and that would connect to a network of other Garden cities to develop regional trade.[27] The sixth zone is the "agricultural belt" surrounding the city.[28] Howard emphasized that the city could not infringe upon this land, limiting its potential to grow to ensure there is no overcrowding in the city.[29] In addition, other garden cities were not allowed to encroach into the agricultural land, as Howard believed in the value of agricultural land and the duty of society to tend to the land that sustains them.[30] This concept follows a similar pattern to that of ancient civilizations who were acutely aware that their survival was dependent on the land that they lived on and tended to.[31] Howard's hope for garden cities was to develop inner-city cooperatives that went against the model of capitalism that wrought havoc on the city of London.[32]

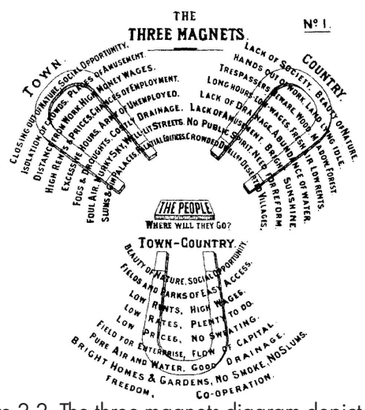


Figure 2.2. The three magnets diagram depict the merging of town and country.

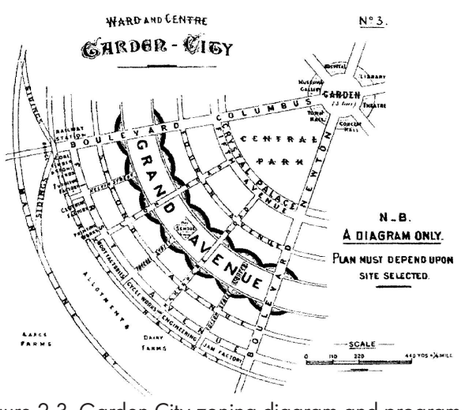


Figure 2.3. Garden City zoning diagram and program breakdown.

11 Ibid, 163.
12 Ibid, 166.
13 Ibid, 177.
14 Clark, "Ebenezer Howard and the Marriage of Town and Country," 87.
15 Ibid, 87.
16 Ibid, 91.
17 Ibid.
18 Ibid.
19 Ibid.
20 Ibid.
21 Ibid.
22 Ibid.
23 Ibid, 91-92.
24 Ibid, 91.
25 Ibid, 92.
26 Ibid.
27 Ibid, 92-94.
28 Ibid, 92.
29 Ibid.
30 Ibid.
31 Steel, *Hungry City,* 15.
32 Clark, "Ebenezer Howard and the Marriage of Town and Country," 92.

Although Howard's schematic plan of the city appears rigid and formal as seen earlier in Figure 2.3, he expressed in his written concept that each city's zoning would differ based on the community's needs and the environment of the selected geographical location of the city.[33] His spatial planning worked towards sustainable efficiency through the reduction of material and spatial waste. Howard despised suburbanization due to wasteful spatial planning that relied heavily on transportation, wasting time and resources as opposed to a walkable city.[34] As a result, Howard chose to integrate cooperative industries near residential zones and the marketplace to increase spatial efficiency, in addition to promoting local production for communities to become self-sufficient, removing the need for overseas trade and the marketing of products, further reducing waste.[35] He was adamant in preventing monopolies from grasping a stronghold in these new communities by limiting trade from outside and promoting local production of goods.[36] In the occurrence of a crop or product failure, the railway connecting other garden cities will allow for trade between different communities.[37] Howard believed in cooperatives and that the will of the people would determine the businesses needed for the collective community to thrive.[38]

Howard's Garden Cities thrive from a community-based model, greatly contrasting Frank Lloyd Wright's Broadacre City, another urban concept that came to fruition in 1932, to develop a society grounded in "individualism and self-autonomy."[39] Many urban visionaries like Howard grounded their design around the collective community whereas Wright emphasized his design to support "the individual and the singular family unit."[40] Decentralization and privatization were central concepts to Wright's vision for Broadacre City.[41] Although Howard's design concept incorporated elements of decentralization to prevent the overcrowding and congestion of cities, Wright takes the concept much further. Where Howard used it to downsize the scale of cities, Wright scaled his model down to the individual family unit.[42] He did this to promote individual ownership of land where each individual or family would be entitled to a home with one acre of land to produce food.[43] The heavy emphasis on decentralization is reflected in the physical layout of the plan shown in Figure 2.4, where the individual homes create a "dramatically sparse landscape" reminiscent of a suburb more than a city.[44] This spatial layout further perpetuated criticism closely aligned with

33 Ibid, 91.
34 Ibid, 94.
35 Ibid.
36 Ibid, 93.
37 Ibid, 94.
38 Ibid, 93.
39 Hannah Kunzle, "Judgement of Broadacre," *Medium* (blog), May 20, 2020, https://hckunzle.medium.com/judgement-of-broadacre-fff58347e786.
40 Ibid.
41 Ibid.
42 Ibid.
43 Ibid.
44 Ibid.

the issues of modern-day suburbs. Wright's model required each individual to be entitled to own an automobile to travel through the sparse landscape through networks of roads and highways.[45] This greatly opposes Howard's concept which takes a pedestrian-friendly approach, encouraging social interaction between community members through ease of accessing amenity spaces and infrastructure by foot.[46] Wright's model is isolating due to the need for an automobile to properly experience living in Broadacre City.[47] Sparse landscapes come at a social and environmental cost.[48] Hough notes how "the suburb is a place where you need a litre of gasoline to buy a litre of milk", an issue common in North American suburbs, alluding to the wastefulness of space and the distance between homes and resources, shining a light on the issue of Wright's proposal being automobile dependent.[49] Howard's proposal includes residential zones, cooperative industries, and local marketplaces that support the local economy, cultural activities and social interaction, all within proximity to one another, to close the gap between residential zones and the resources and amenities needed to live a balanced life.[50] While Howard's model of the Garden City remains relevant today in its aim to integrate humanity with the environment to promote sustainable living, Wright's concept is outdated with the escalating climate crisis that looks to reduce wasteful urban planning and limit vehicular use to reduce greenhouse gas emissions.[51]

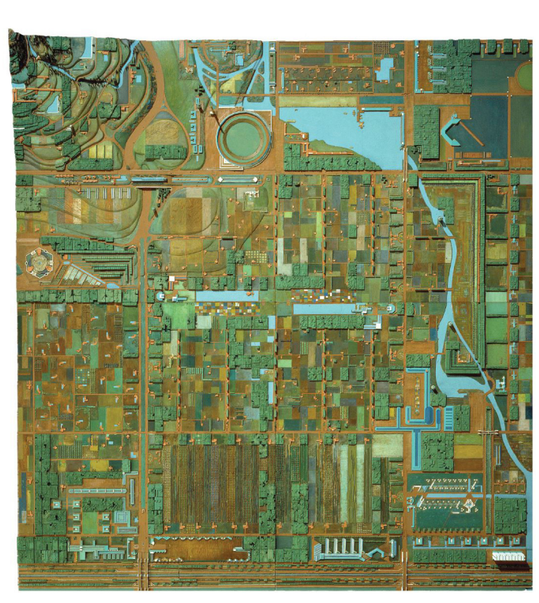


Figure 2.4. Physical model depicting Frank Lloyd Wright's Broadacre City.

45 Ibid.
46 Clark, "Ebenezer Howard and the Marriage of Town and Country," 94.
47 Kunzle, "Judgement of Broadacre."
48 Hough, *Cities and Natural Process*, 11.
49 Ibid, 11.
50 Clark, "Ebenezer Howard and the Marriage of Town and Country," 91.
51 Kunzle, "Judgement of Broadacre."

While Howard's concept has provided significant influence over the creation of new settlements, his proposal was not without criticism. With a democratic body in control, Howard was optimistic about the development of "fair economic practices", where all manners of work would be carried out in "safe and fair conditions" for both people and the environment.[52] His optimism of a democratic society faced heavy criticism from members of the socialist movement who claimed Howard, too invested in his design, underestimated potential social and economic conflicts.[53] In addition, his proposal aimed to rectify the issues of city and country by merging the two, which he hoped would result in the removal of "capitalist exploitation", but did not consider the place of capitalists in this new civilization or anticipate the conflict bound to arise by suggesting a socialist system that would remove their control and influence of the market.[54] Further criticism from social activists expressed that humanity "had to make the best of our existing cities."[55] I agree with this statement, as Howard's proposal did not work towards solving the existing urban issues that drove his design concept, instead, he proposed developing new settlements that advocated for a future of sustainable living, which I believe is partially the reason why his concept was dubbed utopian. Nonetheless, his work was instrumental in the creation of future urban developments in Britain and across the world. While aspects of his proposal were influential in efficient suburban planning, his work "remain[s] the exception, not the rule, of suburban expansion."[56] Ultimately, Howard argues the creation and existence of Garden Cities "provides a reminder that alternative paths of human development are possible in the face of destructive forces. Human society is not doomed to old patterns of life."[57]

2.3 - Case Study 2 - Shreber Gardens

In contrast to the visionary approaches of Howard and Wright, other locally derived forms of urban agriculture have also emerged around the world. The concept of the Shreber Gardens was conceived in Leipzig, Germany in the 1860s.[58] It was created as an educational tool for children to learn to grow plants, but its use underwent various changes between industrial and modern-day Germany.[59] The industrialization of Germany, like so many other countries in Europe, led to rapid urbanization that came at social and economic costs to the working class.[60] These factors influenced

52 Clark, "Ebenezer Howard and the Marriage of Town and Country," 93.
53 Ibid, 95.
54 Ibid.
55 Ibid.
56 Caves, *Encyclopedia of the City*, 45.
57 Clark, "Ebenezer Howard and the Marriage of Town and Country," 95.
58 Jan Turowski, "The Schreber Garden" accessed April 7, 2024, https://cabinetmagazine.org/issues/6/turowski.php.
59 Ibid.
60 Ibid.

the landscape of Shreber Gardens which populated the city of Berlin.[61] For some time, this landscape was transformed by "worker associations and life reformers" to promote the political and ideological agendas of various movements.[62] It was an ideal location where authorities were unable to survey the area due to the spatial organization of land plots.[63] The Shreber garden landscape was used to represent the interests of society during different periods of history. After the First World War, the gardens were de-politicised after the enactment of political and social changes in the country and lost prominence until the Second World War.[64] A plot in a Shreber garden typically consisted of a small cabin structure, referred to as a summer house, with greenspace surrounding it as shown in Figure 2.5.[65] During the war these structures were "used as temporary housing by bombed-out city dwellers" and "every available patch of land was put to use for raising of fruit and vegetables."[66] This reflects how the value of land use changes based on the social, political, and economic dynamics of a city in different contexts and periods. In this case, the conflict of war brought on the demand for local food production activating an urban food landscape. By the 1960s, the use of Shreber gardens for food production and its social landscape faded due to an improved economy.[67]



Figure 2.5. Shreber gardens make up part of the urban fabric of Berlin and other cities in Germany. Small summer houses sit on each allotment giving city dwellers a moment of reprieve.

61 Ibid.
62 Ibid.
63 Ibid.
64 Ibid.
65 Luke Ambrose and Sanne Derks, "The Urban Gardeners of Berlin," Imagine5, accessed April 7, 2024, https://imagine5.com/articles/the-urban-gardeners-of-berlin/.
66 Jan Turowski, "The Schreber Garden."
67 Ibid.

Today, Shreber gardens remain a prominent part of Berlin's urban landscape. This includes various successful citizen-run urban gardens, such as Prinzessinnengarten (Princess Gardens), located in Berlin's city centre.[68] Coordinator of educational activities from Prinzessinnengarten, Hanna Burckhardt, expresses how their "focus is not so much the production of big amounts of food, but on education and participation," and explains how "gardening is a tool to bring people together."[69] Amelie Stieg from Himmelbeet, another citizen-run garden, has a masters in Geological Science and "explains the environmental impact of urban gardens: 'It is really important for the diversity of insects to have a good ecological system in the city. Also, it is getting warmer, and plants help to have a lower temperature… Every garden counts'."[70] The landscape of Shreber Gardens in modern-day Berlin has generated interest in education, food production and leisure that follows the social and environmental values of citizens looking to improve the quality of urban life and reduce their impact on the climate.[71]

As of 2019, 95% of the one million Shreber gardens have been occupied in Germany, and demand for land availability in this food landscape continues to grow amongst younger generations.[72] Two young urban gardeners, Tilman Vogler and Paul Muscat, have been working with a group of friends on their plot of land to grow fruits and vegetables.[73] Aside from the leisurely benefits they get out of their garden, it is the high value of food that they produce that is of great importance to them.[74] Vogler expresses how "It's a luxury… we don't have to depend on what we grow… The supermarket's still down the road. But it definitely makes you more aware of where your food comes from and you know it's organic".[75] Muscat adds how "[t]he amount of work that goes into taking care of the garden also makes you appreciate what you're eating - and makes you realise what's in season… Nowadays we've got used to going to the store and seeing mangoes in the dead of winter. Where are we getting mangoes from in Germany when it's below freezing outside?"[76] These young gardeners achieved a greater sense of awareness around food and their impact on the environment through the act of growing and consuming the fruits of their labour. This landscape of food has led to questions and changes in public opinion around food systems. "[I]t's not just about organic products anymore. It's also about how much packaging is used. People are asking: 'Is the produce farmed sustainably? What impact does this have on my carbon footprint? How many air miles is this product clocking up?'."[77] In 2015, 66% of global consumers were willing to pay more money for ecological produce, this rose to 73% with growing interest among millennials.[78] While this shift in attitude is an indication that change is needed to meet the rising demand for a sustainable food market, there is also a need to make food more affordable and accessible to those who do not have the privilege of going to supermarkets or the space and time to grow their food.



Figure 2.6. Himmelbeet is a citizen-run urban garden where people can socialize, drink, grow plants and food.

68 Ambrose and Sanne Derks, "The Urban Gardeners of Berlin."
69 Ibid.
70 Ibid.
71 Ambrose and Sanne Derks, "The Urban Gardeners of Berlin."
72 Kate Brady, "The Gardens with a 12,000-Person Waiting List," BBC, August 28, 2019, https://www.bbc.com/worklife/article/20190828-the-gardens-with-a-12000-person-waiting-list.
73 Ibid.
74 Ibid.
75 Ibid.
76 Ibid.
77 Ibid.
78 Ibid.

2.4 – The Prevalence of Urban Agriculture

While the sizes of cities and towns have significantly grown, the increasing popularity of growing food in the urban landscape is due to many factors. The rising growth of food banks is suggestive of the failures of the Western supply chain and may intensify food insecurity, as it creates a form of dependency and offers no long-term solutions to the urban poor.[79] The stigma associated with food banks can also affect the dignity and mental health of its users, which is why it is essential to provide the necessary infrastructure that supports regional food systems that can serve the food insecure.[80] As a result, urban agriculture grows more prevalent out of necessity by the urban poor to reduce expenses and "there is a growing recognition that parks systems must become meaningful for poorer neighbourhoods and provide links between urban communities and the land."[81] In addition, a shift in consumer attitude led to the revival of farmer's markets in the 1970s as consumer interest in 'organic' produce resulted in greater awareness of natural systems and took issue with unnatural food production.[82] People, with the means to afford it, are willing to pay for higher-priced food at farmer's markets rather than the food supplied in supermarkets that offer visually attractive food but lack flavour & nutrition offered by farmer's markets.[83] Although farmer's markets and urban agriculture tend to be skewed towards the wealthy, modest forms of urban agriculture and markets have appeared all over cities.[84] The growth of immigrant communities in major cities all around the world has created cultural landscapes enriching inner-city neighbourhoods, where beyond "the front and backyard garden fence, one will find productive vegetable gardens, grapevine-covered trellises [that] provide summer shade and grapes for autumn wine-making".[85] The vernacular of these neighbourhoods represents the practice of "rural skills" and people's inherent relationship to land through cultural tradition, conveying cities in a new light where food serves to sustain and enhance natural urban landscapes and the quality of living.[86] This serves to show the diverse needs of urban inhabitants and how "Urban agriculture is increasingly becoming a necessary urban land-use function that should be publicly supported as long as poverty, hunger, multi-cultural traditions and land-connected recreational trends continue to influence city life and city form".[87]

79 Hough, *Cities and Natural Process*, 182.
80 Ibid.
81 Ibid, 173.
82 Ibid, 167-169.
83 Ladner, *The Urban Food Revolution, 98.*
84 Ibid, 97.
85 Hough, *Cities and Natural Process*, 171.
86 Ibid.
87 Ibid, 177.

Chapter 3

The Framework for Designing ‘Flourishing Foodscapes’

3.0 Decentralization of Food Systems

A common topic in the discourse around food systems and policies is the need for government intervention and continued support to decentralize our food systems. Conventional agriculture forms a centralized system, preventing equitable access to affordable and nutritious food, as centralized food systems prioritize the commodification of food over the welfare of urban inhabitants. In his book *Public Produce*, Darrin Nordahl, an American urban designer and landscape architect, argues that food security falls under government responsibility. The municipal government provides infrastructure for potable water, waste collection, sewage systems, and safety and health institutions for the well-being of its people.[1] However, food infrastructure is missing from the urban framework, despite being just as integral as "housing, transportation, and education."[2] In addition, Nordahl addresses how cities that invest in "going green" underestimate how important the role of food is in their sustainability quota and claims the "[e]nvironment, economy, and equity are the three legs of sustainability, and food in public spaces provides a footing for all three."[3] Nordahl advocates for a system of public produce and highlights how a "societal characteristic of urban agriculture that differs from conventional agriculture is the democratization of community-based food production," giving people a voice and allowing them to play a more significant role in their food production.[4] He envisions this system flourishing with the involvement of both the municipality and the public taking stewardship of the land.

By decentralizing food systems, more regional actors can become involved in the production, distribution, and processing of food. This shift fosters diverse food production methods that will thrive throughout the urban and rural landscape, increasing the types of foods being produced and allowing food systems to become more equitable and inclusive to all. Creating such a system is easier said than done, yet it has already taken root across the globe at varying scales.

Spatial designers and researchers have collaborated for three years as part of the 'Foodscapes research group' coordinated by the Academy of Architecture of the Amsterdam University of the Arts.[5] This initiative resulted in the creation of the book *Flourishing Foodscape*s, where the research group established five socio-spatial design principles as guidelines for "designers, planners, policymakers, academics, and professionals to act" and help create 'flourishing foodscapes' with reference to case studies and research from all around the world.[6]

1 Darrin Nordahl, *Public Produce : The New Urban Agriculture* (Washington, DC: Island Press, 2009), 89.
2 Ibid, 107.
3 Ibid.
4 Ibid, 142.
5 Johannes S.C. Wiskerke and Saline Verhoeven, *Flourishing Foodscapes : Designing City-Region Food Systems* (Amsterdam: Valiz, 2018), 11.
6 Ibid, 285.

3.1 Foodscapes

A foodscape is defined as "the relationship between food, its spatial context and the viewer."[7] It can also be used interchangeably with "food environment", which involves varying food production scales influenced by culture, economy, and policy.[8] As food systems operate at various scales, Johanesse Wiskerke and Saline Verhoeven, contributors and editors of *Flourishing Foodscapes,* highlight how foodscapes are 'nested' and 'interconnected', expressing the macro-, meso- and micro-scale on which food systems operate on, their relationship to each other, and how they shape food provisioning systems.[9]

Foodscapes represent the diversity in food production, transportation, spatial distribution, food outlets, and food culture. To convey the diversity of foodscapes, Wiskerke and Verhoeven distinguish the difference between the 'agro-industrial' foodscape and the 'agro-ecological' foodscape.[10] The agro-industrial foodscape is what most consumers are familiar with. It is the globalized food system concerned with the commoditization of food and food technology and believes that food insecurity is a production failure.[11] Conversely, the agro-ecological foodscape has a place-based approach, concerned with food sovereignty, sustainability, accessibility, affordability, and diverse production systems for nutrition security.[12] These two contrasting foodscapes have opened discourse on ethical foodscapes, creating "an agenda for change that focuses on opportunities to challenge the existing ways of food production and consumption and create different future trajectories."[13]

To push this agenda forward, **five socio-spatial principles** were developed to create ethical foodscapes:

The first principle, '**Adopt a City Region Perspective**,' aims to eliminate the urban-rural dichotomy and re-establish the food relationship between the city and the countryside that was lost during industrialization. It highlights how city regions must be active in the decentralization of policies, with an attuned focus on developing sustainable food systems that thrive on inclusivity, resilience, public health, and biodiversity.[14]

7 Ibid, 30.
8 Ibid.
9 Ibid.
10 Ibid, 32-33.
11 Ibid.
12 Ibid.
13 Ibid,33.
14 Ibid, 35.

The second principle, '**Link Different Levels of Scale**,' feeds into the concept of nested foodscapes where the global/regional (macro), neighbourhood (meso) and domestic (micro) scales of food systems are interconnected and influence one another.[15] Therefore, when creating a "spatial intervention at a particular level of scale, it has to be aligned with other levels of scale, and this may thus require spatial interventions at these other levels as well."[16]

The third principle, '**Connect Flows and Close Cycles**,' is concerned with food waste and resource depletion and suggests transitioning from a linear waste cycle to a circular metabolism and economy, whereby waste is recovered for productive use to divert as much food waste as possible from landfills.[17] In addition, I propose including emphasis on food literacy initiatives as a means to reduce food waste early on in the cycle.

The fourth principle, '**Enhance Spatial Diversity and Synergies**,' emphasizes how social and ecological diversity is imperative in creating resilient food provisioning systems. Foodscapes can promote spatial diversity with several beneficial outcomes from a singular spatial intervention. The example of rooftop farming is recommended "as it can contribute to greening cities, reducing energy consumption for heating and cooling buildings, combatting urban heat islands, temporarily retaining storm water, generating biodiversity in cities, creating employment in the urban food economy and developing knowledge and skills about urban food production."[18]

Finally, the fifth principle, '**Conceive Multiple Utopias**,' aims to make transparent "food provisioning practices that tend to remain hidden, unrecognized, and/or misunderstood within the prevailing food provisioning paradigm," by designing various conceptual foodscapes. This will stimulate creativity and discourse on the development of future food systems.[19] However, I disagree with the use of the term 'utopia' in conceptualizing potential foodscapes, as it perpetuates an unrealistic narrative that foodscapes can only be theorized as opposed to becoming tangible spaces in existing landscapes. For this reason, I will be referring to this principle as '**Conceive of Flourishing Foodscapes.'**

The first four socio-spatial principles will be explored further in this chapter with the support of case studies and literature that reiterate similar principles regarding food systems and landscapes. This chapter will examine how the first four socio-spatial principles can be applied to the Black Creek Neighborhood in Jane and Finch, Toronto. The fifth principle will be explored in the next chapter where various foodscapes are proposed in the Black Creek Neighborhood.

15 Ibid, 30.
16 Ibid, 36.
17 Ibid.
18 Ibid.
19 Ibid, 37.

3.2 Urban Food Policies: A City-Scale Perspective

The absence of adequate food planning and policies in the urban environment stems from the industrialization of cities, which created the urban-rural divide in food systems. Wiskerke and Verhoeven outline "three shortcomings in food studies, planning and policy":

1. The study of chains and networks of food provisioning is confined to rural development studies, thereby missing the fact that the city is the space, place, and scale where demand for food products is greatest, including 'alternative' products (e.g. organics, local, origin labelled).
2. Urban food security failure is seen as a production failure instead of a failure of availability, accessibility, and affordability and this has restrained much-needed interventions in urban food security.
3. It has promoted the view of food policy as a non-urban strategy, delaying research on the role of food and agriculture in sustainable urban development as well as on the role of cities as food system innovators and food policymakers.[20]

In response to these shortcomings, Wiskerke and Verhoeven suggest three strategies when implementing city region food policies. Firstly, the multifaceted nature of food requires policies to shift away from a sectoral approach to an integrated one.[21] This shifts the focus away from looking solely at the production and consumption of food, but where food policies may intersect with other "policy domains such as transport, waste management, education, employment, social welfare, education, and environment."[22] Secondarily, it must be acknowledged that different regions throughout the city have different needs to be met, whether due to varying ecological landscapes, social and economic standings or the need for culturally appropriate food.[23] As such, developing policies on a 'place-based' approach is essential to creating adequate food policies for the welfare of city communities. The challenge with this is that food policies must be unique to the region they aim to serve, preventing the development of a standard food policy model that can be implemented everywhere. Consequently, the final development strategy relies on and "in some cases are even initiated by civic groups… [who] can play a key role in the design and implementation of a city-region development strategy."[24]

20 Ibid, 43.
21 Ibid, 45.
22 Ibid.
23 Ibid.
24 Ibid.

In 1991, the Toronto Food Policy Council (TFPC) was formed as a sub-committee under the Toronto Board of Health.[25] It was created to advocate for and help implement food policy programs across various city divisions. The council prompted the inclusion of city food strategies in 2002 and 2007, and its prominent voice in pushing the food agenda led to the government's creation of the Toronto Food Strategy (TFS) in 2011.[26] Later on, Milan initiated the 'Milan Urban Food Policy Pact' in 2015. It was signed by over 165 cities, including the city of Toronto, which has agreed to "commit themselves to 'develop sustainable food systems that are inclusive, resilient, safe and diverse, that provide healthy and affordable food to all people in a human rights-based framework, that minimize waste and conserve biodiversity while adapting to and mitigating impacts of climate change'.[27] Toronto is considered a leader in the sustainable food movement and is part of various global groups, such as the C40 Food Systems Network, where cities seek to find *"*joint solutions and new policies to tackle profound food system challenges."*[28]* In addition, the city is partnered with the Netherland-based foundation: Resource Centres on Urban Agriculture and Food Security (RUAF), which promotes sustainable food networks in the urban and peri-urban landscape.[29] Although Toronto is heavily involved in various food movements that have made some improvements to its local food provisioning system, more is yet to be done.

In 2018, the Toronto Food Strategy created a report outlining the food policies and strategies that have been implemented as well as highlighted the next steps to improve food systems in the future. The report successfully acknowledges the need for an integrated approach to establish food policies in collaboration with various divisions, such as Toronto Public Health, Solid Waste Management Services, Environment and Energy, Social Development, Economic Development and Culture, Employment and Social Services, Parks, Forestry & Recreation, and more.[30] This collaboration continued in 2019, as the 'Food, Planet, Health' (FPH) collaboration, where various City of Toronto divisions participated in events and discussions to see how their respective divisions can integrate food policies and discover what synergies exist between the various departments to progress towards a more sustainable food system.[31]

25 Jess Halliday, Laura Platenkamp, and Yota Nicolarea, "A Menu of Actions to Shape Urban Food Environments for Improved Nutrition" (GAIN, MUFPP and RUAF, 2019), https://www.gainhealth.org/sites/default/files/publications/documents/gain-mufpp-ruaf-a-menu-of-actions-to-shape-urban-food-environments-for-improved-nutrition-october-2019.pdf.
26 Ibid.
27 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 43.
28 Toronto Public Health, "Toronto Food Strategy Report 2018" (Toronto, ON: City of Toronto, 2018), https://www.toronto.ca/legdocs/mmis/2018/hl/bgrd/backgroundfile-118079.pdf.
29 Ibid.
30 Ibid.
31 City of Toronto, "Food, Planet, Health: Municipal Collaboration" (Toronto, ON: City of Toronto, January 2019), https://www.milanurbanfoodpolicypact.org/wp-content/uploads/2020/12/SDN-Toronto_2019.pdf.

However, the implementation and action that needs to be taken to develop food policies have been hindered by budget cuts from the current government.[32] For this reason, urban designers like Darrin Nordahl advocate for a Food Department in the city, to signify its importance as a necessary division for the welfare of urban inhabitants.[33] The Toronto Food Policy Council continues to release reports with recommendations for food policy improvements, but their voices would be greatly amplified under a unified division that integrates its policies throughout various related divisions. Based on the city-region implementation strategies recommended by Wiskereke and Verhoeven, the city of Toronto has taken an integrated approach across its various municipal departments, however, unless given its own food division with a dedicated municipal team and unwavering government support, priority in developing food policies and changes to our food systems for public welfare will diminish.

The remaining two strategies from Wiskerke and Verhoeven regarding a 'place-based' approach and inclusion of civic groups in developing regional food strategies, are slowly coming to fruition in Toronto. In 1995, Black food activist, Anan Lololi, established a food organization known as the African Food Basket (AFB), which he headquartered out of his suburban backyard in Jane and Finch.[34] Lololi's backyard became an intensive urban farm where he created educational training programs for local youth to learn to grow culturally relevant foods such as okra, amaranth, and callaloo on "experimental and demonstration" plots to extend the growing season for tropical produce.[35] The food produced on his farm went to volunteers who tended the garden and excess food went into the AFB programme he developed. The AFB was initially created as a "food-buying club in response to the rising costs of imported culturally specific foods from the Caribbean."[36]

The mandate of the African Food Basket (AFB) is to work with the most marginalized low-income communities, especially people living in social housing in the suburban west end of Toronto. According to Lololi (2014), the city has supported the AFB in several ways: it has worked in one housing project, Lawrence Heights, since 2003, with an office and access to city-owned lands - the schoolyard, parks, and land adjacent to a community centre - for growing food. At this site, the urban agriculture programme encompassed 5,000 square feet of growing space in five community gardens.[37]

32 Ibid.
33 Nordahl, *Public Produce : The New Urban Agriculture,* 89.
34 Gerda R. Wekerle and Michael Classens, "Challenging Property Relations and Access to Land for Urban Food Production," in *Urban Gardening as Politics*, ed. Chiara Tornaghi and Chiara Certoma, Routledge Equity, Justice and the Sustainable City (New York: Routledge, 2019), 97-98.
35 Ibid, 98.
36 Ibid.
37 Ibid, 99.

In addition, AFB has two additional farm plots, one located at the Black Creek Community Farm (BCCF) in Jane and Finch, and the other plot is farmed by the Ujamaa Farmers Collective in Brampton. Both sites are owned by the Toronto Region Conservation Authority, showing continued collaboration with the city to ensure access to land.[38] The work Anan Lololi and his team have accomplished through AFB has resulted in over "100 new gardens; a composting program; food animation workshops; seed saving; the Black farmer's incubator training program; and Cultivating Youth Leadership, a youth community food security program."[39] AFB's efforts in food provisioning and its development of programs to support marginalized Black communities led to their participation in the creation of North America's first Black Food Sovereignty Program.[40]

In October of 2021, the **Toronto Black Food Sovereignty Plan** was approved by the Toronto City Council. The plan was spearheaded by Anan Lololi in collaboration with Melana Roberts from the Confronting Anti-Black Racism unit (CABR).[41] Winston Husbands, a professor from the Dalla Lana School of Public Health, took part in the Black Food Sovereignty Working Group and expressed that the plan "differs from traditional food security efforts because it addresses racism as a major cause of food insecurity in Black communities. Without this understanding, traditional efforts privilege certain groups and undermine the health and wellbeing of others."[42] With this awareness, the plan developed "5 Pillars for Action" which created specific recommendations to address issues of food insecurity unique to this community.[43] The five pillars are as follows:

Sustainable Funding & Community Capacity Building

- Increased capacity to respond to emergency needs
- Improved access to information & learning food & opportunities to improve planning & target response
- Enhanced sustainability of Black food organizations

Access to Growing Space

- Equal access to local growing space
- Increased capacity for youth environmental leadership
- Improved protections against food insecurity

38 Heidi Singer, "A Blueprint for Black Food Sovereignty in Toronto," Dalla Lana School of Public Health, January 5, 2022, https://www.dlsph.utoronto.ca/2022/01/05/a-blueprint-for-black-food-sovereignty-in-toronto/.
39 Ibid.
40 Ibid.
41 Ibid.
42 Ibid.
43 Melana Roberts and Anan Lololi, "Toronto Black Food Sovereignty Plan" (Toronto, ON: City of Toronto, 2021), https://www.toronto.ca/legdocs/mmis/2021/ec/bgrd/backgroundfile-170565.pdf.

Accessible Infrastructure

- Equitable access to City food assets & infrastructure
- Improved economic opportunities for food business
- More spaces for community food security initiatives

Black Food Hubs and Cultural Markets

- Improved recognition of Black food culture
- Increased local access to healthy cultural foods
- Increased opportunities for Black food vendors/growers and businesses

Culturally Rooted Community Health & Nutrition Programs

- An anti-Black racist informed health approach
- Improved health outcomes
- Increased access to culturally relevant health programs, education and opportunities [44]

While government intervention is required to further develop existing food provisioning endeavours, the *Black Food Sovereignty Plan* will use a collaborative model to allow community leaders to have a voice in its implementation. Approximately 15 Black community members who represent different sectors of the food system will help guide the implementation of the five pillars.[45]

The *Toronto Black Food Sovereignty Plan* was developed for a specific marginalized group and offers a series of in-depth guidelines for the city to act and develop adequate food systems in these communities. This example shows the importance of government collaboration with civic organizations, addressing the significance of Wiskerke and Verhoeven's strategies to implement city-region food policies that are unique to groups of specific urban regions.[46] While the creation of the *Toronto Black Food Sovereignty Plan* is a fundamental step forward in the future of food policymaking in the city, government support and intervention take time and will not always be fully realized within the established timeline set out. Until more significance is placed on our food systems, individual entrepreneurs and civic groups continue to be the pioneers of the food security movement in Toronto.

44 Ibid.
45 Ibid.
46 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 45.

3.3 Common Land and Public Produce

In the urban landscape, access to land to produce, store, process, and distribute food continues to be the biggest barrier. Food activist Anan Lololi expresses this concern by reflecting on how the value of land is driven by real estate, "*not the values of a garden. There is competition for access to land. We end up in church yards or school yards.*"[47] Limited access to space has led food activists and programs to become creative with land use on private and public land designations, blurring the line between the two with the discovery of usufruct laws, leading to the use of interstitial spaces and the creation of mutual agreements between land "owners" and "non-owners" in the urban landscape.

3.3.1 Usufruct Law – The Right to Foraging

Darrin Nordahl, an avid believer in the concept of public produce, advocates for the right to forage for food in public urban spaces. To forage or glean food is an "*age-old manner of putting food on the table*."[48] In rural France, leftover food harvest was collected from fields by gleaners, which at the time, was seen as a "pitiful endeavour," and to de-stigmatize the effort of gleaning, French painter Jean-François Millet created Les Glaneuses (The Gleaners) shown in Figure 3.1.[49] In the foreground, his portrait depicts three female gleaners with "an air of dignity," picking up leftover grains in a field, while the main harvest is slightly blurred and depicted in the distance. His painting demonstrates the effort gleaners put into gathering food, creating a sense of "pride in an honest day's toil."[50] In present-day France, Nordahl presents the example of the youngest chef in France to receive two Michelin stars for their restaurant, who frequents fields to glean produce due to the steep price of fresh herbs and produce in the industry. Nordahl is captivated by this endeavour as he reflects on food insecurity in America. Instead of gleaning or foraging for food from public gardens or fruit trees, those struggling with food insecurity are foraging through garbage bins in the back alleys of cafes and restaurants, looking for food and risking the chance of eating bacteria-infested foods unfit for consumption.[51] This is one of many reasons he advocates for food production in public spaces. For those who cannot afford food, Nordahl insists on giving people the ability to forage for fresh and healthy food on city streets, giving them a sense of dignity by feeding themselves instead of being handed a box of food, as well as having the choice to forage from various sources of food scattered across an edible landscape.[52]



Figure 3.1. The Gleaners, a painting by Jean-François Millet.

47 Wekerle and Classens, "Challenging Property Relations and Access to Land for Urban Food Production," 99.
48 Nordahl, *Public Produce : The New Urban Agriculture,* 70.
49 Ibid.
50 Ibid.
51 Ibid, 72.
52 Ibid, 73.

