

July 2021

Cultivating Food Justice: Exploring Public Interest Design Process through a Food Security & Sustainability Hub

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Cultivating Food Justice: Exploring Public Interest Design Process through a Food
Security & Sustainability Hub

A Thesis Presented

by

MADISON J. DEHAVEN

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

MASTER OF ARCHITECTURE

May 2021

Department of Architecture

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by

MADISON J. DEHAVEN

Approved as to style and content by:

Caryn Brause, Chair

Name, Department Head

Department of Architecture

DEDICATION

I would like to dedicate this thesis to my parents, Dustin and Tish DeHaven, who have supported me consistently through my architectural education and professional pursuits.

ACKNOWLEDGMENTS

Thank you to my thesis advisor, Caryn Brause, for inviting me to participate in a real, community-oriented project, and for providing clear and consistent feedback over the past couple of years.

I would like to also congratulate my fellow classmates, the UMass Amherst Master of Architecture Class of 2021.

ABSTRACT

**CULTIVATING FOOD JUSTICE: EXPLORING PUBLIC INTEREST DESIGN
PROCESS THROUGH A FOOD SECURITY & SUSTAINABILITY HUB**

MAY 2021

MADISON J. DEHAVEN, B.S. ARCHITECTURE, BALL STATE UNIVERSITY

M.A., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Caryn Brause

This thesis addresses the deep-rooted systemic issue of food justice, through the development of a Food Security & Sustainability Hub in Northampton, Massachusetts. As part of the thesis process, I initiated engagement with local stakeholders and organizations using established practices of public interest design. This included a series of meetings and site visits with the leaders of a nonprofit social justice farm in Northampton, MA. These conversations shaped the project scope and design. In doing so, the thesis project tested ideas about social process and the overarching role of discourse in design. My hope is that through thoughtful analysis and engagement through the lens of a real project, I can contribute to this ongoing conversation and inform future pursuits.

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CHAPTER 1

INTRODUCTION

There is a desire in the design fields to contend with deep-rooted systemic issues, such as food justice, homelessness, and accessibility in a manner that reflects the public need. This area of practice is referred to as public interest design. Designers working in this area partner with stakeholders who are involved with these issues in local, contextualized ways. The notion held by practitioners is that by collaborating directly with those holding specialized experience and expertise, the net of outreach is increased, thereby rendering the approach more relevant. This ideal does not always fit into the traditional service model of architectural practice, so a thoughtful and continuous restructuring is essential to promote respectful communication and participation with stakeholders.

Food justice is a recurrent area of focus in public interest design. It generally refers to the right to food access but also serves as umbrella term for a broader array of issues, namely food insecurity, food deserts, food apartheid, and food waste. According to data collected in 2019, the national food insecurity rate sits at 13.6%.¹ In comparison, the regional food insecurity rate in the Pioneer Valley is only slightly lower, at 12.5%.² This thesis considers how designers can address food justice, and more specifically food

¹ USDA. “Food Security in the U.S.” Economic Research Service. United States Department of Agriculture, September 9, 2020.

² Pioneer Valley Planning Commission, Pioneer Valley Food Security Plan (Springfield: Pioneer Valley Planning Commission, 2014).

insecurity, on a local scale by working closely with the nonprofit Abundance Farm in Northampton, Massachusetts to design a Food Security & Sustainability Hub.

On a more conceptual but equally rigorous level, this thesis examines and tests established approaches to public interest design. It does so by integrating stakeholders and organizations into the design process from its conception and beyond. The hope is that empowering people to actively participate in their own built environment will instill a sense of ownership and agency, making the community more sustainable in return. As a designer who hopes to participate in public interest design projects during my career, one goal of this thesis was to gain a better understanding of public interest design processes in order to apply these insights to future endeavors.

CHAPTER 2

LITERATURE REVIEW

Public Interest Design

Public interest design “envisions a community-centered approach in the design of buildings, environments, products, and systems.”³ Instead of prioritizing the vision of the architect, it shifts attention to a diverse group of stakeholders. These people and organizations are familiar with, and often directly invested in, a given cause. Because of this, they have already developed informed ideas and opinions about the built environment around them. However, on their own, they often do not have the capacity to translate these ideas into reality. This is where architects come in. In this relationship the architect fulfills the “critical need for civic leadership, constructive criticism, visioning, and direction that only architects and design professionals can provide.”⁴ They also act as a purveyor or facilitator of ideas, identifying stakeholder input that fits into the cohesive framework of a project.

Beyond project-specific benefits, public interest design can also promote continued community growth. Stakeholders, by being given a say in a design, become more invested in its successful function and outcome. This promotes community empowerment, or “the ability of the community to act on its own behalf in current and future projects.”⁵ By

³ Lisa M. Abendroth and Brian Bell, *Public Interest Design Practice Guidebook* (New York: Routledge, 2016), 1.

⁴ AIA, *The Architect's Handbook of Professional Practice* (Hoboken, NJ: John Wiley & Sons, 2013), 163.

⁵ Abendroth and Bell, *Public Interest Design Practice Guidebook*, 47.

forging relationships between otherwise unassociated entities, it provides a basis for participation in related efforts moving forward.

Furthermore, public interest design encourages the architect to extend beyond their typical field of practice. Architecture is a continuously evolving field which, regardless of circumstance, requires some level of stakeholder interaction, even if just at the client level. Addressing matters outside the prescribed building program “requires cultivating new skills and strategies and working in collaboration with community partners and experts in other fields.”⁶ This level of outreach is essential to achieving a new norm of practice that mirrors the society it serves.

Although the concept has been around for a while in essence, public interest design as its own sector of architectural practice is fairly new, and for that reason most of its literature basis is as well. There is a recently added section in *The Architect’s Handbook of Professional Practice* dedicated to public interest design that outlines recommendations for implementation in practice. The recommended tool of reporting is the Social Economic Environmental Design (SEED) Evaluator. This methodology is based on a series of case studies, ranging in location and procedure. According to AIA, the SEED Evaluator “provides for significant involvement of the community, resulting in greater transparency and accountability, and allows tracking a project through its entirety.”⁷ SEED outlines five primary principles:

⁶ Abendroth and Bell, *Public Interest Design Practice Guidebook*, 49.

⁷ AIA, *The Architect’s Handbook of Professional Practice*, 128.

- Principle 1: Advocate with those who have a limited voice in public life.
- Principle 2: Build structures for inclusion that engage stakeholders and allow communities to make decisions.
- Principle 3: Promote social equality through discourse that reflects a range of values and social identities.
- Principle 4: Generate ideas that grow from place and build local capacity.
- Principle 5: Design to help conserve resources and minimize waste.⁸

In the current climate of practice, the degree to which stakeholders are able to engage with and influence the design process is often limited. As stated by PublicInterestArchitecture.org and maintained by AIA, “current efforts are small in scope, disconnected, and redundant, and in the profession the interest is palpable, but opportunities are few and far between.”⁹ The ability to create architecture, in the first place, is highly reliant on the economic climate. Because of its divergence from the traditional firm-client relationship, the application of public interest design is frequently dependent on outside funding and therefore even harder to implement. The acquisition of such funding can make public interest design projects time-, resource-, and labor-consuming. Thinking forward, “more socially responsible employment and funding opportunities need to be created to make [public interest design] an important mainstay in the profession.”¹⁰

⁸ AIA, *The Architect's Handbook of Professional Practice*, 128.

⁹ AIA, *The Architect's Handbook of Professional Practice*, 127.

¹⁰ AIA, *The Architect's Handbook of Professional Practice*, 127.

Food Justice

Food justice is “a holistic and structural view of the food system that sees healthy food as a human right and addresses structural barriers to that right.”¹¹ It encompasses many food-related issues, but namely in the context of this thesis food insecurity. According to the US Department of Agriculture (USDA) food security is “access by all people at all times to enough food for an active, healthy life.”¹² It goes beyond basic food access to also examine what types of food people are able to consume, and how that impacts their daily function.

Those who are food insecure endure compounded ailments as a result. As denoted by a study in the *Health Affairs Journal*, there is a causal relationship between food insecurity and health—both physical and mental. Most evidence is from research on children but rings true for adults and seniors as well. Direct health effects include birth defects, anemia, lower nutrient intakes, cognitive problems, aggression, anxiety, asthma, behavioral problems, depression, suicide ideation, and worse oral health.¹³ A serious, but indirect, effect is obesity; when healthy food alternatives are not available due to financial hardship, some people are forced to rely on unhealthy food sources for their primary

¹¹ Foodprint. “Food Justice.” FoodPrint. GRACE Communications Foundation, August 11, 2020. www.foodprint.org/issues/food-justice.

¹² US Economic Research Service. “Definitions of Food Security.” *United States Department of Agriculture*, September 9, 2020.

¹³ Gunderson, Craig and Ziliak, James P. “Food Insecurity and Health Outcomes.” *Health Affairs* 34(11): Food & Health (November 2015).

sustenance.¹⁴ This increased susceptibility to illness in turn can exacerbate the distressing circumstances that precipitated food insecurity in the first place. It is a vicious cycle which many disadvantaged groups get pulled into.

