

**PLACEMAKERS:  
Activating the Food System Through Urban Agricultural and  
Community Spaces for Newcomers in East Calgary**

by

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## **ABSTRACT**

The suburban neighbourhoods of East Calgary have experienced tremendous growth in population over the last fifteen years due to recent immigration trends to the city. Sense of identity and overall well-being of resident newcomers are often challenged upon migration; however, effects are significantly intensified by the spatial issues of their sprawl-afflicted urban environment. The thesis proposes to activate the food system – a holistic time- and place-based process from production through to consumption – to establish social anchoring for newcomers and effectively regain their sense of place and belonging. This is achieved through the implementation of a network of urban farms, markets, and community cooking, dining, and educational spaces into East Calgary's urban waste areas. The result is such that not only can newcomers share culturally-rich food among each other and with members of the larger society, but also play a collective role in the revitalization of urban public space and community life.

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## CHAPTER 1: INTRODUCTION

The intent of this thesis is to create awareness of the intimate relationships that exist between cities and its people. Throughout much of modern North American urban development, cities and people have been treated for too long as separate systems and the difficulties inherent in present day suburban living can suggest otherwise. Interestingly, architecture lies in the middle ground and thrives in both the urban and the social realms; it exists as a physical element of the city while engaging with and directing the lives of the people that dwell within it. The following chapters are therefore an investigation into how architecture can negotiate the effects of socially-detached planning methods with cities' often most vulnerable people, the new immigrant population. It draws on the reality that urban life and social life are indeed a part of an integrated, singular system that, when recognized holistically together, can result in vibrant, solidary places of home and belonging. The architectural design is then a response that strives to build on and strengthen newcomers' existing relationships with their new home country.

The thesis begins with Chapter 2 by situating the investigation into Calgary, a city known for its suburban sprawl and that experiences one of Canada's highest rates of immigration. The chapter presents a concept called social anchoring as way to understand the necessity for newcomers to interact with their city in order to create a new sense of place. Chapter 3 is the thesis proposal for PLACEMAKERS which uses the food system as a mediator between a place and its people. Since food is a universal language of experience, the thesis uses culturally-appropriate agriculture and food as the means for newcomers to establish social anchors but also as a tool for overall urban revitalization. Chapter 4 focuses the investigation into an area of study in East Calgary and contains the methodology used to first generate PLACEMAKERS as a complete urban network and then to select a site to implement the thesis design project. Chapter 5 describes in full the design to revitalize an aging park in the multicultural neighbourhood of Albert Park into an urban farm and park with a large community centre that welcomes local newcomers and long-time residents to grow, cook, and eat food and participate in community social programs together. The thesis concludes with overall remarks and reflection in Chapter 6.

## CHAPTER 2: NEWCOMERS IN EAST CALGARY

### Thesis Question

To address increasing immigration to Calgary's lower-income eastern suburban neighbourhoods, the thesis poses the following question:

*How can newcomers in east Calgary achieve social anchoring and regain their sense of place?*

This chapter will present the context of immigration to Canada and the city of Calgary within which the thesis question is framed. An area called East Calgary is currently experiencing a rapid population increase due to migration trends which warrants further attention to how newcomers and current residents are affected. A deeper investigation into the factors driving settlement into East Calgary will be conducted, however, with an focus on how the urban environment impacts newcomers and can challenge their search for a new sense of place and belonging. The chapter will conclude with an exploration into the concept of Social Anchoring as a process that can address placemaking for newcomers in East Calgary.

### Immigration to Calgary

Within the last two decades, the Canadian province of Alberta has secured an international reputation among immigrants as a favorable destination for settlement. In relation to other Canadian cities that are also well-known among immigrants, such as Toronto, Vancouver, and Montreal, Alberta's affordable housing market and abundant economic opportunities have made the province a high-ranking location in recent years. Figure 1 illustrates the growing share of *recent immigrants*,<sup>1</sup> or newcomers, to Alberta since 2001, where it has more than doubled, from 6.9 percent to 17.1 percent in 2016. The province is now the

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1 Statistics Canada defines *recent immigrant* as one "who first obtained his or her landed immigrant or permanent resident status between January 1, 2011 and May 10, 2016" (Place of Birth, Generation Status, Citizenship and Immigration Reference Guide, Census of Population, 2016, <https://www12.statcan.gc.ca/census-recensement/2016/ref/guides/007/98-500-x2016007-eng.cfm>); in other words, an immigrant having landed within the five-year period between the two most recent federal censuses. The term *newcomer* will be used synonymously with *recent immigrant* in this report with the intent to capture a more politically correct and contemporary description of the demographic of focus.

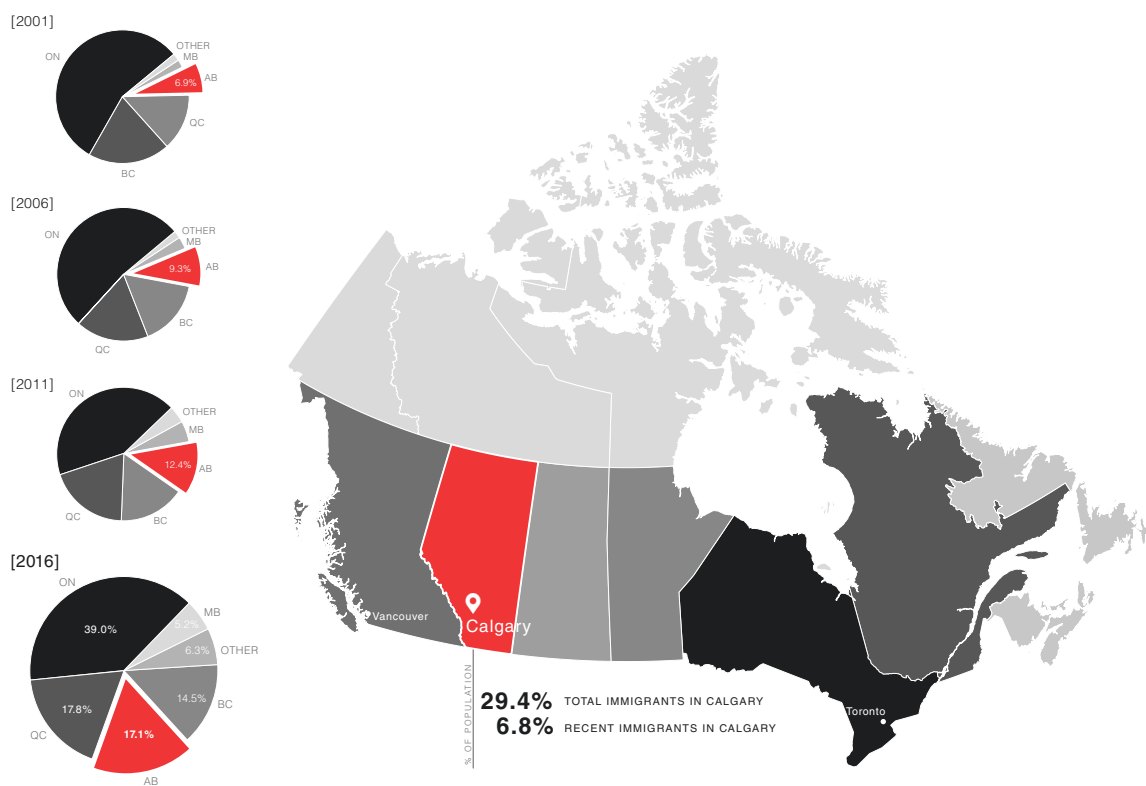


Figure 1. Distribution of recent immigrants by province, 2001 to 2016. (Source: Statistics Canada, 2016 Census Profile)

third-highest recipient of newcomers in Canada, surpassing British Columbia for the first time and placing behind only Quebec and Ontario<sup>2</sup>. The rapid growth in immigration rates is directly related to a global shift in international mobility that can be linked to two reasons: worldwide geopolitical changes triggering migration en masse and, on a more secular level, increasing globalization processes that correlate to socio-cultural transmission processes and a broader transformation of contemporary societies.<sup>3</sup> It is therefore anticipated that immigrant populations in Canada and Alberta will only continue to rise in coming years.<sup>4</sup>

The city of Calgary has experienced parallel trends in immigration. Calgary had the highest population growth among all Canadian census metropolitan areas between 2011 and 2016. Its immigrant population reached nearly thirty percent of the total population, of which a quarter have arrived after 2011 – they are the newcomer population that, in 2016, totaled to 93,200 people, or 6.8 percent of all Calgarians.<sup>5</sup> Fariborz Birjandian, the chief executive officer of the Calgary Catholic Immigration Society describes the impact of immigration on their organization:

Fifteen years ago Calgary used to welcome three to four thousand newcomers and refugees per year. Now that number is up around 20,000 and is expected to keep growing.<sup>6</sup>

Within the provincial context, Calgary attracts more newcomers than Edmonton, the capital and second-largest city of Alberta, due to its strong economy but also for its established, larger ethno-cultural communities.<sup>7</sup> Figure 2 illustrates the concentrations of ethnic enclaves<sup>8</sup> in central downtown, northwest and northeast Calgary, all of which

2 Robson Fletcher, “Alberta surpasses B.C. as immigration destination,” *CBC*, last modified October 25, 2017, <https://www.cbc.ca/news/canada/calgary/alberta-recent-immigrants-2016-census-data-1.4370779>.

3 Aleksandra Grzymala-Kazłowska, “Social Anchoring: Immigrant Identity, Security and Integration Reconnected?” *Sociology* 50, no. 6 (2016): 1123.

4 CBC News, “Growing number of newcomers settling in Calgary ‘a blessing’ and a challenge, immigration society head says,” last modified March 23, 2018, <https://www.cbc.ca/news/canada/calgary/immigration-immigrants-calgary-refugees-el-chaar-birjandian-university-1.4589505>.

5 Statistics Canada, “Census Profile, 2016 Census,” accessed September 28, 2018, <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>.

6 CBC News, “Growing number of newcomers settling in Calgary ‘a blessing’ and a challenge, immigration society head says,” last modified March 23, 2018, <https://www.cbc.ca/news/canada/calgary/immigration-immigrants-calgary-refugees-el-chaar-birjandian-university-1.4589505>.

7 Sandeep Agrawal and Nicole Kurtz, “Ethnic Spatial Segmentation in Immigrant Destinations – Edmonton and Calgary,” *Journal of International Migration and Integration*, (2018): 7.

8 The northeast enclaves are a primary concentration (greater than 50% of census tract population). Central downtown and northwest enclaves are secondary concentrations (greater

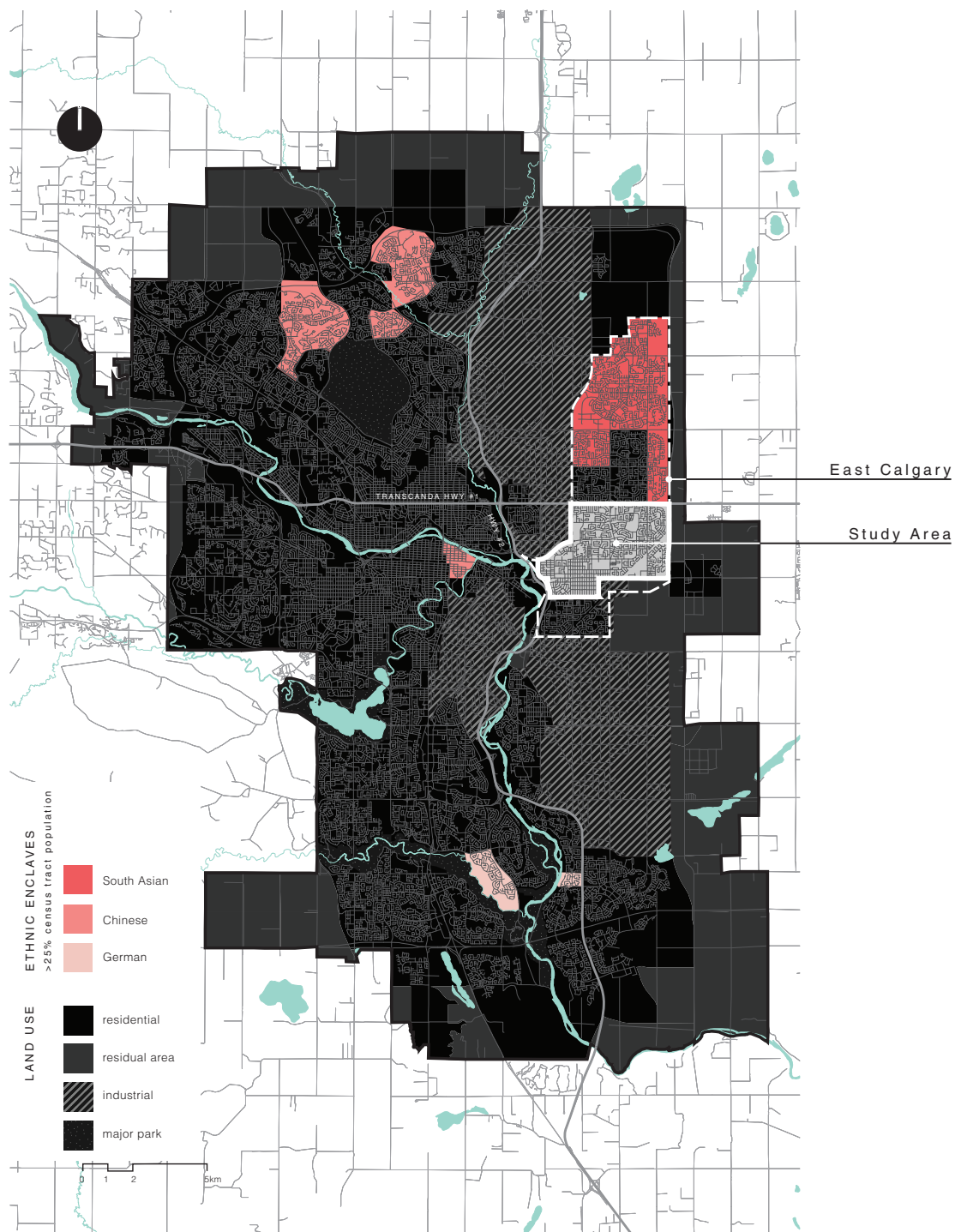


Figure 2. Ethnic enclave concentrations and land-use designations of Calgary. (Source: Agrawal and Kurtz and The City of Calgary)



have documented beginnings from over three decades ago.<sup>9</sup> Northeast enclaves are the largest and historically predominantly of South Asian origin. They are in an area that this thesis defines as East Calgary, a distinct part of the city that lies east of a major north-south spanning industrial area and is home to the city's most multicultural communities. As such, the neighbourhoods of East Calgary have become popular areas of settlement for newcomers (Figure 3) as many people find it a more culturally-familiar environment.<sup>10</sup> Israr Kasana, a Pakistani journalist who recently moved to Calgary describes:

It is convenient for people here to see people of their ethnic or cultural origin around them, to have the same feeling of back home, to go next door and buy familiar groceries of their liking. This gives many people a community feeling – a secure and comforting one.<sup>11</sup>

Newcomers, many of which have recently arrived from the Philippines, India, Vietnam, Ethiopia, and Pakistan (Figure 4), join an existing culturally diverse community. In East

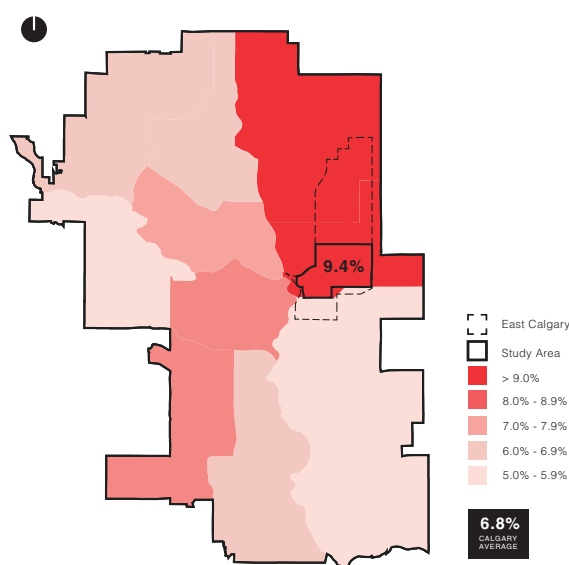


Figure 3. Prevalence of recent immigrants in Calgary by federal electoral district, 2016. (Source: Statistics Canada)

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- than 25% of census tract population).
- 9 Agrawal and Kurtz, "Ethnic Spatial Segmentation in Immigrant Destinations – Edmonton and Calgary," 20.
  - 10 Gelayol Soroor, Settlement Coordinator of Immigrant Services Calgary, conversation with author, August 23, 2018.
  - 11 Israr Kasana, "The dangers of self-ghettoization in Calgary," *CBC*, last modified October 17, 2018, <https://www.cbc.ca/news/canada/calgary/self-ghettoization-calgary-israr-kasana-road-ahead-1.4864998>.

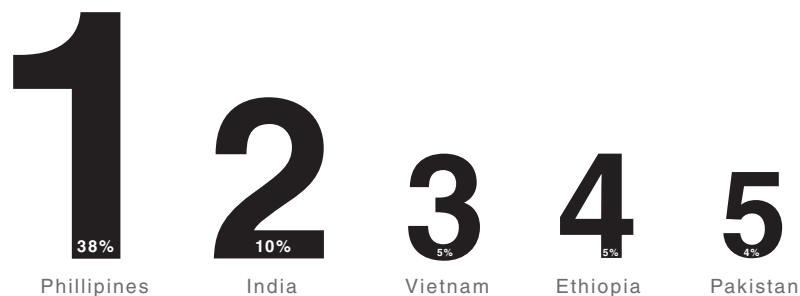


Figure 4. Top countries of origin of recent immigrants in East Calgary, 2016. (Source: Statistics Canada)

Calgary, visible minorities comprise sixty-two percent of the total population<sup>12</sup>, thereby creating an area that is quite distinct from the rest of the city due to its multicultural character. It is, in fact, the home of a major road and business area that was recently renamed to “International Avenue”. Here, one can find over four hundred ethnically-diverse food, retail and service, commercial, and industrial establishments. Figure 5 highlights local ethnic establishments found in East Calgary.

It is important to highlight that amidst rapid immigration to East Calgary, its urban boundaries constrained expansion of ethnic enclaves. The city’s municipal boundary to the east, the airport to the west, and the industrial areas to the west and south act as hard edges.<sup>13</sup> As such, new neighbourhood development has trended northward while placing strain on existing housing and service infrastructure.<sup>14</sup>

### East Calgary and the Study Area



Figure 5. International Avenue is a unique district of East Calgary with abundant ethnically-diverse food and retail establishments.

12 Statistics Canada, “Census Profile, 2016 Census,” accessed September 28, 2018, <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>.

13 Agrawal and Kurtz, “Ethnic Spatial Segmentation in Immigrant Destinations – Edmonton and Calgary,” 19.

14 Stephen Cairns, *Drifting: Architecture and Migrancy* (New York: Routledge, 2004), 2.

East Calgary is highlighted in Figure 2 and is characterized as a primarily suburban residential area. Neighbourhoods in the southern half are the oldest and historically belong to the town of Forest Lawn. The community originated in the early 1900s as development of lower-priced housing for the labour force serving the adjacent industrial areas.<sup>15</sup> Forest Lawn has since been annexed by the city of Calgary in the 1960s, but the name has remained and it is a distinct heritage district of the city.<sup>16</sup> Moving north of Forest Lawn, neighbourhoods were developed afterward as a part of a massive suburban expansion in Calgary during the 1960s to 1980s. Planning heavily favored the needs of commerce, the private car, and highways, and the rest of East Calgary was formed as a part of the “urban sprawl” phenomenon that the city is often affiliated with.<sup>17</sup> Entire neighbourhoods were built following the unit concept; they are separated by major roads and situated alongside are numerous suburban regional strip malls, big-box retail establishments, and large parking lots. The typical urban composition can be seen in Figure 6: single-family homes and apartments cluster around a regular distribution of decentralized services such as schools, community centers, sports and leisure facilities, and libraries.<sup>18</sup>



Figure 6. Examples of East Calgary suburban features are the single-family home, apartment, and strip mall.

The extents of East Calgary, from the oldest neighbourhoods in the south towards the newest developments in the north, contain the city’s most ethnically diverse areas as mentioned previously, but also includes the city’s poorest. Figure 7 maps the 2016 distribution by federal electoral district of low-income individuals across the city,<sup>19</sup> and it

15 Beverly A. Sandalack and Andrei Nicolai, *The Calgary Project: Urban Form/Urban Life* (Calgary: University of Calgary Press, 2006), 89.

16 The City of Calgary, “Southeast 17 Corridor Plan: Land Use and Urban Design Concept,” last modified August 2010, <http://internationalavenue.ca/wp-content/uploads/2018/02/se-17-corridor-plan.pdf>.

17 Sandalack and Nicolai, *The Calgary Project: Urban Form/Urban Life*, 105.

18 *Ibid.*, 115.

19 Statistics Canada, “Census Profile, 2016 Census”.

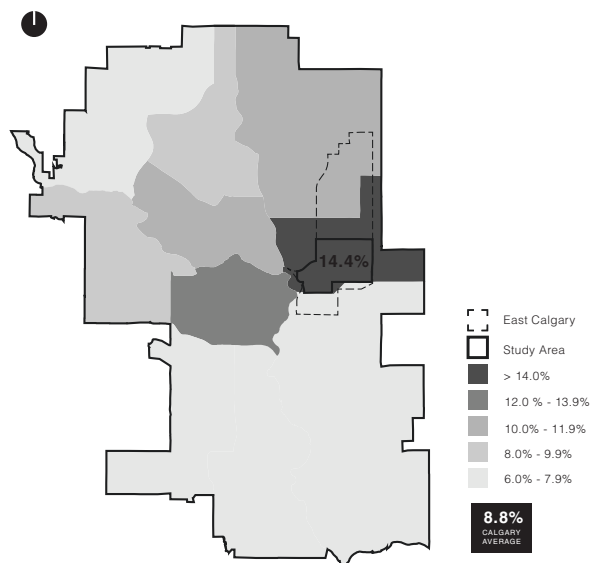


Figure 7. Prevalence of low-income individuals in Calgary by federal electoral district, 2016. (Source: Statistics Canada)

is evident that the southern portions of East Calgary are consistent in present day to its historical beginnings as a lower-income district. However, within the context of immigration patterns, a relationship between settlement locations of newcomers and economic status can be drawn. The maps of Figure 3 and Figure 7 compare the two conditions respectively, and there is a clear correlation between them: newcomers tend to settle in lower-income areas, or in other words, areas that are more economically accessible. A reasoning is indicated by service providers and newcomers themselves; income is lowest in the first two years after arrival, the first five years weigh heavily in establishing stability before acquiring permanent residency, and related challenges typically abate over time.<sup>20</sup> Statistics also provide supporting evidence showing that newcomers have a higher tendency to be low-income than the average citizen. Approximately twenty percent of newcomers to Calgary qualify as low-income which is a proportion that doubles that of the average resident (Figure 8).<sup>21</sup> As a result, the communities in the southern portion of East Calgary, being a more cost-effective area to live, draw a higher influx of newcomers relative to the rest of the city.

This thesis will therefore focus on the lower-income newcomer demographic and the neighbourhoods in which they live comprise the Study Area. The Study Area is shown

<sup>20</sup> Tina Moffat, Charlene Mohammed, and K. Newbold, "Cultural Dimensions of Food Insecurity among Immigrants and Refugees," *Human Organization* 76, no. 1 (2017): 20.

<sup>21</sup> Statistics Canada, "Census Profile, 2016 Census".



Figure 8. Prevalence of low-income status for select groups in Calgary, 2016. (Source: Statistics Canada)

in Figure 9 and encompasses eight residential suburban neighbourhoods bordered by major highways, including the TransCanada highway to the north and Deerfoot Trail to the southwest. Blackfoot Trail, a major E-W running highway, becomes International Avenue. Two industrial areas and the city's eastern municipal limits constrain the extents of the Study Area. Lastly, the Canadian National Railway enters Calgary through an east-west corridor that abruptly bisects four neighbourhoods in the southeast extents. An overall sense of the Study Area's newcomer proportion, income status, ethnic diversity is captured by Figure 10 and Figure 11. The top three visible minorities reported in the 2016 federal census are Filipino, Black, and Arab and the average visible minority proportion is forty-seven percent.<sup>22</sup> Ten percent of the Study Area's total population are newcomers which is a striking increase in population in only five years.

Detailed immigration and demographic statistics of the Study Area can be found in Appendix A.

## The Urban and Social Connection

It is important to understand the unique impacts that suburban development of East Calgary has had on its residents. The planning strategies that prioritized highway infrastructure and large shopping centres exemplify the urban theories of philosopher and sociologist Henri Lefebvre as discussed in his book, *The Production of Space*. He critiqued the power that the state had in city planning in support of economic capital and without the consideration of spatial inequalities, alienation, or the needs of lower social classes.<sup>23</sup> Another urban theorist, Edward Soja, also describes similarly in his book *Postmetropolis* where cities have:

...tended to be viewed primarily as an architecturally built environment, a physical container

<sup>22</sup> Statistics Canada, "Census Profile, 2016 Census".

<sup>23</sup> Henri Lefebvre and Donald Nicholson-Smith, *The Production of Space* (Cambridge: Blackwell, 1991), 26.





Figure 9. Neighbourhoods of the Study Area. (Source: Google Earth)



Figure 10. Top three visible minorities of the Study Area. (Source: Statistics Canada)

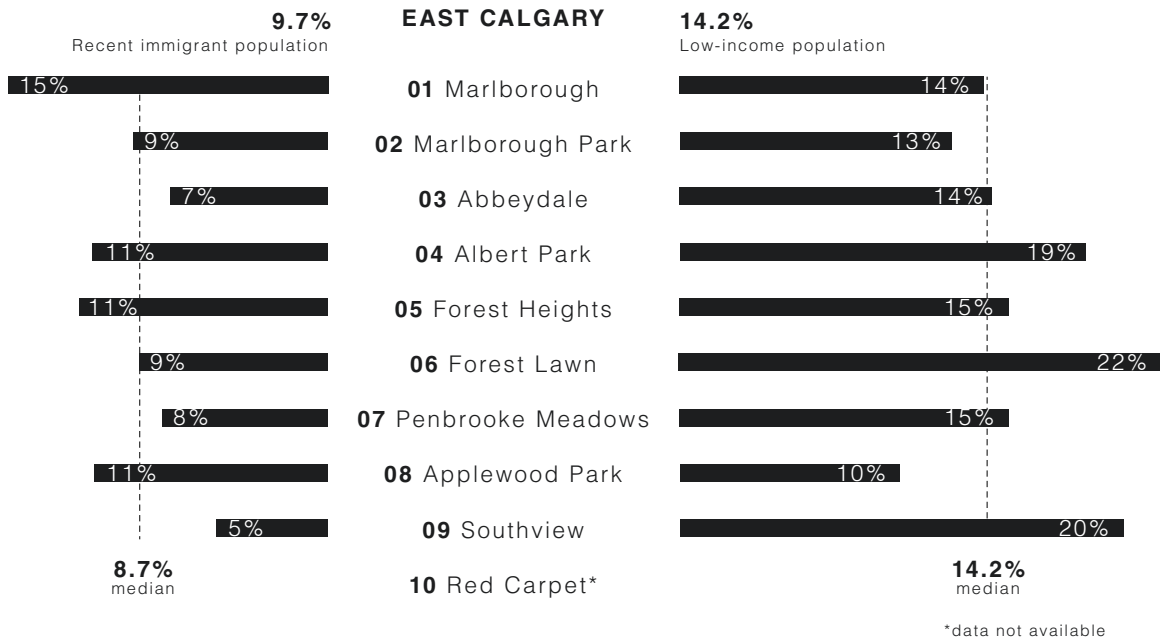


Figure 11. Percentage of recent immigrants and low-income individuals of the population by Study Area neighbourhood. (Source: Statistics Canada)

for human activities...this has concentrated attention on the distilled material forms of urban spatiality, too often leaving aside its more dynamic, generative, developmental, and explanatory qualities.<sup>24</sup>

Both theorists recognize that spatial and social issues are deeply related. Lefebvre proposed a *unitary theory of space* is in fact a triad of interconnected spatial concepts and is a social practice; space is more than just *perceived* with the senses (physical), it is a lived experience that is can be *conceived* (mental, planned by the state) but yet *lived* (social) and can be influenced by imagination or change.<sup>25</sup> Soja proposes the concept of *urban spatial specificity* which refers to “the particular configurations of social relations, built forms, and human activity in a city and its geographical sphere of influence.” Both theorists ground cities to a particular geography but clearly emphasize its social attachment or fundamental role in shaping lively and healthy societies. However, Soja also is specific when he states that one of his most important and challenging findings in *Postmetropolis* is that inherent in new urbanization processes is the intensification of socio-economic inequalities, among which include income inequality and poverty, race and power, the urban underclass, as well as immigration and ethnicity.<sup>26</sup> And so when observing urban life in East Calgary, the impacts of socially detached planning methods on more disenfranchised groups such as new immigrants and refugees become apparent.

### **Urban Isolation, Deterioration and the Intensification of Migration Challenges**

The poor implementation of the light rail transit (LRT) system in the 1980s into Calgary's urban fabric is a clear first example. LRT stations were not well integrated with the surrounding communities and even today, accessibility to the network, especially on foot, is difficult.<sup>27</sup> Within the Study Area (Figure 9), only one LRT line is located on the west side and connectivity to its stations, especially from neighbourhoods on the eastern side, is challenging. Navigation by car through the Study Area then becomes the preferred and least time-consuming mode of transport, although limited to those with access to a car and that often excludes those with lesser means of income. Additionally, major highways

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24 Edward W. Soja, *Postmetropolis: Critical Studies of Cities and Regions* (Malden: Blackwell Publishers, 2000), 9.

25 Lefebvre and Nicholson-Smith, *The Production of Space*, 11.

26 Soja, *Postmetropolis: Critical Studies of Cities and Regions*, 265.

27 Sandalack and Nicolai, *The Calgary Project: Urban Form/Urban Life*, 121.



How does URBAN SPRAWL and SOCIALLY-DETACHED PLANNING affect its residents?