Nordahl introduces the concept of "usufruct laws [which] give a person legal access to somebody else's property, provided that the property is not damaged."[53] Nordahl discovered this "arcane city ordinance" through the group, "*Fallen Fruit,"* in the city of Los Angeles. *Fallen Fruit* was founded by three artists who upon discovering usufruct law, began an investigation of "interstitial urban spaces" with fruit as their artistic medium.[54] The work of Fallen Fruit,

> aims to reconfigure the relationship of sharing and explore understandings of what is considered both — public and private. From their work, the artists have learned that "fruit" is symbolic and that it can be many things; it's a subject and an object at the same time it is aesthetic. Much of the work they create is linked to ideas of place and generational knowledge, and it echoes a sense of connectedness with something very primal – our capacity to share the world with others.[55]

As part of their aim to "share", Fallen Fruit makes foraging for fruit accessible. Through their website, hand-drawn neighbourhood maps illustrate "*where usufruct fruit can be found and harvested."*[56] Using food as a means to connect people together and debate private versus public land designations has also found its way to Toronto. The city of Toronto has an urban "gleaning" organization called '*Not Far From The Tree'*, where owners on private land register their trees online, and volunteers are alerted to assist the owner when the fruit is fresh for picking.[57] This initiative benefits all parties involved. The collected harvest is split into thirds, one-third goes to the owner, one-third goes to the harvesting volunteers, and the final third goes towards a food charity. *Not Far from The Tree* also assists in harvesting city orchards, and the implementation of more fruit trees in the city.[58]

As a landscape architect, Nordahl acknowledges the maintenance and skill needed to care for fruit trees, however, he objects to cities prohibiting them from appearing in public spaces, which is the case in most of the United States. This is mostly due to aesthetic concerns of stained sidewalks and rotting fruit on the ground, which is also a slipping hazard, however, these are issues that can be easily addressed by a mobilized group of volunteers.[59] While he does emphasize the need for a municipal department like Parks and Forestry to extend their land stewardship to maintaining city fruit trees, organizations like *Fallen Fruit* and *Not Far from The Tree* can work together with

53 Ibid, 77.
54 Ibid.
55 "About," Fallen Fruit, accessed October 13, 2024, https://fallenfruit.org/about/.
56 Nordahl, *Public Produce : The New Urban Agriculture,* 77.
57 Wekerle and Classens, "Challenging Property Relations and Access to Land for Urban Food Production," 101.
58 "Not Far From the Tree – We Pick Fruit and Share It," Not Far From the Tree, accessed October 13, 2024, https://notfarfromthetree.org/.
59 Nordahl, *Public Produce : The New Urban Agriculture,* 96-97.

municipalities for the upkeep of city streets and the distribution of its public produce. While hopeful for a better future of food security, Nordahl acknowledges that agribusiness will persist, and that urban citizens will not revert to a completely agrarian lifestyle in protest of conventional agriculture, however, he expresses with confidence that it is "possible to add produce choices and agricultural efforts in our intense urban settings, [by] exploiting the food-producing potential of our current network of underutilized public spaces."[60]

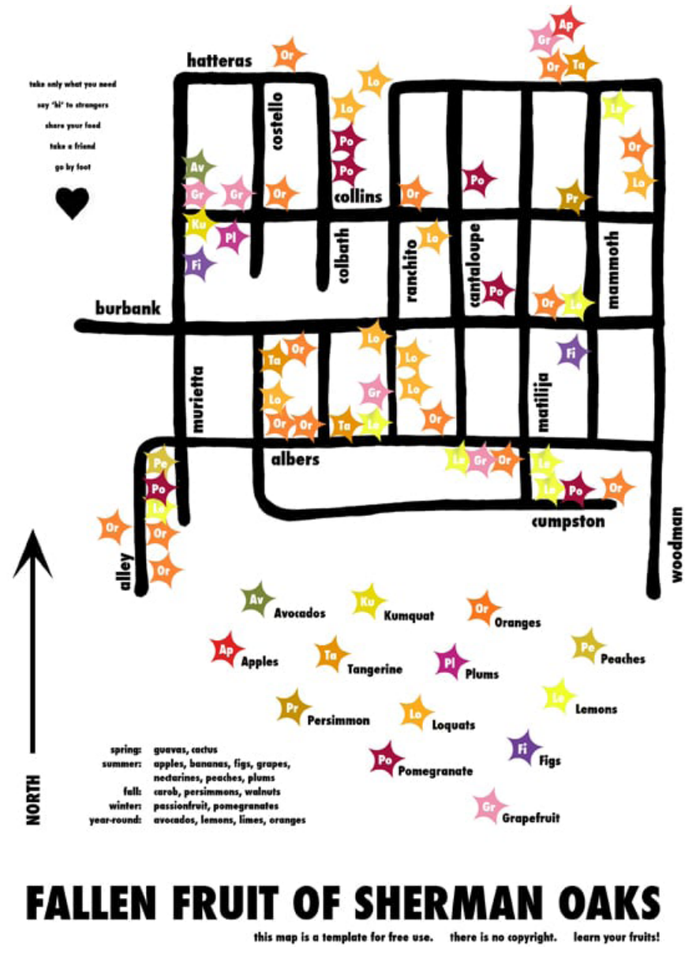


Figure 3.2. Hand drawn map of usufruct fruit in the neighborhood of Sherman Oaks, Los Angeles.

60 Ibid, 43.

3.3.2 Mutual Agreements and Land Use

Finding adequate space for food interventions can be challenging in the urban environment, but as Nordahl expressed, there are overlooked and neglected public spaces that have the capacity to grow food. Journalist, Peter Ladner, who served as a Vancouver City Councillor and worked with the Vancouver Food Policy Council claims, "[t]he most secure gardens are ones that have made their way onto public lands already protected from development - parks, schools and rights of way for power lines or sewer access."[61] As mentioned briefly in Chapter 2, section 2.1, two Anishinaabeg chefs began an urban farm under the Hydro One corridor in North York, Ontario to address food insecurity in their neighbourhood.[62] As Ladner highlighted, this location protects the urban farm from eviction as real-estate development cannot occur under transmission lines. The very same transmission corridor runs through the site of study in Jane and Finch, along with a network of parks and schools, creating more opportunities to expand food production throughout the Black Creek neighbourhood.

Innovative non-profit organizations, such as the *Bowery Project* in downtown Toronto, have found a sustainable method of growing food on vacant lots bound for development. Through agreements with developers, the *Bowery Project* re-uses milk crates (which are donated to the group by milk companies), to grow food on vacant land.[63] The use of milk crates as modular planter beds has allowed them to develop a mobile urban farm. They can assemble and disassemble the farms within a couple of hours for relocation, eliminating concerns about wasteful infrastructure.[64] The *Bowery Project's* urban farms grow produce to sell to local restaurants and donate excess produce to food charities, in addition, the presence of their various mobile farms has contributed to neighbourhood educational programs and has helped increase biodiversity in the area.[65] This example is just one of many where non-owners of land become stewards of private land, by developing urban foodscapes.

Various citizen-led food groups in Toronto have connected landowners to gardeners who are seeking land to grow fresh produce. The owners who have no time to grow food and must maintain a green lawn with chemicals every year register to offer their yard space in exchange for some of the produce grown by the non-owner.[66] The *Sharing Backyards Toronto Project* and the *Yes-In-My-Back Yard (YIMBY)* program by *The Stop Community Food Center Toronto* are programs which

61 Peter Ladner, *The Urban Food Revolution : Changing the Way We Feed Cities* (Gabriola Island, BC: New Society Publishers, 2011), 190.
62 Sid Naidu, "Power Move: Two Anishinaabeg Farmers Are Decolonizing Toronto's Hydro Fields," *The Narwhal* (blog), January 4, 2024, https://thenarwhal.ca/hydro-fields-indigenous-farms/.
63 "Our Vision," Bowery Project, accessed October 4, 2024, https://www.boweryproject.ca/ourvision.
64 Ibid.
65 Ibid.
66 Wekerle and Classens, "Challenging Property Relations and Access to Land for Urban Food Production," 101.

connect owners to non-owners.[67] Through a mutual agreement that benefits both parties, the divide between private and public land is renegotiated through the act of gardening.[68] As such,

> urban agriculture projects confront some of the tenets of neoliberal capitalism based on individualism, private property ownership, and speculative land investment. Urban food growing projects serve as useful precedents for relocalizing food production, community building, and local economic development. Their innovation lies in the restructuring of social relations between food producers and consumers, sometimes resulting in a new shared economy. They represent yet another example of goods and services produced outside the mainstream capitalist economy through operating in accordance with a social and environmental ethic of care.[69]



Figure 3.3. School group visiting a Bowery Project garden on a vacant lot.



Figure 3.4. Bowery Project Fall Harvest

Until municipalities become more proactive in implementing food policies, civic food groups and individual food entrepreneurs take on the role of food citizens, which is "someone who has not only a stake but also a voice in how and where his or her food is produced, processed, and sold."[70] Professor Thomas Lyson from the Department of Development Sociology at Cornell University, established the term "civic agriculture" which "embodies a commitment to developing and strengthening an economically, environmentally, and socially sustainable system of agriculture and food production that relies on local resources and serves local markets and consumers."[71] In addition, civic agriculture thrives in a democracy, where all those involved have a say in how to resolve urban issues linked to their food system. Active participation in food initiatives allows individuals to become engaged food citizens instead of passive consumers.[72]

67 Ibid.
68 Ibid, 102.
69 Ibid, 104.
70 Thomas A. Lyson, *Civic Agriculture: Reconnecting Farm, Food, and Community* (Lebanon, NH: University Press of New England, 2004), 76-77.
71 Ibid, 63-64.
72 Ibid, 76-77.

3.3.3 Need for Government Intervention

From the Faculty of Environmental Studies at York University, Toronto, Professor Emerita, Gerda R. Wekerle and PhD graduate, Michael Classens, have established several recommendations for the city to prioritize space for urban agriculture. The City

> is urged to coordinate a land inventory of potential food growing places and to change land use regulations by inserting language into official plans and zoning to allow community gardens and fruit trees across all zoning designations. Recommendations include the possibility of a temporary use by-law to zone development land that would allow urban agriculture sites to receive lower property taxation rates, as well as creating a new designation of food producing land trusts.[73]

As the inevitability of urban sprawl continues to consume the urban landscape, Professor Michael Pollan, a food security expert from the University of California, suggests developers create "food-system impact statements" before any future development begins.[74]

While admirable and impactful, civic groups and individuals making waves in urban food movements would benefit from additional resources and infrastructure from municipal governments. Nordahl claims that without the support of municipal programs and policies, urban agriculture projects initiated by civic groups will struggle to sustain themselves and if "public officials want a healthier, more prosperous citizenry, and believe that access to fresh, locally sourced, wholesome, and affordable food is good for both the individual citizen and the community at large, then public officials can no longer remain idle."[75]

3.4 Link Different Levels of Scale

The creation of the *Milan Urban Food Policy Pact* almost a decade ago signifies how city governments around the world have acknowledged that a wide range of urban issues are linked to food. Such issues include: "hunger, nutrition value and food insecurity, access to culturally appropriate food, diet-related ill health, carbon footprint, energy consumption, water contamination, loss of farmland, and rural decline."[76] This section addresses the second socio-spatial principle, 'Link Different Levels of Scale,' to demonstrate the macro, meso, and micro scales of spatial intervention through case studies that have been successfully implemented by city governments or civic groups.[77]

73 Wekerle and Classens, "Challenging Property Relations and Access to Land for Urban Food Production," 103.
74 Michael Pollan, "Farmer in Chief," Michael Pollan, October 12, 2008, https://michaelpollan.com/articles-archive/farmer-in-chief/.
75 Nordahl, *Public Produce : The New Urban Agriculture,* 53.
76 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 43-44.

3.4.1 Regional (Macro) Scale:

The city of Belo Horizonte in Brazil is a model example of regional food networks that serve to combat hunger and malnutrition.[78] The success of this system is dependent on the governing authority acknowledging that they are responsible for providing all people with adequate food, which led to the development of a federal program. Their "strategy was to partner with other city departments in implementing its [programs]."[79] This included subsidizing food sales at markets and the creation of four 'Restaurante Popular', communal eateries for low-income families and individuals where freshly made meals are offered at a low cost. Those struggling with food insecurity are registered in the program and given cards that allow them to purchase market produce and meals at subsidized costs.[80] In addition, the program supplies and regulates food markets by giving special licenses to private operators in ideal city locations to improve their profitability in exchange for them selling a certain amount of products at "20-50% below market prices" to low-income individuals in "peripheral areas on weekends."[81] The program also prioritizes doing business with local, small-scale farmers who cannot compete with the global industry, allowing them to thrive in the country and eliminate the separation between producer and consumer, by creating 'Straight from the Country' and 'The Country Store' programs where farmers sell their produce directly to consumers. This provided job security for farmers and prevented their mass migration into the city to look for employment, something that had previously occurred and led to the creation of shanty towns.[82] The food produced by these farmers goes toward the 'Restaurante Popular' communal eateries and towards school meals.[83] Food production is very much promoted in Belo Horizonte "as a legitimate form of land use and as an activity contributing to the social functioning of the city region".[84] As of 2018, urban and peri-urban agriculture in the city made was up of 185 vegetable gardens and 48 orchards, all of which were located at different public facilities and institutions such as schools, nursing homes, health and social welfare centres.[85] The program has an agenda to push for laws that attribute land zoning purely for agricultural use

77 Ibid, 30.
78 Cecilia Rocha, "Belo Horizonte: World Pioneer in Reducing Hunger and Malnutrition," in *Flourishing Foodscapes : Designing City-Region Food Systems*, ed. Johannes S.C. Wiskerke and Saline Verhoeven (Amsterdam: Valiz, 2018), 77.
79 Ibid, 78.
80 Ibid.
81 Ibid, 80.
82 Ibid.
83 Ibid, 81.
84 Ibid.
85 Ibid.

to compete with the fast-moving real estate development industry.[86] In the case of Belo Horizonte, "[s]etting up a specific municipal organization that works across and links various municipal departments (education, health, social services, spatial planning) to develop and implement the city region's food security [program] has been a key factor for success."[87]

The example of Belo Horizonte is a modern example of a government-backed regional food provisioning system that promoted the entanglement of people and food in an urban environment. Collective solidarity over food production in the city is not a new concept.[88] Urban agriculture has consistently appeared during history when food security was under threat. During World War I and the Great Depression, the US government created "relief gardens" to alleviate national food shortages. The Second World War led to the development of "Victory Gardens" throughout the United States, Canada, Britain as well as other countries.[89] Victory Gardens produced approximately 40% of the vegetables needed to feed the American nation in World War II. This goes to show "*what can be done when people are mobilized*" into action by their perspective governments.[90] After the war, it was discovered that the British population was healthier than they were before the war due to their participation in growing and preserving food, which built healthier eating habits.[91] Integrating foodscapes into the urban environment will allow for a more sustainable local food provisioning system that will also equip people with the knowledge and tools needed to build healthy habits around food. Regional infrastructure that supports local food networks requires space for food processing, food distribution and food warehousing – there are various examples in which this can be made possible on the community (meso) scale.[92]



Figure 3.5. A Restaurante Popular (communal eatery) and meal portion in Belo Horizonte

86 Ibid.
87 Ibid.
88 Ladner, *The Urban Food Revolution : Changing the Way We Feed Cities,* 182.
89 Ibid.
90 Ibid.
91 Ibid, 182-183.
92 Ibid, 119.

3.4.2 Neighborhood (Meso) Scale

The are many examples of community-scale foodscapes that serve food-insecure and food desert neighborhoods. The case studies included below show varying scales and types of food infrastructure that could all be part of a local food network on the meso-scale.

The *Detroit People's Food Co-op* recently opened in May 2024. While most food co-ops exist in affluent communities, this "community-owned grocery co-cooperative" caters specifically to "low and moderate-income" African American families.[93] This co-op aims to provide access to affordable nutritious food, and educational programs on nutrition, cooking, healthy living and sustainability. In addition, they work with local businesses and producers to support the local economy where they can and ensure culturally appropriate foods are available.[94] This reiterates the interconnectedness between varying scales. This spatial intervention at the meso-level can affect regional (macro) food producers, as well as the community benefiting from the co-op at the domestic (micro) scale. The creation of this food co-op has created 26 new jobs in the community. Funding for the co-op came through donations, grants and loans and is not a profit-driven enterprise as it prioritizes the welfare of the community.[95] If the co-op makes surplus revenue, it will go towards the community members who paid a one-time membership fee to have "owner equity shares in the co-op." Although the one-time fee is quite high at 200 dollars, there is the option to pay the sum "out over ten monthly instalment payments" to make it more feasible for people.[96] The co-op attained over 2000 members before its opening. Members have a say in the co-op's future, where they have voting privileges to elect the board members running the co-op, what services are to be provided to the community, and of course, the additional perk of member discounts and deals.[97] This example of food infrastructure has boosted the local food and job economy, it provides accessible and affordable food to communities in need and has built up community empowerment through food.

93 "About – Detroit People's Food Co-Op," Detroit People's Food Co-op, accessed October 13, 2024, https://detroitpeoplesfoodcoop.com/about-us/.
94 Ibid.
95 Ibid.
96 "Membership – Detroit People's Food Co-Op," Detroit People's Food Co-op, accessed October 13, 2024, https://detroitpeoplesfoodcoop.com/members/.
97 "About – Detroit People's Food Co-Op."



Figure 3.6. Rendering of Detroit People's Food Co-op by SDG Architects + Planners



Figure 3.7. Local produce selection at Detroit People's Food Co-op

In neighbourhoods that do not have space or enough funding for new food cooperatives, re-adapting existing corner stores to create new opportunities in food deserts. Ladner introduces the concept of "corner store makeovers" where food initiatives funded by charitable organizations help corner stores include fresh produce as part of their selection.[98] Ladner does express that these initiatives are hard to maintain without government aid, especially since stores in food deserts have access limitations to food distributors and their food prices.[99] The following case study explores the concept of a small storefront in the urban landscape that sells and produces fresh food using a hydroponics system.

The *Fazenda Cubo Hydroponic Cultivation* located in São Paulo, Brazil, was designed by Estúdio Lava, an architecture firm that had the task of renovating a 90m^2 ground floor unit in a small building for hydroponic cultivation.[100] The transformation of this space establishes new relationships between the urban consumer and producer, highlighting alternative methods of bringing food production into the city, where the food has travelled "zero km" reducing the length of typical distribution flows.[101] The project aims to explore the idea of sustainability in inner-city food systems as well as the sustainable production of food. The "hydroponic system of water recirculation, which allows the control of the number of nutrients received by the vegetables, photovoltaic lights, which allow the photosynthesis of the plants, and the acclimatized chamber, which allows the control of temperature, humidity, air quality, and pests, [creates] a sustainable system, self-sufficient, with low water consumption and without pesticides."[102] The design concept invites people walking past on the street to come in and view the process of producing food indoors, providing transparency to urban consumers that is not available to them with conventional agriculture.[103] What if a project

98 Ladner, *The Urban Food Revolution : Changing the Way We Feed Cities,* 226-227.
99 Ibid.
100 Susanna Moreira, "Fazenda Cubo Hydroponic Cultivation / Estúdio Lava," ArchDaily, November 3, 2021, https://www.archdaily.com/971055/fazenda-cubo-hydroponic-cultivation-estudio-lava?ad_medium=gallery.
101 Ibid.
102 Ibid.
103 Ibid.

such as this could be used as inspiration to give convenience stores or a store-front unit under an apartment complex a hydroponic "makeover" to serve consumers in food-insecure communities? Through this project, the architects participate in the discourse of alternative food production "that promotes the reduction of our ecological footprint and the structuring of a food system in continuity with the city's urban space, establishing greater linkages between the urban citizen and the production of his own food."[104]

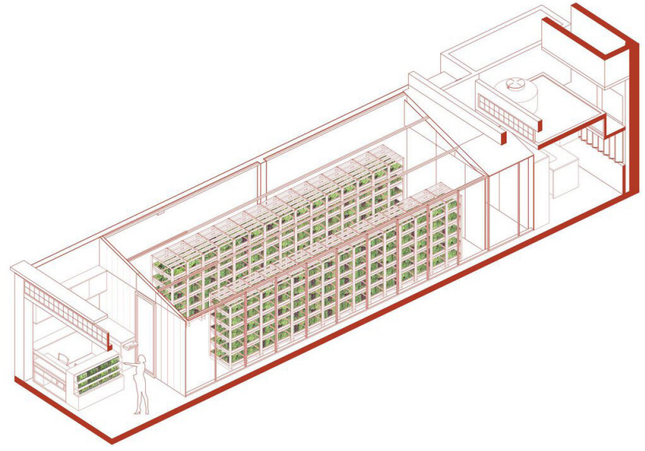


Figure 3.8. Isometric drawing of Fazenda Cubo by Estúdio Lava



Figure 3.9. Fazenda Cubo storefront

104 Ibid.

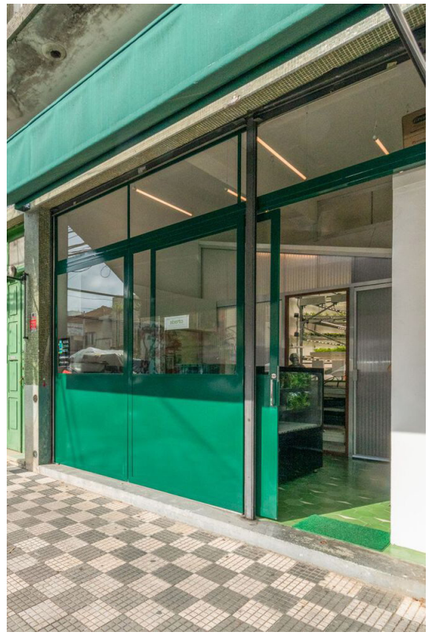


Figure 3.10. Fazenda Cubo entrance/sales counter

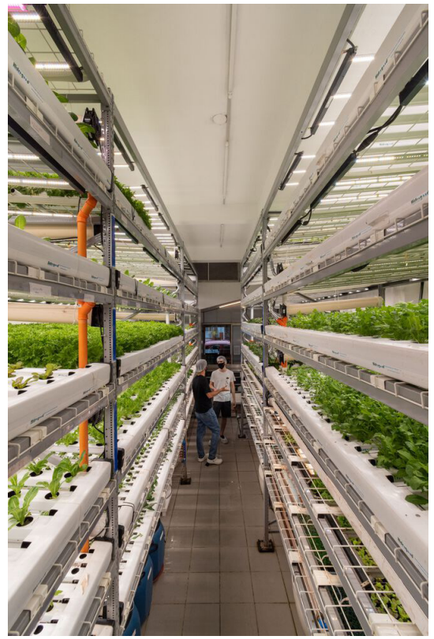


Figure 3.11. Fazenda Cubo indoor hydroponics cultivation



Figure 3.12. Public Foods Pantry by Architecture Action Lab in Centretown, Ottowa.

The final case study at the meso-level is the Public Foods pantry by Architecture Action Lab in Centretown, Ottawa.[105] This pantry is an example of food as care infrastructure, as students from the Azrieli School of Architecture and Urbanism, designed and built this community-owned pantry, in a collaborative effort with community members, volunteers and food security activists to support food security efforts in Centretown, where there is a large percentage of unhoused people.[106] The pantry contains ample shelving space and a refrigerator for community members to give what they can and take what they need. Though a simple structure, its presence holds immense significance to the community, as "*Public Foods was designed to act as a community landmark, a meeting point, and a place of dignity and solidarity for community members*."[107] This scale of food infrastructure for the distribution and storage of food can become an essential addition to food security initiatives and policies in food-insecure neighbourhoods.

105 "Public Foods," Architecture Action Lab, 2022, https://archactionlab.org/Public-Foods-2.
106 Ibid.
107 Ibid.

Each of these case studies confronts urban challenges that arose in the wake of conventional food system failures. The *Detroit People's Food Co-op* addresses the accessibility of affordable, nutritious food to low- and moderate-income African Americans in a food desert while maintaining local distribution networks with local producers and businesses. The *Fazenda Cubo Hydroponic Cultivation* addresses issues of sustainability and lack of transparency in conventional agriculture by prioritizing those two elements in the design of a hydroponics farm that invites consumers to preview the food production process while eliminating food miles due to its urban location. The *Public Foods* pantry represents a social infrastructure that distributes food to the most vulnerable in society while creating collective solidarity around food in the greater community. No matter the scale, accessible food infrastructure in urban environments lends itself to the creation of a more equitable local food system. This thesis is concerned with the meso-level of food networks and how they can influence the micro-level foodscape for the inhabitants of Jane and Finch in Toronto.

3.4.3 Domestic (Micro) Scale

The micro-scale explores food interventions on the domestic scale.[108] Ladner shares two examples of food cultivation on the domestic scale that employ the use of simple technology to grow food inside and outside. *EarthBox* is a company developed by fourth-generation farmer, Blake Whisenant, who spent over a decade developing a "*raised-bed box of soil on wheels that features fertilizer that stays on top of the soil and water that comes from the bottom.*"[109] This mobile planter requires minimal maintenance and has proven to produce higher yields of food without additional "guesswork or toil."[110] *EarthBox* sells various planters based on consumer needs. The *EarthBox Original* can accommodate a wide range of produce, including but not limited to, tomatoes, eggplant, peppers, onions, garlic, leafy greens, strawberries, and even pumpkins and watermelons.[111] The *EarthBox Junior* planter is catered more so for growing herbs but can also accommodate produce that does not require as much soil depth as others to grow.[112] The *EarthBox Root & Veg* has the same features as the original planter but provides "deeper growing space" for root plants.[113] EarthBox has detailed information on how to grow the various types of fresh produce or herbs that can be cultivated in their planter beds. The cost for the mentioned planter beds ranges between $33 and 100 American dollars.[114] While the price may be feasible for some, others have found ways to create their planters using modest recycled materials.

The *Windowfarms Project* incorporates the use of recycled plastic bottles suspended over a window frame using an informal hydroponics system to grow food.[115] This project was aimed at apartment dwellers with limited growing space.[116] In 2010, there were "4000 registered users" of this system, ranging from the U.S. to Italy, Israel and Hong Kong.[117] Though the organization is no longer in operation, open-source designs have allowed this method of food production to thrive in urban households globally.[118] Food production at the domestic scale can be heavily influenced by programs initiated by food groups or educational institutions that promote self-sufficiency and food literacy. This section demonstrates how the varying scales of food interventions are interrelated and nested within each other, as outlined by Wiskere and Verhoeven's description of foodscapes.[119] This thesis explores how a combination of these spatial interventions, particularly at the meso-level, could form a localized food system in the Jane and Finch area to promote food security.

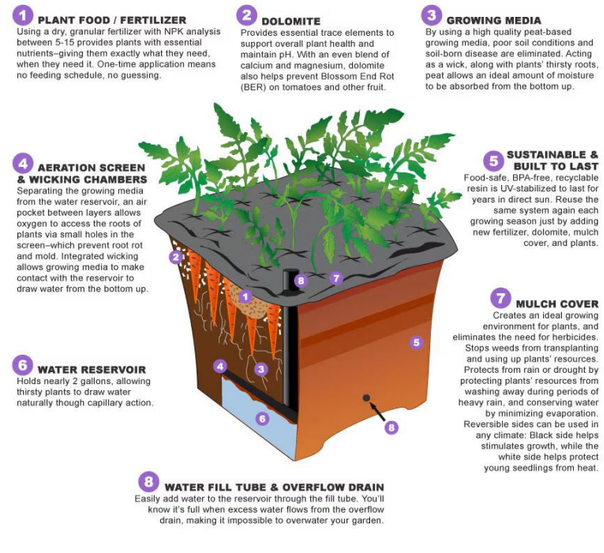


Figure 3.13. EarthBox Root & Veg planter box diagram.



Figure 3.14. First window farm in a Brooklyn apartment.

108 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 30.
109 Ladner, *The Urban Food Revolution : Changing the Way We Feed Cities,* 72.
110 Ibid.
111 "How Our Vegetable Planting Boxes Work," EarthBox, accessed October 13, 2024, https://earthbox.com/learning-center/how-earthbox-works/root-and-veg.
112 Ibid.
113 Ibid.
114 Ibid.
115 Ladner, *The Urban Food Revolution : Changing the Way We Feed Cities,* 72.
116 Ibid.
117 Jon Kalish, "Window Farming: A Do-It-Yourself Veggie Venture," *NPR*, April 3, 2010, sec. Food, https://www.npr.org/2010/04/03/125504307/window-farming-a-do-it-yourself-veggie-venture.
118 Ibid.
119 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 31.

3.5 Connecting Flows - Waste Management Cycles

Food waste is prevalent throughout various stages of the conventional food provisioning system. In Canada, 20% of food is lost at the processing level due to "inefficient system designs, faulty infrastructure, inaccurate forecasting of supply and demand, and food contamination," conveying the need for improved food infrastructure and food policies to reduce food waste.[120] However, the household level in Canada is where the highest level of food waste occurs at 47%, and 45% of that waste consists of compostable fruit and vegetables.[121] The Global North has a significant waste culture in comparison to the Global South, suggesting that consumer habits around food largely influence waste outputs. The average consumer household in Canada generates between 79 and 140 kilograms of food waste annually, while regions in the Global South have been recorded to generate only 6 to 11 kilograms of food waste annually.[122] I believe this greatly speaks to the loss of food culture in industrialized cities, which, in effect, has influenced wasteful food habits. As Carolyn Steel expressed in her book *Hungry City*, food influences our daily rituals and habits; therefore, bringing awareness through food policies and food literacy initiatives is essential in promoting sustainable habits toward food.[123]

Food provisioning systems require effective waste management strategies to promote a sustainable food system. Reducing food waste and acknowledging its potential as a resource requires not only the implementation of government policy but consumer awareness and participation. Guidelines to implement change in waste management systems are broken down by 'Connecting Flows,' the third socio-spatial design principle from *Flourishing Foodscapes*. This principle combines two "*waste management hierarchies that consider both the ecology and society.*"[124] The first is a biogenic waste management hierarchy that outlines seven targets for food policymakers:

1) **Reduce or prevent** – This relies on creating awareness around food waste at stages "of production and consumption", to promote a sustainable mindset among consumers to build mindful habits when purchasing and consuming food.[125]

120 Nicole Blair, "Food Waste Statistics in Canada," Made in CA, June 11, 2024, https://madeinca.ca/food-waste-canada-statistics/.
121 Ibid.
122 Ibid.
123 Carolyn Steel, *Hungry City : How Food Shapes Our Lives* (London: Vintage Books, 2013), ix-x.
124 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 140.
125 Ibid.

2) **Reuse, repair or spend** – This relies on building consumer awareness around how to make the most of what we have and promotes the message "don't throw away, but reuse or repair first, or spend." Similarly to the first target, this one demands that we change our "attitude towards consumer goods."[126]

3) **Recycle by converting** – Designing the packaging of goods to be reusable or recyclable to reduce waste associated with food packaging. The key element of this target level is "[t]he conversion of products into raw materials to be re-manufactured into new products," to aim for a "zero-waste" approach.[127]

4 & 5) **Recycle by fermenting and composting** – Uses organic waste to create a new resource. Recycle by fermenting uses organic waste to create, biogas, soil conditioner and fertilizer. [128] This is done through the process of anaerobic digestion when food is broken down by bacteria in the absence of oxygen in a sealed vessel.[129] Recycling by composting can occur on the domestic scale as well as on a regional scale, where organic waste is transformed into fertilizer for food production.[130]

6) **Recover by Combustion** – The conversion of food waste into energy through the method of combustion. It is not the preferred method of dealing with food waste as some of the by-products after combustion are not fully recyclable.[131]

7) **Depose by landfill -** The previous target is used to help divert large volumes of waste from landfills, however, waste that cannot be salvaged will be disposed of, preventing the development of a closed waste cycle.[132]

As such, Moerman's food waste ladder is the second waste management hierarchy introduced. Though it shares very similar targets, it reiterates the concept of a closed waste cycle by prohibiting food disposal in landfills and prioritizing how to upscale food waste into a high-quality resource.[133] The following points represent Moerman's food waste ladder:

1. Prevention (avoid food waste, for example by not buying or cooking more than you can eat);

126 Ibid, 141.
127 Ibid, 141.
128 Ibid.
129 OAR US EPA, "How Does Anaerobic Digestion Work?," Overviews and Factsheets, March 18, 2019, https://www.epa.gov/agstar/how-does-anaerobic-digestion-work.
130 Wiskerke and Verhoeven, *Flourishing Foodscapes, 141-142*.
131 Ibid, 142.
132 Ibid.
133 Ibid.

2. Use for human food (e.g. donating food to food banks);
3. Conversion to human food (by processing and reprocessing);
4. Use in animal feed;
5. Raw materials for industry (bio-based economy);
6. Processing to make fertilizer for cofermentation (and energy generation);
7. Processing to make fertilizer through composting;
8. Use for sustainable energy (objective is energy generation);
9. Burning as waste (objective is destruction, with associated possibility of energy generation);
10. Dumping in landfill (dumping of leftover food should be prohibited).[134]

The combination of these two waste management hierarchies calls for "the industry to produce various products, to make fertilizer, or to generate energy," while steering clear from disposing of "food waste through burning or landfill."[135] These are the targets recommended by the foodscape research group to use as a baseline when improving or developing policies.

Despite the various methods to mitigate food waste, Wiskerke and Verhoeven acknowledge that various challenges hinder their implementation. The recognized value of bio-genic waste has led to the creation of "centralized waste plants, primarily for energy generation," which is noted by Wiskerke and Verhoeven as one of the lesser preferred target goals, while decentralized efforts that focus on composting for soil fertility and "landscape diversity" are led by farmers or organizations in peri-urban and rural areas.[136] Municipal laws and regulations are the primary barriers preventing the full potential of bio-genic waste as a resource as they ineffectively categorize

> some waste streams as waste in the sense of garbage being disposed of. Ingredients that can be or have been up-scaled are not always officially recognized in their new role as valuable resources. Kitchen waste, for example, is not recognized as animal feed. This means substantial adjustments are needed in the respective regulations to create more opportunities for connecting flows and closing cycles.[137]

Laws and policies in Canada have also led to the waste of food still fit for human consumption.[138] Food organizations and charities have outlined five reasons why surplus edible food is not donated:

134 Ibid.
135 Ibid.
136 Ibid, 143.
137 Ibid.
138 Blair, "Food Waste Statistics in Canada."

- Legal Liability;
- Lack of financial benefit;
- Policies that prevent or discourage donation;
- Ineffective communication and coordination between producers and food rescue organizations; and
- Perceived complexity of donating compared to alternative disposal.[139]

With more stringent policies and improved food infrastructure, the waste of surplus edible produce can be prohibited and diverted to food distribution locations and charitable organizations. In addition, food waste, such as kitchen scraps, which can still be salvaged and upcycled into a resource, should no longer be part of the disposable waste stream and requires municipal governments to provide consumers with the ability to compost organic waste in their locality.[140]

The city of San Francisco is the leading example in North America with its zero-waste program. In 2010, it had a 75% diversion rate of waste from landfills, and now the city has reached an 80% diversion rate.[141] The program was initiated with three sustainability goals in mind. First, prioritizing resource conservation through the act of recycling and composting prevents the need to extract virgin materials, while creating compost for local farmers and reducing waste. Second, reducing the ecological footprint food waste has on the environment, by diverting food waste from landfills to reduce methane gas emissions, which is "72 times more potent than carbon dioxide."[142] Third was to create opportunities for economic and job growth. The city partnered with Recology, a private company that transformed its business model from a landfill operation to a recycling and composting operation, creating space for over 210 green jobs.[143] In addition, they introduced a "door-to-door three-stream waste collection system" that provided each household and business with three waste collection bins. To incentivize the participation and proper usage of this three-stream waste collection system, the municipality has a "pay-as-you-throw" system, where residents and businesses must pay for black bin (landfill waste) collection, effectively reducing the amount of waste sent to landfills.[144] The two key components that make this waste strategy a success are the municipality taking the initiative to develop an accessible waste collection system for residents and businesses, in addition to the monetary incentives the municipality implemented as part of the program to ensure widespread participation.

139 Ibid.
140 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 143.
141 Ibid, 161.
142 Ibid.
143 Ibid.
144 Ibid.



Figure 3.15. San Francisco 3-waste stream collection bins.

While the City of Toronto offers green bin pick up for compost, residents who reside in apartment buildings, especially post-war towers, are not able to benefit from the city's compost collection service. As a result, compost initiatives have been spearheaded by local organizations to reduce food waste and its ecological footprint on the environment. *Thorncliffe Park Urban Farmers* is an organization located in East York, Toronto. They have developed multiple community garden plots adjacent to residential towers in addition to planting approximately 30 fruit trees in 2020, exploring the potential for an edible landscape in their community.[145] In early 2024, the organization developed a Composting Project, where:

> Twenty households from Thorncliffe Park will be selected to become a part of the pilot program, led by five youth volunteers and one youth coordinator who will be trained by a composting consultant. By providing countertop bins, educational workshops, and weekly drop-in sessions, participants will drop off their organic waste which will then be sorted and transformed into soil for use throughout the neighbourhood. With the success of the pilot program, we will continue to grow the program throughout the gardens.[146]

145 Thorncliffe Park Urban Farmers, "About Thorncliffe Park Urban Farmers," Thorncliffe Park Urban Farmers, February 14, 2024, https://thorncliffeparkurbanfarmers.ca/about/.
146 Thorncliffe Park Urban Farmers, "Composting Initiative," *Thorncliffe Park Urban Farmers* (blog), February 17, 2024, https://thorncliffeparkurbanfarmers.ca/composting-initiative/.

This initiative works to 'connect flows and close cycles' at the community level, representing the decentralization of waste management streams. Ontario has 78 organic waste facilities throughout the province, seven of which are located across the Greater Toronto Area, however, if not all residents can participate in mainstream composting services, how will the city divert avoidable waste from landfills?[147] Until city governments take the initiative to implement efficient waste management systems, emphasis needs to be placed on the first target goal in the waste management hierarchy, the *prevention or reduction* of waste.[148] Most food waste is generated at the household level in Canada, therefore, promoting awareness around mindful food management is essential.[149] Food literacy plays a large role in influencing healthy and sustainable food habits. Wiskereke and Verhoeven acknowledge that changing consumer behaviour is part of the challenge in adopting more sustainable waste management policies.[150] As demonstrated by the San Francisco case study, an entire city can commit to more sustainable living habits, but a huge aspect is not only accessibility to waste services but access to knowledge and education on how best to prevent and reduce organic waste at home.

3.5.1 Food Literacy

Therefore, implementing food literacy programs in public schools as well as in institutions of higher education should be prioritized. Nordahl expresses how most children do not know where their food comes from, and claims, "teaching children about the benefits of whole foods establishes a pattern of healthy eating and changes our food culture from fast food to slow food."[151] The Edible Schoolyard (ESY) created in 1995 by chef and activist, Alice Waters, has become an inspiring educational food model for educators and healthcare professionals all around the world.[152] The ESY's mission is:

> dedicated to the transformation of public education by using organic school gardens, kitchens, and cafeterias to teach both academic subjects and the values of nourishment, stewardship, and community. Edible education provides hands-on experiences that connect students to food, nature, and each other; and it systematically addresses the crises of climate change, public health, and social inequality. At its heart is a dynamic and joyful learning experience for every child.[153]

147 "Organics Recycling in Ontario," The Compost Council of Canada, accessed October 15, 2024, https://www.compost.org/organics-recycling-in-ontario/.
148 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 141-142.
149 Blair, "Food Waste Statistics in Canada."
150 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 143.
151 Nordahl, *Public Produce : The New Urban Agriculture,* 129-130.
152 "About Us," The Edible Schoolyard Project, October 1, 2020, https://edibleschoolyard.org/about-us.
153 Ibid.