In discussions about food insecurity, it is imperative to note that “people of color are the most severely impacted by hunger, poor food access, diet-related illness and other problems with the food system.”¹⁵ The same goes for the disabled and chronically ill. For this reason, food insecurity is a primary factor in the insidious racism and ableism that permeates our structural framework, which makes it all the more important to address it in the context of this thesis.

¹⁴ Gunderson, Craig and Ziliak, James P. “Food Insecurity and Health Outcomes.” *Health Affairs* 34(11): Food & Health (November 2015).

¹⁵ Foodprint. “Hunger and Food Insecurity.” FoodPrint. *GRACE Communications Foundation*, August 11, 2020. www.foodprint.org/issues/food-justice.

CHAPTER 3

PROJECT BACKGROUND

Site Context

The 1.8-acre site of inquiry is in Northampton, Massachusetts, west of historic King Street and Interstate-91 (see Figure 1). It is in proximity to landmarks such as the Cooley-Dickinson Hospital, Northampton High School, Child's Park, Hampshire Regional YMCA, and the Barrett Street Marsh. The site is accessible by public transportation, most notably the PVTA Northampton Survival Center Shuttle (see blue line in Figure 1). This route was highly advocated for in order to provide access to the Survival Center for those who are food insecure.

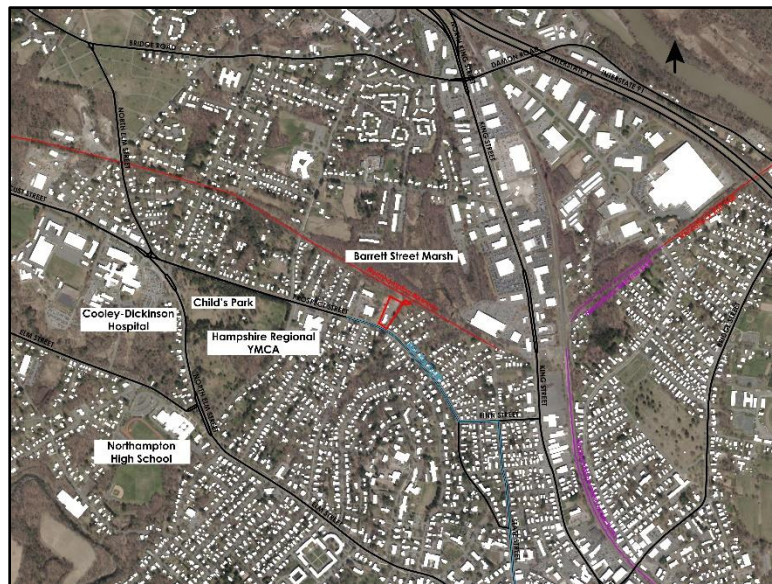


Figure 1: Context Diagram

Zooming in, there are other relationships to consider. Most significant are the adjacent religious structures (see blue in Figure 2), including the Congregation B'nai Israel,

the Lander Grinspoon Academy, and Abundance Farm. Another, relevant in its service to food insecurity, is the Northampton Survival Center (see purple in Figure 2). Aside from that, the majority of the surrounding infill is single family residential households, all from 2-3 stories high (see yellow in Figure 2).

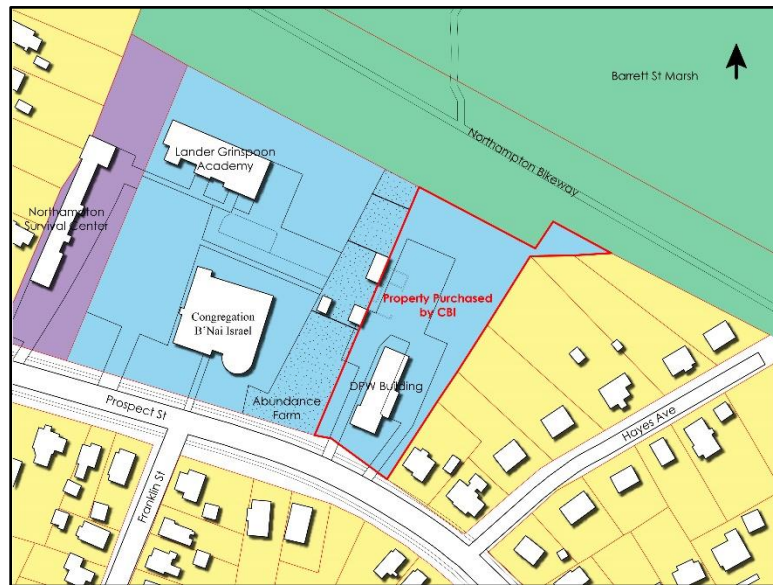


Figure 2: Property and Land Use Diagram

Looking closely at the site, there are several defining characteristics. The land slopes gently downward for most of its depth, however there is a steep five-foot drop approximately half-way through (see Figure 3). Most of the area at the back of the site is paved over or loosely filled with gravel. It contains remnants of past structural foundations, as well as leftover scrap metal and other industrial materials. There is considerable shade from clusters of trees on the eastern perimeter of the site. An initial soil evaluation indicates that with proper attention and addition of nutrients, there could eventually be plantings made directly into the ground. However, for near-future renovations, ground planting

might not be a viable option. Nevertheless, there is a desire to demolish the pavement for other aesthetic and functional purposes.

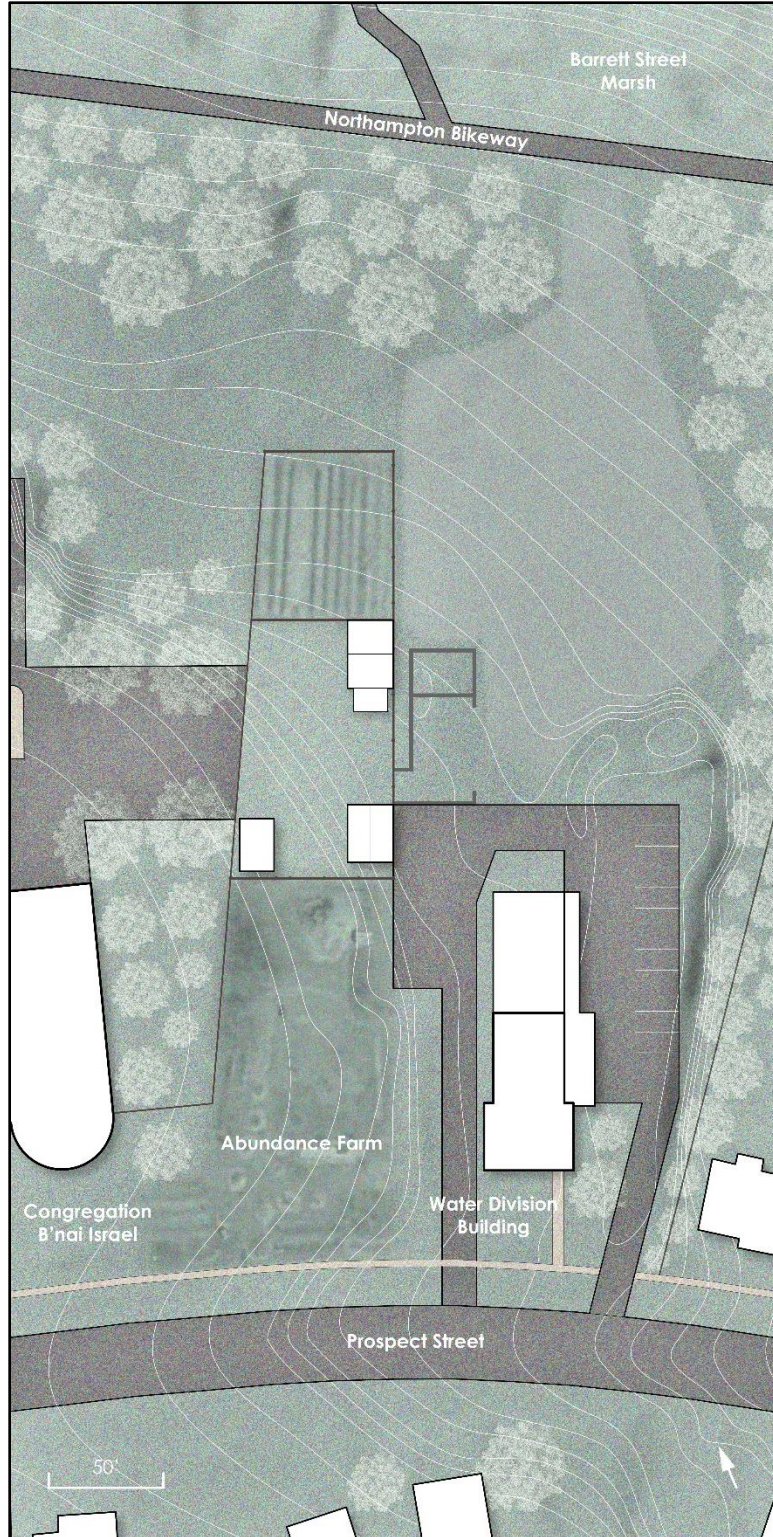


Figure 3: Site Plan (Existing)

Behind the site is the Northampton Bikeway, an eleven-mile paved rail-trail that connects Northampton to nearby communities. The site can be directly accessed from this thoroughfare (see Figure 4). It has been noted that many people cross from here through the site to reach Prospect Street. Further north is the 22-acre Barrett Street Marsh, an open area of conservation with trails branching throughout. Primary circulation exists at the front of the site, next to Prospect Street. Because of this, there is considerable traffic noise. For cars coming into the site, they have the option to park, or continue on around through the loop and exit back out to Prospect Street. Right now, this loop is primarily used for food and material distribution by Abundance Farm and the Survival Center.