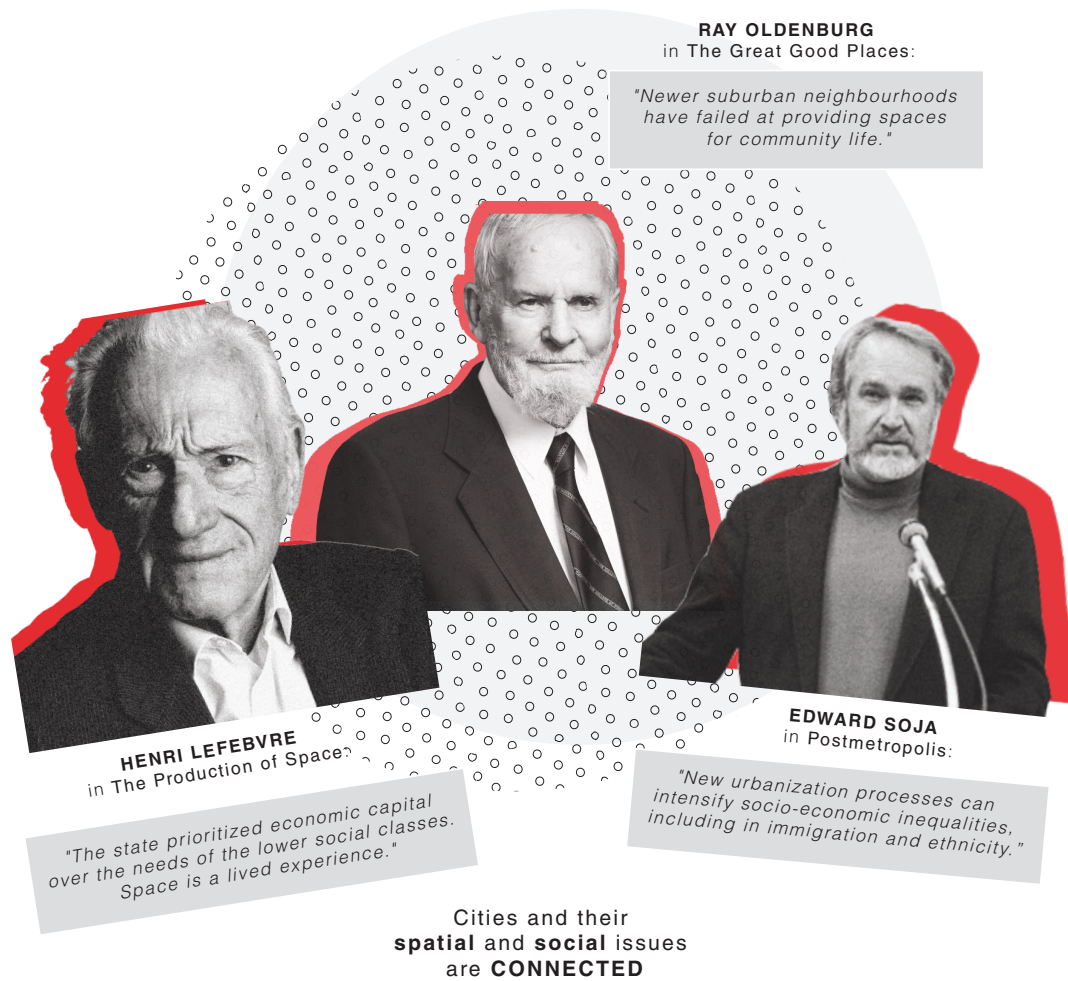


Figure 12. Critique of socially-detached urban planning methods.

act as barriers to travel between parts of the city.<sup>28</sup> This then requires a greater effort to spend time outside of one's immediate community, and for populations already limited to traveling only by foot or transit, many find themselves staying within the boundaries of what is already familiar and nearby. Kasana describes this behavior as *self-ghettoization* and dangerous as numerous residents of East Calgary immersed in enclave communities:

...interact with each other often but rarely with people outside "the loop"...they speak their own language. Many find problems speaking and even understanding English. Quite a few shop at community stores, which cater to their culture.<sup>29</sup>

The planned features of the local suburban landscape are inherently not conducive towards the exposure and integration of newcomers with the larger Canadian society, making the unknown a place of fear which can cause people to turn inward and self-isolate within their own communities. When unfamiliarity with a new environment and cause one to stay inside, self-isolation can lead to physical isolation.<sup>30</sup> Physical isolation is a common and troubling issue related to many others that can be experienced under challenging migration circumstances, including lowered income, psychological anxiety, and overall decline in physical and mental health.<sup>31</sup> In general, East Calgary's urban sprawl-related issues of connectivity not only impact the ability for newcomers to navigate new surroundings but directly impede social opportunities that are essential to integration and intensify existing migration-related challenges.

Having established the connection between urban spatial issues and diminished social opportunity in Calgary's history, it is then critical to investigate the reciprocal relationship: how has diminished social opportunity impacted urban space at present? Urban space in this respect is public open space as it is where social opportunities take place that are outside of the home and within the domain of the city. This description fits precisely that of the Third Place, a concept developed by sociologist Ray Oldenburg. Third Places are places outside of work or the home that are free of charge or low-cost, such as libraries and cheaper coffeehouses, where people can pursue relaxation and develop in social

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28 Sandalack and Nicolai, *The Calgary Project: Urban Form/Urban Life*, 105.

29 Kasana, "The dangers of self-ghettoization in Calgary."

30 Stephanie McDonald, "Putting down roots in Canadian soil," *Country Guide*, last modified March 26, 2018, <https://www.country-guide.ca/2018/03/26/refugees-learn-new-garden-growing-skills-in-canada/52934/>.

31 Moffat and Newbold, "Cultural Dimensions of Food Insecurity among Immigrants and Refugees," 15-16.

cohesion and identity, and that are neutral and accessible to all despite economic, social, or cultural differences.<sup>32</sup> They are the built opportunities that allow vibrant community life to flourish. Third Places may be further defined for the purposes of this thesis investigation by drawing upon urban typologies and specifically those that are managed by the city. They generally include public parks, pathways, streetscapes, and municipally-run institutional buildings. Municipal buildings will be omitted from this investigation as they are outside the realm of influence for the thesis design intervention. Looking next to the vehicle and road-oriented urban landscape, streetscapes and pathways do not lend themselves well to the pedestrian experience. In the Study Area, most sidewalks are too narrow to be occupiable and only wide enough to separate one from fast-moving vehicular traffic and so are in actuality not eligible as Third Places of social opportunity (Figure 13). This leaves the spaces that are more open for public gathering, such as plazas and parks, as the primary source of public open space to be investigated in the thesis. However, as there are currently no public plazas in the Study Area, public parks are therefore left as the single type of Third Place available to study effects of diminished social opportunity.



Figure 13. The pedestrian environment is often adjacent to fast-moving vehicular traffic and becomes an undesirable urban place to dwell.

Upon first glance at the map of Figure 9, it is evident that large, outdoor parks were regularly distributed throughout neighbourhoods in urban planning. They are often groupings of recreational fields belonging to schools or community centres. Although all parks were originally planned for active use, in reality, the nature of traveling across the Study Area by

<sup>32</sup> Ray Oldenburg, "The Problem of Place in America," in *The Urban Design Reader*, ed. Michael Larice and Elizabeth MacDonald (New York: Routledge, 2013), 285.

car produces little pedestrian traffic to enjoy them in full, especially outside of organized recreational events. Infrequent use then creates a lack of ownership among residents to maintain their surrounding public spaces. The area's lower economic status also creates a condition where parks have not been regularly maintained due to costs that cannot be met by the local population.<sup>33</sup> The current urban environment therefore contains an excess of *urban waste spaces* (Figure 14). They are, for example, public parks that are overgrown by invasive vegetation, that have deteriorating recreational infrastructure from a lack of maintenance, and that overall have fallen out of use from lack of activity. Urban waste spaces also include a growing number of vacant lots that have emerged from the demolition of decayed buildings. A survey of the Study Area determined that inactive parks and vacant lots account for an alarming forty-six percent of all public open spaces. This is a substantial portion of the city and warrants attention as it perpetuates a widespread urban atmosphere of neglect and degradation. In comparison to other parts of Calgary, this results in the built character of the Study Area as markedly distinct and not for the better; newcomers settle into a part of the city that is not only physically segregated from the rest of Calgary but also visibly its poorest.

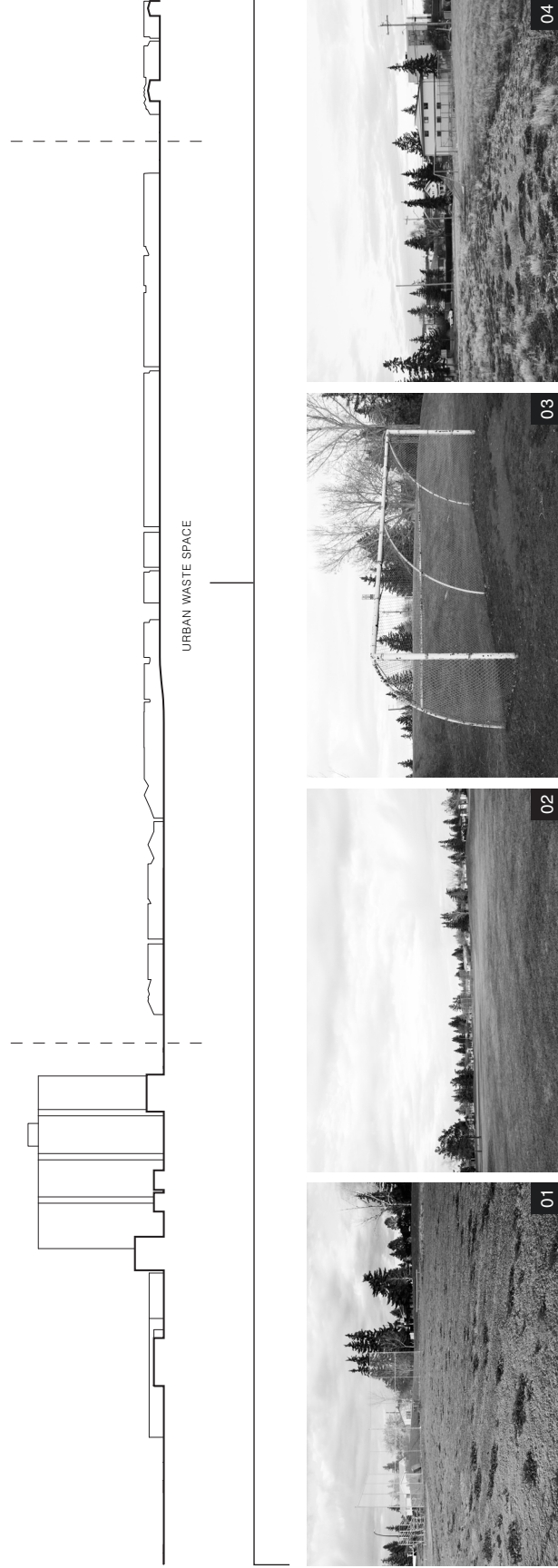
In summary, the relationship between cities and societies is one that cannot be ignored. Capitalistic urban planning from the 1960s to the 1980s has produced poor spatial connectivity in the expansive suburb of the Study Area which has severely diminished the social opportunity of its public spaces. As such, newcomers begin new lives in a city that is difficult to integrate into and that suffers from ongoing deterioration which cumulatively can intensify the many challenges already brought upon by the process of migration.

### **The Search for Place and Social Anchoring**

Understanding how the urban environment influences one's lived experience is an important component of recognizing a broader critical aim of a newcomer, that is, to establish a sense of place and belonging in a new host country. To migrate is, in essence, to deterritorialize – to uproot from one's traditional grounds. It is a sequence of movement that then leads to the aim to reterritorialize – to settle, to make a new home, to become a citizen in a

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<sup>33</sup> Amber Qureshi, Settlement Counsellor at Immigrant Services Calgary, conversation with author, August 24, 2018.



- 01. Overgrown baseball field [Marlborough Park]
- 02. Vast, unused park space [Forest Lawn]
- 03. Aging soccer net [Marlborough]
- 04. Empty vacant lot [Albert Park]

**Figure 14. a) Typical suburban section of East Calgary, and b) examples of suburban waste areas in the Study Area.**

new place.<sup>34</sup> The territory is thus the geographical setting that changes in the process of migration, and if this is not concretely defined in the views of the migrant then he or she may become displaced. However, displacement is a condition that can be considered objectively – the sequence of movement has not yet concluded - as well as subjectively, where one may experience the feeling of *placelessness*. And so it is important to recognize that a newcomer’s search for place is multiplicate in nature; it occurs in new material, economic, social, cultural, and emotional territories. The complexities of understanding place can first be investigated through the traditional architectural definitions of *genius loci* as architecture has a capacity for grounding, bounding, and accommodating in the reterritorialization of migrants.<sup>35</sup>

*Genius loci* refers to ‘the spirit of place’ and is a term used by Norwegian architect and architectural theorist Charles Norberg-Schulz. He established a relationship between an object and its meaning, which affirms why architecture can be both physical structures and hold cultural significance simultaneously. As seen in Figure 15, Norberg-Schulz defined ‘place’ as a geographical entity which gives man his identity, and one’s identity is a reflection of the position within his or her socio-cultural context. *Genius loci* is then culture or spirit that is reflected in meaningful architectural environments. However, an issue arises in Norberg-Schulz’s definition of place when it is based on a geographically defined identity<sup>36</sup>. In the case of a migrant, can place still exist when his or her geography

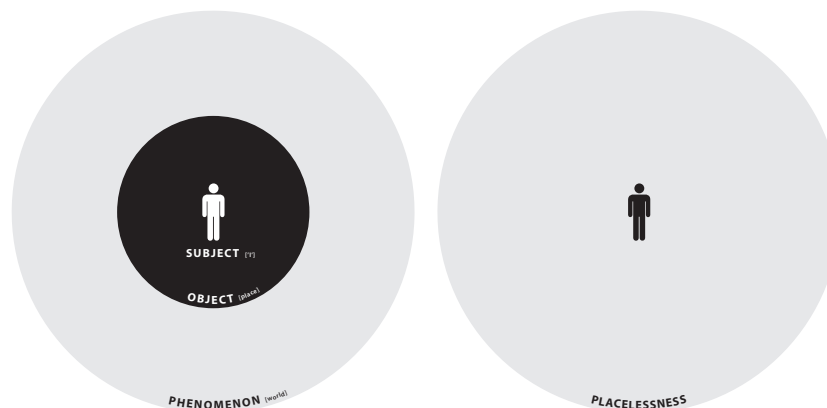


Figure 15. Charles Norberg-Schulz’ definition of ‘place’ and placelessness of migrants.

34 Cairns, *Drifting: Architecture and Migrancy*, 1-2.

35 *Ibid.*, 2.

36 Ole Møystad, “The spirit of place in a multicultural society,” *Arkitektur N*, last modified August 24, 2012, <http://www.architecturenorway.no/questions/identity/moystad-on-cns/#fn:14>.



changes? Does the loss of place then become a loss of meaning? How does *genius loci* apply in contemporary societies that are increasingly diverse and mobile? The use of the architectural theories of Norberg-Schulz in understanding placemaking for newcomers to Calgary then loses its relevance and applicability.

To account for geographical movement in migration in the search for place, the thesis draws on the concept of *social anchoring* developed by researcher Aleksandra Grzymala-Kazłowska at the Institute for Research into Superdiversity within the School of Social Policy at the University of Birmingham. She defines social anchoring as:

...the processes of finding significant footholds and enables migrants to acquire a relative socio-psychological stability and function effectively in new life settings,” and explains it as a simple framework that links the issues of *identity, security, and integration* together.<sup>37</sup>

It is a concept that acknowledges the tangible footholds and structural constraints in adaptation and settlement without discounting its psychological and emotional aspects. Grzymala-Kazłowska also emphasizes that social anchoring overcomes the traditional limitations of adaptation (which does not consider social ties or the role of identity in adjusting to change) and integration (which assumes a political and ideological burden) by recognizing that identity is fundamental to mediating between individuals and society.<sup>38</sup> Migrants therefore are on the continual search for points of stability and reference, and those points are defined as *social anchors*. Anchors help migrants locate their place in their world, give form to their own sense of being and provide them with a base for psychological and social functioning. And like the object that the concept alludes to, anchors are relatively flexible. They can connect migrants with a receiving society and be disconnected (for instance by changing citizenship, selling a house, etc.) from the society of origin.<sup>39</sup>

Figure 16 is a diagram that illustrates the social anchoring concept and details a variety of anchors that a newcomer might establish. Anchors may range from the objective (such as one’s citizenship) to the subjective (such as one’s personality), but can also mixed (such as language – it is factual that a certain language is spoken, but language can

<sup>37</sup> Grzymala-Kazłowska, “Social Anchoring: Immigrant Identity, Security and Integration Reconnected?”, 1123.

<sup>38</sup> Ibid., 1127.

<sup>39</sup> Ibid., 1134.

SOCIAL ANCHORING

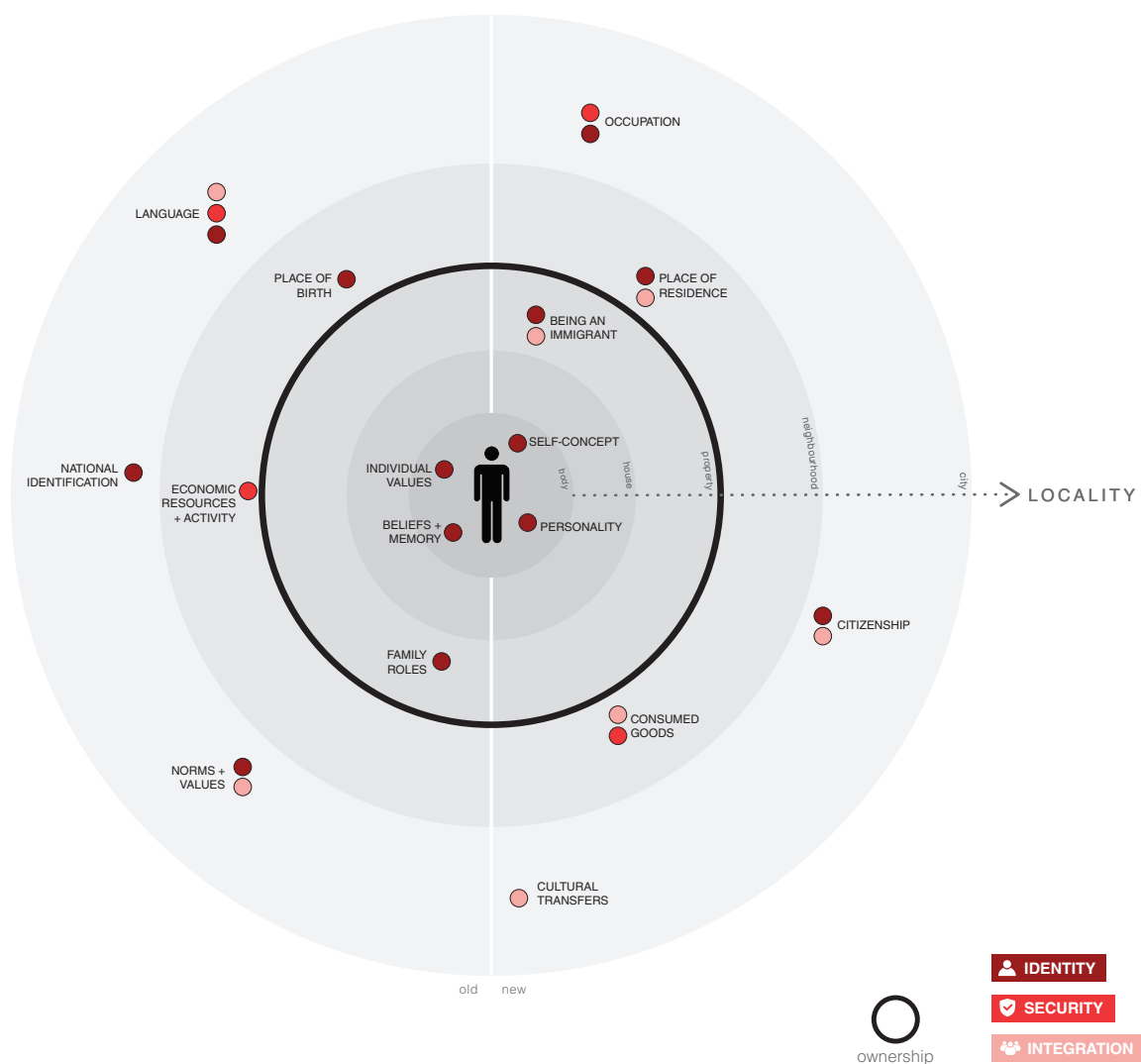


Figure 16. Social Anchoring concept proposed by Aleksandra Gryzmala-Kazlowska, Institute for Research into Superdiversity.



hold strong ties to culture or personal experiences).<sup>40</sup> The diagram orients social anchors within various scales of locality, or the physical geographical setting, and this can extend outward from the self to the neighbourhood and eventually the larger society.

Overall, social anchoring is the process that one might take to find points of reference and stability that ground and help regain a sense of place and belonging. Like Lefebvre, Soja, and Norberg-Schulz, Grzymala-Kazlowska establishes the same interconnected relationship between the city, individuals, and societies. However, her work is distinguished by stressing the role of identity and social relations in the stabilization of fluid and diverse contemporary peoples.<sup>41</sup> In the case of this thesis, the contemporary people are the newcomer population in East Calgary.

In conclusion, the social effects of urban design become ever clearer when studying North American suburban districts. In the case of the lower-income areas of East Calgary, there is a need to recognize the heightened social challenges of the many newcomers who choose to settle there but also its reciprocal impacts on the city. Social anchoring can therefore be a process that can meet the needs for contemporary placemaking as people lead increasingly geographically-shifting lives, and will be pursued in the thesis question and investigation.

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40 Grzymala-Kazlowska, "Social Anchoring: Immigrant Identity, Security and Integration Reconnected?", 1131.

41 Aleksandra Grzymala-Kazlowska, "From Connecting to Social Anchoring: Adaptation and 'settlement' of Polish Migrants in the UK.," *Journal of Ethnic and Migration Studies* 44, no. 2 (2018): 252.

## CHAPTER 3: PLACEMAKING AND URBAN REVITALIZATION THROUGH THE FOOD SYSTEM

### Thesis Statement

*The activation of the place-, people-, and time-based food system can preserve identity, provide security, and promote integration for newcomers, thus enabling social anchoring to regain a sense of place and belonging in East Calgary.*

Chapter 3 is the thesis proposal for PLACEMAKERS which uses the food system to address the challenges of placemaking for newcomers in East Calgary. The physical, social, and cultural dimensions of food will be explained within the framework of social anchoring to demonstrate how it can create a sense of place. With this established, the thesis presents the goals of the PLACEMAKERS system and how they are achieved through architectural, urban, and agricultural programming. Finally, the feasibility of activating the food system into the urban waste spaces of the Study Area will be investigated by looking into the specifics of land suitability, the local climate, newcomer interest in participation, and compatibility with the food industry in Calgary.

### PLACEMAKERS: The Food System

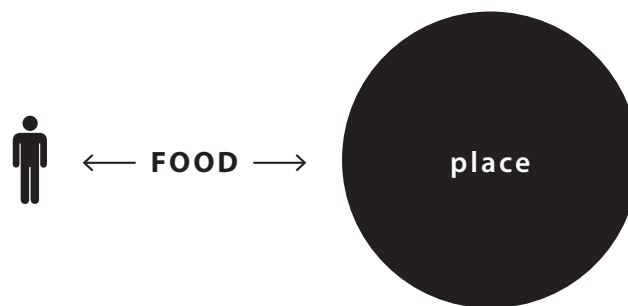


Figure 17. Food is the medium that mediates between people and place.

To address the interconnected spatial and social issues presented in the previous chapter and the thesis question, the thesis proposes PLACEMAKERS – the implementation of new urban farms and community spaces into urban waste areas in which the food system can be activated and take place. Chapter 3 will explore the systems and programs of PLACEMAKERS in detail but first the case for using the food system will be made.

Food, in its nature as a basic human need, is something that all human beings, regardless of origins or experiences, have an intimate relationship with and understand deeply. It can be a vital connection that transcends cultural, economic, and social boundaries.<sup>42</sup> It is therefore proposed to use food as the medium that mediates between people and place (Figure 17). Food in the conventional sense is a commodity, however, the thesis recognizes food as a holistic system consisting of a series of stages (Figure 18):

FOOD = GROWING [production] > SHOPPING [purchase] and/or SELLING [distribution] > COOKING [preparation] > EATING [consumption] + LEARNING [education]

Where *production* refers to agricultural activities related to the growth and harvest of produce; *purchase* and *distribution* refer to the transactions of buying and selling food or food-related goods; *preparation* refers to the act of cooking, or the transformation of raw food into meals and secondary products; *consumption* refers to act of eating food to sustain life and often within the company of others; and *education* is not an independent stage in itself and refers to the learning opportunities available throughout the food system.

## **Social Anchoring with Food**

Recalling the multiple territories (material, economic, social, cultural, emotional) that newcomers must re-establish, food is one of the few materials encountered in human life whose multi-dimensional value can address all the necessary ingredients required in the complexities of placemaking. This thesis will then use the simplified framework of identity, security, and integration outlined in the social anchoring process and demonstrate that food can address them all. Figure 19 is a diagram that highlights the variety of social anchors that can be created from the food system.

## ***Preserving Identity***

Tina Moffat and K. Bruce Newbold investigate the interaction between culture and immigrant food security in Canada in their journal “The Cultural Dimensions of Food Insecurity among Immigrants and Refugees”. They describe that traditional foods and ways of eating are a product of ecology, customs, and traditions that are tied to ethno-cultural identity (Figure

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<sup>42</sup> Francesca Miazzo, Mark Minkjan, and CITIES Foundation, *Farming the City: Food as a Tool for Today's Urbanisation* (Amsterdam: Trancity Valiz, 2013), 220.



Figure 18. The Food System.

SOCIAL ANCHORS FROM FOOD

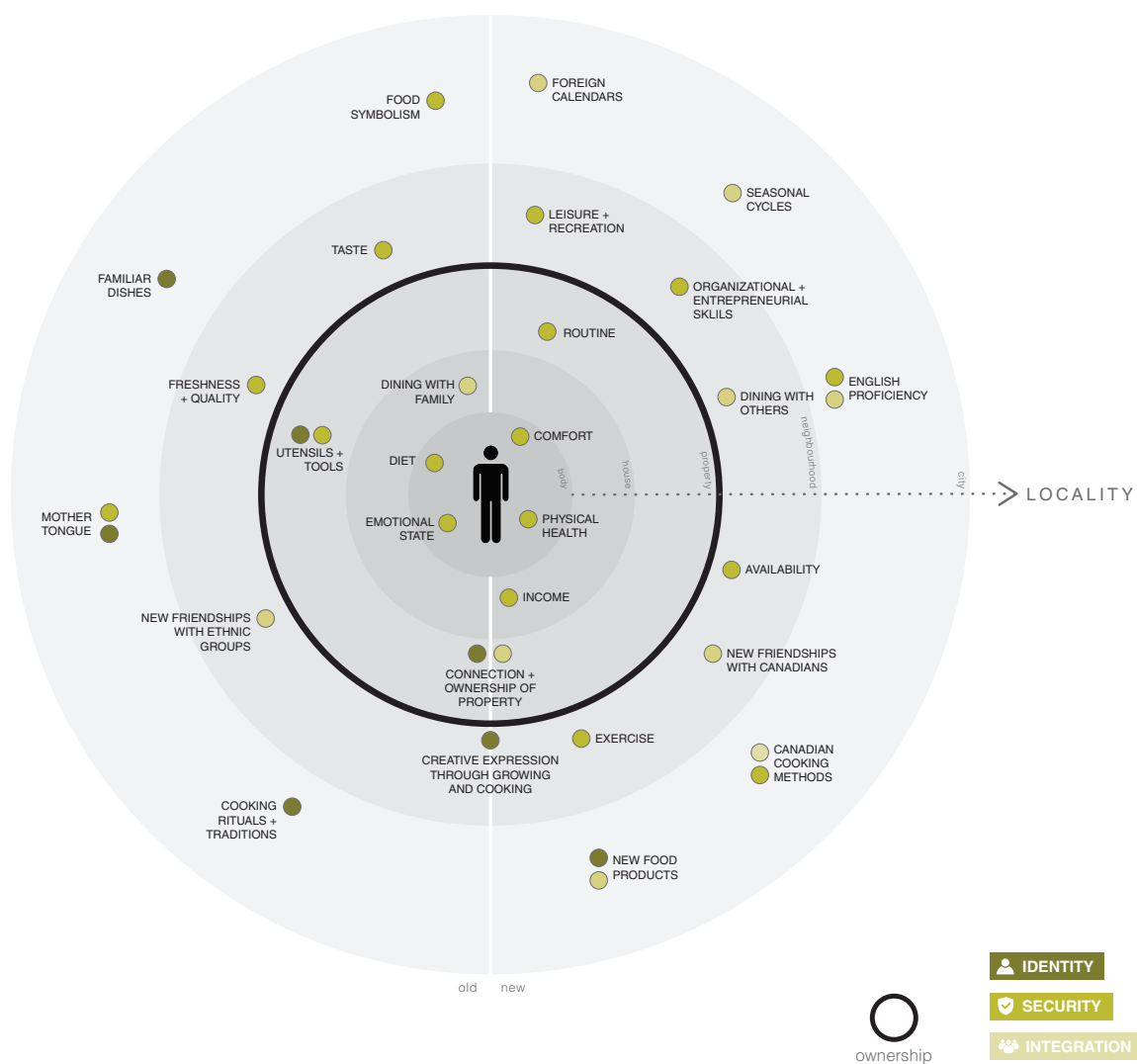


Figure 19. Social anchors created from the food system.

20).<sup>43</sup> Food is often a reflection of a society itself, its history, land, and people, which explains why food plays such a large role in cultural events and religious holidays.<sup>44</sup> With migration, the practices relating to the production and consumption of food may change but conserving them as much as possible is a vital component in maintaining one's identity as an immigrant in a new setting. When familiar foods are no longer available, ethno-cultural identity can be destabilized.<sup>45</sup> Thus engaging the family, especially the newer generations, in cultural cooking and eating is an especially important way of preserving identity in a diverse Canadian society.

Growing and cooking food are also acts of personal expression.<sup>46</sup> Most can attest that gardens or dishes created by certain hands reflect individual personality and character; to be able to continue these creative pursuits after immigrating are also important in exercising ownership and preserving the sense of self.<sup>47</sup> Immigrant farmers from Burundi of the St. Louis Urban Gardens expressed:

We would like to have a place to farm because that's what we do - it's in our blood.<sup>48</sup>

For non-newcomers, purchasing ethnic food products, eating in restaurants and participating in festive cultural events all contribute to a better understanding of ethnic diversity.<sup>49</sup> Learning language through the names of foods and dishes is one of the easiest ways that food can link one to different cultures.

Therefore, ethnic produce and ingredients, cooking methods, the utensils and ware used in cooking traditional dishes, the cultural practices in which these food are consumed, and the mother language, are all examples of social anchors that can preserve personal and

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43 Moffat and Newbold, "Cultural Dimensions of Food Insecurity among Immigrants and Refugees," 15.

44 Carolyn Steel, *Hungry City: How Food Shapes Our Lives* (London: Chatto & Windus, 2008), 246.

45 Moffat and Newbold, "Cultural Dimensions of Food Insecurity among Immigrants and Refugees," 15.

46 Yves Cabannes and Isabel Raposo, "Peri-urban Agriculture, Social Inclusion of Migrant Population and Right to the City," *City* 17, no. 2 (2013): 245.

47 Steel, *Hungry City: How Food Shapes Our Lives*, 198.

48 Ted Hesson, "Planting Exotic Crops for the Sake of the Local Economy," *The Atlantic*, last modified July 12, 2015, <https://www.theatlantic.com/business/archive/2015/07/immigrant-refugees-farm-food-from-home/398237/>.

49 Steel, *Hungry City: How Food Shapes Our Lives*, 199.





- 01. Morcon / Christmas [Philippines]
- 02. Mut tet / Lunar New Year [Vietnam]
- 03. Pounded yam and egusi [Nigeria]
- 04. Haleem / Ramadan [Pakistan]

Figure 20. Examples of cultural dishes prepared for celebrations of various cultures. (Sources: Dan Rivera, Vietnam-Online.org, ImmaculateBites, and SBS Food)

cultural identity.

### ***Providing Security***

Security within the social anchoring concept includes the domains of basic needs such as safety, income, employment, housing, health, and stability. Security can first be understood within the context of food security, as it can be quickly seen that food security affects many other broader aspects of general security.

Newcomers experience a higher prevalence of food insecurity compared to non-immigrant Canadians.<sup>50</sup> This can be attributed to the cultural dimensions of food; although food can be obtained as a source of nutrition, it is not guaranteed to be satisfying. Research conducted by Moffat and Newbold found that almost all immigrant and refugee participants reported that the quality and freshness of food items available in Canada were not as good as in their home countries, highlighting that foods do not taste and smell as good as they used to.<sup>51</sup> Therefore if culturally satisfying foods are not available, or are no longer enjoyed in the host country, it can bring about a loss of culture and profoundly affect physical and mental health and overall well-being.<sup>52</sup> It is important to then distinguish *culturally-appropriate food* from the food that is more commonly accessible in the new host society.

Several urban farming and community food centre projects in Canada (collectively illustrating the operations of the food system) have found success in improving several aspects of security among immigrants. Rainbow Community Garden in Winnipeg, Manitoba is a notable project that is operated by the Immigrants Integration and Farming Worker Community Co-op. Newcomers to the country can grow crops that are typically found in Manitoba as well as vegetables that are difficult to find or that are imported and expensive, such as fresh leaves of mustard, sweet pepper and sweet potato plants<sup>53</sup>. Farmers expressed that accessing the garden has provided large amounts of produce that has reduced grocery bills leaving more available income. A higher intake of fresh vegetables improved their diets which has also led to improved physical health. Working in the farm

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50 Moffat and Newbold, "Cultural Dimensions of Food Insecurity among Immigrants and Refugees," 15.

