

Investigating urban foodways from the human scale: reconnecting residents to land and  
community

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## Abstract

The human-nature dichotomy has created a rift that has drastically impacted the global environment. To accept the intrinsic value of nature across the disciplines of the built environment begins a process of healing and reform from the local to the global scale. Environmental philosophers, such as Arne Naess, encourage the learning and practicing of ecological knowledge to gain perspective of the interconnectedness between peoples and their landscapes. Food and agriculture, for example, can be used as a tool to highlight human's dependency on the role of nature in production. Agrarian and Indigenous communities practice food production methods that value land sensitivity, regeneration and reciprocity as opposed to the harmful practices that comprise the global food system. The deep, intergenerational knowledge that is gained through regional food production generates environmental virtue and nurtures individual and collective identities connected to a local place. In an increasingly urbanized world, connections to a natural region are being overshadowed by unlimited human expansion. Grounding design in regional and natural sensory immersion from the city to the human scale can stimulate identity and a sense of place. The design solution for this practicum explores the concepts of place and identity, interiority and practical wisdom by considering the human-nature connection within a new urban food network. This practicum examines how interior design has the opportunity to embed eco-consciousness and healing at the human scale of an urban metabolism by valuing community learning and highlighting new and traditional food processes that are linked to the landscape.

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## Chapter 1: Introduction

Our path of progress is unconcerned with the natural world. It is progress with minimal effort towards the mitigation of environmental destruction in order to push the boundaries of what humans can build. There is no question that human progress has been exponential: economies and populations are healthier, technology and engineering are changing the ways in which we interact with the world and each other, and there is progressive movement towards better global education. However, for centuries we as humans have drastically overlooked the total impact of our growth on the natural world. We have ignored the fact that we come from the same system as all other marine and land life that comprise nature. We have chosen to take the easy route and made people-first decisions. More importantly, we have forgotten that there is space, literally and figuratively, for humans and nature to thrive in tandem. It is time for holistic consciousness equally concerned with human and nature well-being. One that is eager to accept a radically different world from the one we are forging; one full of urban biodiversity rather than concrete monoculture cityscapes.

We have led ourselves along a path toward the current climate crisis, and now, our path is at a fork. Let's consider it a three-pronged fork. We can follow the path along the straight and narrow dismissing climate change, no reform to our patterns of living and creating, while barrelling towards the worst possible global predictions. We can take the path to the right where we implement changes to reduce climate emissions and bring back the first two-thirds of the famous Reduce, Reuse, Recycle trio, to put it lightly. Or, we take the third route to the left. The path that is inspired by a deep ecology, which Arne Naess mapped out for us in 1976. This path into deep ecology follows a philosophy that restructures what is considered valuable in our world. The overarching concept of deep ecology defends humans and nature as equal and prescribes a society that builds a world founded on this concept.<sup>1</sup> It is a path that highlights the nuances of beings living in harmony. In order to actualize such a concept, reform needs to take hold within the world's fastest growing population — cities.

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<sup>1</sup> Arne Naess, *Ecology, Community and Lifestyle: outline of an ecosophy*, trans. David Rothenberg (Cambridge: Cambridge University Press, 1989), 17

The relationship between human and nature must be healed strategically in urban populations, as this relationship has been consistently degrading as cities flourish. A key component to recognizing the value of nature, as outlined in the philosophy of Cheng Xiangzhan's Ecoaesthetics is engagement.<sup>2</sup> Engagement is also a base principle in Indigenous wisdom and agrarian philosophy in learning the rooted connections between humans and nature. Immersing populations in learning environmental knowledge, with both passive and active teaching strategies, can re-establish understanding of the natural world. If these strategies are designed to last and evolve with people, ecological generational knowledge can develop and improve. One of the most universal ways to transfer practical ecological knowledge between people is through food and agriculture.

To the average person, agriculture plays a very passive role in their world. People patronize grocery stores and markets and unload their purchases at home. The germination process is distanced from the consumer, leaving little perspective on the impact of our food habits and systems. While some communities continue to embrace local foodways, and some are turning back to them, the reliance on the Global Food System (GFS) is hard to transcend. The practices within the GFS are detrimental to our environment and are far from the traditional agrarian values that care for land health. It has created a monoculture industry that deprives the land of necessary nutrients and the labourers of autonomy and fair pay while pushing food production further away from consumers.<sup>3</sup> Establishing diverse foodways in our urban centres is key to creating food autonomy for local communities and economies, as well as reviving a dialogue of inherent and instrumental value between humans and nature. Not only through consistent and variant interactions, but in softening the sharp boundary of human and non-human space.

Sowing the seed of urban deep ecology begins with the design of spaces that facilitate patterns of living which are saturated with environmental philosophy ethics. After establishing the theory this practicum is based upon, I will propose a program for an urban centre that invites daily interaction between people and nature in Winnipeg, Manitoba. The program will incorporate

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<sup>2</sup> Cheng Xiangzhan, "Aesthetic Engagement, Ecosophy C, and Ecological Appreciation," *Contemporary Aesthetics* 11 (2013): 4.

<sup>3</sup> Annette Desmarais, & Hannah Wittman, "Farmers, foodies and First Nations: getting to food sovereignty in Canada," *Journal of Peasant Studies* 41, no. 6 (2014): 1155.

public food growing within the urban interior, carve out space for biodiversity, and provide space for social cohesion. It is a space that values both products and processes of humans and nature working in food production. Deep ecology is a community state of mind, and therefore the Winnipeg community must be connected. This practicum invites exploration into urban interior space which is a public locus of identification, social interaction, and sensory input at a uniquely human scale. The final design of this practicum is a social space for growing, creating and sharing experiences.

Precedents analyzed in this practicum examine designs that prescribe interactions between people, nature and food. Delving into urban food patterns and eco-city master planning makes visible the human scale interaction, or void of interaction, with food growing processes. Programming that improves community living conditions through engagement is explored and chefs that honor traditions, processes and ingredients are highlighted. It is an investigation of policy, industry, and worldview from the city scale to the interior. It is an investigation of the boundaries of interior design. The boundaries and control of what it means to create ecological interiority; as a state of mind, as a built form, and as a flow of process.

The questions that began this flow of thought and research began broadly. How can environmental thought and awareness be spread through a community? What does a successful, sustainable urban food system look like? How can design support and promote positive environmental connection and patterns within a community? Through these initial research questions, the close connections of environment, community, system design, action and design solutions resulted in a cohesive exploration of an environment for both community and nature to flourish.

## Chapter 2: Environmental Philosophy

To begin this section explores environmental philosophy theories, philosophies of communities that consider environmental stewardship a common theme of life, and how the act of doing turns these philosophies into practical wisdom. The values highlighted in this section create a base to explore the practices within local and global food systems. Finally, this section will explain how these values can incorporate environmental ethics in design planning and management to encourage large scale sustainable living patterns.

The basic concept that this practicum embraces comes from Environmental philosophy, also inherently honored in agrarianism and Traditional Ecological Knowledge (TEK), which upholds the intrinsic value of nature. These perspectives acknowledge the human and non-human world as necessary components of one another, each holding equal value. The influential environmental philosopher Arne Naess (1976) defined the value of nature in his Ecosophy that emphasized accepting nature as an integral aspect of human identity and place.<sup>4</sup> To further appreciate the environmental value of a place, and to promote future environmental conduct, people must learn about and connect with that place. For example, knowledge of a place's ecosystem and environmental processes are central to Indigenous communities and their sustainable living methods. Teachings and practices within TEK promote environmental practice, self-identity, and community as they relate to the natural world.<sup>5</sup> Whereas generally urban communities are removed from the surrounding natural environment and are less likely to care for it because they don't identify as being a part of the same system. Routinely teaching or promoting engagement between the natural and human aspects of a place as it relates to the individual and community will internalize the psychological want to care for that environment because it will be considered personally valuable.

Design approaches have been founded upon ideals of human-nature harmony, learned from biological deterioration and regeneration processes, and inspired by natural aesthetics. The

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<sup>4</sup> Arne Naess, *Ecology, Community and Lifestyle: outline of an ecosophy*, trans. David Rothenberg (Cambridge: Cambridge University Press, 1989)

<sup>5</sup> Nancy Turner, Marianne Ignace, and Ronald Ignace, "Traditional Ecological Knowledge and Wisdom of Aboriginal Peoples in British Columbia," *Ecological Applications*, 10, no. 5 (2000): 1276

concepts within *Cradle to Cradle*, written by William McDonough, incorporate environmental sustainability and science into a closed circulatory system.<sup>6</sup> Visionary designers, such as Neri Oxman, fuse biological processes within a design ethic that is created by, and for, nature.<sup>7</sup> Organic architecture and hortitecture weave nature's aesthetic, form, and process of natural conditions into structures. Additionally, environmental philosopher Cheng Xiangzhan maintains that in order to aesthetically appreciate an environment, procuring ecological knowledge is necessary.<sup>8</sup> In summary, spatial design can both teach and immerse users within nature and its elements, as a way of reconnecting them to a deep perspective of the value of nature and its life-sustaining processes.

## 2.1 The Value of Nature

Nature's instrumental value to humans is an indisputable condition of the anthropocentric world that burdens the proof of the intrinsic value of nature. The instrumental value of nature is expressed when nature is used to satisfy a human want or need. Early hunter-gatherer societies used nature to fulfill basic needs while learning techniques from other living beings to survive. We continue to use nature for supplies and provisions today in an array of techniques. In Japan, scaffolding used in skyscraper construction is still made of bamboo. Modern thatch roof housing is making a resurgence as a sustainable and life-long building material.<sup>9</sup> Fisheries and other natural resource exports generate reliable income for many countries. Natural resources in these examples are used to serve a purpose to the human population, and they serve it well. However acquiring and producing enough of these resources for global demand puts a strain on the environment and leads to exploitation and degradation of the land. If effort is put into critically reflecting on our current processes and transforming them into ones that are less stressful on our

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<sup>6</sup> William McDonough and Michael Braungart, *Cradle to Cradle: Remaking the Way We Make Things* (Farrar: Straus and Giroux, 2010)

<sup>7</sup> "Neri Oxman: Architect, Designer, Inventor," Neri Oxman, accessed September 15, 2020, <https://neri.media.mit.edu/neri-oxman.html>

<sup>8</sup> Cheng Xiangzhan, "Aesthetic Engagement, Ecosophy C, and Ecological Appreciation," *Contemporary Aesthetics*, 11 (2013): 4

<sup>9</sup> This is a reference to the Shkrub House by Sergey Makhno Architects. The traditional thatch roof technique was modernized with angular cuts and clean treatments. Thatch roofs are moisture resistant, environmentally friendly and strong. Modernizing traditional techniques can revitalize simple and efficient solutions.

environment we can reverse some of our exasperating material dependencies. The path to deep ecology is a double-edged sword. We must depend less on our current processes and products in order to realize nature's basic value, while at the same time be assured of nature's value in order to push for these changes.

Arne Naess' Ecosophy is built upon the notion that humans are equally a part of and within the natural world.<sup>10</sup> This belief of interrelatedness of living beings is a common worldview. For Indigenous peoples, Mother Earth is the guardian, creator and sustainer of all life.<sup>11</sup> The Chinese mode of thought *ch'i* is interpreted as the energy of life that flows through everything.<sup>12</sup> These concepts accept that everything created is connected, and therefore is a part of a community founded on mutual respect and well-being.

According to Naess, the human-nature synergy is explicit to a code of deep ecology. Naess articulates, "to distance oneself from nature and the 'natural' is to distance oneself from a part of that which the I is built up."<sup>13</sup> To follow deep ecology is to accept the intrinsic value of nature, and to form societies around this foundational aspect. A society based upon deep ecology challenges the condition of the current exponential and disproportionate growth of contemporary cities. In recognizing nature as a part of the human condition, and therefore understanding that in order for humans to thrive nature must thrive, perhaps the opportunity to thrive will be more equitably distributed. A thriving human-nature relationship is dependent upon the interconnectivity of all beings that comprise a place and contribute to a collective and individual identity. This ecocentric self-identification process of Ecosophy leads to a desire to protect the elements of the Self.<sup>14</sup>

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<sup>10</sup> Arne Naess, *Ecology, Community and Lifestyle: outline of an ecosophy*, trans. David Rothenberg (Cambridge: Cambridge University Press, 1989), 164

<sup>11</sup> Nancy Turner, Marianne Ignace, and Ronald Ignace, "Traditional Ecological Knowledge and Wisdom of Aboriginal Peoples in British Columbia," 1276

<sup>12</sup> Cheng Xiangzhan, "Aesthetic Engagement, Ecosophy C, and Ecological Appreciation," 5

<sup>13</sup> Arne Naess, *Ecology, Community and Lifestyle*, 164

<sup>14</sup> Arne Naess, *Ecology, Community and Lifestyle*, 174

Self-realization is an active process of ego that is fundamental to recognizing Naess' Ecosophy.<sup>15</sup> Essentially it is the evolution of defining oneself in relation to all beings. This is not to say that it is a process of losing oneself within a whole, but rather, better connecting to the whole through understanding the interrelated needs, actions and reaction of a whole ecosystem. Through this process, Naess is promoting empathy for all beings which deepens as a person identifies with more people, landscapes, places, animals and plants.<sup>16</sup> The city Curridabat, Costa Rica recently extended its definition of Self by granting pollinators and native plants and trees citizenship in 2020.<sup>17</sup> The local government recognized the integral role of these species to the health of its community and chose to care for them under their governing power, in turn, promoting protection and care for these beings to its human citizens. The desire to protect the place and beings that are components of the Self is a human psychological condition that is inherently concerned with *home*.<sup>18</sup>

Home is created in places that people identify with, whether it be a private or public space, or a community at large. The word "home" implies acts of care and nurturing. The value in nurturing home, inclusive of the natural world, is represented in the title Ecosophy. Derived from the Ancient Greek words *ecos* meaning household place, and *sophia*, theoretical wisdom, Ecosophy is defined as illustrating ecological harmony through wisdom of home.<sup>19</sup> Organizations and communities capitalize on the concept of home in order to encourage civic pride and action. For example, the "Take Pride Winnipeg!" charity was adopted in 1991 with the mission to inspire community pride and advocate for civilian responsibility in keeping a clean city.<sup>20</sup> Expressions such as this portray the idea that it is dutiful to value and protect a home. Therefore, if a community begins to collectively see the elements of its environment as a part of their home, the

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<sup>15</sup> Arne Naess, *Ecology, Community and Lifestyle*, 8

<sup>16</sup> Arne Naess, *Ecology, Community and Lifestyle*, 174

<sup>17</sup> Patrick Greenfield, "Sweet City: The Costa Rica Suburb that gave citizenship to bees, plants and trees," *The Guardian*, April 2020, <https://www.theguardian.com/environment/2020/apr/29/sweet-city-the-costa-rica-suburb-that-gave-citizenship-to-bees-plants-and-trees-aoe>

<sup>18</sup> Luca Valera, "Home, Ecological Self and Self-Realization: Understanding Asymmetrical Relationships Through Arne Naess's Ecosophy," *Agriculture and Environmental Ethics*, 31 (2018): 665

<sup>19</sup> Wei-Ning Xiang, "*Ecophrones*: The ecological practical wisdom for and from ecological practice," *Landscape and Urban Planning* 155, (2016): 53

<sup>20</sup> "Who We Are," Take Pride Winnipeg, accessed January 2020, [TakePride.mb.ca/about](https://takepride.mb.ca/about)

interactive relationships between the “citizens” of that place, inclusive of nature, become essential to a healthy home.

To sustain a mutually beneficial coexistence, a collective identity as it relates to a place is often nurtured. If the place identity is lost, the collective home degrades. Communities that practice environmental stewardship identify with their land(s) and inherently wish to care for their home. Rural or Indigenous communities tend to readily identify with the land not only due to traditional connections, but because they recognize that the land sustains their way of life. In the case of Métis elder Rose Richardson, her community’s land and traditional lifestyle is continually threatened by modern development. Rose describes the changes to her lifestyle:

“Picking plants for food and medicine was and still is part of our lifestyle. [...] We have [...] preserved the knowledge of traditional plants as an intellectual right given to us by our ancestors. As technology advances and industry moves further north, we are beginning to lose control of the very land on which our medicines grow.”<sup>21</sup>

Modern development without consent or consideration of traditional value endangers the unique culture of a place in favour of commodification and growth.<sup>22</sup> Future developments that are conscious of community land value can empower people by respecting the community land ownership.

Agrarian philosophy, and the more recent development of Agroecology, is intrinsically connected with land health and vitality.<sup>23</sup> The individuals and communities that are invested in these processes recognize the human scale connections to place. However, commercial agriculture has introduced methods that deplete the soil and harm local biodiversity and

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<sup>21</sup> Nathalie Kermoal, “Métis Women’s Environmental Knowledge and the Recognition of Métis Rights,” in *Living on the Land: Indigenous Women’s Understanding of Place*, ed. Nathalie Kermoal, and Isabel Altamirano-Jiménez (Edmonton, Athabasca University Press, 2016) 107.

<sup>22</sup> Consider also the development of communities in regions with ample space. Rem Koolhaas discussed the architecture and location of server warehouses, generally being windowless boxes far from city boundaries, as an oversight to the future development of the surrounding area. If we consider our land as abundant for our primary use, we have forgotten the value of that land and space itself. Rem Koolhaas, “The Art of Figuring Out How the World Works,” May 23 2016, video, 17:27, Google Zeitgeist, <https://www.youtube.com/watch?v=Zv9CEO7pApg>

<sup>23</sup> Paul Thompson, “Agrarian Environmental Philosophy in an Inter-cultural Context,” in *Agricultural Ethics in East Asian Perspective*, ed. Paul Thompson, Kirill O. Thompson (New York: Springer Cham, 2018), 5

ecosystems. Modern demands and large corporations have removed individuals from the land and emboldened industries to shed environmental ethics. The land becomes a commodity to manipulate rather than an entity to care for. Re-imagining technology and investing in new age concepts of these industries will open the door to further improve our processes. Aeroponics and hydroponics are great examples of technology that can feed the masses and reduce our land dependency; however, these systems should be further developed to improve their water and energy dependency. As well, these technologies can be developed to respond directly to specific community needs. For example, striking a balance between a human-led work force in a growing technologically advanced agriculture scene is critical in regions with populations that have a large agriculture workforce. Deeply valuing the elements of a collective place and understanding what makes a community active, can bolster a growing community without displacing traditional perspectives.

Deep ecology prescribes the need to sustain the identity of a place while anticipating modern development with an environmental ethic. Traditional environmental ethics are passed on generationally to sustain cultural identity and ensure a thriving community. Agrarianism sows environmental virtue into pragmatic application to satisfy the needs of people while accounting for the conditions of a place.<sup>24</sup> Indigenous peoples share practical wisdom of places that generate embedded land sensitivity and respect. However, as urbanization has escalated traditional land virtue ethics have diminished. Urban residents have little means of traditions, wisdoms, or practices that connect them to the nature of their place. Cities are growing upon principles of shallow ecology<sup>25</sup>, where it is easier to accept recycling as good, instead of accepting no-waste policies. An urban deep ecology would encourage the growth and expansion of all beings in tandem based on ecological wisdom, rather than ease for the human population. Understanding and working within the bounds of place are what determine design responses that are cognizant

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<sup>24</sup> Paul Thompson, "Agrarian Philosophy and Ecological Ethics," *Science and Engineering Ethics* 14 no.4 (2008): 528

<sup>25</sup> Shallow ecology is a performance of deep ecology rather than a commitment. It occurs when people fall short of the holistically good action in favour of something that is easier for the people. In this example, it is easier to recycle than it is to convert to no-waste although no-waste is the better long-term goal.

Naess, *Ecology, Community and Lifestyle*, 28.

of the working relationship between living beings. Urbanization is altering the human-nature relationship and is causing designers and planners to reassess those power relationships.

### 2.1.1 System planning and design

Normalizing the transformation of our systems that have historically been designed for and by people into ones that put human-nature value and impact in balance is necessary to shift towards ecological design. William McDonough states in *Cradle to Cradle* (2010) that at the beginning of the Industrial Revolution “humans perceived nature as something hostile, so they attacked back to assert control.”<sup>26</sup> This mindset embedded the possibility of human conquest over nature, and arguably while we as communities have advanced, this mindset has largely been stagnant.

The Cradle to Cradle model encourages a closed loop regenerative cycle. Essentially, the designed world needs to respond to the natural cycles of the world, otherwise the matter which we are creating is only waste.<sup>27</sup> Neri Oxman, Professor at the MIT Media Lab has created a series of responsive materials, structures and art pieces through studying Life. Trained as an architect and biologist, Oxman developed the field of “Material Ecology” which considers fabrication, creation, and material use as essential to the design process.<sup>28</sup> Her projects, such as “Hybrid Living Fibers,” introduce living agents to materials in order to create regenerative or transforming products that can be used in new world applications. Hybrid Living Fibers creates incredibly strong and reactive materials with the aim of introducing them into health and food industries for uses such as wound dressing and food packaging.<sup>29</sup> The goal of these projects is to begin producing materials that take their creation, function, and degradation into consideration.

Oxman and her team have also created material skins that are created through digital fabrication of molecular components found in plant and animal matter. These materials are a response to the inanimate existing man-made materials that perform a defined set of functions.<sup>30</sup> These materials

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<sup>26</sup> William McDonough and Michael Braungart, *Cradle to Cradle*, 25

<sup>27</sup> William McDonough and Michael Braungart, *Cradle to Cradle*, 16

<sup>28</sup> “Neri Oxman: Mediated Matter,” MIT Media Lab, accessed September 15, 2020, <https://www.media.mit.edu/people/neri/overview/>

<sup>29</sup> <https://www.media.mit.edu/projects/hybrid-living-fibers/overview/>

<sup>30</sup> Oxman <https://www.media.mit.edu/projects/aguahoja/overview/>

are programmed and designed using digital morphogenesis to form and decay, are adaptive to weather and temperature and invite a dialogue with the natural environment.<sup>31</sup> Similar to principles of biomimicry, her designs are informed from and react to their environment. For example, if it is snowing or raining, the translucent materials of a weather shelter could turn opaque to enhance a sense of safety. Exploring these innovations and techniques that draw us to respond to natural processes rather than fight it can strengthen our interventions within ecosystems.<sup>32</sup> In her book *Hortitecture* (2018) Almut Grüntuch-Ernst describes the intersection of architecture and nature as the “search for synergies in the combination of architecture and plant material that could effectively enhance well-being and reduce our carbon footprint on the built environment.”<sup>33</sup> These thought processes of designers and theorists have entered a discussion that is considerate of place, reciprocity, and regeneration.

In contemporary cities deep ecology is lost in favor of a human hierarchy that capitalizes on nature’s serviceability. Unfortunately, our issues in valuing nature are compounding. Socially we don’t recognize the value of nature, and this permeates into the composition of our systems, corporations, and education. The disidentification of humans as an equal part of a whole with nature has deteriorated the alliance between people and a natural place. Self-identification related to a place reiterates the connectivity and fellowship of beings together. Multitudes of people connecting to a place over time takes learning and respecting traditions, values, and the resulting practical code that guides actions. While a practical code will vary based on location, culture, and people it is the link to developing actions that teach and maintain nature’s value which can further inform the ways that we develop.

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<sup>31</sup> Oxman, <https://conceptuology.wordpress.com/2016/05/01/digital-morphogenesis-in-architecture/>

<sup>32</sup> Consider the overwhelming goal to explore and populate other planets. Has our research considered the effects of our man-made materials on the foreign environment? Following an approach of Material Ecology our first step would be to learn about these environments and their compositions and work ourselves into the puzzle rather than forcing ourselves onto the environment.

<sup>33</sup> Almut Grüntuch-Ernst, “Horitecture: More Nature within the Artifact,” in *Hortitecture: The Power of Architecture and Plants*, ed. Almut Grüntuch-Ernst (Braunschweig: Jovis Verlag, 2018), 5

## 2.2 Practical Wisdom

The theoretical concepts within Naess' Ecosophy are exhibited as part of a moral code when ecological wisdom is acted upon. It is wisdom that is informed by the elements of an ecosystem and works within its parameters. For example, Indigenous peoples recognize ecological succession in their environments and practice landscape burning to enhance future plant successional species.<sup>34</sup> Ecological wisdom and its subsequent action is particular to regions and worldviews. In sharing ecological wisdom, agrarian or Indigenous societies follow pragmatic action that upholds a human-nature equilibrium. This action unlocks a deep ecology that consequently encourages environmental virtue. If modern development was invested with basic ecological wisdoms it would begin to generate foundational knowledge for future expansion that benefits all. As we strive to gain a better understanding of our interconnectedness, we are shaping our knowledge set of practical wisdom and action.

The concept of practical wisdom was declared by Aristotle in Ancient Greece as a type of wisdom that guided people to moral action.<sup>35</sup> Aristotle believed that practical wisdom, or *phronesis*, could only be learned through action.<sup>36</sup> Therefore, children are born without *phronesis* but have the ability to learn it. Lessons and wisdom in environmental knowledge can result in future moral action. For example, Indigenous elders take lead during a root harvest to show children how to unearth mature roots and replant undersized roots.<sup>37</sup> These propagation techniques teach proper resource management within a practice that responds to the species and regional environment. In ancient Greece, philosophers recognized agrarianism as a means to encourage public virtue and teach *phronesis*.<sup>38</sup> Caring for crops, especially vine and tree crops

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<sup>34</sup> Nancy Turner, Marianne Ignace, and Ronald Ignace, "Traditional Ecological Knowledge and Wisdom of Aboriginal Peoples in British Columbia," 1279

<sup>35</sup> Wei-Ning Xiang, "*Ecophronesis*: The ecological practical wisdom for and from ecological practice," 54

<sup>36</sup> Wei-Ning Xiang, "*Ecophronesis*: The ecological practical wisdom for and from ecological practice," 56

<sup>37</sup> Nancy Turner, Marianne Ignace, and Ronald Ignace, "Traditional Ecological Knowledge and Wisdom of Aboriginal Peoples in British Columbia," 1280

<sup>38</sup> Paul Thompson, "Agrarian Environmental Philosophy in an Inter-cultural Context," in *Agricultural Ethics in East Asian Perspective*, ed. Paul Thompson, Kirill O. Thompson (New York: Springer Cham, 2018), 5

that take generations to maintain, is a relationship of necessity that creates an intimate connection between an individual or group and the environment.<sup>39</sup>

The term *ecophrones* describes the act of continued moral action in response to the crucial ecological knowledge that is shared through instruction, participation, and narrative.<sup>40</sup> Values present within an *ecophrones* can guide planning, design, and policy that supports sustainable growth. At the urban scale this could include studying migratory patterns of animals and developing green corridors for this use. Architecturally speaking, buildings that incorporate plants can improve air quality as well as reduce the solar heat gain in cities.<sup>41</sup> Within the interior, biophilic effects are beneficial to occupants, especially those situated in cold climates with short growing seasons. The scales of development can support environmental planning and create tailored built environments to regions.

Many researchers and professionals support the fusion of traditional knowledge and western science practices for inclusive environmental planning. Nancy Turner, from the School of Environmental Studies in British Columbia, states that practical wisdom gained from TEK is of “fundamental importance in the management of local resources, in the husbanding of the world’s biodiversity and in providing locally valid models of living.”<sup>42</sup> Turner is advocating for a harmonious understanding of ecological methods across worldviews regarding peoples’ relationship with nature. In British Columbia, environmental education is practiced with emphasis on TEK to bridge the gap between Indigenous and western knowledge.<sup>43</sup> The environmental education curriculum introduces the intrinsic value of nature into western education subjects as a necessary component of learning and decision making. Institutions that practice this model are teaching students foundational ecological practical wisdom with the goal

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<sup>39</sup> Paul Thompson, “Agrarian Philosophy and Ecological Ethics,” *Science and Engineering Ethics* 14 no.4 (2008): 531

<sup>40</sup> Wei-Ning Xiang, “*Ecophrones*: The ecological practical wisdom for and from ecological practice,” 53

<sup>41</sup> Marco Schmidt, “Cooling Urban Heat,” in *Hortitecture: The Power of Architecture and Plants*, ed. Almut Grüntuch-Ernst (Braunschweig: Jovis Verlag, 2018), 186

<sup>42</sup> Nancy Turner, Marianne Ignace, and Ronald Ignace, “Traditional Ecological Knowledge and Wisdom of Aboriginal Peoples in British Columbia,” 1275

<sup>43</sup> Annamarie Hatcher, “Building cultural bridges with Aboriginal learners and their ‘classmates’ for transformative environmental education,” *Environmental Studies and Sciences* 2 (2012): 347

that this wisdom will transcend into their life decisions. Generating ecological knowledge in the minds of urban citizens could produce action from informed decisions within the local scale.

Learning from established ecological knowledge and practices and continuing the dialogue through community interaction cultivates a value of home and place. The community connections that are fostered based on this interaction can guide an ecophronesis for developing policies, systems, and designs. Community foodways engage in practical wisdom as well as environmental education. Establishing diverse foodways in an urban environment that utilizes ecophronesis is a means of generating local ecological knowledge, systems and communities that are intrinsically linked with place and identity.

### Chapter 3: Food Philosophy

Food philosophy is a means to investigate the various layers of social, cultural, environmental, and economical factors that comprise a place. Although it is a relatively new philosophical field, food and its study is intrinsically linked to human existence and development, and can be used to explore life patterns and values.<sup>44</sup> Currently, the Global Food System (GFS) is driving production systems and markets of consumption that are dangerously depleting the world's soil of vital nutrients.<sup>45</sup> While the goal of the GFS is to provide consumer satiation, it is falling short of the values that could fulfil consumer satisfaction deeper than hunger.

Environmentalists, consumers, and producers are challenging the composition of the GFS in exchange for a system that cares for land, health, and its inhabitants. This revolutionized food system is one that is rooted to places of production and joins the people of a community together through food. Localized food systems foster regional values, diversity, local economies and independence. Both agrarian and Indigenous food philosophies are inherently concerned with the impact that food gathering, growing, and hunting can have on the environment, and the further impact that consumption patterns have on resources. As Naess sought a fundamental, large-scale change in our approach and understanding of the natural world, so too do proponents of food sovereignty and Agroecology. Altering the food system paradigm in consideration of nature's value creates systems that support local economies, encourage diverse growing methods and native plant growth, integrate technology to increase output, and utilizes prime space within urban developments.