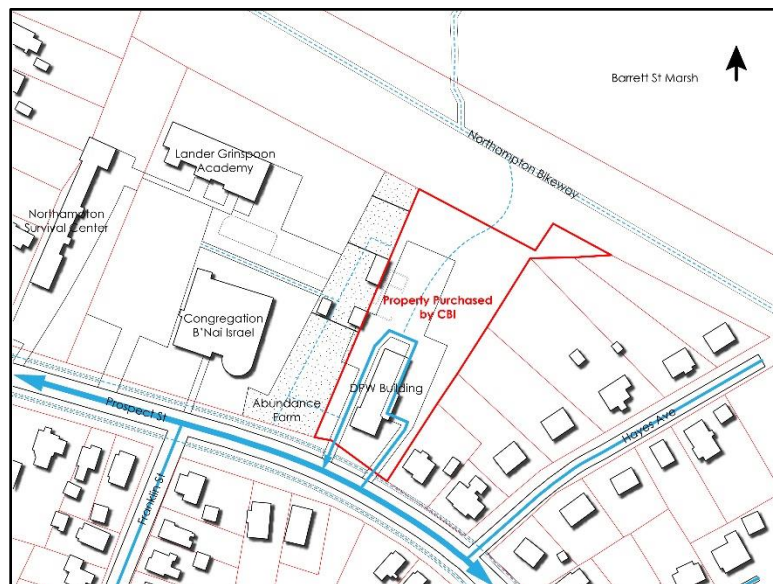


Figure 4: Circulation Diagram

Water Department Building

Previously, the site was owned by the Northampton Public Works sector. The decommissioned Water Department building still exists, although now it is vacant. The

main entrance facing Prospect Street is three feet off the ground and can be accessed by a set of stairs (see Figure 5). This serves as an accessibility barrier, and therefore should be considered during renovation. The building has a traditional exterior brick cladding, decorative detailing, and a parapet roof. Many stakeholders find the building style aesthetically pleasing and it is therefore worth maintaining in the future. Aside from necessary envelope repairs and safety updates, the two-story, 7,000 SF building is in good condition for adaptive reuse.



Figure 5: South Façade of Water Department Building

There is a loading dock on the east façade, which serves as a secondary entrance to the building (see Figure 6). Again, there are accessibility issues with the entrance here because of the three-foot rise. However, the loading dock is extremely useful for receiving large shipments. The only other entry point goes directly from ground level to the basement. The east façade also has four garage doors, at ground level. In addition to their use for vehicle entry, the garage doors can be opened for human traffic.



Figure 6: East Façade of Water Department Building

The west façade has many large windows but no entry or access points (see Figure 7). As mentioned, there is looped circulation around the building that continues along the west side of the building. It is significant to note that this is the side that faces Abundance Farm. With a clean slate to work from, there are considerable opportunities for development on this façade.



Figure 7: West Façade of Water Department Building

On the interior, the building is split into three sections. The front section has two levels, with good light from large, south-facing windows (see Figure 8). This section will be easy to adapt for future nonprofit meeting spaces and offices because it is already subdivided appropriately.



Figure 8: Front Section Interior

The middle section is also two levels. The interior space receives plenty of eastern and western sun through its large windows (see Figure 9). Aside from minor partitions, the room is completely open. The industrial aesthetic, including rafters, hardwood floors, and lockers, adds charm to the space and should be preserved in renovation.

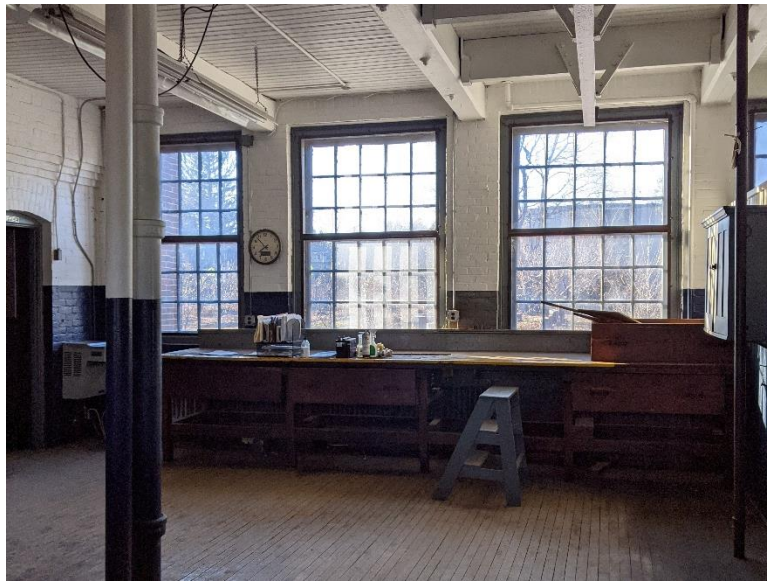


Figure 9: Middle Section Interior

The back section is one level and fully open. The four garage doors on the east façade can easily accommodate large delivery trucks or be used as an access point for visitors. This former garage is currently being used for food storage by the Survival Center (see Figure 10). It is recommended that at least some of the space be reserved for this purpose, however there is significant potential for other programming as well. As a large, open space, it is ideal for flexible event space, to accommodate nonprofit fundraising events, large nonprofit meetings, community suppers, or Jewish holidays and festivities.



Figure 10: Back Section (Garage) Interior

At present, the building in general is more oriented to the service drive and parking lot. That area, with the loading dock and garage doors, will be easy to engage with little to no physical intervention. However, the west façade, because it faces the Farm, holds unique potential. Right now, it is currently blank with nothing to suggest its relationship to Farm activities. Likewise, the structures at the Farm, and the tall deer fence that surrounds them, are oriented in such a way that opposes intermingling between the spaces. Now that the two properties are essentially one, there is room to change that and create bridging of space.

Organizational Framework

The site was recently purchased for community benefit by the neighboring Congregation B'nai Israel. The synagogue also owns the plot immediately abutting the site, occupied by the related organization Abundance Farm. The roughly one acre of land that

comprises Abundance Farm was initially obtained by the synagogue in 2002. For several years it was left empty but was later transformed into a small community garden. In 2013, this vision was expanded and formalized through the planning and creation of Abundance Farm. The central mission of the organization is to:

- Practice and Promote Food Justice and Local Food Security.
- Build Strong Community between [their] three collaborating organizations (CBI, LGA and the Northampton Survival Center) and between the Northampton Jewish community and the broader local community.
- Provide Outdoor Education Experiences which inspire a love of the natural world, promote a sense of personal responsibility to care for Creation and a love of learning.¹⁶

One way that Abundance Farm currently fosters food justice and local food security is through its partnership with the Northampton Survival Center, a local food pantry immediately adjacent to the synagogue. Aligning with the Jewish law of “Peh-ah, “Abundance Farm leave[s] the corners of their fields unharvested so that those who are hungry [can] pick what they [need] with dignity.”¹⁷ They also host a variety of food-oriented events in partnership with Survival center. The Survival Center and its operations have been especially pertinent under the extreme conditions of COVID-19.

¹⁶ Abundance Farm. “History.” Abundance Farm. Abundance Farm, 2020. www.abundancefarm.org/history.

¹⁷ Brause, Caryn. “Abundance Farm.” *SiteLab Architecture + Design*, 2020. www.sitelabarch.com/projects/abundance-farm.

The NSC distributes approximately 750,000 pounds of food each year to those in need. With the halting of community food donation, which typically constitutes nearly a quarter of all donations, there has been a dire need among food insecure residents. Since spring 2020, ten times the number of people has accessed the Survival Center in comparison to the same time a year previous. Furthermore, in the same time frame, there has been a 300% increase in new clients.

Community Benefits Statement

The acquisition of the Water Building site next door will enable the synagogue to further extend the programming being conducted at Abundance Farm. Some of the potential program opportunities are outlined in the Community Benefits Statement submitted as part of the purchase of the land, which are as follows:

- Value-added businesses and workforce training, including an onsite bakery, processed food production, Farm Store, and a commercial kitchen facility offering training and mentoring to local teens, Survival Center clients and other individuals.
- Housing options to support residential education and training programs, such as the gap year program noted below, and in the longer run, integration of housing for older residents with programming for children and families, potentially in collaboration with groups like the Valley Community Development Corporation.
- Accredited gap year program integrating hands-on training in sustainable agriculture with study of food systems and resilient communities, as well as training

in leadership and community organizing, drawing on educators and leaders in the community.

- An expanded teen/young adult training and education programs drawing 75-100 diverse participants from the region for an 8-week immersive summer program and a smaller academic year program.
- Summer farm day camp for younger children.
- Teacher training/thought leadership for educators.
- Spaces available for community meetings and other activities.