51 Ibid., 19.

52 Ibid., 16.

53 McDonald, "Putting down roots in Canadian soil."



provided new opportunities for physical exercise, recreation, and social opportunities which has improved overall physical and mental health. One extremely valuable benefit of participating in urban farming is the ability to learn and practice English skills as it is the language used to communicate between people from several countries. Farmers reported that Rainbow Gardens is a safe place to try speaking English as everyone is also learning:

Even though they don't have any English they say 'hello' to everyone and they get practice from that.<sup>54</sup>

And on the Common Roots Urban Farm in Halifax, Nova Scotia, staff have indicated that improved language skills help newcomer farmers gain confidence in daily life elsewhere in the city.<sup>55</sup>

The Regent Park Community Food Centre (CFC) and the Stop in Toronto, Ontario are two internationally recognized community-based model that advocate for bringing fresh and affordable food and food-based programs to diverse groups that face food insecurity. Many immigrants and refugees live in the surrounding area of the Regent Park CFC and visit to have healthy breakfasts and lunches, but also to purchase groceries and learn new cooking and food skills in classes. Time and distance to access food at other larger, discounted and oftentimes outlying grocery stores are reduced which relieves daily stresses. Developing new food skills are another critical challenge that many newcomers have as they need to learn new ways of shopping, new food products, and even how to use new utensils.<sup>56</sup> The overall impact of increased security has been improved overall well-being as reported by visitors to the Regent Park and other CFCs.

In general, a good diet, physical health, income, English language proficiency, cooking skills, are examples of social anchors created from food that address security.

### ***Promoting Integration***

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54 Food Matters Manitoba, "A Dream That Has Become Real: An Evaluation of Rainbow Community Garden," last modified April 10, 2013, <http://www.foodmattersmanitoba.ca/wp-content/uploads/2015/04/Rainbow-Gardens-eval-with-cover.pdf>.

55 Sara Burgess, Market Coordinator at Common Roots Urban Farm, conversation with author, September 24, 2018.

56 Justin Skinner, "New community food program launched in Regent Park," last modified September 13, 2014, <https://www.toronto.com/news-story/4858226-new-community-food-program-launched-in-regent-park/>.



01. Flats Mentor Farm [Lancaster, US]

02. Good Food Program [Toronto]

03. Regent Park CFC [Toronto]

04. Rainbow Community Garden [Winnipeg]

Figure 21. Case studies of existing urban farming and community food projects. (Sources: Veggi Farmers Cooperative, FoodShare, Justin Skinner, Food Matters Manitoba)

Grzymala-Kazlowska describes integration as when immigrants settle permanently in new countries with an emphasis on social connections and the notion of social networks to link individuals<sup>57</sup>. The food system provides abundant opportunity to build new friendships and strengthen newcomer community. The social aspects of urban agriculture through to cooking and dining are a significant benefit for newcomer farmers, especially as many share similar experiences despite being from different places. The founder of the Rainbow Community Garden, Raymond Ngarbouri originally from Burundi, says:

When they meet here, they open up, sharing their memories from refugee camps and from their home, the atrocities that they went through. Many times you can see them talking and starting to cry. You can see the tears coming. And after a while they start laughing.<sup>58</sup>

And Carolyn Steel, an architect and a leading thinker on food and cities, poignantly describes of shared meal in her book *Hungry City*:

It is mankind's most complex social phenomenon for a reason. It is the context in which more than anywhere else, we define ourselves as social beings... the oldest human instinct of all: the sense of belonging and safety that comes from sharing food with others.<sup>59</sup>

The reality that the food system is equivalently a social system provides a foundational role in promoting integration with a new society.

However, Grzymala-Kazlowska warns of the potential for ethnic networks to be disadvantageous when they foster separation from other groups and prevent culture learning and socio-economic progress.<sup>60</sup> This parallels the sentiments of Kasana towards the dangers of self-ghettoization in Calgary as discussed previously in Chapter 2. Therefore the thesis recognizes the importance of how the food system can also foster community building with the larger Canadian population. As mentioned before, the ability for the food system to improve English skills is critical aspect of promoting integration into the Canadian environment. For urban farms, by being within the city they, in essence, are public places as well. At the Stop CFC in Toronto, founder Nick Saul explains that their urban farms can show visitors the potential for small space gardening and for growing

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57 Grzymala-Kazlowska, "Social Anchoring: Immigrant Identity, Security and Integration Reconnected?", 1132.

58 McDonald, "Putting down roots in Canadian soil."

59 Steel, *Hungry City: How Food Shapes Our Lives*, 244, 246.

60 Grzymala-Kazlowska, "Social Anchoring: Immigrant Identity, Security and Integration Reconnected?", 1132.

crops like okra and bitter melon that are familiar to the diverse communities in the city.<sup>61</sup> Likewise, the Stop's cooking classes and community meals offer a chance for newcomers to share traditional dishes between each other and to visitors. The food systems offers the opportunity for all to learn new ways of growing, cooking, and eating culturally-rich food.

Therefore, the new friendships, ethnic crops, ethnic and Canadian cooking skills, and community events, are examples of social anchors created from the food system that address integration.

### **Sense of Place**

Returning to the thesis question, however, now within the framework of the food system, the thesis will draw upon two on academic publications: the first on interplay of urban agriculture and place sentiment by Rudy Dunlap, Justin Harmon, and Gerard Kyle of Texas A&M University; and the second on placemaking through food in by Fabio Parasecoli, a social researcher and specialist in food studies at New York University.

In his journal "Food, Identity, and Cultural Reproduction in Immigrant Communities", Parasecoli follows a similar vein as Grzymala-Kazlowska and the social anchoring concept when he states that food can become important points of reference for immigrants in the formation of a sense of community and belonging.<sup>62</sup> The research of Dunlap et al. found similar conclusions in their research into the social constructivist understandings of place in urban agriculture. Dunlap et al. developed a concrete definition of *sense of place* which will be used in this thesis: *sense of place* is created through 1) connections via physical interaction, and 2) connections mediated by social relations.<sup>63</sup> However, a crucial element in both types of connections are that they are time-based experiences, where Dunlap et al. explain, "It is the steady accretion of experience within place, often with others, that works to foster deeper connections to place such that the meanings attached to the physical environment become important elements of self and community identity."<sup>64</sup> Therefore, the

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61 Nick Saul and Andrea Curtis, *The Stop: How the Fight for Good Food Transformed a Community and Inspired a Movement* (Brooklyn: Melville House, 2013), 165.

62 Fabio Parasecoli, "Food, Identity, and Cultural Reproduction in Immigrant Communities," *Social Research* 81, no. 2 (2014): 415.

63 Rudy Dunlap, Justin Harmon, and Gerard Kyle, "Growing in Place: The Interplay of Urban Agriculture and Place Sentiment," *Leisure/Loisir* 37, no. 4 (2014): 405

64 Dunlap, Harmon, and Kyle, "Growing in Place: The Interplay of Urban Agriculture and Place

SENSE OF PLACE



Figure 22. Diagram representing Sense of Place.



nature of food as a place-, people-, and time-based experience form the equation to what creates a sense of place and belonging. Sense of place is reinterpreted in this thesis in Figure 22.

Urban agriculture, the first stage of the food system, holds immense value for its ability to establish physical connection to a place. Dunlap et al. describe how the physical nature of urban cultivation activities, as opposed to industrial agriculture, create an intimate relation with the soil and plants. Physical interaction entails an investment of labour, attention to local soil conditions and growing methods, and perceiving visual changes over time in the growth of plants and the alteration of the landscape. This created in a high level of satisfaction and improved personal well-being as reported by research participants engaged in urban agriculture due its direct link to nature, its tangible outcomes and enhanced connection to the place of growth.<sup>65</sup> These sentiments are similarly reflected by Rod Olson of Leaf & Lyre Urban Farms, an urban agriculture advocate in Calgary and farmer who often employs newcomers in his business. Olson emphasizes the impact of urban agriculture for newcomers:

I know the value of having my own hand in the soil. Because these people have been displaced, I think that there is nothing more profound than planting a seed, seeing it grow, and then consuming what the earth has given you. There's a sense of home and stability that comes when you can do that, and that's been ripped away from any newcomer. And so if we've got this land, then why can't we let them have that experience.<sup>66</sup>

This is a demonstration of the value that urban agriculture may have in helping create a new sense of place and belonging for newcomers.

Parasecoli further elaborates on the physical and social connections that can be built through the latter stages of the food system. He discusses how food can root one in the tangible world, or a definite geographical *locality*. He explains that for newcomers, eating is an inevitable component of daily life that forces physical, emotional, and cognitive interaction with the surrounding 'Otherness', or unfamiliar sensory and cultural environments.<sup>67</sup> This interaction is experienced through the production, preparation, and consumption of foods, the performance and reproduction of cultural practices. In other

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Sentiment," 400.

65 Ibid., 405-406.

66 McDonald, "Putting down roots in Canadian soil."

67 Parasecoli, "Food, Identity, and Cultural Reproduction in Immigrant Communities," 418.



words, newcomers have little choice but to build what he defines as a *cognitive map* out of the necessity to eat. The cognitive map spans from the block to the workplace, from grocery stores or markets that sell familiar ingredients to the kitchens of restaurants or houses of family members where traditional dishes are prepared. The cognitive map also includes shopping malls and the systems that provide cash, internet, phone, and transit services. Community is then experienced as a network of food producers, distributors, consumers, friends, family members, other migrants – the social relations that are steadily created as newcomers navigate through their cognitive maps over a definite period of time.<sup>68</sup> The building of community or the social network is integral to the integration aspect that was previously discussed.

Overall, the cumulative, iterative effect of the food system on everyday life cannot be underestimated because it can initiate and build up the social and spatial structures that are essential for newcomers in building a new sense of place and belonging.

## **A Tool for Urban Revitalization**

The thesis proposes to implement PLACEMAKERS into existing inactive park spaces as an urban revitalization strategy. Several case studies of similar urban agriculture and community space projects have been constructed on previously unoccupied open spaces, such as decommissioned industrial land or in declining neighbourhoods or business districts. For example, the St. Louis Urban Gardens in Missouri were started in 2008 by many refugees farmers from Burundi, Myanmar, and Nepal interested raising crops in the city's North Side, an area that slowly declined over many decades from a loss of manufacturing industries. The farm has since grown significantly to occupy a second site in the city and they have served as a stabilizing presence in areas that were previously known for crime activity and decaying buildings.<sup>69</sup> Toronto's Good Food Program is another case study that has selected neighbourhood sites for locations of community farms as a key part of the revitalization of green spaces around community housing estates. In turn, revitalized sites have encouraged community members to use the limited green spaces for community events and benefit therapeutically from engaging in more outdoor recreational activities. Their proven successes are now being used as a foundational model by the

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68 Parasecoli, "Food, Identity, and Cultural Reproduction in Immigrant Communities," 432.

69 Hesson, "Planting Exotic Crops for the Sake of the Local Economy."

program for future development throughout Toronto.<sup>70</sup> Lastly, the Centre for Education & Research in Environmental Strategies (CERES) in Melbourne is a thriving 12-acre urban farm and environmental education centre that is set on a rehabilitated landfill site. CERES runs as a social enterprise that employs over 180 people from diverse backgrounds while engaging with local visitors and students of all ages and abilities.<sup>71</sup>

All examples demonstrate not only the positive impacts of the food system on an individual but also on a broader urban scale. The collective community investments of migrants can preserve, revalue, and revitalize aging residential areas or declining commercial districts.<sup>72</sup>

### **A Multicultural Network**

Up to this point in the thesis investigation, PLACEMAKERS has been discussed as a design intervention into suburban waste spaces, though, it must be recognized that if the number of revitalized spaces is significant and if their distances from each other are close, PLACEMAKERS can operate at a systems level, or as a spatial network within the city. This is especially applicable to older suburbs that tend to have larger lots and enough land for growing in community spaces. The peripheral infrastructure that often organizes suburbs, such as highways, railways, power line corridors, also have considerable adjacent waste land and offer opportunities to integrate the production of food with the spaces provided for energy and transportation.<sup>73</sup> And so at the broadest level of locality in placemaking, it is proposed that PLACEMAKERS operates as a network of several revitalized spaces of urban food production in the Study Area.

It is important to address the significance of how a network scheme can influence the social dynamics of urban living. Emily Talen advocates in her book *Designing for Diversity: Exploring Socially Mixed Neighbourhoods*, that having places that promote movement in multiple ways throughout the neighbourhood is not only more convenient for

70 Harry Cummings and Associates, "Good Food Program & Urban Agriculture Program Evaluation Report," accessed September 25, 2018, <https://foodshare.net/custom/uploads/2018/02/LPRF-report-FINAL-PMTletter-1.pdf>.

71 Miazzo, Minkjan, and CITIES Foundation, *Farming the City: Food as a Tool for Today's Urbanisation*, 130.

72 Nina Glick Schiller and Ayse Simsek-Caglar, *Locating Migration: Rescaling Cities and Migrants* (Ithaca: Cornell University Press, 2011), 14.

73 Mark Gorgolewski, June Komisar, and Joe Nasr, *Carrot City: Creating Places for Urban Agriculture* (New York: Monacelli Press, 2011), 14.

pedestrians, but it increases opportunities for social transaction which is advantageous for diverse neighbourhoods in the long-term.<sup>74</sup> This also aligns with the proposals in Sarraf Mohammad's doctoral thesis, *The Spatiality of Multiculturalism*, where he explores how cultural diversity and ethnic co-existence is achieved in the architecture of modern cities. One of Mohammad's spatial strategies is to provide public space that overlap or mix, so that individuals from both local and other parts are present; he describes their aggregation as a *spatial structure of community fluidity*. Additionally, Mohammad emphasizes that these spaces should allow a freedom of cultural expression for all social groups and be spatially adaptable so that cultural differences can be negotiated and co-exist.<sup>75</sup>

To translate this into PLACEMAKERS, if it is an evolving system of proximate, desirable areas for both newcomers and Calgarians to engage with a culturally-diverse food system, attention to how they are connected and how travel to and from them can facilitate improved social connections between all. This fully satisfies at the urban scale the two requirements to create a sense of place as discussed earlier, which were physical interaction and social relations.

## Design Goals and Strategies

For program and design precedence, the thesis referenced a variety of urban agriculture and community projects. Each project was studied for different attributes as there are no precedents found that capture the complete food system but also focus on specifically the newcomer demographic. Certain projects directly involve newcomer farmers while others do not have an agricultural component but provide language and new Canadian residency services. Precedence selection and a complete literature review can be found in Appendix B. They provided the basis for seven goals of PLACEMAKERS and are the following (Figure 23):

1. *(to encourage) Social Transaction.* To provide spaces for organized and informal opportunity where people of varying ethnicity, socio-economic class, age, and culture can meet and socialize.

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74 Emily Talen, *Design for Diversity: Exploring Socially Mixed Neighbourhoods* (London: Architectural Press, 2008), 149.

75 Mohammad Sarraf, "Spatiality of Multiculturalism," (Doctoral thesis, KTH Royal Institute of Technology, 2015), 193.



Figure 23. Design Precedents and Goals of PLACEMAKERS.

2. *(to provide) Cultural Education.* To provide spaces for organized and informal opportunity where people can learn about cultures different from their own.
3. *(to) Use Urban Space Efficiently.* To pursue intensive urban agricultural production in a manner that creatively achieves a high yield-area ratio. E.g. growing on rooftops, vertical surfaces, moveable planters, etc.
4. *(to ensure) Four-Season Activity.* To provide spaces and program that promote continuous activity indoors and outdoors, in warm and cold temperatures, during the day and the night, so as to combat creating further inactive urban space.
5. *(to be a) Community Economy Generator.* To engage beyond the physical boundaries of PLACEMAKERS by integrating activity with the local food market economy and community groups. E.g. income-generation through retail sales, facilities for hire, partnering with schools, corporations, volunteer groups, etc.
6. *(to) Connect to Locality.* To design with materials, technology, knowledge, and labour that stimulates the local economy and creates awareness of the unique features of the Calgarian ecological environment. E.g. using locally-sourced materials, climate-responsive design, etc.
7. *(to catalyze) Urban Revitalization.* To create places that foster building relationships, healthy lifestyles, urban beautification, civic pride, and a sense of place and belonging in the community.

## **Systems and Program**

Understanding the thesis proposal from a systems and programs perspective provides a clear summary and point of reference to begin from for project design. Thus, activating PLACEMAKERS requires a three-part interplay of systems: the food system and the systems fundamental to *sense of place* – physical interaction and social relations. In essence, the three systems of the thesis can be simply considered as food, place, and people, where food is the mediator between a place and its people. Figure 24 details the three systems and the architectural programs that enable exchange between them. Altogether, their activation depends on the newcomer population, represented at the center of the diagram, and collectively they form a complete basis for the design of PLACEMAKERS.

The following program elements constitute the PLACEMAKERS thesis proposal and are

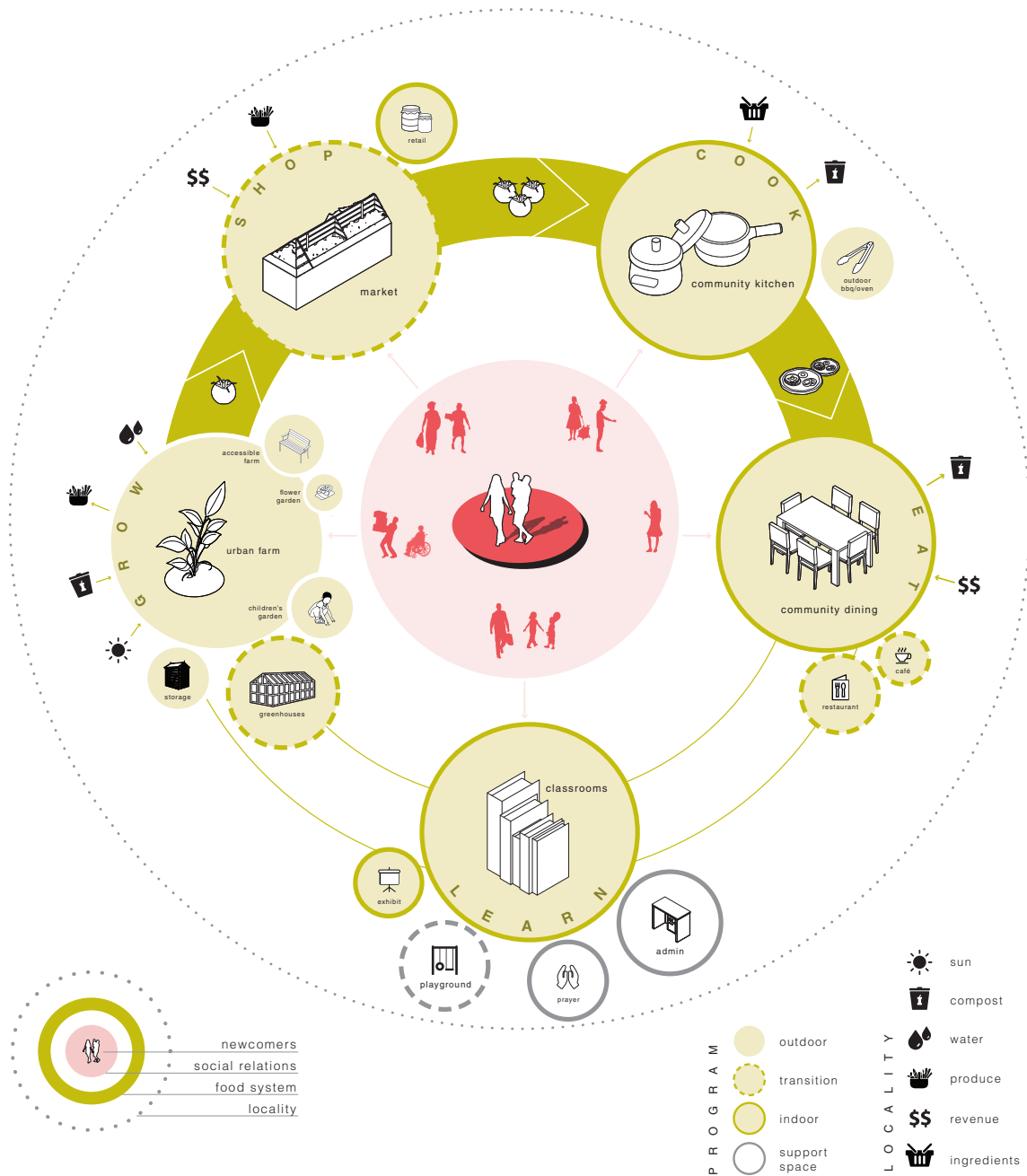


Figure 24. PLACEMAKERS systems and program diagram.



detailed according to the stages of the food system:

### **Grow**

- *Urban farm* – primary outdoor agricultural program; where agricultural activities such as the plowing of soil, the seeding, growth, harvest, and composting of fruit and vegetables take place;
- *Accessible farm* – an urban farm with amenities that cater to the physically, visually, or cognitively impaired; accessible by minimized travel and may include raised beds, integrated benches, audible features, flat walkways, and more;
- *Children's garden* – an urban farm that is located close to classroom amenities, can accommodate large groups, include education signage, etc.;
- *Ornamental garden* – an urban farm that includes flowers and plants that are food with ornamental qualities;
- *Greenhouse* – primary indoor agricultural program that can accommodate year-round activity; protects from the elements and prolongs the growing season; can include plant species that are more sensitive to temperature, sun, and humidity; and
- *Storage* – a designated enclosed area for tools and equipment.
- *Irrigation and wash station* – regularly distributed sources of water, such as from a hosed water main or harvested stormwater, to water planted crops or wash harvested produce.

### **Shop/Sell**

- *Farmer's market* – primary outdoor or indoor program; where all community members can sell or buy produce grown in the urban farm; and
- *Retail* – additional space designated for the sale of secondary products created by newcomers from harvested produce.

## **Cook**

- *Community kitchen* – primary area to cook meals from food grown in urban farms and greenhouses; can include designated area and amenities for students and children to cook and learn; and
- *Outdoor BBQ/oven* – a designated outdoor area for the cooking of large meals for group events such as harvest time, cultural celebrations, etc.

## **Eat**

- *Community dining* – primary program; a large area where newcomer individuals, families, friends, staff, volunteers can dine together;
- *Café* – smaller space where the newcomer community and public can visit short-term to enjoy food and coffee; and
- *Restaurant* – a large area where cultural meals can be prepared and enjoyed that can generate a profit to benefit the operations of the social enterprise.

## **Learn**

- *Classrooms* – indoor rooms designated for language classes, learning agricultural and entrepreneurial skills, as well as classrooms to host students from nearby schools to learn about the food system; and
- *Exhibit* – designated space to showcase the operations and successes of PLACEMAKERS; can include exhibiting various cultural seeds used, crops grown, secondary products made, community members involved, etc.

## **Support Spaces**

- *Meditation and prayer space* – designated quiet areas to accommodate the needs of those who practice prayer rituals or who desire a minimally stimulating environment;
- *Daycare and Playground* – outdoor and indoor play spaces for children and families

to visit the project;

- Family room – designated smaller scale spaces to accommodate nursing families and young children; and
- *Administration* – office and other support spaces that enable the daily operations of the project; can include staff offices, volunteer rooms, lounge, change rooms, etc.

## **Implementation Opportunity in Calgary**

It has been demonstrated in Chapter 2 that there is critical social and urban opportunity in East Calgary to activate the food system. It is then necessary to acknowledge the agricultural suitability of the land itself, the viability of the thesis within the context of the city's local food economy, and gauge compatibility within the interests the newcomer population in order to assess the likelihood of successful implementation of the thesis into the Study Area.

### ***Land Suitability***

There is abundant opportunity for the production stage of the food system in Calgary. Due to the city's geographical location, it has access to best agricultural lands in the province. Figure 25 illustrates the land suitability ratings of Alberta which are based on soil type, climate, and location. Most land fit for agricultural use are concentrated in the southern half; the highest rated land in the province, Class 2, comprise less than four percent of all land in Alberta are primarily located adjacent to Calgary.<sup>76</sup> In fact, the entire eastern boundary lies entirely in Class 2 lands which indicates that the Study Area is extremely suitable for hosting agricultural activities.

### ***East Calgary Climate***

In general, Calgary has a Koppen-Geiger classification of Dfc, a continental subarctic climate, and falls in the plant hardiness zone 3A. The city is located in the Chinook Zone of Southern Alberta, where warm, dry winds often break up periods of constant temperatures, most noticeably during the winter seasons. A microclimate also exists in East Calgary; due

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<sup>76</sup> Ross McKenzie, "Loss of our prime agricultural lands," *Soil Conservation Council of Canada*, last modified August 30, 2016, [http://www.soilcc.ca/news\\_releases/2016/nr\\_2016-04\\_e.php](http://www.soilcc.ca/news_releases/2016/nr_2016-04_e.php).

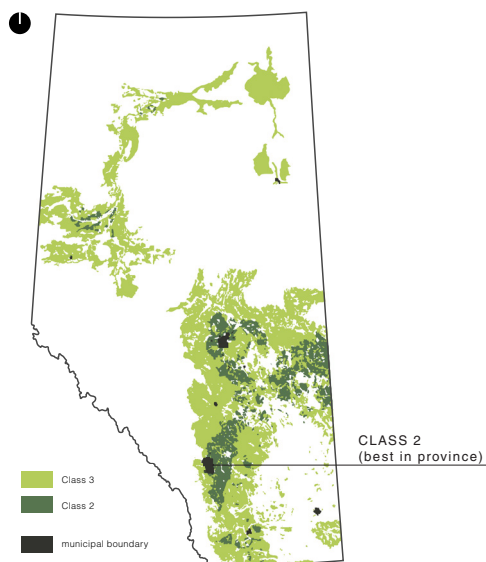


Figure 25. Land suitability ratings of Alberta. (Source: Ross McKenzie)

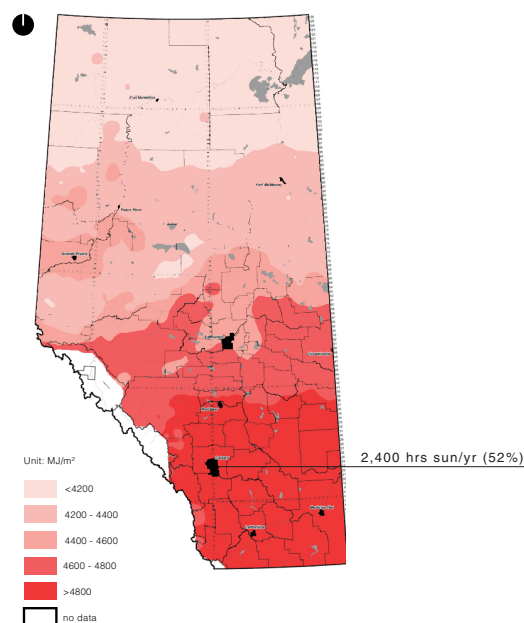


Figure 26. Annual solar radiation of Alberta. (Source: Alberta Agriculture and Forestry, "Agricultural Land Resource Atlas of Alberta - Annual Solar Radiation of Alberta, 1971 to 2000.")

to the orographic (chinook) effect of warmer winds that descend east of Nose Hill in the centre north, the low-lying eastern areas of the city also experience warmer temperatures and less frost than other areas of the city, which affirms that East Calgary is a relatively more attractive area for agricultural activity.<sup>77</sup>

The specific agroclimate elements that influence plant growth are precipitation, temperature, heat units, frost-free period, growing season length and wind. Precipitation and temperature are the elements that have the highest influence.<sup>78</sup> Detailed agroclimatic conditions that can inform urban farm and greenhouse design can be found in Appendix C. Figure 26 also illustrates that southern Alberta hosts the province's most abundant solar resources which is advantageous for considerations of greenhouse design and application in the Study Area.

<sup>77</sup> Liesbeth Leatherbarrow, Lesly Reynolds, and the Calgary Horticultural Society, *The Calgary Gardener Volume 2: Beyond the Basics* (Canada: Fifth House Books, 1998), xvi.

<sup>78</sup> Alberta Ministry of Agriculture and Forestry, "Agroclimatic Atlas of Alberta: Agricultural Climate Elements," last modified January 15, 2015, [https://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/sag6301](https://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sag6301).

### ***Newcomer Interest***

The Calgary Immigrant Education Society (CIES) has reported significant change in its clientele beginning 2015. As more people are arriving from drought-stricken African countries and Syria, there is growing interest among newcomers in agricultural pursuits in Calgary. CIES reports that approximately twenty percent of newcomers in Calgary have farming experience (Figure 27).<sup>79</sup>

### ***Food Industry in Calgary***

There are also relatively few urban farms and farmer's markets that operate for a city of Calgary's size, and none of them are located in the Study Area (Figure 28). East Calgary is essentially a local food desert which presents a strong economic opportunity to implement the thesis project.

There is a clear case for the food system's power and ability to help create a sense of place. The thesis proposal for a complete systems approach of PLACEMAKERS is a thorough engagement with locality, people, and time, the experiential dimensions that are intrinsic to food. This is evident from its wide-reaching scales of impact – from the individual to the urban network of a city. In doing so, the thesis question into the newcomer's search for place was answered but the investigation also realizes that PLACEMAKERS holds significant influence on all members of the community. Such a proposal that involves the revitalization of urban waste space is in essence an intervention of the public realm – a space that belongs to all. PLACEMAKERS presents unprecedented opportunities that can simultaneously address the specific urban, social, cultural, and economic needs of the Study Area.

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<sup>79</sup> Cesar Suva, Research & Program Development Manager of the Calgary Immigrant Education Society, conversation with author, November 6, 2018.

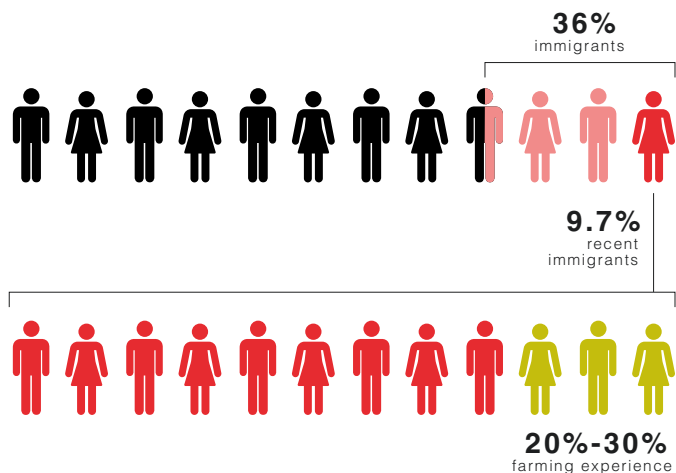


Figure 27. The growing proportion of newcomers in Calgary with farming experience .