#### 3.1 Value in Food Systems

The GFS is concerned with providing adequate food and consumer choice, however, there are systemic issues that degrade the effectiveness and equality within the system. According to Sandler, who wrote an ethical theory analysis on the GFS, the current value orientation of the

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<sup>44</sup> Lisa Heldke, "The Unexamined Meal is Not Worth Eating," *Food Culture and Society* 9 no.2 (2006): 202

<sup>45</sup> Regenerative Agriculture Initiative and The Carbon Underground, "What is Regenerative Agriculture?" Regeneration International, 2017, <https://regenerationinternational.org/wp-content/uploads/2017/02/Regen-Ag-Definition-2.23.17-1.pdf>

system is lacking sustenance.<sup>46</sup> Sandler argues that while the GFS values efficiency and well-being for the global population, in terms of adequate food and consumer choice, the system is forgetting the individuals and their values that are at the base of the system.<sup>47</sup> These individuals, the ones working with the land, are being replaced with machinery and chemicals in the name of efficiency and output. In 2011, less than 1% of the Canadian population operated farms, verifying declining farm lifestyles and economic viability.<sup>48</sup> Due to continual cropping, pesticide and chemical use the UN estimates that the earth has 60 years of farmable soil left.<sup>49</sup> The current system is on the brink of collapse and is in need of radical change that will undoubtedly alter political, social and economic paradigms. It is evidently clear that any alternative to the GFS needs to deeply value the land that sustains the food, the people that produce the food, and all-encompassing rights to nutritious food.

The reciprocal, regenerative and respectful relationship between producers, consumers and the land is imperative to ensuring a sustainable food system. Currently, the GFS is stuck in a feedback loop in which fossil fuels enter the system through machinery and production methods, and greenhouse gases and pollution are emitted.<sup>50</sup> This feedback loop contributes to a phenomenon called Shifting Baseline Syndrome that occurs when new generations inherit an environment which has weakened from the generation before.<sup>51</sup> This in turn contributes to lowered expectations of restoration. As the impacts of climate change are becoming more prevalent it is clear that we need to respond and food is a vital element in the conversation. Food philosopher David Orr claims we need a “fundamental revisioning of how we perceive our place in nature and how we provision ourselves with food, energy and materials.”<sup>52</sup> There is a lack of

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<sup>46</sup> Ronald Sandler, “An Ethical Theory Analysis of the Food System Discourse,” in *Agricultural Ethics in East Asian Perspective*, ed. Paul Thompson, Kirill O. Thompson (New York: Springer Cham, 2018), 139.

<sup>47</sup> Ronald Sandler, “An Ethical Theory Analysis of the Food System Discourse,” 139

<sup>48</sup> Annette Aurélie Desmarais and Hannah Wittman, “Farmers, foodies and First Nations: getting to food sovereignty in Canada,” *Peasant Studies* 41 no.6 (2014): 1157

<sup>49</sup> Chris Arsenault, “Only 60 Years of Farming Left if Soil Degradation Continues,” *Scientific American*, Reuters, December 2014, <https://www.scientificamerican.com/article/only-60-years-of-farming-left-if-soil-degradation-continues/>

<sup>50</sup> Robert Biel, *Sustainable Food Systems: The Role of the City* (London: UCL Press, 2016) 92

<sup>51</sup> Timothy D. Jardine, “Indigenous Knowledge as a remedy for shifting baseline syndrome,” *Frontiers in Ecology and the Environment* 17 no.1 (2019): 13.

<sup>52</sup> David Orr, “The Urban Agrarian Mind,” in *The New Agrarianism: Land, Culture, and the Community of Life*, ed. Eric T. Freyfogle (Washington: Island Press, 2012) 94

value for our environment in our production patterns. Movements and organizations that wish to push these values into the mainstream are fighting for the principles of Agroecology.

Agroecology is a direct challenge to agribusiness in both physical land use and concept.<sup>53</sup> Its principles push for well distributed land use, equal access to healthy food, support to the rural and peasant farmers and their culture, and environmental reform under climate change.<sup>54</sup>

Agroecology is unified with the food sovereignty movement, fighting for the voices of the disenfranchised food providers. A large issue in reformulating food systems is the current urban-rural dichotomy in food production.<sup>55</sup> As urban populations expand, they put strain on the rural farming system which in turn puts stress on local resources and rural farmers.<sup>56</sup> To prevent strain on peasant farmers in a locally based program, urban systems would need to be responsible for a large part of their food production. This in turn upholds a foundation of Agroecology, where farms and communities are a part of a reciprocal relationship. This system would allow rural farms to transform from monoculture production plots as we see today into smaller regenerative farms that produce a large variety of food and livestock. Introducing urban place-based food systems not only reduces sole reliance on rural farmers, but also completes the circulatory system that Agroecology is promoting.

Creating and maintaining centralized people-based agriculture systems are viable and supported by the people within these movements. Currently the GFS is working with a vertical hierarchy approach, allowing corporations and governments, the ones furthest removed from the land, to make decisions that drastically affect the people at the bottom of the hierarchy. Place-based food systems under Agroecology promote horizontal hierarchies that revive self-governance and power in the communities that first cared about the land and what it provides. Place-based food systems are value-oriented systems that exhibit transparency in their process. The relationship

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<sup>53</sup> "Agroecology," National Farmers Union, accessed February 2021  
<https://www.nfu.ca/campaigns/agroecology/>

<sup>54</sup> Peter M. Rosset and Maria Elena Martinez-Torres, "La Via Campesina and Agroecology," *La Via Campesina Opening Book: Celebrating 20 Years of Struggle and Hope* (2012): 4, accessed March 2021,  
<https://viacampesina.org/en/wp-content/uploads/sites/2/2013/05/EN-12.pdf>

<sup>55</sup> Lisa Heldke, "Down Home Global Cooking" in *The Philosophy of Food*, ed. David M. Kaplan, (Los Angeles: University of California Press: 2012) 36

<sup>56</sup> Felicity J. Proctor and Julio A. Berdegue, "Food Systems at the rural-urban interface," *Working Paper Series* N°194 (2016): 11

between the producer and the land is prioritized, involving personal and cultural environmental approaches to land stewardship, as well as the relationships with the consumers.<sup>57</sup> The popularity of farmer's markets and community gardens exemplify local food economies that serve as a node for producer and consumer interaction, and highlight the relationship between the producer and the land. Further, a local food economy upholds community governance of resources and methods.<sup>58</sup>

As previously mentioned, citizens of Ancient Greece cultivated their own lands and learned environmental preservation through their practices. The family run micro-farm structure contributed to more democratic land ownership and prevented land exhaustion.<sup>59</sup> The micro-farms of Ancient Greece can be compared to the community garden concept today. Each member of a community garden must tend to their plot while ensuring they do not encroach or hinder the progress of neighbouring plots. Members of the garden have the opportunity to form social networks, exchange tips and tools, and share the rewards of harvest. Although this is a labour-intensive food system that is not universally accessible it connects people to soil and community with low environmental impact. Agrarian philosopher Paul Thompson asserts that “agrarianism is an environmental philosophy in its emphasis on the role that ecosystem processes play in reinforcing the formation of norms, habits and farming practices.”<sup>60</sup> Through place-based food systems, consumers can begin to understand the role of the environment, seasonality and regionality when purchasing food items. This newly learned ecological wisdom begins to form a sense of place and with that, a *terroir*.

Terroir relates notable foodways and products to regions and can be described as “the taste of place.”<sup>61</sup> France has champagne, Norway has tjukkmjøl, Vietnam has pho, Belgium has Trappist beer and cheese. These are all examples of food items that are intrinsically linked with

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<sup>57</sup> Sharla Stolhandske and Terri L. Evans, “On the bleeding edge of farming in the city: An ethnographic study of small-scale commercial urban farming in Vancouver,” *Agriculture, Food Systems and Community Development* 7 no.2 (2015): 29

<sup>58</sup> Sharla Stolhandske and Terri L. Evans, “On the bleeding edge of farming in the city: An ethnographic study of small-scale commercial urban farming in Vancouver,” 30

<sup>59</sup> Paul Thompson, “Agrarian Environmental Philosophy in an Inter-cultural Context,” in *Agricultural Ethics in East Asian Perspective*, ed. Paul Thompson, Kirill O. Thompson (New York: Springer Cham, 2018), 6

<sup>60</sup> Paul Thompson, “Agrarian Environmental Philosophy in an Inter-cultural Context,” 6

<sup>61</sup> Lisa Heldke, “Down Home Global Cooking,” 45

peoples and social structures, ingredients and environments, and lasting traditions that contribute to a place's identity. Terroir exemplifies the reciprocal relationship between the traditions of peoples and their lands. Place-based food systems and terroir products, such as champagne, tend to become market products for the wealthy. In today's market, *local* products can become trendy and exclusive. Those who have the option to forgo the GFS tend to have the money and time to do so. However, Agroecology promotes better distributed land ownership and more people working the land. In practice this could increase the accessibility of local foodways by bringing the development and maintenance of terroir products back into the hands of the community's food producers.

The power of the terroir can create global identities for cities or countries. A product like maple syrup is globally recognized as a Canadian identifier. In the wake of globalization and urban development the lesser known traditions or products that comprise a place's food identity may be lost. For example, Mayan chef Rosalia Chay Chuc fights to keep her 1000-year-old food traditions alive, understanding that her cultural identity is linked to the food that her land produces. She says, "the land is the last connection to the Maya," in cooking her culture's food she represents the land through ingredients, practices and her ancestral identity.<sup>62</sup> Achieving place identity that is rooted in landscape takes generations to both build and destroy. As urbanization encroaches on rural patterns of living, it should not be prescribed that these existing patterns of living modernize to fit the urban mold. New urban food systems can create space for modernized growing or production techniques while staying sensitive to the connection to the land which traditions uphold. This way, as social and cultural groups evolve their foodways can evolve with them.

Ensuring food sovereignty means ensuring the right to food and food security, to what is produced, and managing patterns of consumption and distribution.<sup>63</sup> As was addressed when discussing environmental philosophy, the traditions of peoples that are linked to a place are important when discerning inclusive food philosophies of a place. This means inclusive learning

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<sup>62</sup> *Chef's Table BBQ*, 4, "Rosalia Chay Chuc," created by David Gelb, Netflix, <https://www.netflix.com/search?q=chefs%20table%20bbq&jbv=81292974>

<sup>63</sup> Annette Aurélie Desmarais and Hannah Wittman, "Farmers, foodies and First Nations: getting to food sovereignty in Canada," 1156

and representing the foodways of Indigenous peoples. Not only are the traditional food harvesting, reproduction, and cooking methods of Indigenous peoples unique and sensitive to their lands, but the nutrition and regeneration of traditional plants and medicines have been overlooked by Western practices.<sup>64</sup>

Indigenous food knowledge can reconnect our physical bodies to the soil we live upon. Engaging Indigenous voices and methods in future urban food models is a practice of the Two-Eyed Seeing method, which creates cultural interaction and community consolidation.<sup>65</sup> For example, wild roots and other plants gathered by the peoples of south-central British Columbia exemplify the value of TEK. The roots collected are ecologically sustainable, nutritious, and culturally valued while providing a primary source of fibre, vitamins and minerals and carbohydrates.<sup>66</sup> The *process* of building traditional knowledge needs to be recognized as valuable, as opposed to it being a defined set of content.<sup>67</sup> Meaning, TEK and other forms of ecological wisdom are not static knowledge sets, they have adapted as the environment changes and generational knowledge grows. Sharing the knowledge of Indigenous, agrarian and peasant farmers is vital to continual learning in a new agriculture system. Incorporating traditional practices is not only culturally vital but provides a new avenue in research and practice for local food ways that have previously been rejected.

One such way that agriculture is experiencing a revival in learning from traditional practices and new knowledge is through regenerative agriculture. Essentially, regenerative agriculture is a “holistic land management practice” that focuses on closing the agricultural system loop.<sup>68</sup> Through regenerative agriculture, food growers focus on feeding the soil with necessary carbon through organic matter or photosynthesis.<sup>69</sup> Regenerative agriculture can be performed on any

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<sup>64</sup> Robert Biel, *Sustainable Food Systems: The Role of the City*, 94

<sup>65</sup> Fulvio Mazzocchi, “A deeper meaning of sustainability: Insights from Indigenous knowledge,” *The Anthropocene Review* 7, no. 1 (2020):

<sup>66</sup> Nancy Turner, Marianne Ignace, and Ronald Ignace, “Traditional Ecological Knowledge and Wisdom of Aboriginal Peoples in British Columbia,” 1281

<sup>67</sup> Fikert Berkes, *Sacred Ecology* (New York: Routledge, 2018) 151

<sup>68</sup> Regenerative Agriculture Initiative, “What is Regenerative Agriculture?” Institute for Sustainable Development, accessed March 2021, 1

<sup>69</sup> “Why Regenerative Agriculture,” Regeneration International, accessed March 2021, <https://regenerationinternational.org/why-regenerative-agriculture/>

scale such as ranches that incorporate multiple animals and plants, or in urban farming settings. Commercial farming drains the soil of nutrients and demands more of it, whereas regenerative agriculture is sensitive to chemical composition and characteristics of soil necessary to produce nutrient dense food. It is a solution that feeds the masses, reduces emissions, and values local food producers and their processes.

So far, land sensitivity, acknowledgement of traditions, the intrinsic value of nature, systemic transformation and the formation of place have contributed to the discussion of the need for change. The human scale response to this research lies within the composition of urban centres and its populations. Urbanization is rapidly increasing, the UN estimated 4.1 billion people were living in urban areas in 2017.<sup>70</sup> It was also found that as the urban population increases, employment shifts from the agricultural sector to industry, manufacturing, or service sectors.<sup>71</sup> This points to a potential huge loss in traditional knowledge associated with the lands as people change their industry. According to David Orr, the largest hurdle in creating sustainable place-based food systems is “the vast gap that separates sound agrarian culture from the daily lives most of us live now. Agrarianism simply doesn’t compute with the experiences of people whose lives are shaped by malls, highways, television, and cyberspace.”<sup>72</sup> The GFS served a purpose when industrialization was fueling massive population growth, but now that we know how we are harming our lands it is necessary to recognize the errors and innovate. Bringing the food system into urban spaces can protect valuable knowledge, minimize the distance from producer to consumer, build local food autonomy and generate creative, regional solutions. The conclusion is simple, we must create modern, accessible and immersive places for community based urban food production.

### 3.2 Urban Foodways

The incoming trend of urban foodways capitalizes on both emerging technology and community interaction. Advanced vertical systems, such as aeroponic gardening, reduces land use while

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<sup>70</sup> Hannah Ritchie and Max Roser, “Urbanization,” Our World in Data, last modified November 2019, <https://ourworldindata.org/urbanization>

<sup>71</sup> Hannah Ritchie and Max Roser, “Urbanization”

<sup>72</sup> David Orr, “The Urban Agrarian Mind,” 97-98.

maintaining high-yield products. Community interaction emerges as local food systems become embedded and relied upon in daily functions. According to Robert Biel, author of *Sustainable Food Systems: The Role of The City* (2016), the long-term solution to urban food systems is to create a diverse closed-loop system.<sup>73</sup> A diverse system utilizes both traditional and modern farming techniques to ensure adequate food is supplied while allowing each kind of producer to practice and profit as well as the next.

A successful urban food system is one that is considerate of the residents' patterns of living. Urban centres are dynamic and fast paced. Traditional farming methods are unable to keep up with the demand of the market, in volume or variety. As well, residents of urban centres may be unconcerned with the processes behind their food. Following this research, imagining systems such as agriculture that begin with environmental guardianship means to immerse people within the system through awareness, education and practice. While Biel's urban system is a proposal for diverse production methods, it also encourages diverse participation and education for the urban public.

Biel proposes that what is important in the symbiosis of human and nature in future food development for the city is the self-organizing balance of chaos and order.<sup>74</sup> Commercial agriculture tactics have destroyed the diversity and spontaneity of natural ecosystems and reduced the system to human-mandated order while skewing all other natural cycles. As McDonough mentions in *Cradle to Cradle* these simple, human made systems cannot survive on their own.<sup>75</sup> Our crops are engineered to comply with pesticides, and our fertilizers are engineered to break down our soil longevity, prompting the use of more fertilizers. The current system depletes itself and relies on itself. A sustainable system is a closed-loop system that can regenerate and re-work itself in the face of adversity. Biel's new food system vision is one that is based upon the notion of an "urban metabolism."<sup>76</sup>

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<sup>73</sup> Robert Biel, *Sustainable Food Systems: The Role of the City*

<sup>74</sup> Robert Biel, *Sustainable Food Systems: The Role of the City*, 48

<sup>75</sup> William McDonough and Michael Braungart, *Cradle to Cradle: Remaking the Way We Make Things*, 76

<sup>76</sup> Robert Biel, *Sustainable Food Systems: The Role of the City*, 91

The urban metabolism consists of three interactive parts that supply food in various ways to urban residents while inviting nature into the city:

1. Subsistence sector: self-supported food growing
2. Urban Forest sector: edible green space
3. High productivity sector: sustainable intensification of agriculture<sup>77</sup>

The subsistence sector allows people to be self-sufficient and grow their own food. Examples of this type of growing are community or guerilla gardening, or home growing. This type of foodway has proven successful in cities like New York and Havana and provides residents with autonomy, connection to the land, and inexpensive, organic food. Notably, it is a practice that requires time and attention, which some urban residents may not have. However, the model of an urban metabolism provides various types of food in multiple locations, at different scales and with diverse methods of harvest. In the subsistence sector individuals can grow herbs, typical crop fruits and vegetables, or personally valuable food. For urban residents that are more interested in an immersive nature experience, or for community programs and events, the urban forest sector may be more desirable.

The urban forest sector integrates fruit or nut bearing trees in public green spaces for consumption.<sup>78</sup> This sector provides free, easy access food to urban dwellers, enlivens green spaces, enriches communities, and connects people to the challenges, trials and successes of growing in the local environment.<sup>79</sup> The London Orchard Project, founded in 2009, plants orchards in towns and cities across England with the goal of creating sustainable, edible foodscapes for communities.<sup>80</sup> Additionally, this sector can be a space to introduce TEK and practical wisdom practices. As the “chaos” of urban nature begins to fill the space of the urban forest, native plant species will begin to return. People with foraging knowledge, or those willing to learn, will then have access to new gathering spaces. Re-engaging people with nature in the

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<sup>77</sup> Robert Biel, *Sustainable Food Systems: The Role of the City*, 93

<sup>78</sup> Robert Biel, *Sustainable Food Systems: The Role of the City*, 91

<sup>79</sup> Robert Biel, *Sustainable Food Systems: The Role of the City*, 94

<sup>80</sup> “About Us,” The Orchard Project, Accessed January 2021  
<https://www.thelondonorchardproject.org/about/>

city through navigable “wild” green spaces can deter the “museumification” of urban nature.<sup>81</sup> Urban foraging already occurs in cities and suburbs in alleyways, along railroad tracks, parking lots and planting strips.<sup>82</sup> Providing socially and politically organized order to these practices can create a wider berth of accessibility, interest, and management. The previous two sectors highlight the role of community governance in local food models, while the third uses technological advancements to meet the demands of modern living.

The third sector is the high productivity sector, which Biel links to new technology solutions and biomimicry.<sup>83</sup> These solutions can come in the form of vertical, hydroponic or aquaponic farming, or solar farms integrated with greens roofs. The goal of this sector is to shift farming practices to, what the UN and other organizations have recognized as, *sustainable (or ecological) intensification* that increases production in tune with an understanding of natural systems.<sup>84</sup> A limitation of Biel’s strategy in accordance with community food production is the lack of connection between producer and consumer. It is a sector that is dependent on technology and funding that is not democratic nor supportive of Agroecology principles. Additionally, aeroponic and hydroponic farming are capital and energy intensive, and are more likely to be incorporated in agribusiness ventures.<sup>85</sup> Soil farming methods, however, have seen improvements that increase production and reduce resource dependability that can be adapted into urban growing models.

Alegria Fresh is a zero-waste, organic, micro-farm that is completely solar powered. The regenerative agriculture model farm fulfills the qualifications of sustainable intensification. The farm grows food in a uniquely dense system that is more time and space efficient than traditional farming.<sup>86</sup> The owners of Alegria Fresh have now expanded the operation to teach future micro-

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<sup>81</sup> Rebecca J. McLain et al., “Gathering ‘wild’ food in the city: rethinking the role of foraging in urban ecosystem planning and management,” *International Journal of Justice and Sustainability* 19 no.2 (2014): 221

<sup>82</sup> Rebecca J. McLain et al., “Gathering ‘wild’ food in the city: rethinking the role of foraging in urban ecosystem planning and management,” 221

<sup>83</sup> Robert Biel, *Sustainable Food Systems: The Role of the City*, 94

<sup>84</sup> Robert Biel, *Sustainable Food Systems: The Role of the City*, 4

<sup>85</sup> Fatemeh, Kalantari et al., “Opportunities and Challenges in Sustainability of Vertical Farming: A Review,” *Landscape and Ecology* 11 no.1 (2017): 46

<sup>86</sup> “Alegria Farm,” Alegria Fresh, accessed December 2020, <https://alegriafresh.com/alegriafarm.html>

farm operators how to set up a farm in their community, and host celebrity chef cooking classes. The main concept of regenerative agriculture is to return the nutrients lost from growing back to the soil. A simple, closed loop system that replenishes the soil and contributes to naturally occurring cycles. Operations such as this need little room, perhaps in a re-used parking lot in an urban centre and make a big impact in local communities.

In Kuala Lumpur, Malaysia, a small-scale vertical farm, Vegetable Co. began in a shipping container and sells vegetables directly to consumers through an online platform.<sup>87</sup> Although this project started in the middle of Malaysia's initial COVID-19 lockdown sales grew 300 percent in the first weeks.<sup>88</sup> Retail typologies like Vegetable Co. accentuate community desire to connect with their producers and food growing process while utilizing modernized shopping experiences. Additionally, COVID-19 and the forced pause it implemented on the world has given people the time to test out home growing strategies. While non-soil based farming has much to improve upon, communities are curious and support new technology in growing systems. Water use is a large concern for vertical farming, but some systems have been designed in tandem with city water supplies to purify wastewater within the vertical system, which reduces the need for wastewater drainage.<sup>89</sup> These new technologies still require human maintenance and contact with the plants, ensuring job and education opportunities. As is alluded to in Biel's urban metabolism, a new food paradigm should begin at the local, urban scale. Solutions that are locally introduced and woven into urban patterns of living, cultures and traditions can feed the general local supply, while re-thought global solutions can supplement the gaps of food insufficiencies and consumer desires. A new urban metabolism requires innovative design thinking, *ecophronesis*, that not only considers normative environmental design, but also experimental environmental design.

Everything that has been previously discussed, from recognizing the intrinsic value of nature, implementing ecological knowledge into future planning and lifestyles, to revolutionizing foodways, requires a monumental shift in worldview. Ideologies such as these delve into

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<sup>87</sup> Ian Teh and Mike Ives, "This Vertical Farm Was Born in the Pandemic. Sales Are Up," The New York Times, September 3, 2020, <https://www.nytimes.com/2020/09/03/world/asia/malaysia-vertical-farm-coronavirus.html>

<sup>88</sup> Ian Teh and Mike Ives, "This Vertical Farm Was Born in the Pandemic. Sales Are Up"

<sup>89</sup> Fatemeh, Kalantari et al., "Opportunities and Challenges in Sustainability of Vertical Farming: A Review," 43

government and policy, social patterns, commercial markets, scientific evidence and design solutions that creatively re-imagine the paradigms present. The urban metabolism model highlights the necessary interaction of individual responsibility as well as the responsibility of policy makers and industry professionals in creating a successful new system. Imagine if there was a shift in capitalist markets and political ventures to recognize sustainable, harmonious solutions between the built and the natural as the beginning of a solution, as opposed to an option.

Investigations into the attitudes towards innovative design shed a light on the corporate, economic weight of creative thinking. Carmela Cucuzzella, professor at the Design and Computation Arts faculty at Concordia University in Montreal, questions whether mainstream sustainable solutions have devolved into communicative efforts, as opposed to pushing new, innovative solutions.<sup>90</sup> Cucuzzella analyzed a range of design competitions from 1970 to 2010 and a normative tendency to environmental solutions was found.<sup>91</sup> As competition briefs began increasingly using eco-design terms as part of their requirements the design solutions were ticking boxes to achieve categorical sustainability, such as LEED or BREEAM.<sup>92</sup> Attaining these certifications is beneficial for both designer and client, however, Cucuzella theorizes that sustainable solutions are becoming prescriptive.<sup>93</sup> Innovative design solutions explored in conceptual design can open minds and opportunities to unrealized potential. Research and testing can ensue, discovering and developing until vision becomes reality. These designs tend to be sensory-forward, delve into psychographics, utopian or dystopian concepts, and always beg the question of “what if”. What if, design solutions no longer assessed the *impact* of humans on nature, but instead, approached a project with the mutual cooperation between human and natural systems in mind?

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<sup>90</sup> Carmela Cucuzzella, “The normative turn in environmental architecture,” *Cleaner Production* 219 (2019): 553

<sup>91</sup> Carmela Cucuzzella, “The normative turn in environmental architecture,” 563

<sup>92</sup> Carmela Cucuzzella, “The normative turn in environmental architecture,” 563

<sup>93</sup> Carmela Cucuzzella, “The normative turn in environmental architecture,” 564

## Chapter 4: Site Analysis and Typology

The literature review so far has brought us into the discussion of community identification, the need to improve ecological knowledge and practices and the shift necessary in global and local systems. While the final design solution for this practicum cannot address global need, or even large-scale urban need, it can address community development as a starting point for urban systems. This practicum looks to immerse a community in new environmental knowledge, experiences and practices by using food as a medium and a popular green site as a continued place making tool. The site chosen to fulfill the needs of this practicum is Kildonan Park in Winnipeg, Manitoba.

Kildonan Park was designed in 1909 by Landscape Architect George Champion modelled after the English Landscape Style.<sup>94</sup> The site has zones that are heavily treed, and others that feature classic open prairie grasslands. A Kildonan Park revitalization master plan was published by the City of Winnipeg with the goal of further developing the park to honor socialization, natural and cultural education and community stewardship.<sup>95</sup> The masterplan itself delves into better wayfinding through the park, improving pedestrian routes and limiting vehicular routes, and new landscape activities such as a children's forest playground. It has been a place-making spot for over 100 years and developing the proposed typology program to include food growing and community gathering begins a cycle of reciprocity between the users and the land.

Kildonan Park sees frequent visitors to the Rainbow Stage, Witch's Hut, and the Kildonan Park Golf Course. In addition to these amenities the Peguis Pavilion designed by Number Ten Architectural Group was built in 1965 to house a restaurant and lounge.<sup>96</sup> The interior programming of the pavilion creates a passive park experience, by giving users the opportunity to dine with a view over the Lord Selkirk Pond and into the fields. The pavilion itself is a modernist design with the typical waffle ceiling, large window expanses and floating structural

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<sup>94</sup> City of Winnipeg, "Kildonan Master Planning Document," City of Winnipeg Parks and Planning, accessed February 2021, 6

<sup>95</sup> City of Winnipeg, "Kildonan Master Planning Document," 3

<sup>96</sup> "Peguis Pavilion," Winnipeg Architecture Foundation, accessed January 2021, <https://www.winnipegarchitecture.ca/peguis-pavilion/>

appearance. Behind the pavilion is the Lord Selkirk Creek and pond that serves as a skating rink in the winter and duck pond in the summer. The design team ensured to follow Champion's vision by planting the site with native flora and using limestone as a primary landscaping material.



Fig 1. Rear view of Peguis Pavilion.

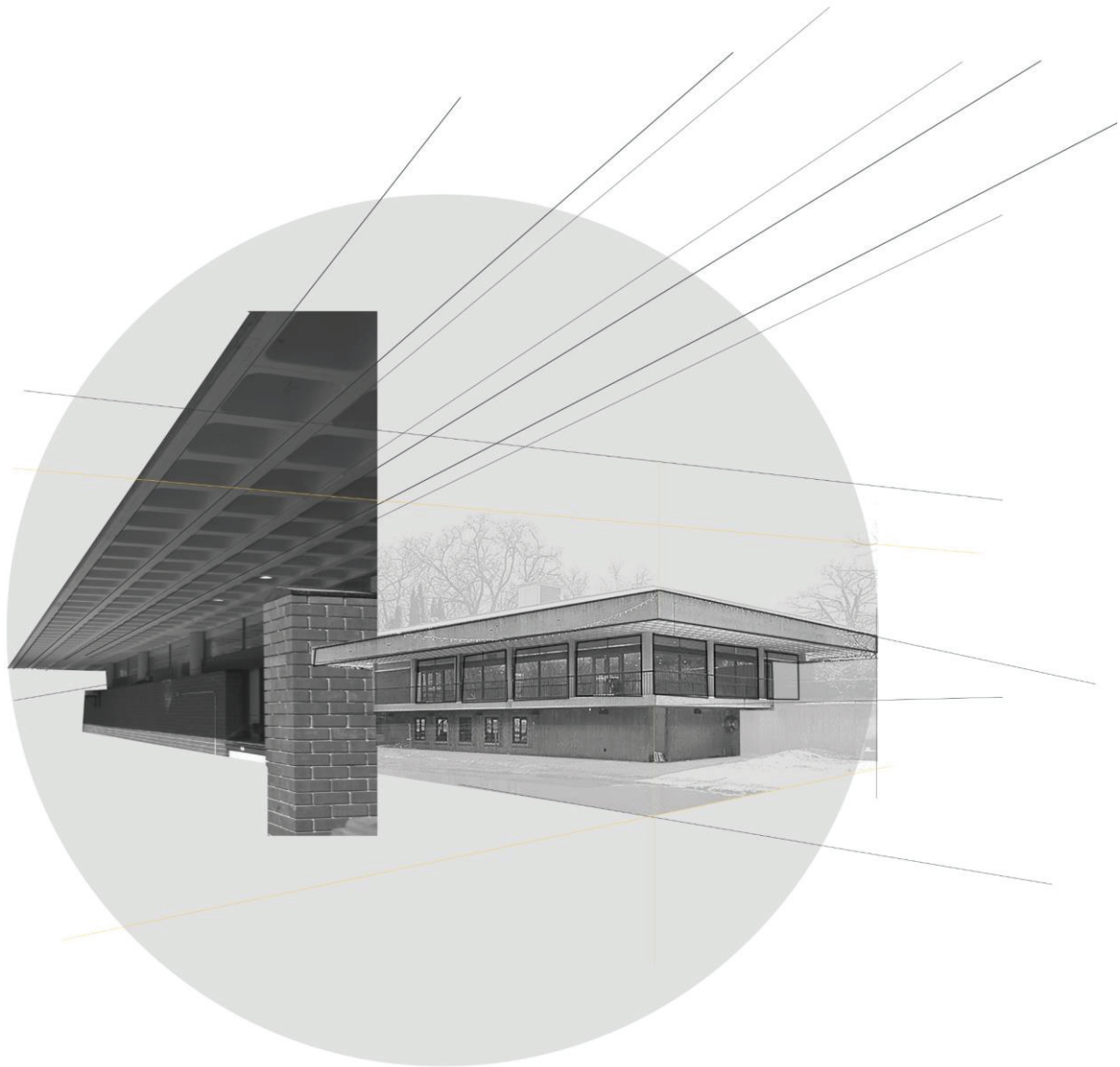


Fig 2. Peguis Pavilion character and treatments visualization.