Food Security Infrastructure Grant

The land was acquired during the COVID-19 pandemic. As a consequence to an increase of need and hardship during this time, a submission was made for a Food Security Infrastructure Grant. This allowed visioning for additional programs, overlapping with those that were already proposed in the Community Benefits Statement. The state funded grant, in addition to other food-related support measures, was proposed to fund 60-100 raised planting beds. It could also fund other needs, such as:

- Food processing center.
- Food distribution outlets for local farmers.
- Surplus food storage.
- Commercial-grade test and educational kitchen.

- Cold/refrigerator storage.
- Composting toilet and water stations.

Program Diagram

It was acknowledged from the beginning of the thesis project that some program elements might be implemented in the near term with modest modifications to the site and building, while others would require significant investment and a longer time frame. Also, there was understanding that the prevalence of certain items might fluctuate depending on the state of the Food Security Infrastructure Grant and continued effects of COVID-19. This was considered in my creation of an initial program diagram that sought to analyze and look for overlaps in the programs outlined in the Community Benefits Statement and the Food Security Infrastructure Grant (see Figure 11).

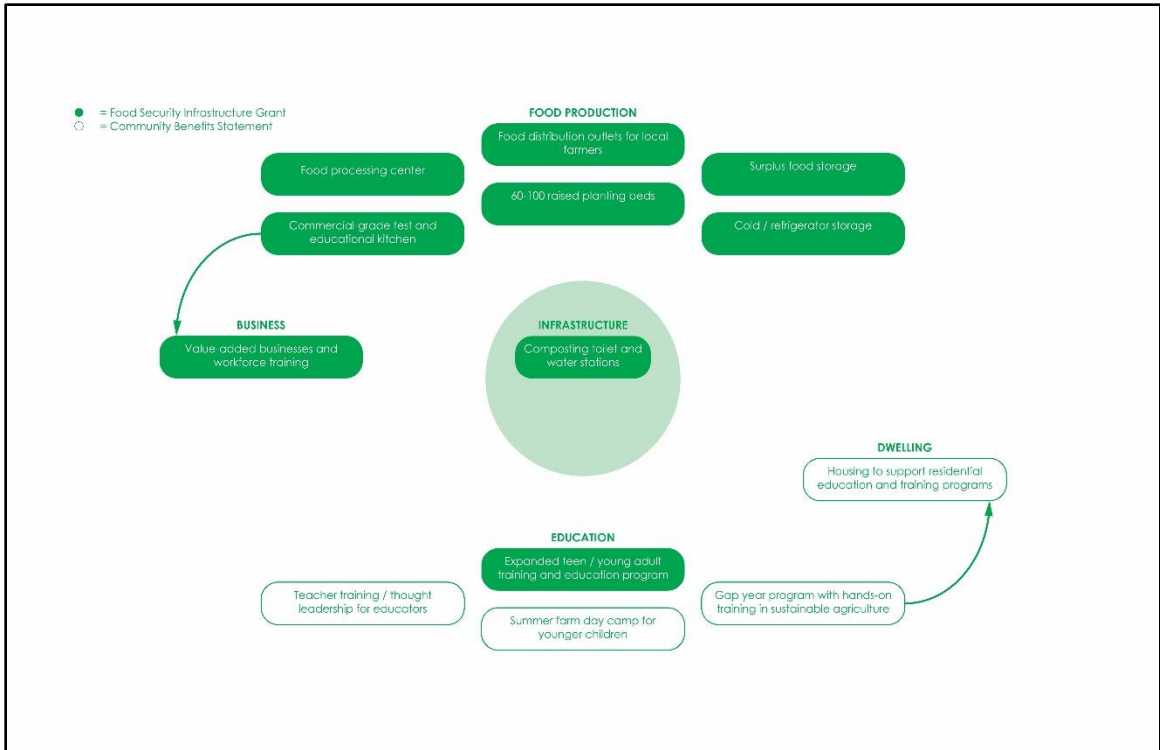


Figure 11: Food Security & Sustainability Hub Program Diagram 1

CHAPTER 3

PRECEDENT REVIEW

Overview

This thesis project had a wide scope of potential, and therefore an emergent agenda. Because of this, it was necessary to implement a process to clarify stakeholder intentions down to a core set of desirable programs. One method of doing so was by compiling precedents that explored similar themes and values. It is harder for non-designers to conceive of a physical design out of thin air, with no prompts or cues. By producing concise imagery and descriptions in several distinct categories—food production, education, business, and gathering—the stakeholders were able to imagine more effectively what the end product might be. I was also, as the designer, able to provide myself a clearer, more tangible inspiration for continued design production. I deliberately chose precedents that were practical in their form and materiality.

Food Production

Because of the concentration on food justice, food production formed an essential area for discussion with stakeholders. This could be a more individualized approach, where the concentration is less so on quantity of food production. HortPark Allotment Gardens in Singapore exemplifies this approach (see Figure 12). The project consists of intermittent raised beds, which are sturdy and tall enough to be reached at a sitting or standing position. In addition to having depressed space for plants, these beds include table space and a “mini

storage area for tools.”¹⁸ Although they are reserved for individuals, the beds are situated such that they allow open visibility and collaboration with fellow gardeners.



Figure 12: “Allotment Gardens.” Digital Image. National Parks Board. 30 March 2021.

Food production could also prioritize quantity, as demonstrated in the Michigan Urban Farming Initiative (MUFI) Urban Ag Campus in Detroit, Michigan (see Figure 13). Most of their facilities exist at a concentrated level. The primary swath of land, called the Urban Farm, is dedicated to traditional gardening, with rows spaced in an orderly fashion. The Urban Farm is open for public use with a recommended donation. However, MUFI also partners with individual households, local markets, local restaurants & vendors, and food pantries in contribution to the community wellbeing. Since their foundation in 2011, they have been able “to grow and distribute over 50,000 pounds of produce (grown using

¹⁸ “Allotment Gardens.” National Parks Board. National Parks Board, July 24, 2020. www.nparks.gov.sg/gardening/allotment-gardens.

organic methods) to over 2,000 households within 2-square miles at no cost to the recipients.”¹⁹



Figure 13: "Untitled." Digital Image. Michigan Urban Farming Initiative. 2013.

Education

An additional need expressed by stakeholders was educational spaces. These are intended to service multiple programs and target a spectrum of age groups year-round. This could potentially be a focused application, such as exemplified by Hedge School outdoor classroom in Carlow, Ireland (see Figure 14). In this project, based on the concept of the historical Irish hedge school, “children are educated in the basic principles of living such as growing food & plants, cooking in the open, ecosystems, climate, seasons, flora &

¹⁹ “About MUFI.” MUFI. Michigan Urban Farming Initiative, 2013. www.miufi.org/about.

fauna.”²⁰ The structure has a central, tiered seating area. This allows for students to face inward and embrace conversation. On the perimeter are garden stakes with intermittent plant boxes, for small-scale growing.



Figure 14: Aisling McCoy. "Hedge School." Digital Image. AP+E. 2015.

Structures to support education could also take a less concentrated path, by integrating opportunities in a loose framework like a garden. Baisley Park in New York City, New York does just this (see Figure 15). The garden is an outlet for nearby schools, providing a more visual and interactive avenue for learning. They also partner with the “Queens Youth Justice Center, an alternative-to-detention program,”²¹ to provide a

²⁰ Architecture Practice and Experimentation. “Hedge School.” AP+E. Architecture Practice and Experimentation, 2015. www.appluse.eu/HEDGE-SCHOOL.

²¹ Jewell, Nicole. “Rapper 50 Cent's Community Garden Offers a Green Alternative to Juvenile Detention.” Inhabitat. MH Sub I, LLC dba Internet Brands, September 22, 2016. www.inhabitat.com/rapper-50-cents-community-garden-offers-a-green-alternative-to-juvenile-detention.

healthy, productive release for students. The canopy-like water cisterns are a main spectacle in the design. This gives students the opportunity to engage with the technical aspects of gardening in a playful, aesthetically appealing way.



Figure 15: Jimmy Asnes. "Baisley Park." Digital Image. Hood Design Studio. 2008.

Business

An interest in value-added businesses and workforce training has been identified by stakeholders, with a central focus on incubation of food production practices. This has the potential to be initiated through adaptive reuse of the Water Department Building. O2 Artisan's Aggregate in Oakland, California exhibits a similar strategy, in their urban arts cooperative (see Figure 16). The site is an abandoned industrial block on the west side of the city. It is "home to a network of artisans working collectively to develop and promote

environmentally progressive projects.”²² Its infrastructure has been reclaimed by its creative tenants, each of them reimagining the worn landscape around their own craft.



Figure 16: O2 Artisans Aggregate. “A Local Artisans Craft Food Pop-up in Progress at the Soba Ichi Courtyard.” Digital Image. Berkeleyside. 6 September 2019.