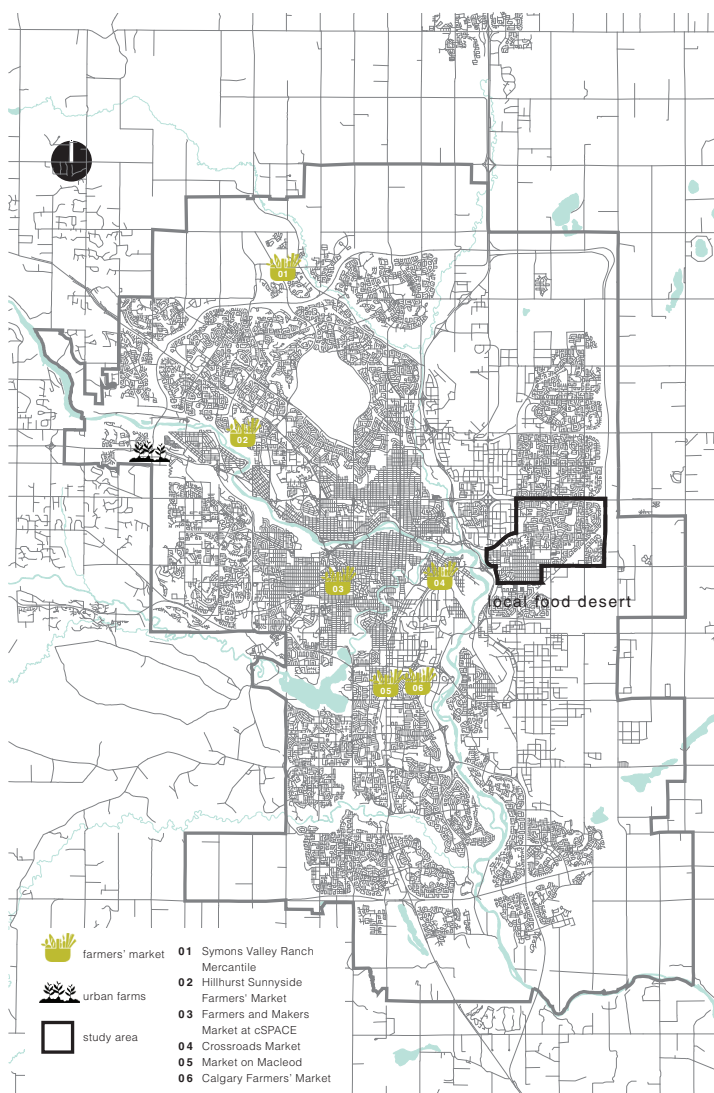


Figure 28. Distribution of farmer's markets in Calgary.





Figure 29. PLACEMAKERS: A wish image.

## CHAPTER 4: THE PLACEMAKERS NETWORK

The thesis proposes to implement PLACEMAKERS across a network of spaces in the Study Area. A comprehensive mapping process, as first demonstrated by architects Katrin Bohn and Andre Viljoen in their various projects in London and Middlesbrough, was similarly used as an analytical tool for revealing the strategies and opportunities for urban food production.<sup>80</sup> This chapter outlines the mapping methodology followed to survey the entire Study Area. In general, site-specific characteristics and attributes were acquired which were then used to formulate the starting structure for the urban, architectural, and agricultural design and programming of PLACEMAKERS. Further details on the data and calculations used in each step can be found in Appendix D.

### PLACEMAKERS Network

1. *Survey Study Area for open spaces.* As previously mentioned in Chapter 2, the Study Area was first surveyed for all open spaces (Figure 30). These were comprised of all publically-accessible outdoor spaces including parks.
2. *Survey Study Area for urban waste spaces.* Upon closer inspection, it was found that

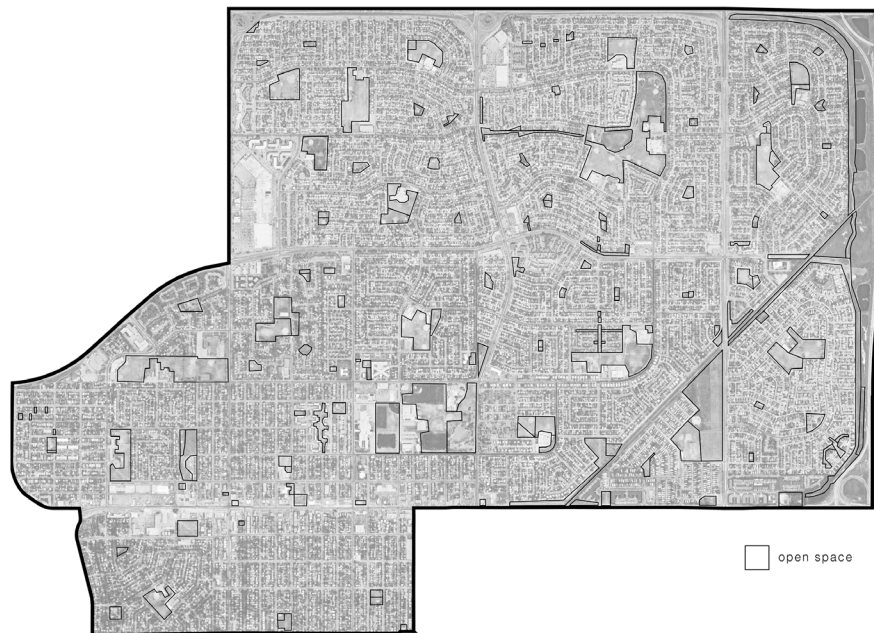


Figure 30. Open spaces of the Study Area.

<sup>80</sup> Gorgolewski, Komisar, and Nasr, *Carrot City: Creating Places for Urban Agriculture*, 27.



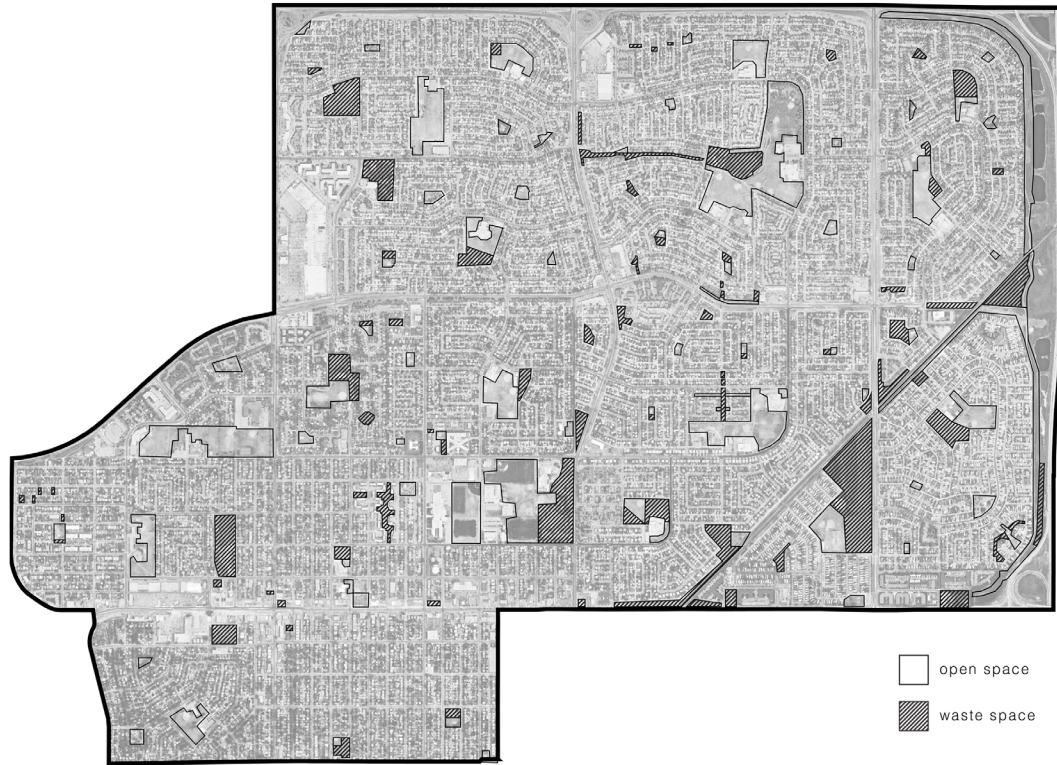


Figure 31. Urban waste spaces of the Study Area.

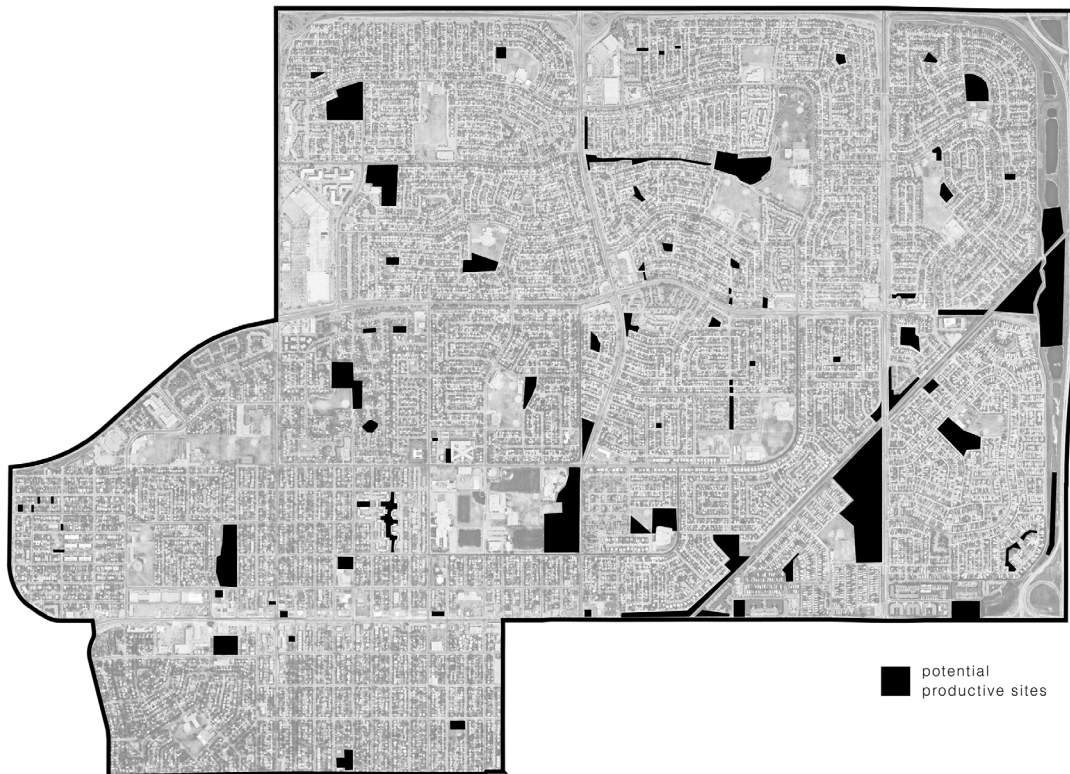


Figure 32. The PLACEMAKERS network of productive sites.

forty-six percent of open spaces are not actively used (Figure 31). They are suburban waste spaces that have become unused or are poorly maintained, such as inactive recreational fields. Waste spaces also include vacant lots created from the demolition of deteriorating buildings.

3. *Identify the PLACEMAKERS network.* All sites comprise a complete network of potential productive opportunities (Figure 32).
4. *Evaluate the food supply-demand scenario.* Various metrics were applied to measure if the food production potential of the network could meet consumer demands of the newcomer population of the Study Area (Figure 33). The following metrics were used:



Figure 33. Metrics applied in the evaluation of food supply and demand of the PLACEMAKERS network.

- *Cultivation area* – Approximately one third of urban agricultural sites are dedicated to cultivation. The remaining space is required for access paths and ancillary buildings.<sup>81</sup> A factor of one-third was therefore applied to all site areas to determine the total space available in the network to produce food.
- *Crop yield* – Looking at yield scenarios of Cuban organiponicos, a yield rate of three kilograms per year was selected to estimate the potential amount of food that can be generated from the PLACEMAKERS network.<sup>82</sup> This is a relatively low rate for organiponicos (versus twenty kilograms per year in the best Cuban cases), and was

<sup>81</sup> André Viljoen, Katrin Bohn, and J. Howe, *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities* (Amsterdam: Elsevier, 2005), 154.

<sup>82</sup> *Ibid.*, 148.

used in order to best simulate the more challenging growing conditions of East Calgary.

- *Vegetable and fruit consumption rate* – The average vegetable and fruit consumption of Calgarians is three to four servings per day.<sup>83</sup> This metric was used to estimate the potential local demand for produce grown from the PLACEMAKERS network. The consumption rate was extrapolated to estimate an annual produce intake of eighty-nine kilograms per year Calgarian.
- *Newcomers in the Study Area* – According to the 2016 federal census, a total of 6,455 newcomers reside in the Study Area.

Accounting for total available cultivation area, expected crop yield, and the average produce intake of Calgarians, it is possible to grow approximately 1,030,000 kilograms of food from the network which can then feed 11,500 people. This is the total estimated annual food supply of PLACEMAKERS. When considering that the total newcomer population is approximately 6,400 people, the supply surpasses the newcomer demand by 180 percent. This result secures a confidence that the PLACEMAKERS network has the agricultural capacity to facilitate social anchoring and placemaking for newcomers in the Study Area. Consequently, the thesis recognizes the excess of supply in the projected scenario as opportune to make the remainder of the food produced also accessible to the larger community.

## Scales of PLACEMAKERS

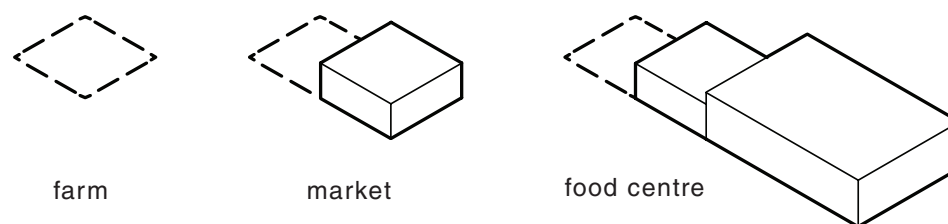


Figure 34. The three scales of PLACEMAKERS.

With the knowledge that a high quantity of food can be produced from urban waste spaces

<sup>83</sup> Population Research Laboratory, "Alberta Survey, 2012A," *University of Alberta Libraries Dataverse*, accessed October 25, 2018, <https://dataverse.library.ualberta.ca/dataset.xhtml?persistentId=doi:10.7939/DVN/10003>.

in the Study Area, it is proposed then that the PLACEMAKERS network occurs at three scales – small, medium, or large – and is a system of urban farms, food markets, community centres. The following steps were taken to identify which scale was most appropriate for each site in the network:

5. *Identify small sites.* The smallest scale sites are farms for private community use. They are suitable for cultivation by individuals, families, or small groups, where produce may be harvested for personal consumption. Enabling the food system at the home or in urban allotments close to home can facilitate more regular and accessible engagement with the food system. The typical 250 m<sup>2</sup> English allotment garden plot and its organization into clusters was referenced to determine an approximate maximum area threshold in the identification of small scale sites. Allotment clusters typically range from twenty plots for small sites up to several hundred for very large sites.<sup>84</sup> A cluster of fifty plots was deemed a reasonable number to use as it is similar to typical existing community garden settings in Calgary. As such, fifty 250 m<sup>2</sup> plots corresponds to a total area of approximately 13,000 m<sup>2</sup> which was the maximum area threshold used to define small sites. The remaining sites are large enough to support commercial food production such that the market economy for locally-sourced and culturally-appropriate food is also activated.
  
6. *Identify medium and large sites.* Larger sites were further assessed for size in order to assign either a medium- or large-scale application. Both scales host urban farm and market infrastructure and together are regularly distributed enough throughout the network to allow for easy access to farmed produced cultivated by newcomers by all community members. The largest sites, however, also include centralized community spaces that can host social programs and events for newcomers. These spaces must therefore be easily accessible to newcomers and be located within a close walking distance. As such, using census data, it was determined that an average of 374 newcomers reside within a one kilometer radius in the Study Area, a reasonable walkable distance (twelve minutes), and that the sites with a large enough capacity to feed 374 people or more were assigned a large-scale application. This method

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<sup>84</sup> Viljoen, Bohn, and Howe, *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*, xix.



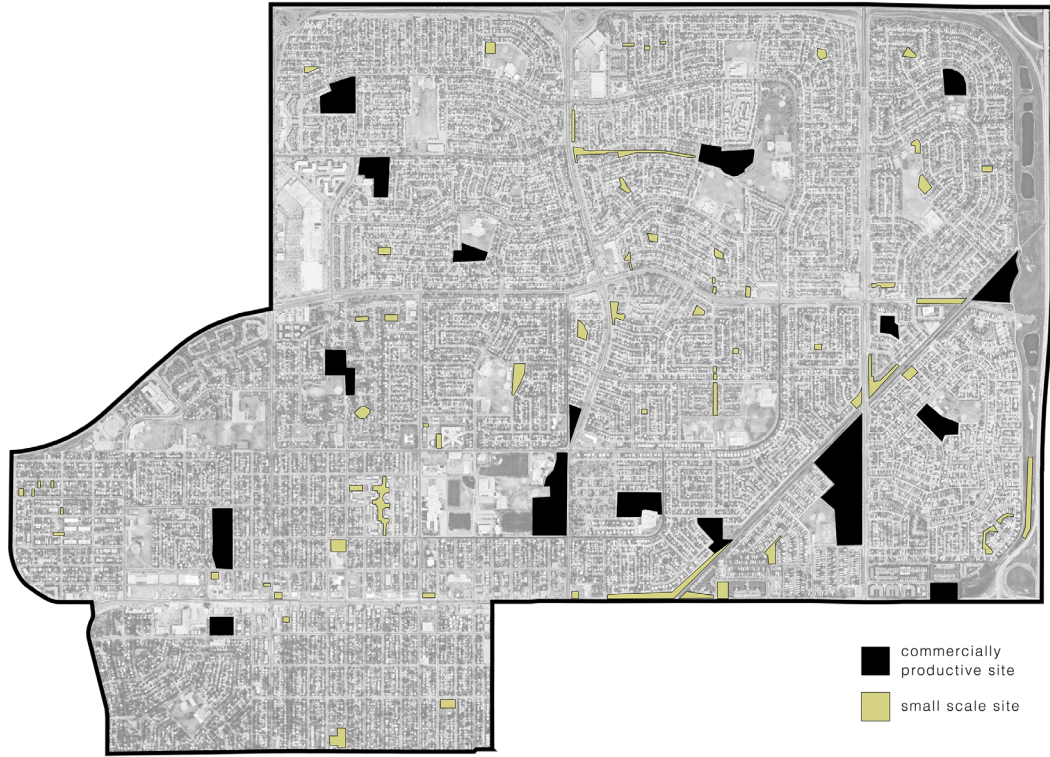


Figure 35. Small-scale sites in the PLACEMAKERS network.



Figure 36. Medium- and large-scale sites of the PLACEMAKERS network.

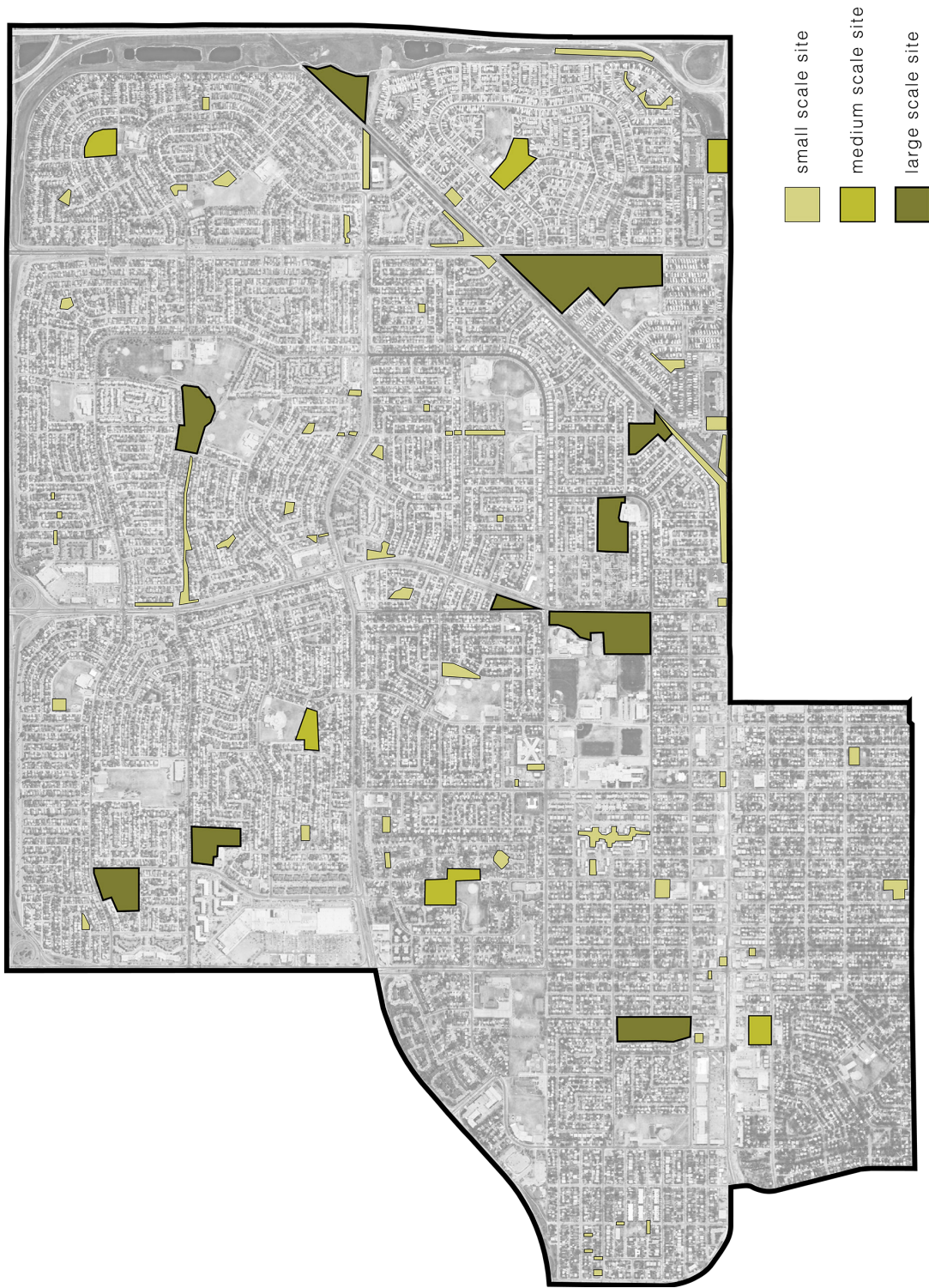


Figure 37. Scales of the PLACEMAKERS network.



is shown in Figure 36 and the overall distribution of scales in the PLACEMAKERS network can be seen in Figure 37.

Altogether, the multi-scalar sites of PLACEMAKERS can activate the food system into the Study Area, both in private home life and public community life.

## Large Site Evaluation

All large-scale sites can be seen in Figure 38. A deeper study into the characteristics and existing conditions of each large-scale site was conducted to better understand the specific urban, architectural, and landscape design opportunities available to successfully activate PLACEMAKERS.

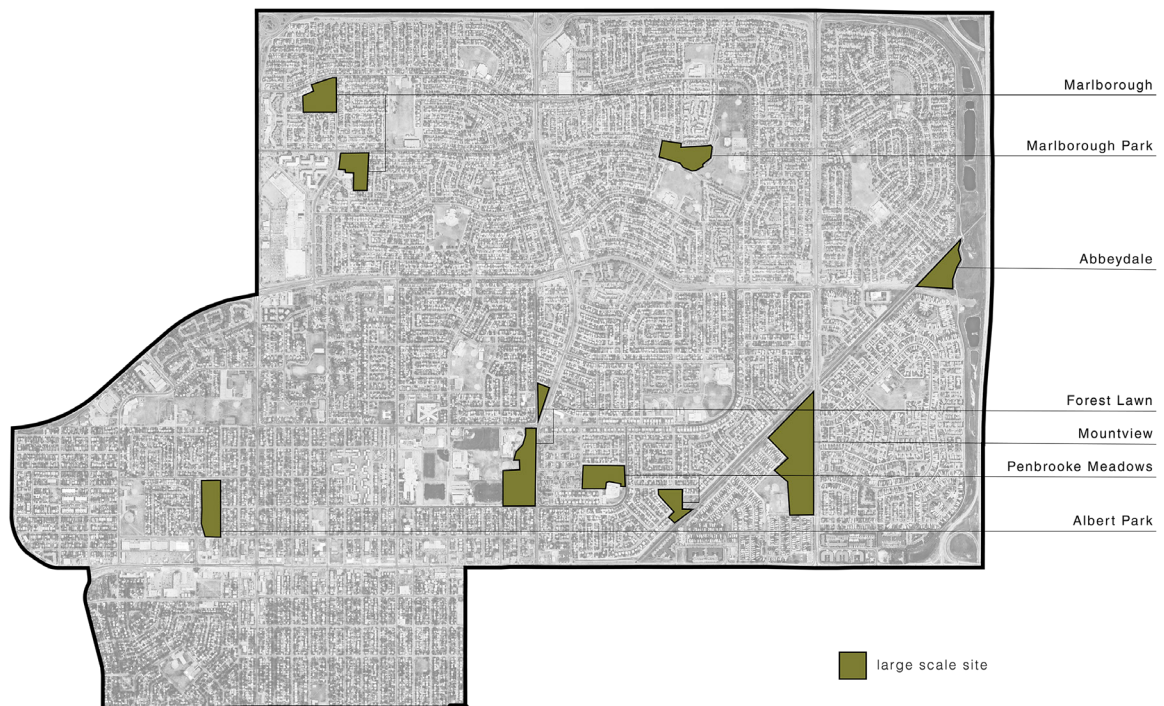


Figure 38. Large-scale sites of the PLACEMAKERS network.

7. *Apply evaluation criteria to large sites.* A range of criteria, ranging from physical qualities to proximity to program, were used to evaluate how the PLACEMAKERS design intervention might operate at a given site (Figure 39). Full details of the evaluation and results can be found in Appendix D.

8. *Site selection for the thesis design project.* A site in the neighbourhood of Albert Park was ranked highest in the evaluation and determined to be optimal to implement PLACEMAKERS at the largest scale (Figure 40).



Figure 39. Evaluation criteria of large-scale sites..

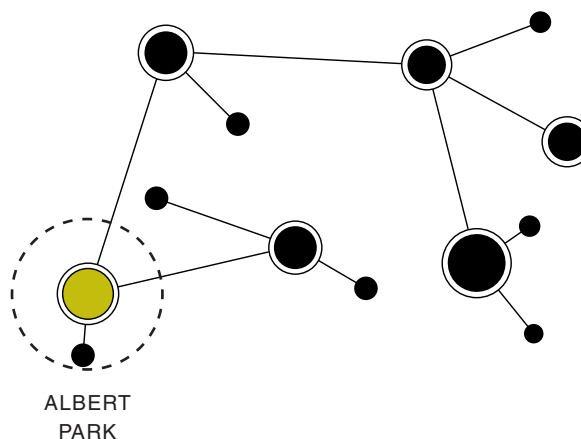


Figure 40. Diagram of the commercial PLACEMAKERS network and the selected design site.

The thesis investigation remains focused on the aim to repurpose and revitalize the excess of inactive public spaces in the Study Area for the purposes of urban food production as the vehicle for placemaking for newcomers. The above mapping methodology therefore was limited in its scope of analysis based on the thesis question and the allotted timeframe for study; however, it is possible to extend the exercise to further develop the PLACEMAKERS network in a more integrated manner that can fully connect cities with food, people, and the natural environment. With added consideration of other types of urban waste spaces (e.g. peripheral spaces of energy, transport, and road infrastructure) and deeper study into landscape design and the needs of local social systems (e.g. food distribution, newcomer perceptions), the PLACEMAKERS network can become a fully Continuously Productive Urban Landscape (CPUL) which is defined as:

A coherently planned and design network of open spaces in a city which are literally spatially continuous, allowing for non-vehicular movement and encounters in open urban space, planted and managed in such a way as to be productive in economical, socio-cultural, and environmental terms, thereby re-establishing a relationship between life and

the processes required to support it..<sup>85</sup>

CPULs are an urban design concept first developed by Bohn & Viljoen Architects, the same architects that provided precedence for the mapping process used in this chapter.

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<sup>85</sup> Viljoen, Bohn, and Howe, *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*, xviii.

## CHAPTER 5: PLACEMAKERS IN ALBERT PARK

This chapter will focus on the activation of PLACEMAKERS into the selected site in Albert Park neighbourhood. The design intervention navigates through the multiple scales of locality to explore place; by first studying the site's urban context and characteristics and responding with specific urban, agricultural, and architectural strategies for an urban farm and community building. The chapter will conclude with the design details for the building's programming, structure, and materiality.

### Urban Context and Site Characteristics

An unnamed site in the neighbourhood of Albert Park was selected to develop the thesis design project using the methodology outlined in Chapter 4. Currently, it stands as a large, vacant lot and overgrown field (Figure 41) in a residential area close to abundant food-related businesses on International Avenue. Albert Park also has an extremely high proportion of immigrants in its population; the 2016 federal census reported a total of thirty-five percent of the population and eleven percent that are newcomers. There are abundant social programs nearby that are compatible for community partnership: six schools and several social houses in which many recent immigrants and refugees live are within a ten minute walking distance. There also are major bus routes located on adjacent streets and the Franklin train station is north of the site and under a 10-minute walk for those who might travel from outside the Study Area to reach the site. An overview of the site's urban context can be seen in Figure 42.

A more detailed assessment of the site is summarized in Figure 43. The total site is approximately 35,000 m<sup>2</sup> in area which is large as it spans nearly a full city block. Most vehicle traffic is located along its north and south sides and the closest bus routes travel along the south. Pedestrian footpaths can be seen running the length of the site and cutting across from east to west to access the neighbouring blocks. The tallest apartment building also lies immediately south of the site, thereby casting its shadow up to the middle of the site. However, during the growing season which typically runs from March to September, this shadow reaches up to the edges of the south sidewalk. Otherwise the site receives full sun for most of the warm months of the year.





Figure 41. Looking southward and northward from the design site.



Figure 42. The urban context of the design site in Albert Park neighbourhood.



## Site Strategy

Therefore, the site strategy is to enhance existing pedestrian flows by integrating formal a pathway system into the urban scheme and to situate a community building on the southeast corner where they can be best accessed by vehicle, transit, and foot traffic from International Avenue. This then forms the general site organizational strategy which is illustrated in Figure 44. The south end acts as the more public “front yard”, behind the building lies the “back yard” garden park, and the remainder of the site is the urban farm that takes on more of the quieter character of the surrounding private residences. Where paths intersect, mark the *nodes of transaction*. These nodes are designed to be distinct from the rest of the site design through more landscaped features that promote dwelling and opportunity for chance encounters. As seen in Figure 45, design of the nodes of transaction include using brick pavers, street and accent lighting to create a safer environment and atmosphere, shelter from the elements either from built infrastructure (e.g. canopies) or overhead vegetation, and park seating such as benches to provide points of rest and relaxation.

Overall, the strategy is to develop the total area available on the site so that it is revitalized

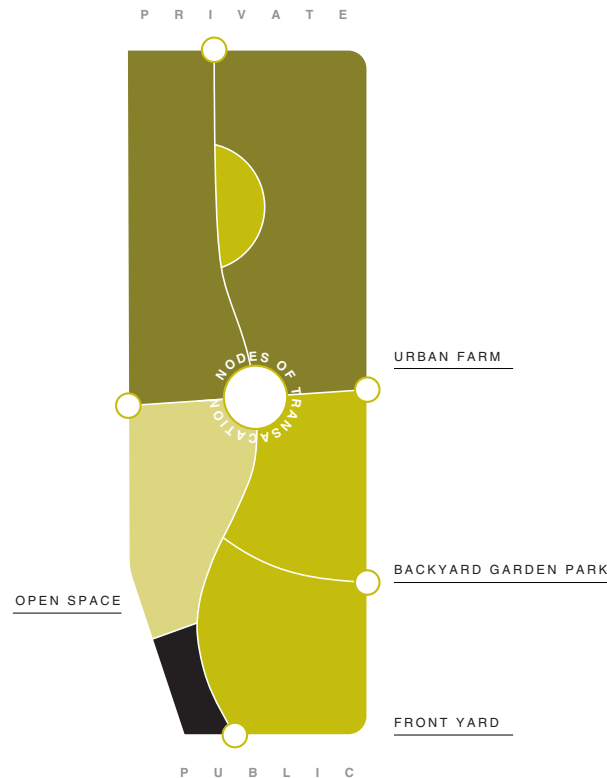


Figure 44. Diagram illustrating the site organizational strategy.



as a public, area of recreation and leisure in the neighbourhood, however, such that it accomplishes more than just convention in what is typically considered a farm or a park; here, PLACEMAKERS plays a dual role in that it is also a place for urban food production.