The first ESY was established at the Martin Luther King Jr. Middle School in Berkley, California. The food curriculum is structured to supplement the math, science, humanities, and social science curriculum of the students in grades six to eight in the garden and kitchen classroom throughout the whole school year.[154] Upon completion of their food education,

> the students will have gained a complete seed-to-table experience, which begins by preparing and seeding the planting beds and concludes with a sit-down meal at the table … Throughout the school year, the program exposes children to food production, ecology, nutrition, and fosters an appreciation of meaningful work, and of fresh and natural food.[155]

The ESY now has over 5,800 programs spread across the United States and 75 other countries.[156] Design firms have played a role in bringing the ESY to life in various schools. Work Architecture Company based in New York has designed ESY gardens, kitchens and greenhouses in two schools, one located in Brooklyn and the other in Harlem, and they hope to help facilitate the creation of more ESYs across New York.[157]

154 Nordahl, *Public Produce : The New Urban Agriculture,* 130.
155 Ibid, 130-131.
156 "Mapping the Movement," The Edible Schoolyard Project, November 2, 2017, https://edibleschoolyard.org/network.
157 "Edible Schoolyard NYC at P.S. 7," WORKac, 2016, https://work.ac/work/edible-schoolyard-nyc-p-s-7/.



Figure 3.16. Edible Schoolyard in Brooklyn, New Yorkby WORKac



Figure 3.17. Kitchen Classroom



Figure 3.18. Greenhouse Classroom



Figure 3.19. Edible Schoolyard in Harlem, New York by WORKac



Figure 3.20. Rooftop school garden

In addition to food education in schools, Nordahl advocates for food literacy to be valued in "institutions of higher learning."[158] Harvard University has a Food Literacy Project, which "cultivates understanding of food from the ground up. Education focuses on four integrated areas of food and society: sustainability, nutrition, food preparation and community. Ultimately, the project goal is to promote enduring knowledge, enabling consumers to make informed food choices."[159] The project accomplishes these goals by providing cooking classes, breaking down the meaning behind supermarket labels and providing ample literature on food in their library, nurturing the body and mind of participating students.[160] Another example conveys how a university campus reduced maintenance costs by valuing organic matter as a resource. In 1994, the University of Oregon's organic gardening program collaborated with the university's grounds crew to transform organic waste produced on campus into soil-enriching fertilizer through the process of vermicompost, replacing the need for chemical fertilizer.[161] Vermicomposting differs from normal composting, as earthworms are used to process organic waste. The earthworms excrete casts that are "ready-to-use fertilizer that can be used at a higher rate of application than compost, since nutrients are released at rates that growing plants prefer."[162] Adjacent to my site of study is York University, a campus with ample grass-covered land that requires maintenance and upkeep with chemical fertilizers and lawnmowers. Recycling campus food waste to make natural and healthy fertilizers saves costs and is environmentally friendly. In addition, the fertilizer can go towards existing gardens on campus and be distributed to other community farms in the neighbourhood.

Educating the masses in food literacy will improve community well-being by creating sustainable habits around food, which will, in turn, help mitigate food waste until municipal governments acknowledge the value it holds to implement effective policies and infrastructure. With existing waste management guidelines and models, such as the case of San Francisco, developing a framework for a less wasteful food provisioning system is possible. Food education will promote further debate around our broken food system, and its impact on the climate, and will create more room for discourse on what changes can be made in the urban landscape.

158 Nordahl, *Public Produce : The New Urban Agriculture,* 131.
159 "Harvard University Dining Services: Food Literacy Project," Harvard Campus Services, accessed October 13, 2024, https://dining.harvard.edu/food-literacy-project.
160 Nordahl, *Public Produce : The New Urban Agriculture,* 131.
161 Ladner, *The Urban Food Revolution : Changing the Way We Feed Cities,* 149.
162 "Vermicasting (or Vermicomposting) | Ontario.Ca," accessed October 9, 2024, http://www.ontario.ca/page/vermicasting-or-vermicomposting.

3.7 Spatial Diversity

Food influences the social, economic, environmental, and cultural dynamics of a city. The fourth socio-spatial principle, "enhancing spatial diversity and synergies", explores the entanglement of social and ecological systems and how their resiliency is dependent on "maintain[ing], enhanc[ing], and celebrat[ing] diversity."[163] Wiskerke and Verhoeven emphasize that this is key to developing food security, as diverse foodscapes can fill the voids of conventional foodscapes. More specifically, enhancing spatial diversity and synergies addresses two major concerns: the prominence of mono-functional foodscapes and the growing absence of (agro)biodiversity.[164]

After World War II, the development of the suburbs and rapid urbanization led to an increase of mono-functional landscapes "characterized by the spatial separation of functions or activities such as living, working, education, sports, leisure, and shopping."[165] The roads that separate these landscapes further enforce the spatial division between them. As a result, those without the means to travel far distances are alienated from the various landscapes that make up urban life. The separation of functions heavily influenced how food provisioning in the urban environment led to supermarket urbanism, discussed in Chapter 1, section 1.3.1.[166] Mono-functional landscapes extended to rural development during the modernization of agriculture. This resulted in the amalgamation of smaller farms into larger farms that specialized in producing a single product or breeding specific livestock, leading to monotonous agricultural landscapes.[167] Consequently, this led to the loss of biodiversity through the removal of natural habitats and "the erosion of genetic diversity" amongst crops, highlighting the conflict between food production and biodiversity.[168] This conveys how mono-functional landscapes inflict damage on social-ecological systems while land divisions simultaneously alienate consumers from food and conventional foodscapes reduce biodiversity and exacerbate the climate crisis.

Jane Jacobs, author of *The Death and Life of Great American Cities*, critiques mono-functional urban spaces and claims that spatial diversity encourages interactions between diverse people, activities and functions, promoting resilient cultural, social, and economic growth in urban communities.[169] Wiskerke and Verhoeven express how diverse spatial functions in both urban and rural areas can create resilient foodscapes "by combining food production with functions such as tourism, education, care, direct selling, energy provision, and nature and landscape management."[170] This approach would enhance spatial synergies as social and ecological systems would thrive, spurring economic and cultural growth.[171] The following case study explores how an outdoor revitalization project in Jane and Finch transformed underutilized green space into a multifunctional foodscape to improve food security, socio-economic growth and ecological diversity.

In 2012, the Toronto Region Conservation Authority (TRCA) used its Sustainable Neighbourhood Action Program (SNAP) for the revitalization of the San Romanoway Towers located in the Black Creek neighborhood of Jane and Finch.[172] SNAP took a 'place-based' approach at the neighbourhood scale, to collaborate with residents to improve environmental and socio-economic benefits for the greater community. In this project, SNAP partnered with non-profit organizations and businesses to provide the community with the knowledge and skills to build a social, economic and environmentally resilient community.[173] In the summer of 2013, a pop-up event was held on the site where over 400 residents attended and shared their vision for their home. The information gathered from the community conveyed that urban agriculture would become the main driving force of the outdoor revitalization project.[174] Focus groups were run by the TRCA and FoodShare, a non-profit organization that has experience with food security, to collaborate with the residents on where food could be planted throughout the landscape. Based on community comments, a design criterion was developed by the TRCA who then launched a design competition in 2014.[175] The various designs received were shared with the residents who voted for their desired landscape. Until the outdoor revitalization plan was finalized in 2015, SNAP's model implemented quick-start projects to show their initiative to act and build trust with the community early in the process.[176] The quick-start projects included sustainable carpentry to engage at-risk youth and provide them with skill training, where they created outdoor seating and planters for the project. The second quick-start was creating edible balconies, where the TRCA collaborated with FoodShare to provide residents with 60 planters. Overall, residents produced more than 500 pounds of fresh food, encouraging 80 more households to partake in the program the following year.[177]

163 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 175.
164 Ibid.
165 Ibid, 176.
166 Ibid.
167 Ibid.
168 Ibid, 178.
169 Stefano Cozzolino, "Insights and Reflections on Jane Jacobs' Legacy. Toward a Jacobsian Theory of the City," Territorio, 72 (2015): 151–57.
170 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 177.
171 Ibid.
172 "Projects: San Romanoway Towers Revival," Toronto and Region Conservation Authority (TRCA), accessed October 13, 2024, https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/projects-san-romanoway-towers-revival/.
173 Ibid.
174 Ibid.
175 Ibid.
176 Ibid.
177 Ibid.



Figure 3.21. Sustainable carpentry quick-start initiated by SNAP.



Figure 3.22. Edible Balconies quick-start initiated by SNAP.

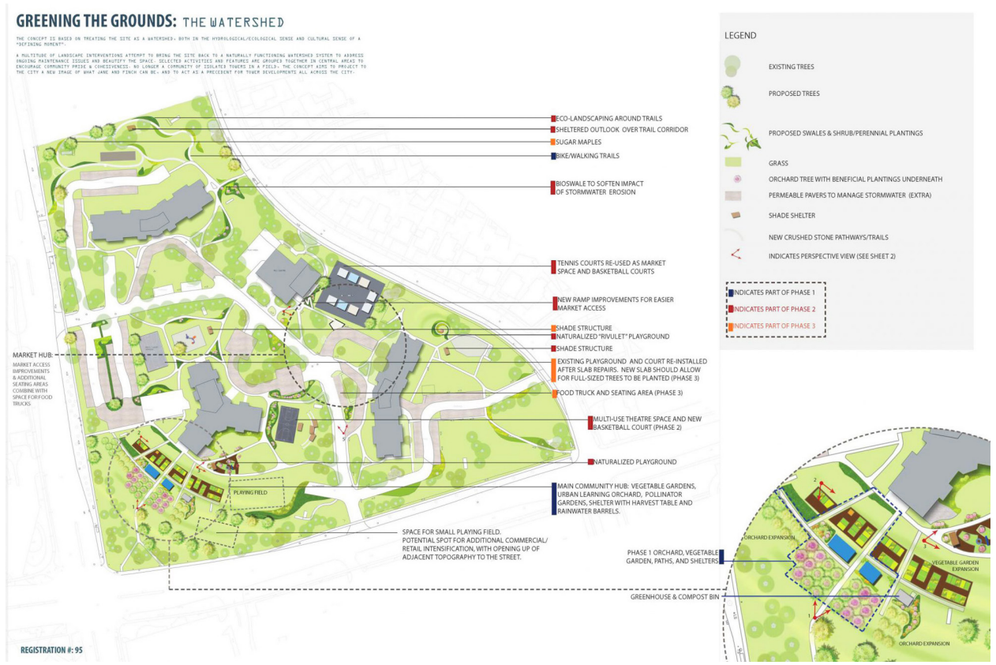


Figure 3.23. Winning design for the outdoor revitalization plan of the San Romanoway Towers

The finalized outdoor revitalization plan resulted in the creation of a community vegetable garden, a fruit tree orchard, and the planting of numerous native trees, shrubs, and pollinator gardens throughout the landscape.[178] The community vegetable garden has 72 planting plots that are actively used by residents each year. A survey conveyed that 91% of participants saved money on fruits and vegetables through this program. The monthly savings ranged between $15- $50 and 14% of the participants saved more than $50 monthly. In addition, participant surveys show a 94% increase in the consumption of fresh fruit and vegetables, improving their overall well-being.[179]

The fruit tree orchard was planted with the help of Orchard People, a fruit tree care education company based in Toronto, which provided residents with an education program to acquire the skills needed to care for the trees. This program inspired some residents "to develop a social enterprise, offering their newly acquired skills to homeowners within the wider community. Some even used the training as a stepping stone to pursue further education and full-time employment in green jobs."[180] In addition, the TRCA and City of Toronto staff provided landscaping courses, enabling residents and volunteers to plant and maintain native trees, shrubs, and pollinator

178 Ibid.
179 Ibid.
180 Ibid.

gardens, improving the landscape aesthetic and enhancing biodiversity on site.[181] Residents who participated in the various revitalization programs expressed a greater sense of community, as they had more opportunities to interact with their neighbours, forming connections that allowed for the exchange of knowledge and fresh food.[182]

This revitalization project demonstrates how spatial interventions can diminish the boundaries created by mono-functional foodscapes, as communities, food organizations, and municipal programs work towards improving urban ecology, neighbourhood walkability, "diversifying food outlets in (sub)urban areas; and creating space for multifunctional urban agriculture."[183] The spatial diversity of this foodscape created synergies that contributed to the socio-economic growth of a community and improved urban ecology, all the while alleviating food insecurity. This revitalization project can serve as an example for the other post-war towers in the neighbourhood that have underutilized open green spaces with the potential to become diverse foodscapes.

In addition to the transformation of mono-functional landscapes, Wiskerke and Verhoeven look at how synergies can be shared between agriculture and biodiversity through the specific methodology of producing food with regenerative agriculture.[184] Regenerative agriculture is defined as

> a system of farming principles and practices that increases biodiversity, enriches soils, improves watersheds, and enhances ecosystem services. By capturing carbon in soil and aboveground biomass, regenerative agriculture aims to reverse global climate change. At the same time, it offers increased yields, resilience to climate instability, and higher health and vitality for farming communities.[185]

Regenerative agriculture includes the method of "intercropping," which revolves around synergy, whereby various crops are grown together that have physical attributes that support and improve the health and growth of each other.[186] Regenerative agriculture has been practised by Indigenous peoples for generations. Discussed in Chapter 2, section 2.1, the 'Three Sisters," a combination of corn, beans and squash, is an example of intercropping widely practised by Iroquois communities. The symbiotic relationship between these three crops not only benefits each other but also

181 Ibid.
182 Ibid.
183 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 177.
184 Ibid, 179.
185 Ibid.
186 Tracy Heim, "The Indigenous Origins of Regenerative Agriculture - National Farmers Union," October 12, 2020, https://nfu.org/2020/10/12/the-indigenous-origins-of-regenerative-agriculture/.

maintains soil health, moisture and the prevention of weed growth.[187] When applied appropriately, intercropping can "improve crop productivity, crop yield stability over time, and overall soil health… [it can] also help manage pests naturally, reducing weeds, insects, and disease."[188] Industrial agriculture has led to monotonous foodscapes in the name of productivity and efficiency, which have deteriorated the land due to lack of crop diversity, and the usage of pesticides and chemical fertilizers, while Indigenous communities use resilient and sustainable farming methods that give back to the land that achieve goals of efficiency, productivity, abundance in (agro)biodiversity, and pest management without the use of chemicals.[189]

In acknowledgement of the Indigenous sites adjacent to the Black Creek Neighborhood, where archaeological traces of agricultural cultivation have been found, it is important to consider the Indigenous methods of regenerative agriculture in the future of rural and urban food production, to reduce the impact the food provisioning system has on the environment and to emphasize the development of a sustainable food provisioning system that can last for generations to come.

Wiskerke and Verhoeven's fourth spatial-design principle, 'spatial diversity and enhancing synergies,' promotes the development of sustainable and resilient foodscapes. This principle encourages diverse spatial interventions and food production methods in both urban and rural areas to support all food system objectives while enhancing social and ecological systems.[190]

187 Ibid.
188 Ibid.
189 Ibid.
190 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 175.

3.8 Conclusion

The application of Wiskerke and Verhoeven's socio-spatial design principles can establish a framework for a sustainable food provisioning system. The principles emphasize the need for tailored food provisioning models that address the unique needs of consumers in specific urban regions.[191] This is exemplified by the Toronto Black Food Sovereignty Plan, which can be supported through food policies and the integration of additional food infrastructure at various scales to ensure accessible, affordable and nutritious food for all. In addition, the implementation of more stringent waste management policies and systems can help alleviate the ecological impact of food waste by recognizing organic waste as a resource.[192] To support the prevention or reduction of food waste, food literacy programs implemented in public school curriculums and institutions of higher learning can build awareness and instil mindful food habits.[193] Awareness of the social and environmental issues from the conventional food system will allow for the creation of diverse foodscapes in urban and rural areas that promote resilient and sustainable food provisioning systems for the betterment of social-ecological systems.[194]

Initiatives started by food activists, such as Anan Lololi who planted the seed of the African Food Basket organization in Jane and Finch, have been able to grow the organization with the support of volunteers and the municipality.[195] The TRCA provides land access and connections to various food organizations and businesses to support organizations like AFB and the application of their SNAP model to support vulnerable neighbourhoods.[196] Despite the TRCA's efforts, the community of Black Creek neighbourhood continue to struggle with food insecurity. The COVID-19 pandemic exacerbated food insecurity in the neighbourhood due to the loss of employment and the lack of diverse food outlets.[197] The negative media coverage of Jane and Finch has ostracized the community from the local job market due to their address and being racially profiled by prospective employers.[198] The lack of adequate social infrastructure to support new immigrants and existing residents has intensified the adversities the community faces regularly.[199]

191 Wiskerke and Verhoeven, 45.
192 Ibid, 144.
193 Nordahl, *Public Produce : The New Urban Agriculture,* 131-132.
194 Wiskerke and Verhoeven, *Flourishing Foodscapes,* 175.
195 Wekerle and Classens, "Challenging Property Relations and Access to Land for Urban Food Production," 99-100.
196 Singer, "A Blueprint for Black Food Sovereignty in Toronto."
197 "Who's Hungry Report 2023" (Daily Bread Food Bank and North York Harvest Food Bank, n.d.), https://www.dailybread.ca/wp-content/uploads/2023/11/DB-WhosHungryReport-2023-Digital.pdf.
198 "Neighbourhood, Discrimination and Health: Critical Perspectives of Racialized Residents from the Black Creek Area," Income Security, Race and Health Project (Toronto, ON: Access Alliance), accessed September 30, 2024, https://accessalliance.ca/wp-content/uploads/2018/06/ISRH-Research-Bulletin-3-Neighbourhood-and-Health.pdf.
199 Mobólúwajídìde D. Joseph, "At Jane and Finch, a Fight for Community Space," The Local, September 26, 2023, https://thelocal.to/finch-west-lrt-metrolinx-jane-and-finch-community-benefits-the-hub/.

This thesis is concerned with food as care infrastructure and aims to implement flourishing foodscapes in the existing landscape of the Black Creek neighbourhood to alleviate food insecurity and explore how alternative food networks can fill the gaps in the conventional food system.

Chapter 4

Designing Diverse Foodscapes in The Neighbourhood of Jane & Finch, Toronto

City-Region Site Context

Jane and Finch



Black Creek
Neighbourhood



Food Insecurity Levels:

Low High

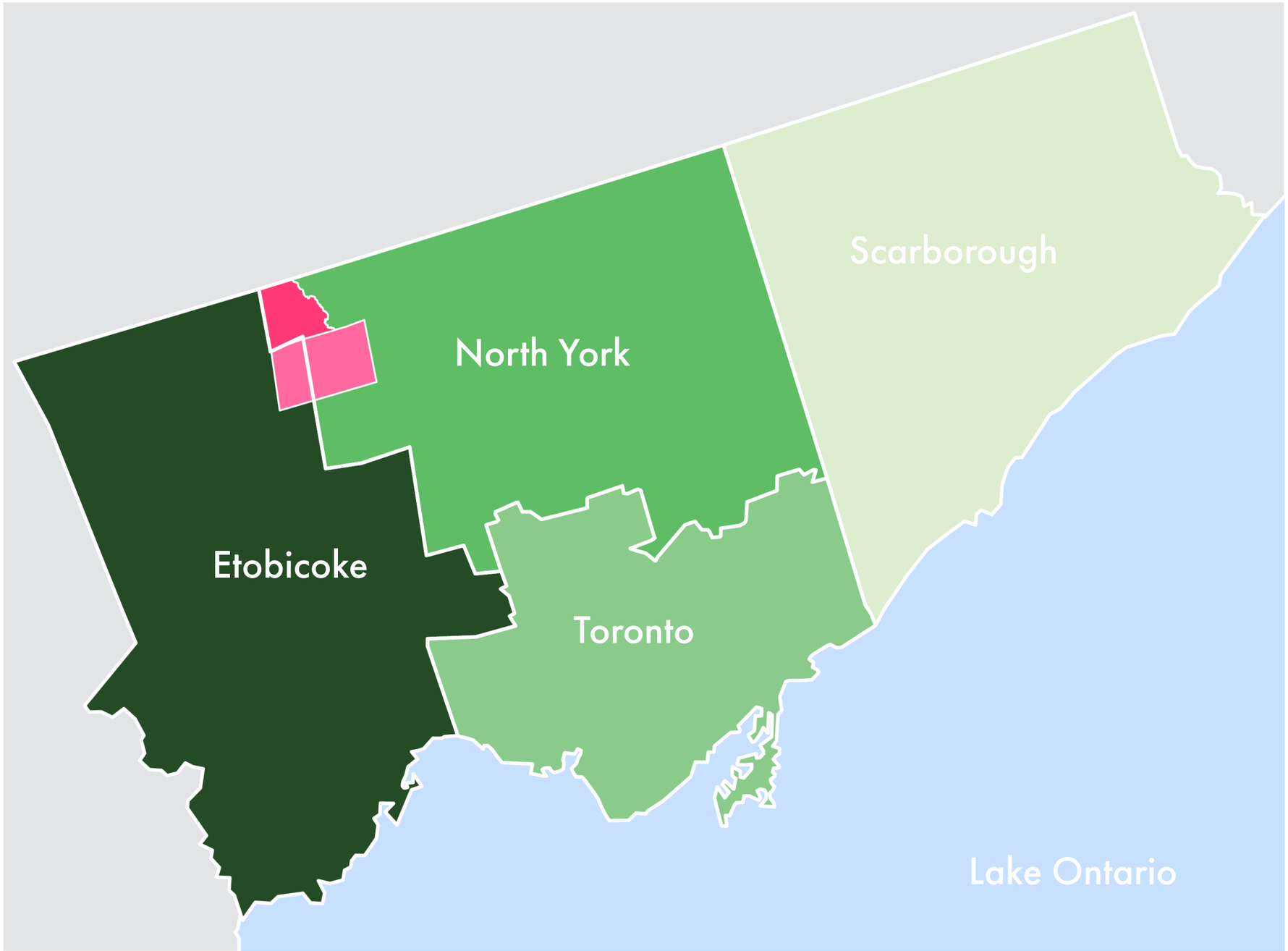


Figure 4.1. Illustrated Map of the City of Toronto Districts highlighting the location of Jane and Finch.

BLACK CREEK NEIGHBOURHOOD

in Jane & Finch, Toronto

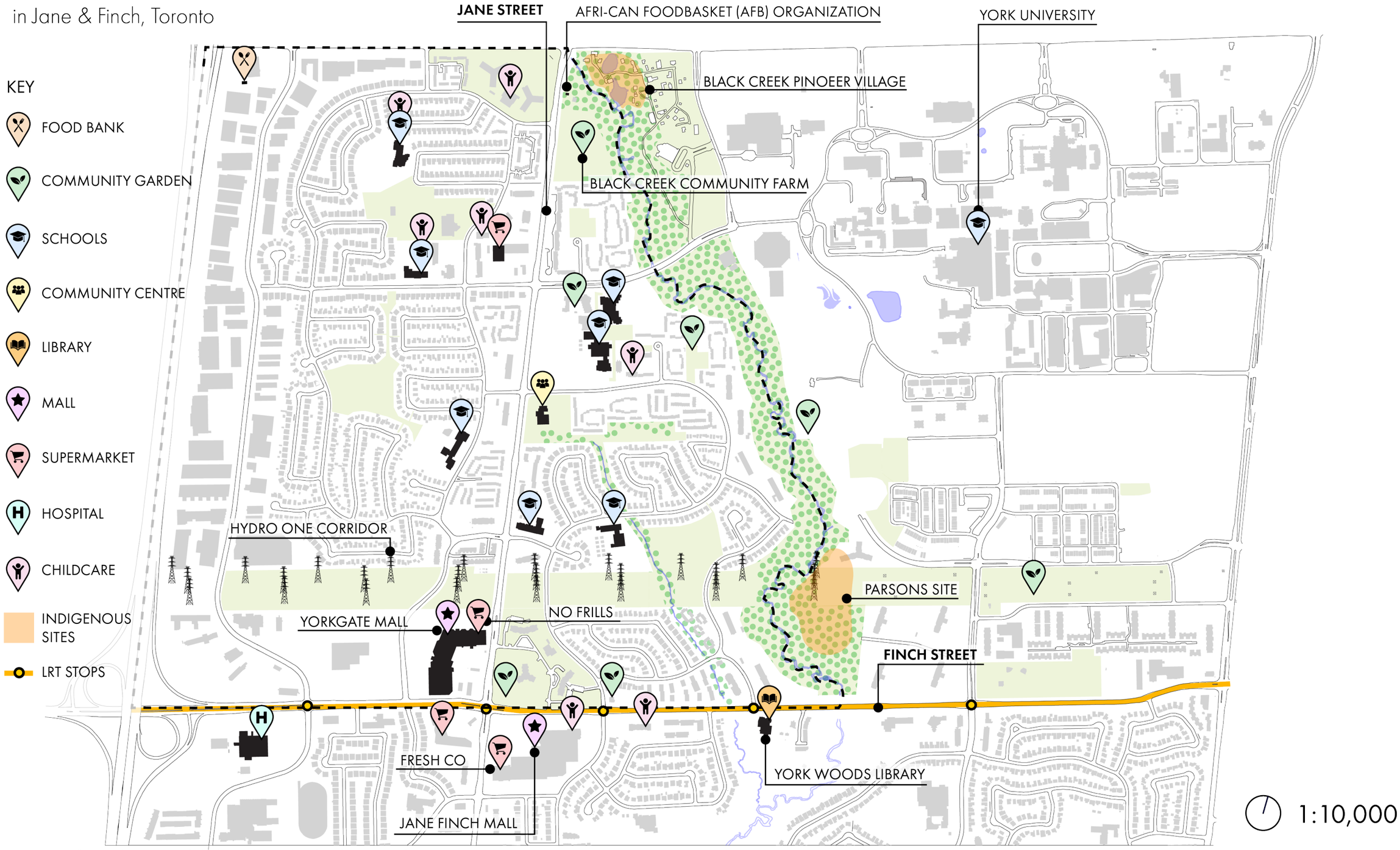


Figure 4.2. Illustrated Site Map of Black Creek neighbourhood in Jane and Finch, Toronto.

4.0 Introduction

Residents of Jane and Finch have contented with various socio-economic disparities for decades due to inadequate neighbourhood planning by the Ontario Housing Corporation. The urgent demand for housing between the 1950s and 1970s to accommodate Toronto's growing population dominated the planning process, leaving out essential amenities and services required for community well-being.[1] Wanda MacNevin, a community leader and veteran resident of Jane and Finch explains "how the neighbourhood was targeted by the Ontario Housing Corporation in the 1970s for a concentration of social housing disproportionate to the rest of Toronto… despite public planning reports arguing for diversified forms of housing."[2] Additionally, as social housing grew, MacNevin notes that a 1987 community profile by Metro Toronto Police exposed the lack of adequate services to support the neighbourhood's rapidly growing population, preventing vulnerable and new immigrant communities from thriving in their new home.[3] McNevin highlights how there has been limited access to employment and immigration services, insufficient daycare centres and recreational spaces, and inadequate support for newcomers with language barriers that further restricted access to services.[4]

The 2023 Who's Hungry report, which compiled data from Food Banks across the municipality of Toronto, conveys how newcomers are especially vulnerable to food insecurity.[5] In Jane and Finch, immigrants make up 59% of the neighbourhood population, most of whom come from Vietnam, Italy, Guyana, Jamaica, the Philippines, Iraq and Nigeria.[6] International students have become increasingly dependent on food banks due to misleading information from the Canadian government about the cost of living. The government requests that students have $10,000 in addition to their tuition fee to cover the cost of living in Canada, which equates to monthly fees of approximately $833. However, data has shown that most students find the cost is almost double at $1,517.[7] Furthermore, high numbers of international students and newcomers on temporary status or working visas face barriers to securing rental housing and experience employment discrimination, often resulting in food insecurity and reliance on emergency food services.[8] These barriers are often the cause of systemic racism. Data shows that "Black households are 3.56 times more likely, and Indigenous households are 3-5 times more likely to be food insecure than white households."[9] Indeed, the residents of Jane and Finch are often subjected to racial profiling, exacerbated by negative media coverage that misrepresents their neighbourhood.

This stigma has reduced their employment opportunities simply because of their home address.[10] Jane and Finch has a 12% unemployment rate which is 4% higher than the city average.[11] Marginalized communities are at higher risk of being food insecure due to the systemic barriers they face, therefore unique food policy plans like the Toronto Black Food Sovereignty Plan, are essential to address issues of racism when working to improve food provisioning in these communities. [12]

In North York, where Jane and Finch is located, the number of food bank clients has increased by 54% since the previous year.[13] Although the COVID-19 pandemic played a role in exacerbating food insecurity, Jane and Finch has struggled with food insecurity well before the pandemic, which led to the creation of various food programs initiated by activists and the municipality. In 1995, Black food activist Anan Lololi founded the African Food Basket (AFB) organization to provide culturally appropriate foods at affordable prices, when imported foods became too costly for the community.[14] In 2012, the TRCA provided land for The Black Creek Community Farm (BCCF), which flourished with the help of various partners, a few of which include AFB, FoodShare and Everdale Farm.[15] The BCCF 2022 impact report shows annual increases in crop productivity, with 28,600 pounds of food produced in 2021, rising to 34,519 pounds in 2022. BCCF "grew 47 unique crops and 85 different varieties."[16] In addition to producing food, BCCF offers workshops and educational programs to youth and seniors and offers student placement opportunities for Black and Indigenous students local to the area.[17]

1 City of Toronto, "Jane-Finch Initiative Existing Conditions Background Report" (Toronto, ON: City of Toronto, January 2021), https://www.toronto.ca/wp-content/uploads/2021/04/8d2b-CityPlanning-2021-04-20-Existing-Condtions-Background-Report.pdf.
2 Mobólúwajídide D. Joseph, "At Jane and Finch, a Fight for Community Space," The Local, September 26, 2023, https://thelocal.to/finch-west-lrt-metrolinx-jane-and-finch-community-benefits-the-hub/.
3 Ibid.
4 Ibid.
5 "Who's Hungry Report 2023" (Daily Bread Food Bank and North York Harvest Food Bank, n.d.), https://www.dailybread.ca/wp-content/uploads/2023/11/DB-WhosHungryReport-2023-Digital.pdf.
6 "Jane-Finch Initiative Existing Conditions Background Report."
7 "Who's Hungry Report 2023."
8 Ibid.
9 Ibid.
10 "Neighbourhood, Discrimination and Health: Critical Perspectives of Racialized Residents from the Black Creek Area," Income Security, Race and Health Project (Toronto, ON: Access Alliance), accessed September 30, 2024, https://accessalliance.ca/wp-content/uploads/2018/06/ISRH-Research-Bulletin-3-Neighbourhood-and-Health.pdf.
11 "Jane-Finch Initiative Existing Conditions Background Report."
12 Heidi Singer, "A Blueprint for Black Food Sovereignty in Toronto," Dalla Lana School of Public Health, January 5, 2022, https://www.dlsph.utoronto.ca/2022/01/05/a-blueprint-for-black-food-sovereignty-in-toronto/.
13 "Who's Hungry Report 2023."
14 Gerda R. Wekerle and Michael Classens, "Challenging Property Relations and Access to Land for Urban Food Production," in *Urban Gardening as Politics*, ed. Chiara Tornaghi and Chiara Certoma, Routledge Equity, Justice and the Sustainable City (New York: Routledge, 2019), 98.
15 "Our Supporters," Black Creek Community Farm, accessed October 25, 2024, https://www.blackcreekfarm.ca/supporters/.
16 "BCCF Impact Report (2022)" (Black Creek Community Farm, December 2022), https://drive.google.com/file/d/1lpE-4_7eeFiDH4Eqz6S4cJxA-G1UKcM4/view?usp=sharing&usp=embed_facebook.
17 "Student Placements," Black Creek Community Farm, accessed October 25, 2024, https://www.blackcreek-farm.ca/studentplacement/.

This includes their Urban Harvest program, which "trains local young people to connect with community gardeners to collect surplus produce to redistribute to our local food banks and community programs and facilitate canning food preservation workshops."[18] In 2022, BCCF ran 67 workshops to promote food literacy and awareness around food waste, by teaching the community to preserve and can food.[19] The BCCF serves as a model for diverse foodscapes by promoting crop biodiversity, enhancing socio-ecological systems through community outreach, and employing varied food production methods, such as maintaining a food forest along the edge condition of the farm.

As detailed in Chapter 3, section 3.7, the TRCA implemented its SNAP model for the revitalization of the San Romanoway Towers in Black Creek, which had urban agriculture as the driving theme of the project. This diverse foodscape also served socio-ecological systems by planting more native trees and pollinator gardens to improve biodiversity while promoting a sense of community between residents who grew food in the allotment garden.[20]

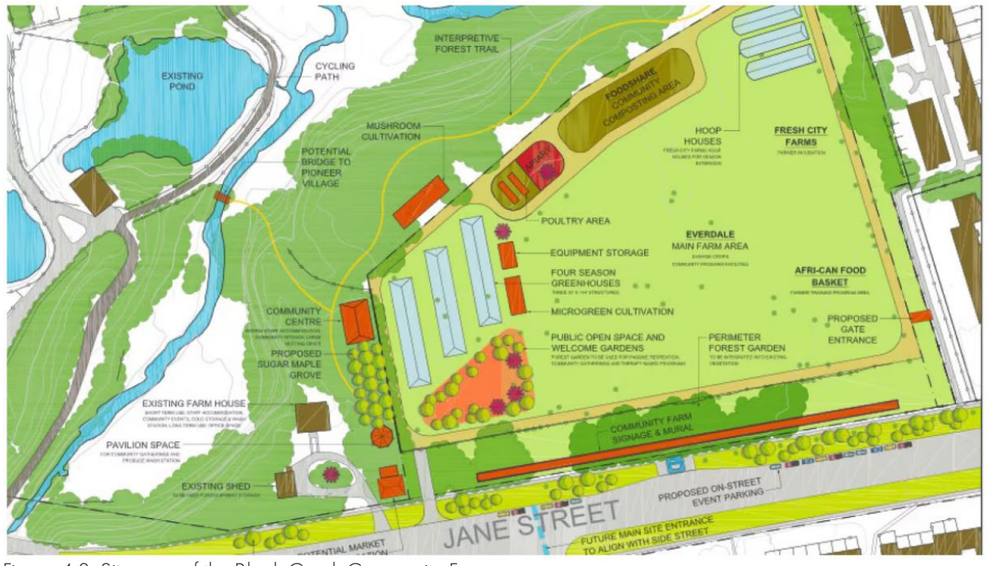


Figure 4.3. Site map of the Black Creek Community Farm.

The Black Creek neighbourhood in Jane and Finch is home to diverse foodscapes that promote food agency and sovereignty. Although various food initiatives have made an impact on the neighbourhood through the help of organizations like AFB and municipal revitalization programs, the growth and reach of these initiatives are hindered by the lack of food infrastructure. Indeed,

18 "BCCF Impact Report (2022)."
19 Ibid.
20 "Projects: San Romanoway Towers Revival," Toronto and Region Conservation Authority (TRCA), accessed October 13, 2024, https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/projects-san-romanoway-towers-revival/.

Lololi expresses how they are

> doing this with blood, sweat, and tears because [they] don't have the resources to do it, not even a warehouse… The next steps from the Working Group is to mobilize our knowledge base. Bring food policy folks, those who know about farming and gardening, the activists, academics, nutritionists, and food businesses to collectively determine the future of food sovereignty in Canada.[21]

The implementation of food policies and infrastructure, using a place-based approach, can help sustain and support initiatives such as AFB and in extension, the vulnerable people they serve, by providing space not only for producing food but for processing, storing, distributing and celebrating it. Jane and Finch is currently on the verge of major development with the near completion of the Light Rail Transit (LRT) line running through Finch Street. While there is fear of gentrification and displacement in the community, there is also hope for new facilities and social services the community sorely lacks.[22] In 2021, the city of Toronto conducted workshops with the community to understand their needs and what changes they would like to see in their neighbourhood. The following are a few comments made by residents from the workshops:

- Highly visible/centralized community spaces/places to access help/services that are not tucked away and difficult to find
- Buildings with walls for murals, places to market/showcase local art
- Support food security and accessibility through adjacent retail and support locations
- Make the community more walkable through improved trail systems
- Accessibility through ramps in retail, commercial areas
- Beautify built and public spaces and highlight community's and residents' history, diverse culture and heritage
- Spaces need to be child-friendly, offer places for learning and hands on exploration, in relative safety from cars
- Create and preserve space for small businesses such as local convenience stores and restaurants that support local business owners and shoppers
- Community gardens and farms (ie; Black Creek Community Farm), access to healthy, fresh food, particularly fruits and vegetables
- Communal/commercial kitchen spaces with access to healthier food options[23]

21 Singer, "A Blueprint for Black Food Sovereignty in Toronto."
22 Joseph, "At Jane and Finch, a Fight for Community Space."
23 City of Toronto, "Jane Finch Initiative: Public Realm & Built From Directions" (Toronto, ON: City of Toronto, June 2022), https://www.toronto.ca/wp-content/uploads/2022/08/94e2-CityPlanning-Jane-Finch-Initiative-Public-Realm-Built-Form-Directions-June-2022.pdf.

Based on community comments, future development proposals must consider the request for more community spaces and services with an emphasis on, cultural celebration, food security and accessibility.

Residents of Jane and Finch are heavily involved in community activism to ensure their community needs are being met. The opportunity to create a temporary community space in the neighbourhood materialized in 2019 with a partnership between Jane Finch Mall and Jane/Finch Centre.[24] After the height of the pandemic, the Corner Commons became a collective gathering space by transforming the corner of the mall's parking lot into "a brightly painted nook replete with benches, flowers, and a raised platform where community members can attend community workshops, throw events, and hang out."[25] Though informal, this temporary community space has had a significant impact on the community, as it creates more opportunities for people to interact and form networks, highlighting their need for centralized community spaces.