Another precedent that pursues an angle of local business collaboration is Windsor Farmers Market in Windsor, North Carolina (see Figure 17). This approach includes a new structure, designed, and built by Studio H, an immersive high school architecture studio. It tackles the issue of food justice, particularly food deserts. Windsor is a “rural food desert with an agricultural legacy” and “the farmers market was the perfect project to catalyze the community.”²³ Instead of inviting entrepreneurs to a permanent platform, it allows citizens

²² O2 Artisans Aggregate. “About.” O2AA. O2 Artisan’s Aggregate, 2020. www.o2aa.com.

²³ Studio H. “Windsor Farmers Market.” Studio H. Project H Design, July 22, 2016. www.studio-h.org/project/windsor-farmers-market.

to obtain ownership through the social event of a farmers market. It caters to a more informal and temporary type of business practice.



Figure 17: Studio H. "Windsor Farmers Market." Digital Image. Studio H. 2011.

Gathering

Gathering is a leading desire for stakeholders and is at the heart of all proposed programs. This could be engaged at a variety of scales, depending on the purpose. It could be smaller, like with Kitchen21 in Vienna, Austria (see Figure 18). This project was executed by a group of students at TU Wien Institute for Architecture and Design. It consists of “a cooking pavilion, a seating pavilion, and a stage pavilion.”²⁴ All three converge at a singular platform, which allows room for circulation. The light, wooden

²⁴ AD Editorial Team. “The Best Student Design-Build Projects Worldwide 2016,” September 5, 2016. www.archdaily.com/794566/the-best-student-design-build-projects-worldwide-2016.

pavilions have a versatile layout, serving as “a social catalyst for unplanned low-threshold events like mini concerts and cookouts.”²⁵



Figure 18: Leonhard Hilzensauer. “Kitchen21 (TU Wien Institute for Architecture and Design).” Digital Image. ArchDaily. 5 September 2016.

Gathering could also take place at a larger degree, with the structure serving as the epicenter of activity. Such is the occasion with the Maring-Hunt Pavilion in Muncie, Indiana (see Figure 19). It was created through an Immersive Learning course at Ball State University, in partnership with the Thomas Park/Avondale neighborhood. This shelter has

²⁵ AD Editorial Team. “The Best Student Design-Build Projects Worldwide 2016,” September 5, 2016. www.archdaily.com/794566/the-best-student-design-build-projects-worldwide-2016.

a high capacity, incorporating several plug-ins for activation. These include “shade, seating, tool storage, and accessible garden beds”²⁶ for community gardeners.



Figure 19: "Maring-Hunt Pavilion." Digital Image. Ball State Architecture. 2018.

Collective

Although there are separate areas of interest to develop, it is important to recognize the end goal as a constellation of interrelated programs. An example of this model in action is Urban Adamah in Berkeley, California (see Figure 20). They provide "farm-based, community building experiences that integrate Jewish tradition, mindfulness, sustainable agriculture, and social action."²⁷ They have events and retreats that incorporate all ages, seasons, and walks of life. The property upon which they operate includes, among other

²⁶ “Maring-Hunt Community Garden Gateway to Growing Pavilion.” AIA Film Challenge. AIA, 2018. www.aiafilmchallenge.org/video-contest/maring-hunt-community-garden-gateway-to-growing-pavilion.

²⁷ “About.” Urban Adamah. Urban Adamah, June 5, 2020. www.urbanadamah.org/about.

things, a main program space, a field of crops, a fire circle, a kitchen dining tent, and a Jewish learning garden.²⁸



Figure 20: Urban Adamah. "The Farm." Digital Image. Urban Adamah. 2021.

Another instance of a collaborative space is the HIVE in Encinitas, California (see Figure 21). This type of atmosphere targets a working adult age group, providing a setting “for social entrepreneurs, nonprofits, and local community organizations to work, meet, and grow in a unique environment.”²⁹ This model of operation is especially relevant to the project of inquiry because of its flexibility. It can incorporate immediate needs such as offices for current staff members, and eventually grow to support value-added business endeavors.

²⁸ “Urban Adamah.” Trachtenberg Architects. Trachtenberg Architects, November 21, 2018. www.trachtenbergarch.com/project/urban-adamah.

²⁹ “About The HIVE.” The HIVE. Leichtag Foundation. 2020. www.leichtag.org/the-hive.



Figure 21: "The HIVE." Digital Image. Leichtag Foundation. 2020.

CHAPTER 4

METHODS

Stakeholders

A central necessity to this thesis project was consistent stakeholder engagement. Stakeholder meetings were arranged over the course of three months, with the staff of Abundance Farm, members of the Congregation B'nai Israel, and some other guests. The primary stakeholders included Rabbi Jacob Fine, Director of Abundance Farm, Nili Simhai, Director of Outdoor Education, Rebecca Leung, Farm Educator, Rose Cherneff, Farm Manager, and John Todd, past president of the synagogue (see Figure 22).



Rabbi Jacob Fine
Abundance Farm
Director



Nili Simhai
Abundance Farm
Director of Outdoor Education



John Todd
Congregation B'nai Israel
Past President



Rose Cherneff
Abundance Farm
Manager



Rebecca Leung
Abundance Farm
Educator



Aitan Mizrahi
O2 Artisans Aggregate
General Manager

Figure 22: Stakeholders

Proceeding each meeting, I compiled graphics and questions to use as probes for dialogue. In addition to instigating discussion in the moment, markups of these materials during the meeting also informed preparation for the next meeting. The group employed a

digital pinup board which permitted attendees to record their ideas and opinions in a shared setting. It also created a record of decisions. Through continuous conversations, new and evolved ideas regarding the program of the site began to emerge. A repetitive theme was the confluence of Jewish values and traditions with the overarching needs of the Northampton community. There was also questioning as to where on the spectrum of community building and food production the programs and infrastructures would lie.

Stakeholder Meetings

I met initially with Jacob and John over Zoom in September 2020. They gave me an overview of the Jewish community in Northampton, and the role of Abundance Farm in it. We also discussed the purchase of the Water Department building site, which included a Community Benefits Statement outlining programs that would benefit the wider community. In addition, we reflected on the recent state grant application to address food insecurity.

In October 2020, I met with Jacob, John, and Nili over Zoom to discuss program. I presented my precedents, to gauge which ones were most compelling. The best received was the Maring-Hunt Pavilion. The stakeholders were intrigued by its concession-style outdoor kitchen. They also liked the fields and greenhouse at the Michigan Urban Farming Initiative headquarters, because it reminded them of the Water Department building. The idea of having coworking areas, such as with The HIVE, was also intriguing,

An idea that continued to resurface during conversation was a gathering space for large events at the synagogue such as weddings. There are some existing spaces that

partially meet this need on the grounds of the synagogue, but greater capacity is desired. And beyond that, the act of gathering does not need a designated physical construction. That being said, the newly acquired site exhibits significant potential in terms of area, space, and accessibility. Because of that, there was a natural inclination to make use of those opportunities through a celebratory project.

In early November 2020, I visited the site with Jacob and his friend Aitan Mizrahi, the General Manager of O2 Artisans Aggregate, an eco-industrial park in the Bay Area. The organization was one of the precedents I researched, so I took the time to ask Aitan for advice. His primary suggestion, in creating a business incubator, was to have a generic kitchen layout that could work for a lot of food related business startups. According to him, this was the most desired asset for new business owners and therefore the most effective use of space.

After honing in on the program, I began devising schemes that transposed them onto the site (see Figures 23-25). These schematic design exercises were driven by accommodating 60 raised planting beds that were required by the grant that the farm had applied for. The primary focus was to test square footages and provide visualization for a few large brush stroke design elements. I met with stakeholders in late November 2020 to discuss my initial thoughts.



Figure 23: Iteration with 60 Planting Beds, Small Greenhouse, Outdoor Classroom, and Looped Circulation



Figure 24: Iteration with 20 Planting Beds, Large Greenhouse, Water Feature, and Looped Circulation



Figure 25: Iteration with 20 Planting Beds, Large Greenhouse, Water Feature, and Terminating Circulation

As the outcome of the grant was uncertain, so was the relevance of the raised planting beds. Abundance Farm now has access to other off-site areas that suited to planting and harvesting row crops. It was determined that if the grant did not follow through, then a significantly smaller number of raised beds would be necessary, primarily for teaching and for individuals with mobility issues. The group considered which aspects of the food production and distribution process this particular site was best suited to address. One area of interest was the incubation of value-added businesses. Abundance Farm is already hosting a pop-up bakery and for support for additional businesses has been identified as a need. Another potential focus was on gleaning. The Northampton Survival Center often receives a surplus of fresh food items at certain times of the season—butternut squash for example—that are not able to be used efficiently in their natural state. It was suggested that the Water Department building be fitted for supporting ventures that could develop food

products as well as process the surplus produce. Local food ventures could process items to be shared with those in need and use the rest for their business products.

Evolution

Through my meetings with stakeholders, I continuously updated my program diagram. This provided a central space to document the progression of the program from start to finish. After my October meeting with stakeholders, I added the items heated greenhouse, offices for the Farm and other nonprofit functions, resource bank for storing compost and wood chips, and community gathering for 200-300 people (see Figure 26).