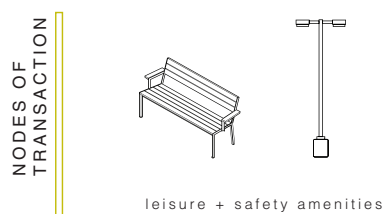


Figure 45. Design elements of the nodes of transaction.

## Site Design

The site plan shown in Figure 46 illustrates the complete application of the agricultural strategies and site design that are described below.

### *Urban Farm*

One of the major strategies in the agricultural design of the thesis project is to engage in four-season farming activity (Figure 47). It is a concept that is promoted and researched by American farmer Eliot Coleman and involves producing vegetable crops year-round, even under harsh winter conditions. This is particularly relevant for urban farming in Canadian prairie climates where the growing season is limited due to short day lengths and below freezing temperatures in the winter. Further, one of the thesis goals is to promote continuous activity throughout the year, and so if this can be achieved through the agriculture, a major component of the project, the goal can ultimately be realized. In Calgary, the average growing season occurs between February 14 and October 27, or when day lengths exceed ten hours, a long enough period for daily heat accumulation.<sup>86</sup> Therefore extending the growing season through additional farming interventions to allow for farming year-round is ideal for this thesis.

Coleman advocates to use a combination of the following three strategies to engage in

<sup>86</sup> Alberta Ministry of Agriculture and Forestry, "Agroclimatic Atlas of Alberta: Agricultural Climate Elements," last modified January 15, 2015, [https://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/sag6301](https://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sag6301).

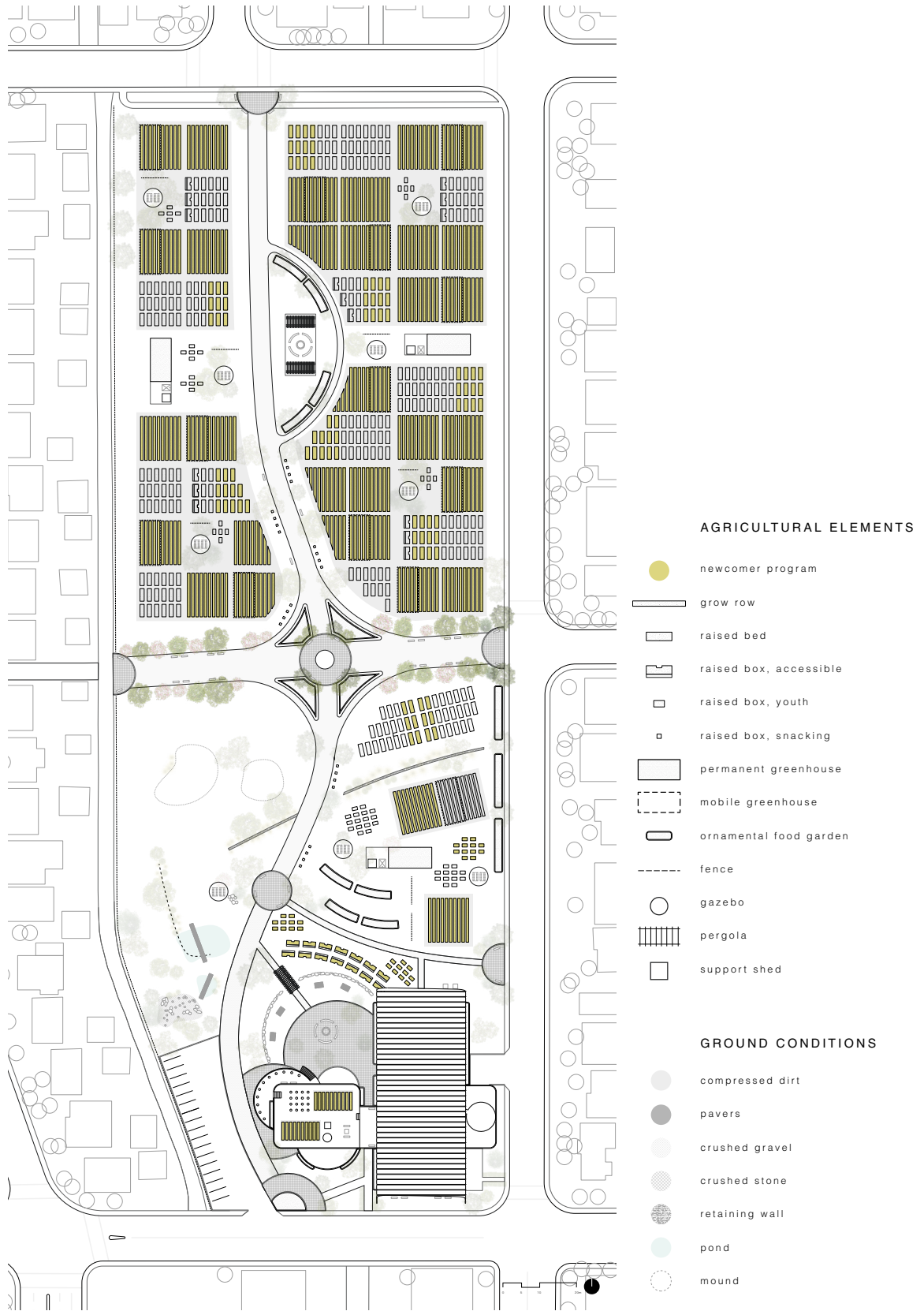


Figure 46. Site plan.



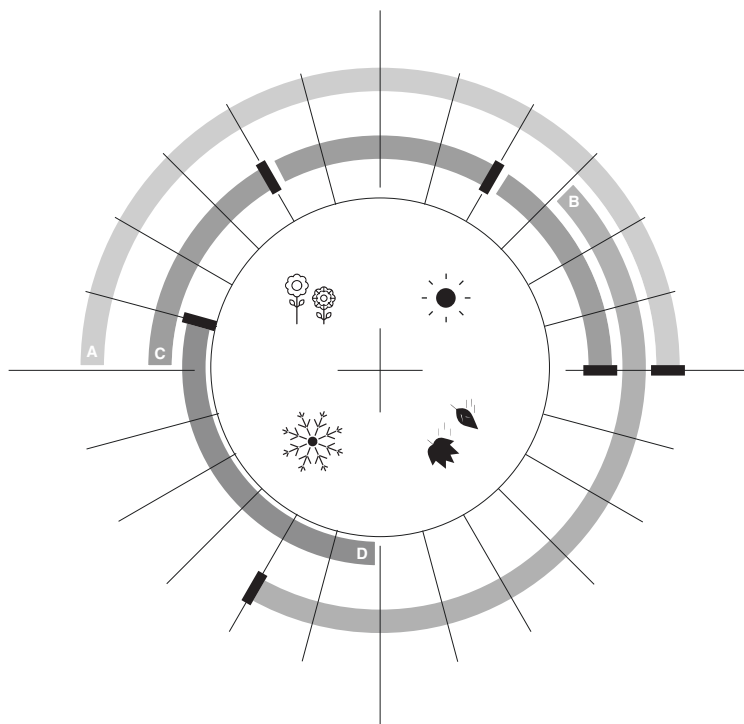


Figure 47. Diagram representing four-season farming (refer to following figure for corresponding crops).

four-season farming:

1. *Cold-hardy vegetables.* Cold-hardy vegetables are often cultivated out of doors year-round in areas with mild winter climates because they have lower light requirements than warm-season crops.<sup>87</sup> They can be planted in the fall in the same soils of warm-season crops after they are harvested and undergo growth until a lower limit of  $-9^{\circ}\text{C}$  if unprotected, and down to  $-30^{\circ}\text{C}$  with protection.<sup>88</sup> Examples of cold-hardy vegetables are mâche, claytonia, and spinach. For the thesis project, culturally-appropriate crops are also important and it has been demonstrated by Canadian urban farms that cultural crops such as tat soi and pak choy can be grown during the winter season.
2. *Succession planting.* Succession planting describes sowing vegetables more than once during a season in order to provide for a continual harvest. Harvest frequencies

87 Eliot Coleman, *The Winter Harvest Handbook: Year-round Vegetable Production Using Deep-organic Techniques and Unheated Greenhouses* (White River Junction: Chelsea Green Publishing, 2009), 3.

88 Coleman, *The Winter Harvest Handbook: Year-round Vegetable Production Using Deep-organic Techniques and Unheated Greenhouses*, 223.

are dependent on the species of vegetables and can range from single to multiple harvests. Strategically planting in succession can ensure that food harvested year-round and is always available, especially during the winter seasons.<sup>89</sup>

3. *Protected cultivation.* Adding protective elements can create a growing environment that has a higher relative humidity which can prevent frost damage. Row covers, unheated permanent greenhouses and mobile greenhouses are protection elements that are used in the agricultural design of the urban farm. Mobile greenhouses are a particular innovation advocated by Coleman that smaller in size and lightweight, built from a frame and covered in a single layer of agricultural-grade polyethylene plastic. Their construction allows for temporary attachment to the ground and can be moved easily by a few people. Mobile greenhouses offer a cost-effective option to control what crops are protected in the summer and the winter.<sup>90</sup>

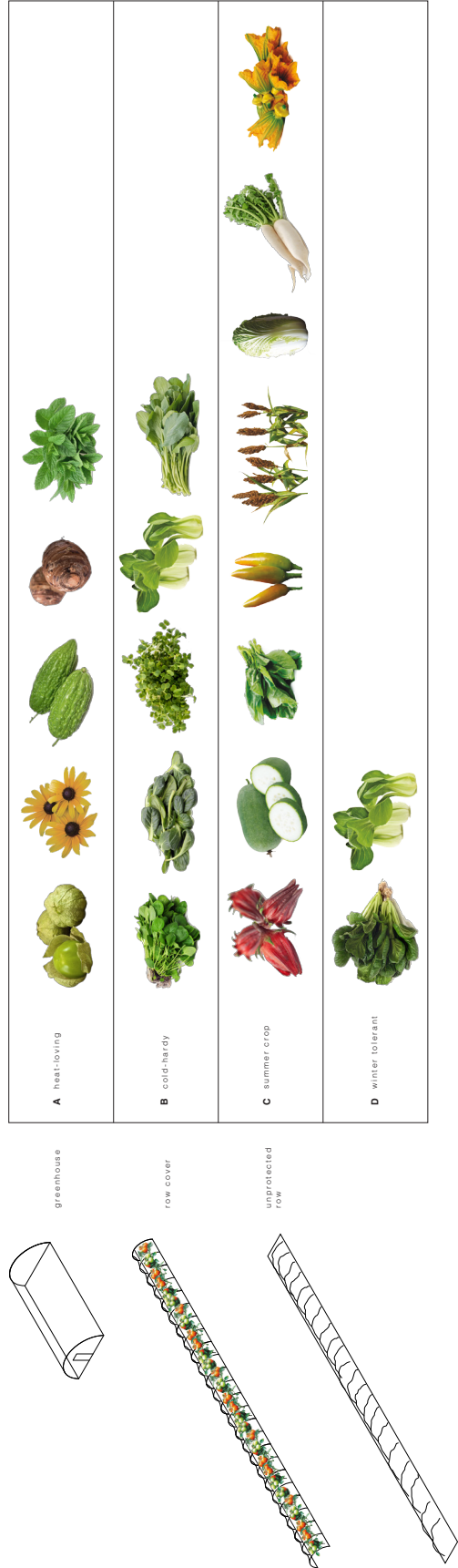
Coleman's above strategies can be applied to the conventional *growing row*. On the urban farm, rows are designed as 30" wide by 40' long and arranged in groups. The *raised bed* is another commonly used agricultural element on which four-season strategies may be applied, however, the bed presents its own additional advantage; because the soils used are separate from the ground, they can reach warmer temperatures quicker in the spring and simulate growth in a warmer environment. Raised beds are beneficial to use in areas where the ground is not accessible, the soil is unsafe, or where remediation is not feasible, making this element an excellent option for urban food production.<sup>91</sup> The raised bed will therefore be adopted into the agricultural strategy. Furthermore, bed designs have been developed that can accommodate a wide range of users. The mobility impaired, such as the elderly or wheelchair users, can participate in farming with raised boxes have a notched space or that have integrated benches. Boxes can also be built to a height that minimizes stooping or can be lowered to match the heights of young children. A concentration of these boxes form the *accessible farm* which is located closer to the design building to minimize travel distances.

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89 Coleman, *The Winter Harvest Handbook: Year-round Vegetable Production Using Deep-organic Techniques and Unheated Greenhouses*, 4.

90 *Ibid.*, 5-7.

91 Gorgolewski, Komisar, and Nasr, *Carrot City: Creating Places for Urban Agriculture*, 214-215.



[UN]/PROTECTED CULTIVATION

CULTURAL CROPS

Figure 48. The growing conditions of four-season farming of culturally-appropriate food.

In general, four-season farming can occur under a wide variety of growing conditions to produce both local and *culturally-appropriate crops*. This is summarized by Figure 48. An inventory of cultural crops recorded in the thesis research can be found in Appendix E.

Dispersed throughout the urban farm is infrastructure that supports farm operations, such as storage sheds for tool and small equipment, irrigation points, and wash stations to clean harvested produced and prepare for distribution and sales.

Lastly, it must be emphasized that the farm is organized in consideration of how newcomers can engage with place and that it still remains very much a part of a Calgarian neighbourhood. PLACEMAKERS is an organized social program for newcomer farmers to grow culturally-appropriate crops that are often difficult to find at the store, but also provide raised beds for all members of the community to engage with food and agriculture. As seen in the site map of Figure 46, the green color highlights the farm components that are used by newcomers and how it might be organized in an integrated way with the rest of the community.

Overall, the urban farm is designed strategically through its arrangement and agricultural elements that it becomes an activated space throughout all the seasons.

### ***Garden Park***

South of the urban farm are gardens that are more landscaped for leisurely use but that remain in line with the goals of PLACEMAKERS by also being productive spaces of food. There is the main, east-west running 24' wide *orchard boulevard* that is bordered by locally-found apple, pear, and plum trees. The boulevard is elegantly paved with brick pavers, similar to the nodes of transaction, and features a large gazebo at its centre which marks the largest node. Smaller gazebos are dispersed throughout the site to provide people protection from the elements and points of rest and relaxation. A secondary major paved pathway runs north-south for a leisurely route through the urban farm, the garden park, and past the west side of the design building. Major paths are bordered by small raised boxes in which various types of food are featured and can be and enjoyed for free. These *snacking boxes* are a strategy to make food more accessible to the public and to minimize theft from the urban farm and garden park. All other minor paths are graded with

crushed gravel to offer a more naturalized park experience.

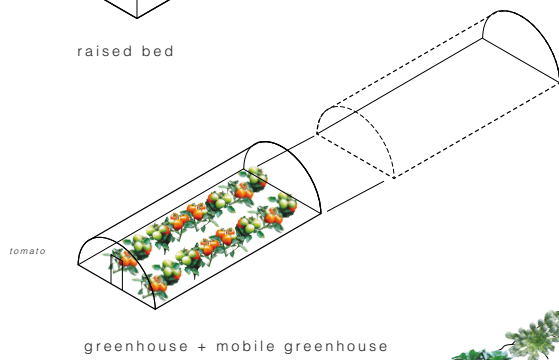
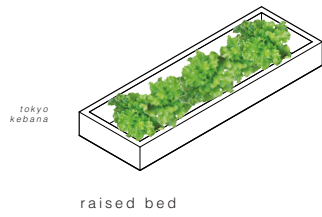
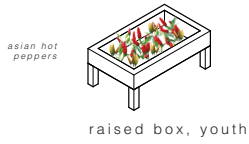
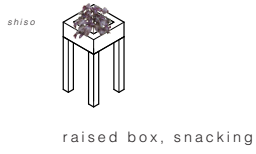
*Ornamental food gardens* are another feature of the garden park. They are planted landscaping elements to create a park atmosphere of beauty and comfort while still reinforcing the thematic goal of highlighting food. The food grown in these gardens are located in brick-lined beds and have more ornamental qualities, such as kale and herbs. A variation of the garden also occurs in-ground to create *an edible park*. They comprise the remaining areas of vegetation that border the urban farm and garden park and also consist of edible planting such as herb ground covers, berry bushes and shrubs, and additional fruit trees.

Lastly, two firepits are located on the site. There is one to the north in the urban farm, and one in the backyard of the building. Fire is the most ancient tool for community gathering, and so these sources of warmth encourage outdoor use of the site during colder weather



Figure 49. 1:750 site model illustrating planted areas in basswood and greenhouses in acrylic.

URBAN FARM



GARDEN PARK



OPEN SPACE

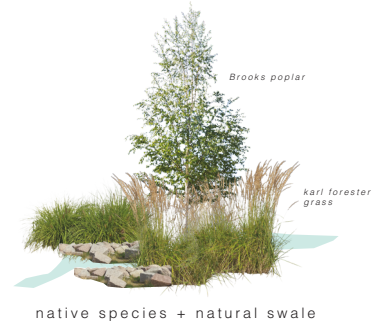


Figure 50. Agricultural and site design elements.



thereby providing further opportunity for year-round activity.

### ***Open Space***

On the west side lies *open space* for more breathing room on the site where farm and park goers can relax among non-food producing local and adaptive species. Dwelling in a natural environment that belongs to the local Calgarian ecological sphere allows those, whether they are newcomers or simply always surrounded by urbanity, to be immersed in a physical setting that is representative of the local place. A limestone *boulder playground* is also a featured design in this open space area. Limestone is type of sedimentary rock that is unique of the geology of the foothills and plains of Alberta. The boulders are situated close to the design building and so provide an opportunity for play for the children and youth visiting the building and the site. Lastly, a *natural swale* with bridges for play are located in the centre of the open space as a strategy for stormwater management on the site while again, providing an opportunity to showcase local and adaptive vegetation.

A summary of all the elements used in site and agricultural design is shown in Figure 50.

## **Building Concept and Design**

### ***Human-Scale Design***

The multi-scalar concept of the PLACEMAKERS network is also extended from the site design into the design of the community building. The thesis recognizes that there are several scales at which one finds comfort and ease in private and public settings. These scales are also referenced as *communication distances* by Jan Gehl in *Cities for People*<sup>92</sup> or as *distance zones* by the founder of the idea, Edward T. Hall in *The Human Dimension*.<sup>93</sup> Both term describe important thresholds at which people participate in social exchange. The following human scales were referenced in the design project (Figure 51):

1. *Personal, 18" to 4'*. The contact distance between close friends and family members. Conversations on important topics take place here.

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92 Jan Gehl, *Cities for People* (Washington, DC: Island Press, 2010), 47.

93 Julius Panero and Martin Zelnik, *Human Dimension & Interior Space: A Source Book of Design Reference Standards* (New York: Whitney Library of Design, 1979), 39.

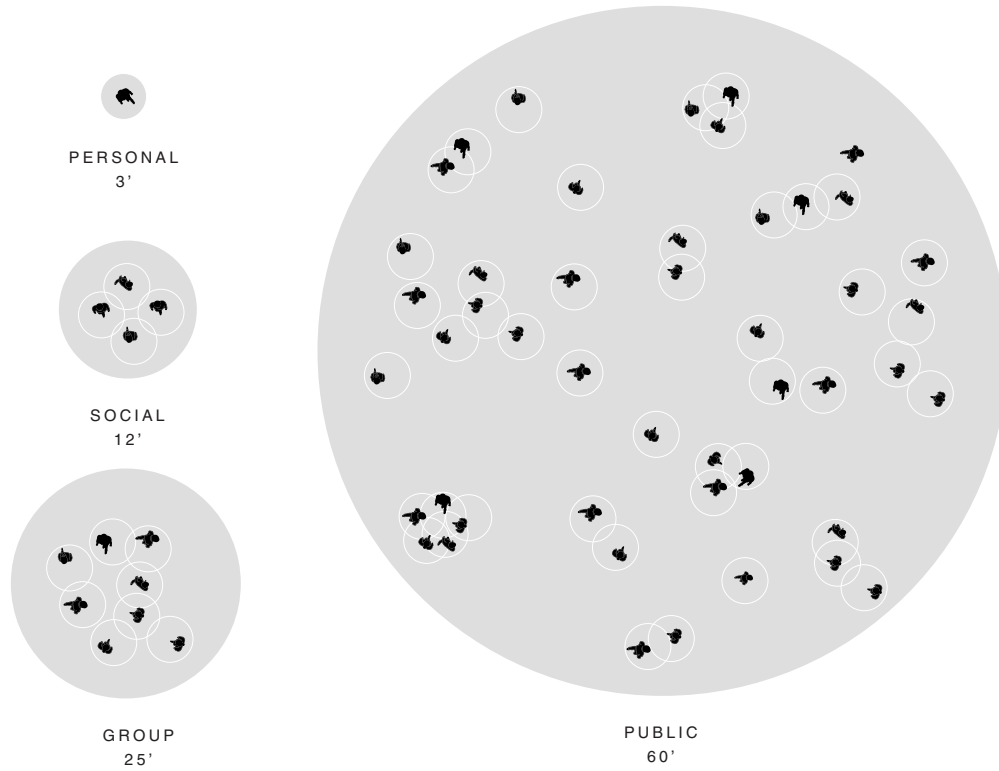


Figure 51. The various scales of the human dimension in space.

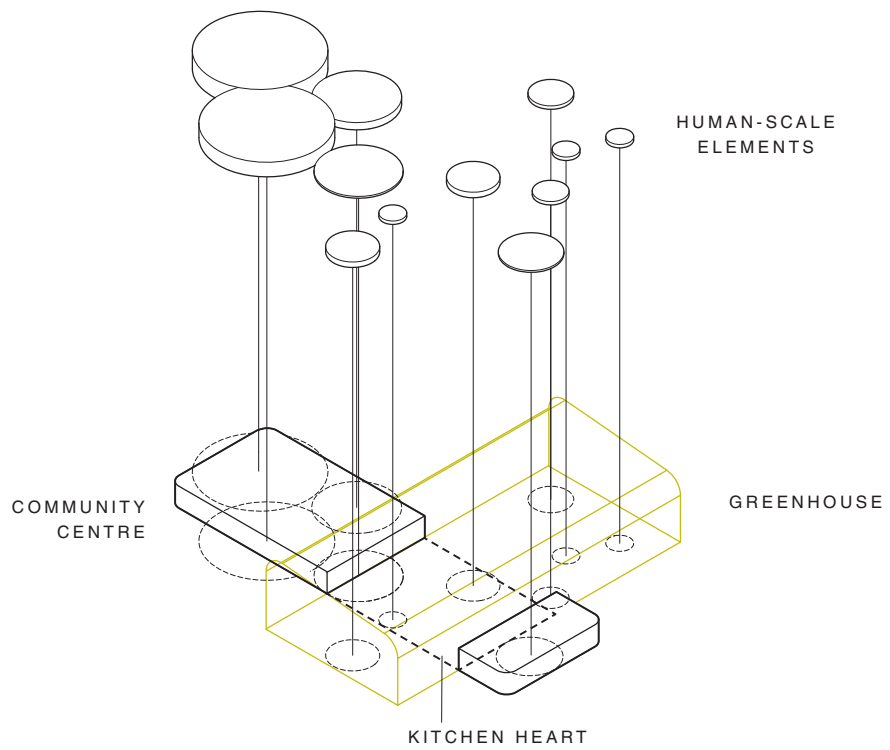


Figure 52. The building design concept.

2. *Social, 4' to 12'*. The distances at which conversations about work, vacation memories and other types of ordinary information can be exchanged.
3. *Public (close), 12' to 25'*. The distance of more formal contact and one-way communication. This is the distance used when watching an entertainer, but at the same time when one wants to participate in the activity.
4. *Public (far), 25' or more*. In these distances, there is a feeling of safety or anonymity from others in sharing the same space. There is room between people when walking within public distances.

These space and distances are used by everyone to help initiate, develop, control, and conclude relationships with people that are familiar and that are strangers. They are important in order for people to move securely and comfortably among strangers in public space.<sup>94</sup> Since the design project is a re-envisioning of public space for people who are more unfamiliar with each other than close neighbours, the various scales of human dimensions and space are considered with a high degree of importance. This then forms one of the major design concepts of the thesis design project. By providing environments where dwelling can occur in varying scales of space, users can find areas of comfort as needed thereby promoting activity that can take place throughout the site and the community centre, from day to night, and throughout the seasons. In the both the site and building design, these spaces are referred to as *human-scale elements* and are emphasized by their circular shape (Figure 52).

### ***Intersection: Kitchen Heart***

The building bridges two programs unconventionally into one – a community centre and permanent greenhouse – that, when combined, challenge architectural conventions for what is typically considered as occupiable space, or places for dwelling. The intersection of the two otherwise distinct buildings form *the kitchen heart*, a space that celebrate the entire food system at centre of the building. Most can relate to memories in the kitchen of the home sharing a meal with family and friends. The goal of the design is to draw upon this universal experience and evoke a similar space through architectural design, although

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94 Jan Gehl, *Cities for People* (Washington, DC: Island Press, 2010), 48.

at a larger community scale. The overall building concept is shown in Figure 52.

### ***The Greenhouse Hall***

The greenhouse is a large, two-storey structure that is oriented on a north-south axis similar to the smaller greenhouses of the urban farm and garden park. A greenhouse that is also used as a community building is referred to as the *greenhouse hall* and is made possible through the use of an inflated ETFE cushion envelope, a material proven successful in both architectural and agricultural applications. Further details on the architectural technology of the greenhouse hall can be found in a subsequent section of Chapter 5. As the hall is an expansive room, the spaces are sub-divided by smaller, circular elements that create an upper mezzanine and half-height pod-like rooms on the lower level. These areas offer more variety for comfortable, human-scale spaces for dwelling in the hall.

The greenhouse hall is where food activity takes place and its organizational strategy follows the stages of the food system as shown in Figure 53. The first stage of GROWING began in the farm and so continues into the northern end of the greenhouse. A number of in-floor growing beds are located on the first level and atop the mezzanine. As one moves south, the subsequent stages of SHOP, COOK, EAT, and LEARN take place.

### ***The Community Centre***

The community centre is a single-storey building and is oriented on an east-west axis to greet the most trafficked street at the south end of the site. Support spaces and non-food related programs occur in this part of the building. However, the rooftop areas provide additional horizontal surfaces for food production or green roof planting. The same circular elements form the division of space in the centre.

## **A Walk-Through: Program + Experience**

The various types of spaces and programs offered by PLACEMAKERS in Albert Park are detailed through the floor plans of Figure 54 and Figure 55. The renders of Figure 56 and Figure 57 depict the user experience throughout the design project. The following is a description of a possible path through the design that captures the entirety of the project:

- *[LEARN]* The main building entrance is located at the south doors and all are first

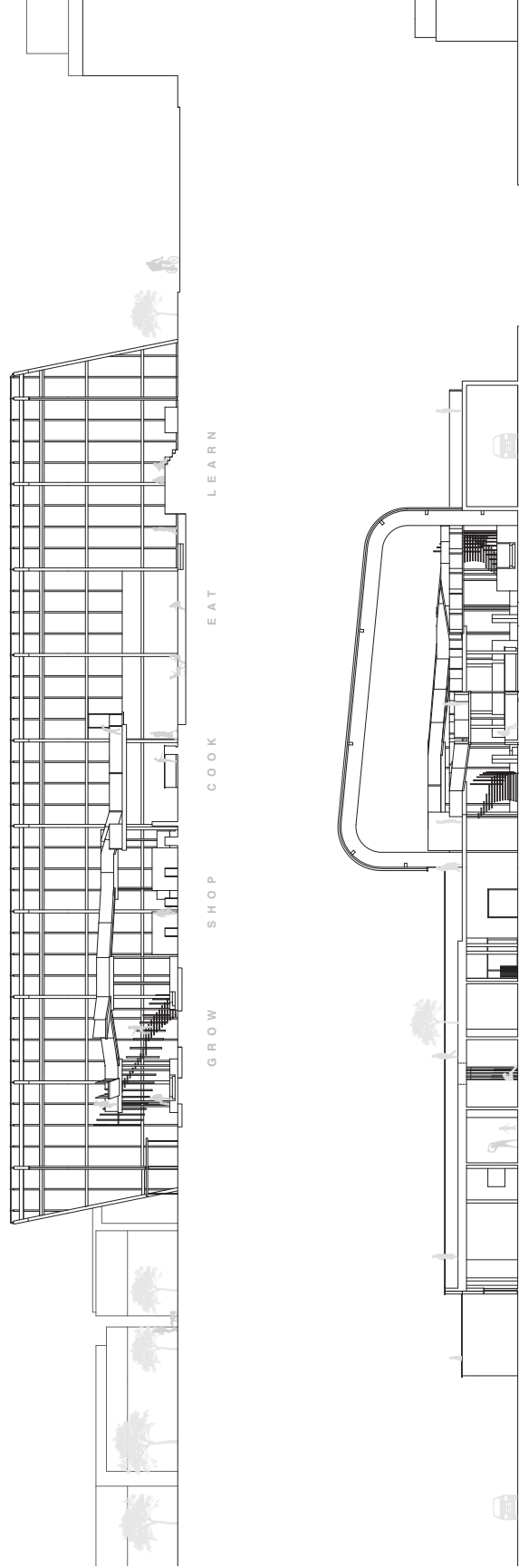
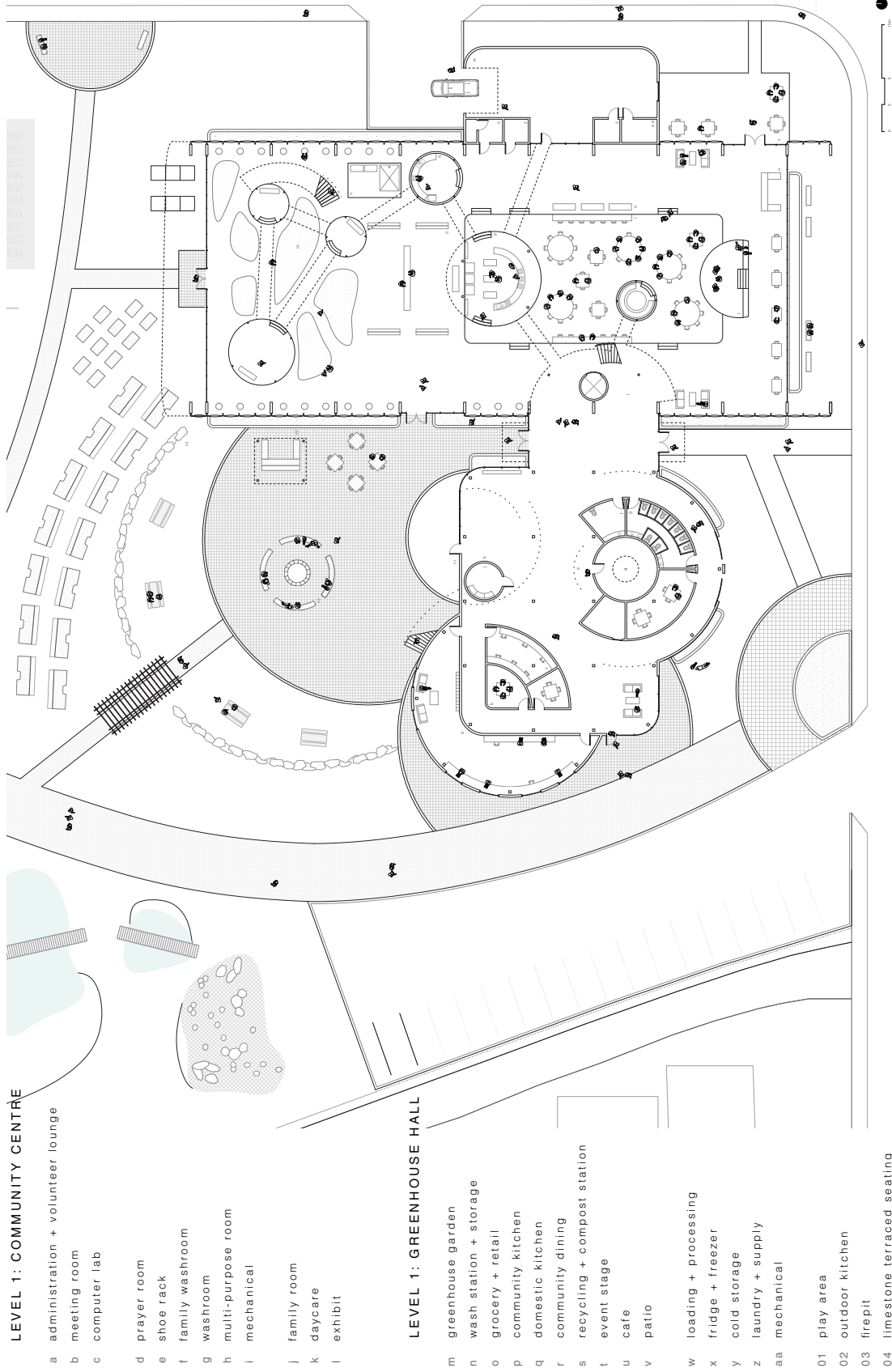


Figure 53. a) North-south section of the greenhouse hall and b) the east-west section through the community centre and greenhouse hall.