This thesis positions food as a form of care infrastructure to support the community's spatial and social needs. This chapter explores how Black Creek's landscape can integrate diverse foodscapes to enhance social, economic, and ecological systems, providing spaces for community gathering, access to social services, and affordable, nutritious food – all the while minimizing environmental impact. The following section will explore the potential for alternative food networks on the neighbourhood scale (meso-level).



Figure 4.4. Corner Commons (top left) located in the parking lot of Jane Finch Mall by the intersection of Jane Street and Finch Avenue.

24 Ibid.
25 Ibid.



Figure 4.5. Gathering at Corner Commons on a Friday evening in September.

EXISTING FOOD INFRASTRUCTURE:

FOOD BANK

FOOD GARDEN/ FARM

COMMUNAL KITCHEN

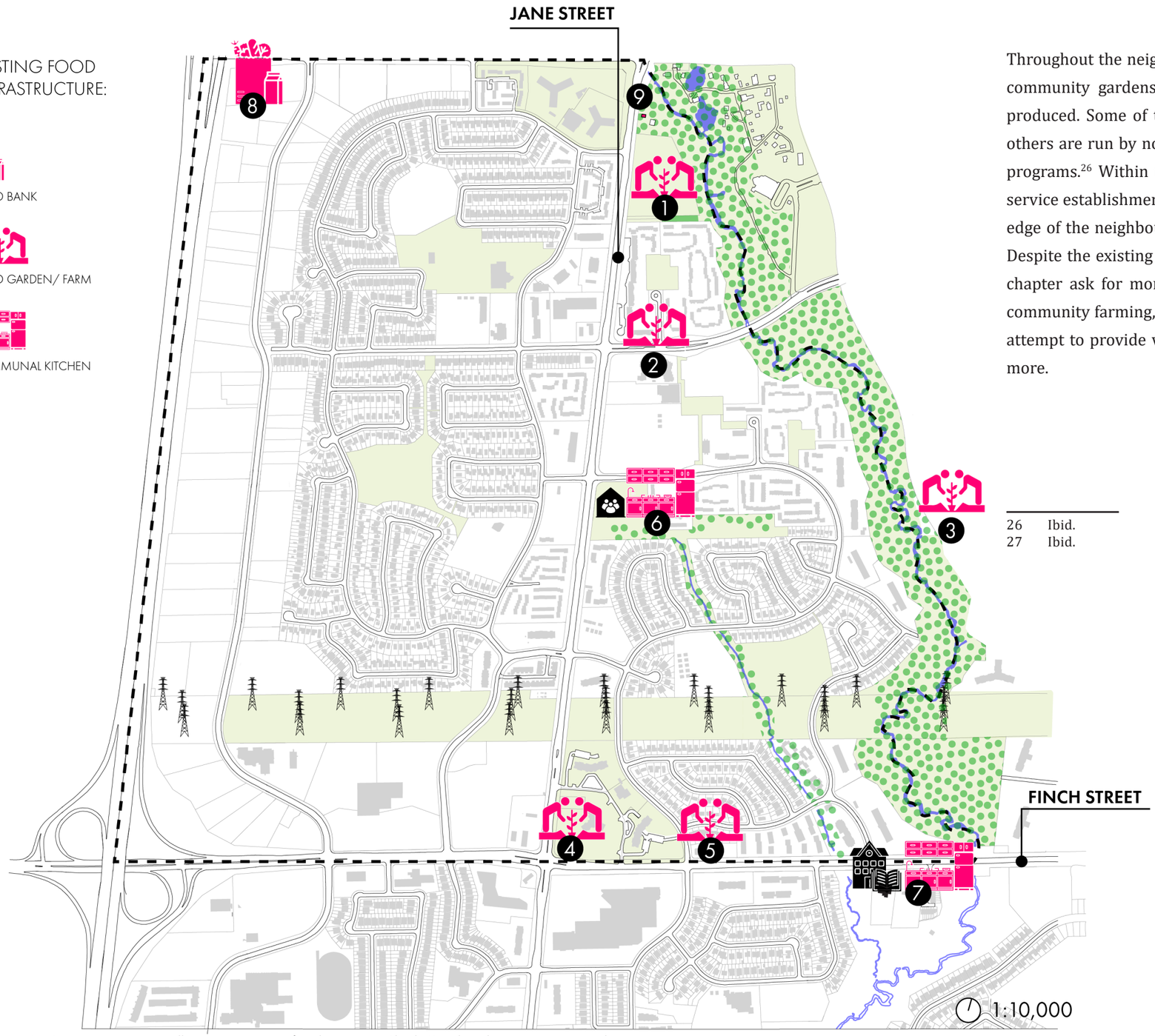


Figure 4.6. Diagrammatic map illustrating existing foodscapes in Black Creek with accompanying diagrams.

EXISTING FOODSCAPES

Throughout the neighbourhood, as depicted on the left, are various communal kitchens, community gardens, allotments and urban farms where food is processed or being produced. Some of these gardens are located on the grounds of public housing, while others are run by non-profit organizations or were initiated by municipal revitalization programs.[26] Within the Black Creek neighbourhood there is only one emergency food service establishment, known as the ANIDA Food Bank, which is tucked away at the very edge of the neighbourhood of the industrial belt, reducing accessibility to its services.[27] Despite the existing services, workshop comments from residents shared earlier in this chapter ask for more food services, such as additional communal kitchens, space for community farming, and centralized services. The following series of food networks will attempt to provide varying scales of food services to meet these community needs and more.

26 Ibid.
27 Ibid.

FOOD GARDENS/FARMS/ALLOTMENTS

1. Black Creek Community Farm
2. Edgeley Apartments - Public Housing Community Garden
3. Maloca Community Garden - York University
4. San Romanoway Sunshine Allotment Garden
5. Reaching Up - Homework Club Garden (for schools/children)

COMMUNAL KITCHENS

6. Driftwood Community Recreational Centre
7. York Woods Library

FOOD BANKS/ORGANIZATIONS

8. ANIDA food bank
9. Afri-can FoodBasket (AFB) Organization

4.1 Design Proposal Part 1

Alternative Food Networks in Black Creek

As outlined in Chapter 3, section 3.1, foodscapes are interconnected and play a role in the macro-, meso-, and micro-level of the conventional food system. As change to the conventional food system at the macro-level is heavily dependent on government intervention with food policies, the design proposal is primarily focused on the meso-level (community scale) and how the implementation of food infrastructure can have a direct impact on the micro-level (domestic scale). Food insecurity is one of many urban issues that result from the centralized food system, which is concerned with the commodification of food. Therefore, this section explores the decentralization of food services at varying scales to promote a resilient local food provisioning system in Black Creek that concerns itself with the enhancement of socio-ecological systems. This will be done by creating five potential

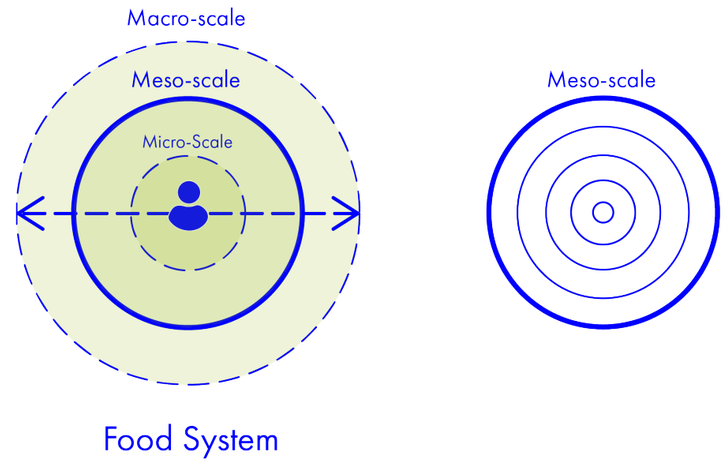


Figure 4.7. Food System Diagram of the meso-, macro-. and micro-scale.

ALTERNATIVE FOOD NETWORKS:
Food Literacy & Infrastructure in Schools

In Canada, one in six children lives in a food-insecure household, positioning schools as the second line of defence for food security and literacy.[28] Schools in Black Creek could create an alternative food network by integrating infrastructure to support the Edible Schoolyard Program, including food pantries and seed libraries. In Jane and Finch, "eighty percent of households have children living at home. This is higher than the city-wide average of 65%," highlighting the need for programs that instil healthy food habits.[29] All schools in Black Creek currently offer a Children's Meal Program, providing nutritious meals for breakfast and lunch regardless of household income.[30] To complement this endeavour, incorporating the Edible Schoolyard program into the curriculum can address essential components of food education and go a step further to provide a seed-to-table experience for children in garden and kitchen classrooms that also supplements existing school subjects.[31] To supplement meal programs, school-based food pantries could serve as additional outlets for surplus food from community gardens and supermarkets, while seed libraries could empower families to grow food at home. This network reflects the entanglement between the meso- and micro-level foodscapes, as access to food and food education in schools, directly influences habits on the domestic scale.

28 Nicole Blair, "Food Waste Statistics in Canada," Made in CA, June 11, 2024, https://madeinca.ca/food-waste-canada-statistics/.
29 "Jane-Finch Initiative Existing Conditions Background Report."
30 Ibid.
31 Darrin Nordahl, *Public Produce : The New Urban Agriculture* (Washington, DC: Island Press, 2009), 130.

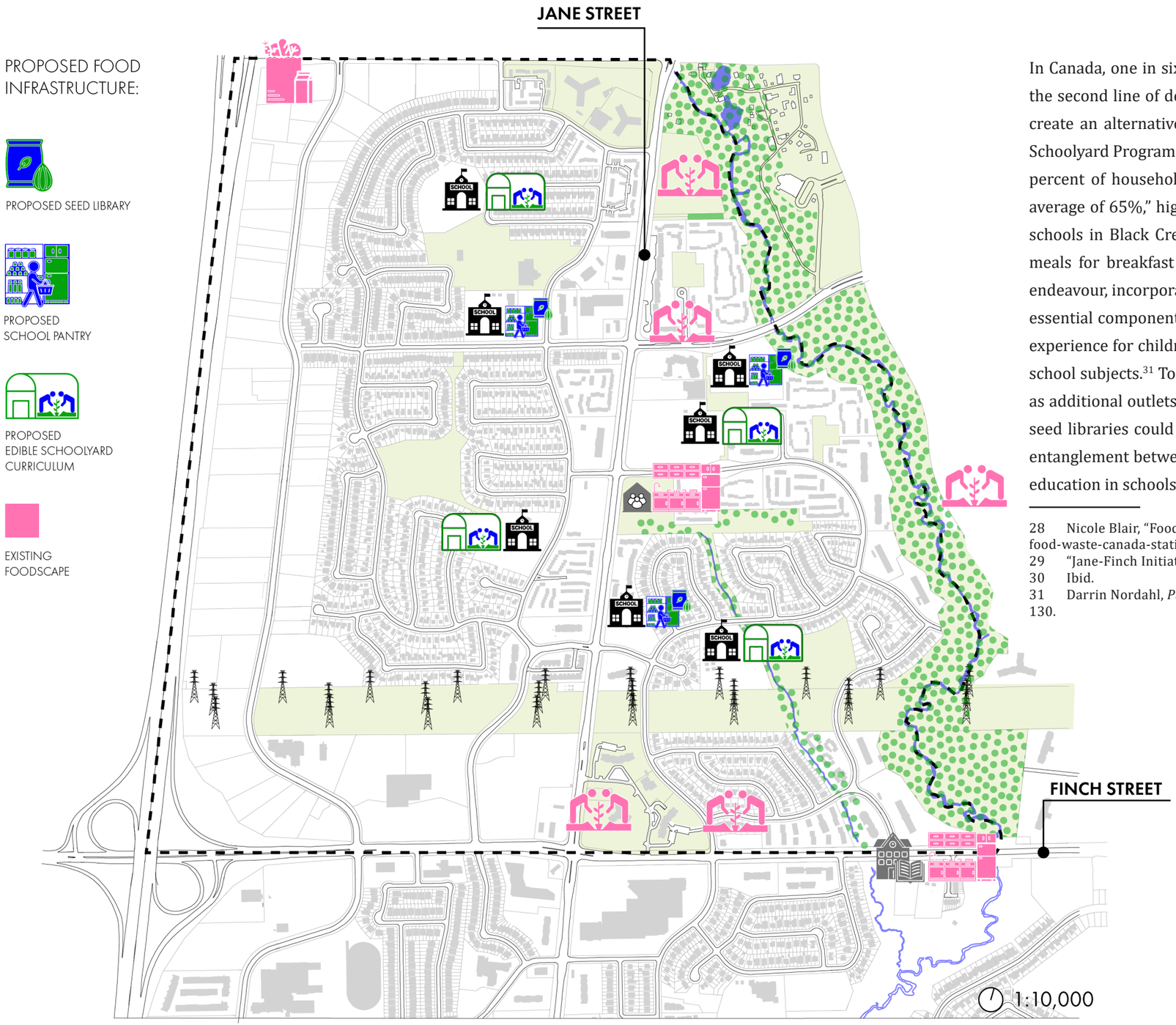
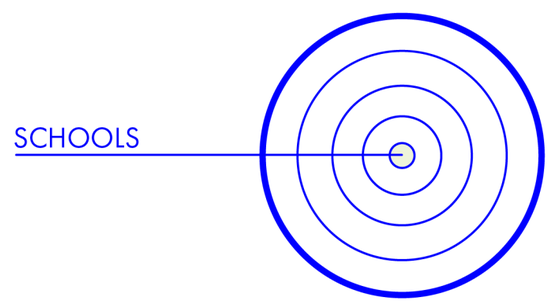


Figure 4.8. Diagrammatic map illustrating a school food network in Black Creek with accompanying diagrams.

Black Creek Alternative Food Networks at the Meso-scale



ALTERNATIVE FOOD NETWORKS:
Underutilized Public Spaces

The public realm offers the potential for alternative networks of food production, storage, and composting. Black Creek has yet to transform public and interstitial green spaces into productive landscapes. The edge condition of parks, underutilized Hydro One corridor and wide street easements in the neighbourhood could support fruit orchards, food gardens, food pantries, and the composting of organic matter (yard waste, fruit). These varying scales of food infrastructure on public and semi-public land can increase neighbourhood access to food outlets and public produce, providing unhoused populations with the opportunity to forage for and have access to healthy and fresh food. Despite municipal concerns about fruit tree maintenance and aesthetics, as discussed in Chapter 3, section 3.3.1, existing urban projects in Toronto have successfully implemented fruit trees in neighbourhoods to increase access to fresh fruit. Toronto's "soft scaping on City boulevards" bylaw permits food gardens along city boulevards, allowing for food production on easements along roads like Jane Street, addressing the issue of land access for growing food.[32] This alternative network strives to increase food production and access to public produce for the Black Creek population while enhancing natural systems.

32 City of Toronto, "Bylaw Enforcement - Soft Landscaping on City Boulevards - Vegetable Gardens," City of Toronto (City of Toronto, October 29, 2021), Toronto, Ontario, Canada, https://www.toronto.ca/home/311-toronto-at-your-service/find-service-information/article/?kb=kA06g000001cvXOCAY.

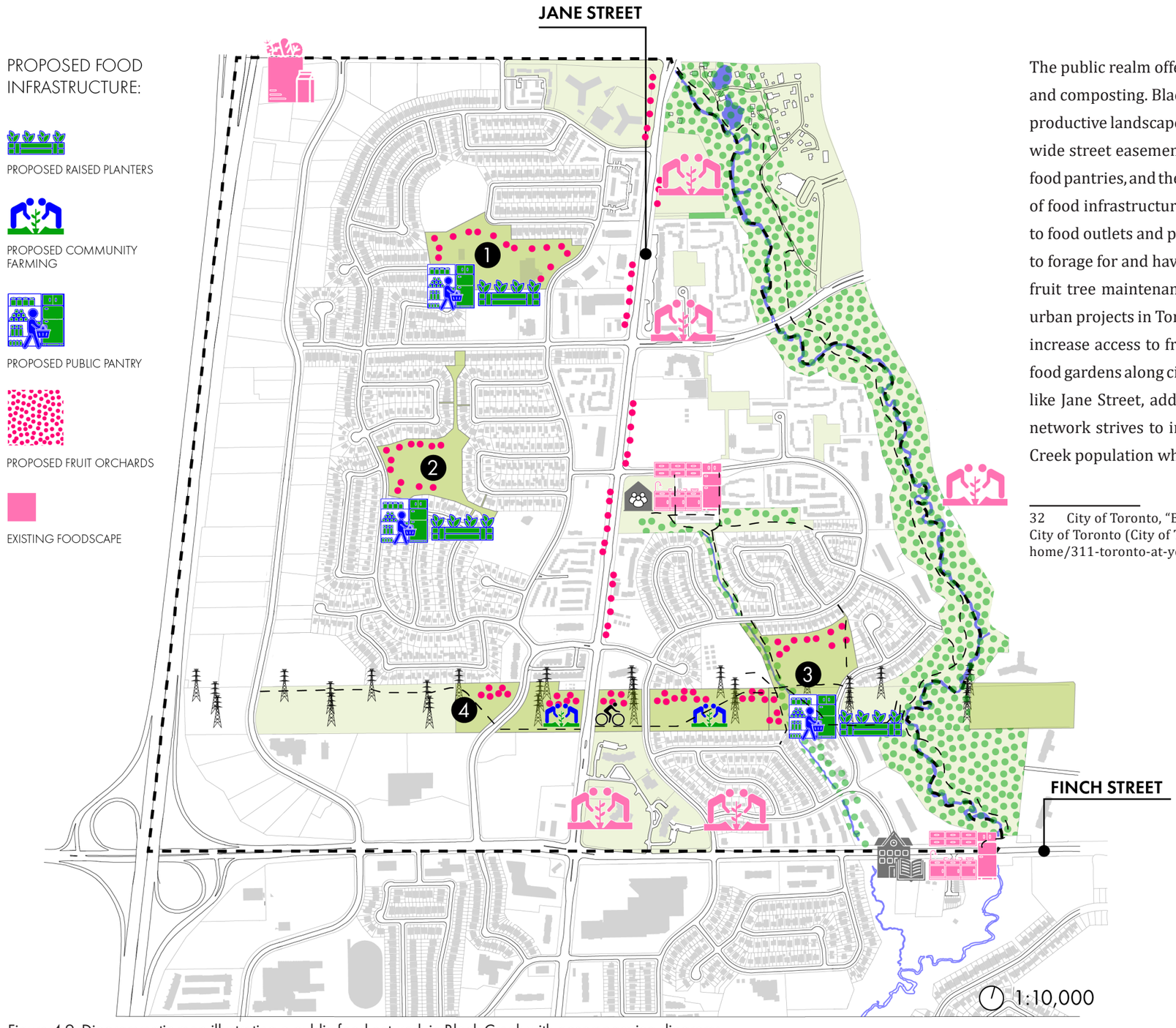
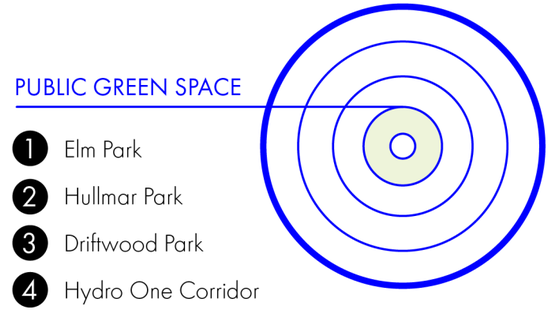


Figure 4.9. Diagrammatic map illustrating a public food network in Black Creek with accompanying diagrams.

Black Creek Alternative Food Networks at the Meso-scale



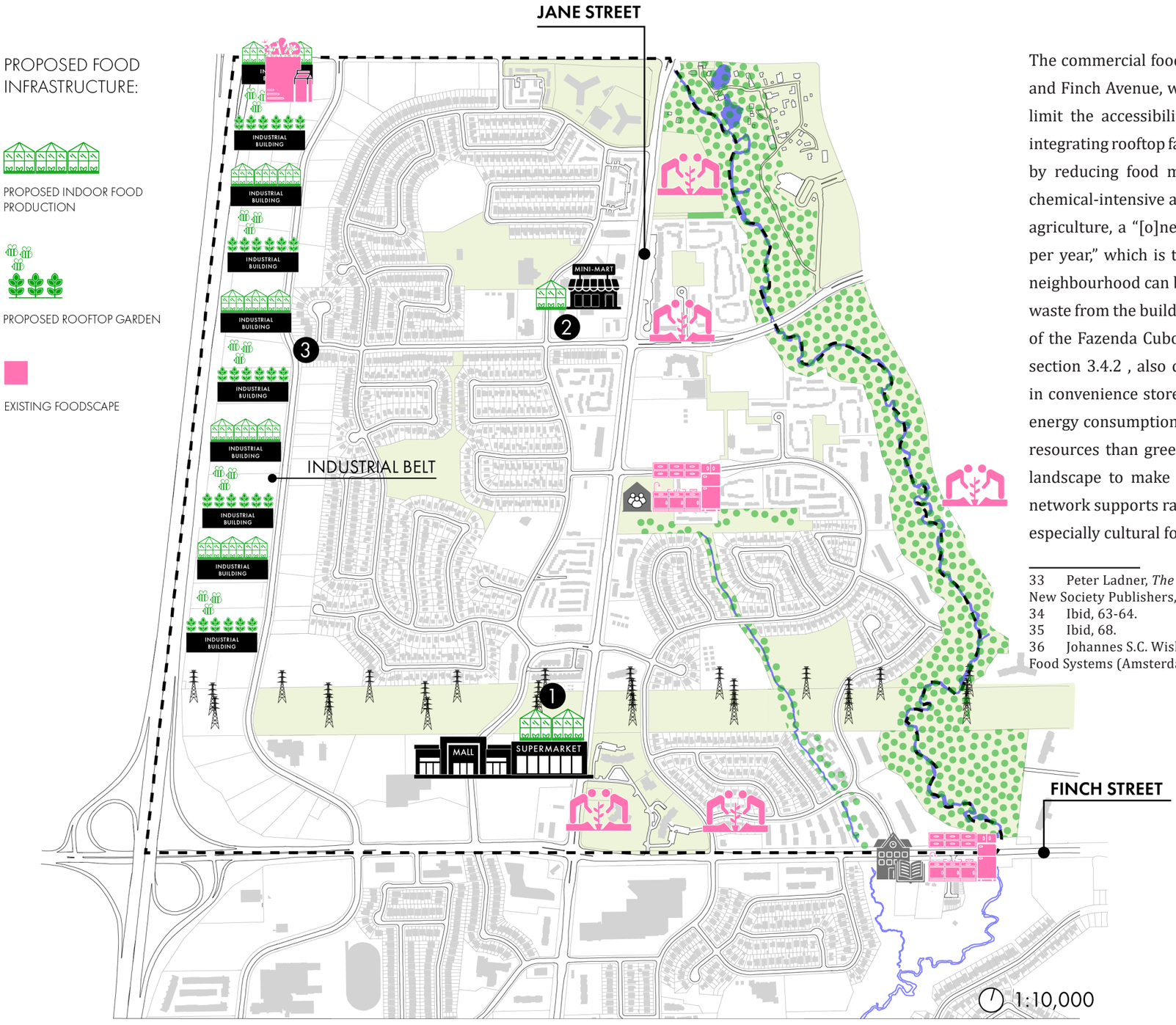


Figure 4.10. Diagrammatic map illustrating an alternative commercial food network in Black Creek with accompanying diagrams.

ALTERNATIVE FOOD NETWORKS:
(Re)defining The Commercial Foodscape

The commercial foodscape of Jane and Finch is centred at the intersection of Jane Street and Finch Avenue, with supermarkets as primary food outlets. However, high food costs limit the accessibility of food for many residents. Decentralizing food production by integrating rooftop farming into commercial outlets could reduce socio-ecological impacts, by reducing food miles, providing affordable cultural foods, and shifting away from chemical-intensive and genetically modified agriculture.[33] In comparison to conventional agriculture, a "[o]ne acre hydroponic greenhouse can produce 600,000 pounds of food per year," which is ten times the output of a one acre field.[34] The industrial belt of the neighbourhood can be utilized to implement additional greenhouses, where exhaust heat waste from the buildings below can be used to heat the greenhouses above.[35] The example of the Fazenda Cubo Hydroponic Cultivation case study in Brazil, detailed in chapter 3, section 3.4.2 , also demonstrates the opportunity of small-scale hydroponic cultivation in convenience store settings. Conversely, open-air rooftop gardens can reduce building energy consumption, enhance biodiversity, and retain stormwater while requiring fewer resources than greenhouses.[36] As such, it would be an asset to include this productive landscape to make use of wasted rooftops. While focused on high-tech farming, this network supports rather than replaces land-based agriculture, prioritizing specific crops, especially cultural foods vital to the Black Creek community.

33 Peter Ladner, *The Urban Food Revolution : Changing the Way We Feed Cities* (Gabriola Island, BC: New Society Publishers, 2011), 64.
34 Ibid, 63-64.
35 Ibid, 68.
36 Johannes S.C. Wiskerke and Saline Verhoeven, Flourishing Foodscapes : Designing City-Region Food Systems (Amsterdam: Valiz, 2018), 36.

Black Creek Alternative Food Networks at the Meso-scale



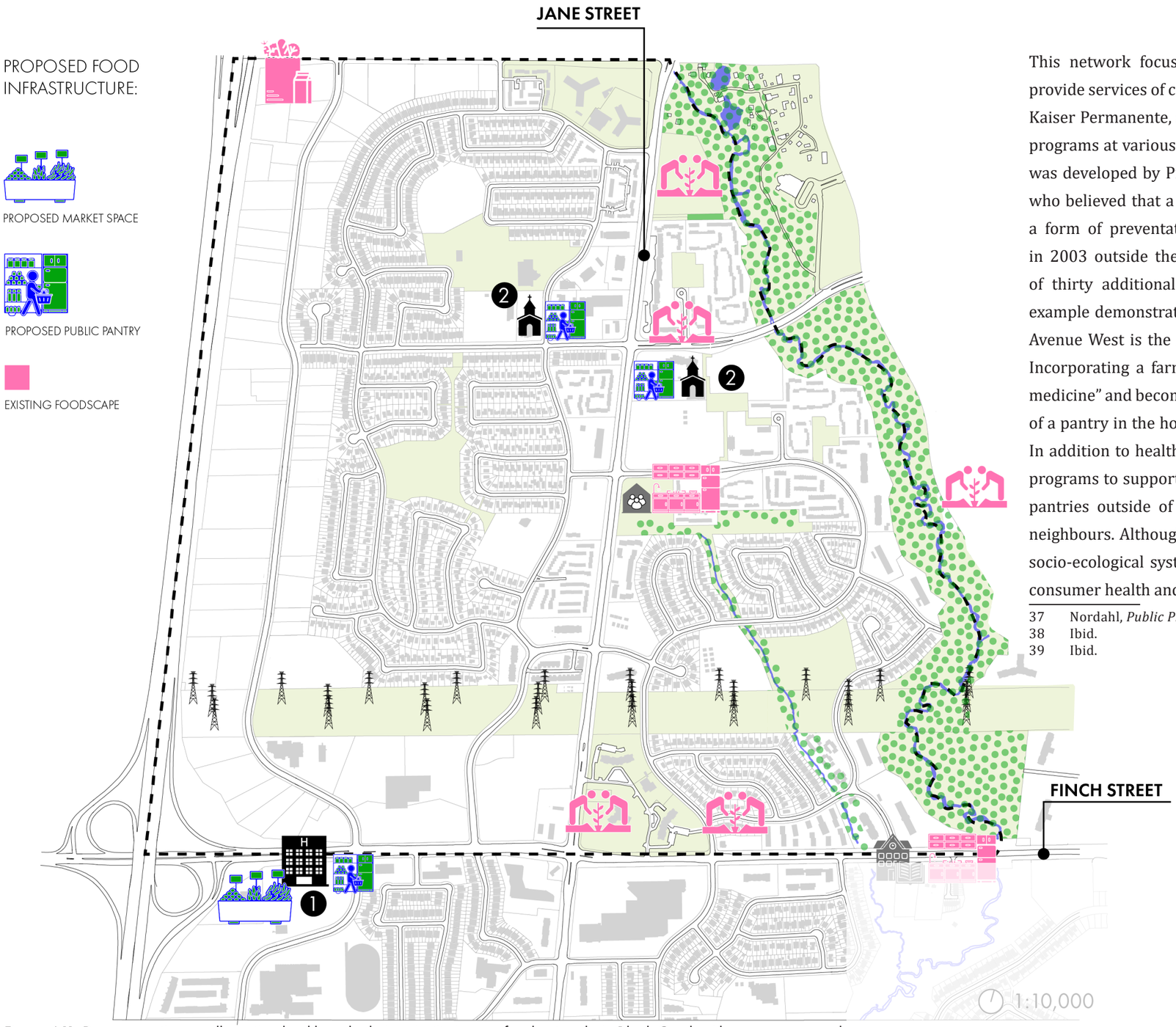
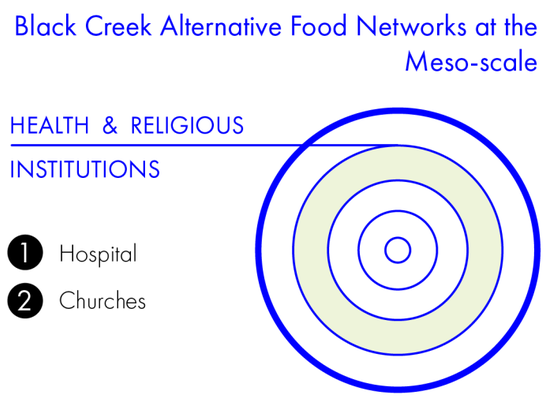


Figure 4.11. Diagrammatic map illustrating health and religious institutions as food networks in Black Creek with accompanying diagrams.

ALTERNATIVE FOOD NETWORKS:
Food as Care Infrastructure

This network focuses on outlying health institutions and social infrastructure that provide services of care in the form of food to the greater community. In the United States, Kaiser Permanente, a prominent healthcare organization, implemented farmers' market programs at various facilities to increase access to fresh fruit and vegetables.[37] This idea was developed by Preston Maring, a physician from the organization based in Oakland, who believed that a simple food market could support staff and patients by serving "as a form of preventative medicine."[38] Kaiser Permanente farmers' market first opened in 2003 outside the entrance of Oakland Hospital and its success led to the creation of thirty additional Kaiser Permanente farmer's markets across the country.[39] This example demonstrates the importance of promoting food for public health. Along Finch Avenue West is the Reactivation Care Centre, a branch of North York General Hospital. Incorporating a farmers' market on hospital grounds promotes the idea that "food is medicine" and becomes an additional access point to fresh and healthy food. The inclusion of a pantry in the hospital can support staff and patients struggling with food insecurity. In addition to health institutions, places of worship typically have community outreach programs to support vulnerable communities, regardless of their faith. Introducing food pantries outside of these locations will provide more food outlets for food-insecure neighbours. Although all the proposed food networks share an element of care towards socio-ecological systems, this network focuses on institutions that are concerned with consumer health and well-being.

37 Nordahl, *Public Produce : The New Urban Agriculture,* 40.
38 Ibid.
39 Ibid.



ALTERNATIVE FOOD NETWORKS:
New Build - Community Food Centre

The previous examples explore various scales of decentralized food infrastructure placed throughout the neighbourhood of Black Creek to increase the production, storage, distribution, and accessibility of food through various methods. The design proposal of this thesis includes the development of a new Community Food Centre with a community farm adjacent to it. This decision was made based on community comments for increased food security, centralized services and community spaces. The addition of a food centre aims to centralize local food production, processing, storage, distribution and management of food waste while providing essential community spaces and services that relate to food and other social needs. Having this new build at the heart of the neighbourhood, reduces reliance on commercial food outlets and fast-food chains and promotes healthy eating and community solidarity around food. The programs and design of the community food centre and urban farm will be further elaborated on in the final section of this chapter.

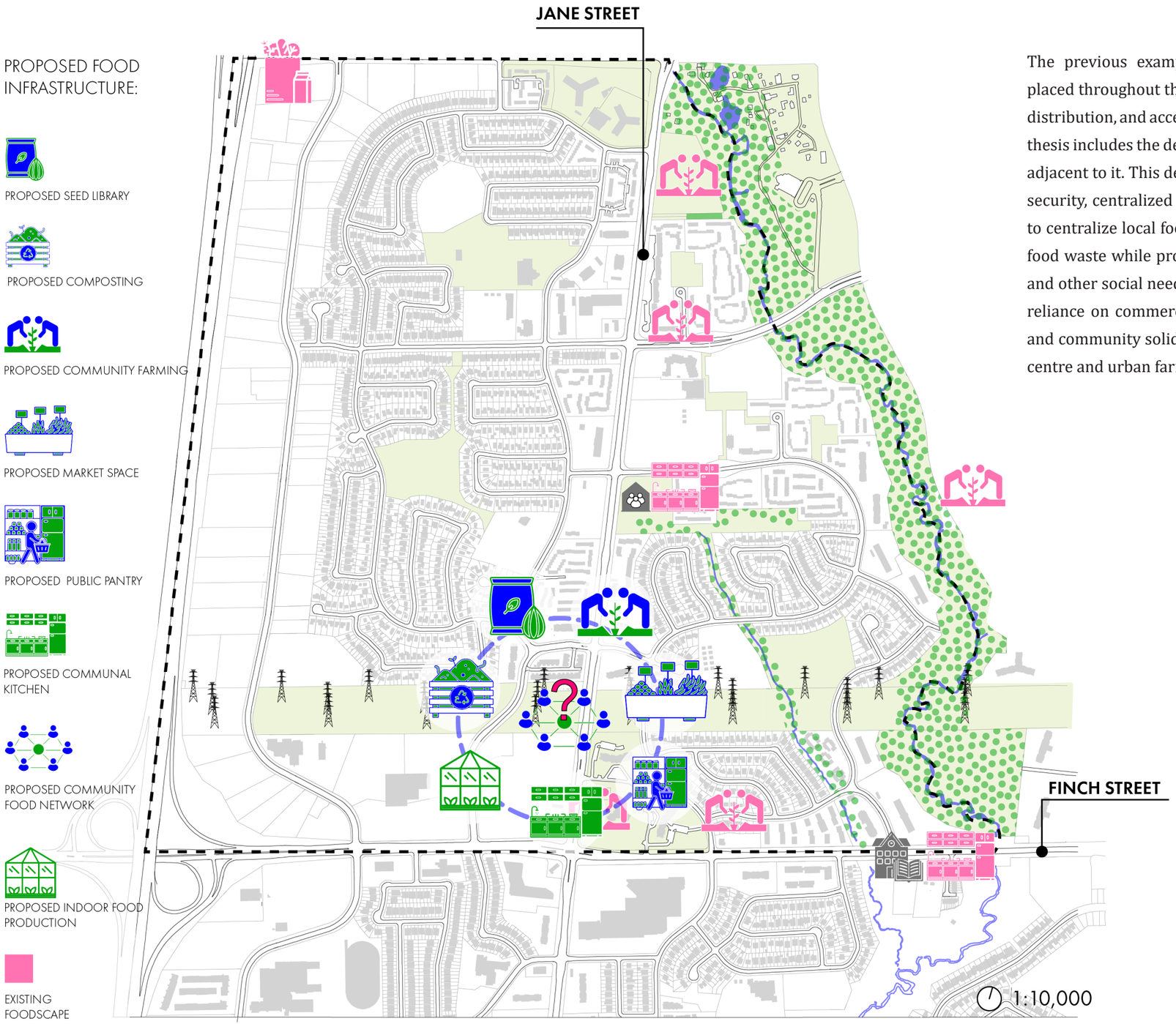


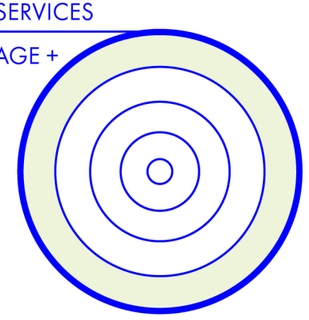
Figure 4.12. Diagrammatic map illustrating a new centralized food network in Black Creek with accompanying diagrams.