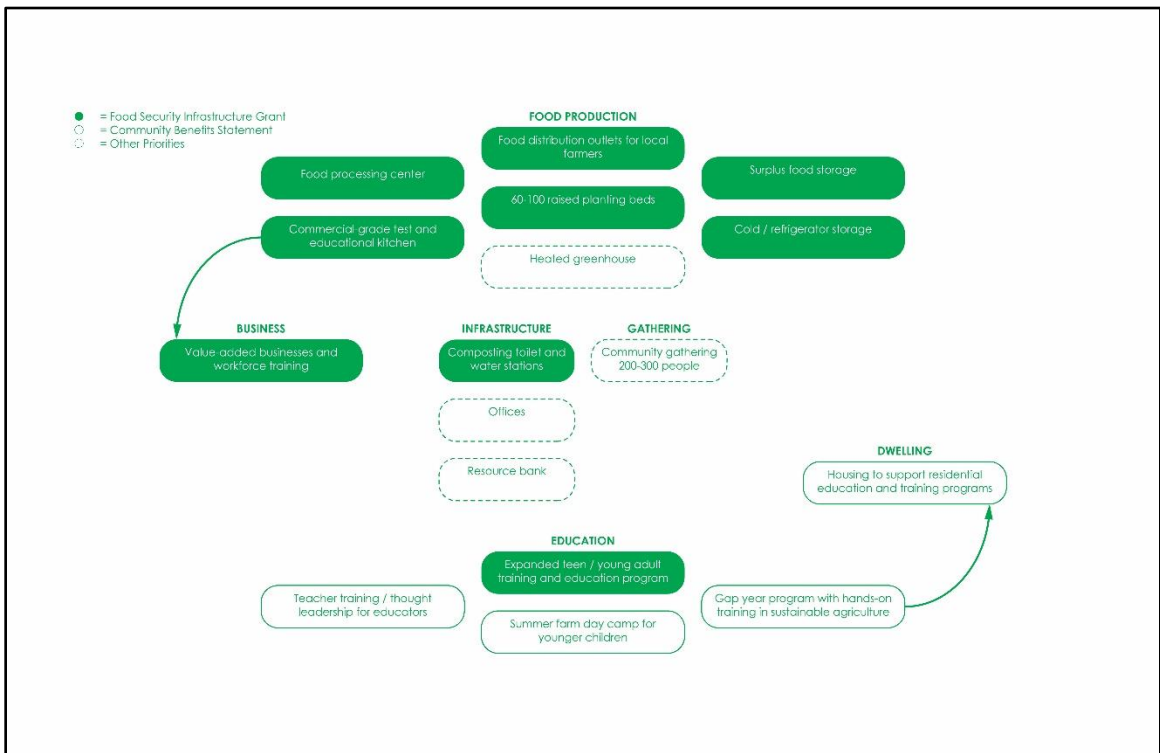


Figure 26: Food Security & Sustainability Hub Program Diagram 2

The application for the Food Security Infrastructure Grant was ultimately not successful so the stakeholders decided that they did not need nearly as many raised beds as initially proposed. I decided from my own research that with so many other housing options in the area, there did not need to be any dwellings on-site. I updated the diagram to reflect these new priorities (see Figure 27).

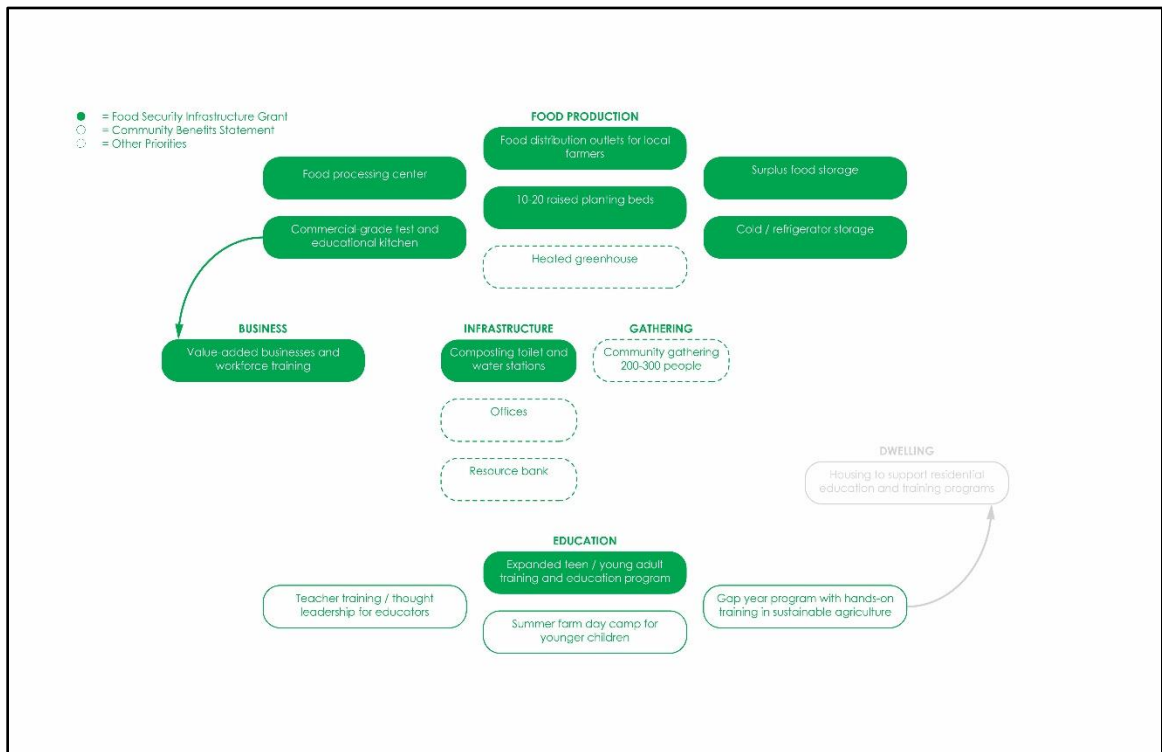


Figure 27: Food Security & Sustainability Hub Program Diagram 3

CHAPTER 5

DESIGN

This program diagram eventually culminated in my design for the site. My approach sought to accomplish several things:

- Create a center for people coming in from two major thoroughfares: Prospect Street, as well as from the Northampton Bikeway.
- Provide opportunities for cross pollination with the other institutions on site by thinking carefully about movement, boundaries, sightlines, and context.
- Strike a balance among the program elements so that they can be successful at different times of year and with different populations—kids learning about farming during the school day, teens in the afternoon working as part of the Social Justice Internship program, community members learning different cooking techniques, and congregants celebrating major Jewish festivals.
- Solve accessibility issues, to support inclusion.

To accomplish this, I proposed a plan in which the Water Building gets a light renovation, and there is a new addition that bridges the gap to the Farm, welcomes people to the site, and allows spaces for community programming, offices, and social business incubators (see Figure 28). Although the built elements are modest in size, they activate the existing site elements in a way that directs people and expands future programming capacity. Each design element has built and landscape components.

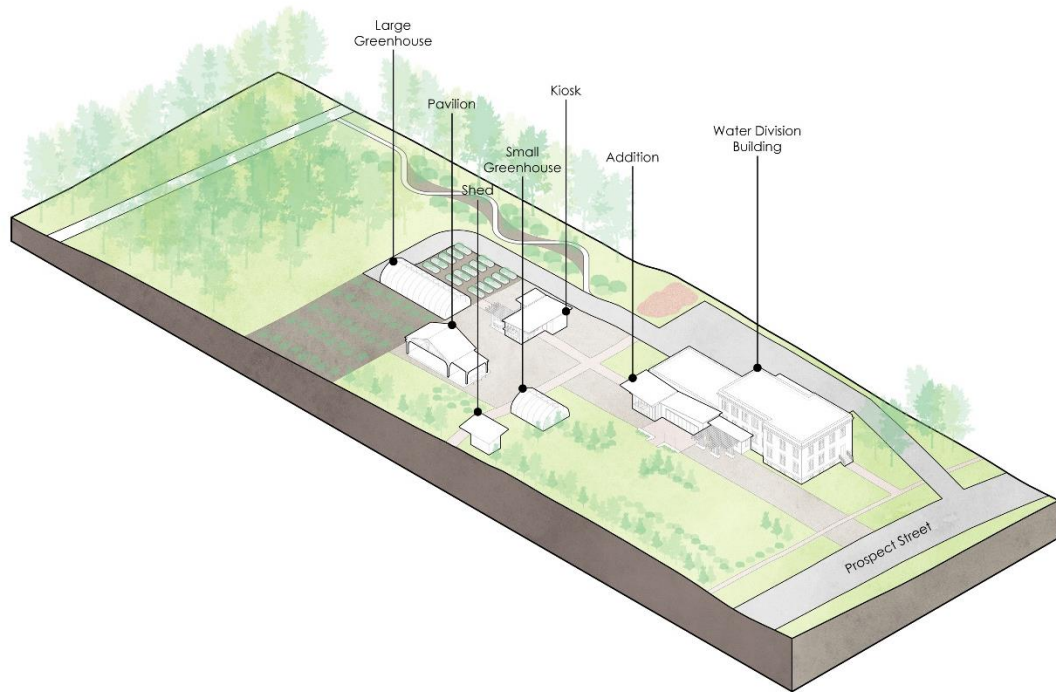


Figure 28: Site Axonometric

The majority of food production happens at the back of the site (see Figure 29). There is an extension of the in-ground planting over from the Farm, to increase overall capacity and output. In addition, there is a large, heated greenhouse, as requested by stakeholders. There are also raised planting beds, which are at a height that allows accessible use for community members with mobility challenges.