Some attributes of the site include large open greenspaces for urban nature exploration, easy vehicular access along major traffic and bus routes. The pedestrian and bike friendly routes of the park connect to longer urban routes throughout Winnipeg. The park is surrounded by residential communities and services. As well, the park's landscaping features formal flower gardens, sports fields, picnic groves and a music grove. It is a space for community growth and

interaction, making it a great site to introduce a new program that celebrates harmony of people and nature through food processes and products.

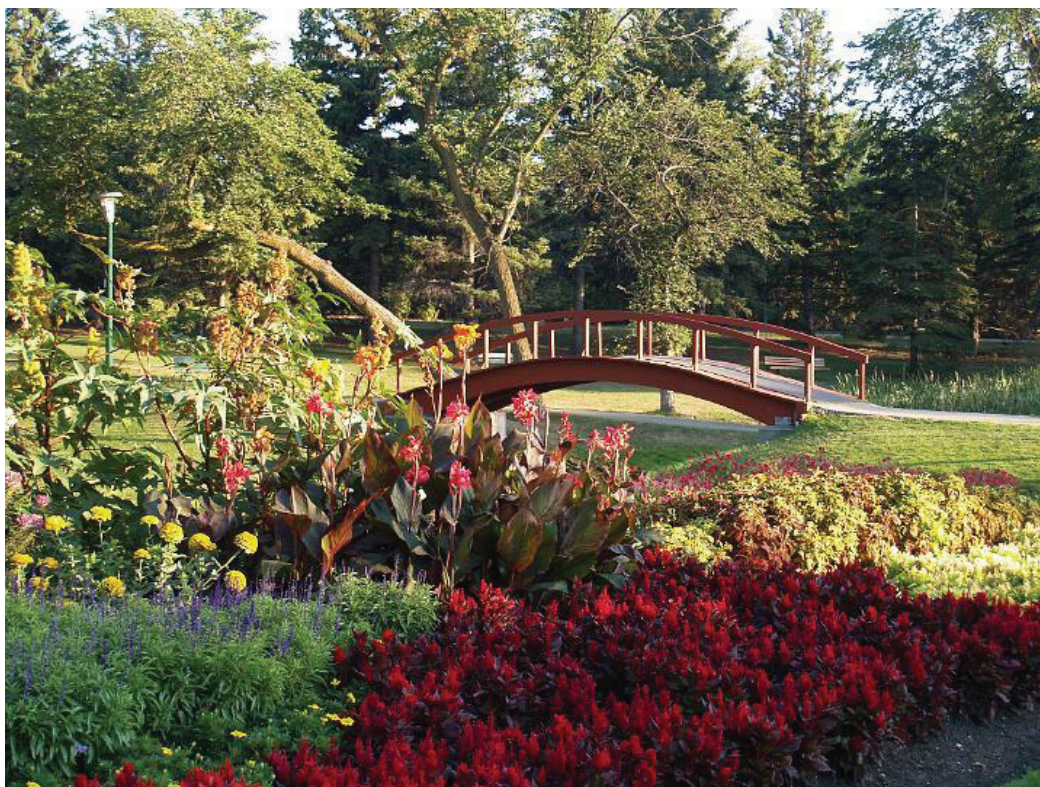


Fig 3: Flower Garden, Kildonan Park

The new programming for Kildonan Park and the Peguis Pavilion aims to be seamlessly integrated into the existing vision. The existing pavilion will remain as a restaurant celebrating prairie cuisine and ingredients with a re-designed dining room and chef's experience to highlight the aesthetic experience of food and drink. As well, the lower level of the pavilion will house an expanded Skater's Hall and Coffee Corner to be used year-round as a community gathering space. The spaces in this mixed-use community and hospitality pavilion are an experience of the products of prairie cuisine.

In addition to the Peguis Pavilion, a new pavilion, Alga, has been designed to showcase the processes of nature, utilizing food growing to invite community to physically connect with the process. Alga is situated in a grassy clearing across the parking lot from the Peguis Pavilion. The park's redevelopment plan recognizes the pavilion as an opportunity to enhance the park's image

as “a park for all seasons”<sup>97</sup> and the expanded program and pavilion will work towards that goal by ensuring year-round activity and seasonal engagement. The site’s programming works in tandem with the character of Kildonan Park to enhance sensory and aesthetic experiences for users. The goal being, that through the varied experiences of these pavilions, users will acclimatize to engaging with nature as they are comfortable. For example, the Peguis Pavilion is a passive experience in the instrumental role of nature and food production, but a sensory forward dining experience. Alga is an active experience of nature and food through hands-on gardening and food preparation activities and sensory landscape immersion that can stimulate understanding of the intrinsic value of nature. Site analysis and investigation can be seen below in the form of visuals that explore pedestrian and vehicular routes, green spaces, city zoning and site inventory.

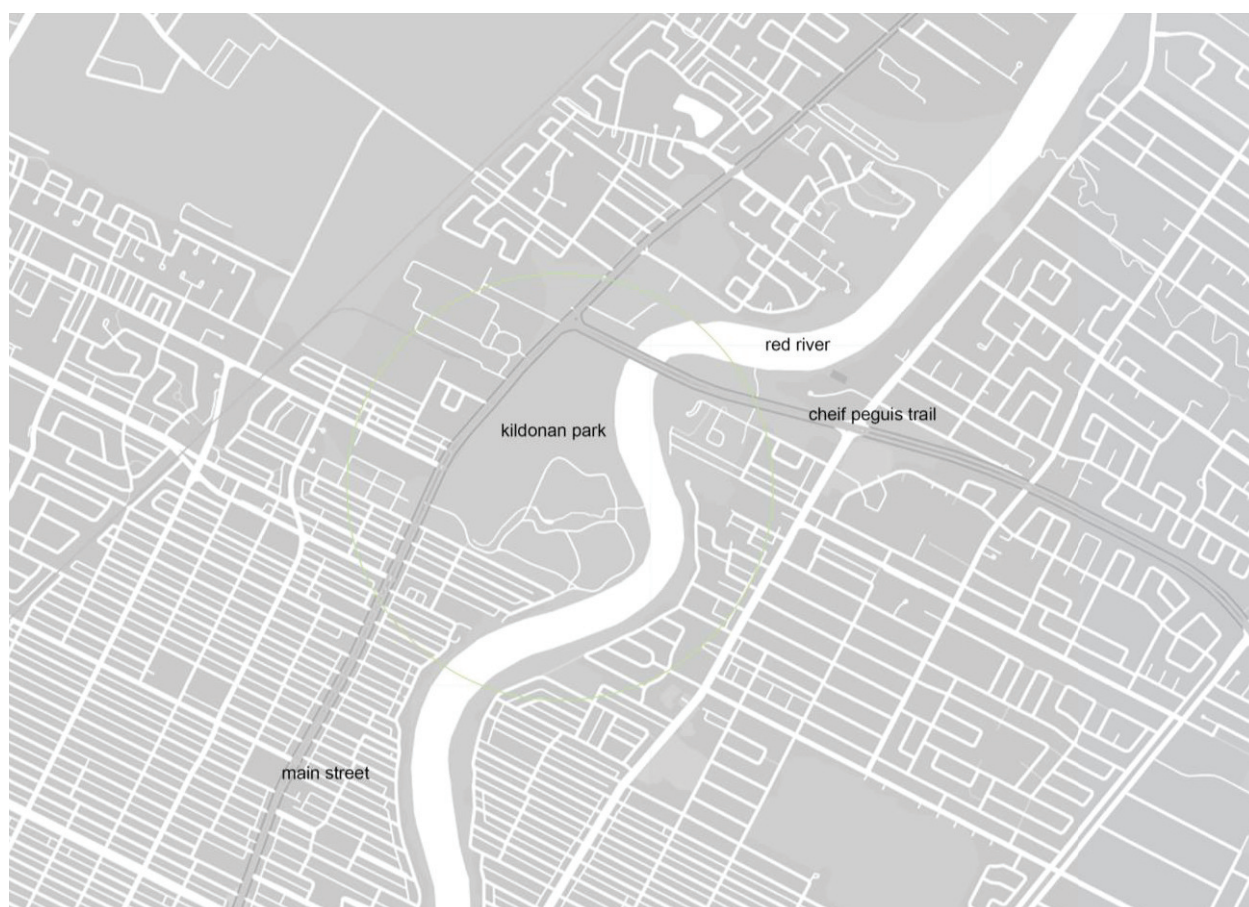


Fig. 4 Site Map

<sup>97</sup> City of Winnipeg, “Kildonan Master Planning Document,” 44



Fig. 5 Site zoning

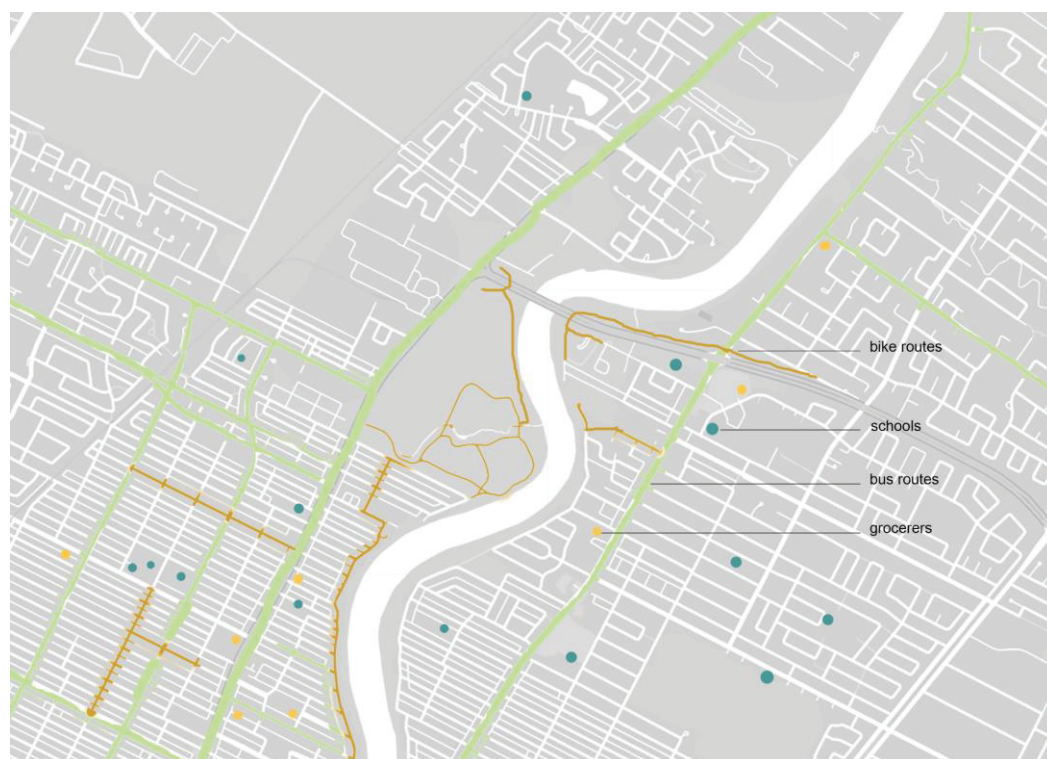


Fig. 6 Site routes

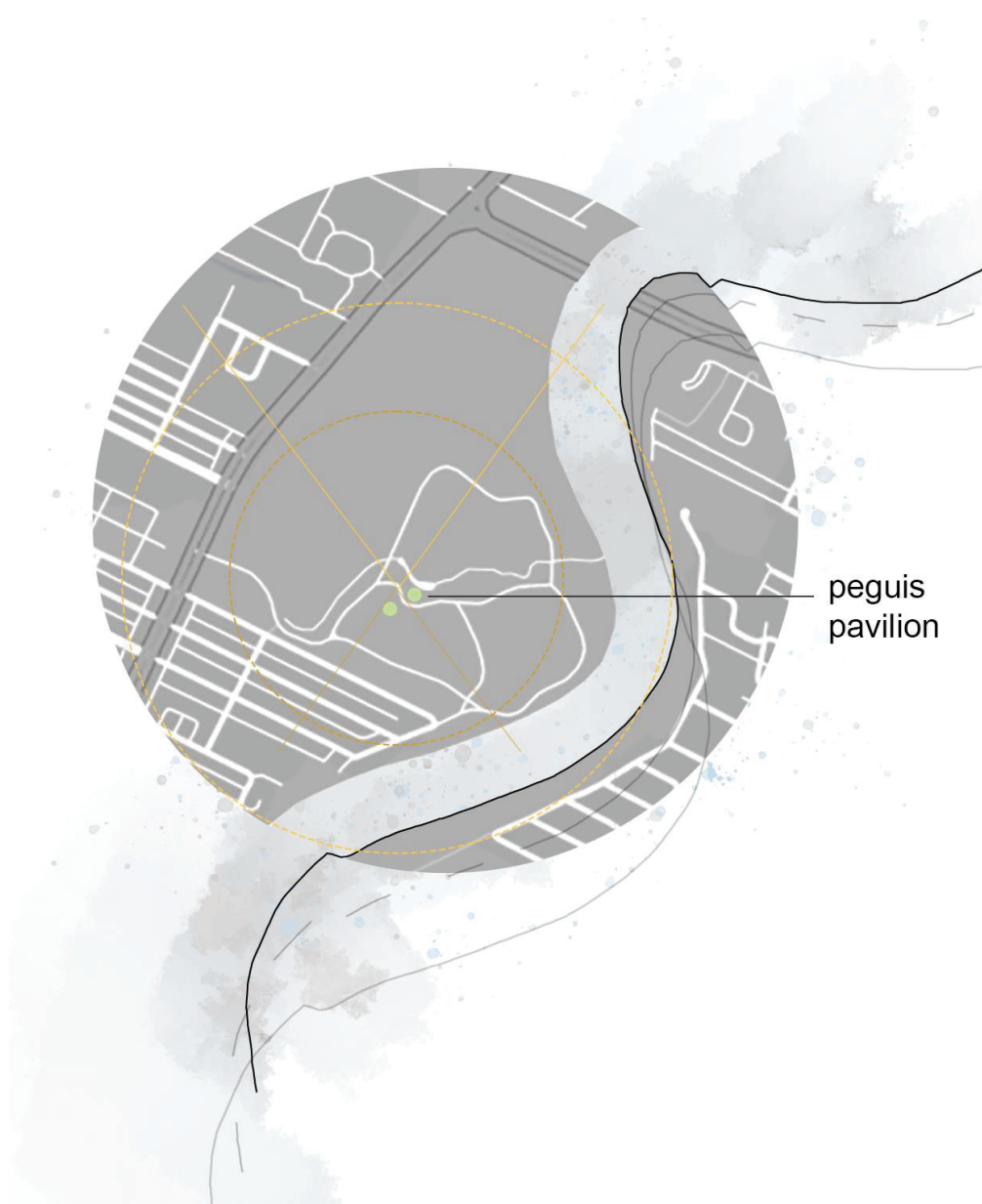


Fig. 7 Kildonan Park sun diagram



Fig. 8 Site inventory and flora edges

In this practicum, connecting the practical wisdoms of food production and philosophy to the ecological wisdoms of environmental philosophies enhance the narrative of the place and inform the final design. Design can begin to question, deconstruct, and highlight the steps of ecological and food production processes to reconnect urban residents with the earth. In honouring the food philosophies and communities, designed places can be inclusive, regionally sensitive, and

respectful of the intrinsic value of nature. The sensory experience of food at the stages of growth, preparation and consumption are incorporated into a design that values nature, teaches *ecophrones*, and challenges an urban shallow ecology.

## Chapter 5: Interior Design Theory

The topics and themes of Environmental and Food philosophy discussed so far, such as identity, place, and practical wisdom, relate to theories of Interior Design as they deal with control of the human scale. Christine McCarthy, from Victoria University, describes the concept and practice of interiority as a “responsive phenomenon” and a manipulation of space.<sup>98</sup> In this practicum the interior responds to the previous theory investigation by creating spaces that actively and aesthetically engage users in experiences that highlight the processes and products of food and nature. It is a response to an analysis of global environment and food issues at the local, human scale. Teaching the practical wisdom that comes with this movement is as much a community effort as it is a design effort. Design research can examine the flow of processes and human scale design responses that seamlessly integrate these steps into practical, modern living. Here, interior design is used as a tool to support the flow of knowledge and the practices and experiences that are associated.

### 5.1 Sensory Immersion and Aesthetic Experience

Layering natural experiences is crucial for this practicum to open the dialogue of natural immersion and appreciation for community members. Some users will be new to the practice of planting and cooking while some will be well practiced. Generating aesthetic appreciation of natural experiences is a means to reconnect people with the value of nature. Environmental philosopher Cheng Xiangzhan states that to fully appreciate the aesthetics of nature a person must possess ecological knowledge.<sup>99</sup> Through the processes and levels of engagement this design offers, sensory immersion is a critical concept to prompt acquisition of ecological knowledge.

Xiangzhan’s theory of Ecoaesthetics, inspired by Naess’ Ecosophy, is composed of 8 characters that are deemed imperative to the aesthetic appreciation of nature. This aesthetic appreciation can then be extrapolated and incorporated into an *ecophronesis* of design planning for the built

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<sup>98</sup> Christine McCarthy, “Toward a Definition of Interiority,” *Space and culture*, 8 no.2 (2005): 115.

<sup>99</sup> Cheng Xiangzhan, “Aesthetic Engagement, Ecosophy C, and Ecological Appreciation,” 6

environment. Ecoaesthetics values “healing the earth and sustain[ing] a healthy ecosystem for all life forms, not humankind alone.”<sup>100</sup> Through Xiangzhan’s belief of ch’i, he interprets the connectivity of a community from the micro to the macro scale as important and integral to understanding aesthetics.<sup>101</sup> The key to fully appreciating the aesthetic of nature is through ecological knowledge and practice. Following this line of thought, Indigenous and agrarian communities not only intrinsically value nature because they practice ecological wisdom, but they also have a learned aesthetic value of nature.

The aesthetic value of nature was formally recognized in 18<sup>th</sup> century Europe in picturesque and sublime art. These artistic styles depicted the irregularity of landscapes that were conceivably untouchable by human intervention and provoked a specific image of nature.<sup>102</sup> Today the concept of a pristine environment is unattainable given active anthropogenic forces.<sup>103</sup> However, the aesthetic concept of a pristine environment is still alluring. Following an urban deep ecology, as urban centers adopt pride in natural urban interiors the increased interactions with nature through green and blue city belts will alter their aesthetic, instrumental and inherent value of nature. Agricultural landscapes, Allen Carlson argues, are places of expressive aesthetics that depend on productivity and sustainability.<sup>104</sup> As agricultural landscapes are modified to fit within urban landscapes the aesthetic composition of urban centres will encompass the symbiosis of culture, infrastructure, agriculture, and nature.

The theme of sensory immersion is essential in American environmental aesthetician Arnold Berleant’s aesthetic of engagement.<sup>105</sup> As well, inclusive multisensory design practice considers sensory immersion as a tool for wayfinding or to exploit a unique user experience.<sup>106</sup> According to Berleant, the subject-object dichotomy of an aesthetic experience must be demolished in favor

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<sup>100</sup> Cheng Xiangzhan, “Aesthetic Engagement, Ecosophy C, and Ecological Appreciation,” 1

<sup>101</sup> Cheng Xiangzhan, “Aesthetic Engagement, Ecosophy C, and Ecological Appreciation,” 6

<sup>102</sup> Glenn Parsons, *Aesthetics and Nature* (London: Continuum International Publishers, 2008) 9

<sup>103</sup> Glenn Parsons, *Aesthetics and Nature*, 2

<sup>104</sup> Allen Carlson, *Nature and Landscape: An Introduction to Environmental Aesthetics* (New York: Columbia University Press, 2009), 89

<sup>105</sup> Allen Carlson, “The Relationship between Eastern Ecoaesthetics and Western Environmental Aesthetics,” *Philosophy East and West* 67 no.1 (2017): 122

<sup>106</sup> Ellen Lupton and Andrea Lipps, “Why Sensory Design?” in *The Senses: Design Beyond Vision*, ed. Ellen Lupton and Andrea Lipps, (New York: Copper Hewitt, 2018): 9

of subjective connectivity to contextually appreciate an aesthetic experience.<sup>107</sup> To fully evaluate the aesthetic experience, total immersion is necessary. Consider the Japanese practice of *shinrin-yoku*, or forest bathing. The objective in forest bathing is to cleanse, relax, and heal oneself by being a part of nature.<sup>108</sup> The smells, sounds, textures, temperatures, and movements that are a part of *shinrin-yoku* bridge the gap between the human and non-human world. If the forest bather was set apart and not within the environment, the aesthetic experience would be fundamentally different.<sup>109</sup> By incorporating the lessons of natural sensory immersion, ecological wisdom, and practical wisdom into the design of the built environment, a cross-cultural design practice can emerge.

Sensory immersion allows for diverse experiences of place. Engaging multiple senses or blocking senses creates unique spatial experiences that can evoke external memories and emotions in an experience of a controlled environment. The previous example of forest bathing can attune people to the call of birds, the smell of leaves, the taste of rain, the sting of winter air. Designers can enhance or mute these experiences and alter the perception of place. For example, The Element House on the outskirts of Seoul belongs to its site through material acoustic relations. The house uses openings in steel and wood to allow wind to sound through the building.<sup>110</sup> The experience of the elements through sound creates a dual experience of the space. One of the exterior and its forces, the other of shelter and harmony.

Different cultural identities have varying sensory hierarchy as well, although sight is dominant in western design principles.<sup>111</sup> When a design incorporates various sensory cues the active user demographic grows, allowing the place identity to broaden. Sensory design tactics can be a means of broadening self-identification as it relates to place. The innate sensory connectedness

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<sup>107</sup> Allen Carlson, "The Relationship between Eastern Ecoaesthetics and Western Environmental Aesthetics," 123

<sup>108</sup> Qing Li, "Forest Bathing is Great for Your Health," last modified May 1, 2018, <https://time.com/5259602/japanese-forest-bathing/>

<sup>109</sup> This brings into question the effectiveness of virtual reality. If a certain demographic of people were unable to experience the benefits of nature, would a VR experience accomplish similar goals?

<sup>110</sup> "Element House," Rintala Eggertsson Architects, accessed May 27, 2021, <https://www.ri-eg.com/new-page-72>

<sup>111</sup> Joy Monice Malnar and Frank Vodvarka, *New Architecture on Indigenous Lands* (Minneapolis: University of Minnesota Press, 2013): 9

between material, space, narrative, and user can shape a place. Food experiences, such as Under in Norway or Noma 2.0 in Copenhagen, connect visitors to the narrative of the landscape and food through material palettes and site selection. Anishinaabe chef Shawn Adler forages for food each season to include in his restaurant menu connecting tradition, food, land and people in one place.<sup>112</sup> While these culinary experiences are a passive engagement with the ingredients, they are an active sensory experience of food.

Kildonan Park was selected specifically for its existing engagement between community and nature. The formal gardens and cut fields offer a mild and tailored experience between people and nature, whereas the existing wild growth on the river's edge offers a deeper experience of the elements of nature. The design proposal for this site utilizes these existing conditions and features planned sensory immersion zones that can engage the public with nature through various activities and offers the opportunity to absorb ecological wisdom that contributes to a sense of place.

## 5.2 Place and Identity

Place and identity are two intertwined subjects of design theory that link people to one another and to the places they interact with. The boundaries of a place are determined by social and cultural activity, from which collective and individual identities emerge.<sup>113</sup> These definitions tend to vary as well; Western definitions of place tend to deal with naming and ownership, whereas traditional Indigenous sense of place is related to landscape attributes or activities.<sup>114</sup> For example, Indigenous Water Resources professor Sammy Matsaw, describes memories of being inside a tipi as a place where his “ancestors would find concentrated thought, a place to bring expansive thought into focus on wide-open plains.”<sup>115</sup> The cultural importance of the tipi flows through Matsaw and his ancestors and the defining place is not central to the location, it is

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<sup>112</sup> *Forage*, 1, directed by Samuel D. Larson, CBC Gem, <https://gem.cbc.ca/media/forage/season-1/episode-1/38e815a-012d584f1bb>

<sup>113</sup> Travis Mann, “Diggin In: Attempting to Affix Place in Place,” in *Meanings of Designed Spaces*, ed. Tiitu Vaikla-Poldma (New York: Fairchild Books, 2013), 107.

<sup>114</sup> Travis Mann, “Diggin In: Attempting to Affix Place in Place,” 112.

<sup>115</sup> Sammy “Teachings from the Land of My Ancestors: Knowing Places as a Gatherer, Hunter, Fisher and Ecologist,” in *Place-Based Learning for the Plate*, ed. Joel B. Pontius, Michael P. Mueller, and David Greenwood (Cham: Springer International Publishing, 2020), 80.

dependent on the ancestral experience. Place is dynamic and flows with changing thought patterns, environments, and activities. The identity of a place and the identity of the visitors are linked through association.

Consider a traveler, as they explore a new city they encounter sensory experiences that comprise their conceptual idea of that place. As the world is becoming more globalized so too are the identities of our cities.<sup>116</sup> In an urban deep ecology, the people of a globalized city may meld and migrate but the regional spaces that are connected to the land will remain distinct, and the following design developments will reflect the opportunities and challenges that environment presents to the infrastructure. This following section examines the human scale connections in the urban environment, in experience of growing and making food, and in the power of community connections and social influence created through interiority.

In revitalizing a place, it is necessary to consider who the old concept of place included, and who else is to be included in the new framework. Urban place identity that is based within environmental philosophy can democratically generate place by connecting people to their regional environment. An urban growing centre that embraces basic concepts of food sovereignty participates in creating place identity through community engagement. Community engagement in placemaking is an active process that allows groups to develop policy, space, and services.<sup>117</sup> In an urban agriculture typology, terroir as a signifier of place is generated by the community and evolves in unison. Cosmopolitan food scenes are constantly changing, while at the same time becoming an accumulation of tastes through globalization.<sup>118</sup> Putting the food production back in the hands of the people will reflect the people. Food landscapes will change with the seasons and be reflected in food products. In addition, non-native plants can be grown in climate-controlled spaces such as greenhouses altering the typical food scene and expressing cultural and personal taste. The community growing spaces in Alga will contribute to the discussion of the community's expression of place.

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<sup>116</sup> Lisa Heldke, "Down Home Global Cooking," 39.

<sup>117</sup> Melissa Nursey-Bray, "Community Engagement: What is it?" in *Placemaking Fundamentals for the Built Environment* ed. Dominique Hes and Christina Hernandez-Santin (Singapore: Springer Singapore, 2019): 86

<sup>118</sup> Lisa Heldke, "Down Home Global Cooking," 39.

The design of a place's program and its spaces can support the goals of food sovereignty or ecosophy through prescribed action. According to Cliff Hague, the "key purpose of planning is to create, reproduce or mould the identities of places through manipulation of the activities, feelings, meanings and fabric that combine into place identity."<sup>119</sup> In Biel's urban metabolism, the forest sector is intended for the public to walk through the forest and collect food. The interiority of this forest sector is then open for examination. Is there an intentional path present that connects nodes within the sector? Should gather sites contain the necessary components to prepare food on site? Is there native flora, fauna or site attributes that can be incorporated into wayfinding or design language of the site? As noted, before, some urban residents may not be as welcoming to the concept of a foraging forest walk. In Biel's metabolism he overcomes this by proposing multiple levels of integration. Designing for a place that is universal, but highly specific, creates pockets of space for multiple identities within a larger network.<sup>120</sup> This is similar to food sovereignty in that it is a network of food activists that practice differently but connect in working towards larger goals of autonomy, identity and collaboration.

Following the process of self-identification present in Naess's Ecosophy, a person's sense of place and belonging will grow as they do. Nature is within the Self and becomes inseparable from place-making. In creating a place with nature, biophilic effects such as a sense of well-being and connectedness occur.<sup>121</sup> Following a deep ecology of the built environment both the man-made and the natural become defining features of place. Implementing place-making factors that involve community engagement and land stewardship deepen a sense of place and can influence environmental behaviour.<sup>122</sup> As the boundaries of our identity are widened, places will be designed that support the evolution of community values and identification.

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<sup>119</sup> Cliff Hague and Paul Jenkins, *Place Identity, Participation and Planning* (Oxfordshire: Taylor and Francis, 2004) 6

<sup>120</sup> Jan Gehl, "Reclaiming Public Space," in *New Nordic: Architecture & Identity* ed. Kjeld Kjeldsen et al., (Denmark: Louisiana Museum of Modern Art, 2012)

<sup>121</sup> Judy Bush, Christina Hernandez-Santin, Dominique Hes, "Nature in Place: Placemaking in the Biosphere," in *Placemaking Fundamentals for the Built Environment*, ed. Dominique Hes and Christina Hernandez-Santin (Singapore: Springer Singapore, 2019): 43

<sup>122</sup> Judy Bush, Christina Hernandez-Santin, Dominique Hes, "Nature in Place: Placemaking in the Biosphere," 44.

Through sensory immersion and ecological knowledge people can relate to natural places and begin a process of engagement. Community engagement in foodscapes that transcends the dining experience into the growing process teaches empathy to environments and valuable practical wisdom that will improve natural and human conditions of a place. The design of a place is an environmental control that can no longer be separated from the natural conditions of a place as it contributes to community and individual identity.

## Chapter 6: Precedent Analysis

The following precedents highlight designs that value new technology and sustainable solutions, user narrative and experience, and programming that requires community engagement. The ReGen village in the Netherlands is a small-scale example of ecophroneses and agrarian philosophy influencing master-planning. The Edible Academy in New York teaches community members how to grow fresh, nutritious food in an urban environment. Noma 2.0 and Firedoor bring to life client narratives and create engaging user experiences. These precedents are influential to the program, typology and the final design of this practicum.

### Precedent 1: ReGen Villages

Location: Almere, Netherlands

Designer: EFFEKT

Size: 15,500m<sup>2</sup>

Date: 2016

The interdisciplinary firm EFFEKT was founded in Copenhagen in 2007, and since then has created spaces that make lasting social, economic, and environmental impacts in architecture, urbanism, and research.<sup>123</sup> EFFEKT works with clients that directly align with their own design philosophy; geared towards well-being, coexistence, and novel experiences backed by scientific reasoning and solutions. The project ReGen Villages in Almere works within this philosophy and is an exemplary off-grid model for future sustainable and self-reliant communities.

The environmental stance that the village began with is similar to that of this practicum - communities should be growing their own food within their boundaries while reducing overall environmental impact. Reducing reliance on the GFS by providing home and community growing opportunities, creating a closed-loop energy system, and minimizing the total human footprint on the land were all important goals of the project. To begin, EFFEKT determined the basic living needs of a family and the means to provide those needs within a closed-loop system, 639m<sup>2</sup>. In order to reduce waste, for example, household compost becomes feed for soldier flies

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<sup>123</sup> "Profile," Effekt, accessed January 2021, <https://www.efeekt.dk/office>

and livestock which in turn produce feed for the fish in the aquaponic system and fertilizer for the gardens. After determining the space and amenities necessary for a single family, the equation was simply expanded to fulfill the needs of a community.