Black Creek Alternative Food Networks at the Meso-scale

CENTRALIZED FOOD SERVICES

PROCESSING + STORAGE +

DISTRIBUTION



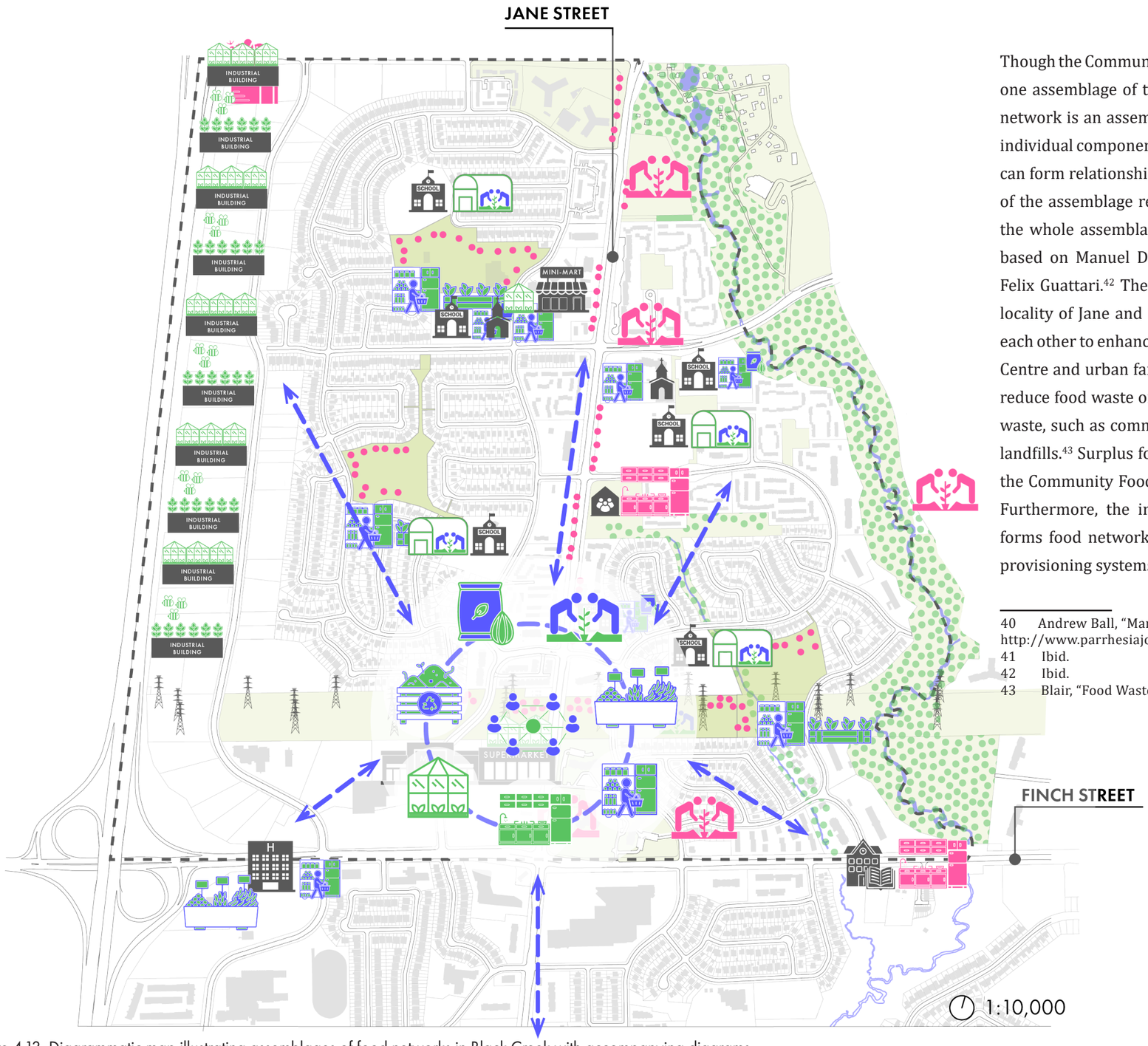


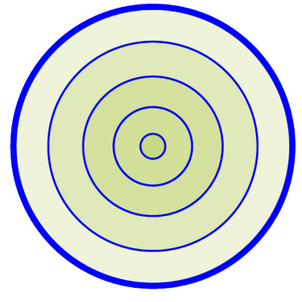
Figure 4.13. Diagrammatic map illustrating assemblages of food networks in Black Creek with accompanying diagrams.

ALTERNATIVE FOOD NETWORKS:
Foodscape Assemblages

Though the Community Food Centre is centralized within the neighbourhood, it represents one assemblage of the many other proposed alternative food networks. Each proposed network is an assemblage that can function without reliance on the other. However, the individual components (varying scales of food infrastructure) that make up an assemblage can form relationships with elements outside of its assemblage.[40] Therefore, "while parts of the assemblage remain independent and are not defined by the whole, the nature of the whole assemblage is a function of the interrelations of its parts."[41] This concept is based on Manuel Delanda's philosophy on Assemblage Theory by Gilles Deleuze and Felix Guattari.[42] The various proposed networks can form a larger food network in the locality of Jane and Finch, where the varying scales of food infrastructure interact with each other to enhance the resiliency of foodscapes. For example, the new Community Food Centre and urban farm will have space for composting programs and food processing to reduce food waste on-site, however, it can work with other assemblages to mitigate food waste, such as commercial food outlets that send approximately 40% of surplus food to landfills.[43] Surplus food from supermarkets and community gardens can be processed at the Community Food Centre and distributed to pantries throughout the neighbourhood. Furthermore, the interaction between the varying scales of food infrastructure that forms food networks is essential in creating more sustainable and resilient local food provisioning systems in the neighbourhood.

40 Andrew Ball, "Manuel Delanda, Assemblage Theory," *Edinburgh University Press*, 2016, 241–47, http://www.parrhesiajournal.org/parrhesia29/parrhesia29_ball.pdf.
41 Ibid.
42 Ibid.
43 Blair, "Food Waste Statistics in Canada."

Black Creek Alternative Food Networks at the Meso-scale



Signage

On the right are examples of signage that highlight food services and activities.
The inclusion of signage throughout the neighbourhood is imperative to make residents aware of the food services and programs available to them.

Ideally, signage posted throughout the neighbourhood would include translations in different languages to ensure services are accessible to everyone.

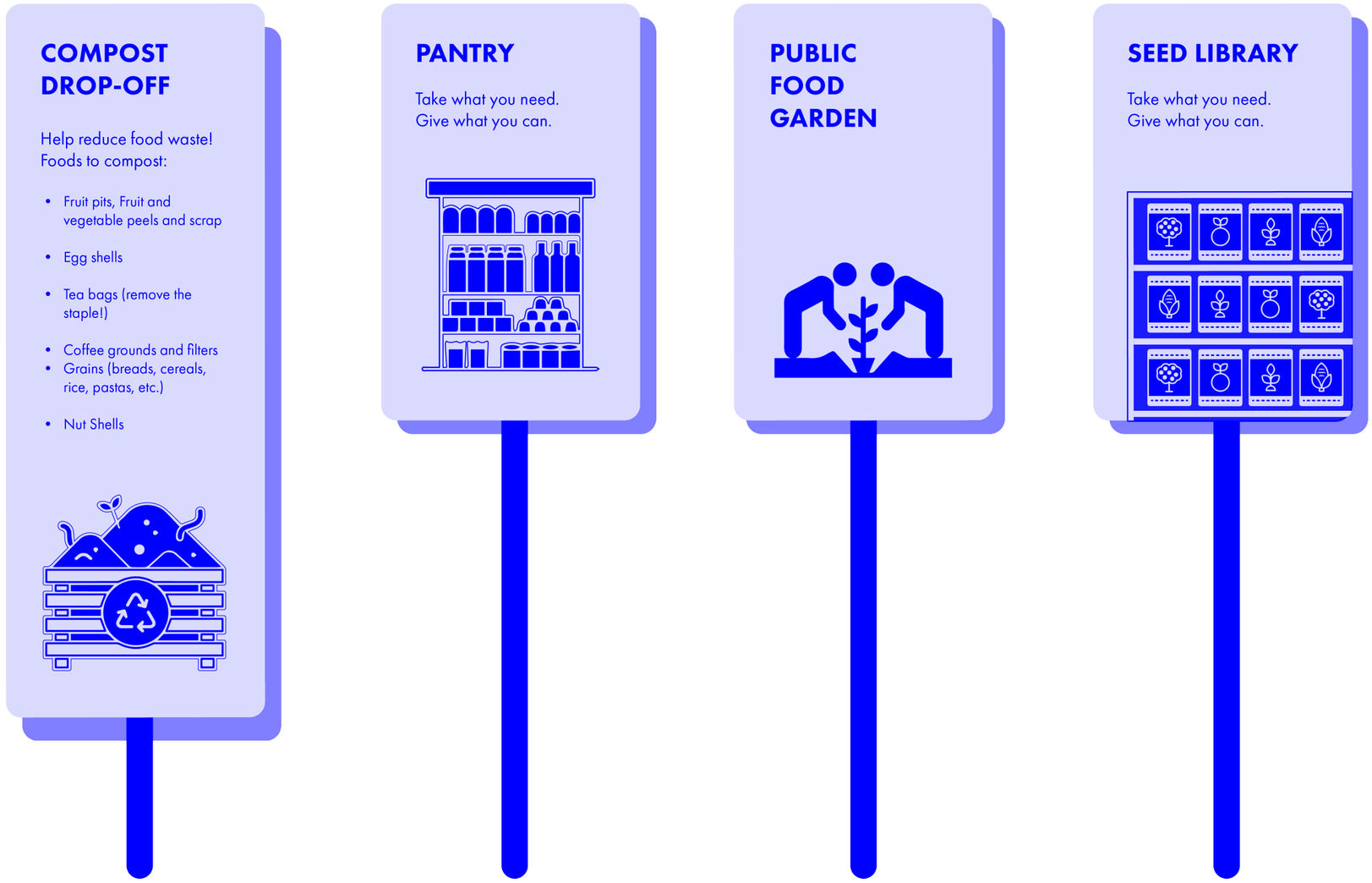


Figure 4.14. Drawing of Navigation signage of food services.

4.2

Existing Site Context

BLACK CREEK NEIGHBOURHOOD

in Jane & Finch, Toronto

KEY

SITE

INDIGENOUS SITES

LRT STOPS

BLACK CREEK PINOEER VILLAGE

HYDRO ONE CORRIDOR

YORKGATE MALL

NO FRILLS

PARSONS SITE

1:10,000

Figure 4.15. Site Plan highlighting location of Community Food Centre & Community Farm Park.

Existing Site Context



Figure 4.16. Illustrated Map of Existing Site Context.

Site Views

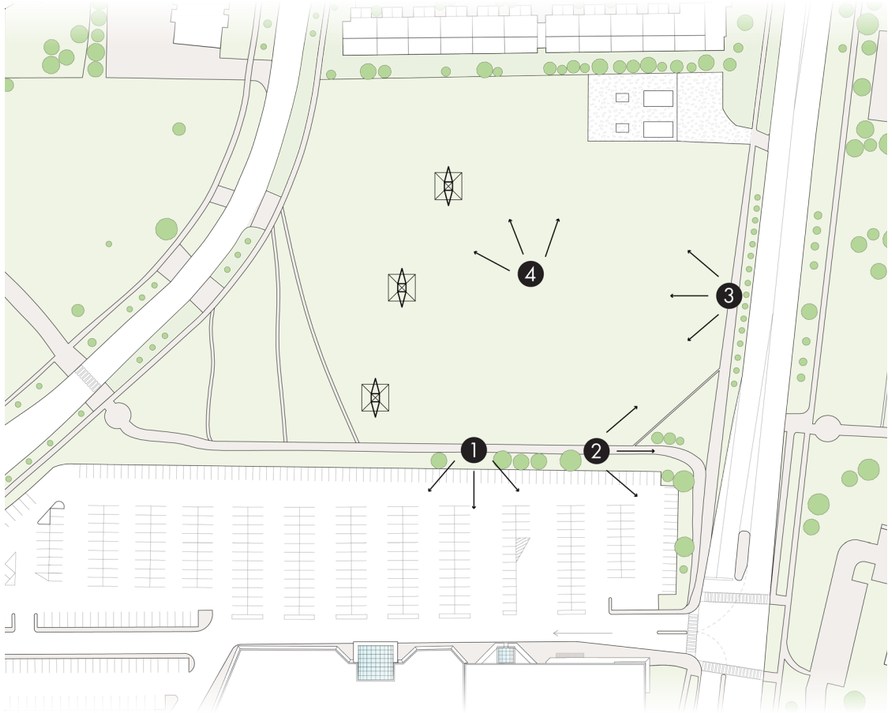


Figure 4.17. Existing site diagram with view markers at a 1:2000 scale.

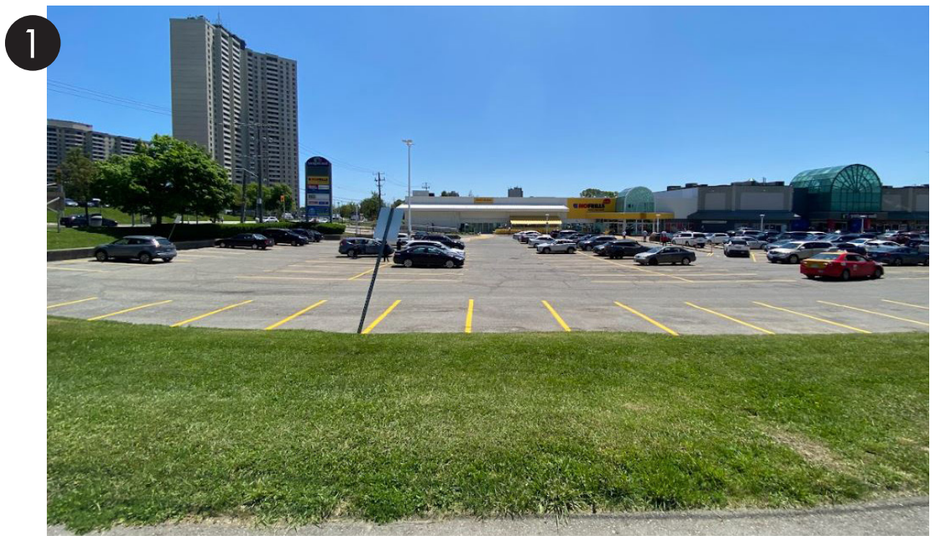


Figure 4.18. South facing view looking towards No Frills & Yorkgate Mall from the walking trail in Spring.



Figure 4.19. East facing view from walking trail in Spring.



Figure 4.20. West facing view of the Hydro One Corridor from Jane Street in Spring.



Figure 4.21. West facing view of the Hydro One Corridor from Jane Street in Winter.



Figure 4.22. North facing view of the Hydro One Corridor from the walking trail in Winter.



Figure 4.23. Yorkgate Mall Food court.



Fig. 4.24. Yorkgate Mall Food court seating area.

Site Observations

During my first site visit in the Winter of 2024, I noticed how vacant the parking lot of No Frills supermarket and Yorkgate Mall was, despite having gone there at peak hours on a Saturday afternoon. Although the interior of the mall had a subdued atmosphere, it was clear the mall provided services to the community rather than retail shopping spaces. Inside the mall was the Black Creek Community Health Centre where I saw signage offering free blood pressure testing and beverages and snacks. In addition, the mall contains an academic space for students from Seneca College. The liveliest location in the mall was a small food court, where families and individuals had their lunchtime meals under a solarium with tropical plants placed throughout the space.

Outside, the unmaintained field below the Hydro One corridor had discarded garbage throughout its landscape and clear patterns of worn-out pathways paved by pedestrians as shortcuts to access the existing trail, rather than using sidewalks bordering the field and roads along York Gate Boulevard and Jane Street. My site visit near the end of Spring showed the field abundant with tall weeds that prevented my ability to walk onto the field, showing how this public space is not easily accessible in good weather, severely underestimating the capacity of the field as a public green space that can support food production and recreational activities near the heart of the neighbourhood.

Existing Site Context 1:1000

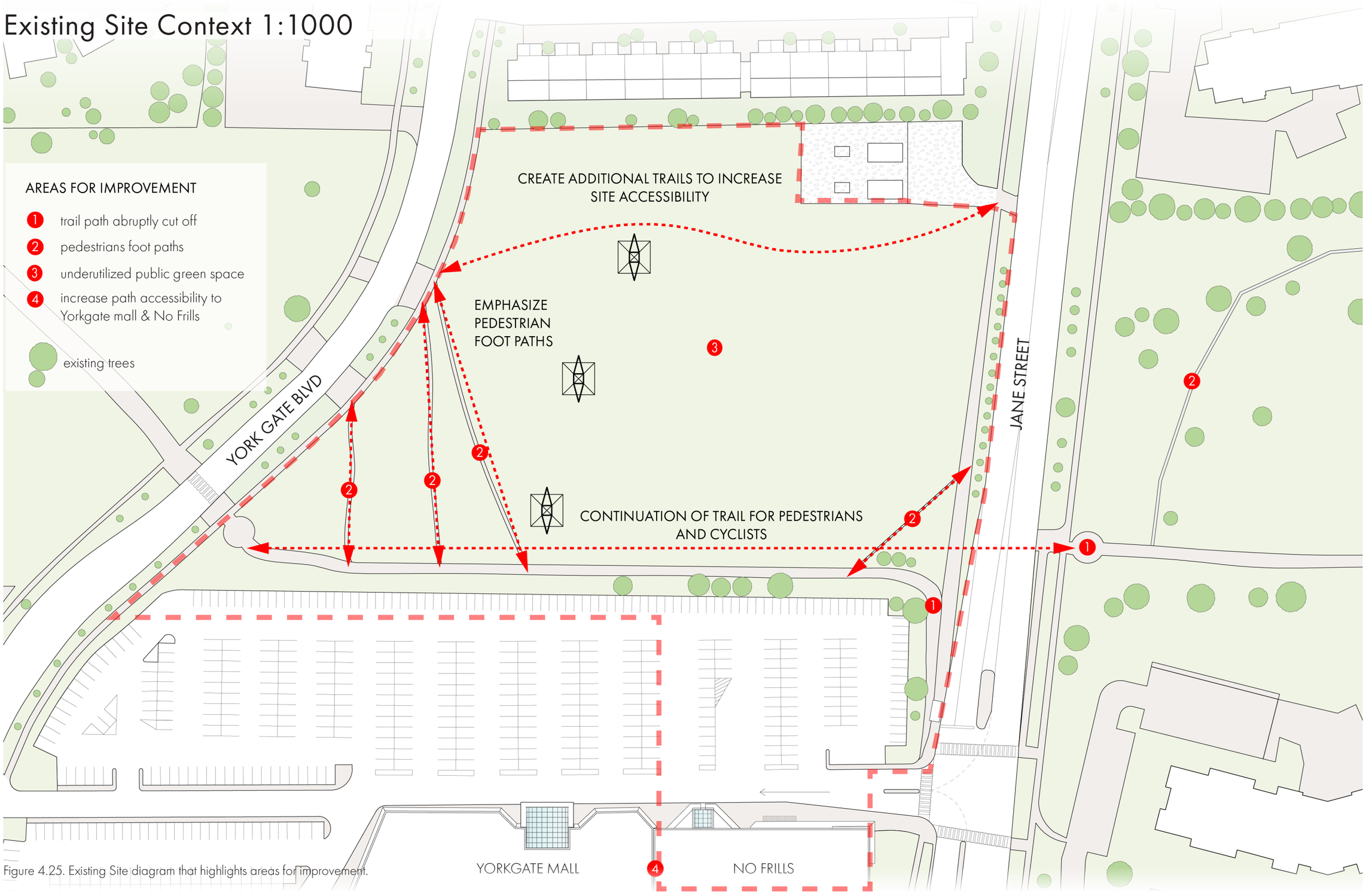


Figure 4.25. Existing Site diagram that highlights areas for improvement.

4.3 Design Proposal Part 2

Community Farm Park

The Community Farm Park is a diverse landscape that features various activities and spaces surrounded by food production. The design was heavily influenced by the fourth spatial design principle, “enhance spatial diversity and synergies”, to ensure the foodscape benefits both social and ecological systems.[44] The foodscape includes pollinator gardens, an apiary for honey production, a fruit tree orchard, organic composting, and the production of various crops using sustainable agricultural methods, with numerous accessible trails, pathways, and planter beds, in addition to educational programs, community gathering spaces and recreational space for children. The combination of daily activities incorporated into this foodscape hopes to increase awareness and mindfulness around food to influence sustainable habits.

44 Johannes S.C. Wiskerke and Saline Verhoeven, *Flourishing Foodscapes : Designing City-Region Food Systems* (Amsterdam: Valiz, 2018), 36.

Community Farm Park

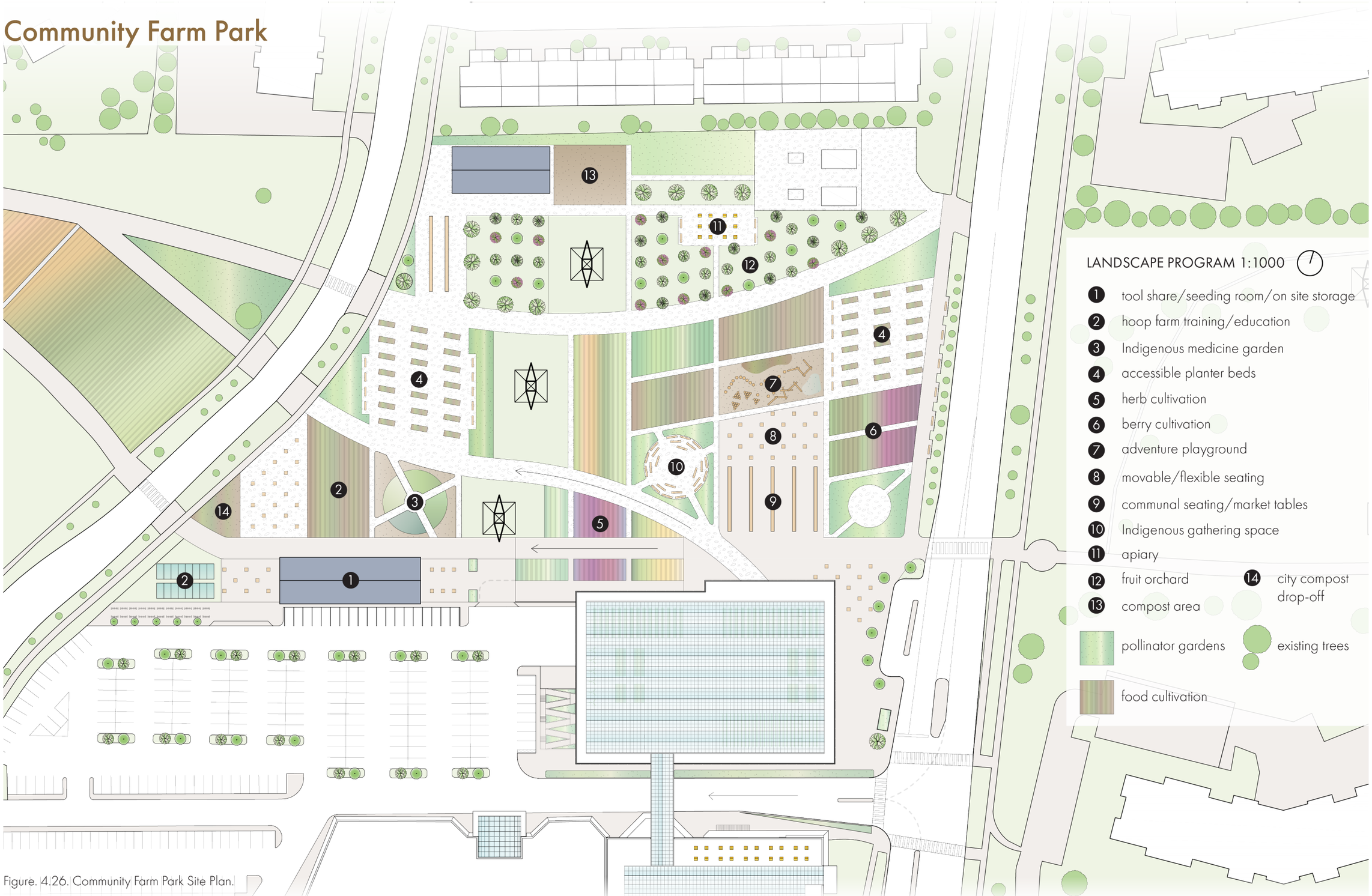


Figure. 4.26. Community Farm Park Site Plan.

Tool Share & Educational Programs

The Community Farm Park aims to extend opportunities for farm training initiatives, where new trainees can learn various methods of food production. This includes the use of hoop farms to extend the growing season of tropical produce, as Anan Lololi did when experimenting with growing culturally appropriate foods.[45] In addition, having space where Indigenous Knowledge Keepers can share their Nation's teachings around regenerative agriculture through intercropping. To support new trainees and community members interested in growing food, a tool-share space is

45 Gerda R. Wekerle and Michael Classens, "Challenging Property Relations and Access to Land for Urban Food Production," in *Urban Gardening as Politics*, ed. Chiara Tornaghi and Chiara Certoma, Routledge Equity, Justice and the Sustainable City (New York: Routledge, 2019), 98.

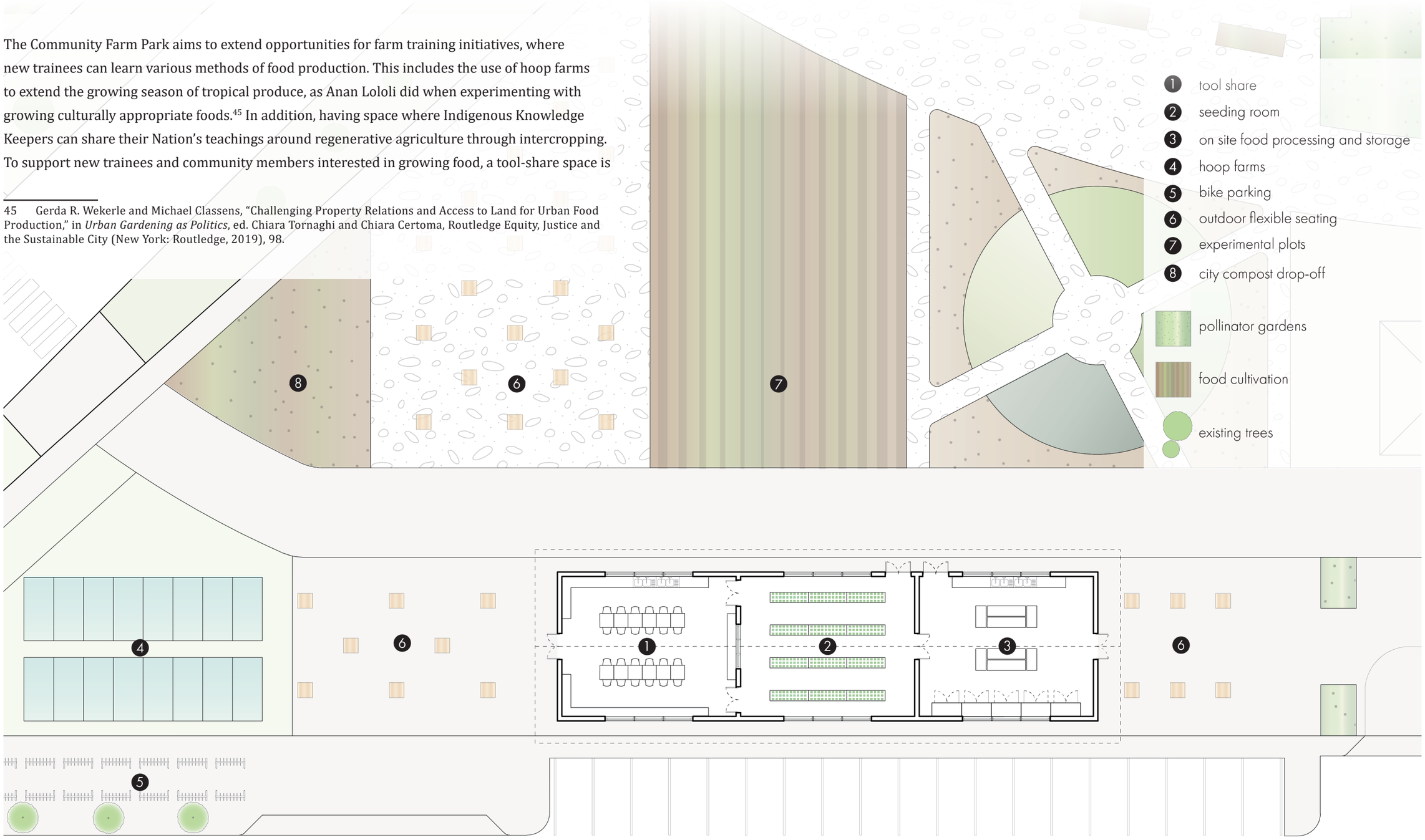


Figure 4.27. Floor Plan of Utility Shed, Seeding Room, Food Processing and Storage space on site.

Indigenous Practices

Bordering Black Creek neighbourhood are significant Indigenous sites that convey the rich cultural landscape of the area. Since 2017, The Village at Black Creek, situated adjacent to Black Creek Community Farm, has worked towards changing its narrative, which previously focused on European settler history, by incorporating education programs, events, installations, and artwork by Indigenous peoples.[46]

In celebration and recognition of the neighbourhood's Indigenous heritage, the design dedicates space to grow the "Three sisters" (corn, beans, and squash), an Indigenous Medicine Wheel and provides a gathering space that can accommodate artwork by Indigenous artists. These three elements contribute to the spatial diversity of the landscape in several ways. Firstly, growing the "Three Sisters" is a method of regenerative agriculture by way of intercropping.[47] Each crop supports the growth of the other in a symbiotic relationship, all the while giving back to the land.[48] Introducing this method in the landscape exposes new and experienced farmers in the community to different ways of food production that are sustainable. This can lead to the exploration of intercropping other crops and plants together. The inclusion of the Indigenous Medicine Wheel is to increase education and awareness around Indigenous knowledge and wisdom, in addition to providing Indigenous community members with access to the plants and herbs grown in the wheel.

A Medicine Wheel is divided into four quadrants. Each quadrant faces one of four cardinal directions and symbolizes "cycles in the natural world," including various elements, "such as four colours, four seasons, and the four stages of life."[49] The east-facing quadrant produces tobacco, the South produces cedar, the West produces sage, and the North produces sweetgrass.[50] These plants are traditional medicinal plants for Indigenous communities and are used in healing ceremonies.[51] Based on the teachings by Knowledge Keeper Carolyn Moar, tobacco is used to forge connections to the spiritual world, cedar is used to protect the user from spirits of ill intent, sage is used to protect users from "internal struggles," and finally, sweetgrass has a "sweet aroma" that calms users "with thoughts of family and loved ones."[52]

46 "Changing the Narrative," The Village at Black Creek, April 25, 2023, https://blackcreek.ca/about/changing-the-narrative/.
47 Tracy Heim, "The Indigenous Origins of Regenerative Agriculture - National Farmers Union," October 12, 2020, https://nfu.org/2020/10/12/the-indigenous-origins-of-regenerative-agriculture/.
48 Ibid.
49 Carolyn Moar, "Directional Teachings" (Winnipeg: City of Winnipeg Indigenous Relations Divisions and Parks and Open Space Division), accessed October 30, 2024, https://legacy.winnipeg.ca/publicworks/parksOpenSpace/LivingPrairie/pdf/Directional-Teachings_e-version.pdf.
50 Ibid.
51 Ibid.
52 Ibid.

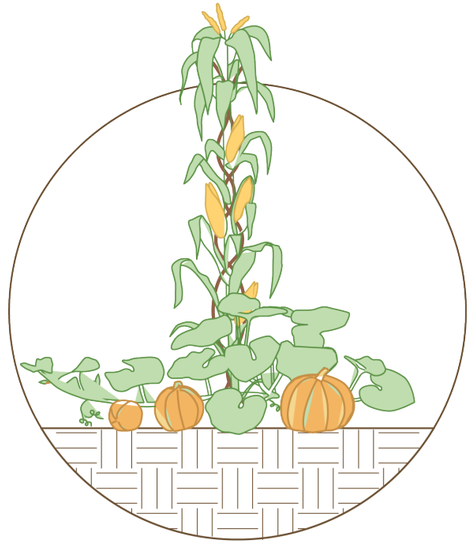


Figure 4.28. Drawing depicting the "Three Sisters."

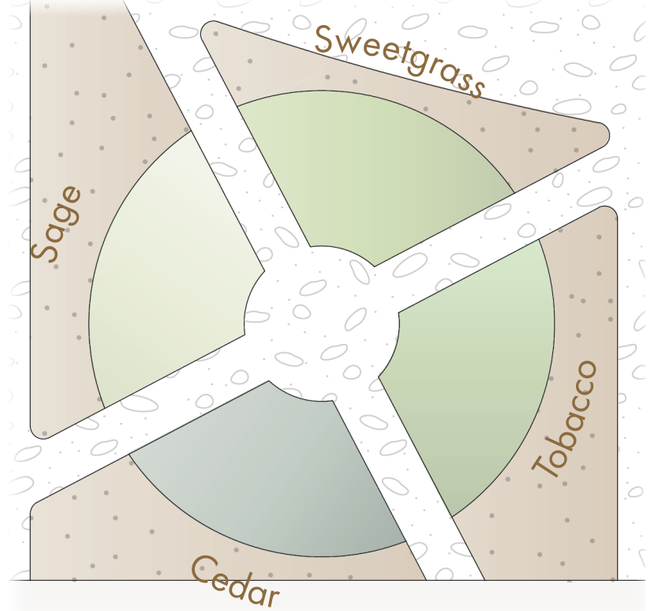


Figure 4.29. Plan of Indigenous Medicine Wheel in Community Farm Park.

Apiary & Fruit Orchard

The apiary is located in the fruit orchard near pollinator gardens to allow bees to gather sufficient amounts of nectar and pollen. Harvested honey will go towards the community.

The fruit orchard includes cherry, yellow plum, pear and apple trees.



Figure 4.30. Illustration of Apiary and Fruit Orchard.

Adventure Playground

Adventure playgrounds originated in Denmark in the 1930s by landscape architect Carl Theodor Sørensen, who originally called the concept "junk playgrounds."[53] Sørensen noticed how children were not attracted to traditional playground structures and sought recreation elsewhere. This observation led him to create junk playgrounds where kids were provided with the tools needed to "shape their play."[54] This involved the addition of materials on site, "such as bricks, timber, and other tinkering equipment," to stimulate creativity and develop cognitive skills in children.[55] The term "adventure playgrounds" was later adopted by British landscape architects as the concept began to spread throughout Europe and around the world. Sørensen's concept has created a more engaging playground for children, where they take control of their environment by interacting with natural elements and built structures.[56] Adventure playgrounds are designed to have risks involved that children are to navigate on their own as part of their adventure play and cognitive development, however, design guides make a clear distinction between risk and hazard.[57] For example, "[a] hazard is a clear danger, such as climbing a thin branch on a tree. On the other side, the risk is managing and assessing how high and where you would climb a tree."[58] While traditional playgrounds attempt to minimize risk, studies show a resurgence in managed risk play, as it builds "essential life skills" by "fostering creativity, resilience, and problem-solving."[59]

An adventure playground is one of the programs in the community food park. It provides an essential recreational space for neighbourhood children, while situated around a foodscape that allows them to observe, season by season, how food grows and where it comes from. This placement was made intentionally to promote a strong relationship between future generations and their food, where they can learn to appreciate the time and effort it takes for food to grow and eventually appear on their plates.

53 Gui Artoff, "What Is an Adventure Playground Design?," Creo - Playspace Design and Build, August 7, 2023, https://creospace.co.nz/2023/08/what-is-an-adventure-playground/.
54 Ibid.
55 Ibid.
56 Ibid.
57 Ibid.
58 Ibid.
59 Ibid.

Precedent: Presidio Tunnel Tops Natural Wood Playground, San Francisco

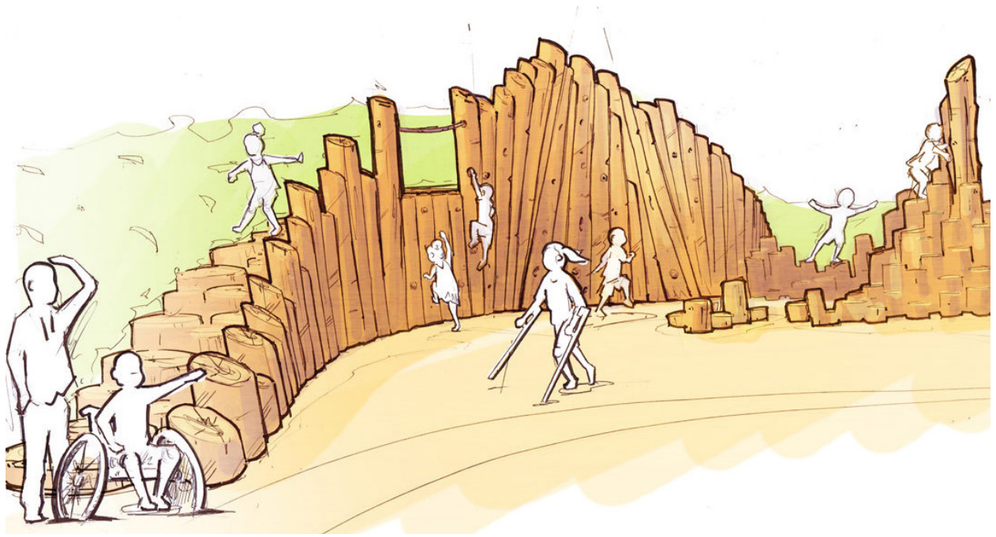


Figure 4.31. Drawing of Presidio Tunnel Tops Natural Wood Playground climbing wall by Earthscape

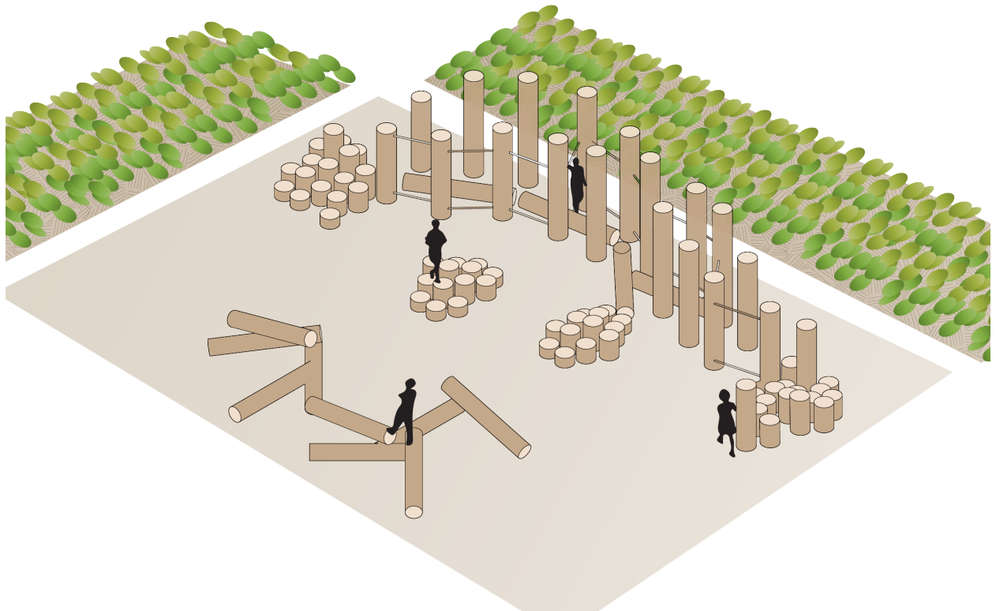


Figure 4.32. Diagram of an adventure playground in the Community Farm Park

Community Gathering Spaces & Seating

The diagrams below show the flexibility of outdoor seating and gathering spaces in the proposed Community Farm Park.