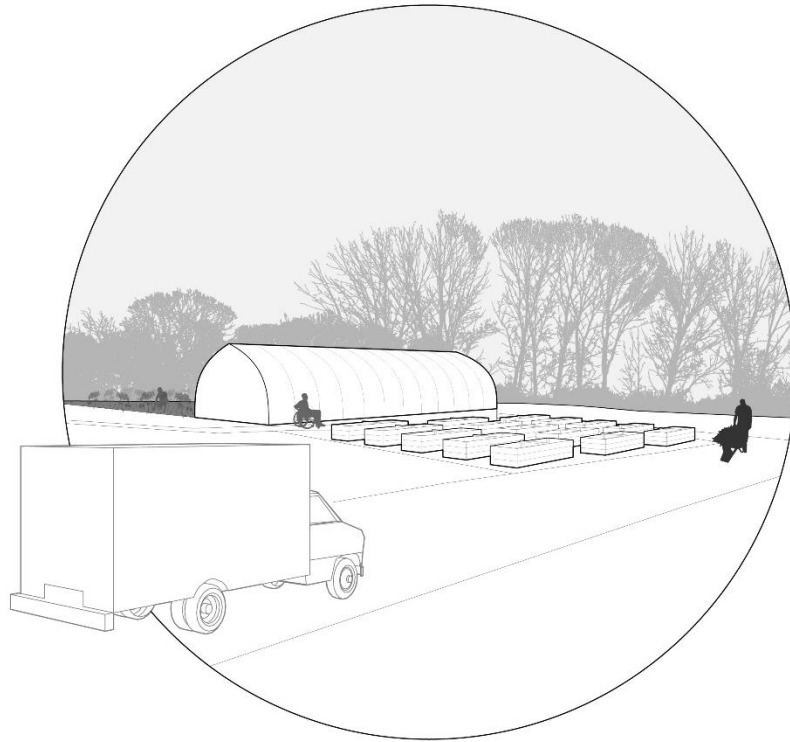


Figure 29: Food Production

At the center of the site is the Kiosk, a multifunctioning outdoor activity and education space (see Figure 30). This part of the site now sits at the crossroads of all the Farm activity; there are circulation paths that connect the expanded site to the Farm pavilion on one axis, and to the new building addition on the other. Although it is a small building, it provides essential infrastructure to the Farm. Its position activates a variety of outdoor spaces around it.

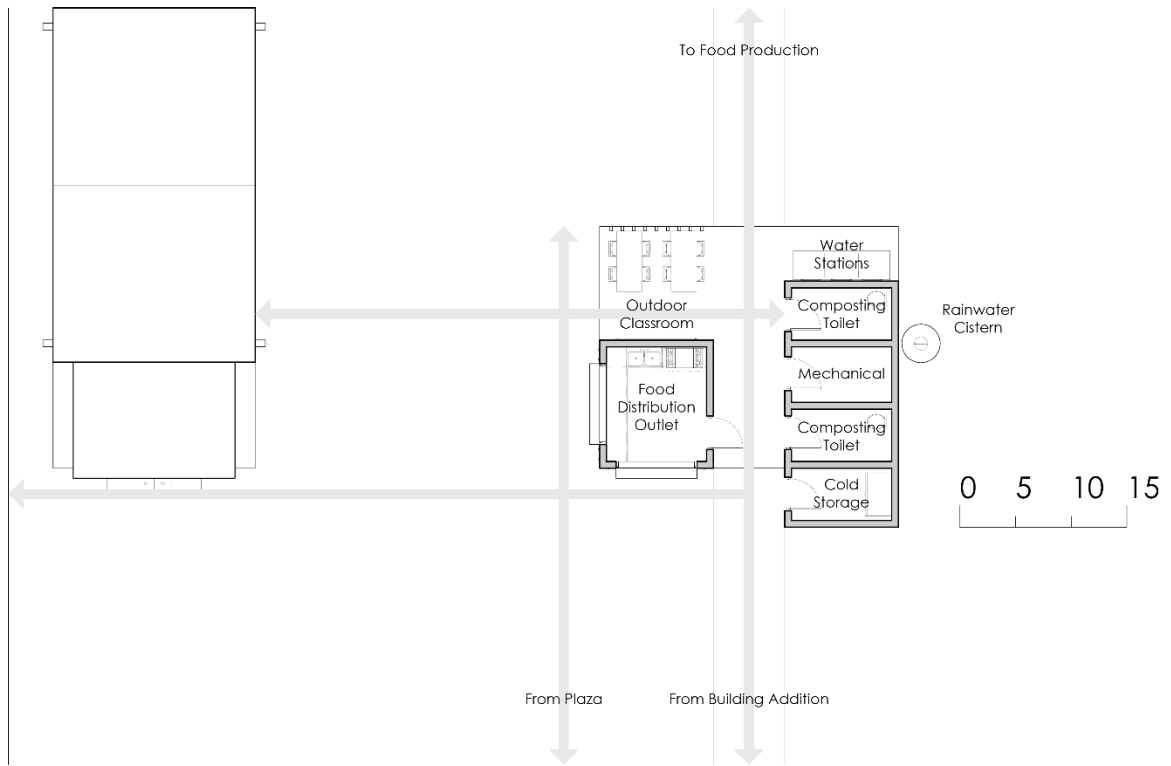
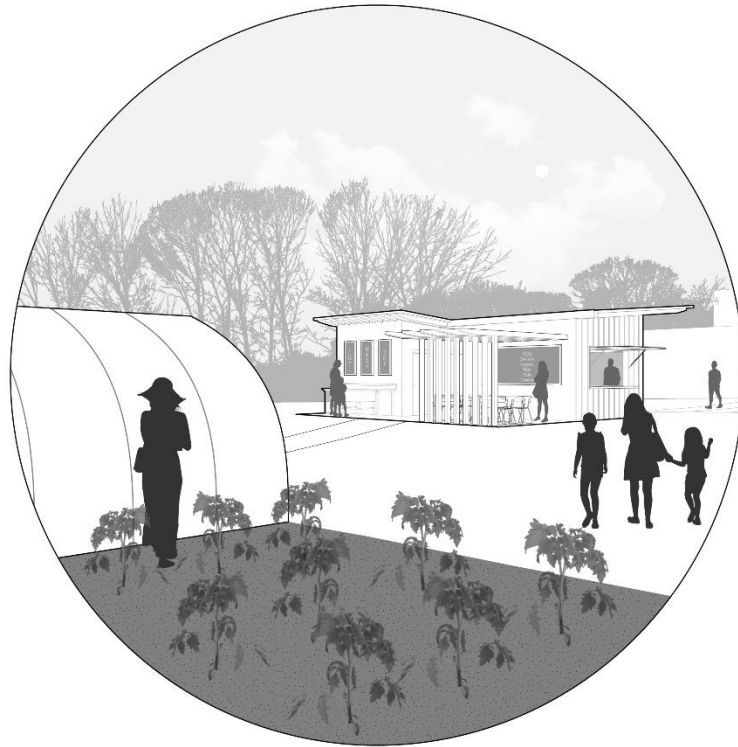


Figure 30: First Floor Plan of the Kiosk

The Kiosk includes an outdoor classroom, as well as food preparation and distribution facilities (see Figure 31). A group might gather to learn, harvest something from the food production area, wash the fruits and vegetables at the sinks, then take them to the concession area for cooking and serving. In addition, it includes infrastructural elements such as a composting toilet and water stations. Furthermore, the butterfly roof has a gutter at its crevice, which is routed to a rainwater cistern. This water can be used for irrigation purposes. Other, more intensive food education operations happen in the Water Department building.



Outdoor Classroom



Composting Toilet



Food Prep

Figure 31: Education

The building addition extends along the west facade of the Water Department building (see Figure 32). Adjacent to this structure is a linear plaza which provides circulation through the site. It opens up the Water building to the Farm site. There is a new entrance from Prospect Street that leads to an elevator, which provides accessible travel from the ground floor to the first and second floors of the Water Department building.

The front section of the renovated Water Building now has a community meeting room on the first floor while upstairs there are offices and co-working space for

nonprofits, small meeting spaces, and office support functions. The middle section of the building has the commercial kitchen, which can be used for teaching and as an incubator for food related business startups. The back section of the building is large and flexible and can be used for work, for storage, or for gathering. The addition has two sets of folding doors, which allow full permeation from the Farm, through the building to the parking lot on the east facade.