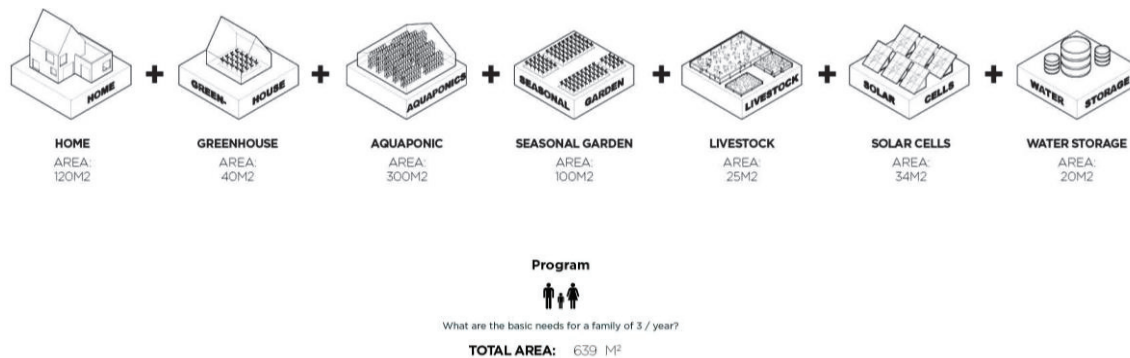


Fig. 9 Program development of ReGen Village

When expanding the footprint of the community, EFFEKT determined it valuable to the local ecosystem to reduce the sprawl of the community and allow biodiversity to advance around the periphery. Similarly, Kildonan Park was selected as an opportunity to expand the area of naturalness and its biodiversity. If we plan for urban agriculture to permeate into future system planning at national levels, we assume that the monoculture farming industry will reduce its footprint. Instead of sprawling across this newly liberated land, as would be typical in our prairie growth patterns, we infill, condense, and grow vertically. This reduces environmental stressors such as vehicular traffic and allows nature to re-establish itself on the previous farm plots. The programmatic layout of the village places all housing on the exterior ring, to ensure car access to homes and equal residential access to public spaces. The homes are energy positive utilizing solar power, water collection, and biogas. This project simply applies the technology that is currently available to new living models while setting a new boundary for future planning.

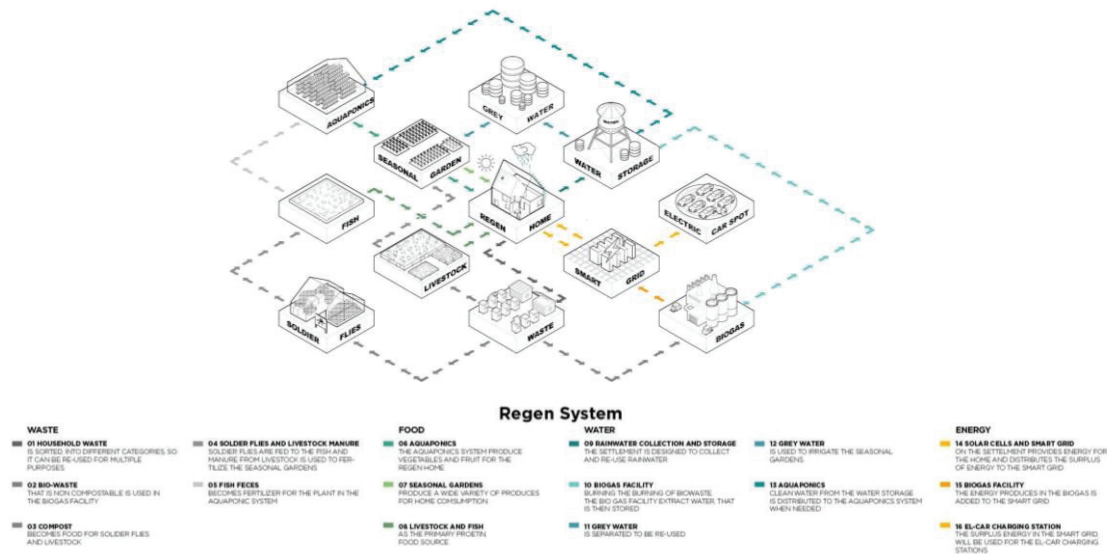


Fig. 10 ReGen closed loop system.

Additionally, in planning for a closed-loop system EFFEKT effectively planned for the design of waste management. Waste management, like many necessary components of infrastructure, is typically not considered an element of design. Our techniques for dealing with waste have not been revolutionized in consideration of our technological advancements.<sup>124</sup> EFFEKT is practicing ecophronesis by integrating all system components as a part of the community experience. Residents of ReGen are exposed to the system cycles and can see the effects of something not fitting within that system. While these processes may not be aesthetically pleasing or interesting to the general public as they are designed now, their integration is crucial and the planning of these future spaces can be considerate of degrees of public interaction. This is the same reasoning as to why food production should be within city boundaries. Not only will residents be closer to their food systems but depending on the programming of an urban food system, these growing sites can become social or educational destinations. A greenhouse growing coffee plant can also house a coffee shop, exposing clients to the entire process from

<sup>124</sup> Here I am referencing an interview with Bill Gates where he discusses the lack of innovation of waste management - waste is simply waste and "out of sight, out of mind" - and how simple it is (though expensive) to create a closed-loop system for waste. He was involved with a research team in India where they successfully completed such a project. Bill Gates, "India is winning its war on human waste," last modified April 25, 2017, <https://www.gatesnotes.com/Development/Indias-War-on-Human-Waste>

seed to sip. Closed loop-systems within large scale planning stimulate the local economy and general understanding of the processes involved in living in a community.

Aside from the closed-loop system, this precedent showcases a development set up to encourage socialization at community spaces centered around food and nature. After determining the important locations for food growing and infrastructure, the remaining spaces are filled with well dispersed social spaces that cater to a wide demographic. These include an edible garden, great for involving children or the hobby gardener, social dining spaces to gather and stimulate community identity, playgrounds, community learning and animal pens. The social spaces are arranged to incorporate various degrees of sensory interaction, like the scent zone which perhaps grows an array of aromatic herbs or fruit.



Fig. 11 Model of ReGen Village.

The food production of ReGen is efficiently organized for a diverse product range as well. The local food system incorporates traditional soil farming, greenhouses set to different temperatures for growing variability, an aquaponic system and livestock. The greenhouses utilize vertical farming systems to meet the high output needs of feeding a community locally. What is unique

about these food production spaces is that they double as social gathering spaces. Seating areas are placed inside the greenhouses, which invites everyday community interaction, not only interaction when the food is instrumental. Additionally, this model provides opportunities for generating a solid local economy based on food production and resource management. Most of the buildings in ReGen are encased in a glass envelope, which extends growing seasons, provides climate control, and gives residents an “outdoor, indoor” space during the winter months. For Winnipeg, responses that are appropriate and considerate of the highly differential climate are extremely important to reconnect residents with the elements of the seasons and explore opportunities to combat the short growing season. Additionally, it is interesting to consider how this kind of living can affect the design of homes. With food production nearby, food storage in homes would probably be reduced, and home growing would become a part of the programming. This reflects European patterns of living, which has much less reliance on refrigeration than in North America.

Something to consider with masterplans such as ReGen is the level of control regarding the community's containment. Community growth is an important factor to consider when creating master plans. For ReGen it could be a larger circumference added to the project with the same infrastructure elements, or additional community replicas positioned nearby. As well, urban planning such as this tends to be crafted with a level of containment that disqualifies whoever is not within the community interior. To what degree can plans such as these truly be integrated into urban settings that already exist?

Another masterplan for Almere designed by MVRDV called Floriade is an example of design insertion<sup>125</sup> into an urban community. This plan is another urban agriculture community that is to be built up near a river. The entire community is raised above ground level which creates a boundary between who is a part of, and who is excluded from the new eco-living plan.<sup>126</sup> Notably, however, this plan includes urban farming that is organized in alphabetical plots. This organization system at first appears to be a very controlled integration of nature, however, it is a

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<sup>125</sup> Graeme Baker and Sally Stone, *Re-readings 2: Interior Architecture and the Principles of Remodelling Existing Buildings* (London: Routledge, 2019).

<sup>126</sup> “Almere Floriade,” MVRDV, accessed January 2021, <https://www.mvrdv.nl/projects/23/almere-floriade-2022>

wayfinding and environmental education tool for people discovering this urban development. For example, exploring the T section may find the user discovering variations of tomatoes they didn't know existed, or new species entirely.

Integrating the sectors from Biel's urban metabolism into urban developments such as these can soften the boundaries between new developments and old. For example, if the growth plan for ReGen was to build replica communities, the urban forest sector could connect the two communities and allow pedestrian traffic. This keeps true to EFFEKT's plan for biodiversity integration, invites residents to explore the in-between spaces of the communities and at a larger scale, the interiority of the ecosystem.



Fig. 12 Rendering of ReGen's village interior.

The designers at EFFEKT feel that ReGen will build social connections through community empowerment and pride as people become a part of their local ecosystem. By integrating people and their daily actions directly into their environment, they experience the inner workings of the systems and better understand the role they, as humans, play. Integrating food production into the community encourages a strong local economy. These food production spaces are a great

opportunity to introduce environmental learning, as well as the social spaces which are centered around experiences. The residents of ReGen get to experience the interiority of their local ecosystem, and from that, generate a strong identity that is based in place.

### Precedent 2: Edible Academy

Location: New York City, New York

Designer: Cooper Robertson

Size: 5,300 ft<sup>2</sup> (interior), site area 60,400 ft<sup>2</sup>

Date: 2016

The Edible Academy was designed by Cooper Robertson Architects to accommodate the growing interest in edible gardening for the urban residents of New York City. The Academy is a practice in community engagement and programming to support place-making related to an environment, as well as addressing an urgent need in the city.

New York city is experiencing a food crisis where residents struggle to afford fruit and vegetables.<sup>127</sup> Responding to this issue the New York Botanical Gardens created The Edible Academy which houses classrooms, greenhouse and garden areas, an amphitheatre, and outdoor pavilions to help participants learn the processes of growing and cooking food and its nutrition. The LEED Gold certified building and site brings an agricultural landscape into the city and serves roughly 100,000 people annually.<sup>128</sup> Sustainable design features included in this program are permeable concrete, composting toilets, geothermal heating and cooling, solar panels and water collection.

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<sup>127</sup> "The Edible Academy," New York Botanical Gardens, accessed March 2021, <https://www.nybg.org/learn/edible-academy/>

<sup>128</sup> "New York Botanical Garden Edible Academy," Cooper Roberston, accessed March 2021, [https://www.cooperrobertson.com/work/new\\_york\\_botanical\\_garden\\_edible\\_academy](https://www.cooperrobertson.com/work/new_york_botanical_garden_edible_academy)



Fig. 13 Edible Academy, Ruth Rea Howell garden<sup>129</sup>

Projects like these activate community participation and teach practical wisdom. Gardening programs and plots that use perennial planting can generate long-term ecological knowledge and promote user return, which maintains a sense of place.

The programs at The Edible Academy are tailored to highlight the fundamental relationship between people, plants and nutrition.<sup>130</sup> Through community governance the place actively serves as a part of a solution to a large community need. These typologies can occur at the large, urban scale or within the private home boundaries. Broadening community knowledge of natural processes and the ability to provide for oneself can directly and indirectly benefit communities at

<sup>129</sup> *Ruth Rea Howell Vegetable Garden*, digital photograph, “The Edible Academy,” New York Botanical Gardens, accessed March 2021, <https://www.nybg.org/learn/edible-academy/>

<sup>130</sup> “New York Botanical Garden Edible Academy,” Cooper Robertson, accessed March 2021, [https://www.cooperrobertson.com/work/new\\_york\\_botanical\\_garden\\_edible\\_academy](https://www.cooperrobertson.com/work/new_york_botanical_garden_edible_academy)

the local scale. Spaces like The Edible Academy can help to alleviate local stressors on resources and aid, and in turn can influence large-scale systems.

### Precedent 3: Noma 2.0

Location: Copenhagen, Denmark

Designer: Bjarke Ingles Group

Size: 1290m<sup>2</sup>

Date: 2018

The Bjarke Ingles Group (BIG) is known for their elaborate buildings and contemporary design approach. The conceptual approach of Noma 2.0 emulates the traditional organization of saeter, the Norwegian farm typology.<sup>131</sup> Rene Redzepi, head chef and owner of Noma 2.0, follows a traditional agrarian food philosophy, one that is rooted in seasonality and place. Redzepi will only prepare what can be foraged, hunted or caught, gathered or preserved as dictated by the season and weather. His menu reflects the ingredients of the season and the locality of the place. I selected Noma 2.0 as a final precedent to highlight the seamlessness that BIG created between the client's food philosophy, programming, and narrative in this building collective.

BIG created an "intimate culinary village" by segregating the restaurant's functions and organizing them within separated buildings that all connect back to the kitchen.<sup>132</sup> This functional segregation allows the program to cater to the specific needs of each space. For example, there is a brick-clad building that reflects a chimney used solely for a dinner barbeque experience. The interior approach is a form of mise en scène; diners can anticipate the meal as the scene unfolds before them. A dimly lit, brick building, wood and smoke scents linger in the air, a pit-tender waits for them with a stoked flame. At Noma, each building is its own scene, queuing the guests towards the function of the room and the experience they are about to have.

When visitors arrive, they follow a raised boardwalk through long grasses past the collection of brick and log buildings, green houses and the old concrete bunker that once was used for the Danish Navy. Entering "the arrival space" through the light wooden barn exterior, soon-to-be diners enter into a space that mixes textures and materials which represent Copenhagen and typical Nordic style. Smoothed river stone, polished light wood panels, rough brick and various

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<sup>131</sup> "Noma," Bjarke Ingels Group, accessed January 2021, <https://big.dk/#projects-noma>

<sup>132</sup> "Noma," Bjarke Ingels Group, accessed January 2021, <https://big.dk/#projects-noma>

dried flora from the site. From the interior, it is revealed to guests that all of the buildings are connected by glass covered hallways. These hallways were designed so guests could experience the changing seasons and weather, further connecting them to the menu and Redzepi's philosophy. The dining room is designed to appear as neatly stacked timber, a test kitchen is in a greenhouse, illuminating the full transparency between Redzepi and his guests.



Fig. 14 Approach to Noma 2.0

A key component to the program is the central kitchen, where Redzepi and his team can both watch over the dining experience and be watched by the diners. The heart of the process, the kitchen, appears more residential than commercial. Closed wood cabinetry and wood countertops, open concept without bulky venting to obstruct sight lines, with views through the dining spaces out into the landscape. It is a space that is under Redzepi's exact order, control, and creativity. The panopticon design of Noma 2.0 was purposeful, to centre the processes around the chef and his workspace, much like Lennox Hastie at his restaurant Firedoor in Sydney, Australia. Spaces like these allow guests to participate as observers, learning by watching during their experience. In other concepts, such as a teaching kitchen site for Food

Maker in Aarhus, Denmark interacting with the cooking process aids in the practice of practical wisdom, by allowing participants to interact with the ingredients and tools.

Lennox Hastie, head chef and owner, designed his restaurant Firedoor with an open-plan concept to expose his guests to the techniques of his trade.<sup>133</sup> At Firedoor, the restaurant is centered around the open-flame grilling pit. Hastie learned traditional wood grilling techniques while apprenticing at Etxebarri in Spain and opened his own restaurant with the goal to expand the tradition. Hastie designed much of the kitchen himself, ensuring that every detail was to his specification. He created grills that raised and lowered with the turn of a crank, sourced a massive antique wood-oven, and utilized open fire cauldron and rotisserie fixtures. The open-concept kitchen highlights the chef in his element, with bar seating surrounding the main preparation space, and large communal seating in the middle of the floor plan. Hastie values the ingredient and “working intuitively with the fire” to produce innovative culinary expressions.<sup>134</sup> These two interiors showcase the design responses to chef’s techniques that are based on innovating tradition, highlighting the process of their work, and honoring the ingredients they use. In this regard, the interior of the restaurant is not suited to the diner, it is intended to host the chef as the primary user.

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<sup>133</sup> “About Firedoor,” Firedoor, accessed January 2021, <https://www.firedoor.com.au/>

<sup>134</sup> “About Firedoor,” Firedoor, accessed January 2021, <https://www.firedoor.com.au/>



Fig. 15 Custom grill design at Firedoor.

A similar precedent based on the guiding food philosophy is Food Maker in Aarhus. Food Maker began as a community cooking class with the goal of teaching young adults how to cook good, inexpensive meals for themselves.<sup>135</sup> The founder identified the need for pragmatic cooking skills in the bustling university town to not only promote healthier living but provide young adults with valuable life skills. The program hosts cooking classes, renowned chef demonstrations, and puts on events run by group members, like pop-up street food vendors. Programs like this actively involve participants in learning the techniques and handling of ingredients. As well, the Food Maker program is run with a food philosophy that is similar to Redzepis, though less ambitious when considering the demographic, and works with ingredients that are seasonal, locally sourced and healthy. The program is advertised and organized through social media, which targets their main demographic. While Food Maker employs a very different program than Noma or Firedoor, they were inspired by a common theme, the love of craft. The

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<sup>135</sup> "Food Maker," Food Maker, accessed January 2021, <https://foodmaker.dk/>

founder of Food Maker was inspired by the American Arts and Crafts movement, known for the technique, skills and hand making of the collective members.<sup>136</sup>

Critical to the function of Noma, all back of house functions, such as prep and dish pits, are in a separate building which is directly connected to the kitchen. Since Noma's menu is dictated by the seasons it would be intriguing if some back of house functions were visible to guests to understand the process of this local foodway. For example, walking a corridor that is filled with hanging garlic bulbs or herbs drying would illuminate senses, showcase the temporality of ingredients, and the processes that we have developed to manipulate the ingredient. Members of Food Maker have the benefit of being a part of these processes or engaging in events that focus on foraging and gathering techniques. The processes of cooking that are rooted in local ingredients reconnect people back to the soil, flora and fauna that surround them. Implementing program elements such as these can highlight the role of food systems as they connect back to our ecosystems while creating unique and memorable user experiences.

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<sup>136</sup> "Food Maker," Food Maker, accessed January 2021, <https://foodmaker.dk/>



Fig. 16 Open plan kitchen and glass covered corridor of Noma 2.0.

Redzepi exemplifies his master skill through his understanding of the environment and the combination of the flavors he produces on display for his guests. Hastie's kitchen was designed specifically to meet the needs of his craft, and Food Maker provides a site to learn the techniques and ingredients that these chefs have mastered. The food philosophies of these three examples are based on gaining knowledge and experience, looking to showcase the opportunities of the location and share a meal.

## Chapter 7: Programming

The theory of this practicum is quite clear, to re-engage with nature means to re-engage with our neighbours. It is a process of learning about one another, the land we share, and the ecological processes that sustain us. With design we can create these spaces for community interaction and learning. The final design of this practicum emphasizes togetherness and ecological sensory immersion in its programmatic layout, design and concept for the Peguis Pavilion and Kildonan Park.

### 7.1 Client and User Profile:

The following client profile and programming information was created as part of the interior design strategy in the initial planning stages. Following the client profile outlines the functional requirements for both the Peguis and Alga Pavilions. This practicum is an investigation of urban conditions, and the potential client is one that is invested in community food security nationally. Therefore, the potential is there to include the following information in future discussions for community food planning as a theoretical investigation of interior design planning, food and environmental philosophy.

#### Potential Client:

NorWest Co-op Community Food Centre  
103-61 Tyndall Ave, Winnipeg, MB

A partner of Community Food Centres (CFC) Canada. A national organization that is developing food centres across the country.

The NorWest Co-op Community Food Centre is a space where community members can share a meal, participate in group cooking lessons, work in the garden, learn about healthy eating and become active in community issues.<sup>137</sup> CFCs also provide emergency access to good food in a healthy setting. Children and adults learn cooking and gardening skills, expand their palettes and

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<sup>137</sup> "About," NorWest Co-Op Community Food Centre, accessed February 2021, <https://norwestcoop.ca/community-food-centre/about/>

learn how to make healthier food choices. It is a safe community space to have your voice heard, meet new people and find support.

The CFC model is different from traditional charitable approaches as it tackles the underlying issues of chronic hunger, poverty, and poor health by creating responsive programs that provide lifelong skills and education.<sup>138</sup> The NorWest CFC is currently investigating new property to develop community gardens.

#### Needs and Goals:

- Create a space that encourages return visits from community members through interactive, exploratory, and sustainable programming
- Functional, flexible group cooking space
- Indoor and outdoor community gardens to supply fresh produce for purchase or use in cooking classes and community events and teach users ecological knowledge
- Community space for meetings, events and classes
- Universal accessibility, including considerations for senior and youth groups
- Emphasis on sustainable materials and passive energy or resource solutions
- Stimulating design with technology integration to aid in educating about cooking and gardening
- Capital generating program for CFC that can engage the larger Winnipeg community

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<sup>138</sup> "About," NorWest Co-Op Community Food Centre, accessed February 2021, <https://norwestcoop.ca/community-food-centre/about/>

Table 1: User Profile

Primary Users	Role
Co-Op Members   3-4x week Staff   daily Age: 20-40	<p>Primary users are interested in learning about growing and cooking alongside members of their community. It is assumed they will be participating in programs such as the community lunch or community growing program facilitated by NorWest CFC. Primary users will be actively involved in all stages of the making process, from early seed germination to enjoying a meal. Co-Op members will use the community space for meetings, events and will participate in buying and selling goods in the market.</p> <p>Staff of the Peguis and Alga Pavilions will be on site daily. They will be tending to regular maintenance, cleaning and security, or will be working for the Prairie's Edge restaurant.</p>
	Needs
	<p>Co-Op members will occupy the facilities for an average of 3 hours a day, staff can be on site for up to 9 hours. Co-Op members' needs based on activities include but are not limited to: indoor and outdoor growing spaces, kitchen, gathering spaces, market space and washrooms.</p> <p>Primary users value clean, organized workspaces. Bright, open plan spaces with views to outside are desirable. Neutral, natural materials that reflect the environment will be the primary aesthetic of the space. Socialization is important to users. The space will be inviting to groups for eating and socialization. Additionally, users may appreciate zones for relaxation and contemplation within a natural setting, as outlined in Xiangzhen's Ecoaesthetics<sup>139</sup>.</p>

<sup>139</sup> Cheng Xiangzhan, "Aesthetic Engagement, Ecosophy C, and Ecological Appreciation," *Contemporary Aesthetics*, 11 (2013): 4

Secondary Users	Role
School and youth groups	Secondary users are school and youth groups from the surrounding community attending for growing, cooking or foraging classes.
Retail & Restaurant Patrons	
Age: 10-18	
20-60	
1-2x week	These users will learn new cooking techniques, how to grow their own food, and how to identify different plant and animal species while on nature/foraging walks. These users may have family involved in the Co-Op program. The aim with this user group is to teach them skills that can be developed through their adulthood.
	Retail and restaurant patrons also fall into this category. It is expected this group will range from young adults to elderly, attending market and retail events and visiting the restaurant.
Tertiary Users	Role
Park goers	Tertiary users are any age group visiting Kildonan Park, the golf course, or using the existing Skater's Hall. They may also be attending special events or purchasing items grown or sold at the facility. Tertiary users are welcome to use all facility services, granted they are signed up for classes and events. It is expected that some tertiary users may become regular visitors, participants, or volunteers in any of the programming at the facility.

## 7.2 Functional Requirements

The following figures and tables outline the functional clients as per the client's needs and goals. The existing area of the Peguis Pavilion cannot meet the needs and goals of the client alone, prompting the design of a new pavilion, Alga. The spaces within the Alga and Peguis pavilions are separated by function of processes and products, respectively.

Table 2: Functional Requirements for the Peguis Pavilion

Space	Floor Level	Number	Min. Ft <sup>2</sup>	Notes
Vestibule	-1,1	3	100	Use existing on floor 1
Lobby, foyer	-1,1	2	120	Use existing on floor 1, floor -1 use existing stair and elevator landing as foyer
Waiting Room	1	1	240	Host space, coat closet, in-between space while waiting to be seated for dining
Lounge	1	1	300	Lounge height tables
Chef's Experience	1	1	375	Dining space surrounding the chef's working counter and wood oven. Sensory focused space with movable acoustic buffers.
Dining and Bar	1	1	900	Large bar top and communal dining table for group and social dining experience. Can be combined with Chef's Experience for larger dining space
Kitchen	1	1	500	Back of house kitchen for ingredient prep, storage, dish pit and chef's supporting team
Storage/ Delivery	-1, 1	2	250 ea.	Delivery and storage on the main level with access to lower level storage.
Washroom	-1, 1	2	500, 350	Gender inclusive washrooms with individual toilet closets, shared sink banks.
Elevator	-1,1	1	50	Use existing
Stairs	-1, 1	2	100, 50	Use existing fire rated, circulation, and exterior stairs
Retail space	-1	1	550	Retail space with seasonal drink bar and shelving for goods to be sold
Skater's Hall	-1	1	1200	Lounge space with soft and hard seating and fireplace to support community gathering year-round
Locker Lounge	-1	1	175	Full and half size locker units available to general public

Mechanical	-1	1	50	Mechanical room to house all necessary equipment. Use existing space.
Janitor's Closet, Service	-1	1	150	To be included in mechanical service space with a mop sink.
Garbage/ Recycling/ Compost	1	1	Outside	To be located adjacent to storage/delivery
Circulation (30%)			1,899	6330(0.3)
<b>Total</b>			<b>8,229</b>	

Table 3: Fixtures, Furniture and Equipment for the Peguis Pavilion

Space	FF&E	Material, Colour, Lighting	Atmosphere
Lobby, foyer	<ul style="list-style-type: none"> <li>.. Garbage, compost, recycling,</li> <li>.. Grated floor</li> <li>.. In-floor planting</li> </ul>	<ul style="list-style-type: none"> <li>.. Bright</li> <li>.. Well light</li> <li>.. Durable and slip resistant flooring</li> <li>Existing limestone brick</li> <li>.. Terrazzo flooring</li> </ul>	<ul style="list-style-type: none"> <li>.. Bright, well lit</li> <li>.. Welcoming</li> <li>.. Clean</li> </ul>
Waiting Room	<ul style="list-style-type: none"> <li>.. Banquette seating</li> <li>.. Lounge chair</li> <li>.. Log side tables</li> <li>.. Host stand</li> <li>.. Coat closet</li> <li>.. Phone, ipad</li> </ul>	<ul style="list-style-type: none"> <li>.. Limestone brick</li> <li>.. Terrazzo floor</li> <li>.. White oak</li> <li>.. Black &amp; gold metal accents</li> <li>.. Leather upholstery</li> <li>.. Linen upholstery</li> <li>.. Pendant lighting over host</li> </ul>	<ul style="list-style-type: none"> <li>.. Cozy</li> <li>.. Warm</li> <li>.. Inviting</li> <li>.. Subdued</li> <li>.. Private</li> </ul>
Lounge	<ul style="list-style-type: none"> <li>.. Banquette seating</li> <li>.. Lounge chairs</li> <li>.. Lounge height tables</li> </ul>	<ul style="list-style-type: none"> <li>.. Pendant lighting over tables</li> <li>.. Wall strip lighting</li> <li>.. White oak</li> </ul>	<ul style="list-style-type: none"> <li>.. Bright</li> <li>.. Views to pond and park</li> <li>.. Comfortable</li> </ul>

		<ul style="list-style-type: none"> <li>Concrete</li> <li>Black metal accents</li> </ul>	<ul style="list-style-type: none"> <li>Casual</li> <li>Muted color palette</li> </ul>
Chef's Experience	<ul style="list-style-type: none"> <li>Wood oven</li> <li>Stove top</li> <li>Hand sink</li> <li>Stools</li> <li>Working counter</li> <li>Bar height counter</li> <li>Stove hood fan</li> <li>Moss wall panels</li> <li>Garbage, compost, recycling</li> </ul>	<ul style="list-style-type: none"> <li>Pendant lighting</li> <li>Perforated metal</li> <li>White oak</li> <li>Walnut</li> <li>Recycled fabric upholstery</li> <li>Concrete flooring</li> <li>Wood LVP floor</li> <li>Stainless steel countertop</li> <li>Fire-resistant and acoustic fabric curtains</li> </ul>	<ul style="list-style-type: none"> <li>Private, intimate</li> <li>Focused</li> <li>Quiet</li> <li>Food aromas and cooking sounds</li> </ul>
Dining and Bar	<ul style="list-style-type: none"> <li>Communal table for 8</li> <li>Dining tables</li> <li>Banquette seat</li> <li>Dining chairs</li> <li>Bar stool</li> <li>Bar top and bar back</li> <li>Sink</li> <li>Mini Fridge</li> <li>Ice basin</li> <li>Garbage, compost, recycling</li> <li>Moss wall panels</li> </ul>	<ul style="list-style-type: none"> <li>Pendant lighting above dining tables and bar</li> <li>White oak</li> <li>Marble</li> <li>Recycled fabric upholstery</li> <li>Concrete flooring</li> <li>Wood LVP floor</li> <li>Stainless steel countertop</li> <li>Perforated metal</li> <li>Black metal accents</li> </ul>	<ul style="list-style-type: none"> <li>Bright</li> <li>Views to park and pond</li> <li>Spacious</li> <li>Social</li> <li>Inviting</li> <li>Muted colour palette</li> <li>Energetic</li> </ul>
Kitchen	<ul style="list-style-type: none"> <li>Hand sink</li> <li>Sink</li> <li>Dish sink</li> <li>Dishwasher</li> <li>Prep counter</li> <li>Working counter</li> <li>Dish counter</li> <li>Stove/oven</li> <li>Fryer</li> <li>Walk-in fridge/freezer</li> </ul>	<ul style="list-style-type: none"> <li>LED panel lighting</li> <li>Durable, easy to clean materials</li> <li>Stainless steel</li> <li>Sheet laminate or rubber flooring</li> <li>Non-slip materials</li> </ul>	<ul style="list-style-type: none"> <li>Bright</li> <li>Clean</li> <li>Organized</li> <li>Focused</li> </ul>