Mobile tables and seating as shown below, populate the landscape to provide ample space to rest or to interact with others in an outdoor setting. Shown to the right are communal tables to encourage space for community gatherings and celebration around food. As shown in the diagram, the tables can be transformed into a market conveying the flexibility of the space.

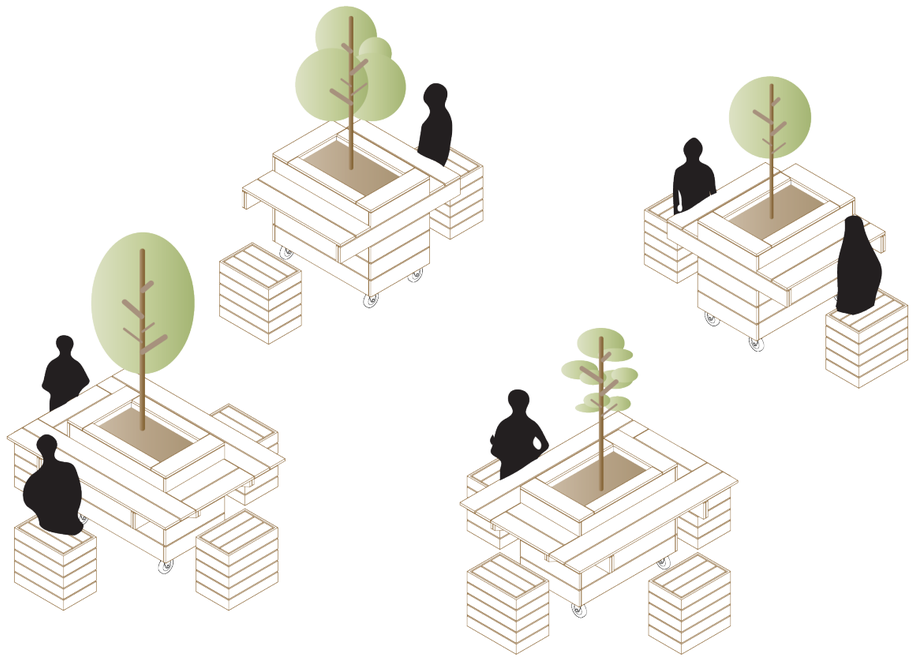


Figure 4.33. Diagram of outdoor seating.

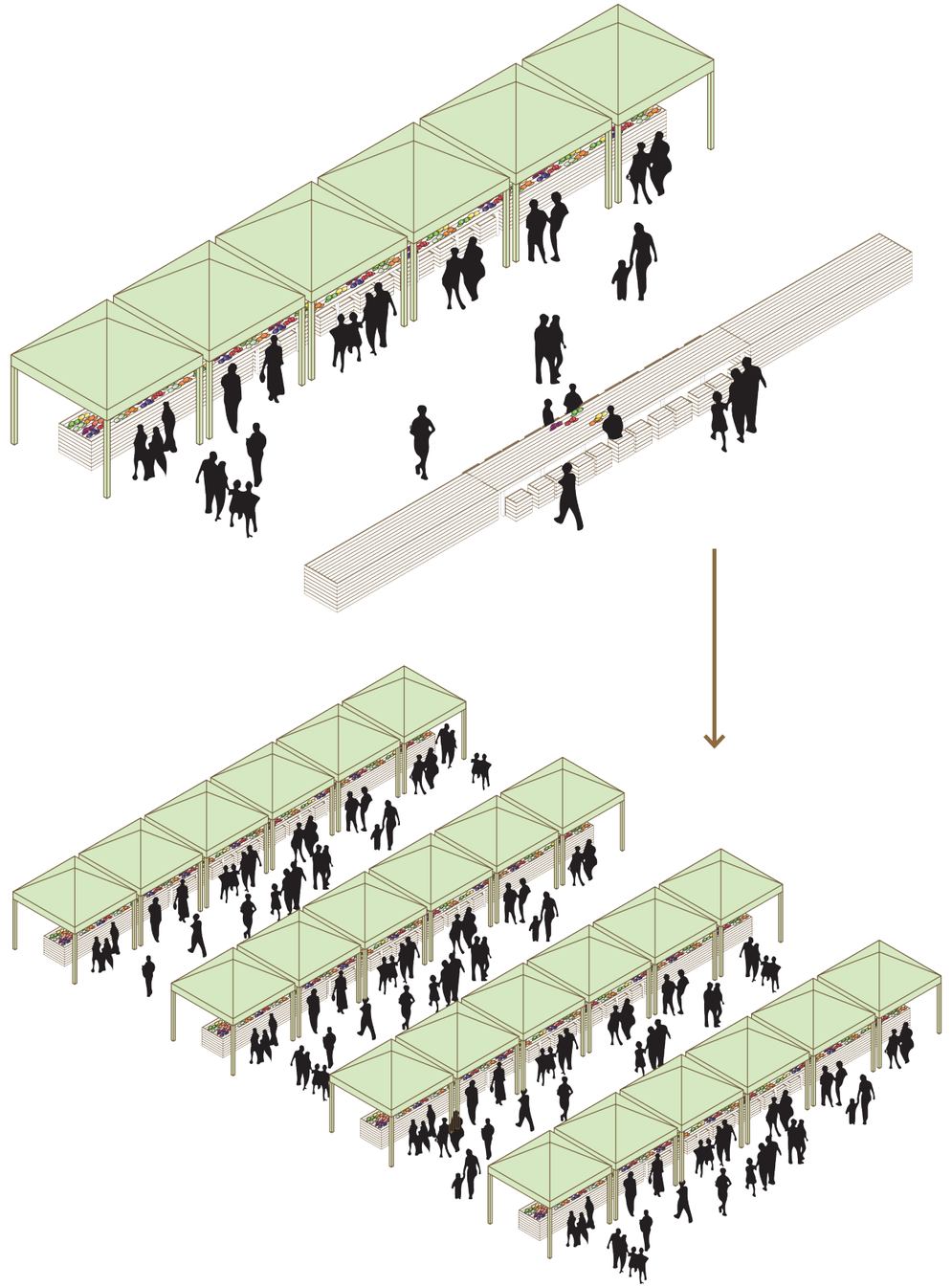


Figure 4.34. Diagrams of communal tables transforming into market stalls.

Accessible Planter Beds And Pathways

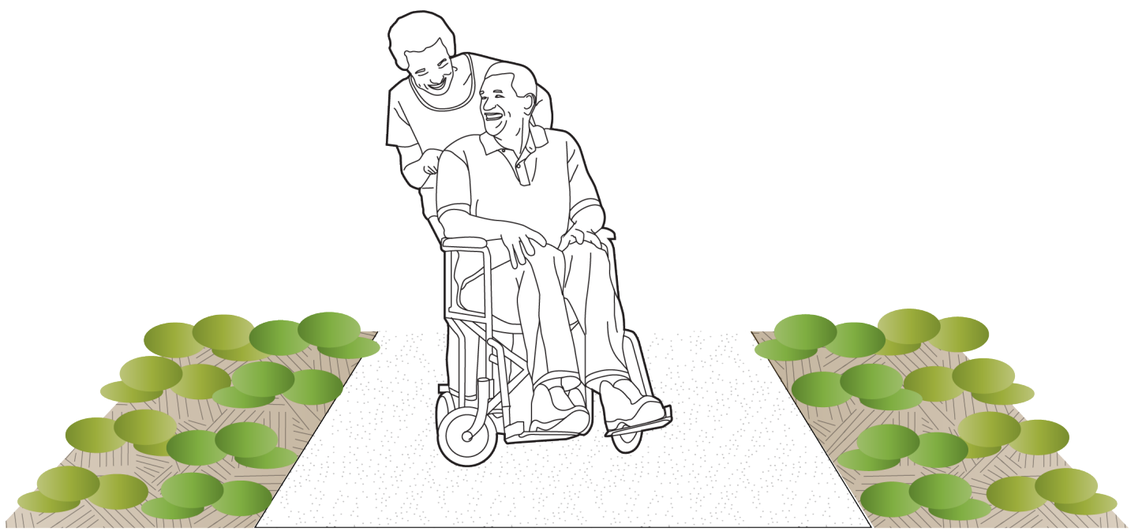


Figure 4.35. Drawing of accessible pathways

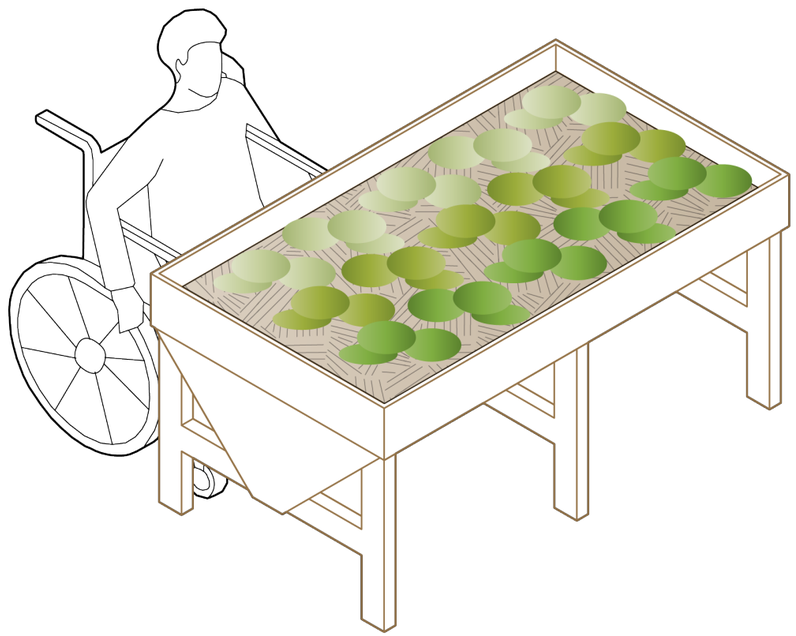


Figure 4.36. Drawing of accessible planter beds

The diagrams above show consideration towards creating accessible pathways and food gardening activities in the proposed Community Farm Park.

The diagram above shows a wide pathway made from crushed gravel to act as both an accessible surface for those with mobility needs, while reducing the use of concrete paving throughout the landscape.

The diagram on the right shows the inclusion of accessible planter beds to ensure anyone can participate in food production.

4.4 Design Proposal Part 3

Jane-Finch Community Food Centre & No Frills Greenhouse Retrofit

The design proposal for the Jane-Finch Community Food Centre (JFCFC) is inspired by the community's existing food initiatives and desire for more centralized services and community spaces at the heart of the neighbourhood.[60] The community activism in Jane-Finch embodies principles of food justice, sustainability, and collective empowerment. As such, the proposed centre serves as supportive infrastructure to bolster and help maintain existing and newly proposed foodscapes, ensuring the resiliency of local food networks. Indeed, the centre and the adjacent Community Food Park facilitate various activities and programs to support the community's desire for food sovereignty, cultural diversity, environmental stewardship, and economic opportunity.

The JFCFC enables community empowerment through the diverse activities residents can partake in to improve food security. The collective effort by individual residents and local food initiatives to provide accessible, affordable, and nutritious food to the community can be enhanced by proposed infrastructure such as a public food pantry and local food market, regularly supplied by community farming initiatives, a hydroponic greenhouse, and community donations, exemplifying mutual aid in action. In addition, the community can further its agenda of food literacy and preservation with access to a communal kitchen classroom, creating the opportunity for the exchange of knowledge, creativity, and skill amongst neighbours. Local entrepreneurs hoping to start their mom-and-pop restaurants have access to subsidized kitchen units to thrive in a supportive environment while providing nutritious meals at low cost to the community and expanding the local food economy.

60 City of Toronto, "Jane Finch Initiative: Public Realm & Built From Directions" (Toronto, ON: City of Toronto, June 2022), https://www.toronto.ca/wp-content/uploads/2022/08/94e2-CityPlanning-Jane-Finch-Initiative-Public-Realm-Built-Form-Directions-June-2022.pdf.

Residents can observe and train to work in a hydroponic greenhouse that provides the community with culturally significant foods that cannot grow in the local climate, while creating employment opportunities and contributing to the local economy. The interaction residents have with such a process, whether observational or interactive, builds awareness around sustainable food systems, inviting residents to reevaluate their relationship with food and the environment, developing more mindful habits. In addition, it allows for transparency between residents and their food, building the trust and awareness that have long since been lost by the conventional food system, and highlighting the importance of local, resilient food networks.

Beyond food, the JFCFC enables creative and cultural expression. Residents can explore and celebrate their cultural diversity through food and art markets, public gatherings, and events that can be held in the centre's flexible program space. Additional services residents can access are a drop-off daycare and a maker's lab. Single-parent households that hope to partake in activities or access services in the vicinity can use the daycare program to run errands briefly. The daycare program emphasizes the centre's commitment to holistic care in the community. The maker's lab, paired with a material reuse program, serves as a hub for innovation — especially for youth — who will have access to space and resources for various creative activities that can help them pursue passion projects. This program fosters a sense of agency and environmental responsibility among residents.

The JFCFC back-of-house programs demonstrate how the centre is a model of circular sustainability. The centre's processing, storage, and distribution programs facilitate the redistribution of surplus food from nearby grocery stores and gardens across the neighbourhood, reducing waste and extending the reach of its impact. The waste management, water conservation and treatment systems underscore the centre's dedication to ecological stewardship. Finally, the reception area of the centre allows interested volunteers or organizations to meet with the centre's team to discuss involvement and partnerships with the Jane-Finch Community Food Centre, stimulating discourse and collaboration around a more ethical food system.

The Jane-Finch Community Food Centre serves as a platform for activism through collective action. It enables individuals and families to come together, share resources, celebrate culture, and nurture their environment. By prioritizing education, sustainability, and accessibility, the centre redefines what it means to build community resilience—where architecture becomes a facilitator of change and hope in a more equitable food system.

Governance Structure

The governance structure of the Jane-Finch Community Food Centre is inspired by the model developed by *Detroit People's Food Co-op*. The grocery cooperative is run by nine members, three of which were selected by The Detroit Black Community Food Security Network, while the remaining six are members elected by the community to be a part of the cooperative's Board of Directors.[61]

Therefore, I propose the Jane-Finch Community Food Centre (JFCFC) will have three members from either non-profit organizations or municipal divisions familiar with the locality, that can provide expertise and knowledge in running the centre. Having originated in Jane and Finch, a representative from the African Food Basket (AFB) would ensure there is an experienced member who is aware of the cultural food needs of the community.[62] In addition, AFB, FoodShare, a non-profit food organization, and the city of Toronto's Public Health division are all partners of Black Creek Community Farm (BCCF).[63] FoodShare also participated in the revitalization project of the San Romanoway Towers to provide residents with an allotment garden.[64] The inclusion of a municipal representative from the Public Health division can increase awareness and the need for food infrastructure in vulnerable neighbourhoods throughout the city. The existing relationship these three groups have with community food initiatives makes them beneficial additions to the JFCFC. Community members and leaders in the food movement will then make up the majority of the governing board of directors through a community election to ensure voices of the community are being heard.

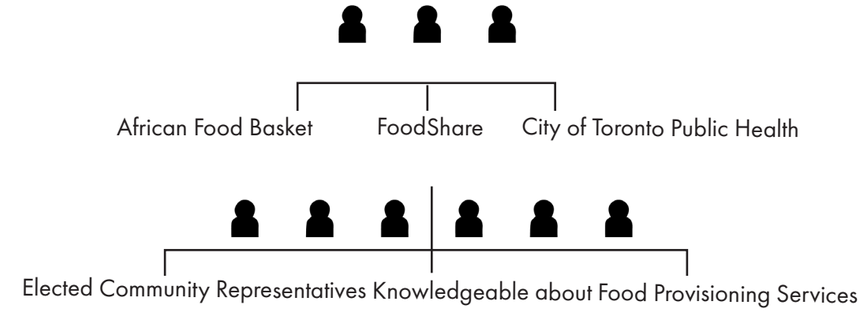


Figure 4.37. Community Food Center Governance Hierarchy diagram.

61 "About – Detroit People's Food Co-Op," Detroit People's Food Co-op, accessed October 13, 2024, https://detroitpeoplesfoodcoop.com/about-us/.
62 Wekerle and Classens, "Challenging Property Relations and Access to Land for Urban Food Production", 98.
63 "Our Supporters," Black Creek Community Farm, accessed October 25, 2024, https://www.blackcreekfarm.ca/supporters/.
64 "Projects: San Romanoway Towers Revival," Toronto and Region Conservation Authority (TRCA), accessed October 13, 2024, https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/projects-san-romanoway-towers-revival/.

Isometric View of Proposed Design

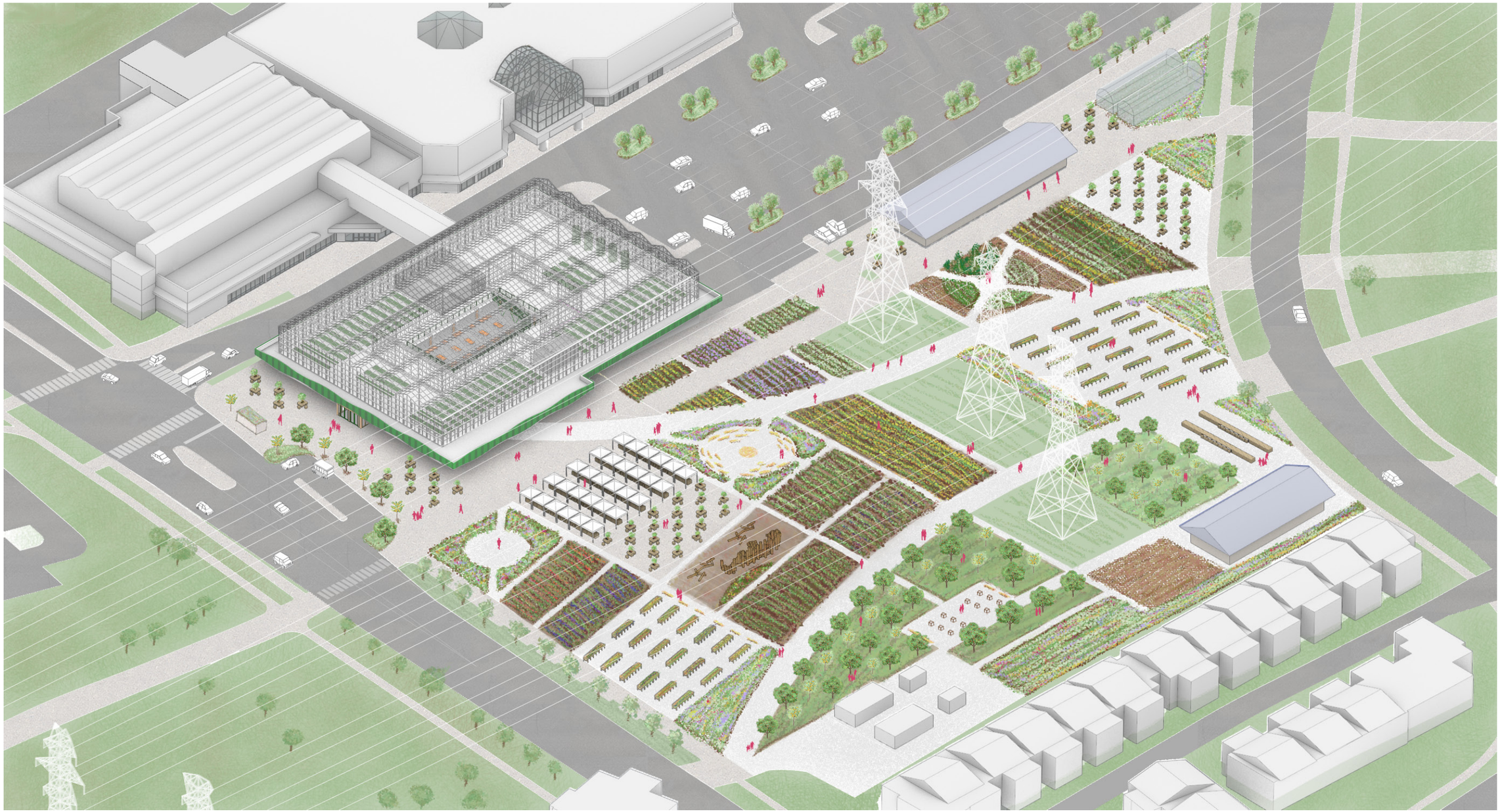


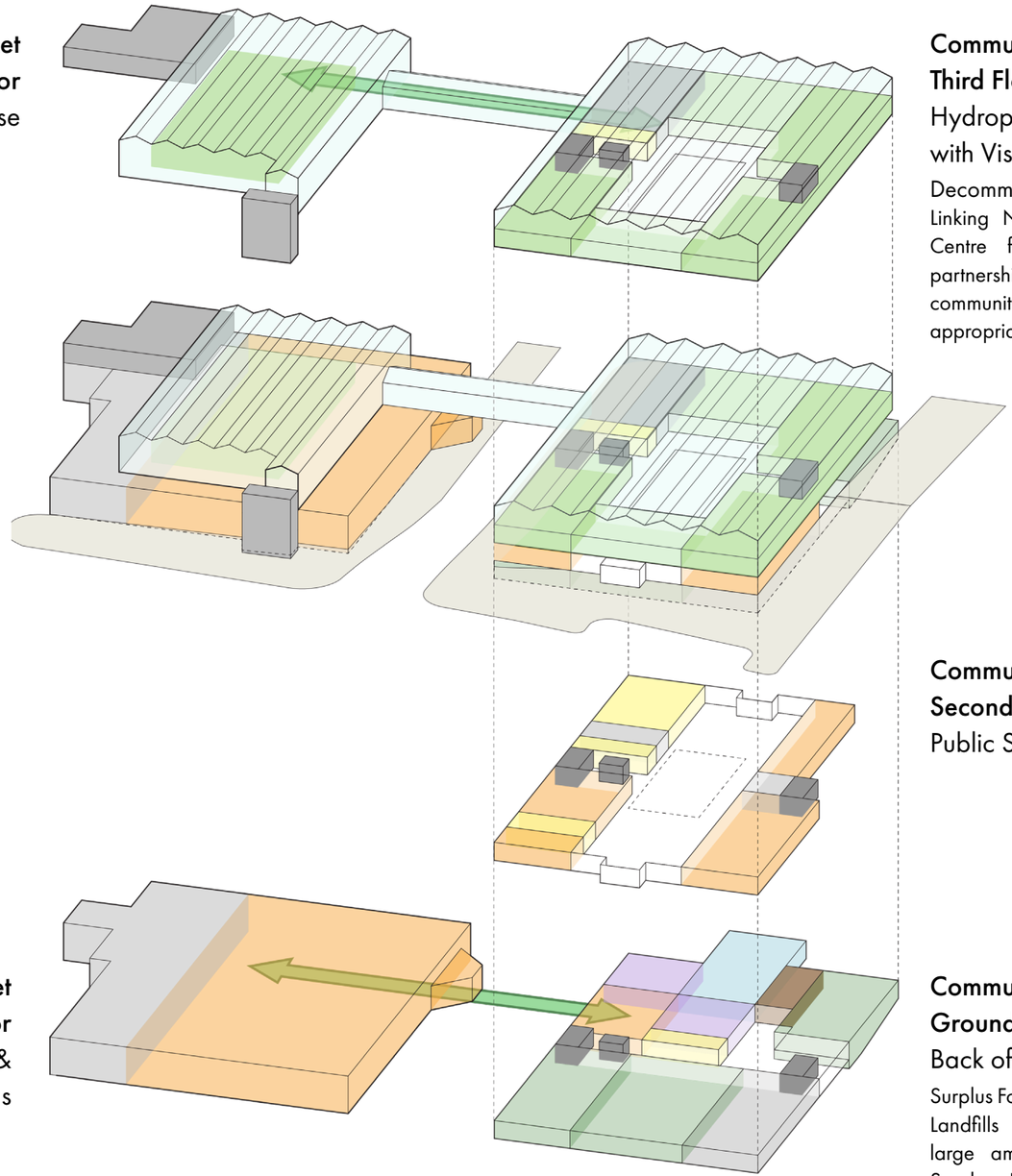
Figure 4.38. Isometric view of Community Food Center with surrounding site context.

Massing Diagram

Key

- Hydroponic Cultivation
- Building Service and Storage Space
- Public Food Programs & Services
- Supplementary Public Programs & Services
- Staff Workspace & Break Room
- Back of house Food Processing/Storage/Distribution
- Compost Room
- Water Conservation and Treatment
- Building Core

No Frills Supermarket
Second Floor
Hydroponic Greenhouse



Community Food Centre
Third Floor
Hydroponic Greenhouse with Visitor Access

Decommodification of No Frills: Linking No Frills with the Food Centre fosters a collaborative partnership aimed at offering the community affordable, culturally appropriate food options.

Community Food Centre
Second Floor
Public Services & Programs

No Frills Supermarket
Ground Floor
Market Space &
Back of House Programs

Community Food Centre
Ground Floor
Back of House Programs

Surplus Food Waste Diversion from Landfills - Food retailers waste large amounts of edible food. Surplus Food can be diverted to the Community Food Centre where it can be processed and redistributed.

Figure 4.39. Massing Diagram of the Proposed Community Food Centre & No Frills Greenhouse Retrofit.

Urban-Agro Food Spectrum Diagram

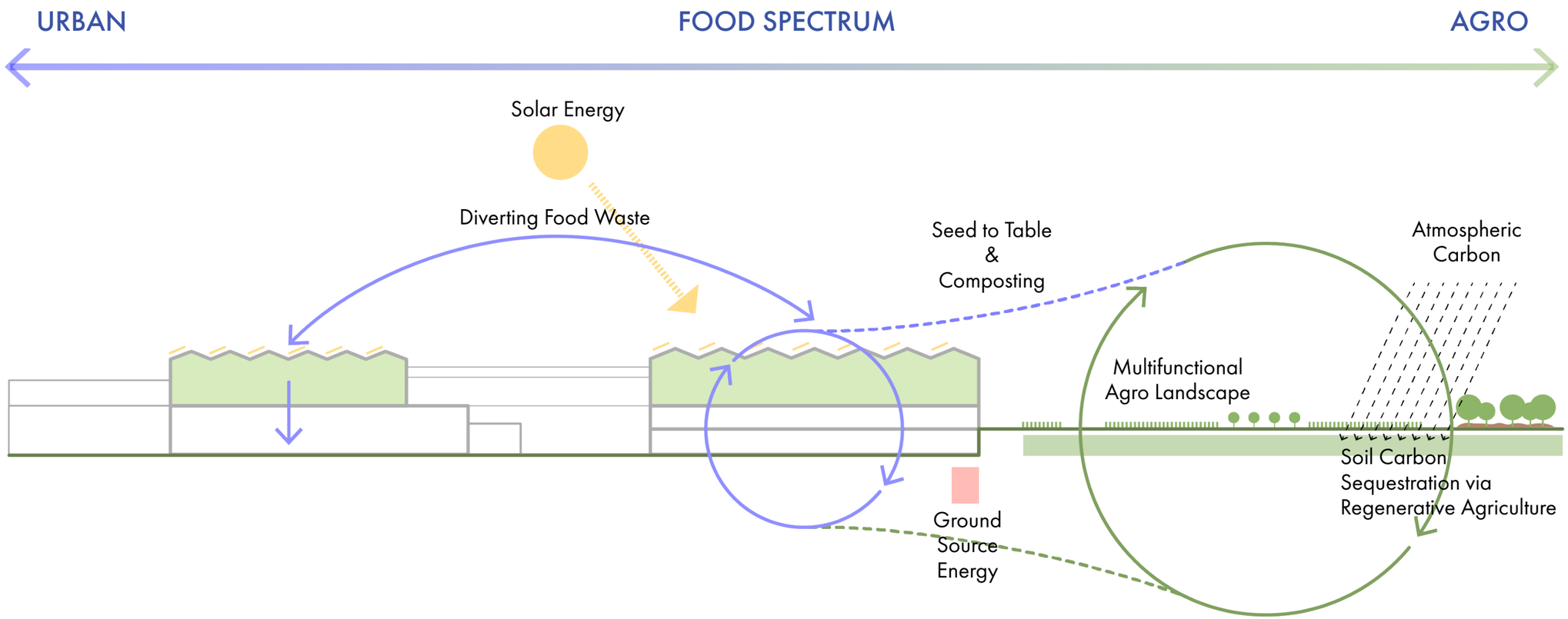
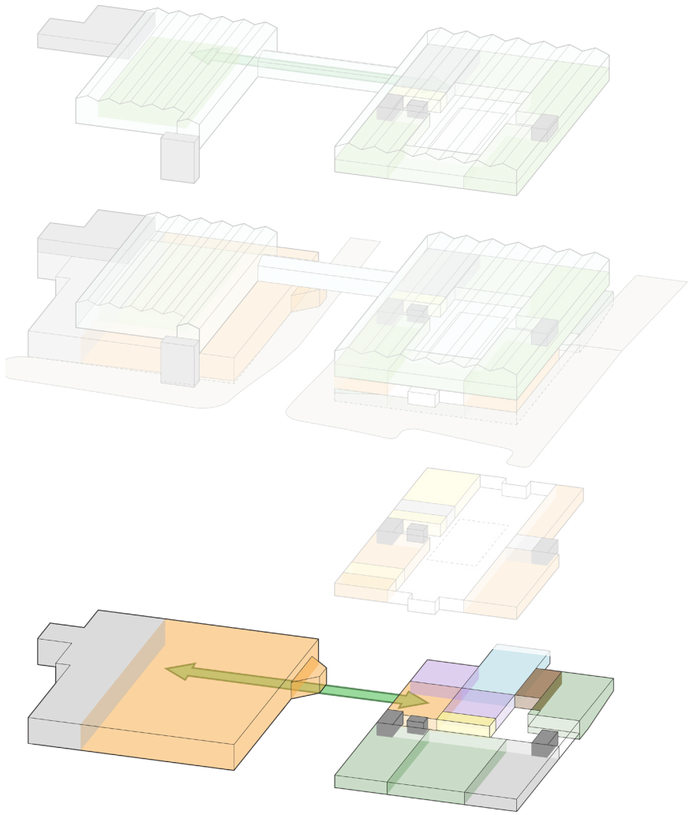


Figure 4.40. Urban-Agro Food diagram of Design Proposal.

Ground Floor Plan
with Surrounding Context



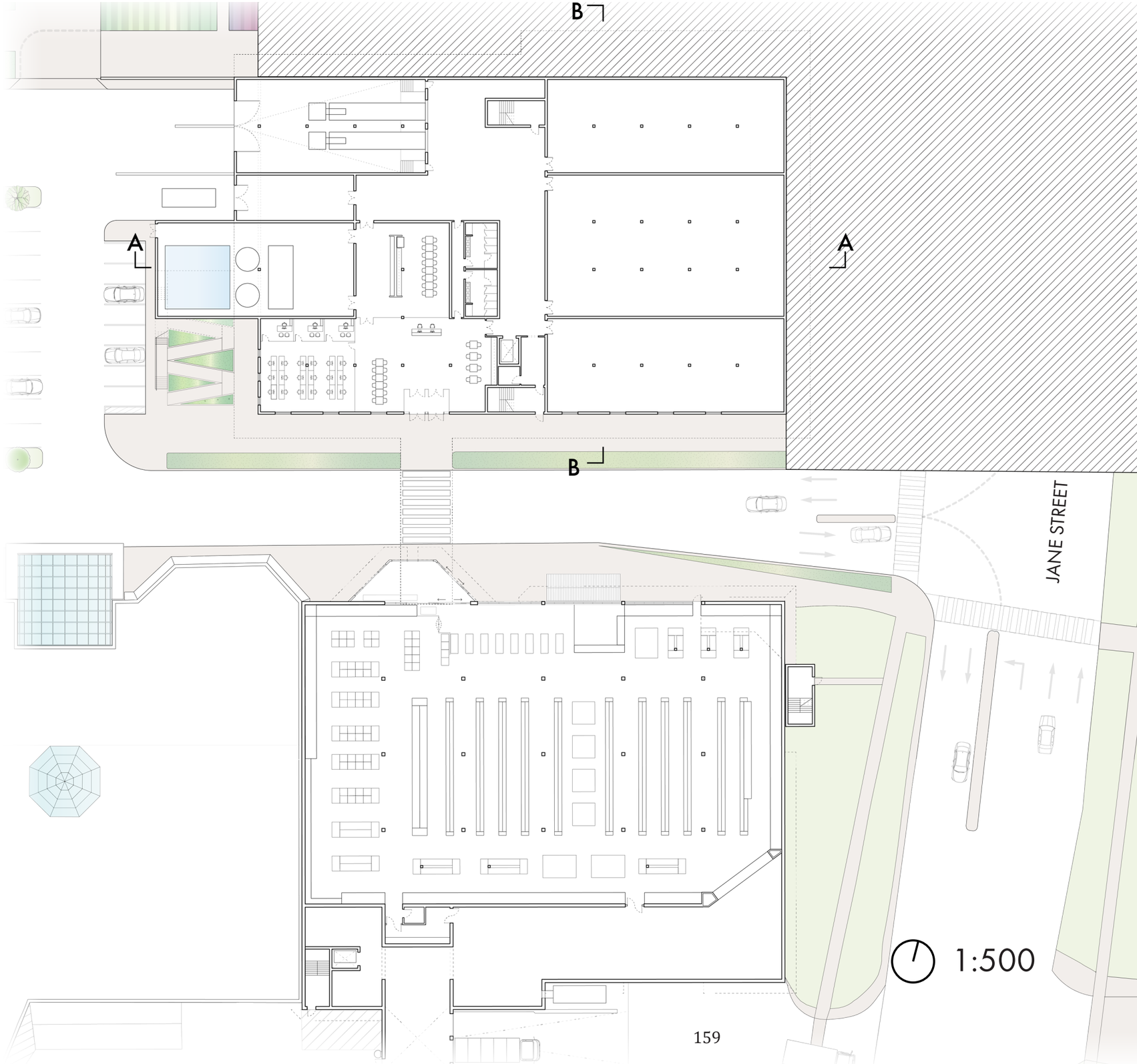


Figure 4.41. Ground floor context plan with accompanying massing diagram.