- greeted by an exhibit space that can feature the unique stories of the farmers, what they are growing, and information on community events.
- Move right into the greenhouse hall and one enters into an expansive, light-filled space featuring large 40' high glulam arches.
  - *[SHOP]* There is the grocery where one can purchase familiar and new cultural produce grown on the farm. There is also the opportunity to grab a basket and head into the greenhouse garden and its mezzanines to pick vegetables or fruit for purchase, or take in the atmosphere underneath the mezzanine.
  - *[COOK+EAT]* The community kitchen and dining spaces are at the centre of the hall in a recessed floor. Here, newcomers and other community members alike can participate in cooking classes or prepare community meals. A small domestic kitchen is also available to simulate cooking at home.
  - *[SELL]* These areas are supported by the loading and storage warehouse where produce from the Albert Park farm and other farms in the network can be collected, washed, and processed for distribution.
  - *[LEARN]* The end of the hall is the stage that can host cultural music and performances, and other local community events. A higher view of events can also be enjoyed from the upper mezzanines.
  - *[LEARN+EAT]* Members of the public can also visit the building. Morning commuters can grab a coffee from the café and go or stay longer and have delicious ethnic meal in the second level restaurant while enjoying the greenery throughout the greenhouse hall. They can venture afterwards through the mezzanine into the rooftop farm and volunteer in agricultural activities.
  - *[GROW]* Wooden screen walls can be found throughout the greenhouse where hydroponically-grown food and climbing species can be also be efficiently cultivated indoors.
  - *[LEARN]* Move left past the entrance into the community centre to find a continuation





**LEVEL 1: COMMUNITY CENTRE**

- a administration + volunteer lounge
- b meeting room
- c computer lab
- d prayer room
- e shoe rack
- f family washroom
- g washroom
- h multi-purpose room
- i mechanical
- j family room
- k daycare
- l exhibit

**LEVEL 1: GREENHOUSE HALL**

- m greenhouse garden
- n wash station + storage
- o grocery + retail
- p community kitchen
- q domestic kitchen
- r community dining
- s recycling + compost station
- t event stage
- u cafe
- v patio
- w loading + processing
- x fridge + freezer
- y cold storage
- z laundry + supply
- aa mechanical
- 01 play area
- 02 outdoor kitchen
- 03 firepit
- 04 limestone terraced seating

Figure 54. Level 1 floor plan.

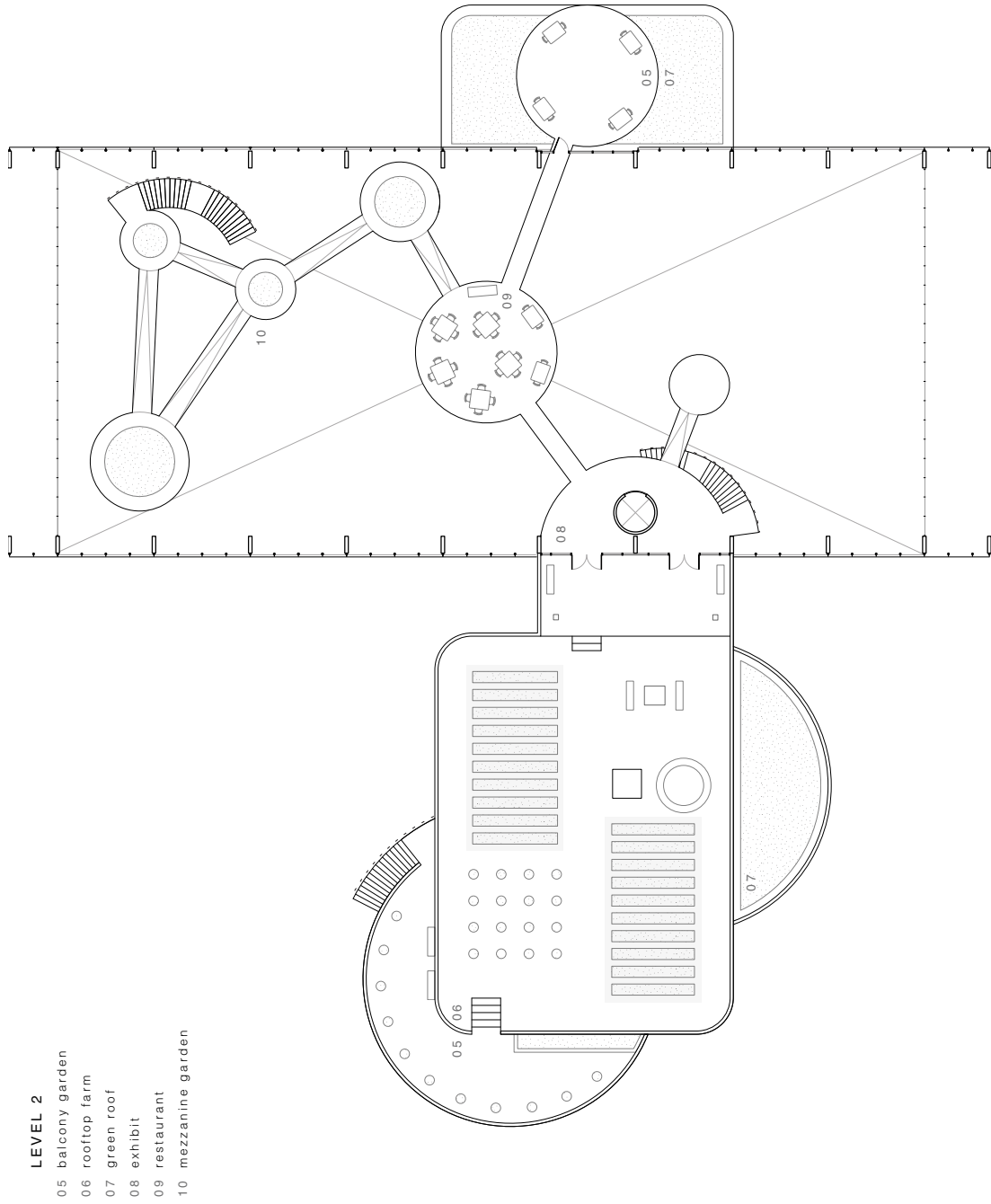


Figure 55. Level 2 floor plan.



Figure 56. Experiential renders of a) the winter farm and b) the front yard market.





Figure 57. Experiential renders of c) the kitchen heart and d) the community centre.

- of spaces with glulam structure and screen walls. Here, people can visit the daycare, classrooms and meeting rooms to attend language or other new Canadian residency classes. One can also find relief and solitude in the prayer room that is illuminated by a single large skylight. Administrative staff and volunteers can work or rest from their own room that faces north to view the urban farm park and gardens.
- Finally, one can head outdoors through the large sliding doors into the front yard to attend the weekend's food market or head out the back doors to grab big plate from the outdoor harvest kitchen, take a seat in the amphitheater-style limestone terraced seating, or join the evening's dance party at the firepit late into the night.

## Building Technology and Materials

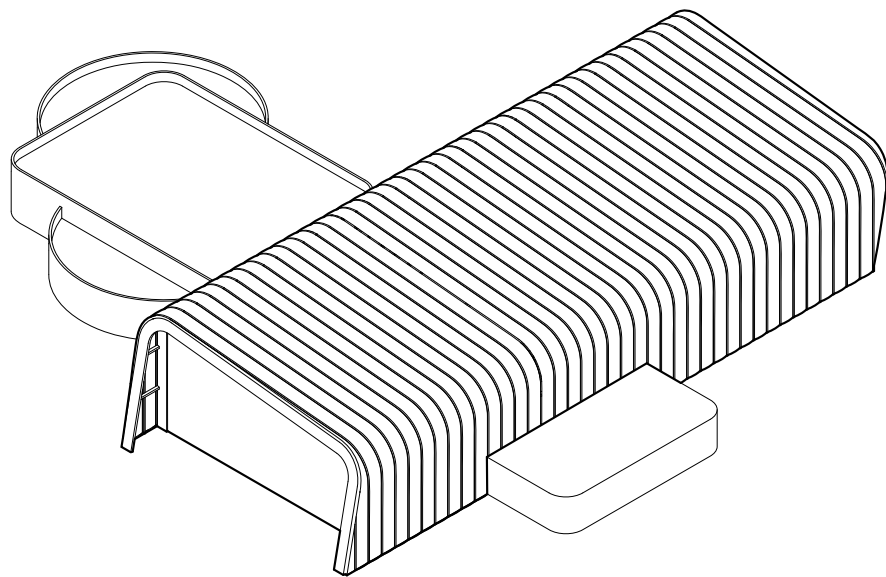


Figure 58. Isometric drawing highlighting the exterior ETFE envelope of the greenhouse hall.

### ***ETFE Envelope***

Because the design is a unique combination of a conventional building and a permanent greenhouse, an envelope that could meet both architectural and agricultural demands was desired. An ETFE (ethylene-tetrafluoroethylene) foil envelope was selected for its proven application in both fields. ETFE foil is an innovative, lightweight, and high-strength plastic membrane that has excellent transparency and insulating properties. Clear foils

can allow up to ninety-five percent light transmission which can support effective plant growth underneath, a requirement for the greenhouse hall.<sup>95</sup> ETFE foil envelopes are also installed as an inflated cushion system, meaning that its thermal properties are created through an air layer between foils; pneumatic pressure controls the air layer and is maintained by an auxiliary pump and air supply system. In the design, a standard three-layer cushion is used which can achieve insulating values of approximately R-2.9.<sup>96</sup> This thermally outperforms most conventional glazing systems which can realize significant energy savings, especially for greenhouse applications. However, the most outstanding advantages in using an ETFE foil envelope in comparison to conventional greenhouse materials, such as glass or polyethylene, are its durability and lightness. ETFE foil does not degrade under UV radiation which is a pervasive problem for all greenhouse plastics. Its non-stick properties also repel dirt and dust and can be cleaned with rainwater. As such, ETFE holds a material life expectancy of greater than thirty years, and requires little maintenance and no replacement over a building's lifetime. This system has also been demonstrated to perform well in cold climates where there are significant rain, wind, and snow loads.<sup>97</sup> Lastly, since ETFE foil weighs approximately one percent of conventional enclosure systems with comparable performance, the dead loads carried by the primary

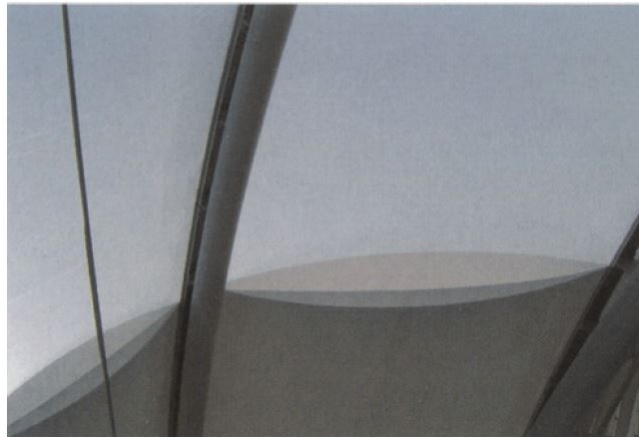


Figure 59. Cushion camber contributes to the appearance and the performance of the building envelope. (Source: *ETFE: Technology and Design* by Annette W. LeCuyer)

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95 Craig G. Huntington and the Structural Engineering Institute, *Tensile Fabric Structures Analysis, Design, and Construction* (Reston: American Society of Civil Engineers, 2013), 130.

96 Lee Durston and Shawn Robinson, "A Case History Review of ETFE on Today's Current Projects," *RCI Inc. Interface* 3, no. 10 (November 2015): 30.

97 Durston and Robinson, "A Case History Review of ETFE on Today's Current Projects," 34.



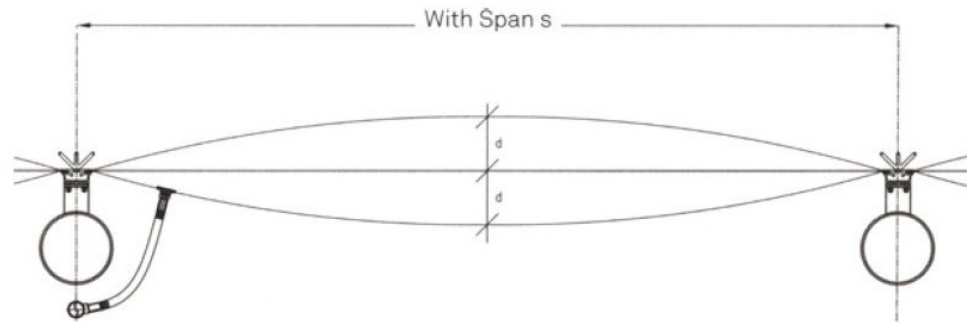


Figure 60. Typical cushion section and camber. (Source: *ETFE: Technology and Design* by Annette W. LeCuyer)

structure are lightened.<sup>98</sup> This can greatly reduce the size of primary structural members and eliminate the need for secondary structure. When considering the large area requirement of the community greenhouse hall, a lightness of the overall structure can translate to significant material and cost savings for the project. In the envelope design, the ETFE cushions are supported by an extruded aluminum mullion system. The mullions act as a perimeter frame for each cushion and they attach to the primary structure by a secondary non-structural frame comprised of hollow structural steel.

The overall ETFE cushion and support structure is shown in Figure 59 and Figure 60. Detail drawings of an ETFE system for an earlier iteration of the greenhouse design can be found in Appendix F.

### ***Glulam Structure***

Large, 42" wide glulam arches serve as the primary structure that supports the ETFE envelope. They span across 80' and are repeated to form 20' structural bays and reach a total hall length of 180'. Glulam beams provide secondary structural support. The arches slope towards the east side to minimize the street wall and to shed water and snow. Glulam is made from wooden laminations and was selected as a building material for its warm, natural qualities. Its materiality can suggest a contrast against the institutional atmosphere that many places that offer public or social programs can often have. The aim in the design is to create an inviting and familial environment.

In the community centre, glulam material is continued in the single-storey post-and-beam structure.

<sup>98</sup> Annette W. LeCuyer, *ETFE: Technology and Design* (Boston: Birkhäuser, 2008), 47.

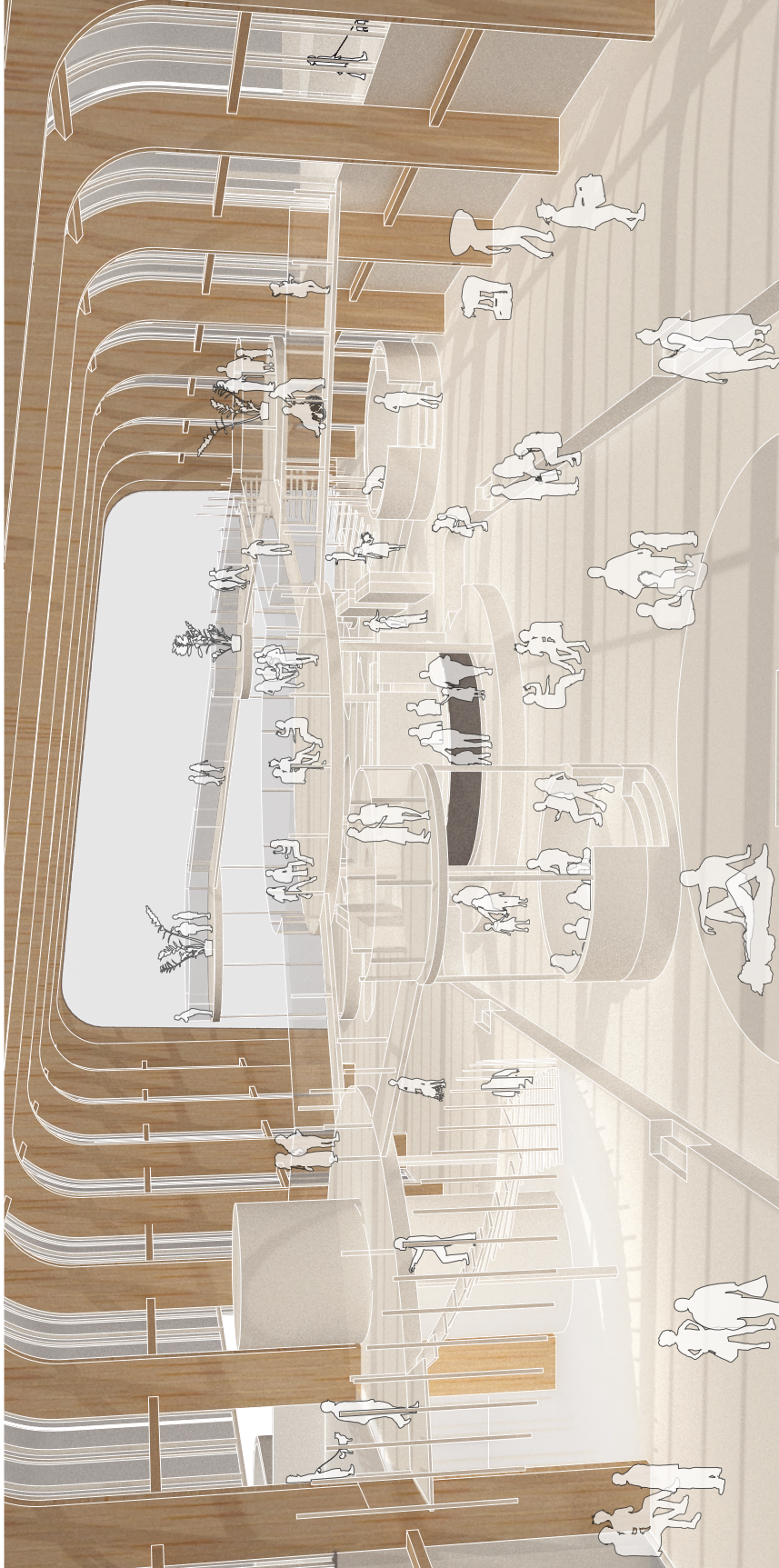


Figure 61. Perspective view highlighting the ETFE and glulam structure of the greenhouse hall.

### ***Wood Finishes***

Similar to glulam, wood was selected as a thematic finish material throughout the design project. The choice of wood can also evoke the local building palette; Calgary is located close to the forests of the Rocky Mountains and many buildings in the area are constructed following the styles of rustic cabins and shelters. Wood is found throughout the the project design; in the exterior vertical siding, the kitchen finishes, and vertical slatted screens found throughout the building. These screens surround the staircases of the greenhouse hall and provide a support surface for climbing vegetation or hydroponic food systems. In the community centre, half-height slatted screens define the boundaries of the daycare and another full-height screen serves as an intermediate threshold before entering the praryer and meditation room.

In conclusion, the design of PLACEMAKERS in Albert Park is a complete redevelopment of a vast empty space in the city. The innovative combinations of urban farm with public park, community centre with commercial greenhouse, and users from separate social circles, lead to questioning of the conventions of space: are open space, agricultural space, architectural space, and social space separate from one another? The answer suggested by the design is no by its gathering of all space types into one. Although the site is large and number of programs is great, one can experience throughout the project the qualities of architecture in the food that is farmed, or the social qualities inherent in the architecture of the room, or the agricultural qualities of the open field, etc. The fluidity in the changing and re-creation of these conventions is what defines the PLACEMAKERS design.

There is opportunity to further develop many aspects of the current design that continue to promote newcomer engagement with place. For example, detailed kitchen design that can be culturally-flexible in its cooking equipment and circulation, material selection that would permit the use of local wood species and other locally-sourced materials, construction methods, skills and labour; sustainable building design to create awareness of the local climate such as natural ventilation, passive solar heating, rainwater harvesting and reuse, and more.

## CHAPTER 6: CONCLUSION

PLACEMAKERS in Albert Park brings a new cross-conventional experience for newcomers and Calgarians alike. By introducing agriculture into the public sphere, or vice versa, the public into the agricultural sphere, old practices of suburban living are challenged to make room for novel ways of social exchange. The new urban experience is anchored by the multi-dimensional power of the food system; when strangers from different origins come together to plant a seed, watch it grow, cook the harvest and share a meal, perhaps it is friends who walk away together from the table with a better understanding of the place in which the process began.

The thesis design project is not limited in its application to East Calgary. It is a demonstration of how the food system can shape the urban transformation of any suburban area that suffers similarly from sprawl, the disconnection of its residents, and cultural differences. The far-reaching effects that food has first on the individual lived experiences of newcomers can extend into the architecture, economy, politics, and culture of the urban realm. This multi-scalar penetration into the social and urban systems that comprise a city are described as a reclamation by newcomers of their *Right to the City*. The Right to the City is a concept that was first proposed by Henri Lefebvre, however, this thesis will highlight the definition as reimagined by contemporary social geographer David Harvey in his similarly titled essay. Harvey proposes:

...the right to the city is far more than the individual liberty to access urban resources: it is a right to change ourselves by changing the city. It is, moreover, a common rather than an individual right since this transformation inevitably depends upon the exercise of a collective power to reshape the processes of urbanization.<sup>99</sup>

It is then clear that this understanding of the Right to the City is echoed within the context of PLACEMAKERS. Newcomers are no longer limited to only occupying a certain civic address or property, but collectively can decide through food how public space is developed, managed, and used. They ultimately hold the power to revitalize their surrounding community, neighbourhoods, and possibly the city at large.

Regaining the *Right to the City* is descriptive of a bottom-up process, that is, where urban transformation is led by members of society rather than by the government or the state. It is

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99 David Harvey, "The right to the city," *New Left Review* 53, September - October 2008: 23.



a direct contrast to the top-down, capitalism-driven urban planning that created the current urban and social conditions that this thesis strived to address. However, it is necessary to still address municipalities and public institutions in this thesis and recognize that their roles not be completely discarded. Constantin Petcou and Doina Petrescu are architects that advocate for the bottom-up approach in *co-production*, a process that is rooted in Lefebvre's idea of the social production of space, but still calls for architects, planners, and conventional managerial actors to remain involved as equal partners in the thesis strategy by assuming the roles of enablers, funders and administrators. Petcou and Petrescu argue that it is not only up to citizens to "change themselves by changing the city", as claimed by Harvey, but to those currently in charge of the city too.<sup>100</sup> This is a position that will conclude the thesis investigation. It is important that PLACEMAKERS remains a joint effort between all stakeholders as it has been found that urban agricultural pursuits that function as social enterprise tend to operate at an economic loss and that the only viable way to guarantee low-cost, nutritious, locally-grown food is to also involve social agencies, government, volunteers, etc. Such is the successful case of The Stop in Toronto; the internationally-renowned non-profit organization has brought affordable food and food-related programs to those in need, however, not without the important contributions of sponsorship, subsidies, and the efforts of many volunteers and professionals. The resulting change in community life by The Stop since it began in 1982 is one of positive, urban regeneration. Founder Nick Saul describes how the people at The Stop are not just beneficiaries of their programs but are also behind their operations and successes:

People want to volunteer; they want to share their skills and help others. No one wants to be poor or marginalized. Given the chance, everyone would like to be a contributing member of their community. It's one of the many things that makes The Stop such an important place for people in the neighbourhood - it can act as a springboard back into life.<sup>101</sup>

In conclusion, it is envisioned that PLACEMAKERS is an integrated social and urban enterprise executed by a city-wide, hierarchically-dynamic, collective effort. This is summarized as the *new cultural politics* by Edward Soja in *Postmetropolis*:

New cultural politics approaches the problems of inequality not by focusing political struggles solely around the rigidly defined and often exclusionary channels of resistance based on

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<sup>100</sup>Constantin Petcou and Doina Petrescu, "R-URBAN or How to Co-produce a Resilient City," *Ephemera* 15, no. 1 (2015): 256-57.

<sup>101</sup>Saul and Curtis, *The Stop: How the Fight for Good Food Transformed a Community and Inspired a Movement*, 166.

class, race, and gender; but also around more cross-cutting and inclusive foundations of solidarity, collective consciousness, and coalition building.<sup>102</sup>

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<sup>102</sup> Soja, *Postmetropolis: Critical Studies of Cities and Regions*, 279.





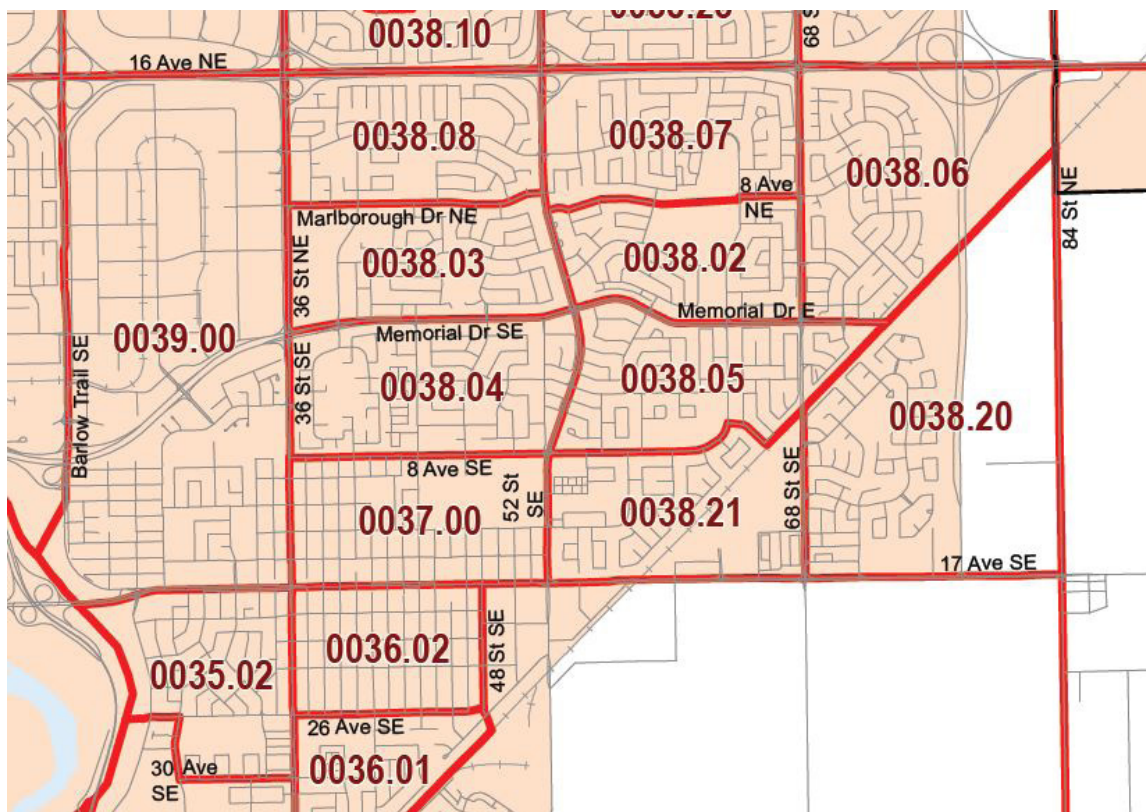


Figure 64. Federal census tracts of the Study Area, 2016. (Source: Statistics Canada)

NEIGHBOURHOOD DEMOGRAPHICS - Income, recent immigrants, and density																	
Data source: 2016 Federal Census, data by Census Tract																	
Census tract	2011		2011 Total pop	2011		2011 Rec imm (%)	2016 Population	LIM-AT	LIM-AT (neighbourhood)	2016		2016		Area (m2)	Density (pp/km2)	Density rec imm (pp/km2)	
	Low income	immigrants (%)		Total rec imm	Rec imm (%)					Total imm (%)	Total rec imm	Rec imm (%)	% change				
Marlborough	8250038.08	-	-	4,555	395	9%	4,789	12.9	-	2,210	-	810	13%	-	-	-	
Marlborough total	8250038.03	-	-	4,141	365	9%	4,478	15.3	-	1,995	-	550	12%	-	-	-	
Marlborough Park	8250038.07	25	35	8,696	760	9%	9,267	14	14.1	4,205	45%	1,360	15%	79%	2651371	3,495	
Marlborough Park total	8250038.02	-	-	4,639	255	5%	4,819	13.1	-	1,680	-	425	9%	-	-	-	
Marlborough Park total	8250038.02	-	-	3,915	170	4%	4,137	12	-	1,405	-	370	9%	-	-	-	
Abbeydale	8250038.06	14	28	8,554	425	5%	8,956	13	12.6	3,085	34%	795	9%	87%	2484104	3,605	
Albert Park/Radisson Heights	8250039.00	18	35	8,182	515	8%	8,873	18.7	18.7	2,355	35%	720	11%	40%	1692277	3,943	
Forest Heights	8250038.04	-	26	8,298	465	7%	8,527	15.2	15.2	2,485	38%	745	11%	60%	1500516	4,350	
Forest Lawn	8250037.00	-	-	3,923	250	6%	4,237	24.6	-	1,250	-	490	11%	-	-	-	
Forest Lawn total	8250036.02	-	-	3,330	120	4%	3,479	19.3	-	755	-	175	5%	-	-	-	
Forest Lawn total	8250036.02	-	-	24	23	23	7,253	370	5%	7,716	22	2,005	26%	86%	2314015	3,334	
Penbrooke Meadows	8250038.05	-	-	5,375	420	8%	5,442	13.7	-	2,020	-	480	9%	-	-	-	
Penbrooke Meadows total	8250038.21	-	-	5,145	285	6%	5,414	16.7	-	1,605	-	340	6%	-	-	-	
Appelwood Park	8250038.20	16	35	10,520	705	7%	10,856	15	15.2	3,625	33%	820	7.6%	16%	2099461	5,271	
Appelwood Park	8250038.20	19	44	6,460	570	9%	6,956	10.1	10.1	3,435	50%	735	11%	29%	2106489	3,355	
<b>TOTAL STUDY NEIGHBOURHOODS</b>				<b>63,366</b>	<b>4,150</b>	<b>7%</b>	<b>66,320</b>			<b>23,740</b>	<b>35.8%</b>	<b>6,455</b>	<b>9.7%</b>	<b>56%</b>	<b>17,248,869</b>	<b>3,845</b>	
median		16	31							14.2		32%					
average		18	30							15		32%					
<b>2016 POPULATION</b>														<b>66,320</b>			
<b># RECENT IMMIGRANTS</b>														<b>6,455</b>	<b>9.7%</b>		
<b>AREA (m2)</b>														<b>17,248,869</b>			
<b>DENSITY (pp/km2)</b>														<b>3,845</b>			
<b>DENSITY REC IMM (pp/km2)</b>														<b>374.2</b>			

Figure 65. Low-income, recent immigrant, and density statistics of East Calgary neighbourhoods. (Source: Statistics Canada)

## APPENDIX B: LITERATURE REVIEW

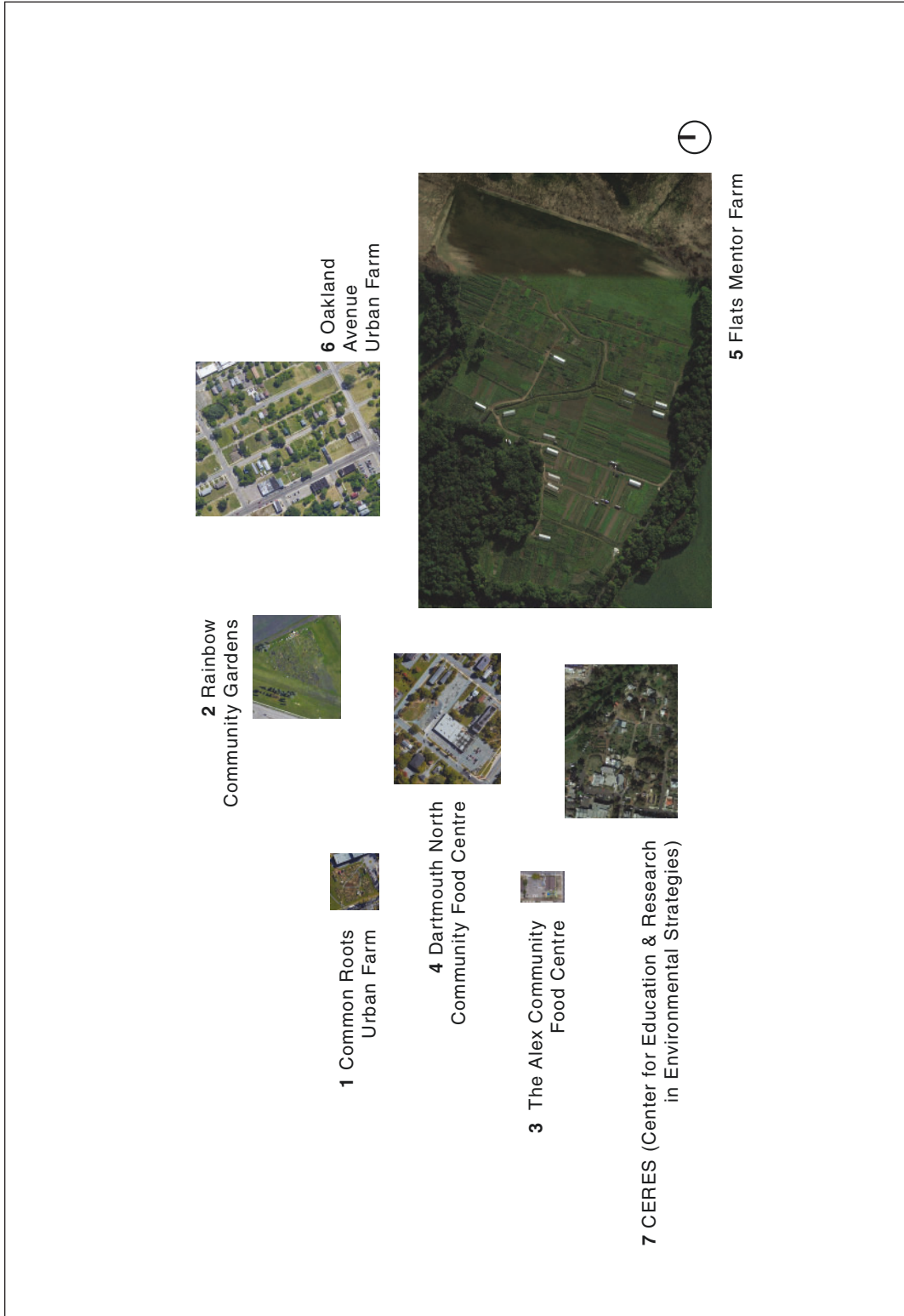


Figure 66. Overview of Case Studies.