	<ul style="list-style-type: none"> <li>„ Garbage, compost, recycling</li> </ul>		
Washroom	<ul style="list-style-type: none"> <li>„ High-efficiency toilets</li> <li>„ High-efficiency sinks</li> <li>„ Mirrors</li> <li>„ Countertop</li> <li>„ Garbage and recycling</li> <li>„ Toilet paper dispensers</li> <li>„ Paper towel dispensers</li> <li>„ Soap dispensers</li> <li>„ Grab bars</li> </ul>	<ul style="list-style-type: none"> <li>„ Slip resistant flooring</li> <li>„ Easy to clean, durable materials</li> <li>„ Well-lit</li> </ul>	<ul style="list-style-type: none"> <li>„ Neutral colour scheme</li> <li>„ Accessible</li> </ul>
Retail Space	<ul style="list-style-type: none"> <li>„ Espresso machine</li> <li>„ Mini-fridge</li> <li>„ Sink</li> <li>„ Display shelving</li> <li>„ Countertop</li> <li>„ Display countertop</li> <li>„ Glass goods display</li> <li>„ Garbage, compost, recycling</li> <li>„ Cold drinks machine</li> <li>„ Menu display</li> </ul>	<ul style="list-style-type: none"> <li>„ White oak shelving</li> <li>„ Black veneer</li> <li>„ drinks counter</li> <li>„ Under-counter lighting</li> <li>„ Column feature lighting</li> <li>„ Wood LVP flooring</li> <li>„ Black metal accents</li> <li>„ Glass etched logo</li> <li>„ Glass</li> </ul>	<ul style="list-style-type: none"> <li>„ Accessible</li> <li>„ Well lit</li> <li>„ Views to outside</li> <li>„ Airy</li> <li>„ Inviting</li> </ul>
Skater's Hall	<ul style="list-style-type: none"> <li>„ Banquette seating</li> <li>„ Plant atrium</li> <li>„ Cafe tables</li> <li>„ Cafe chairs</li> <li>„ Lounge chairs / pouf seating</li> <li>„ Garbage, recycling, compost</li> <li>„ Electric fireplace</li> </ul>	<ul style="list-style-type: none"> <li>„ Recycled fabric upholstery</li> <li>„ Leather</li> <li>„ White oak</li> <li>„ Moss wall panels</li> <li>„ Column feature lighting</li> <li>„ Ceiling point lighting</li> <li>„ Durable, easy to clean materials</li> <li>„ Concrete</li> </ul>	<ul style="list-style-type: none"> <li>„ Inviting</li> <li>„ Family space</li> <li>„ Open</li> <li>„ Views to outside</li> <li>„ Bright</li> <li>„ Indoor/outdoor feel</li> <li>„ Warm</li> <li>„ Comfortable</li> </ul>

		" Carpet " Log side tables	
Locker Lounge	" Built in lockers " Upholstered bench seating	" Ceiling point lighting " White oak " Recycled fabric upholstery " Wood wall paneling	" Organized " Safe " Clean
Storage	" Shelving " Fridge/Freezer	" Concrete " Durable, slip resistant materials " Well lit	" Organized " Clean

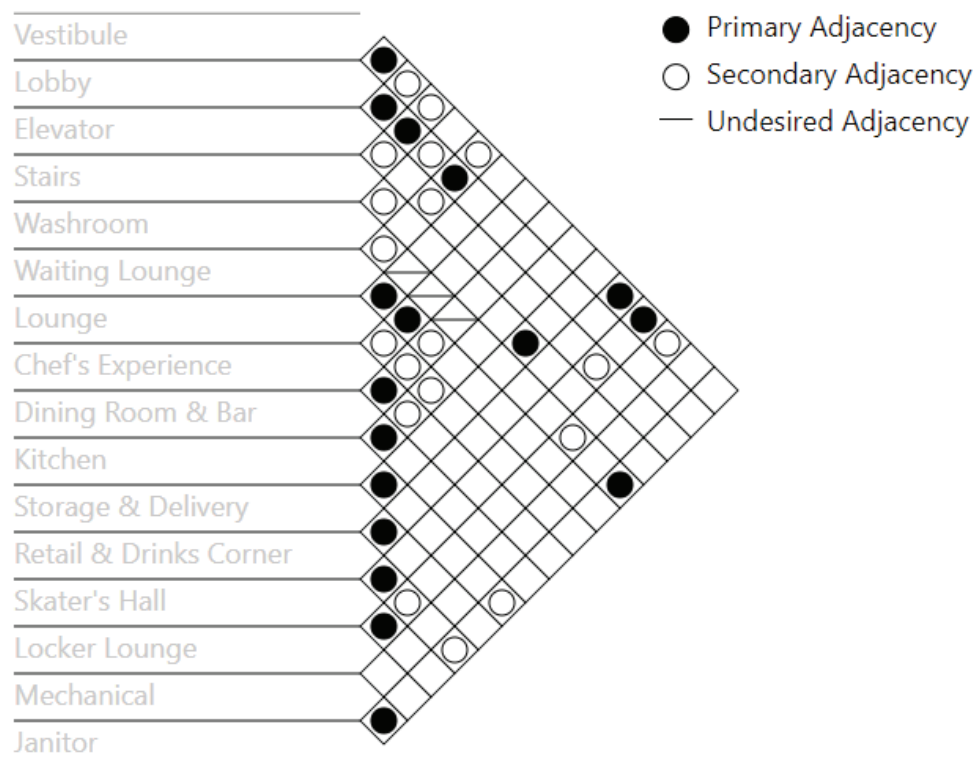
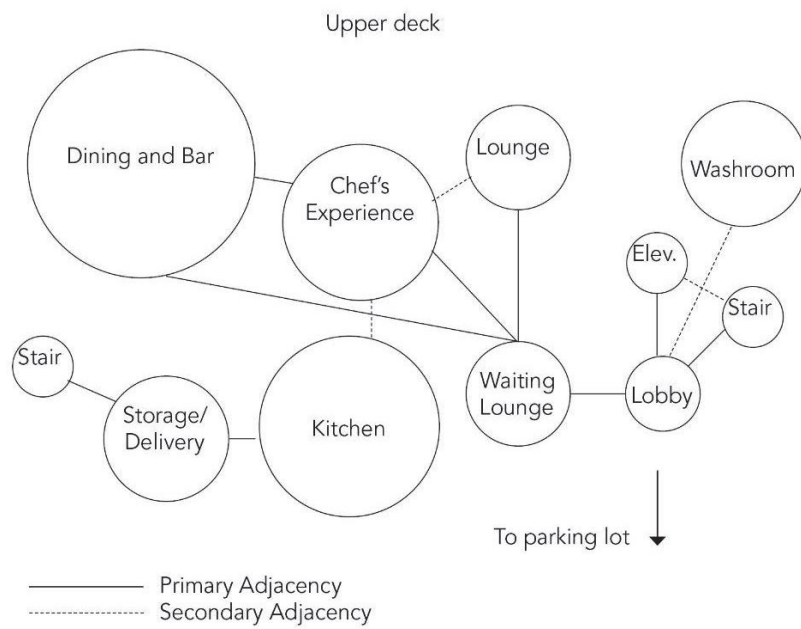
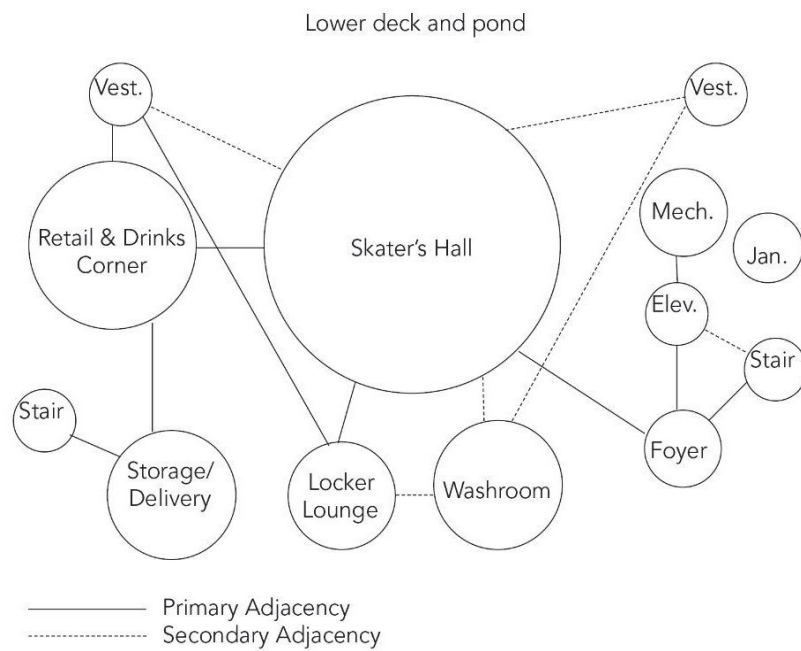


Fig. 17 Adjacency Matrix for the Peguis Pavilion



### Main Floor



### Lower Floor

Fig. 18 Bubble Diagrams for the Peguis Pavilion

Table 4: Functional Requirements for the Alga Pavilion

Space	Number	Min. Ft <sup>2</sup>	Notes
Exhibit Vestibule	1	1,500	Space for exhibition and gathering
MPR	1	525	To be used for events, discussions, classes
Teaching Kitchen	1	1,000	Teach cooking classes, canning, and techniques. Must include wiring for video integration at stations. Dish pit and cold storage included in space
Co-Op Member Lounge	1	275	Includes member's washroom, seating, kitchenette and lockers
Greenhouse	1	2,000	Includes stacked gardening strategies and traditional soil gardening
Produce Storage and wash station	1	165	Includes storage for gardening tools, collection materials, sink, drying racks and cold storage
Market	1	Outside (1,800)	Outdoor market space near the entrance of the pavilion. Adjustable screens/ weather protection for year-round use. Include heaters
Storage	1	200	Storage for market tables and event materials
Washroom	1	425	Gender inclusive washrooms with individual toilet closets, shared sink banks.
Mechanical	1	100	Mechanical room to house all necessary equipment.
Janitor's Closet	1	40	Include mop sink
Circulation (35%)		2,180.5	Extra ft <sup>2</sup> in floor plan used in circulation to include seating for moments of pause and reflection
<b>Total</b>		<b>8410.5</b>	

Table 5: Furniture, Fixtures and Equipment for the Alga Pavilion

Space	FF&E	Material, Colour, Lighting	Atmosphere
Exhibit	<ul style="list-style-type: none"> <li>Wood and steel grid for display</li> <li>Lounge chairs</li> <li>Side tables</li> <li>Benches</li> <li>Signage</li> <li>In floor planting</li> </ul>	<ul style="list-style-type: none"> <li>Ambient lighting</li> <li>Perforated metal</li> <li>Birch</li> <li>Concrete floor tiles</li> <li>Grass/planting</li> <li>Glass</li> <li>Recycled fabric upholstery</li> <li>Durable, slip resistant flooring</li> </ul>	<ul style="list-style-type: none"> <li>Bright, well lit</li> <li>Welcoming</li> <li>Clean</li> <li>Fresh, alive</li> <li>Green</li> <li>Intriguing</li> </ul>
MPR	<ul style="list-style-type: none"> <li>Foldable round tables</li> <li>Stacking chairs</li> <li>Projector &amp; screen</li> <li>Built in storage</li> <li>Sliding doors to open near Kitchen</li> </ul>	<ul style="list-style-type: none"> <li>Ambient lighting</li> <li>Neutral colour palette</li> <li>LVP wood flooring</li> <li>Durable, easy to clean</li> </ul>	<ul style="list-style-type: none"> <li>Clean</li> <li>Inviting</li> <li>Organized</li> <li>Flexible</li> </ul>
Greenhouse	<ul style="list-style-type: none"> <li>High-efficiency tube planting system</li> <li>Raised garden beds</li> <li>Seed starting beds</li> <li>Water connections</li> <li>Trellis</li> <li>High-efficiency pot planters</li> <li>Cold storage shelving</li> <li>Movable shading devices</li> </ul>	<ul style="list-style-type: none"> <li>Glass</li> <li>Birch</li> <li>Concrete</li> <li>Floor drains</li> </ul>	<ul style="list-style-type: none"> <li>Bright</li> <li>Views to outside</li> <li>Large window expanse</li> <li>Clean</li> <li>Fresh</li> <li>Cool</li> </ul>
Corridors	<ul style="list-style-type: none"> <li>Bench seating</li> <li>In-floor and raised planters</li> </ul>	<ul style="list-style-type: none"> <li>Perforated metal</li> <li>Birch</li> <li>Glass</li> <li>Concrete floor tiles</li> </ul>	<ul style="list-style-type: none"> <li>Intimate</li> <li>Intriguing</li> <li>Duality with exterior landscaping</li> </ul>

		<ul style="list-style-type: none"> <li>Grass</li> <li>Sconce lighting</li> <li>Ambient lighting</li> </ul>	<ul style="list-style-type: none"> <li>Private moments</li> <li>Discovery</li> </ul>
Co-Op Member Lounge	<ul style="list-style-type: none"> <li>Banquette seating</li> <li>Lounge height tables</li> <li>Lounge chairs</li> <li>Mini fridge</li> <li>Sink</li> <li>Microwave</li> <li>Countertop</li> <li>Lockers</li> <li>Single W/C</li> <li>Garbage, compost, recycling</li> </ul>	<ul style="list-style-type: none"> <li>Durable, easy to clean materials</li> <li>Non-slip flooring</li> <li>Concrete</li> <li>Glass</li> <li>Birch</li> <li>Ambient lighting</li> </ul>	<ul style="list-style-type: none"> <li>Views to greenhouse</li> <li>Private</li> <li>Clean</li> <li>Organized</li> <li>Calm</li> </ul>
Teaching Kitchen	<ul style="list-style-type: none"> <li>Hand sinks</li> <li>Sinks</li> <li>Dish sink</li> <li>Dishwasher</li> <li>Working counters</li> <li>Dish counter</li> <li>Stovetops/ovens</li> <li>Walk-in freezer</li> <li>Fridges</li> <li>Banquette seating</li> <li>Large table</li> <li>Stacking chairs</li> <li>Garbage, compost, recycling</li> </ul>	<ul style="list-style-type: none"> <li>LED panel lighting</li> <li>Durable, easy to clean materials</li> <li>Stainless steel</li> <li>Birch</li> <li>LVP wood flooring</li> <li>Non-slip materials</li> <li>Pendant lighting over stations</li> <li>Perforated metal</li> </ul>	<ul style="list-style-type: none"> <li>Bright</li> <li>Clean</li> <li>Organized</li> <li>Focused</li> <li>Neutral colour palette</li> </ul>
Washroom	<ul style="list-style-type: none"> <li>High-efficiency toilets</li> <li>High-efficiency sinks</li> <li>Mirrors</li> <li>Countertop</li> <li>Garbage and recycling</li> <li>Toilet paper dispensers</li> <li>Paper towel dispensers</li> <li>Soap dispensers</li> <li>Grab bars</li> </ul>	<ul style="list-style-type: none"> <li>Slip resistant flooring</li> <li>Easy to clean, durable materials</li> <li>Well-lit</li> </ul>	<ul style="list-style-type: none"> <li>Neutral colour scheme</li> <li>Accessible</li> </ul>

Outdoor Market	<ul style="list-style-type: none"> <li>.. Movable, modular tables</li> <li>.. Canopy, optional weather shelter</li> <li>.. Propane heaters</li> <li>.. Composite wood decking</li> </ul>	<ul style="list-style-type: none"> <li>.. Birch</li> <li>.. Ambient lighting built into canopy structure</li> <li>.. Slip-resistant flooring</li> </ul>	<ul style="list-style-type: none"> <li>.. Inviting</li> <li>.. Flexible</li> <li>.. Fun</li> <li>.. Outdoors</li> </ul>
Storage	<ul style="list-style-type: none"> <li>.. Shelving</li> </ul>	<ul style="list-style-type: none"> <li>.. Concrete</li> <li>.. Durable, slip resistant materials</li> <li>.. Well lit</li> </ul>	<ul style="list-style-type: none"> <li>.. Organized</li> <li>.. Clean</li> </ul>

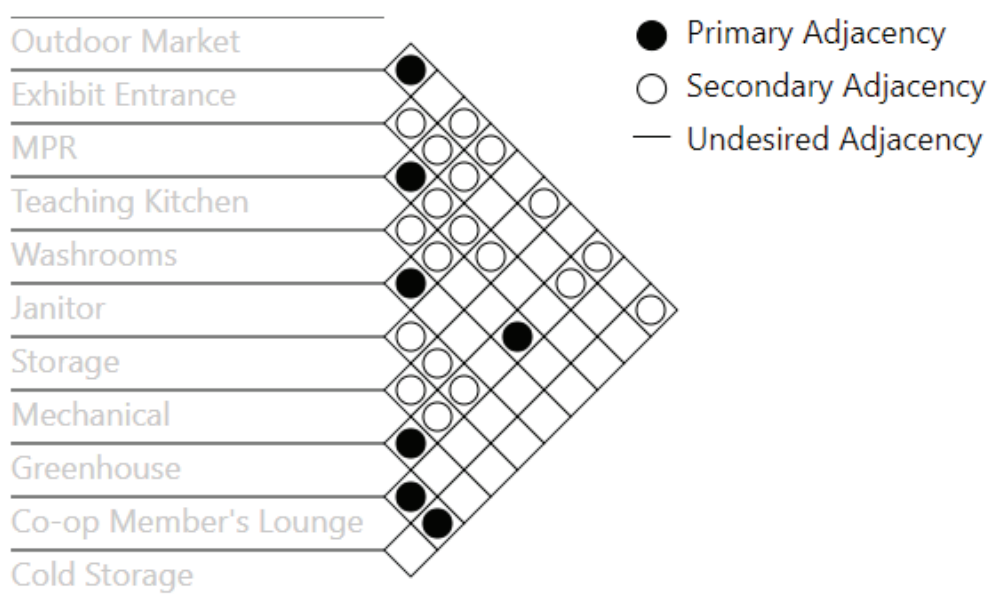


Figure 19: Adjacency Matrix for the Alga Pavilion

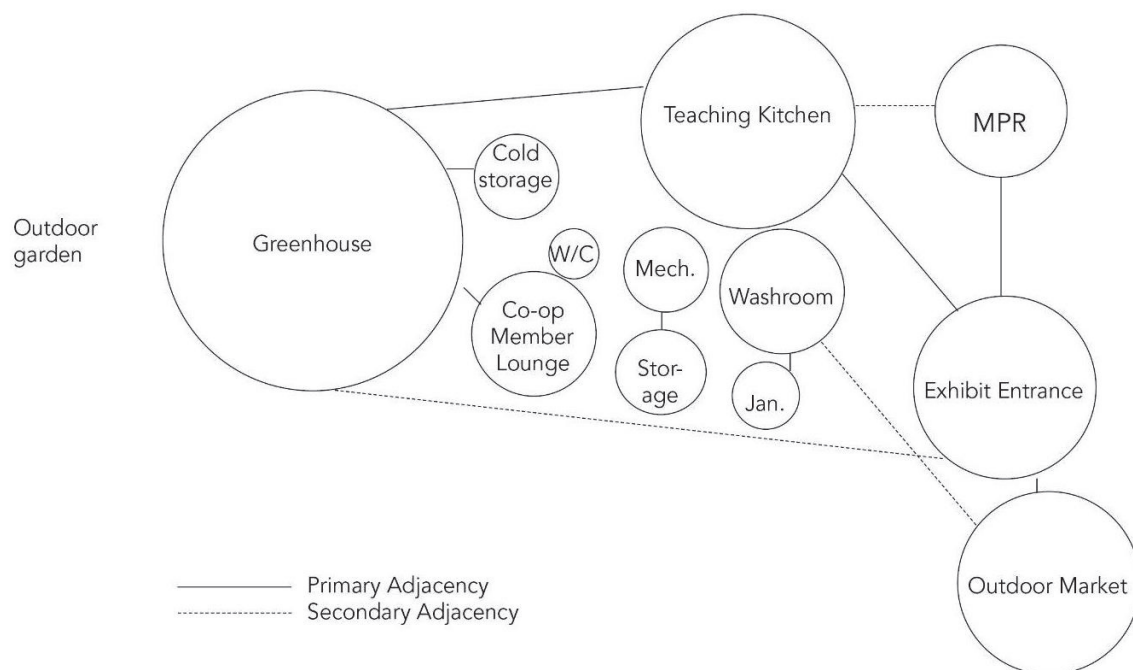


Figure 20: Bubble Diagram for the Alga Pavilion

## Chapter 8: Design Concept and Strategy

Calling upon the ideas of community and symbiosis the design concept for this practicum is inspired by Lichen's structure and function.



Lichen is a symbiosis of two species, fungus, and algae, that function as a closed loop system.<sup>140</sup> Essentially, the fungus adheres to the algae and intakes all water and nutrients from the air and water.<sup>141</sup> The singular alga cells then produce food for the fungus through photosynthesis.<sup>142</sup> Design language was taken from the micro-structures of lichen and abstracted into the shell of Alga, the new pavilion.

Fig. 21 Lichen and calcium on stone.

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<sup>140</sup> "About Lichens," U.S.D.A Forest Service, accessed March 2021, <https://www.fs.fed.us/wildflowers/beauty/lichens/about.shtml>

<sup>141</sup> "About Lichens," U.S.D.A Forest Service, accessed March 2021, <https://www.fs.fed.us/wildflowers/beauty/lichens/about.shtml>

<sup>142</sup> "About Lichens," U.S.D.A Forest Service, accessed March 2021, <https://www.fs.fed.us/wildflowers/beauty/lichens/about.shtml>

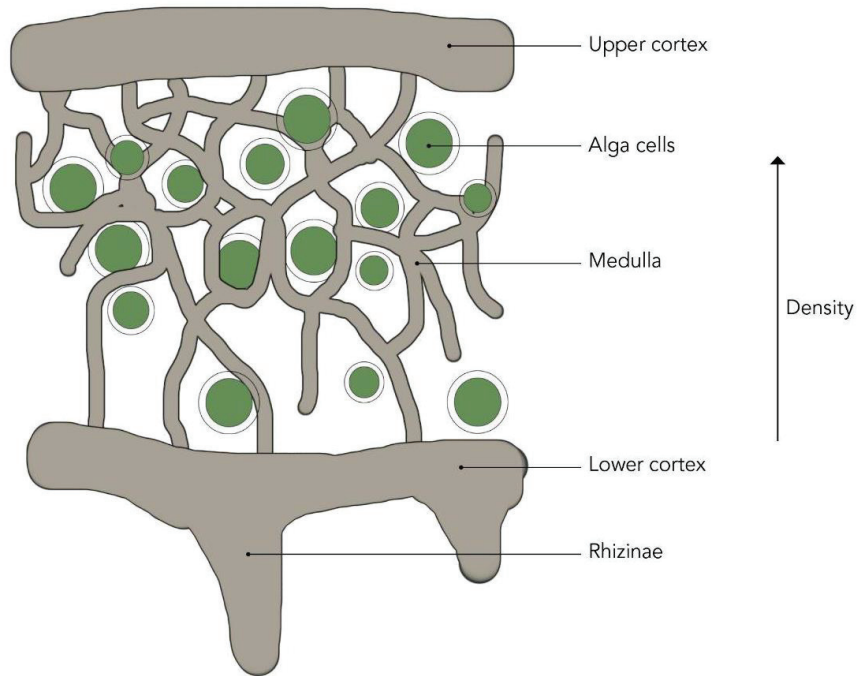


Fig. 22 Stylized section of lichen structure.

The exterior of Alga shows clusters of circular openings in the exterior facade. The smaller and denser openings indicate areas of function or circulation. When the facade breaks pattern and features a curtain wall expanse it is to invite light into the greenhouse or large exhibit vestibule.

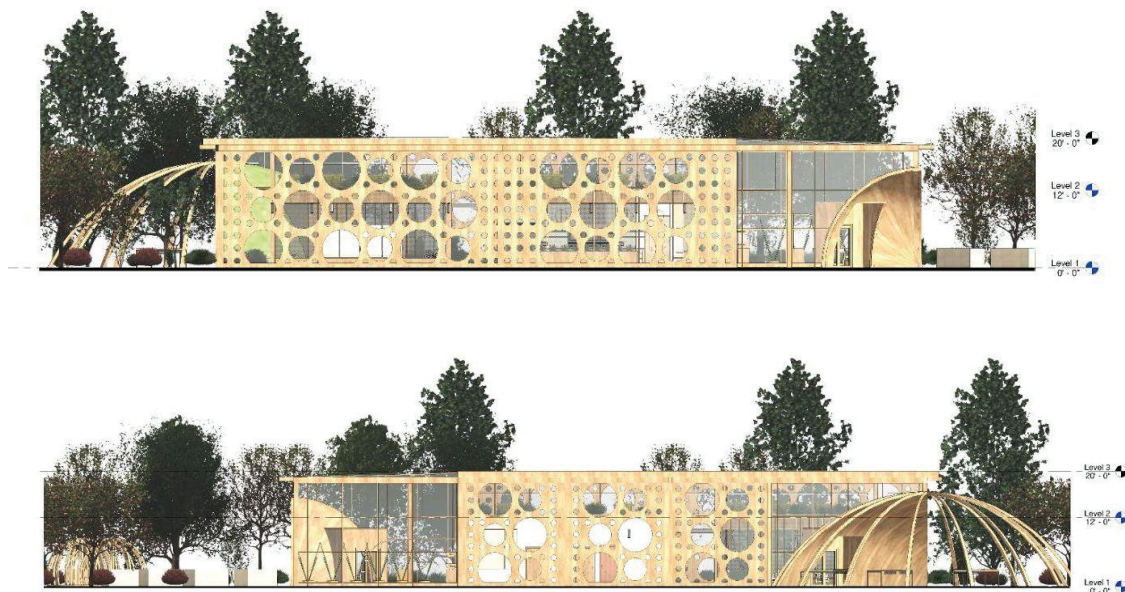


Fig. 23 Alga West and East exterior elevations. NTS

The initial point of controlled interiority in this practicum begins at the larger site scale. Surrounding Alga are rings of growth, inspired by the changing densification of medulla, lichen's structural system, that are dependent on the proximity to alga cells. These rings are used as a slow sensory introduction to progressively more wild spaces. Nearest the pavilion are garden beds and tailored landscaping, further reflected in the interior. This ring is preceded by a wildflower garden, a mild introduction to natural growth. Followed by a fruit bearing shrub and tree ring, open to public consumption and care. Finally, the outer ring is wild growth that blends into what is existing. This is a space for personal exploration of the site's natural conditions.

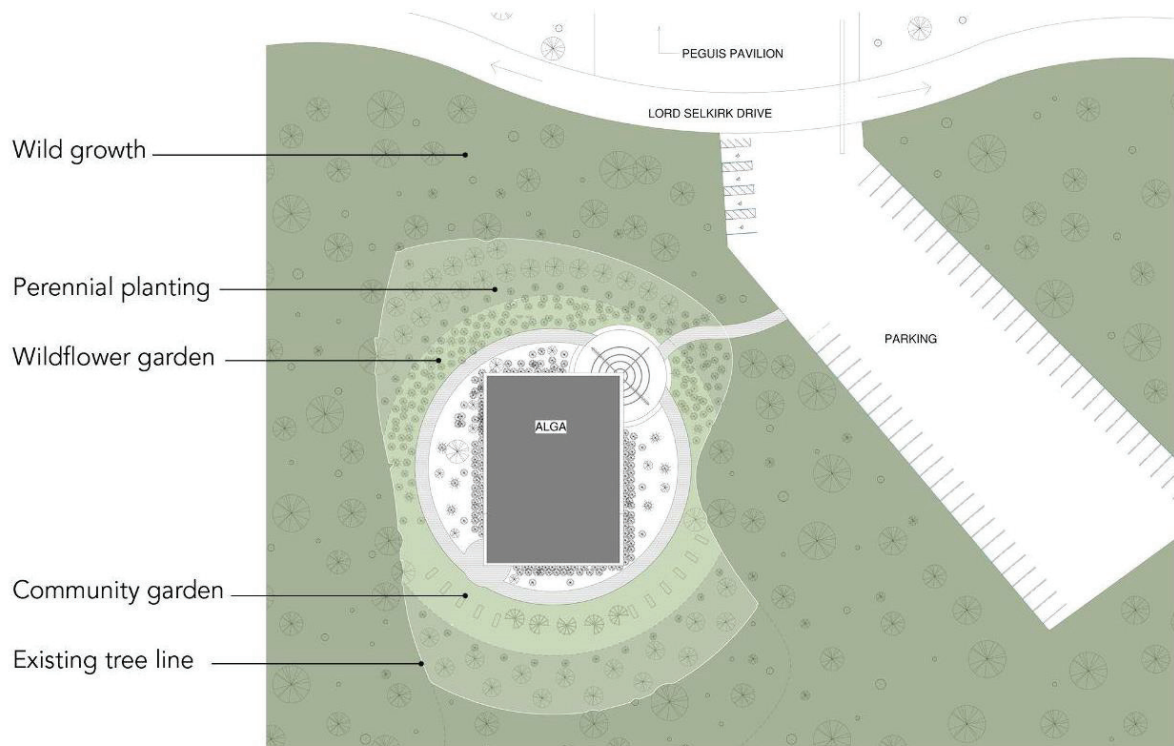


Fig. 24 Site growth rings

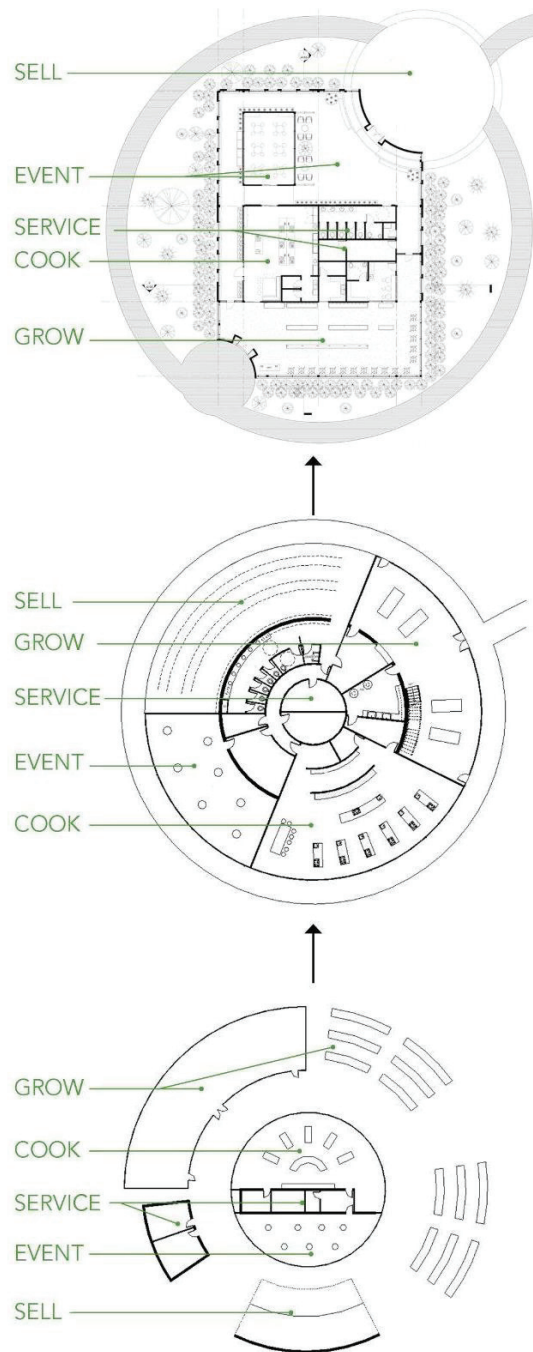


Fig. 25 View of the community garden and greenhouse.