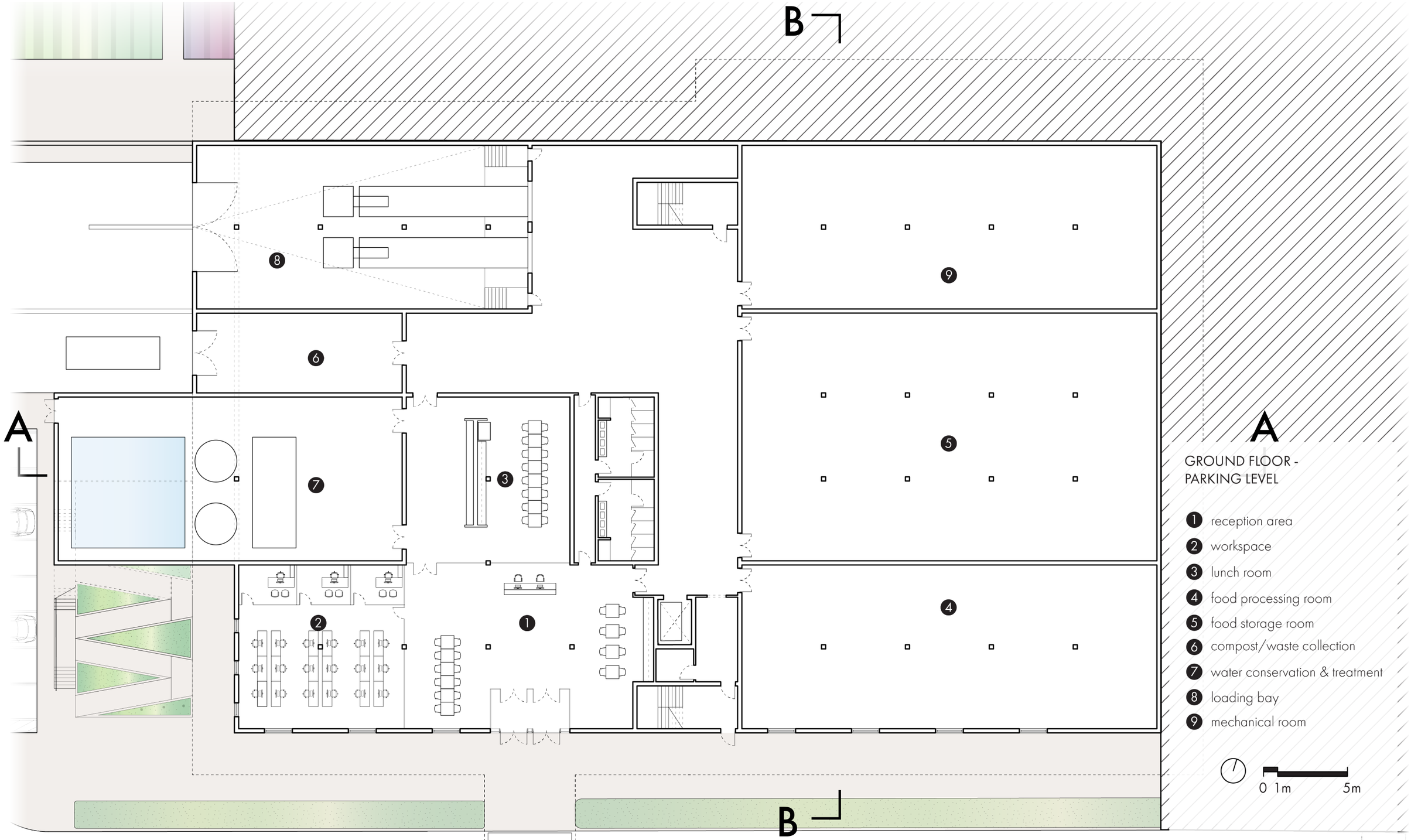
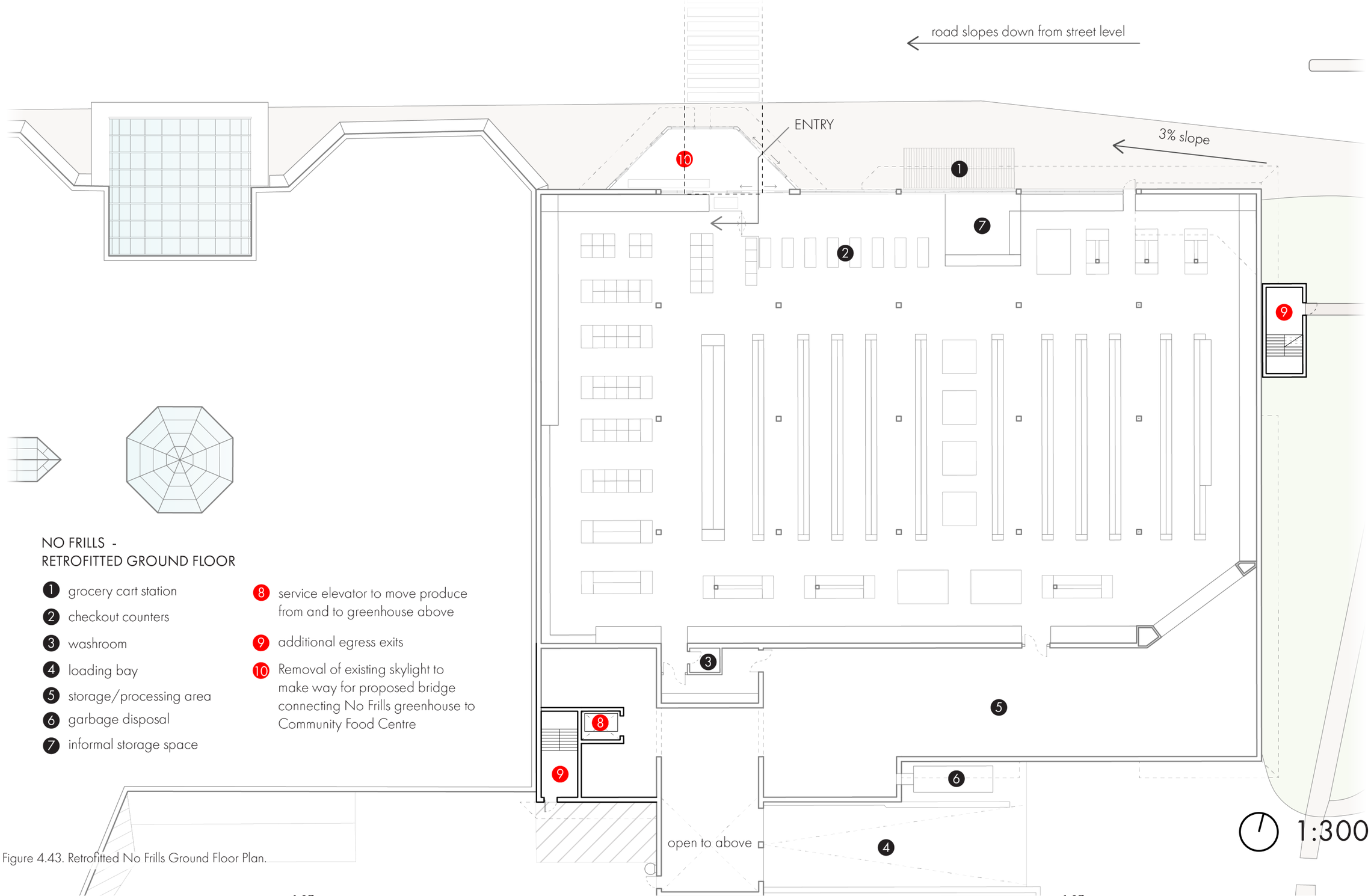


Figure 4.42. Community Food Centre Ground Floor Plan at 1:250.

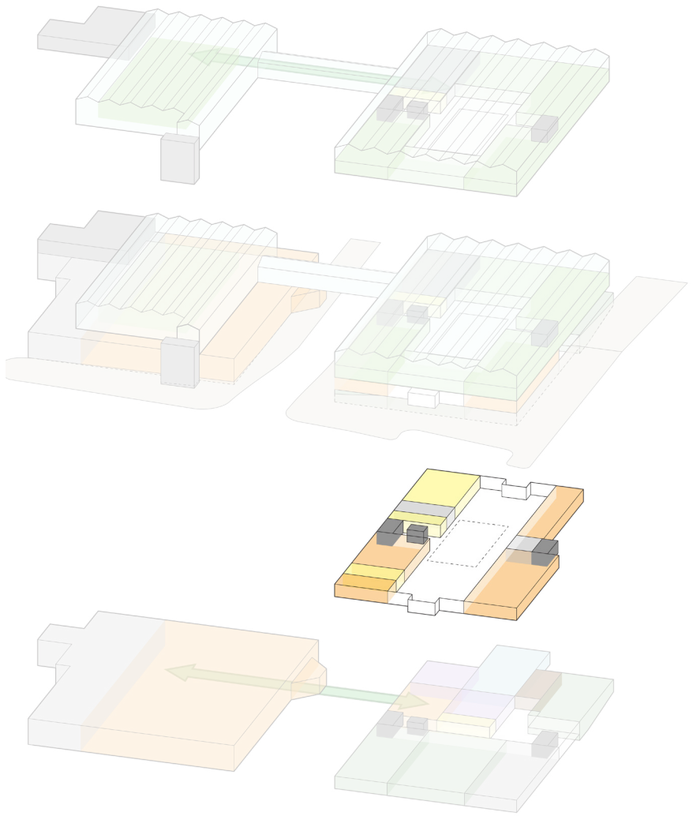


NO FRILLS -
RETROFITTED GROUND FLOOR

1. grocery cart station
2. checkout counters
3. washroom
4. loading bay
5. storage/processing area
6. garbage disposal
7. informal storage space
8. service elevator to move produce from and to greenhouse above
9. additional egress exits
10. Removal of existing skylight to make way for proposed bridge connecting No Frills greenhouse to Community Food Centre

Figure 4.43. Retrofitted No Frills Ground Floor Plan.

Second Floor Plan
with Surrounding Context



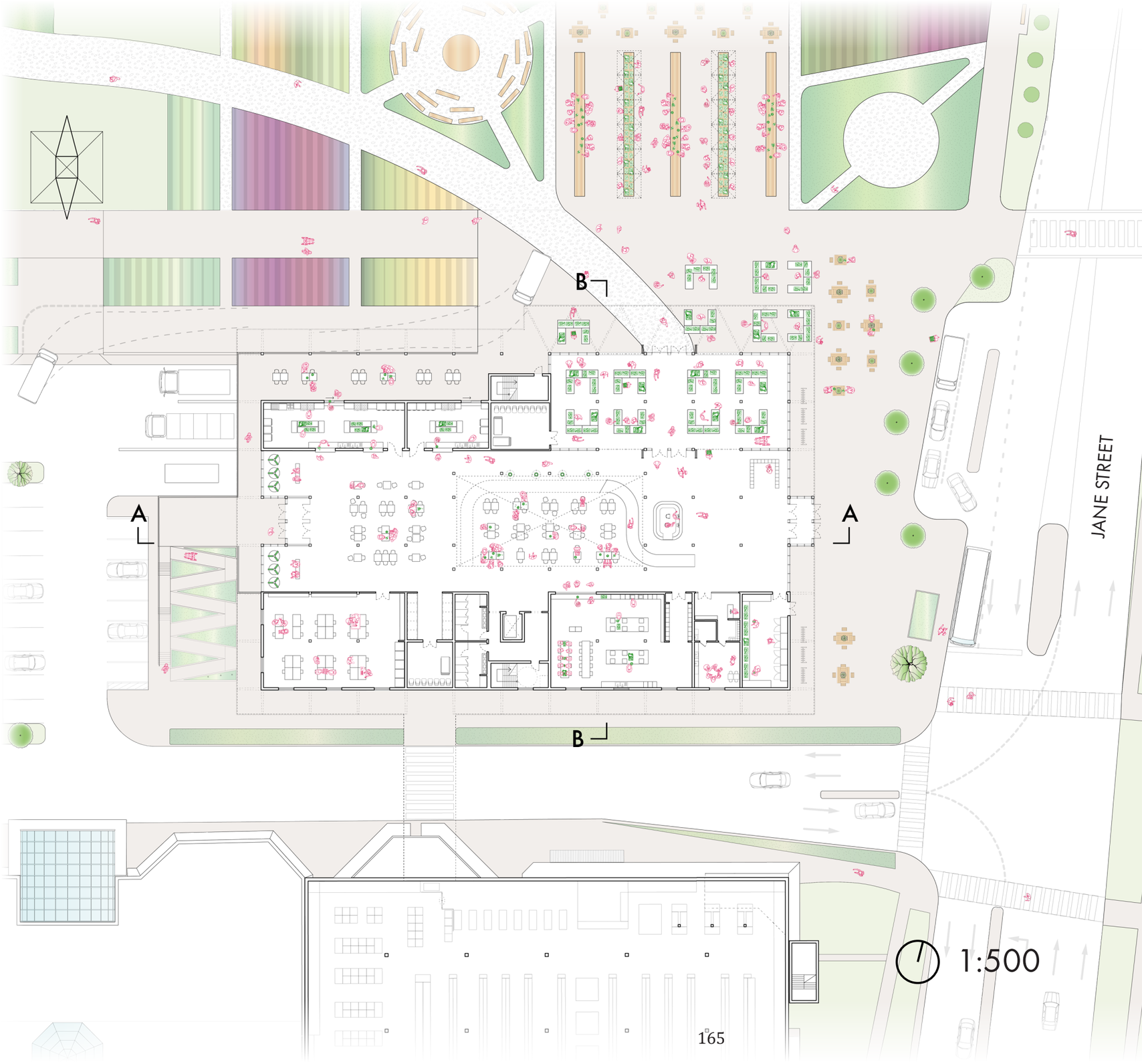
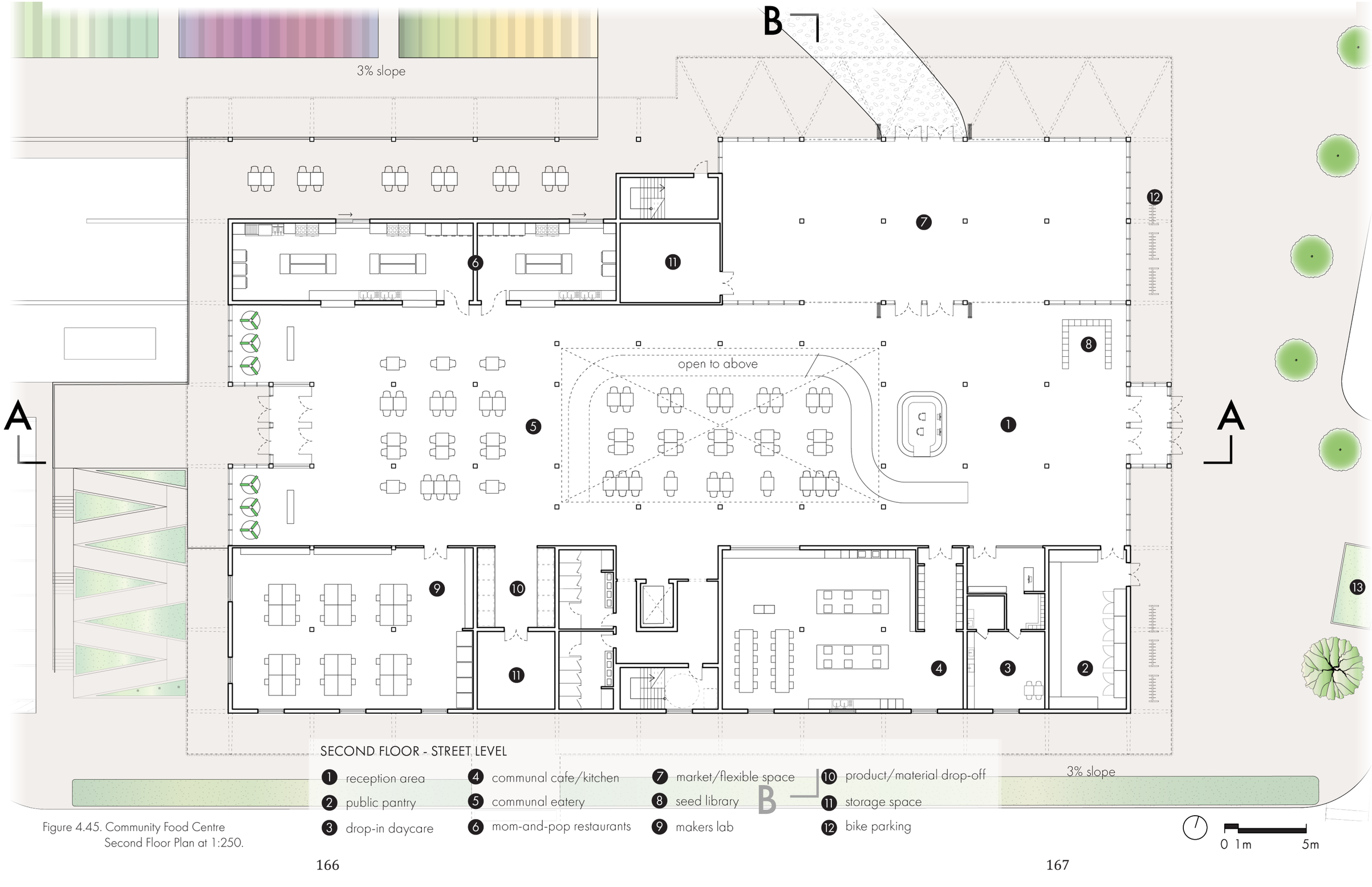


Figure 4.44. Second floor context plan with accompanying massing diagram.



SECOND FLOOR - STREET LEVEL

1. reception area
2. public pantry
3. drop-in daycare
4. communal cafe/kitchen
5. communal eatery
6. mom-and-pop restaurants
7. market/flexible space
8. seed library
9. makers lab
10. product/material drop-off
11. storage space
12. bike parking

Figure 4.45. Community Food Centre
Second Floor Plan at 1:250.

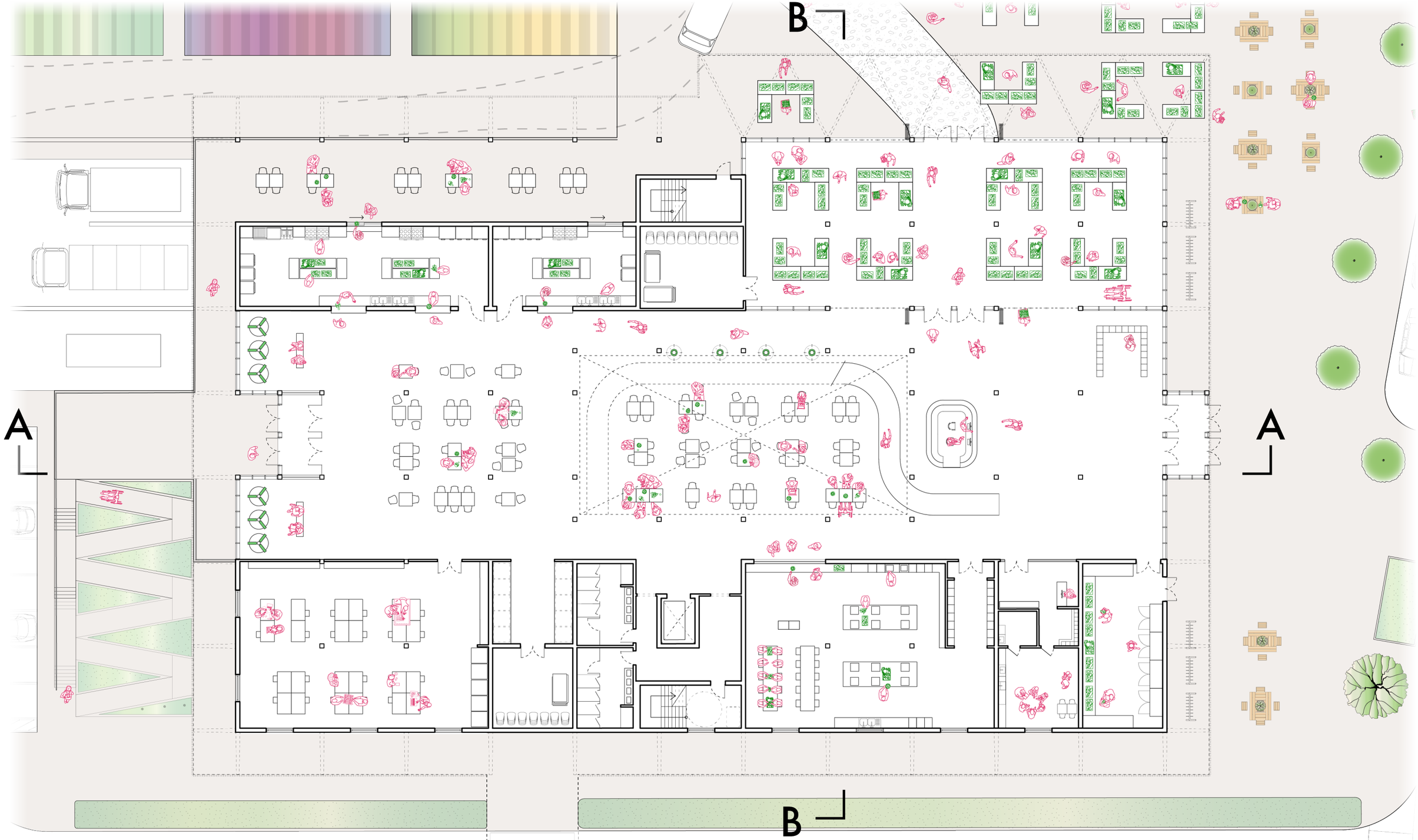


Figure 4.46. Community Food Centre Populated Second Floor Plan at 1:250.

Flexible Space Diagram: Market Program

1. Storage Space
2. Market Space
3. bi-folding doors to open up the space and increase pedestrian circulation

Pedestrian circulation

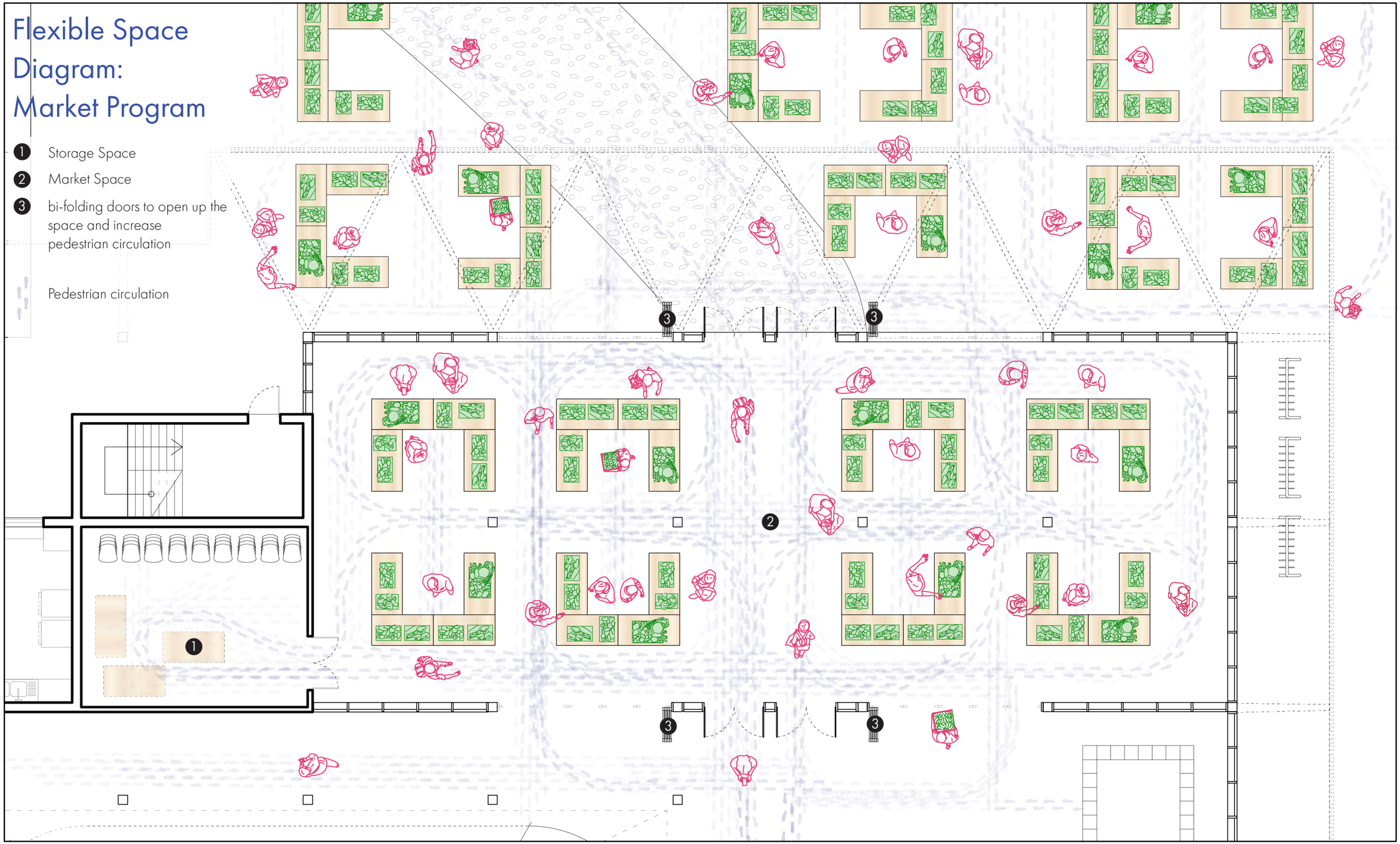


Figure 4.47. Diagram of flexible program space during a farmer's market.

Flexible Space Diagram: Event/Gathering Space

1. Storage Space
2. Event Space/ Additional gathering area

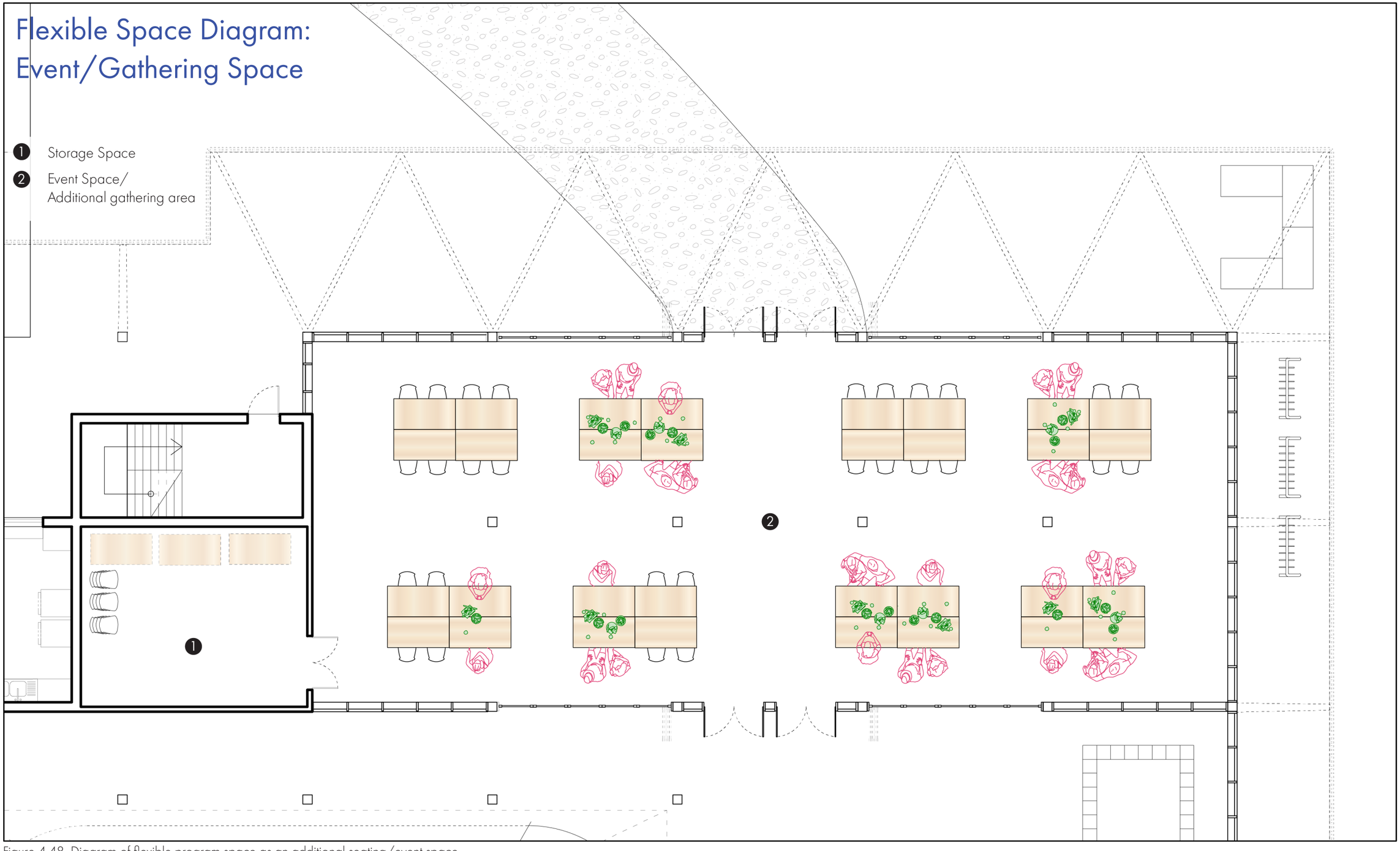


Figure 4.48. Diagram of flexible program space as an additional seating/event space.



Figure 4.49. Render of the communal eatery looking up towards the greenhouse.

STREET LEVEL SITE PLAN 1:500

1. bus stop
2. drop-off/pick-up/unloading area
3. bike parking
4. No Frills Supermarket
5. accessible back entrance
6. outdoor flexible seating
7. outdoor market space
8. vehicular access to market space

street level entry points

pedestrian circulation

pollinator gardens

food cultivation

existing trees

road slopes down from street level

JANE STREET

YORKGATE MALL

Figure 4.50. Second Floor plan with Community Farm Park pedestrian circulation.

Third Floor Plan
with Surrounding Context

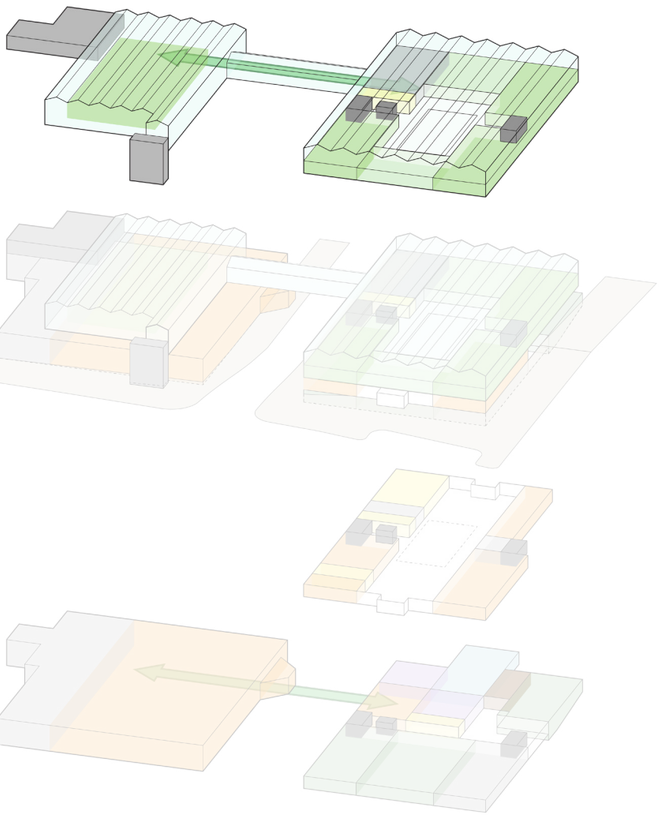


Figure 4.51. Third floor context plan with accompanying massing diagram.

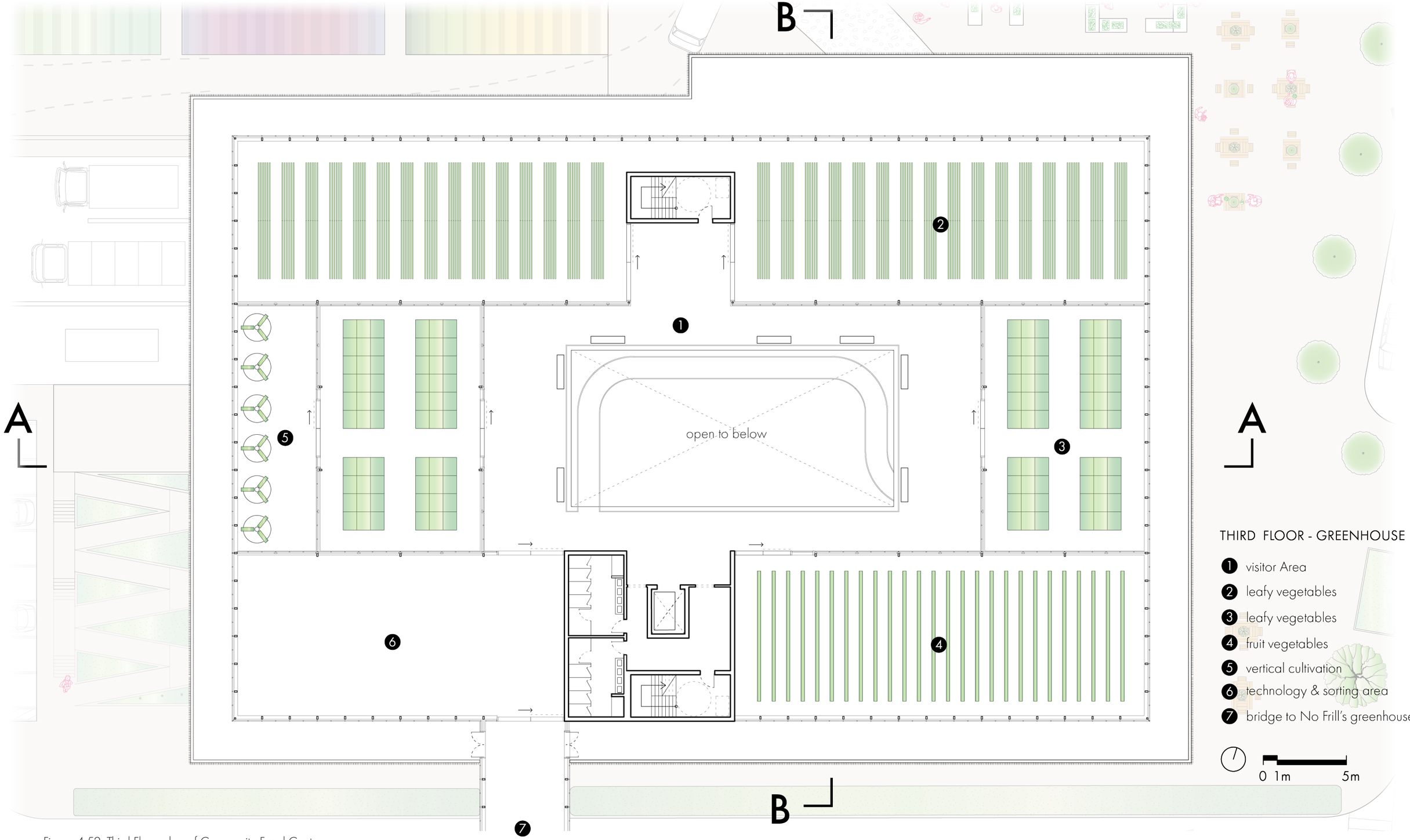
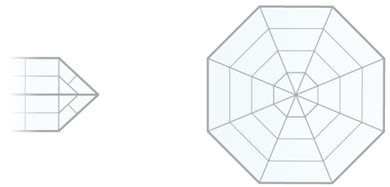


Figure 4.52. Third Floor plan of Community Food Centre.

Third Floor Plan
No Frills Supermarket Greenhouse

Retrofitting the No Frills rooftop into a greenhouse is part of the overall proposal of alternative food networks in the neighbourhood that aims to redefine the role of commercial food outlets. Supermarkets embody many of the issues with the conventional food system such as chemical-intensive food production, the excessive waste of surplus food, use of fossil fuels to import food from abroad, ultimately leading to inflated food prices. Adding a greenhouse over No Frills demonstrates the potential for commercial food outlets to seek more sustainable methods of food production, while reducing food miles and prices. This proposed typology aims to decommodify commercial food outlets to prioritize social and environmental health. In addition, this proposal bridges the No Frills greenhouse to the Community Food Center's greenhouse to maximize community collaboration and divert food waste, sending surplus food to the center for processing and redistribution through the proposed neighbourhood food outlets.



NO FRILLS - SECOND FLOOR GREENHOUSE ADDITION

1. leafy vegetables
2. fruit vegetables
3. apiary
4. solar panels
5. washrrooms
6. egress stairs
7. elevator
8. rooftop access for maintenance and movement of food between greenhouse and supermarket below

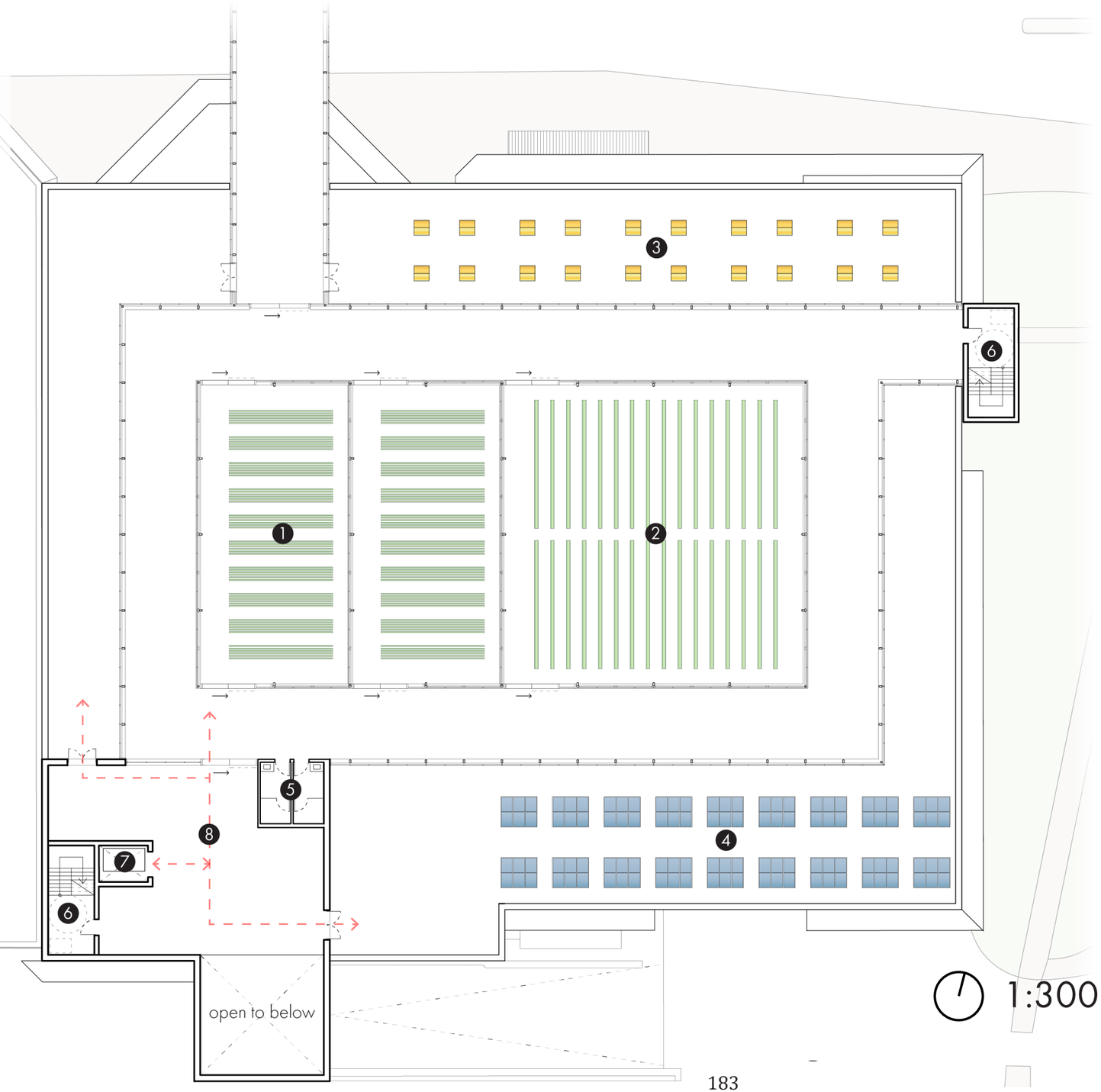


Figure 4.53. No Frills Second Floor Greenhouse.