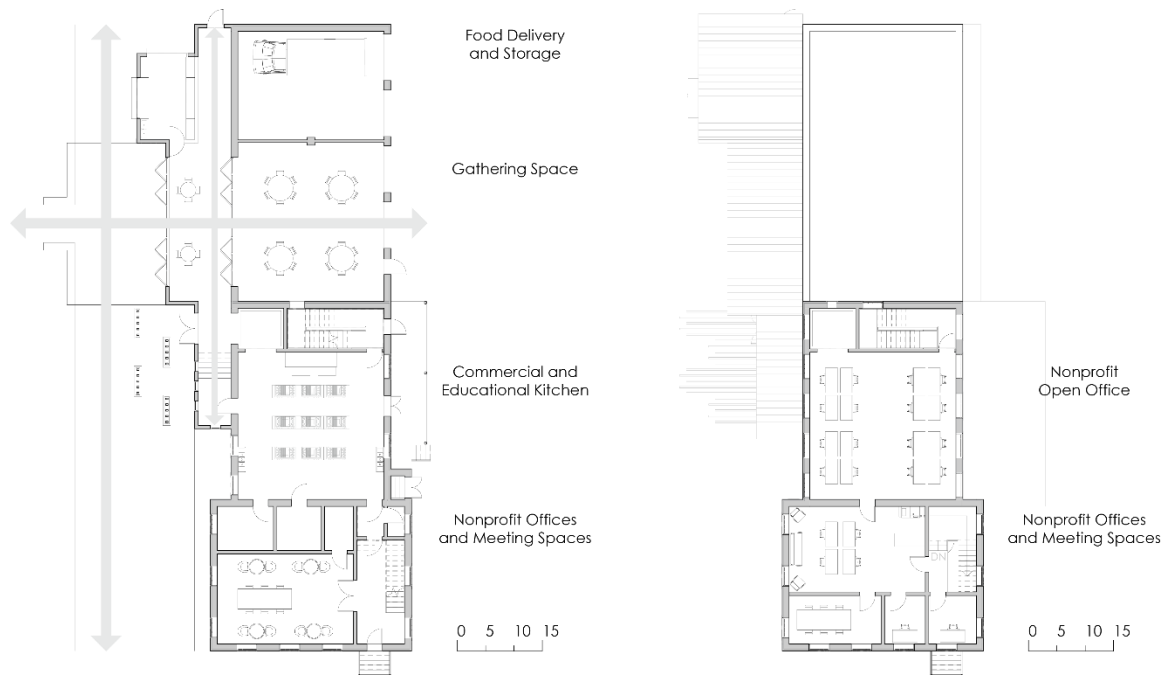


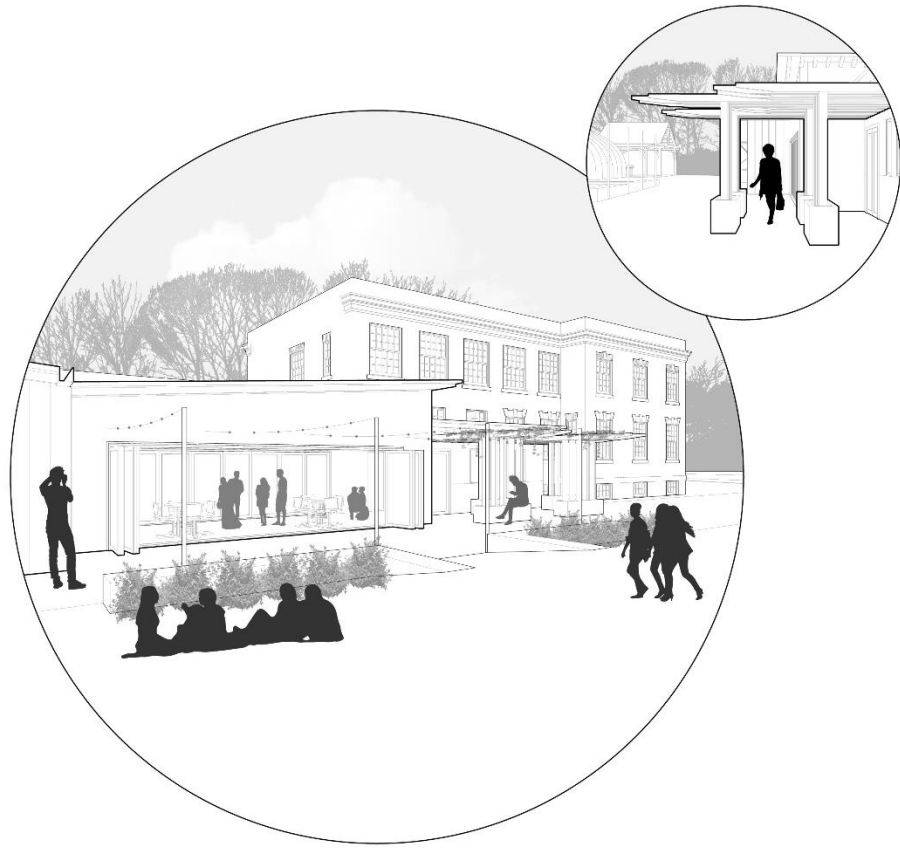
Figure 32: First Floor (Left) and Second Floor (Right) of Water Department Building and Addition

While the behind-the-scenes work for business incubators happens in the middle portion of the Water Department building, on the more public side, there is a food distribution outlet and cafe seating for visitors (see Figure 33). Here you can see the linear plaza that has a series of spaces knitting together the Farm and the Water Building, and welcoming visitors from Prospect Street into the site.



Figure 33: Business

Many of the major farm festivals take place in this front portion of the site and stakeholders had expressed a desire for a gathering area that could hold 200-300 people (see Figure 34). The addition is designed so that these gatherings can flow in and through the building and to other parts of the site.



Accessible Entrance



Exterior Lighting



Interactive Trellis



Benches

Figure 34: Gathering

This project considers a variety of programs that happen both separately and in conjunction with each other. In whole, they support a cohesive ecology that not only addresses food insecurity and sustainability, but also instills a sense of community. In documenting the progression of the project, from programming to realization, I was able to understand the needs of stakeholders more effectively, and successfully produce a design to reflect them.

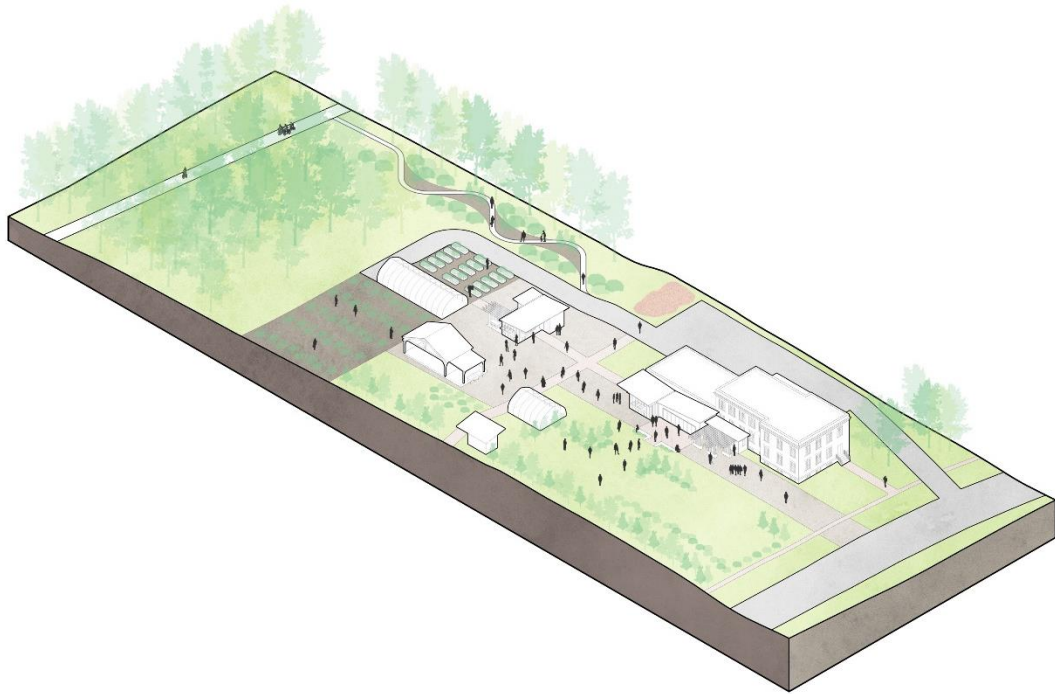


Figure 35: Event Scenario

CHAPTER 6

CONCLUSION

The proposed design for a Food Security & Sustainability Hub highlights the assets of a specific community, based on continuous stakeholder input, to address food justice at a local level in Northampton, MA. Following the completion of design within the scope of my thesis project, there was a final meeting with the stakeholder group to gauge their opinion and discuss the future of the property. This meeting was different from previous, in that a cohesive design was available to center the discussion. They were excited to see visual and spatial representations of the ideas and program elements that they had proposed. The plans for the Water Department building helped them visualize some immediate renovations that could support prioritized programs. In addition, the vignette style graphics helped them to imagine more intensive connections between the Farm and Water Department building properties, that are hard to envision in the current state.

Moving forward, the same stakeholders will be actively engaged in long- and short-term transformations of the property. They are currently stabilizing the building for immediate use and they will be able to use the extensive documentation of the site and its context as a starting point in this process. It is my hope that the conversations sparked by this exploration will help to shape the next phase of the Water Department building and site in its final form, as well as provide a narrative insight for other public interest design projects in the future.

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