Alga itself is a space to exhibit the possibilities of designing for an urban deep ecology. It is a space that honors the processes of growing, preparing, and learning about food and nature. Alga's spaces include an exhibit vestibule, community greenhouse and market, teaching kitchen and multipurpose room to host lectures or events. Interior planning of Alga followed a rectilinear grid, inspired by the order and proportions of the Peguis Pavilion in both plan and elevation. The simplicity and functionality of the modernist design era guided the central service spaces of Alga, encompassed by a poetic experience of perimeter corridors that feature interior planting and benches for reflection.



Fig. 26 Corridor by MPR.



#### Alga Planning Stage 3:

- Rectilinear interior planning
- Site and landscaping inspired by alga cells and layers of integration
- Interior circulation as reflection points
- Outer alga ring as walkway
- Central service spaces

#### Alga Planning Stage 2:

- Circular, connected interior planning
- Central service spaces
- Exterior walkway inspired by alga cell

#### Alga Planning Stage 1:

- Separate buildings
- User circulation inspired by medulla
- Experience of site and interiors

Fig. 27 Alga form and planning stages.

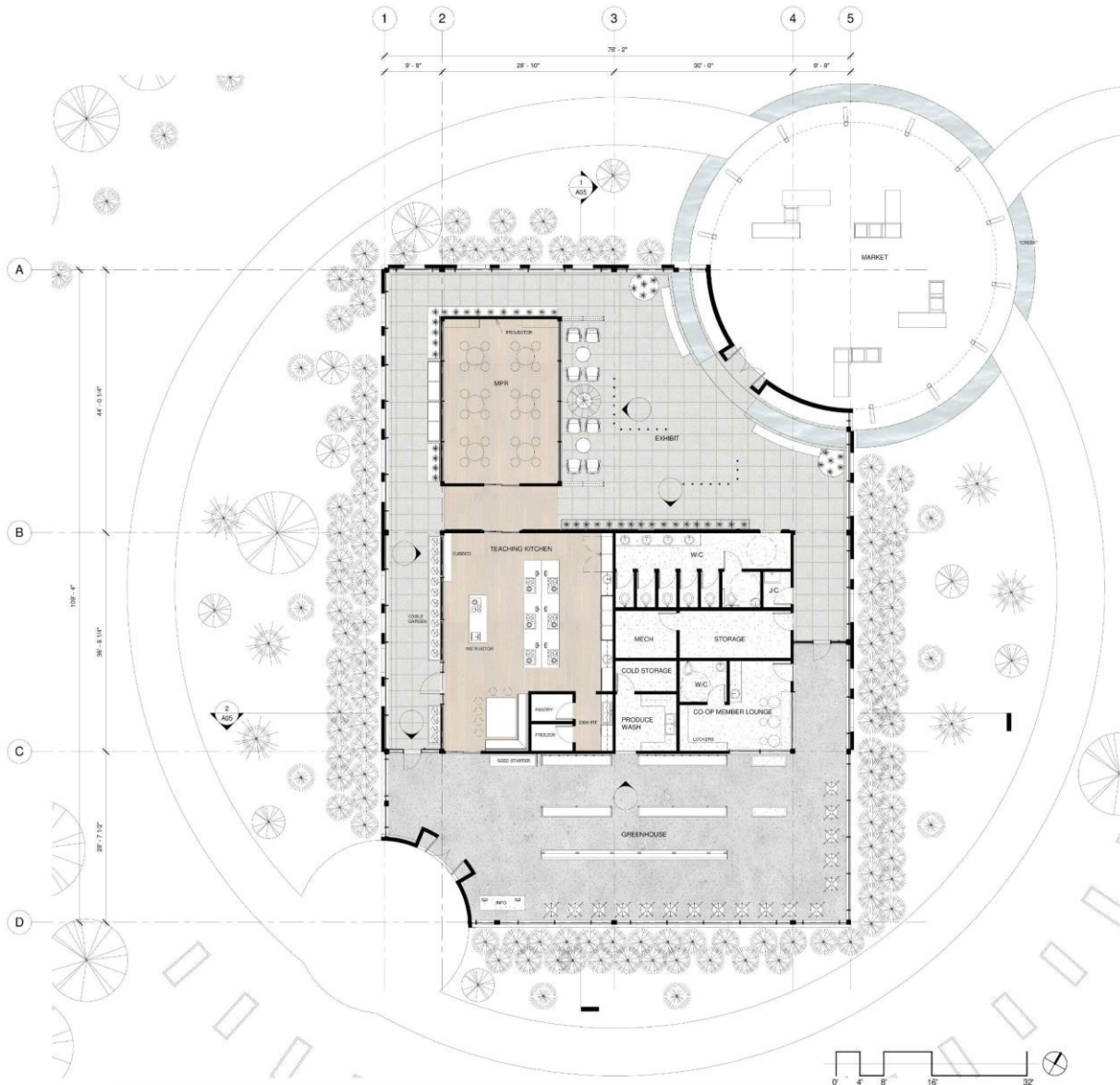


Fig. 28 Alga floor plan. NTS.

The exhibit vestibule at Alga is a space that can be used year-round to showcase installation art connected to this design concept, group events, or simply as a gathering space in the colder months. This space features a modular ceiling grid composed of birch and metal rods. The intention of the ceiling grid is dual purpose. One is aesthetically focused; the metal rods will guide lichen or vine growth that will evolve as the space ages. The second is functionally; for

hanging installations or vertical display rods that reach the floor grid. These rods become the structure for modular shelving, backing for exhibits, or as a circulation guide.



Fig. 29 & 30 Exhibit vestibule with display rods and sculptures  
Exhibit vestibule without display rods

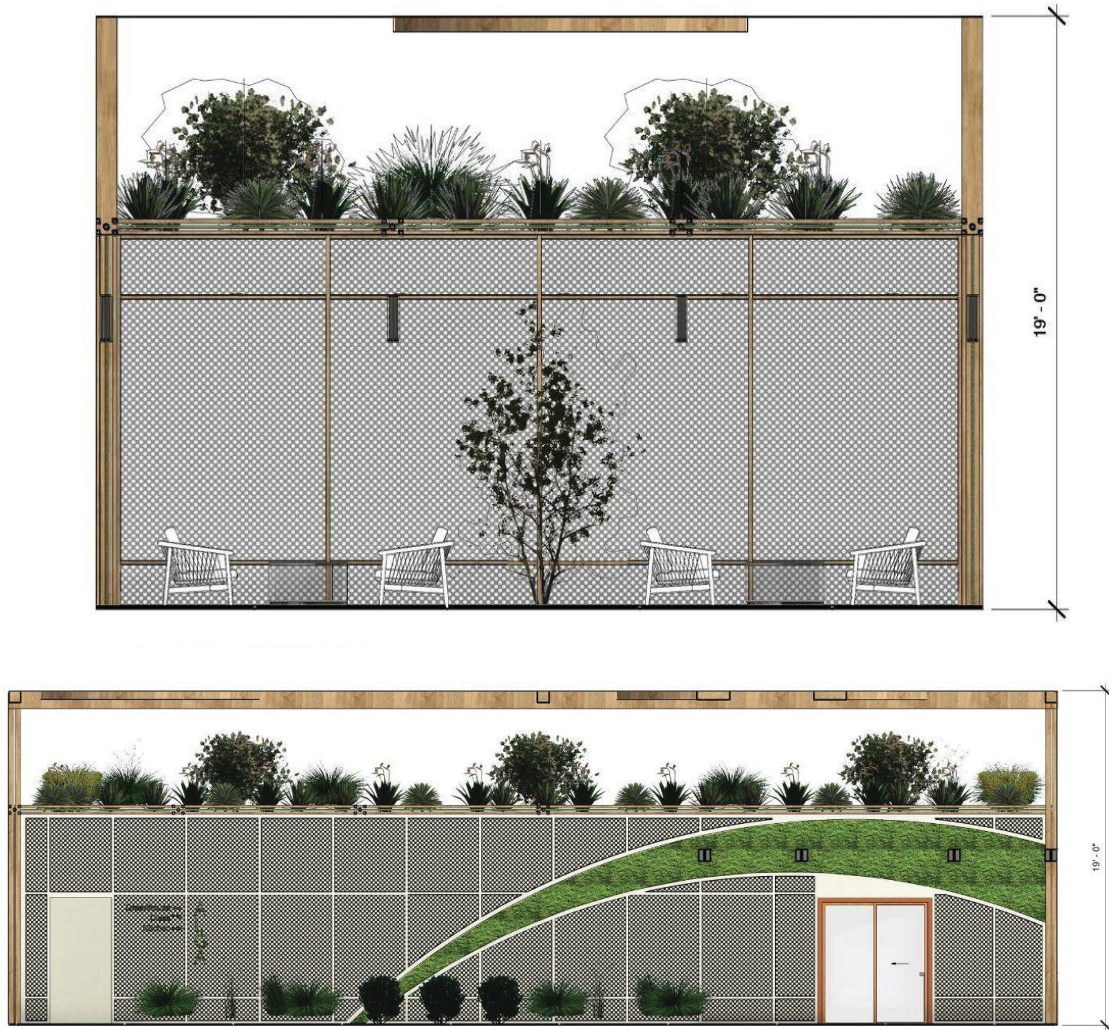


Fig. 31 West and South exhibit elevations. NTS.

The main materials used in Alga are concrete, perforated metal, birch, and glass. These materials reflect the nature of the Peguis Pavilion. The perforated metal panels are an expression of light and shadow, fluid as the days and seasons cycle, yet strong and reassuring in the space. As well, these materials were selected to withstand extra humidity in the space due to the interior planting. Alga's interior is planned as an interior landscape, with a duality between interior and exterior landscaping that is showcased through the facade's circular voids. Additionally, the floor in the exhibit vestibule and corridors was conceptualized to further push the boundaries of interior and exterior. It is composed of paving stones with sown grass in the reveals.

The back third of Alga is reserved for the Co-Op members, it features a greenhouse and its ancillary spaces and a member lounge. The greenhouse features high-intensive, organic, soil-based growing methods like what is used at Alegria Fresh, as well as traditional soil-based raised planter beds. Within the greenhouse zoning is space for cold storage and a produce wash station. Materials in the greenhouse are utilitarian in nature, concrete and treated wood, to speak to the function of the space.



Fig. 32 View of the greenhouse



Fig. 33 Second view of the greenhouse

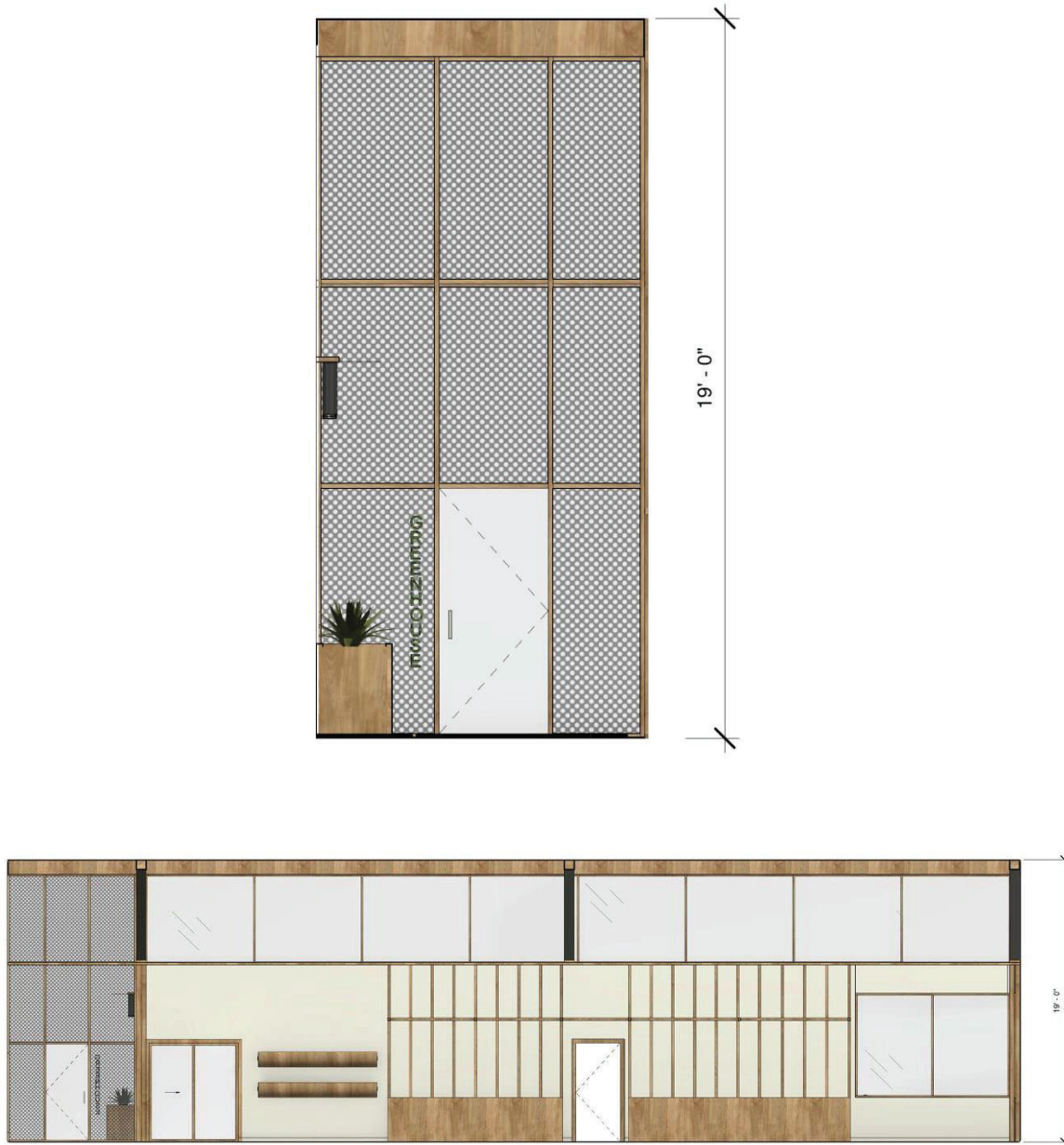


Fig. 34 Greenhouse corridor and north wall elevation. NTS.

The food grown on site can be sold in the year-round outdoor market, used in the teaching kitchen demonstrations, or be used personally. The teaching kitchen will feature lessons based on seasonal ingredients, canning and processing, and cooking with foraged ingredients. The corridor outside the teaching kitchen features a small edible garden.



Fig. 35 Kitchen corridor and edible garden



Fig. 36 MPR and kitchen corridor elevation. NTS.

The teaching kitchen is pragmatic and open for experimentation and exploration. The space features stainless steel countertops, closed cabinetry under each station for appliances and tools, and tablets to follow instructions and tutorials. A fixed table is also featured in the space to share the rewards of the class afterwards or for group table tasks. The teaching kitchen is located adjacent to the MPR, glass double doors of each space open parallel to one another, to encourage the use of both spaces for large events.



Fig. 37 Teaching Kitchen

The market space is delineated by a wood semi-sphere frame. In colder months or poor weather, the frame can be enclosed with fabric panels. For the sellers, modular furniture has been designed with flat surfaces or bins for food display. The non-fixed furniture creates a flexible space that the community can assemble and disassemble as necessary.



Fig. 38 Outdoor Market



Fig. 39 Approach to Alga

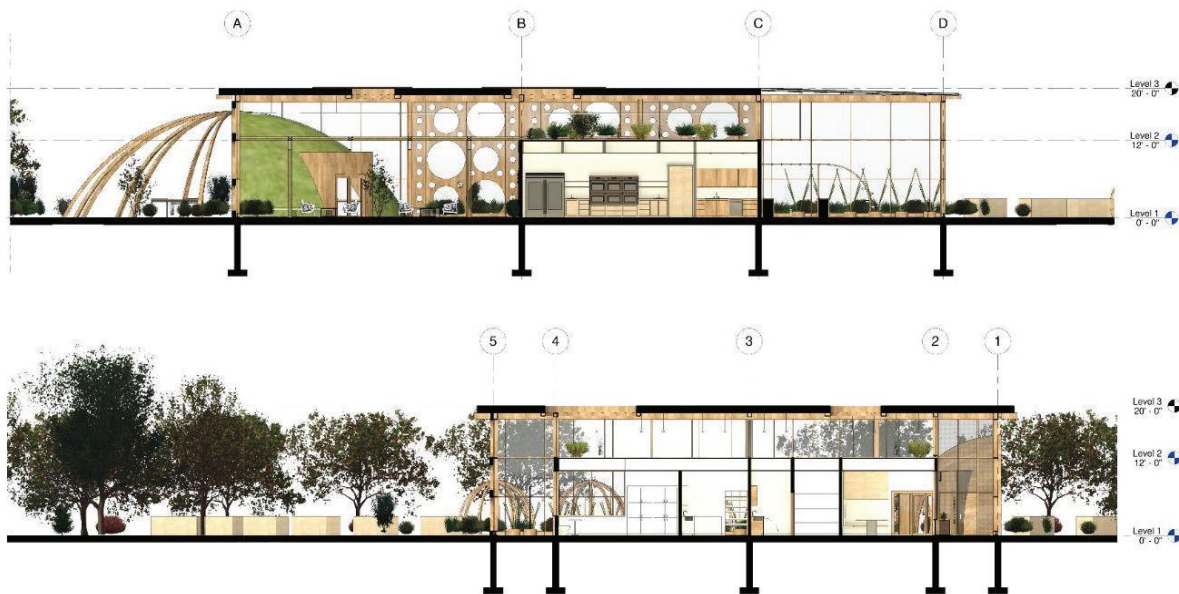


Fig. 40 East-West &amp; North-South sections. NTS

Alga is a sensory focused pavilion, incorporating interior planting and activity-based spaces for the community. Whereas programming within the Peguis Pavilion explores passive sensory experiences, capitalizing on the current use of the space. With minimal changes to the exterior of the building, the secret of the Peguis interior is best viewed from the north. For further details of either pavilions' construction, see Appendix A for the technical drawings.

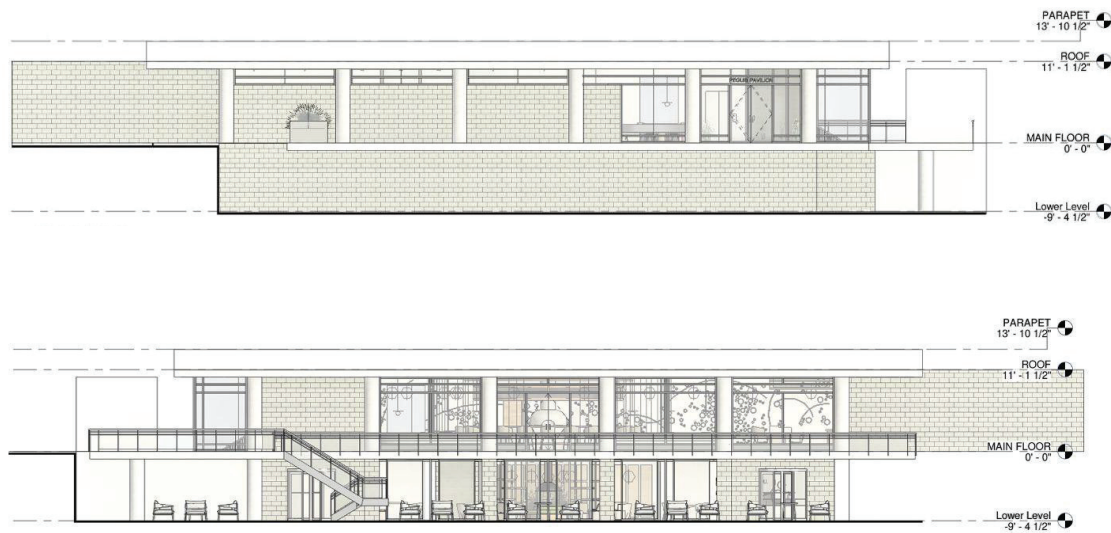


Fig. 41 South and North exterior elevations, Peguis Pavilion. NTS

The interior of the Peguis Pavilion houses the existing Prairie's Edge, a restaurant specializing in Manitoba cuisine and ingredients, highlighting a chef's process and product. Prior to entering the restaurant, the visitor's rest in the waiting lounge, a moment of quiet and anticipation. From there, they are taken down a corridor with walls featuring lichen accent rings, an artistic expression of lichen, to the lounge. The materials used in the Peguis pavilion are consistent with modernist design. The space features a few upholstery patterns for softness, but mainly utilizes the textures of wood, metal, glass, and concrete and unique material connections.

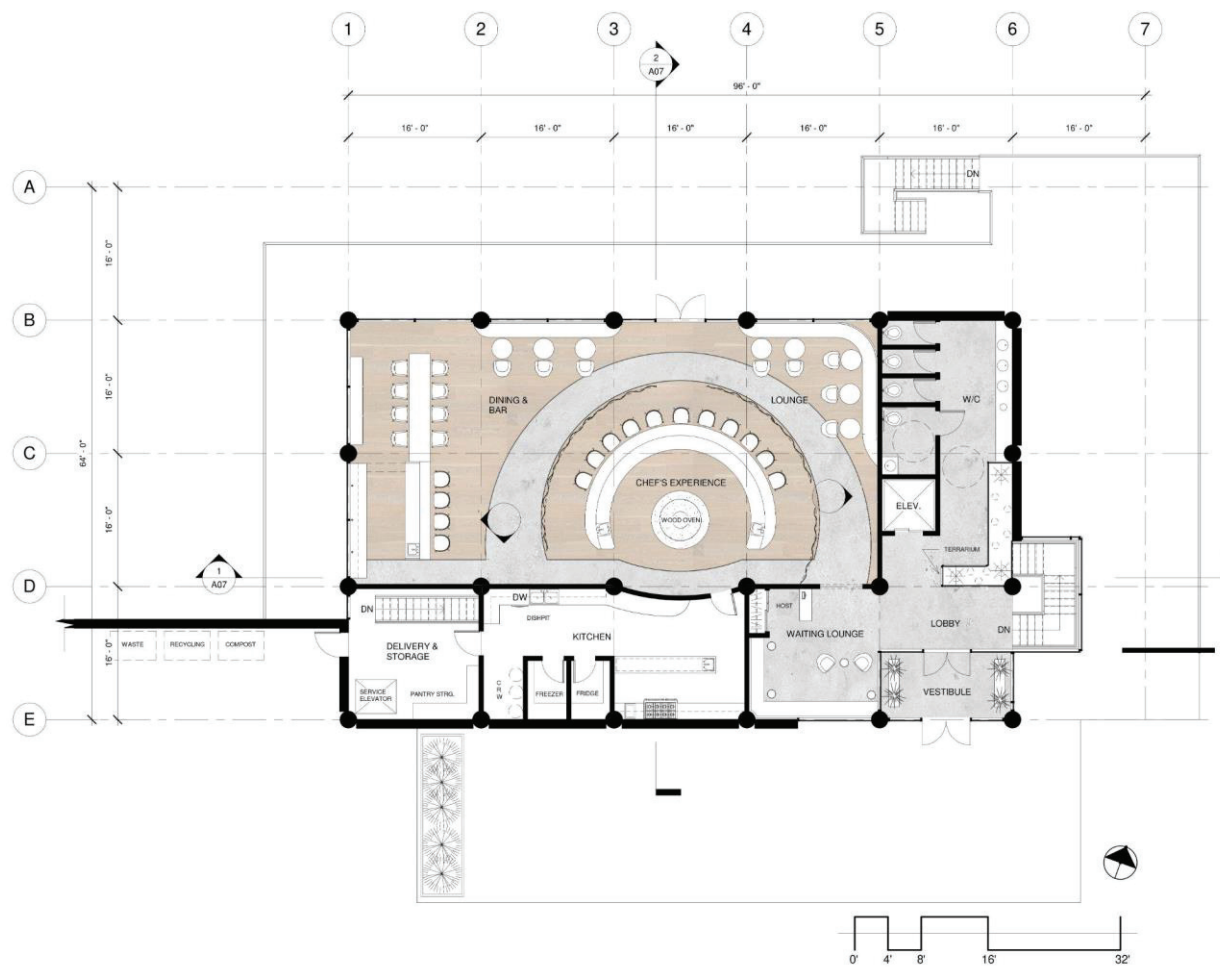


Fig. 42 Main floor plan. NTS.



Fig. 43 Lounge corridor

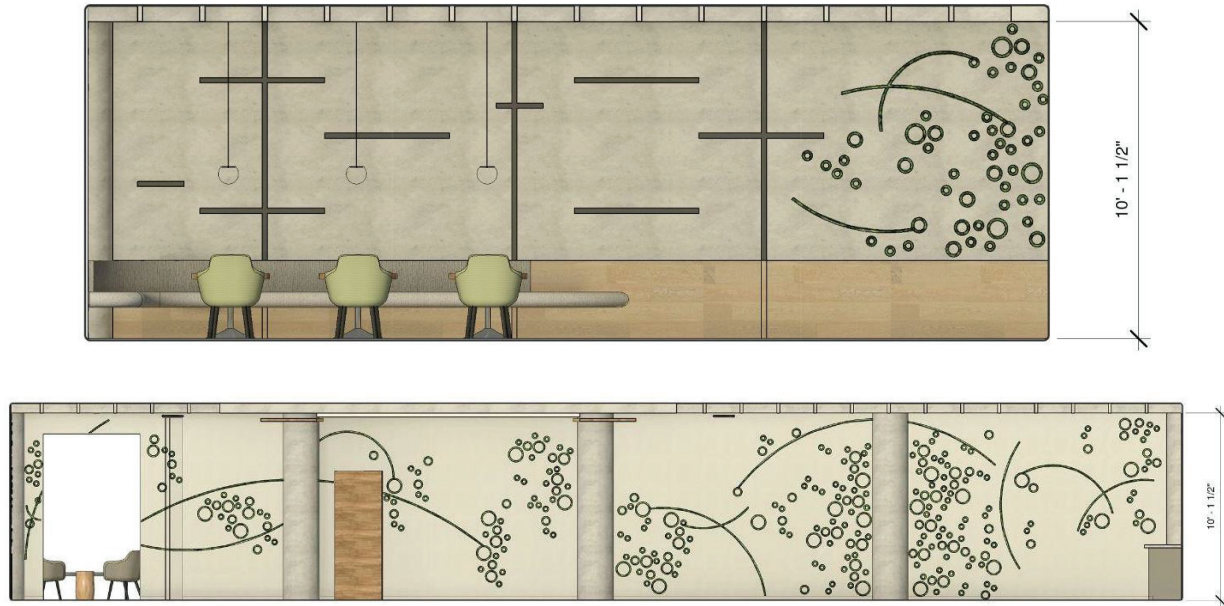


Fig. 44 Lounge corridor and dining wall elevations. NTS.

Adjacent to the lounge is the Chef's Experience bar where guests can watch the process and enjoy freshly cooked meals. Surrounding a wood fired oven and the working counter, users sensorily experience the act of cooking, as was explored in the Noma 2.0 precedent. The Chef's Experience is enclosed by fire-resistant and acoustic curtains to create a focused and intimate atmosphere that can be retracted in the case of larger events.



Fig. 45 Chef's Experience

Further into the space, there is a dining room and bar featuring a community table. This dining space is bright and open, with a focus on the mixologist. The community table is a part of the bar top, creating an atmosphere for conversation and community connections.



Fig. 46 & 47 Views of the dining room and bar



Fig. 48 Dining room elevation. NTS.

The lower level of the pavilion features an expanded Skater's Hall and By U community retail corner. The space has been transformed into an indoor-outdoor experience with pivot doors along the entire north wall. The retail corner features seasonal drinks and retail items, or food products made by the community. In this way the community shapes the Peguis Pavilion by offering seasonal products and items that are inspired by and grown on site. The retail corner contributes to the community economy on a small scale and can inspire and provide an avenue for entrepreneurship and beginner makers.

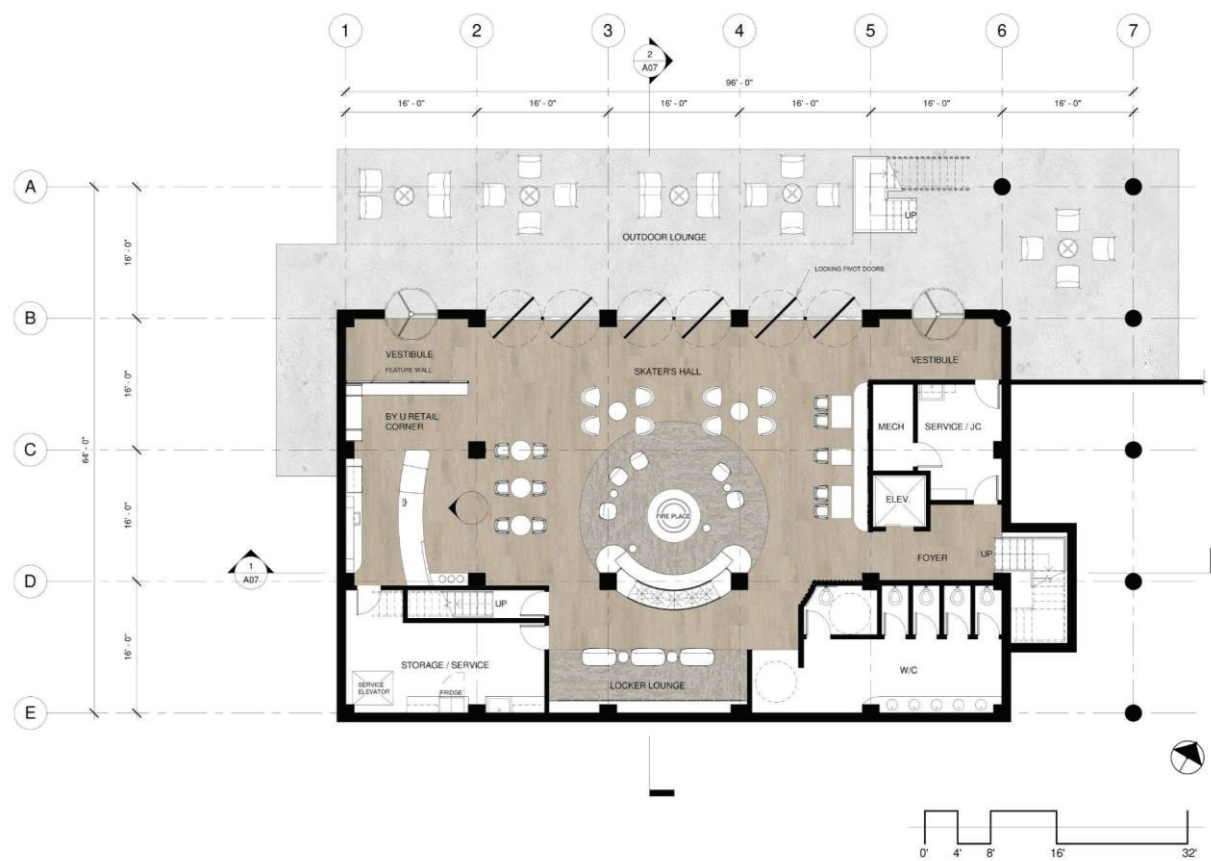


Fig. 49 Lower floor plan. NTS



Fig. 50 By U Retail space.