The following projects provided design and program precedence for the thesis design project. The reasoning behind their selection and specific project details can be found below.

1. *Common Roots Urban Farm*. This project was studied because it is in a Canadian climate and also has an immigrant specific program. It is also an interesting model because it includes community gardens for the residents of the City and demonstrates that the two groups can coexist and farm together successfully.
2. *Rainbow Community Gardens*. Rainbow Community Gardens was studied because it is a larger project than Common Roots Urban Farm with a program that specifically focuses on new immigrants and refugees. One item from their vision also advocates for urban farming as a means for urban beautification which is a goal of the thesis.
3. *The Alex Community Food Centre*. The Alex CFC was studied because it is located directly in the study area of the thesis. By visiting the CFC with staff, I learned about specific building design and the ways it facilitates its diverse programming. The farm coordinator also shared the innovative strategies they use to farm in such a small and paved site which was useful for understanding efficient strategies for farming in cities.
4. *Dartmouth North Community Food Centre*. This was the first complete food system model studied and especially relevant as it is located in a Canadian climate. A conversation with the farm coordinator was very useful for gaining an in depth understanding of how to organize, plan, and manage an urban farm. One excellent component of the farm is the Indigenous garden.
5. *Flats Mentor Farm*. This project was studied because it concentrates at a very established level on assisting new immigrant and refugees with farming opportunities. Their entrepreneurial mentorship program and extensive record of cultural crops were the most unique aspects of the project that were useful for the thesis project.
6. *Oakland Avenue Urban Farm*. Oakland Avenue Urban Farm was studied because it is an internationally located project that has found great success in Detroit, a city that is a leader in urban farming initiatives as community builders. The whole food system is

active in their project at a level that the thesis project strives for. Their focus on food to foster culture and art is also a strong aspect that is unique among other projects in the literature review, although nevertheless highly important.

7. CERES (Centre for Education & Research in Environmental Strategies). CERES is a complete food system model that demonstrates the highest level at which the thesis project can strive for. It is the most developed, with several farms and garden, including raising chickens and bees, and has many buildings across its large campus. Unique components useful for the thesis are its income-generating retail elements, such as the cafe, facilities for hire, and its integrated leisure amenities such as nature trails and play areas.



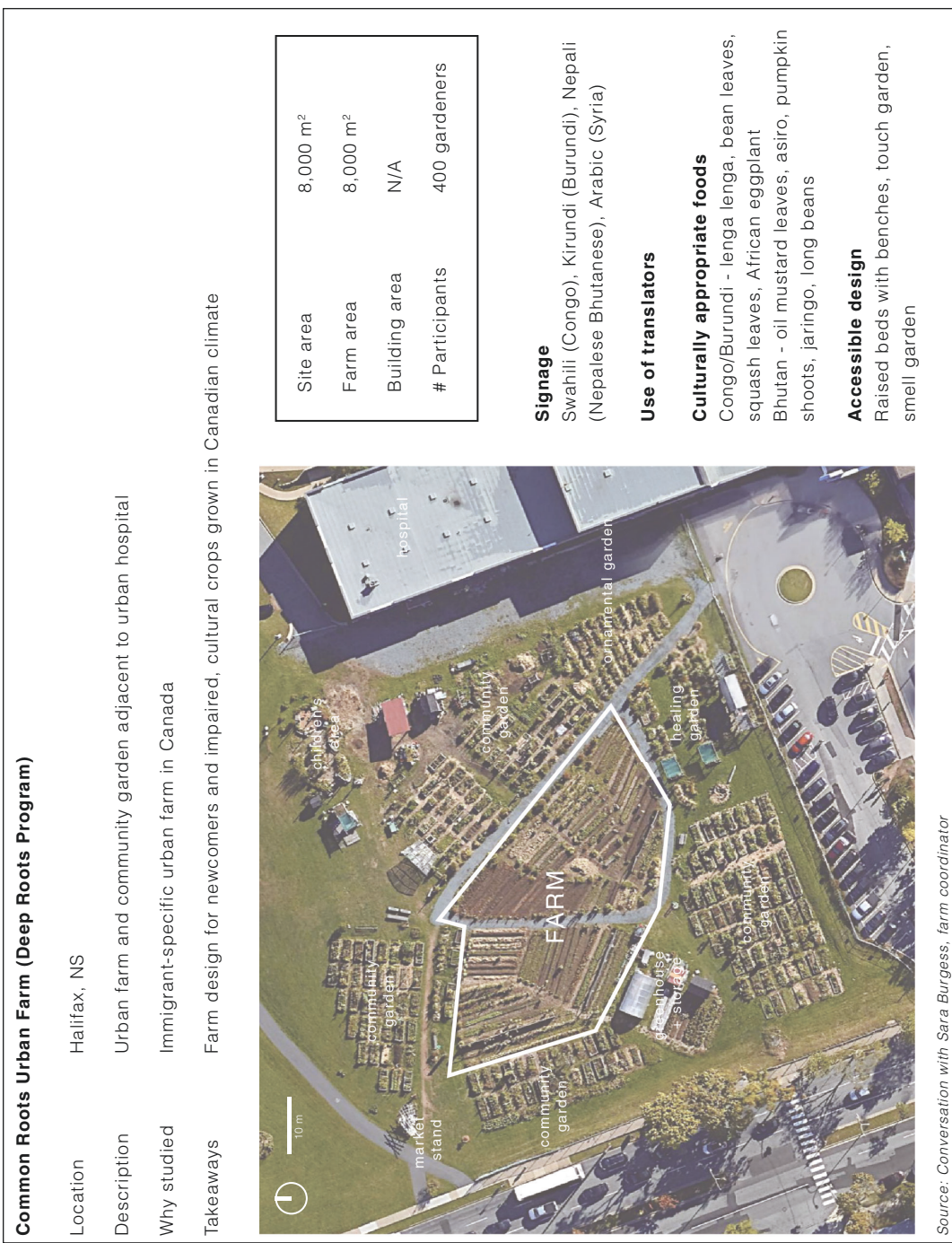


Figure 67. Case Study 1.



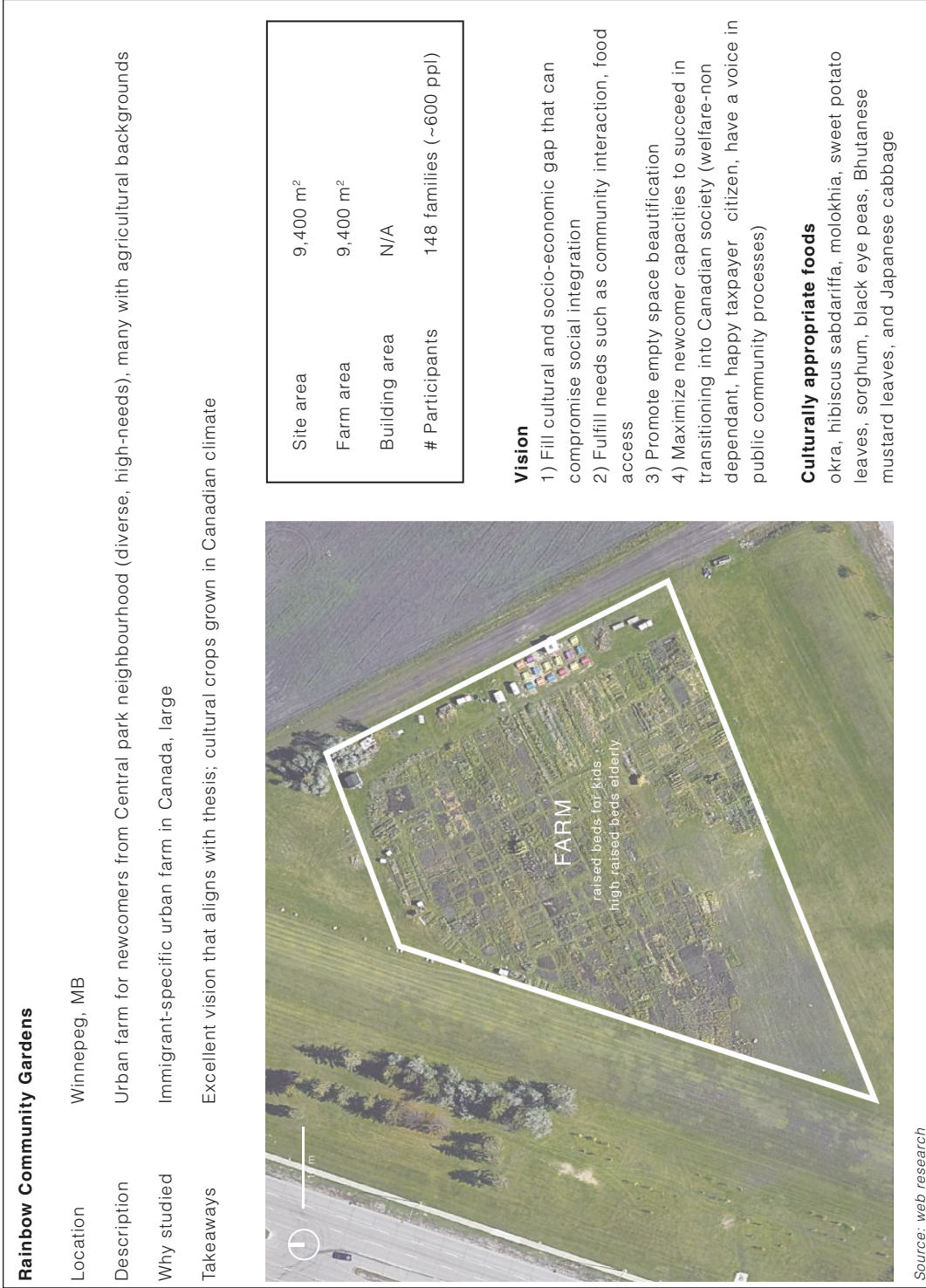


Figure 68. Case Study 2.

### The Alex Community Food Centre

Location	Calgary, AB
Description	CFC in a diverse and high-needs neighbourhood
Why studied	CFC in Calgary-specific context
Takeaways	Food centre design and programs; strategies to extend growing season and farm in the city

Site area	2,700 m <sup>2</sup>
Farm area	N/A
Building area	750 m <sup>2</sup>
# Participants	?



**Urban and winter farming strategies**  
 cold frames, raised wicking beds, space and solar aspect efficiency (can use all surfaces), need shade areas

Source: Conversations with Joanna Tschudy (Garden Skills Coordinator), Bethel Tesfay (Head Chef), Syma Habib (Community Food Animator), Darrell Howard (Team Lead)

Figure 69. Case Study 3.



Figure 70. Case Study 3, main floor plan.



### Dartmouth North Community Food Centre

Location	Dartmouth, NS
Description	Urban farm and CFC for an under-served and high-needs neighbourhood with a lack of community gathering spaces
Why studied	Canadian urban farm and CFC, complete food system model
Takeaways	Urban farm design, strategies to extend growing season and farm in the city



Site area	8,400 m <sup>2</sup>
Farm area	2,500 m <sup>2</sup>
Building area	1,600 m <sup>2</sup>
# Participants	?

#### Winter programming

- Plan for growing season
- Grow spring starters
- Seed sprouting workshop
- Support winter CFC activities and staff
- Fundraising
- Men's cooking classes (Rob off season)
- Food Film Series
- Indoor shelf system with grow lights (microgreens and leafy greens)

#### Urban farming strategies

- Grow food with added value (e.g. leafy greens, not potatoes)
- A common farm for all (drop-in, youth, corporate)
- Community garden by assignment, 3-yr commitment

Source: Conversation with Rob MacNeish (Farm Coordinator)

Figure 71. Case Study 4.

**Dartmouth North Community Food Centre**



Source: Conversation with Rob MacNeish (Farm Coordinator)

Figure 72. Case Study 4, site plan.



### Flats Mentor Farm

**Location** Lancaster, Massachusetts (Bolton Flats Wildlife Management area)

**Description** Assists small farmers of diverse ethnic backgrounds with land, farming infrastructure, and marketing assistance

**Why studied** Immigrant-specific agriculture model

**Takeaways** Culturally-appropriate crops, entrepreneurial model



Source: web research

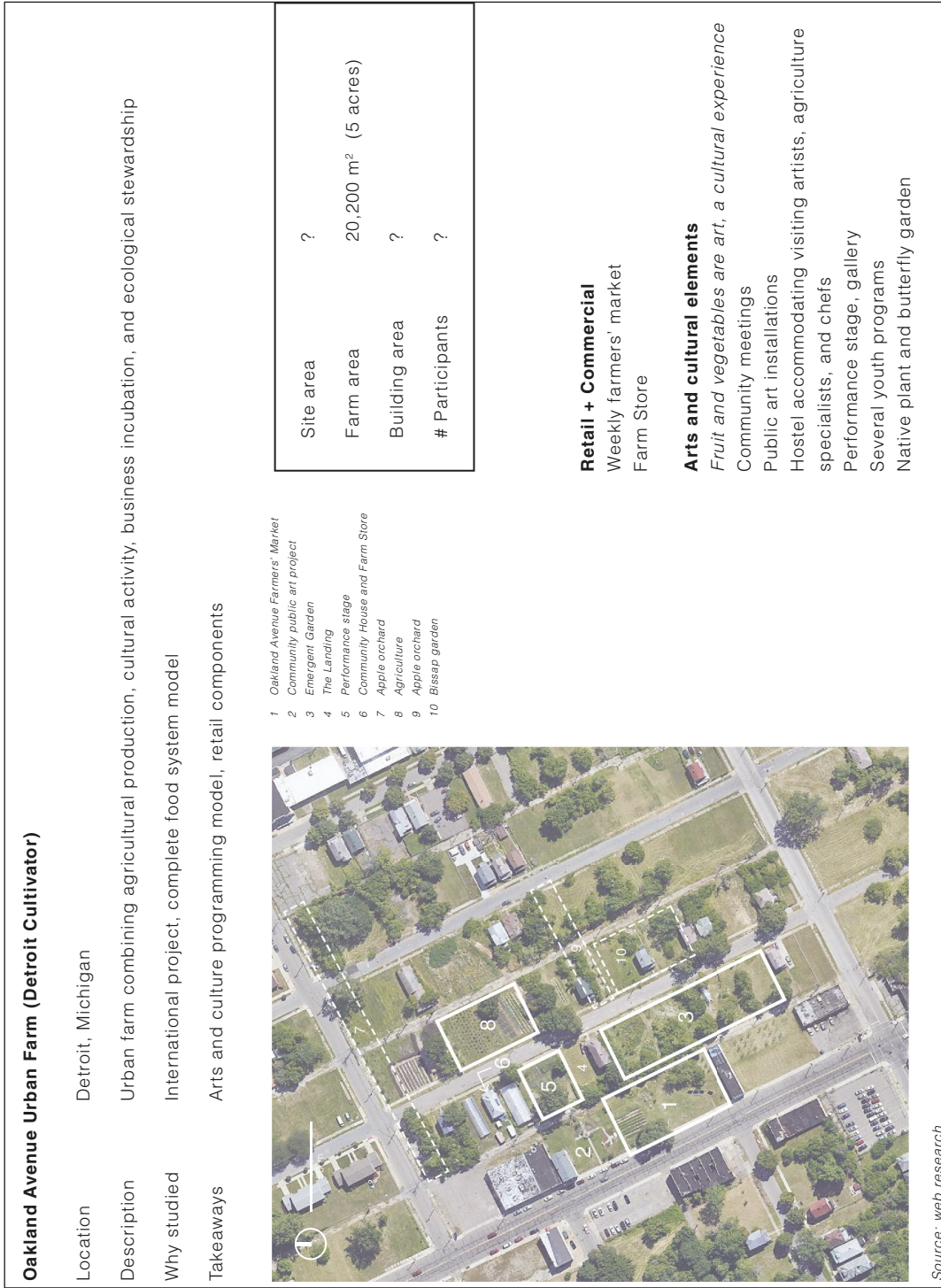
Site area	283,000 m <sup>2</sup> (70 acres)
Farm area	283,000 m <sup>2</sup> (70 acres)
Building area	N/A
# Participants	250 farmers (mostly from Africa today)

### Cultural crops

african corn	daikon radish	lettuce	shiso red/vef penlla
asian cucumber	dill	malabar spinach	sorghum
amaranth	edible luffa	managu	sorrell
asian arugula	eggplant	maxixe	squash
asian mustard	fun jien bassica	mint	sugar snap peas
beets	garlic	onions	swiss chard
bitter melon	gourd	pak-choi	swiss chard
broccoli	green beans	parsley	taioba
carrots	green striped squash	pea tendrils	taro
chinese broccoli	hakurei	banana peppers	tat soi
chipulin	hot asian peppers	peppers	tetragon spinach
chives	jlo	potatoes	tomatoes
cilantro	kolrabi	potatoes	tomatoes
collard greens	leeks	radish	water spinach
cranberry beans	lemongrass	scallions	winter melon
cucumber		shanghai bok-choy	yu choi
			zucchini

### World Farmer's Mentorship Program

- Phase 1 - farm land and assess capacity, commitment
- Phase 2 - training in production, marketing, handling
- Phase 3 - support in purchasing or leasing own farms



Source: web research

Figure 74. Case Study 6.

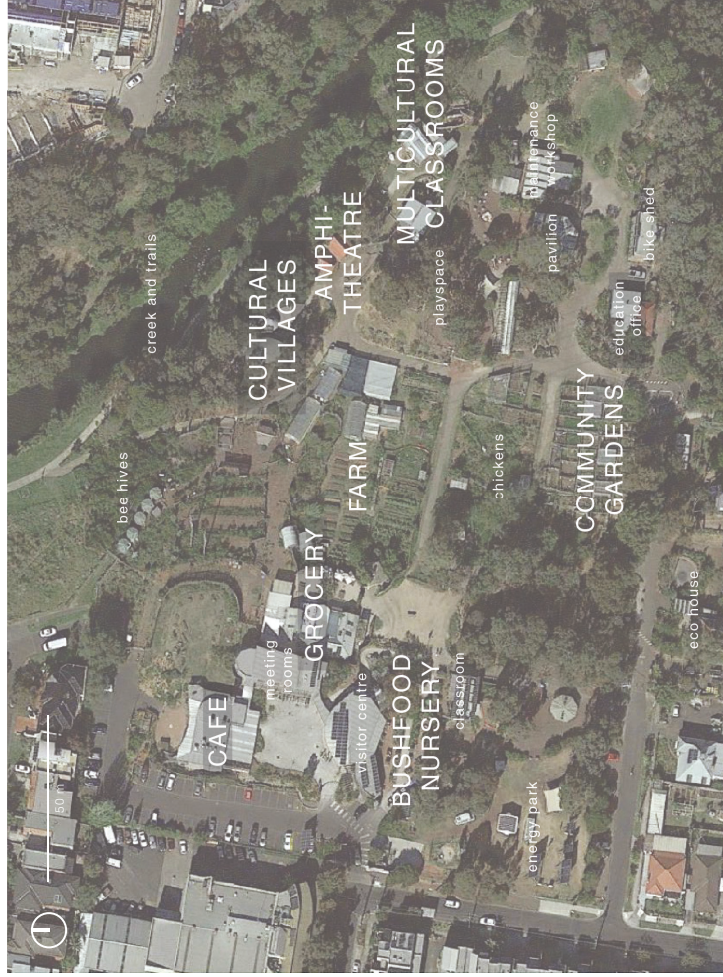
**Centre for Education & Research in Environmental Strategies (CERES)**

**Location** Melbourne, Australia

**Description** Community-based learning and action to create ways of sustainable living

**Why studied** Urban farm on rehabilitated landfill, fully developed international model of activating the food system in the city

**Takeaways** Educational, retail, and leisure elements



Site area	8,400 m <sup>2</sup>
Farm area	2,500 m <sup>2</sup>
Building area	1,600 m <sup>2</sup>
# Participants	?

**Education**

Many classrooms dedicated to learning about multiculturalism, farming, sustainable energy demonstration areas

**Retail**

Cafe open 7 days a week for breakfast and lunch, hosts music events  
Organic grocery and market to purchase local food and farming supplies

Many facilities for hire with catering service

**Leisure**

Dedicated play and accessible areas  
Integrated trails and natural areas with free access  
Bike and maintenance sheds for visitors

Source: *FARMING THE CITY* (book), web research

Figure 75. Case Study 7.



	Common Roots Urban Farm	Rainbow Community Gardens	The Alex Community Food Centre	Dartmouth North Community Food Centre	Flats Mentor Farm	Oakland Avenue Urban Farm (Detroit Cultivator)	CERES	Total	
Urban agriculture	Farm	.	.	.	.	.	.	7	
	Garden, produce	.	.	.	.	.	.	4	
	Garden, flower	.	.	.	.	.	.	5	
	Garden, accessible	.	.	.	.	.	.	4	
	Garden, educational	.	.	.	.	.	.	3	
	Greenhouse	.	.	.	.	.	.	4	
	Storage	.	.	.	.	.	.	5	
	Compost area	.	.	.	.	.	.	3	
	Irrigation	.	.	.	.	.	.	6	
	Shelter/shade	.	.	.	.	.	.	4	
	Toilets	.	.	.	.	.	.	4	
	CFC	Community kitchen	.	.	.	.	.	.	6
		Community dining	.	.	.	.	.	.	3
		Market	.	.	.	.	.	.	5
Retail, secondary		.	.	.	.	.	.	5	
Restaurant		.	.	.	.	.	.	1	
Café		.	.	.	.	.	.	2	
Offices		.	.	.	.	.	.	3	
Staff areas		.	.	.	.	.	.	3	
Meditation/prayer		.	.	.	.	.	.	0	
Family area		.	.	.	.	.	.	2	
Exhibition/art/performance		.	.	.	.	.	.	2	
Classrooms		.	.	.	.	.	.	1	
Meeting rooms		.	.	.	.	.	.	1	
Exercise area		.	.	.	.	.	.	1	
Other	Playground	.	.	.	.	.	.	3	
	Smoking area	.	.	.	.	.	.	1	
	Parking	.	.	.	.	.	.	3	
	Facilities for hire	.	.	.	.	.	.	1	
	Bike shed	.	.	.	.	.	.	1	
	Research	.	.	.	.	.	.	1	
Landscaping/park	.	.	.	.	.	.	2		

Figure 76. Program Summary of Case Studies.

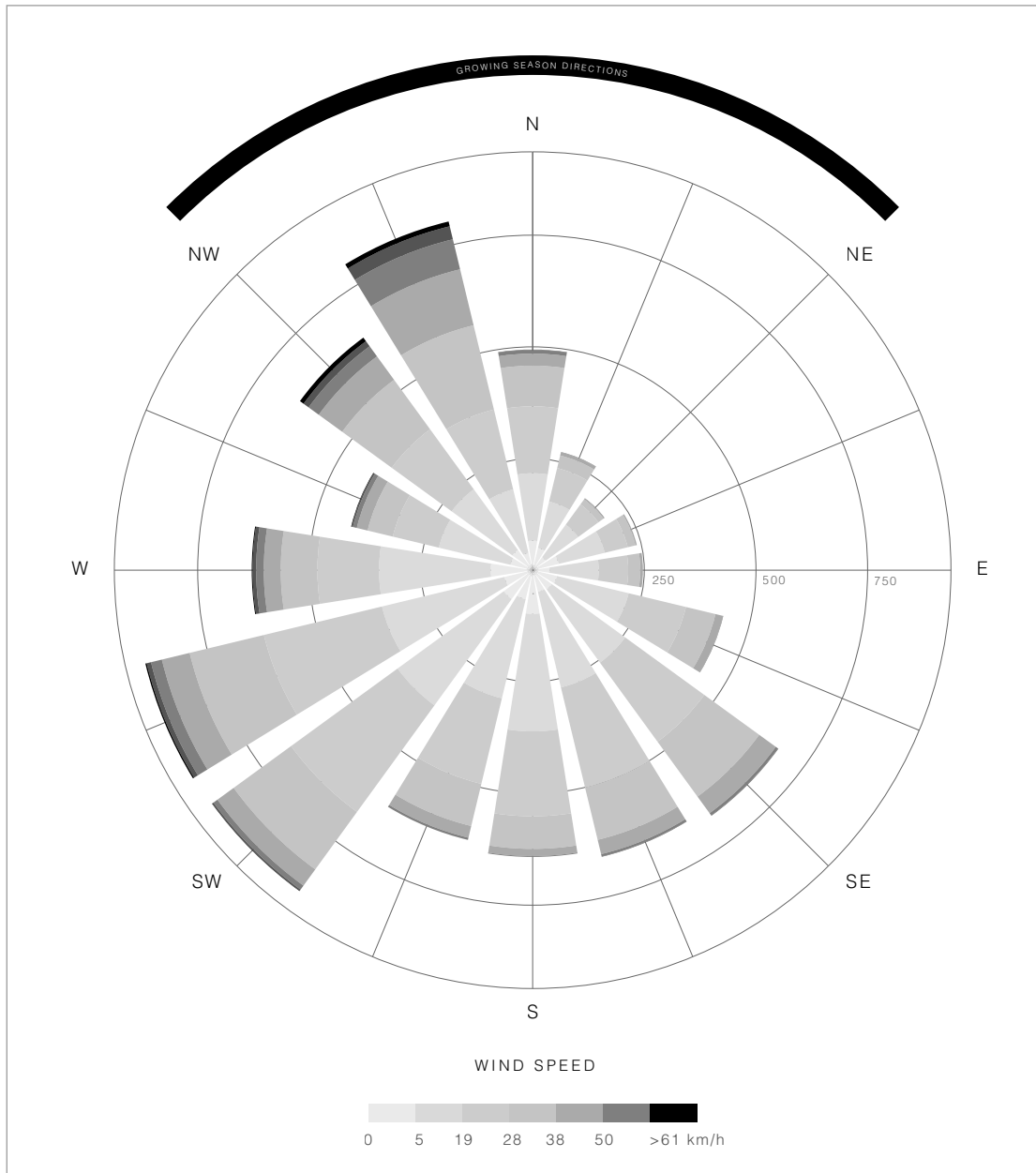
**APPENDIX C: AGROCLIMATIC CONDITIONS OF CALGARY**

Figure 77. Annual wind rose of Calgary. (Source: Meteoblue)



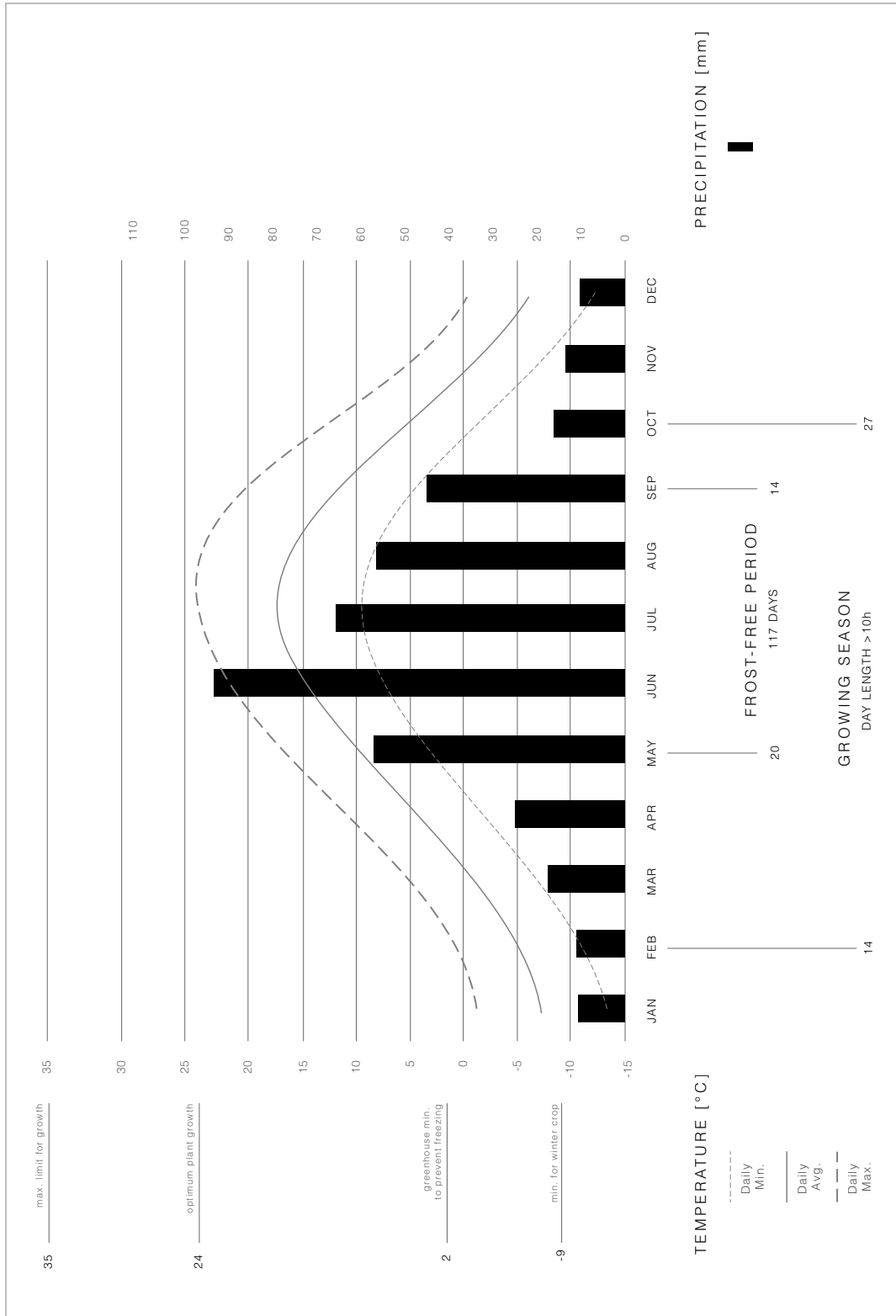


Figure 78. Annual average temperature, precipitation, frost-free period, and growing season of Calgary. (Source: Meteoblue and Alberta Ministry of Agriculture and Forestry)

# APPENDIX D: PLACEMAKERS NETWORK CALCULATIONS

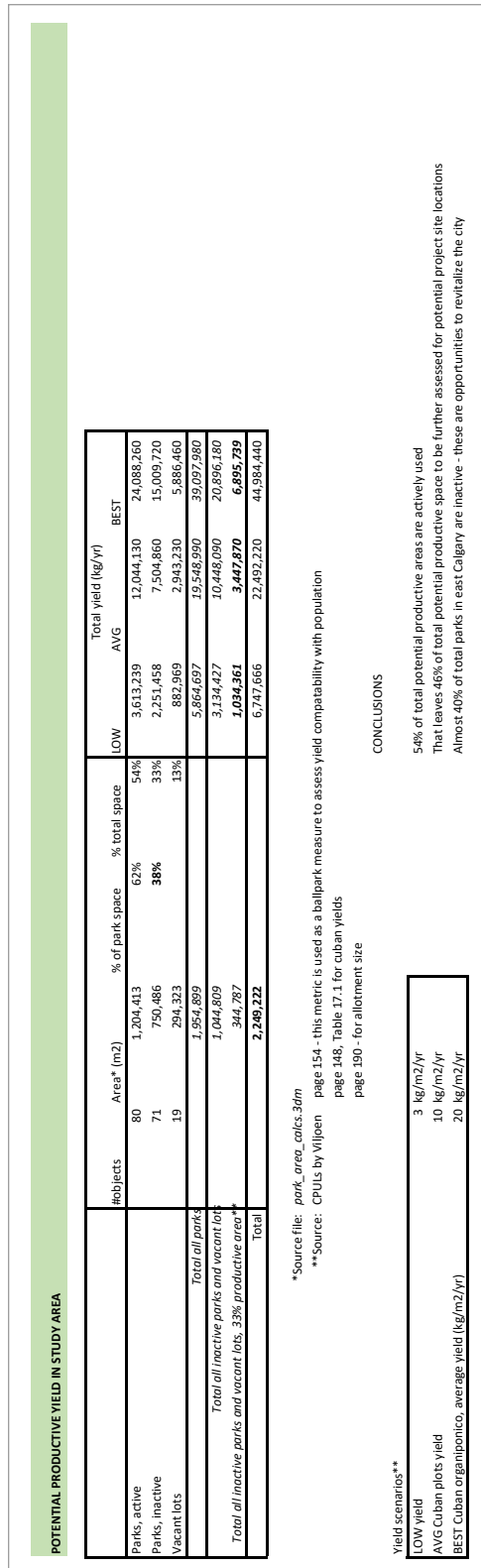


Figure 79. Open space and food supply calculations.