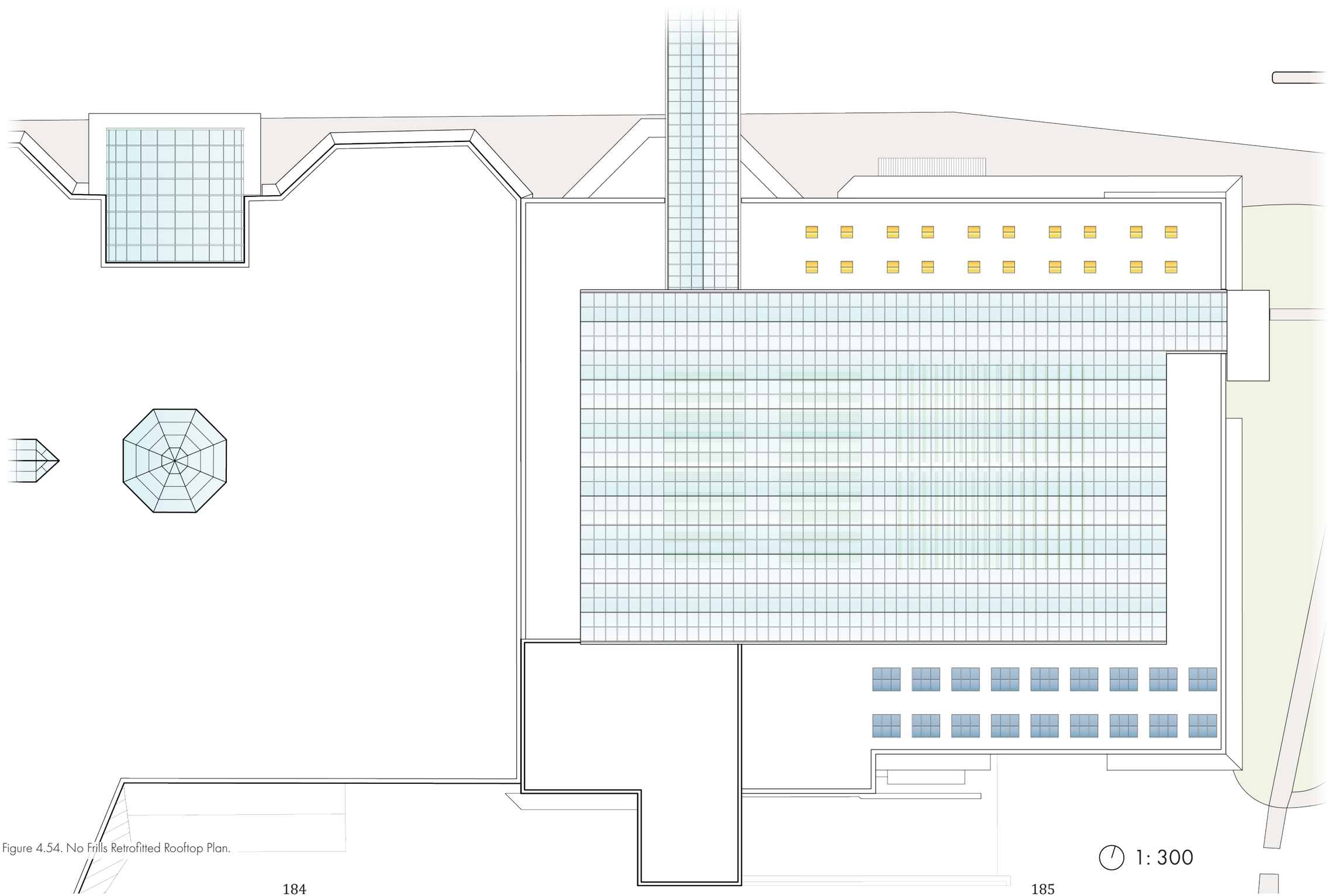
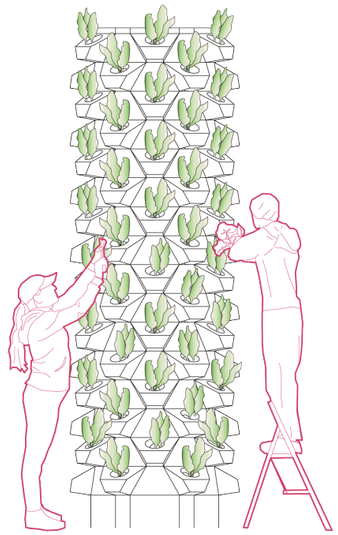
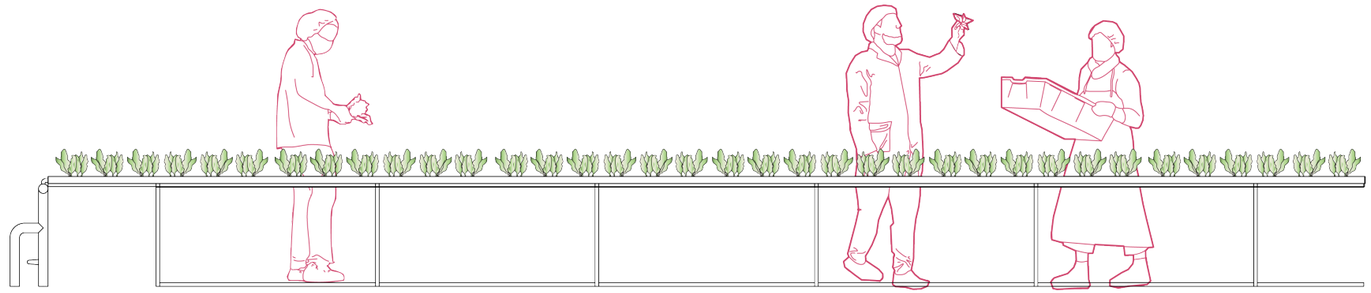


Figure 4.54. No Frills Retrofitted Rooftop Plan.

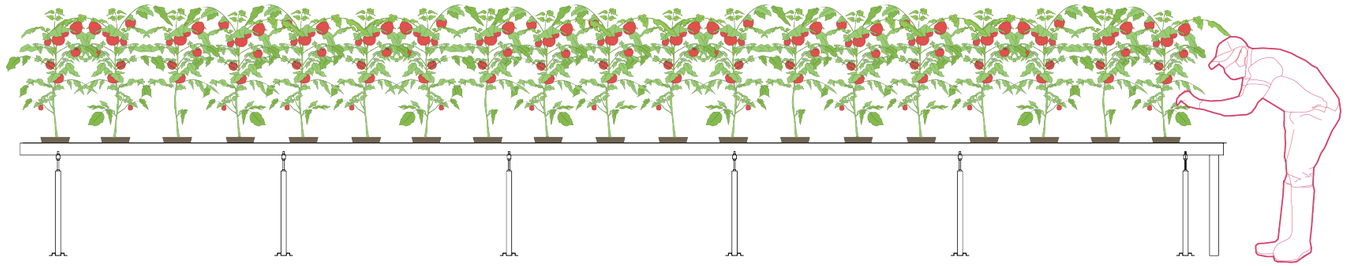
Types of Hydroponics



Vertical Hydroponic Cultivation



Hydroponic Cultivation of Leafy Vegetables



Hydroponic Cultivation of Fruit Vegetables

Figure 4.55. Illustrations of different types of Hydroponic technology.



Figure 4.56. Render of Hydroponic Cultivation.

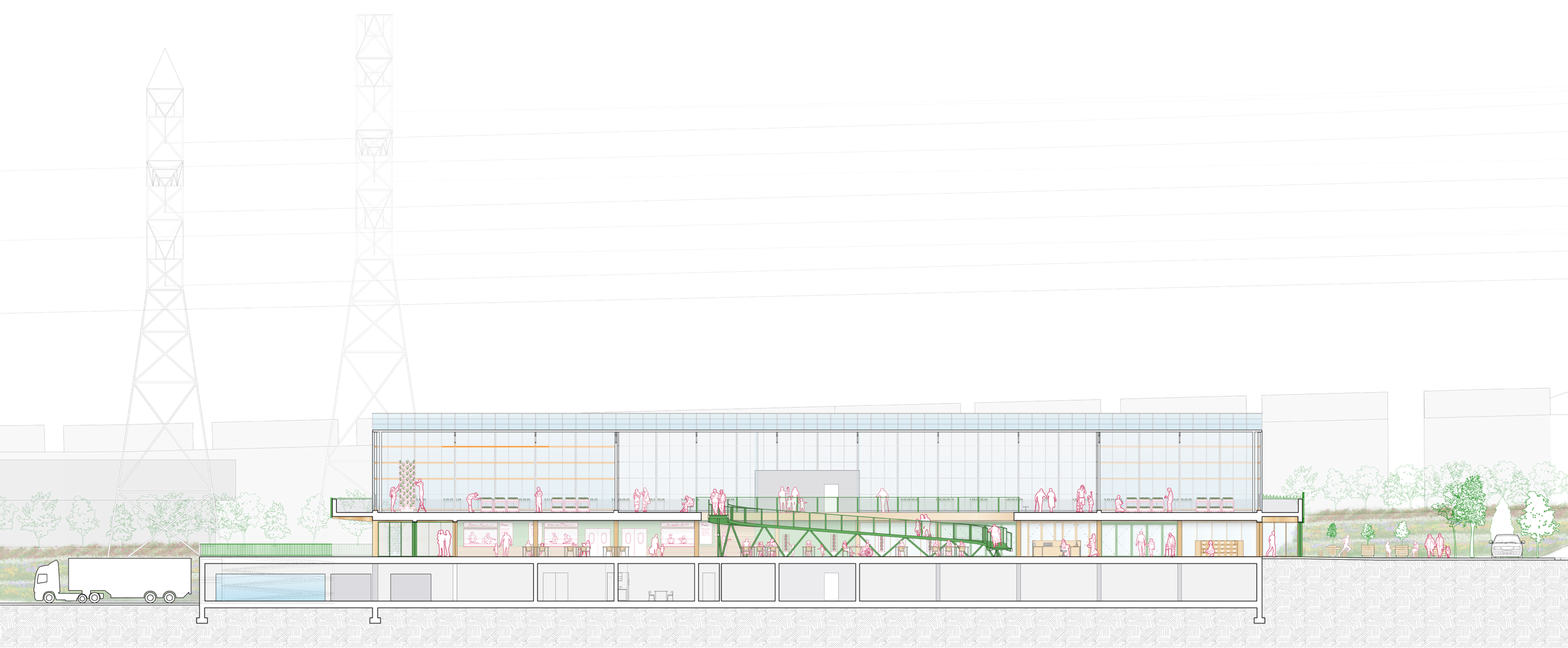


Figure 4.57. Section AA at 1:250.

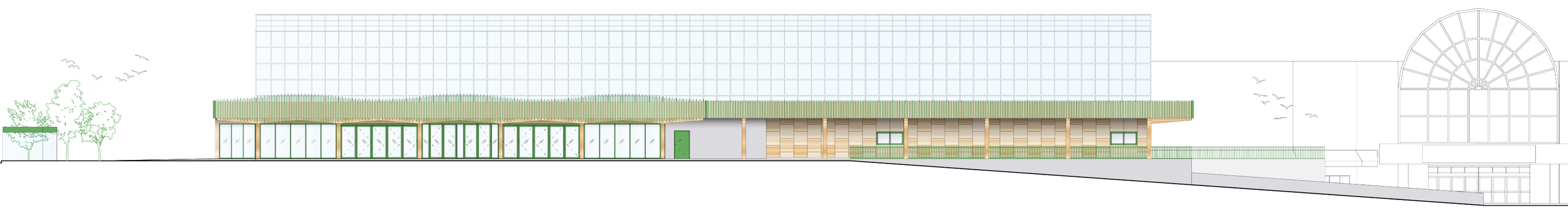


Figure 4.58. North Elevation with context at 1:250.

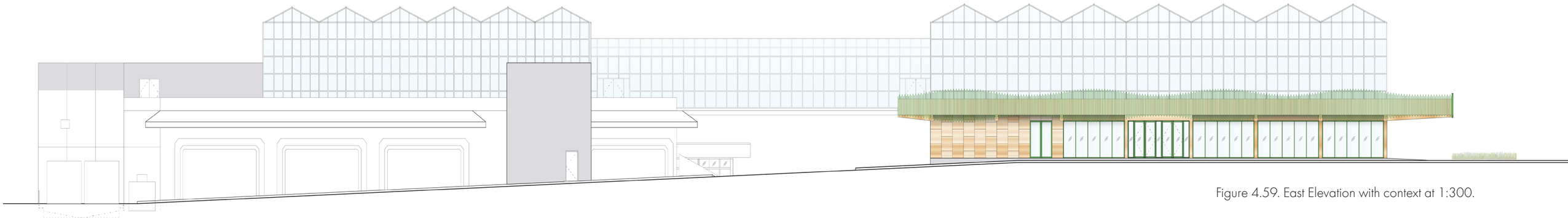


Figure 4.59. East Elevation with context at 1:300.

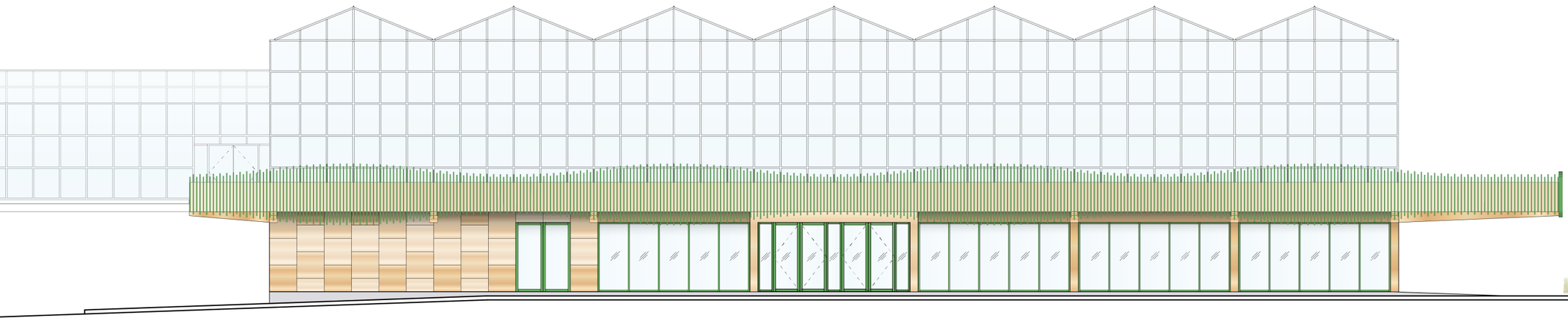


Figure 4.60. East Elevation at 1:150.

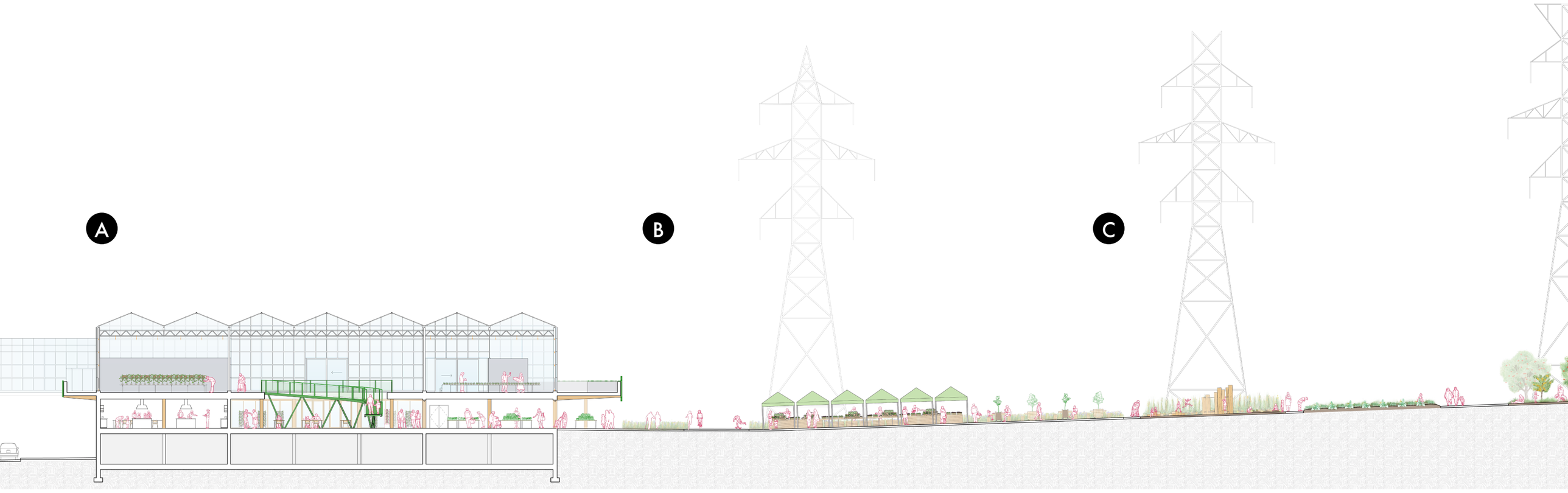
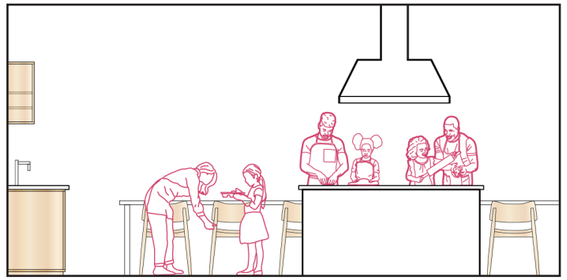


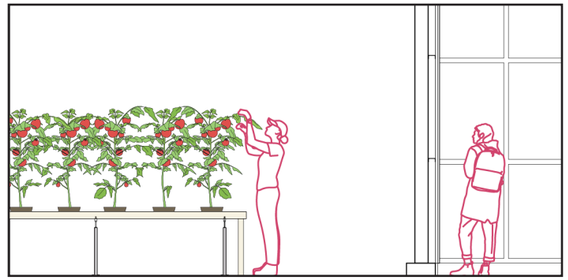
Figure 4.61. Cross Section BB of the Community Food Centre and Farm Park.

Scene A

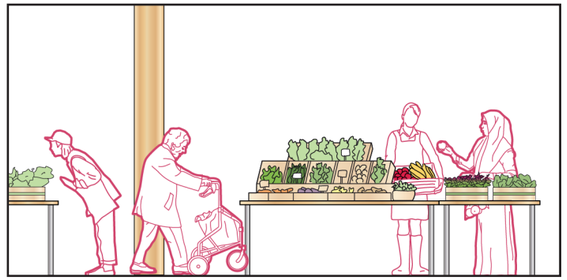
1 Family Workshop in Communal Kitchen



2 Hydroponic Cultivation



3 Indoor Food Market



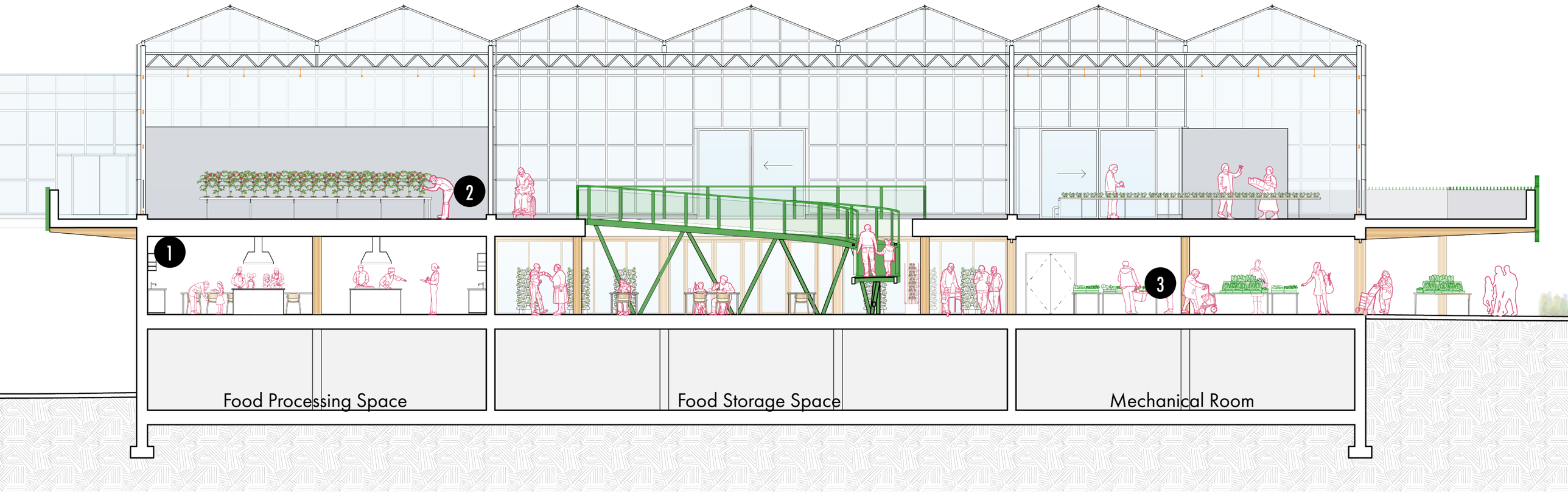


Figure 4.62. Cross Section BB at 1:100.

Scene B



Figure 4.63. Section through Farm Park showing outdoor food market and flexible seating.

Scene C

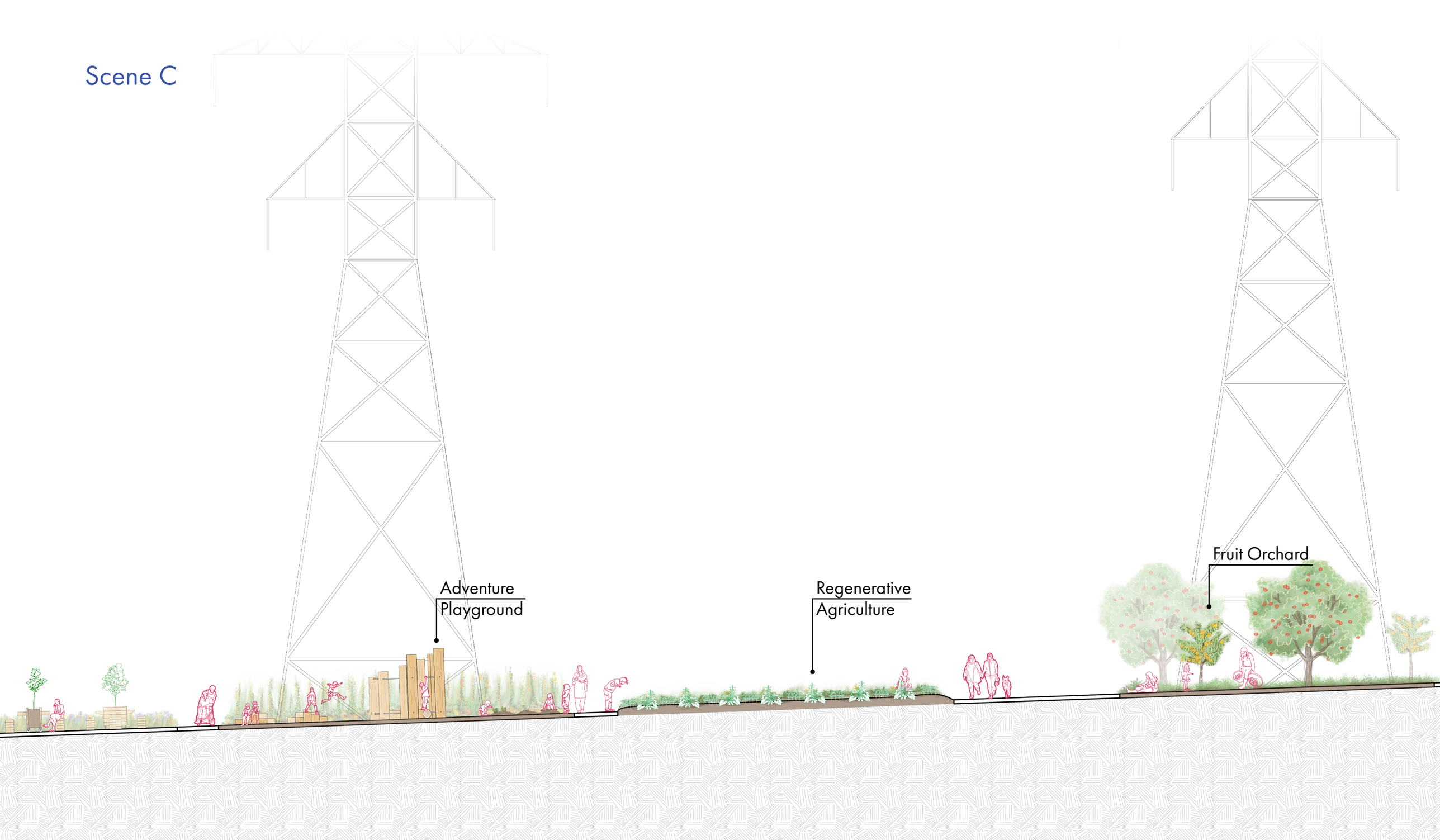


Figure 4.64. Section through Farm Park showing adventure playground, regenerative agriculture, and the fruit orchard.

4.5

Conclusion

In conclusion, this design thesis uses the socio-spatial design framework developed by the "Foodscapes research group" with supporting literature to implement resilient foodscapes in Black Creek.[65] The design of the Community Farm Park and the Jane-Finch Community Food Center addresses the socio-spatial design framework outlined in the previous chapter, including principles behind the final socio-spatial principle: conceive of flourishing foodscapes. This objective aims to promote transparency in the food provisioning model by designing conceptual foodscapes that encourage creativity and discourse on the development of ethical food systems.[66]

The exploration of foodscapes on the neighbourhood scale attempts to convey the possibility of providing food security in existing (sub)urban neighbourhoods by implementing local food infrastructure that supports a local food provisioning system based on consumer welfare and environmental health. This thesis challenges the conventional food system and its inability to provide all people with affordable and healthy food, due to its centralized system focused on the commodification of food and the exploitation of labour and natural resources. In addition, the design explores how consumer behaviour towards food can be influenced based on the proximity of foodscapes to residential zones and their presence in public spaces. Although advocating for change in the conventional food provisioning system may yield few immediate results, consumer behaviour and attitudes toward adopting sustainable food systems can strongly influence how and where food is produced, driven by consumer demand for societal and environmental well-being. Until stronger emphasis is placed on implementing municipal food policies to support regional food systems, creating diverse local foodscapes - through the participation of civic groups and the backing of municipal programs – remains the primary pathway to improving food security in marginalized neighbourhoods like Jane and Finch.

65 Johannes S.C. Wiskerke and Saline Verhoeven, Flourishing Foodscapes : Designing City-Region Food Systems (Amsterdam: Valiz, 2018), 37., 11.
66 Ibid, 37.

Bibliography

Ambrose, Luke, and Sanne Derks. “The Urban Gardeners of Berlin.” Imagine5. Accessed April 7, 2024. https://imagine5.com/articles/the-urban-gardeners-of-berlin/.

Architecture Action Lab. “Public Foods,” 2022. https://archactionlab.org/Public-Foods-2.

Artoff, Gui. “What Is an Adventure Playground Design?” Creo - Playspace Design and Build, August 7, 2023. https://creospace.co.nz/2023/08/what-is-an-adventure-playground/.

Black Creek Community Farm. “Our Supporters.” Accessed October 25, 2024. https://www.blackcreekfarm.ca/supporters/.

Blair, Nicole. “Food Waste Statistics in Canada.” Made in CA, June 11, 2024. https://madeinca.ca/food-waste-canada-statistics/.

Bowery Project. “Our Vision.” Accessed October 4, 2024. https://www.boweryproject.ca/ourvision.

Brady, Kate. “The Gardens with a 12,000-Person Waiting List.” BBC, August 28, 2019. https://www.bbc.com/worklife/article/20190828-the-gardens-with-a-12000-person-waiting-list.

Caves, Roger W. *Encyclopedia of the City*. London: Routledge, 2005.

City of Toronto. “Food, Planet, Health: Municipal Collaboration.” Toronto, ON: City of Toronto, January 2019. https://www.milanurbanfoodpolicypact.org/wp-content/uploads/2020/12/SDN-Toronto_2019.pdf.

City of Toronto. “Jane Finch Initiative: Public Realm & Built From Directions.” Toronto, ON: City of Toronto, June 2022. https://www.toronto.ca/wp-content/uploads/2022/08/94e2-CityPlanning-Jane-Finch-Initiative-Public-Realm-Built-Form-Directions-June-2022.pdf.

Clark, Brett, and Ebenezer Howard. “Ebenezer Howard and the Marriage of Town and Country: An Introduction to Howard’s Garden Cities of To-Morrow (Selections) / Exerpts from Garden Cities of To-Morrow.” *Organization & Environment* 16, no. 1 (March 2003): 87–97. https://www.proquest.com/docview/219876541/abstract/3505EDEF4AAE4D65PQ/1.

Cozzolino, Stefano. “Insights and Reflections on Jane Jacobs’ Legacy. Toward a Jacobsian Theory of the City,” Territorio, 72 (2015): 151–57.

Crucefix, Lanna. “ASI Heritage - The Parsons Site.” ASI Heritage. Accessed October 3, 2024. https://asiheritage.ca/publication/the-parsons-site/.

Detroit People’s Food Co-op. “About – Detroit People’s Food Co-Op.” Accessed October 13, 2024. https://detroitpeoplesfoodcoop.com/about-us/.

Detroit People’s Food Co-op. “Membership – Detroit People’s Food Co-Op.” Accessed October 13, 2024. https://detroitpeoplesfoodcoop.com/members/.

Downsview Weston Action Community. *From Longhouse to Highrise: Pioneering in Our Coner of North York*. North York, ON: Downsview Weston Action Community, 1986. https://jane-finch.com/history/longhouse.htm.

EarthBox. “How Our Vegetable Planting Boxes Work.” Accessed October 13, 2024. https://earthbox.com/learning-center/how-earthbox-works/root-and-veg.

Fallen Fruit. “About.” Accessed October 13, 2024. https://fallenfruit.org/about/.

Thorncliffe Park Urban Farmers. “About Thorncliffe Park Urban Farmers.” Thorncliffe Park Urban Farmers, February 14, 2024. https://thorncliffeparkurbanfarmers.ca/about/.

Thorncliffe Park Urban Farmers. “Composting Initiative.” Thorncliffe Park Urban Farmers, February 17, 2024. https://thorncliffeparkurbanfarmers.ca/composting-initiative/.

Globe Content Studio. “What the Story of the Three Sisters Teaches Us about Farming.” *The Globe and Mail*, October 15, 2020. https://www.theglobeandmail.com/life/adv/article-what-the-story-of-the-three-sisters-teaches-us-about-farming/.

Halliday, Jess, Laura Platenkamp, and Yota Nicolarea. “A Menu of Actions to Shape Urban Food Environments for Improved Nutrition.” GAIN, MUFPP and RUAF, 2019. https://www.gainhealth.org/sites/default/files/publications/documents/gain-mufpp-ruaf-a-menu-of-actions-to-shape-urban-food-environments-for-improved-nutrition-october-2019.pdf.

Harvard Campus Services. “Harvard University Dining Services: Food Literacy Project.” Accessed October 13, 2024. https://dining.harvard.edu/food-literacy-project.

Heim, Tracy. “The Indigenous Origins of Regenerative Agriculture - National Farmers Union,” October 12, 2020. https://nfu.org/2020/10/12/the-indigenous-origins-of-regenerative-agriculture/.

Hough, Michael. *Cities and Natural Process.* 2nd ed. London: Routledge, 2004. https://doi.org/10.4324/9780203643471.

Joseph, Mobólúwajídìde D. “At Jane and Finch, a Fight for Community Space.” The Local, September 26, 2023. https://thelocal.to/finch-west-lrt-metrolinx-jane-and-finch-community-benefits-the-hub/.

Kalish, Jon. “Window Farming: A Do-It-Yourself Veggie Venture.” *NPR*, April 3, 2010, sec. Food. https://www.npr.org/2010/04/03/125504307/window-farming-a-do-it-yourself-veggie-venture.

Kimmerer, Robin Wall. *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants.* Canada: Milkweed Editions, 2013.

Kunzle (Faulwell), Hannah. “Judgement of Broadacre.” *Medium* (blog), May 20, 2020. https://hckunzle.medium.com/judgement-of-broadacre-fff58347e786.

Ladner, Peter. *The Urban Food Revolution : Changing the Way We Feed Cities.* Gabriola Island, BC: New Society Publishers, 2011.

Lyson, Thomas A. *Civic Agriculture: Reconnecting Farm, Food, and Community.* Lebanon, NH: University Press of New England, 2004.

Manitoba Museum. "A Brief History of Indigenous Agriculture," February 18, 2020. https://manitobamuseum.ca/a-brief-history-of-indigenous-agriculture/.

Moar, Carolyn. "Directional Teachings." Winnipeg: City of Winnipeg Indigenous Relations Divisions and Parks and Open Space Division. Accessed October 30, 2024. https://legacy.winnipeg.ca/publicworks/parksOpenSpace/LivingPrairie/pdf/Directional-Teachings_e-version.pdf.

Moreira, Susanna. "Fazenda Cubo Hydroponic Cultivation / Estúdio Lava." ArchDaily, November 3, 2021. https://www.archdaily.com/971055/fazenda-cubo-hydroponic-cultivation-estudio-lava?ad_medium=gallery.

Naidu, Sid. "Power Move: Two Anishinaabeg Farmers Are Decolonizing Toronto's Hydro Fields." The Narwhal (blog), January 4, 2024. https://thenarwhal.ca/hydro-fields-indigenous-farms/.

"Neighbourhood, Discrimination and Health: Critical Perspectives of Racialized Residents from the Black Creek Area." Income Security, Race and Health Project. Toronto, ON: Access Alliance. Accessed September 30, 2024. https://accessalliance.ca/wp-content/uploads/2018/06/ISRH-Research-Bulletin-3-Neighbourhood-and-Health.pdf.

Nordahl, Darrin. *Public Produce : The New Urban Agriculture.* Washington, DC: Island Press, 2009.

Not Far From the Tree. "Not Far From the Tree – We Pick Fruit and Share It." Accessed October 13, 2024. https://notfarfromthetree.org/.

Philips, April. *Designing Urban Landscapes : A Complete Guide to the Planning, Design, Construction, Maintenance and Management of Edible Landscapes.* New Jersey: Wiley, 2013.

Pollan, Michael. "Farmer in Chief." Michael Pollan, October 12, 2008. https://michaelpollan.com/articles-archive/farmer-in-chief/.

Roberts, Melana, and Anan Lololi. "Toronto Black Food Sovereignty Plan." Toronto, ON: City of Toronto, 2021. https://www.toronto.ca/legdocs/mmis/2021/ec/bgrd/backgroundfile-170565.pdf.

Rocha, Cecilia. "Belo Horizonte: World Pioneer in Reducing Hunger and Malnutrition." *In Flourishing Foodscapes : Designing City-Region Food Systems*, edited by Johannes S.C. Wiskerke and Saline Verhoeven, 75–81. Amsterdam: Valiz, 2018.

Singer, Heidi. "A Blueprint for Black Food Sovereignty in Toronto." Dalla Lana School of Public Health, January 5, 2022. https://www.dlsph.utoronto.ca/2022/01/05/a-blueprint-for-black-food-sovereignty-in-toronto/.

Steel, Carolyn. *Hungry City : How Food Shapes Our Lives.* London: Vintage Books, 2013.

"Organics Recycling in Ontario." The Compost Council of Canada. Accessed October 15, 2024. https://www.compost.org/organics-recycling-in-ontario/.

The Edible Schoolyard Project. "About Us," October 1, 2020. https://edibleschoolyard.org/about-us.

The Edible Schoolyard Project. "Mapping the Movement," November 2, 2017. https://edibleschoolyard.org/network.

The Village at Black Creek. "Changing the Narrative," April 25, 2023. https://blackcreek.ca/about/changing-the-narrative/.

Toronto and Region Conservation Authority (TRCA). "Black Creek SNAP." Accessed February 10, 2024. https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/.

Toronto and Region Conservation Authority (TRCA). "Projects: San Romanoway Towers Revival." Accessed October 13, 2024. https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/projects-san-romanoway-towers-revival/.

"Black Creek Site." Toronto Historical Association. Accessed March 24, 2024. http://www.torontohistory.net/black-creek-site/.

Toronto Public Health. "Toronto Food Strategy Report 2018." Toronto, ON: City of Toronto, 2018. https://www.toronto.ca/legdocs/mmis/2018/hl/bgrd/backgroundfile-118079.pdf.

Turowski, Jan. "The Schreber Garden | Jan Turowski." Accessed April 7, 2024. https://cabinetmagazine.org/issues/6/turowski.php.

US EPA, OAR. "How Does Anaerobic Digestion Work?" Overviews and Factsheets, March 18, 2019. https://www.epa.gov/agstar/how-does-anaerobic-digestion-work.

"Vermicasting (or Vermicomposting) | Ontario.Ca." Accessed October 9, 2024. http://www.ontario.ca/page/vermicasting-or-vermicomposting.

Wekerle, Gerda R., and Michael Classens. "Challenging Property Relations and Access to Land for Urban Food Production." In *Urban Gardening as Politics*, edited by Chiara Tornaghi and Chiara Certoma, 89–107. Routledge Equity, Justice and the Sustainable City. New York: Routledge, 2019.

"Who's Hungry Report 2023." Daily Bread Food Bank and North York Harvest Food Bank, 2024. https://www.dailybread.ca/wp-content/uploads/2023/11/DB-WhosHungryReport-2023-Digital.pdf.

Wiskerke, Johannes S.C., and Saline Verhoeven. *Flourishing Foodscapes : Designing City-Region Food Systems.* Amsterdam: Valiz, 2018.

WORKac. "Edible Schoolyard NYC at P.S. 7," 2016. https://work.ac/work/edible-schoolyard-nyc-p-s-7/.