Fig. 51 By U Retail Elevation. NTS.

A unique point-light grid creates visual interest in the lower-level ceiling, detracting from the low ceiling heights and deep, windowless space. Additional lighting details were incorporated into the column floor and ceiling connections.

Keeping the existing Skater's Hall function and expanding the design was a conscious decision based on Kildonan Park's master plan goals. The park's goal to be a destination for all seasons is supported by the skating pond, however the existing space was small with little storage. The expanded hall now features a locker lounge, electric fireplace, and plenty of mixed seating for the community. It is a space to attract people of all ages throughout the year, to enjoy the views and products of the seasons.



Fig. 52 Skater's Hall



Fig. 53 Skater's Hall, view two

The program and planning for the Peguis Pavilion follows a circular plan surrounding a fire feature, with rectilinear service spaces at the south of the building. In building's sections the stacked planning is visible, with community and services spaces atop one another.

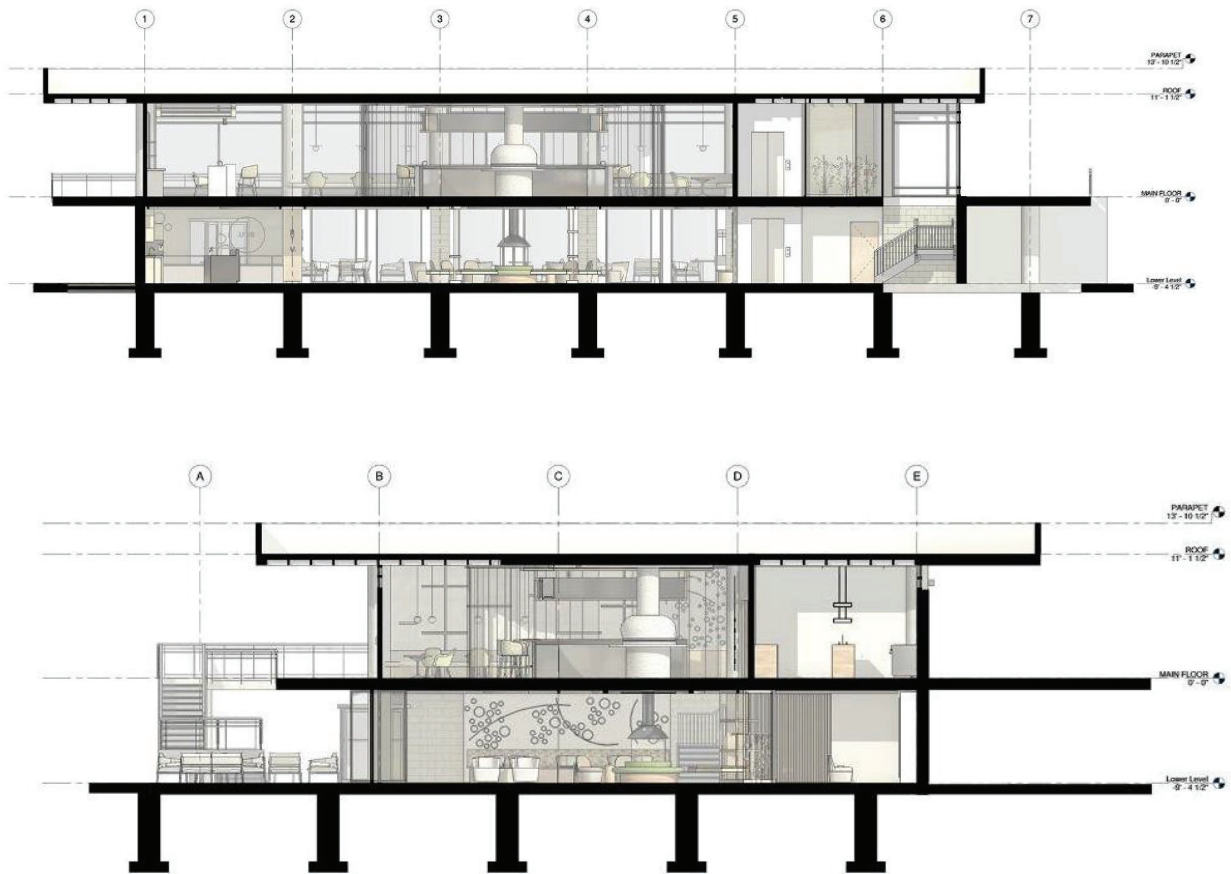


Fig. 54 East-West and North-South Peguis sections. NTS.

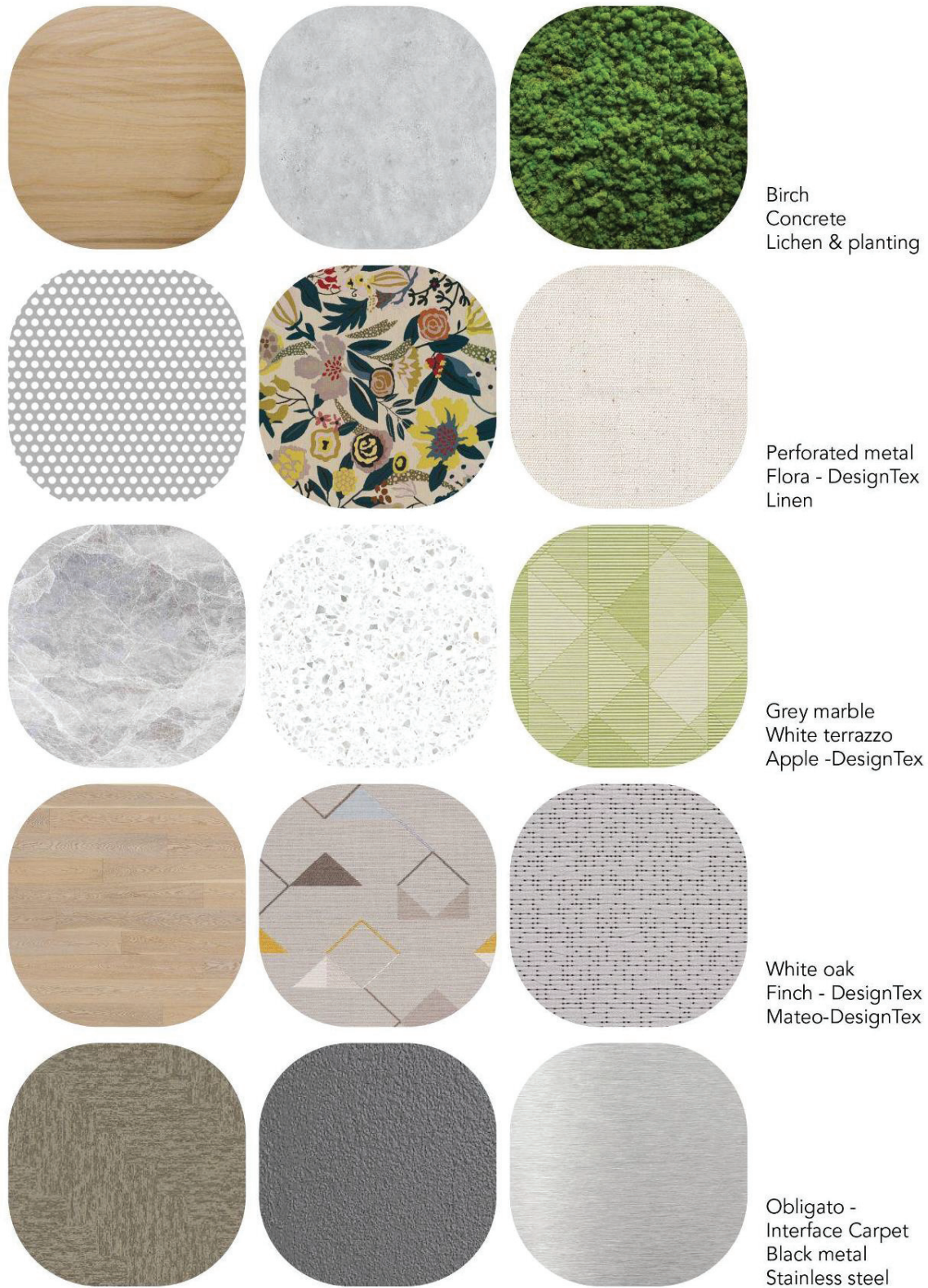


Fig. 55 Material board for the Peguis and Alga Pavilions

## Chapter 9: Conclusion and Recommendations

The themes explored in this practicum ranged from environmental value and stewardship, practical wisdom and skills, food systems and deterioration, community and place, and the design of systems and spaces to support all the above. To design space for an urban deep ecology, spaces must be designed with consideration for the people of the community, their basic needs and the activities and amenities that can activate and encourage community values.

The final design for Alga and Peguis pavilions is a product of the theory explored in this paper, and a response to an increase in value for home-grown food and naturalized built environments. Alga explores the deep ecology theory and is a space that is conscious of a society that is still learning about its environment. It is a space that is shaped by the community members and visitors and invites them to interact with the space as they are most comfortable. The pavilion will evolve with new art displays, interior plant progression, seasonal greenhouse items, and most importantly community interactions. The space offers flexibility and modularity that can adapt as discussions for community impact are held in the MPR. The kitchen, greenhouse and market will facilitate the exchange of goods, tips, and tricks to growing, and life skills that support healthy and sustainable living. Future consideration for the Alga pavilion would be incorporated at the mechanical and site level of planning, outside the scope of this practicum.

To better incorporate a fully circular system design, Alga has the potential to have a photovoltaic façade, for solar energy collection. As well, a “creek” was designed surrounding the outdoor market that can be used for water collection and filtration to feed the greenhouse and community garden plants. For the Peguis pavilion, it is recommended to introduce solar panels to the roof or a water collection system.

The Peguis Pavilion is an iconic node in Kildonan Park that is newly enhanced with the updated program. The pavilion has more space for community socialization in the lower level that nudges users to experience the exterior in most weather with the new pivot doors and outdoor lounge. The main level features a sensory focused dining space that showcases the products of the region, introduced with anticipation, and fulfilled with conversation. The remodeled pavilion is

true to its modern material palette, influencing the Alga pavilion in texture, material, and proportions. The two pavilions are an expression of theory through design.

This practicum adds to interior design research as a means of examining current human conditions and issues, environmental thought and food systems, and exploring designed spaces that promote behaviour or patterns that can lead to changes to those conditions. The realities of climate change demand that global individual and communal action must be altered. Two major components that can promote change is our collective value of nature and environment, and more tangibly, the global food system. The tangible component, food, provided access to the intangible, value of nature. From here, the initial research questions were linked and answered.

Environmental thought and value for nature is spread through repeated actions and lessons across generations. Sharing this information takes a connected community, one that grows as discussions are held, committees are formed, lessons are learned, and place value takes shape. It is an intimate process that also requires community members valuing one another, and the information that each individual holds. The integration of gathering spaces varying in size, furniture layouts and style supports this. As well, pulling from the regional flora and fauna to create a material and texture palette can subtly reinforce a connectedness between people and place. Food growing was used to tangibly connect generations of community members and promote sustainable and valuable skills.

A successful urban food system is one that is visible and active for its community. It is a food system that requires involvement on the small scale, promotes a steady local economy, and values the people that are at the root of the system. In the final design the greenhouse and gardens allow visitors to connect to the growing process, and the landscape planning encourages interaction with various forms of natural environments. The restaurant in Peguis is an active experience of the cooking process and products. The growing systems introduced are traditional and new, incorporating organic intensive growing technology that contributes to the evolving discussion of new sustainable food systems.

Design can support these spaces by looking at the community, its programs, and its downfalls. Contributing where there is success and intervening where there needs improvement. In Winnipeg there are few permanent local food markets, this practicum design is a conceptual urban food system that values nature's processes in the heart of a park – a familiar urban experience of nature. In this practicum the design control begins with the location. Kildonan Park supports sensory immersion in nature through landscape planning and programmatic spaces, promoting environmental thought and value. Patterns of behaviour that support value of environment and sustainable actions are facilitated in spaces that house activities to encourage community interaction and embed the learnings and processes of food growing in discernible and teachable actions.

The theory explored in this practicum connects two philosophy subjects: environment and food, that initially distanced from the study of interior design. The theme of community is largely present in both philosophies and creating community space that can foster the common themes of these theories is where interior design plays its role. Interior design is the practice of creating sustainable (lasting) spaces with the planning and details necessary for functional spaces at the human scale. As a result of this, the functional spaces in this program and the core of the theory can be extrapolated into community spaces anywhere. The final program and practicum of this design has the ability to influence future spaces that teach the value of environment and the need for its care, community involvement and knowledge, and local economy-building spaces, all tailored to the unique needs and conditions of an urban interior. Furthermore, this practicum can be evaluated by examining the creative problem solving of design, the niche solutions to local-global issues and how to tackle them from the smallest building scales upwards.

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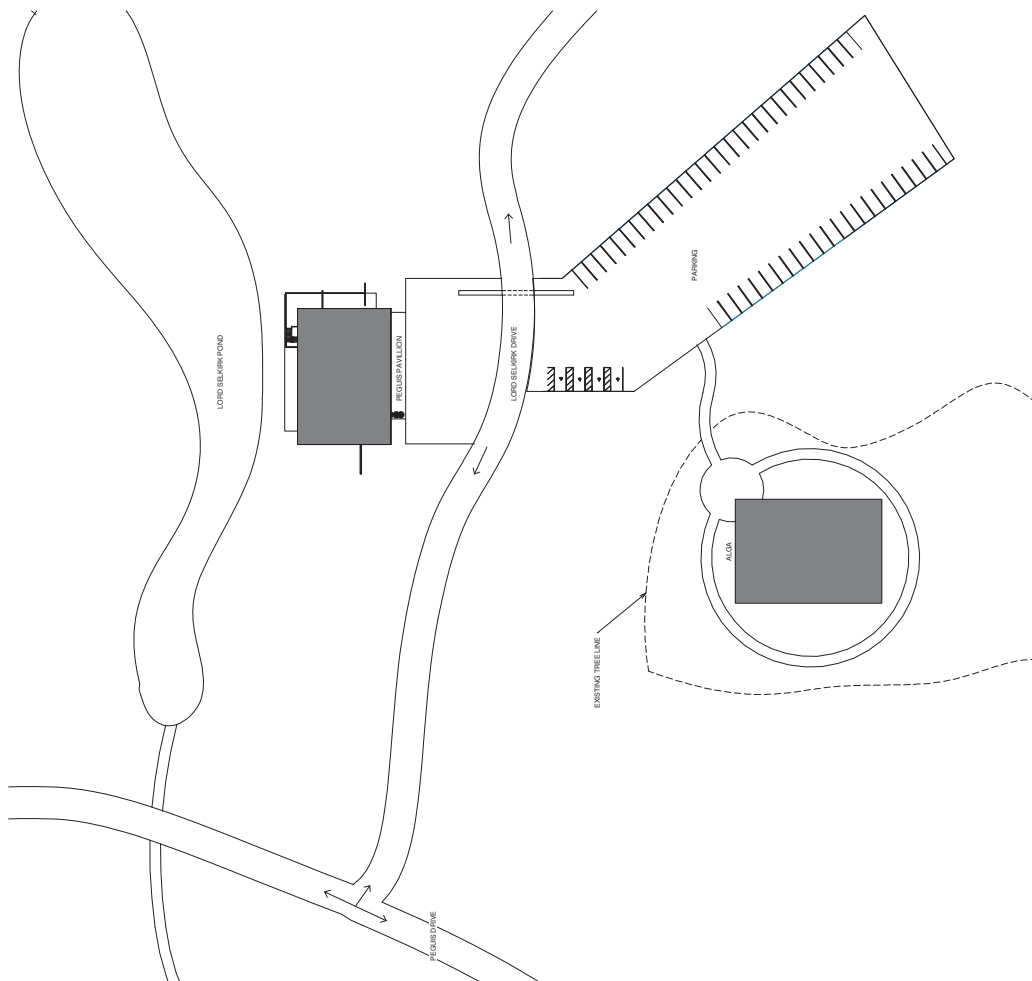
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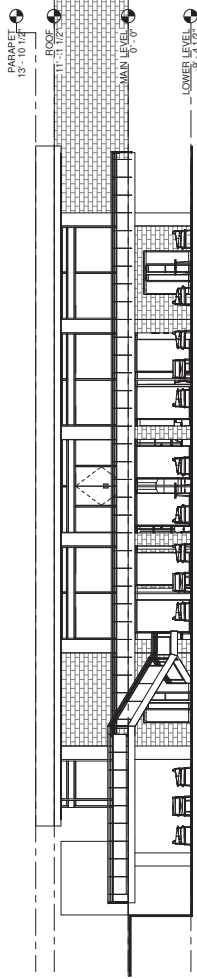
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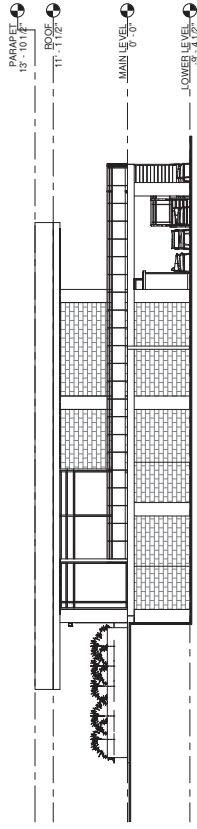
## Appendix A: Technical Drawings



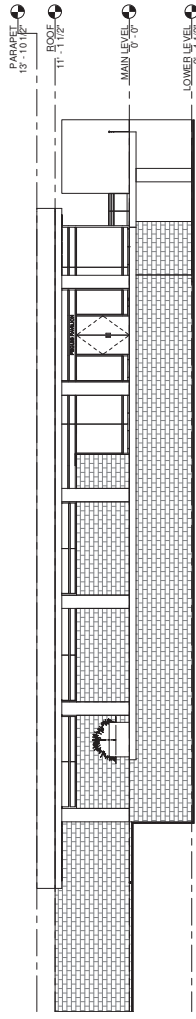
MARIA DYSON PEGUIS PAVILION SITE	
Project number	1
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	Checker
A01	
Scale 1" = 40'-0"	



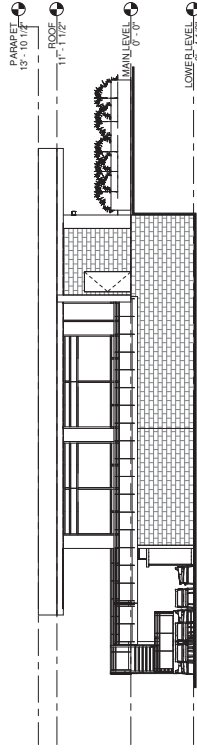
② NORTH ELEVATION  
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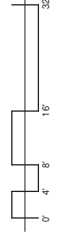
① EAST ELEVATION  
1/8" = 1'-0"



③ SOUTH ELEVATION  
1/8" = 1'-0"



④ WEST ELEVATION  
1/8" = 1'-0"

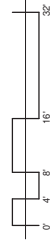


① EAST ELEVATION  
1/8" = 1'-0"

MARIA DYSON PEGUIS PAVILION EXTERIOR ELEVATIONS	
Project number	1
Date	JUNE 2021
Drawn by	Author
Checked by	Checker
A02	
Scale	

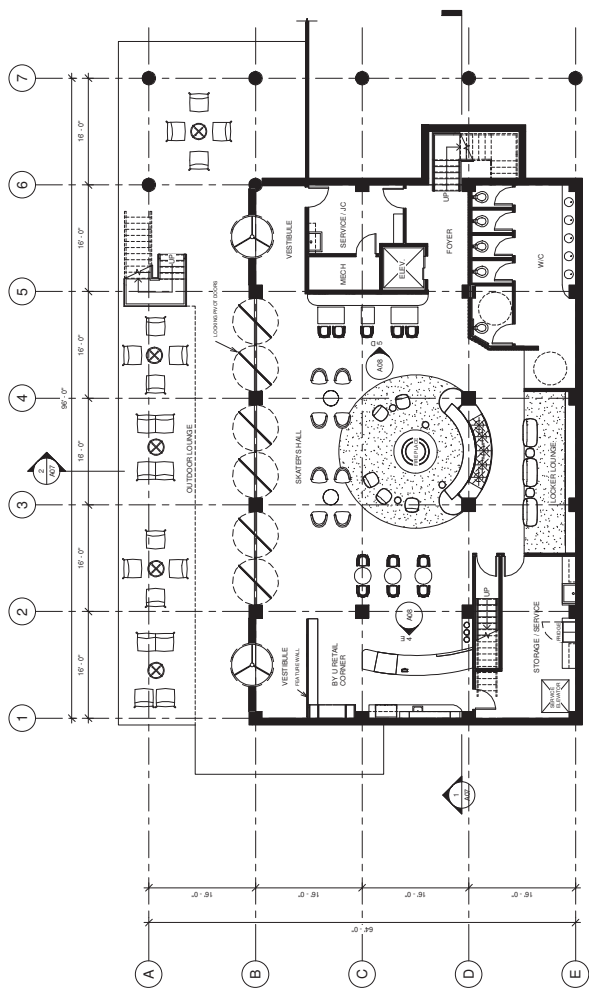


① MAIN LEVEL  
1/8" = 1'-0"

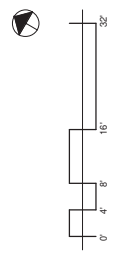


Project number	1
Date	JUNE 2021
Drawn by	Au Thor
Checked by	Checker
A03	
Scale	1/8" = 1'-0"





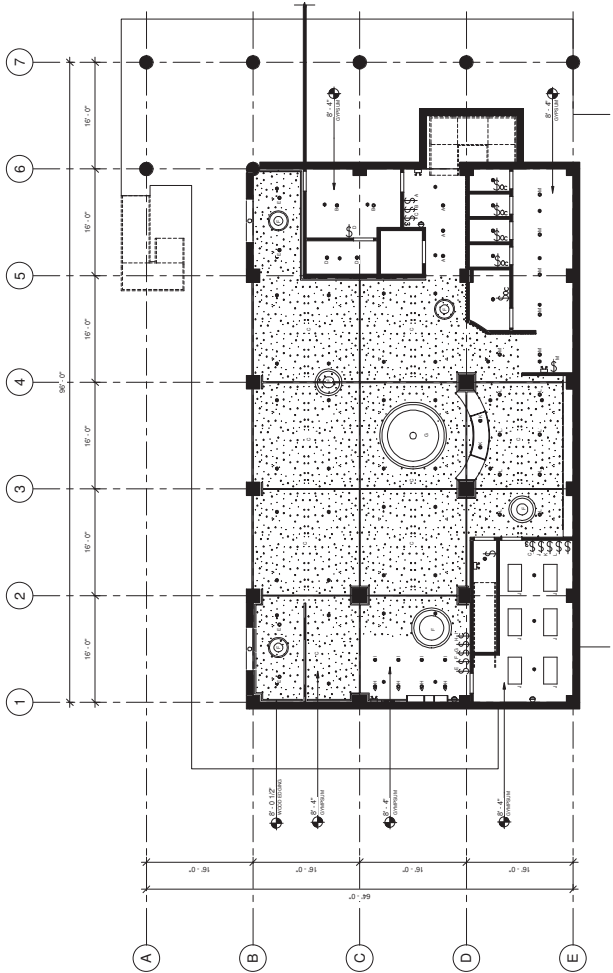
① LOWER LEVEL  
1/8" = 1'-0"



MARIA DYSON  
PEGUIS PAVILION  
LOWER LEVEL

Project number	1
Date	JUNE 2021
Drawn by	Author
Checked by	Checker
Scale	1/8" = 1'-0"

A05

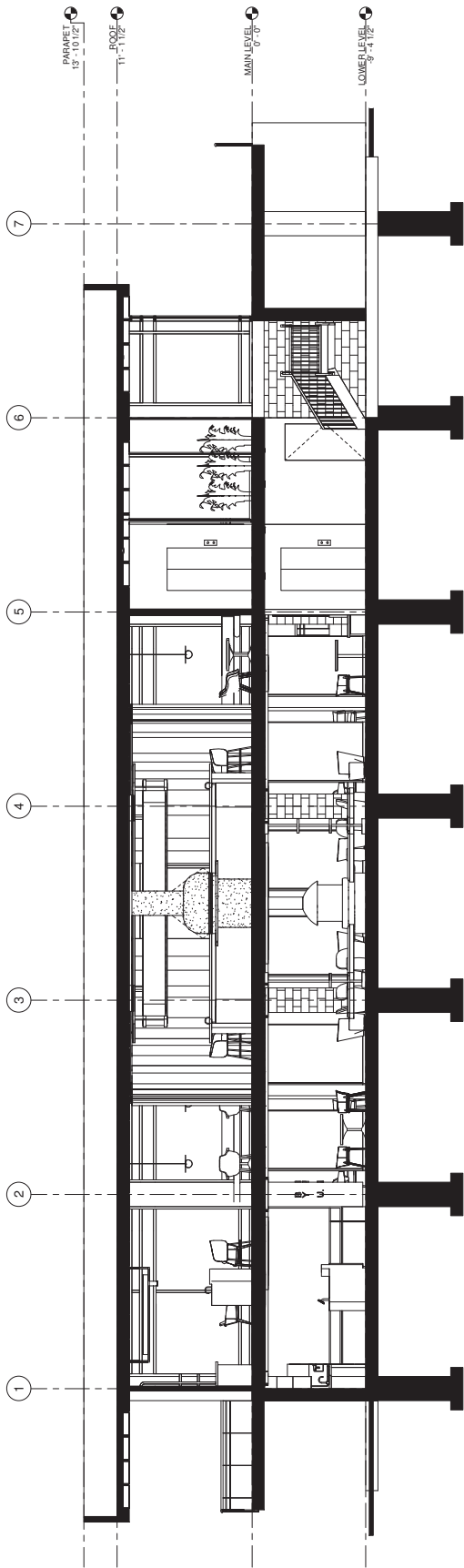


① LOWER LEVEL  
1/8" = 1'-0"

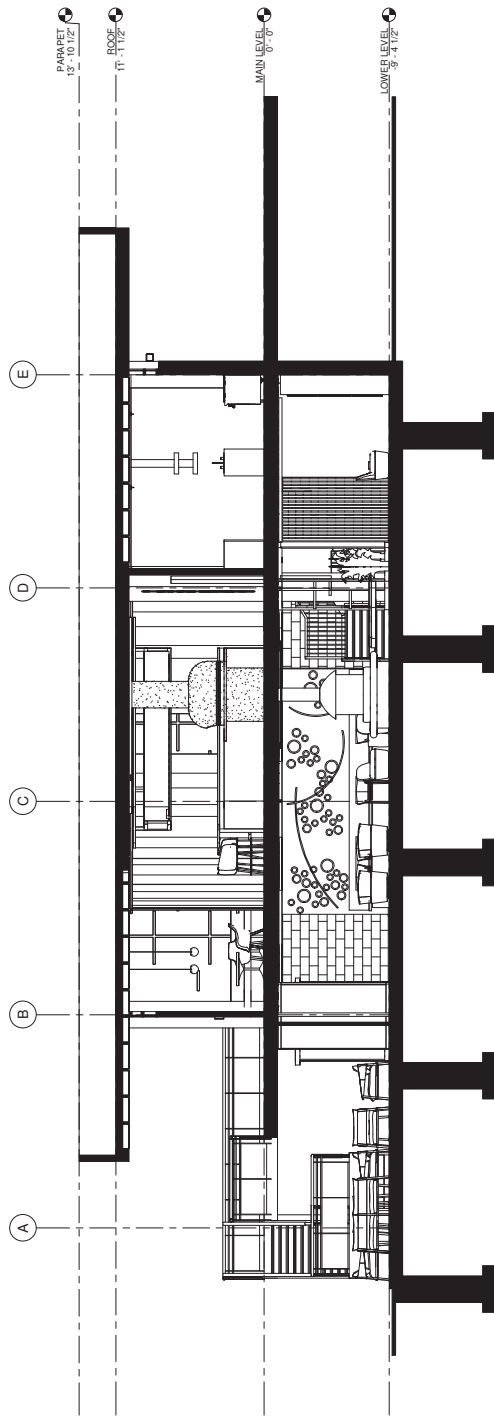
RCP LEGEND	
●	4" DIA. VENT. PIPE
○	6" DIA. VENT. PIPE
○	8" DIA. VENT. PIPE
○	10" DIA. VENT. PIPE
○	12" DIA. VENT. PIPE
○	14" DIA. VENT. PIPE
○	16" DIA. VENT. PIPE
○	18" DIA. VENT. PIPE
○	20" DIA. VENT. PIPE
○	22" DIA. VENT. PIPE
○	24" DIA. VENT. PIPE
○	26" DIA. VENT. PIPE
○	28" DIA. VENT. PIPE
○	30" DIA. VENT. PIPE
○	32" DIA. VENT. PIPE
○	34" DIA. VENT. PIPE
○	36" DIA. VENT. PIPE
○	38" DIA. VENT. PIPE
○	40" DIA. VENT. PIPE
○	42" DIA. VENT. PIPE
○	44" DIA. VENT. PIPE
○	46" DIA. VENT. PIPE
○	48" DIA. VENT. PIPE
○	50" DIA. VENT. PIPE
○	52" DIA. VENT. PIPE
○	54" DIA. VENT. PIPE
○	56" DIA. VENT. PIPE
○	58" DIA. VENT. PIPE
○	60" DIA. VENT. PIPE
○	62" DIA. VENT. PIPE
○	64" DIA. VENT. PIPE
○	66" DIA. VENT. PIPE
○	68" DIA. VENT. PIPE
○	70" DIA. VENT. PIPE
○	72" DIA. VENT. PIPE
○	74" DIA. VENT. PIPE
○	76" DIA. VENT. PIPE
○	78" DIA. VENT. PIPE
○	80" DIA. VENT. PIPE
○	82" DIA. VENT. PIPE
○	84" DIA. VENT. PIPE
○	86" DIA. VENT. PIPE
○	88" DIA. VENT. PIPE
○	90" DIA. VENT. PIPE
○	92" DIA. VENT. PIPE
○	94" DIA. VENT. PIPE
○	96" DIA. VENT. PIPE
○	98" DIA. VENT. PIPE
○	100" DIA. VENT. PIPE