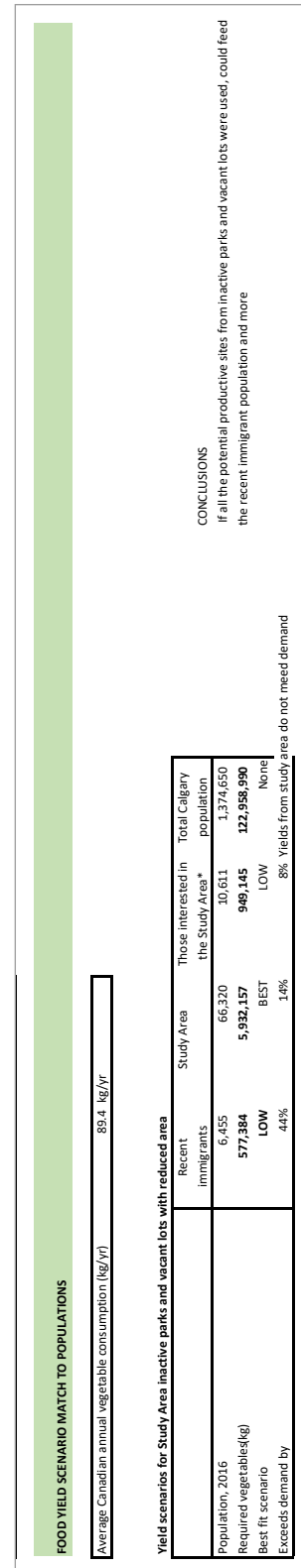


Figure 80. Food demand calculations.












	Area/yield	The area of land available for the cultivation of crops.
	Usage	The level of use by residents for recreation, sport, travel, etc.
	Condition	A measure of a site's ability to perform as originally intended.
	Proximity to food activity	The distance from the site to nearby grocery stores, restaurants, and other related retail businesses.
	Proximity to program	The distance from the site to nearby institutions or businesses whose program would complement the food system.
	Demographics	Socio-economic information on the population residing in the neighbourhood of the site.
	Transit access	The ease of access from the site to nearby public transit services, such as buses, Bus Rapid Transit (BRT), and Light Rail Transit (LRT) systems.
	Road access	The ease of access for private and commercial vehicles to reach the site.
	Exposure	A measure of the impacts of pollution, noise, wind, precipitation, and temperature that may have adverse effects on agricultural performance.
	Terrain	Topographical quality of the site that influence irrigation, soil structure, plant spacing, etc.
	Soil quality	Considerations of soil fertility, contamination from industrial activity, and remediation efforts that may influence crop growth.
	Solar potential	The site's solar irradiance after the effects of shadow, weather, and reflectance from nearby surfaces.

Figure 81. Evaluation criteria for the implementation of large-scale sites.





















	 MARLBOROUGH	 MARLBOROUGH PARK	 ABBEYDALE	 ALBERT PARK	 FOREST LAWN	 PENBROOKE MEADOWS	 MOUNTVIEW
<b>URBAN</b>	 large, multisite	small	small	small	medium, multisite	medium, multisite	extra large
	 low use	some use (near active parks)	low use	low use	some use	low use	no access
	 deteriorated	maintained	deteriorated	deteriorated	maintained	deteriorated	not maintained
<b>PROGRAMMATIC</b>	 near shopping, grocery, restaurants (36th Avenue)	none	near small strip mall, gas station	near shopping, grocery, restaurants (International Ave.)	near shopping, grocery, restaurants (International Ave.)	none	none
	 schools (3) social housing church community centre	schools (3) community centre	school (1) church	schools (6) social housing church, cultural community centre	schools (6) social housing church, seniors	schools (4) church	social housing
	 <small>median</small> total imm. 45% 32% rec. imm. 15% 8.7% low-inc. 14%	total imm. 34% rec. imm. 9% low-inc. 13%	total imm. 29% rec. imm. 7% low-inc. 14%	total imm. 35% rec. imm. 11% low-inc. 19%	total imm. 26% rec. imm. 8.6% low-inc. 22%	total imm. 33% rec. imm. 7.6% low-inc. 15.2%	total imm. 17% rec. imm. N/A low-inc. 19%
	 excellent (many buses, train)	satisfactory (buses)	poor (bus)	excellent (many buses, train)	good (many buses)	poor (bus)	good (many buses)
	 excellent (main, secondary, minor)	good (secondary, minor)	good (secondary, minor)	good (secondary, minor)	excellent (main, secondary, minor)	good (secondary, minor)	excellent (main, secondary, minor)
	 sheltered (residential)	sheltered (residential)	moderate (near highway)	sheltered (residential)	high (near major road)	sheltered (residential)	high (near major road)
	 satisfactory (flat and bermed)	satisfactory (flat and sloped)	satisfactory (naturalized, irregular shape)	good (flat, one slope)	satisfactory (flat and bermed, irregular shape)	good (flat, irregular shape)	poor (naturalized, irregular shape)
 satisfactory (storm drain)	satisfactory (storm drain)	good	good	good	good	poor (wetland)	
 good	good	good	good	good	good	good	
count 	15	5	6	16	12	10	7
rank	2	7	6	1	3	4	5

Figure 82. Evaluation matrix for large-scale sites.

## APPENDIX E: CULTURALLY-APPROPRIATE FOODS



Figure 83. Culturally-appropriate foods grown on urban farms in Canada.





Figure 84. Culturally-appropriate foods grown on urban farms in Canada (continued).





Figure 85. Culturally-appropriate foods grown on urban farms in Canada (continued).



Figure 86. Culturally-appropriate foods grown on urban farms in Canada (continued).

## APPENDIX F: DETAIL DRAWINGS

The following architectural details were developed for an earlier iteration of the building design where the greenhouse was located on a second level. The details no longer accurately represent the final design but may be still referenced for a similar application of materials, connections and general structural assembly.

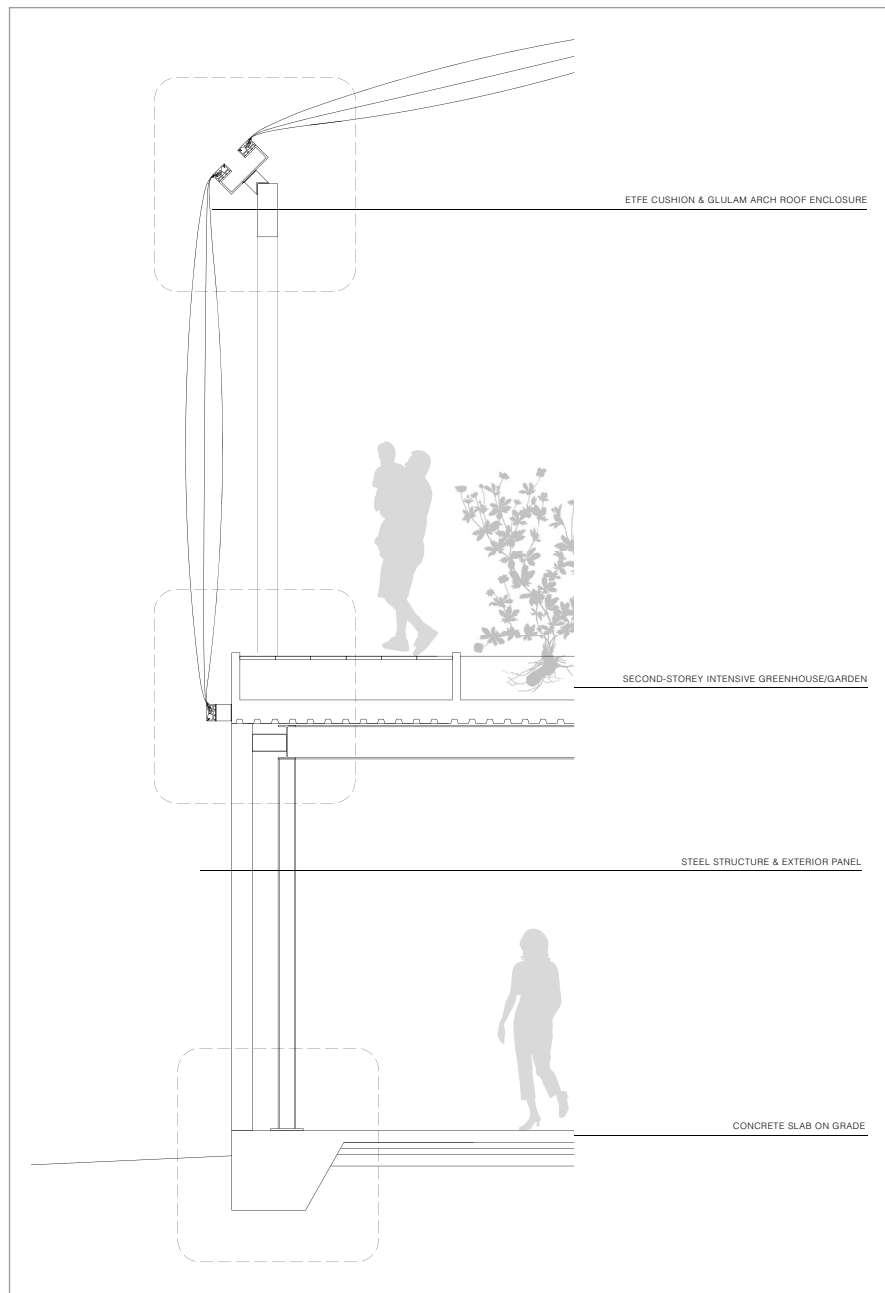


Figure 87. Wall section of integrated community greenhouse.

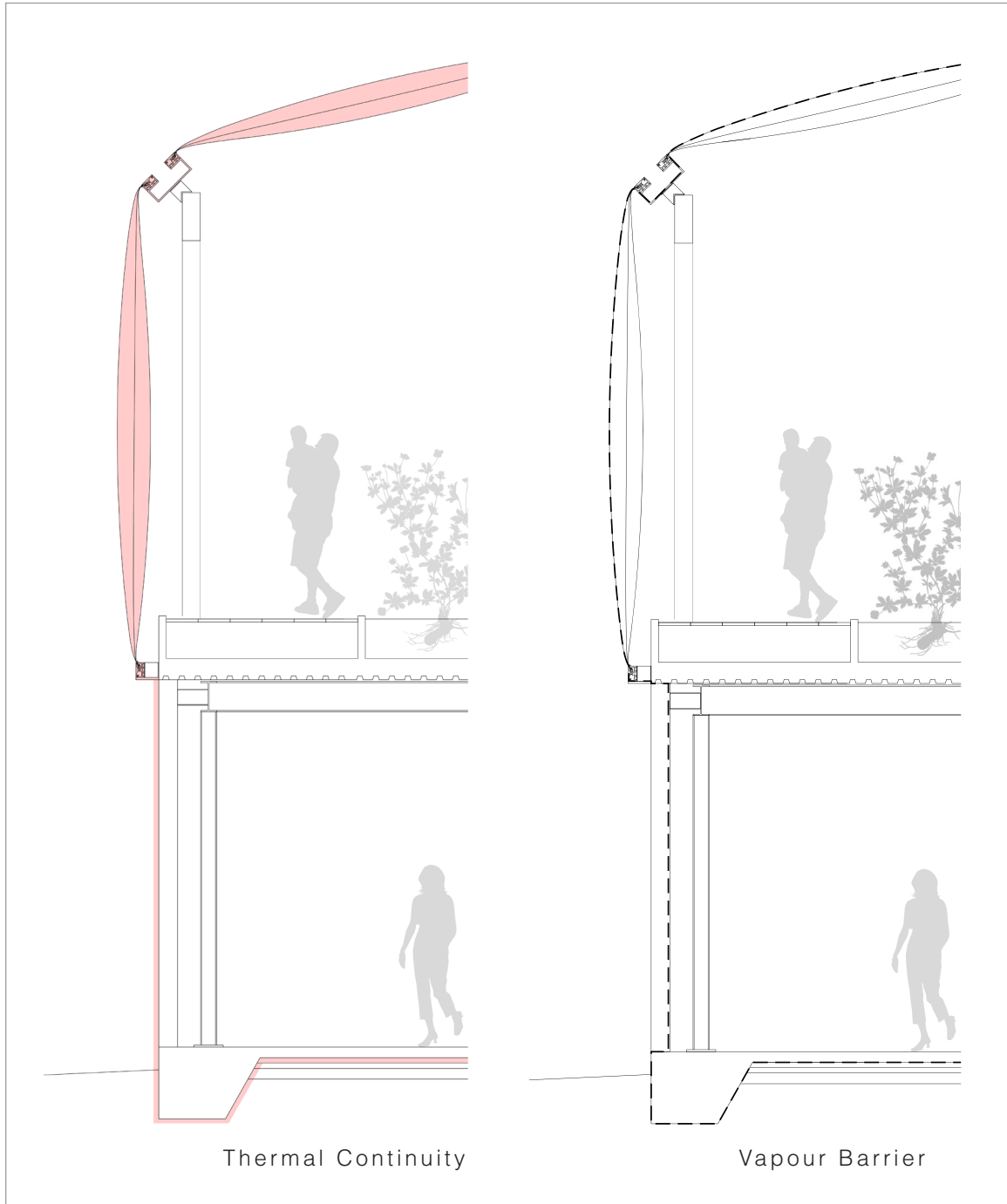


Figure 88. Continuity diagrams.



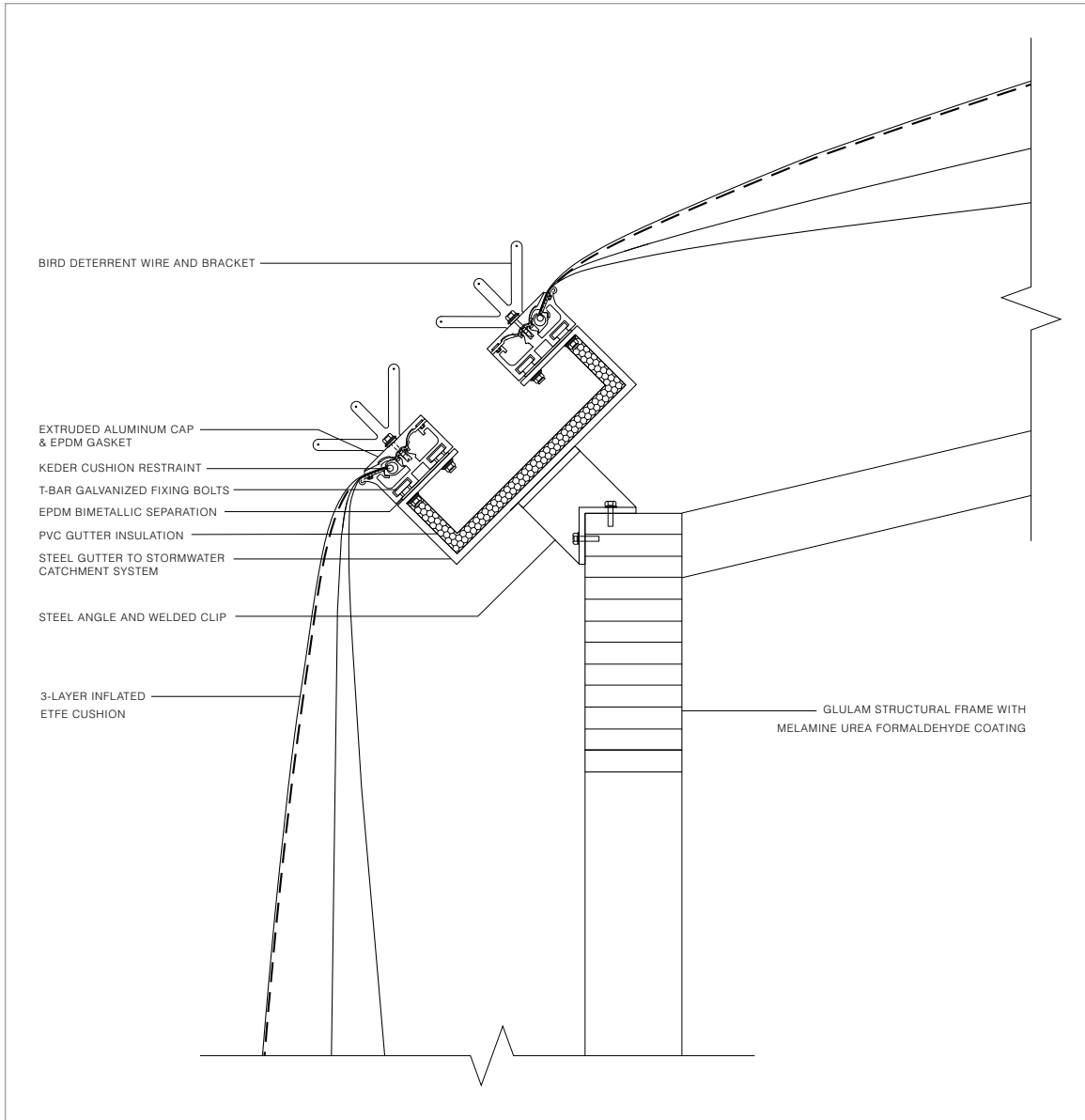


Figure 89. ETFE greenhouse wall/roof detail.

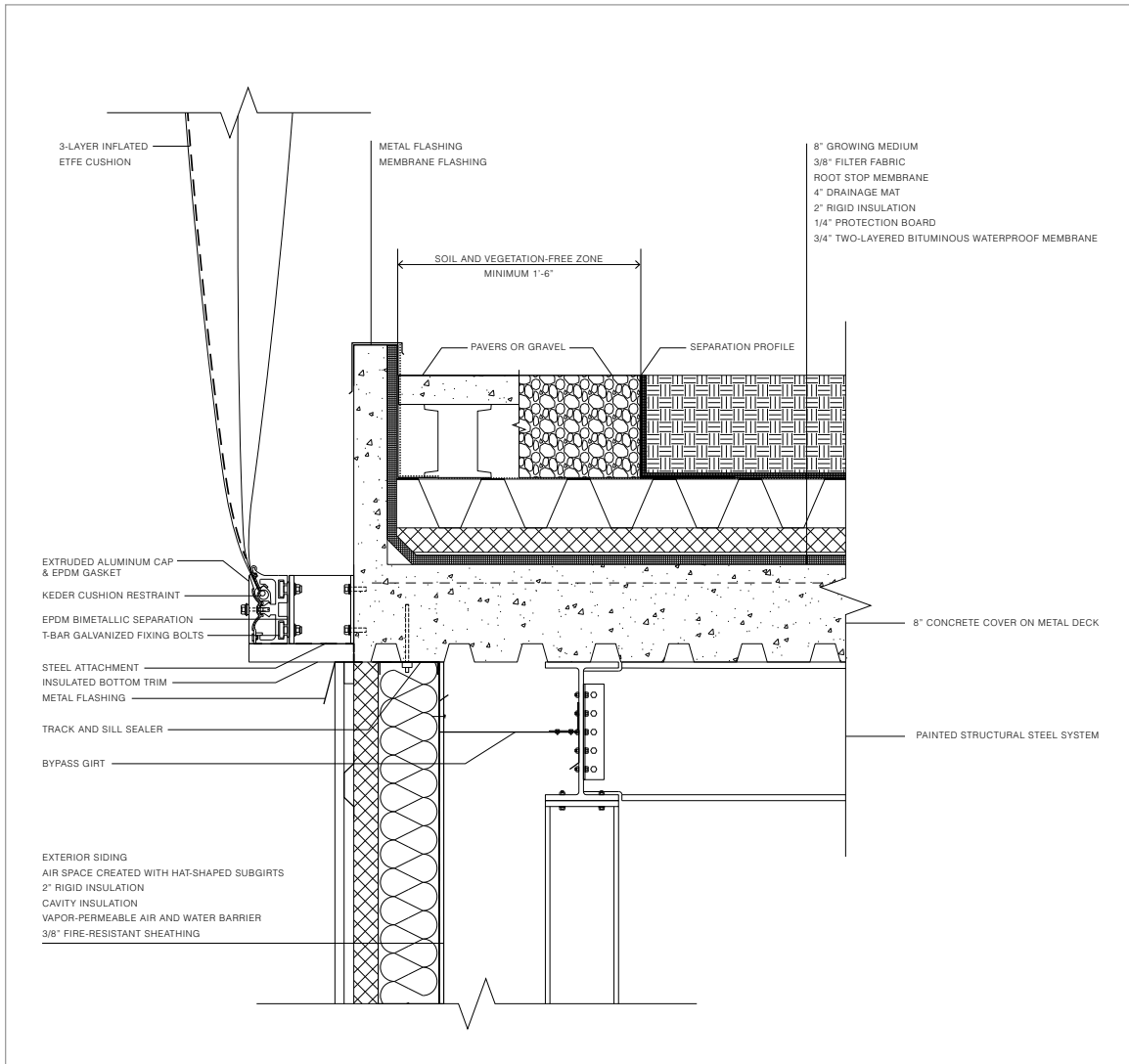


Figure 90. Intermediate intensive green floor and ETFE wall detail.

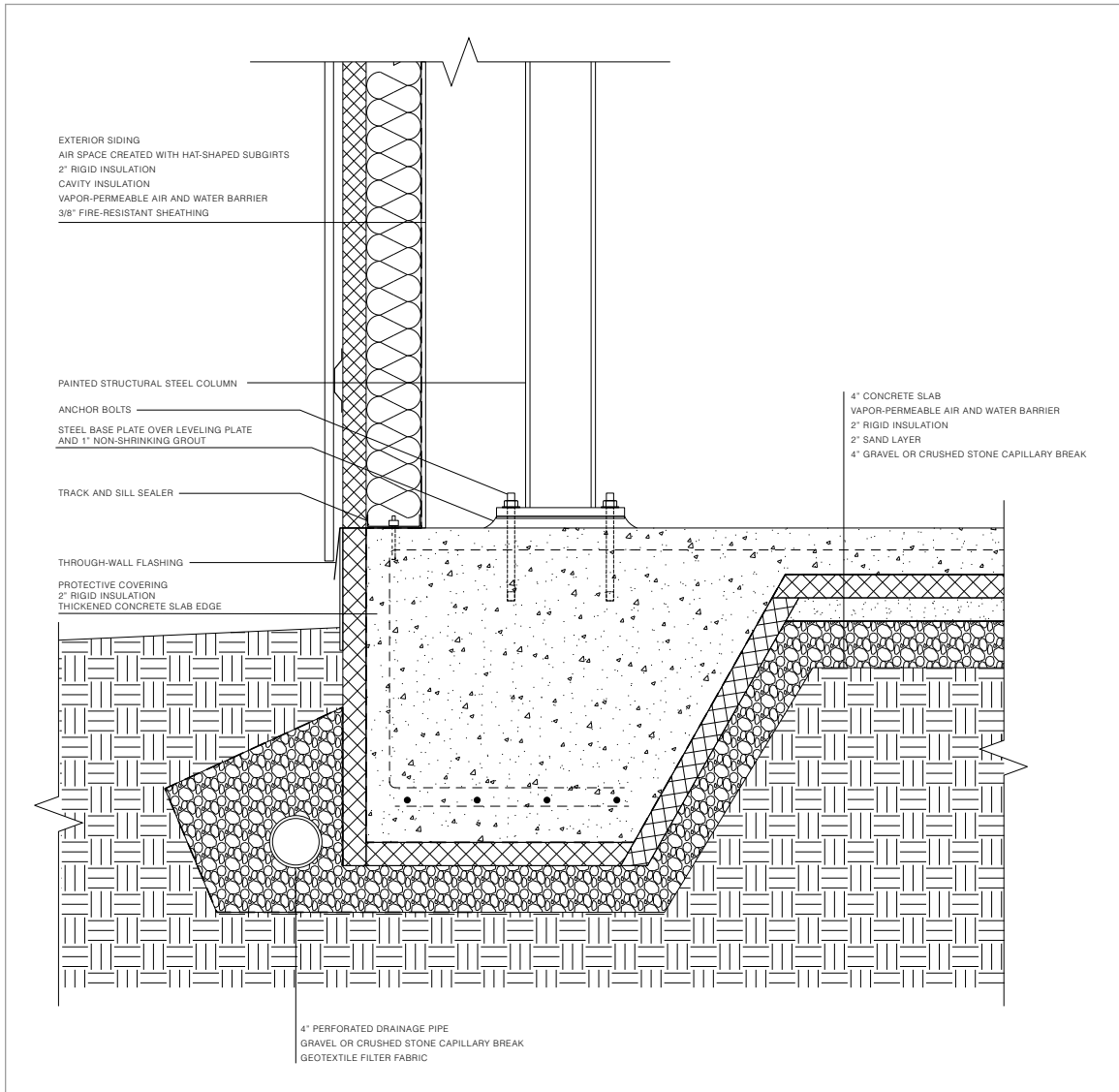


Figure 91. Thickened concrete slab and wall detail.

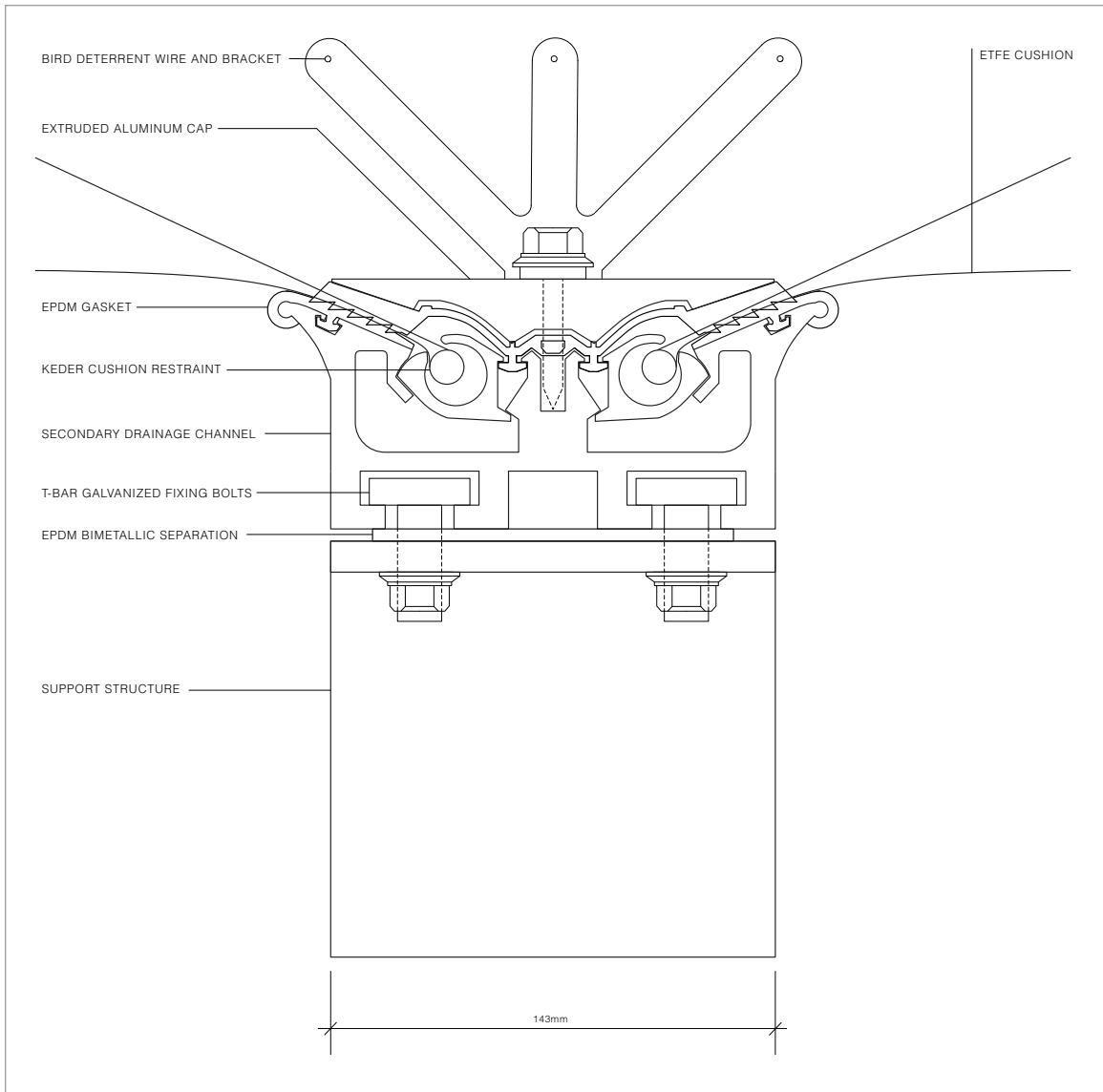


Figure 92. Typical double-sided aluminum extrusion (not to scale).

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