MARIA DYSON	
PEGUIS PAVILION	
LOWER LEVEL RCP	
Project number	1
Date	JUNE 2021
Drawn by	Author
Checked by	Checker
A06	
Scale	
1/8" = 1'-0"	



① SECTION 1  
1/4" = 1'-0"



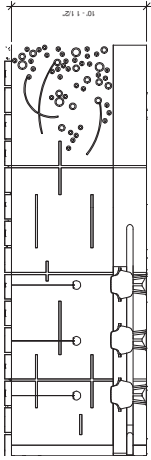
② SECTION 2  
1/4" = 1'-0"

# MARIA DYSON PEGUIS PAVILION SECTIONS

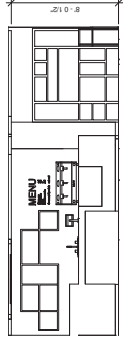
Project number	1
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	Chadler
Scale	1/4" = 1'-0"

A07

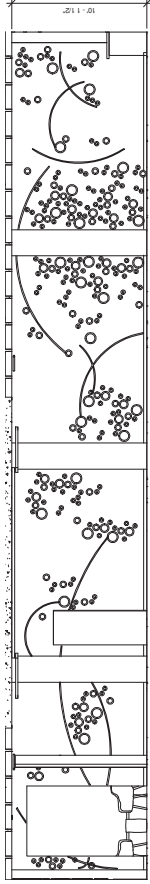




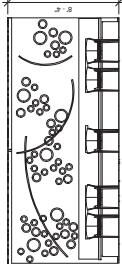
① A. CORNER HALL ELEVATION  
1/4" = 1'-0"



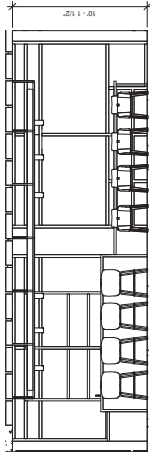
④ E. BYU RETAIL ELEVATION  
1/4" = 1'-0"



② B. SOUTH DINING ELEVATION  
1/4" = 1'-0"



⑤ D. WEST CAFETERIA WALL ELEVATION  
1/4" = 1'-0"



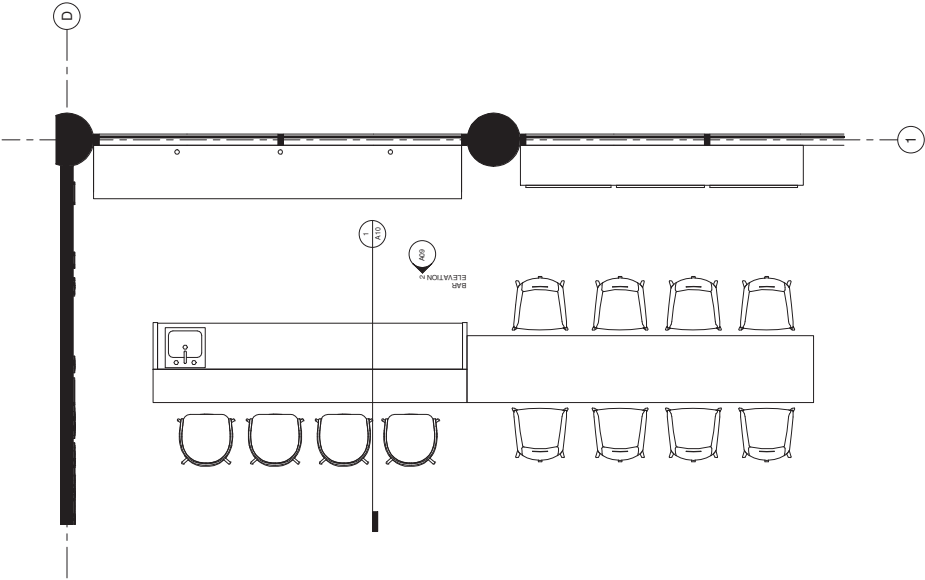
③ C. WEST DINING ELEVATION  
1/4" = 1'-0"



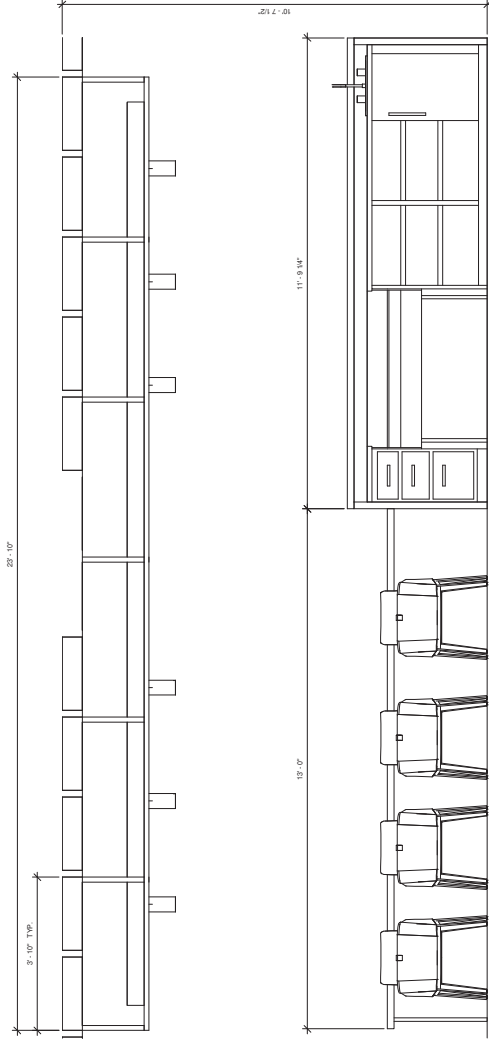
MARIA DYSON  
PEGUIS PAVILION  
INTERIOR  
ELEVATIONS

Project number	1
Date	JUNE 2021
Drawn by	Author
Checked by	Checker
Scale	1/4" = 1'-0"

A08



1 BAR PLAN CALL OUT  
1/32" = 1'-0"

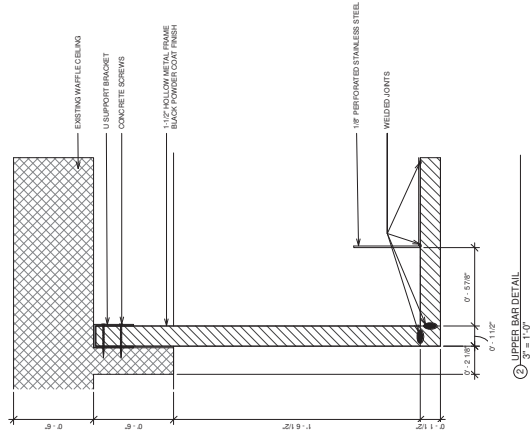
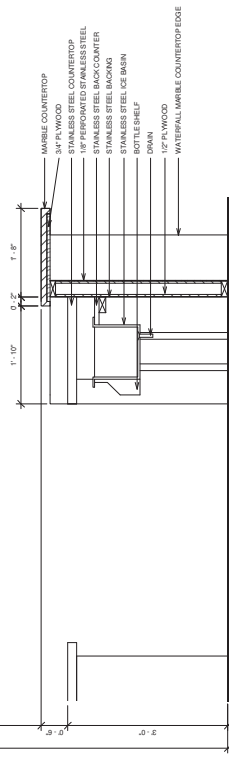
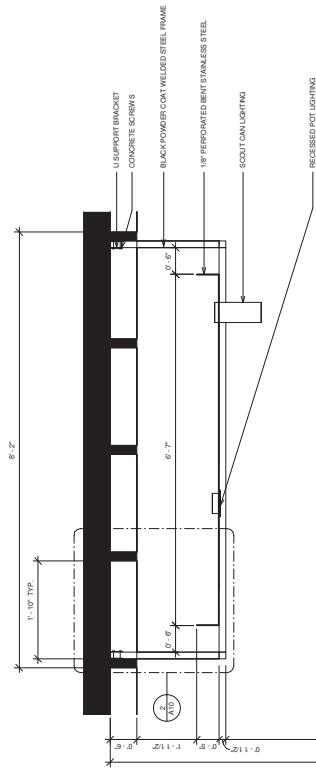


2 BAR ELEVATION  
3/4" = 1'-0"



MARIA DYSON	
PEGUIS PAVILION	
BAR DETAIL	
Project number	1
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	Checker
Scale	As indicated

A09



MARIA DYSON  
PEGUIS PAVILION  
BAR DETAIL CONT.

PEGUIS PAVILION  
BAR DETAIL CONT.

BAR DETAIL CONT.

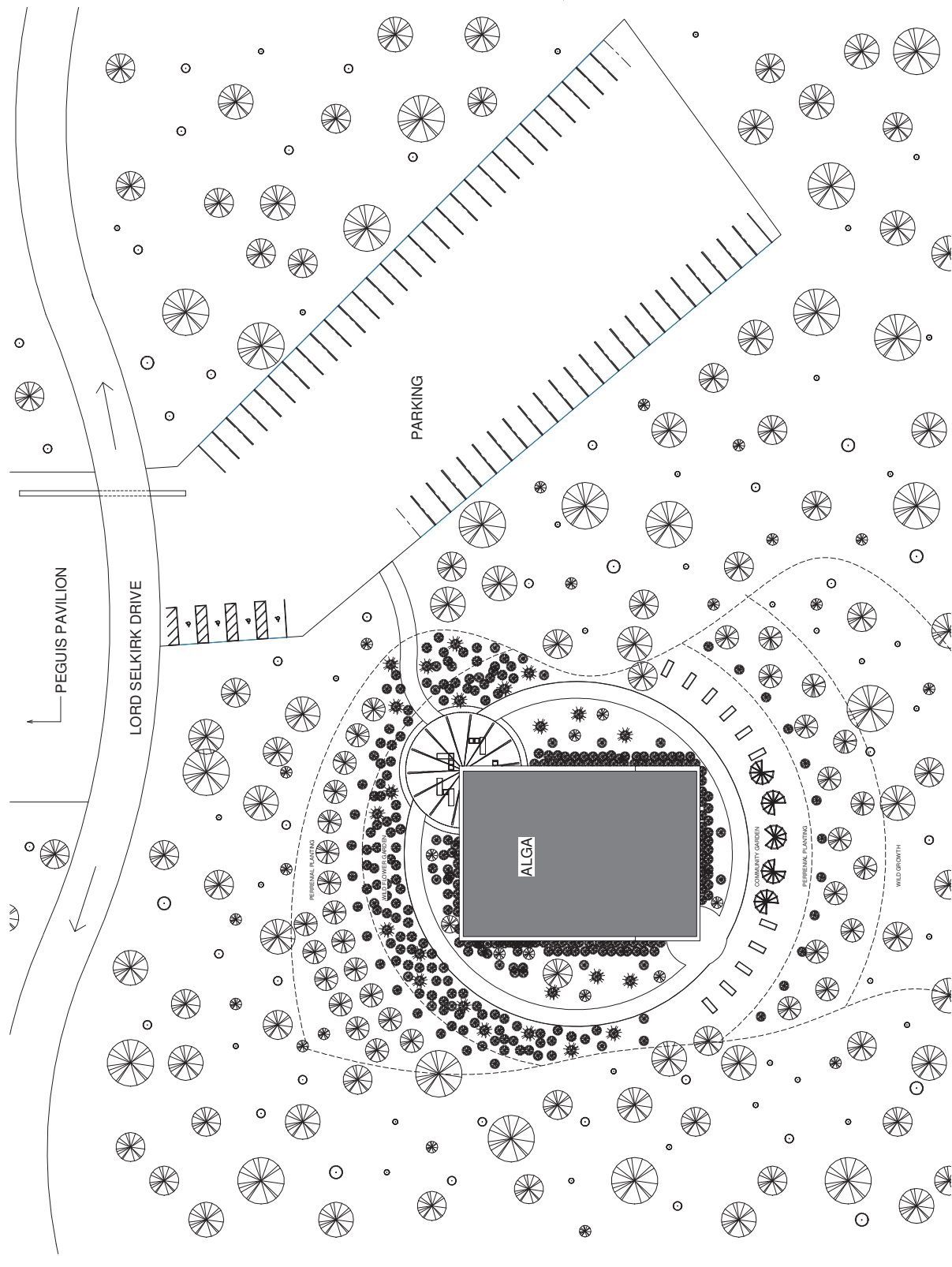
Project number	1
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	Checker
A10	
Scale	As indicated

Project number	1
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	Checker
A10	
Scale	As indicated

Project number	1
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	Checker
A10	
Scale	As indicated

Project number	1
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	Checker
A10	
Scale	As indicated

Project number	1
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	Checker
A10	
Scale	As indicated



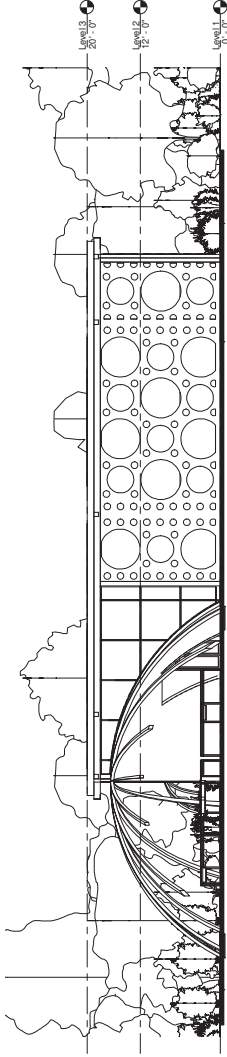
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Date		JUNE 2021
Drawn by		MARIA DYSON
Checked by		Checker

Maria Dyson	
ALGA	
SITE	

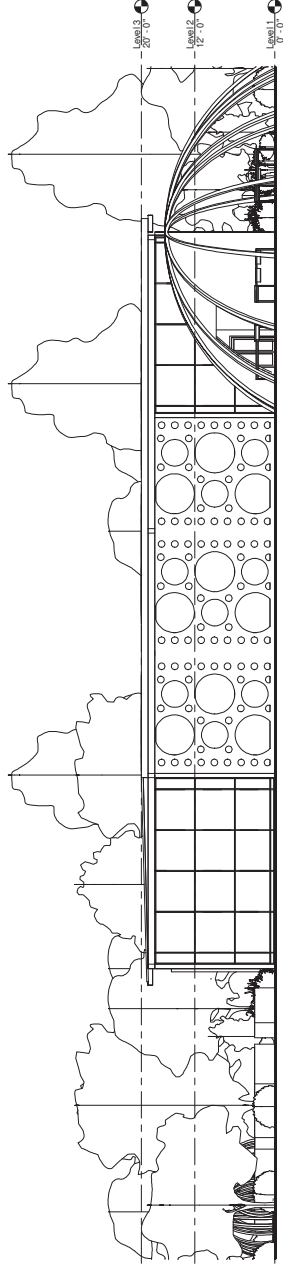
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Date		JUNE 2021
Drawn by		MARIA DYSON
Checked by		Checker

A01

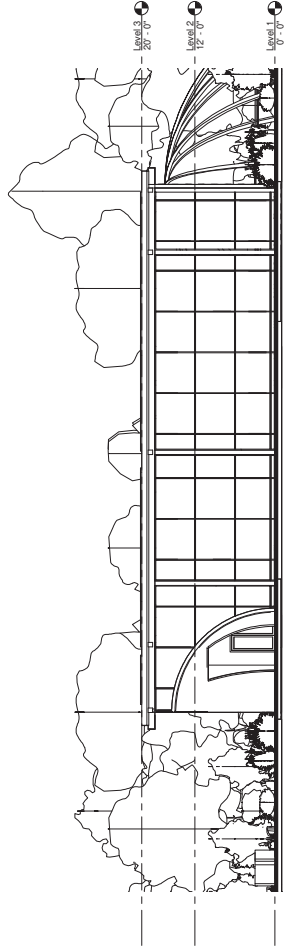
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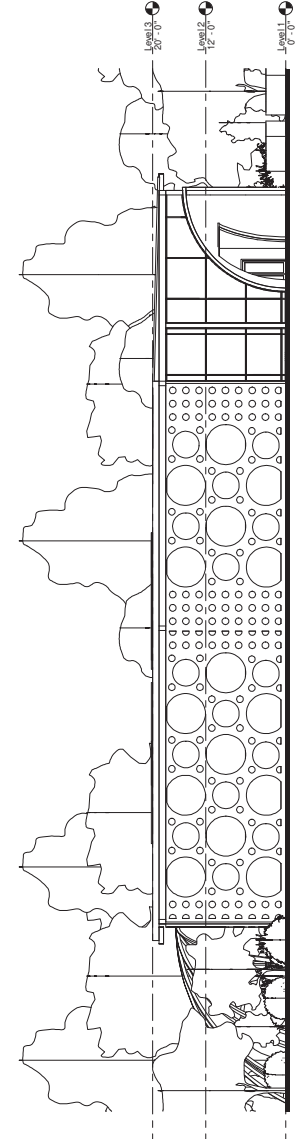
② North  
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① East  
1/8" = 1'-0"



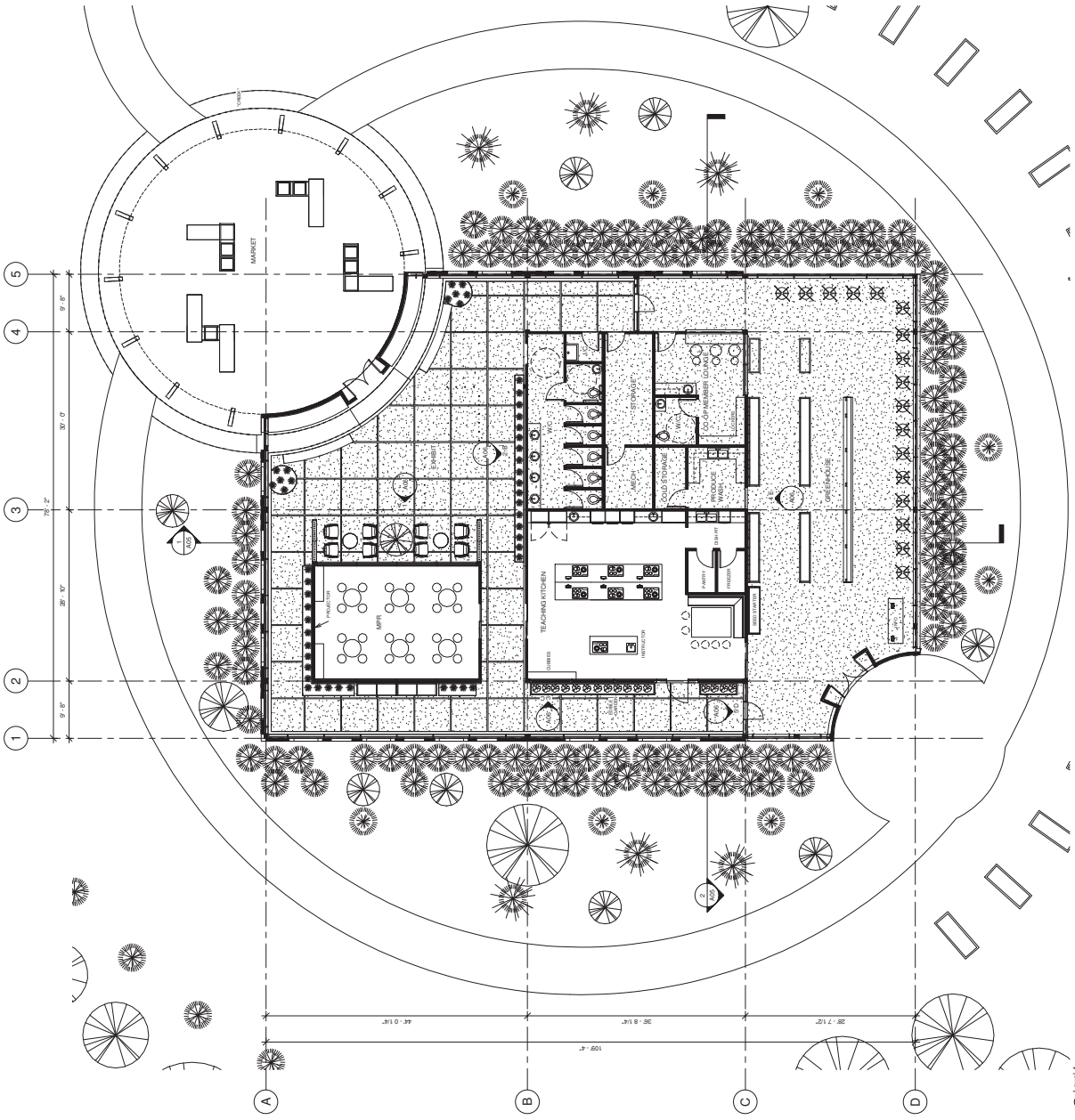
③ South  
1/8" = 1'-0"



④ West  
1/8" = 1'-0"



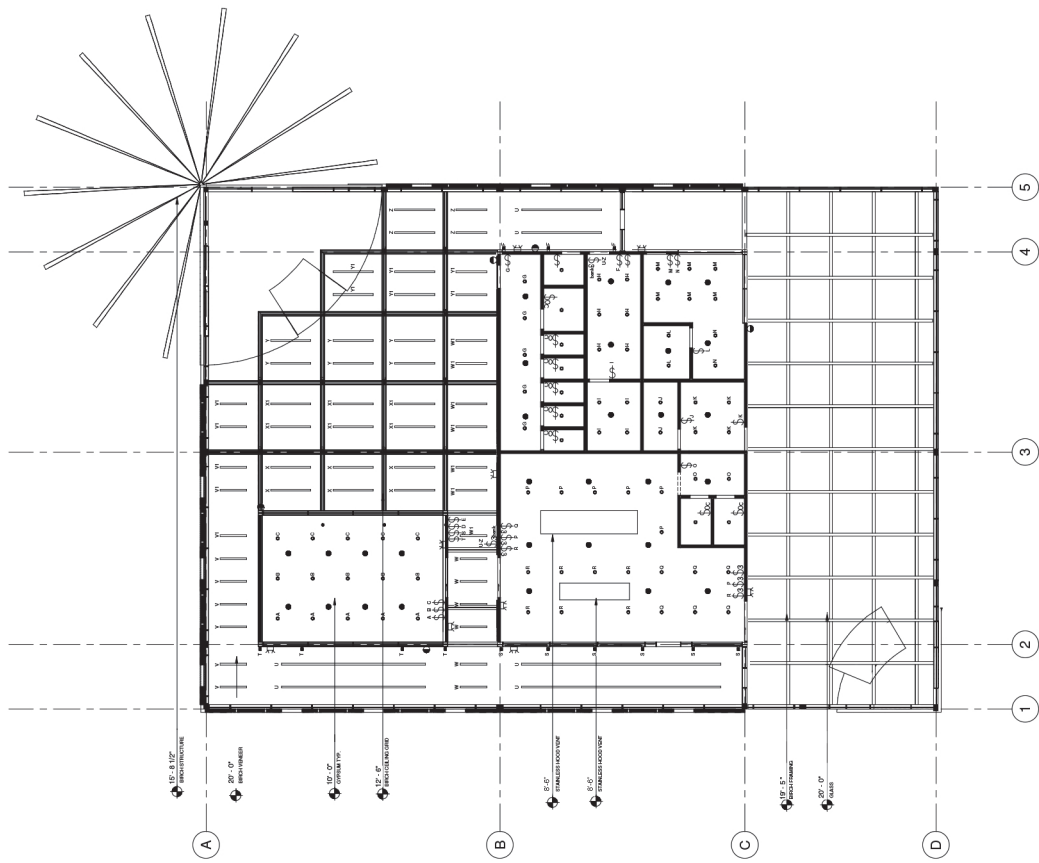
Maria Dyson	
ALGA	
EXTERIOR ELEVATIONS	
Project number	2
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	
A02	
Scale	



1/8" = 1'-0"



Project number		2
Date		JUNE 2021
Drawn by		MARIA DYSON
Checked by		Checker
Scale		1/8" = 1'-0"
A03		
Maria Dyson		
ALGA		
MAIN FLOOR		



RCP LEGEND	
● EUREKA SCOUT 167	SECURITY CAMERA
○ 4" TRIMLESS DOWNLIGHT	TWO WAY SWITCH
● SPRINKLER	THREE WAY SWITCH
LED LINEAR LIGHTING	OCCUPANCY SENSOR
EMERGENCY LIGHTS	THREE WAY SWITCH



Legend 1  
1/8" = 1'-0"

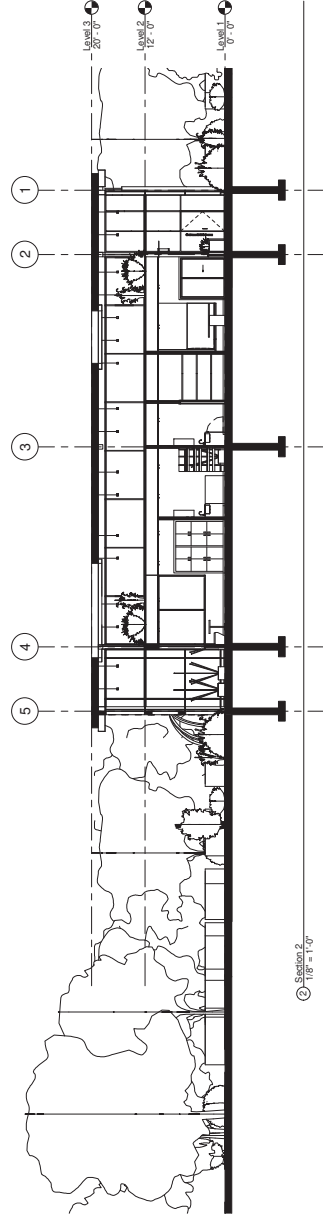
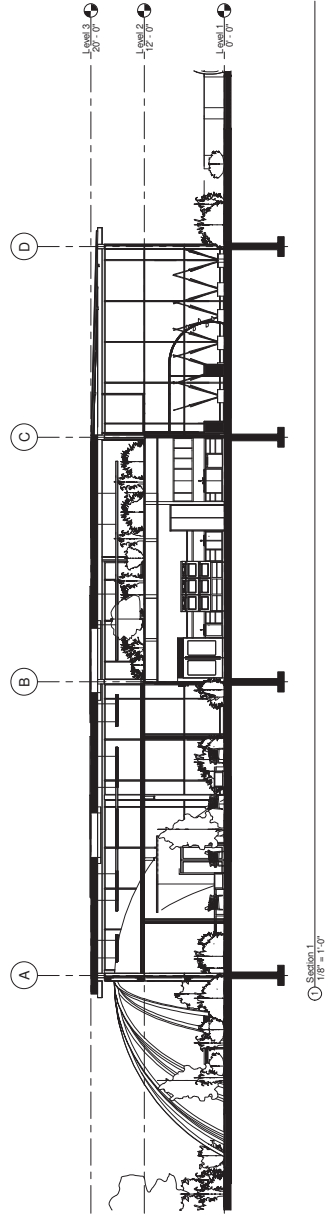
Maria Dyson  
ALGA

MAIN FLOOR RCP

Project number: 2  
Date: JUNE 2021  
Drawn by: MARIA DYSON  
Checked by:

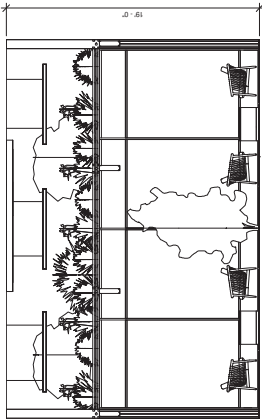
A04

Scale: As Indicated

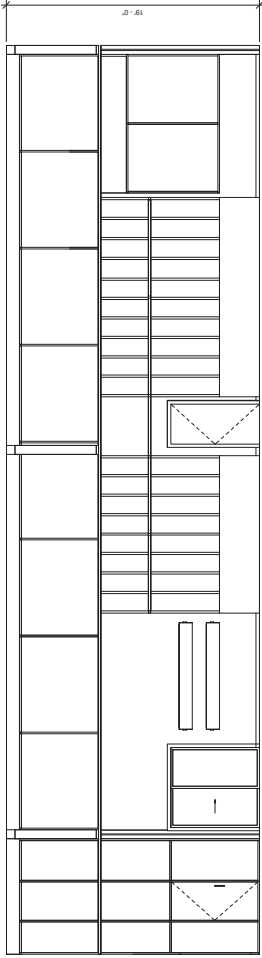


Maria Dyson	
ALGA	
SECTIONS	
Project number	2
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	Checker
Scale	1/8" = 1'-0"

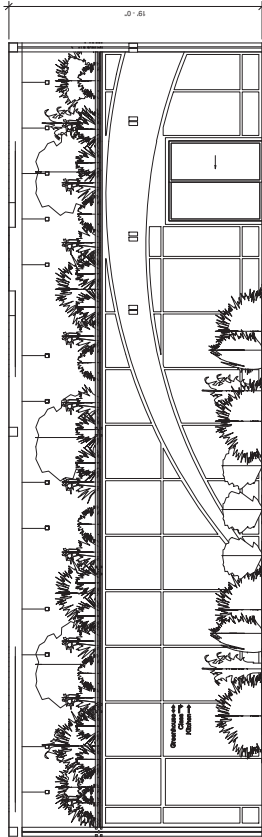
A05



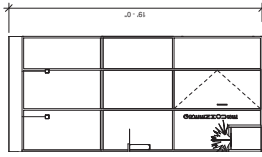
① A. WEST EXHIBIT ELEVATION  
1/4" = 1'-0"



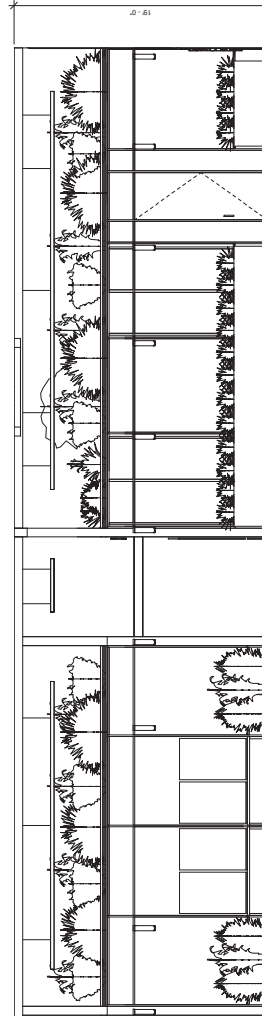
⑤ E. GREENHOUSE ELEVATION  
1/4" = 1'-0"



② B. SOUTH EXHIBIT ELEVATION  
1/4" = 1'-0"



④ D. GREENHOUSE ENTRANCE ELEVATION  
1/4" = 1'-0"



③ C. WEST CORRIDOR ELEVATION  
1/4" = 1'-0"



Maria Dyson	
ALGA	
INTERIOR ELEVATIONS	
Project number	2
Date	JUNE 2021
Drawn by	MARIA DYSON
Checked by	Checker
A06	
Scale	

