

Re-Growing a Neighbourhood:
Using the Power of Food, Education, and Engagement to Consolidate
Communities in Brooklyn

by

Jasper Crace

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ABSTRACT

This investigation examines the relationships between three communities on the Brooklyn Waterfront in New York. The three areas lack connectivity to the greater network of fresh produce provided by farmer's markets across New York, but the effect is stronger on Farragut Houses, a disadvantaged community who rely on poorly stocked supermarkets and corner stores for groceries, while facing segregation from this part of Brooklyn. Inspiration draws from personal observation during a year spent working in this part of Brooklyn, and was developed through research on urban agriculture and the socioeconomics of DUMBO, Vinegar Hill, and Farragut. The research suggests a project that aims to break down social barriers and unite the neighbourhoods through the activities and education involved in cultivating fresh and healthy food. This is accomplished through the phased design of a building located in Vinegar Hill, one half-block north of Farragut, to help facilitate this synergy between communities.

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CHAPTER 1: INTRODUCTION

In a changed world, comfort will come less from ownership than from membership. If you're a functioning part of a community that can meet at least some of its needs—for food, for energy, for companionship, for entertainment, for succor—then you're more secure. It is toward the gradual building of such communities that we will now turn.

Bill McKibben, *Deep Economy*¹

Intent



Figure 1.01: Introducing the Three Communities. Photographs Left to Right: Aer Lingus Group, Lizzie Boyle, Elizabeth Felicella

This project aims to confront socioeconomic problems faced by a public housing community that has been neglected throughout the development of the Brooklyn Waterfront area of New York City. Farragut Houses, a collection of ten towers just south of the neighbourhoods of DUMBO and Vinegar Hill in Brooklyn, is an isolated community of largely minority residents suffering from social isolation, class divide, and food insecurity. Unable to afford to shop or participate in the activities enjoyed by the elite residents and workforce of DUMBO's technology and arts industries, the residents of Farragut Houses either

¹ Bill McKibben, *Deep Economy* (Henry Holt and Company: New York, 2007), 120.



Figure 1.02: Project Context Within New York City

buy their food and groceries from small convenience stores (known in New York as bodegas) and poor quality supermarkets or otherwise travel inconvenient distances to find affordable fresh food. This constitutes the area as a food desert, which is defined as “an area of relative exclusion where people experience physical and economic barriers to accessing healthy food.”²

The aim of this project is to design something that specifically includes the residents of Farragut and can help connect them to Vinegar Hill, easing their social isolation. Community Food Centres, a model used in Canada, address these kinds of social issues through urban farming, education, and community engagement. Two of these projects, one in Ontario and one in Nova Scotia, as well as a community greenhouse project in Boston were studied and used as frameworks around which to design the project primarily targeting the issues faced by Farragut but also those encountered in DUMBO and Vinegar Hill.

Context

DUMBO



Figure 1.03: Dumbo. Photographs: Google Maps and Aer Lingus Group.

DUMBO, just west of Vinegar Hill, stands for “Down Under the Manhattan Bridge Overpass” and is nestled between where the Manhattan and Brooklyn bridges land on the Brooklyn side. This region of the Brooklyn waterfront has long

2 Jada Fehn, “Swamped: How Local Governments Can Improve Health by Balancing Exposure to Fat, Sugar, and Salt-Laden Fringe Foods,” *Journal of Affordable Housing & Community Development Law* vol. 24, no. 3 (2016): 2. <http://ezproxy.library.dal.ca/login?url=https://search.proquest.com/docview/1787151453?accountid=10406>.

been considered an important industrial hub of Brooklyn, persevering through the economic downturn in industrial production that affected NYC between 1950 and 1980 when the city as a whole saw a loss of half a million jobs.³ The few warehouses that did shut down in the area were taken over by artists in the 1970's who saw the area as a potential arts and culture hub. They coined the area 'DUMBO' because of its silliness, hoping it would ward off corporate developers.⁴ This ended up doing just the opposite. In 1981, real estate mogul David Walentas of Two Trees Management Company first purchased property in the area and by 1982 he owned 90% of the neighborhood. Two Trees' vision of a residential and commercial super-neighbourhood was met with great resistance by the loft-dwelling artists that had already tried to claim the area. The arts community protested and formed alliances to combat Walentas' corporate aspirations and managed to redirect his vision into what DUMBO has become today: a melting pot of arts, technology, and culture for New York's elite classes. DUMBO is now one of the richest neighborhoods in Brooklyn⁵ and creates a divisive barrier for the lower income residents of Farragut with each new development.

Farragut Houses



Figure 1.04: Farragut. Photographs: Google Maps and Nicole Beniveno/The New York Times.

- 3 David J. Madden, "Neighborhood as Spatial Project in Brooklyn, New York," *International Journal of Urban and Regional Research* 38, no. 2 (2013): 485. DOI:10.1111/1468-2427.12068.
- 4 Ibid.
- 5 Tanay Warekar, "NYC's most expensive neighborhoods include several new Brooklyn entrants", *Curbed New York*, April 16, 2018, <https://ny.curbed.com/2018/4/16/17243018/tribeca-most-expensive-neighborhoods-nyc-q1-2018>.

In 1952, the New York City Housing Authorities (NYCHA) opened Farragut Houses, located between York and Sands Street just south of DUMBO and Vinegar Hill.⁶ Today, Farragut Houses provides living quarters for almost 3,300 residents throughout its 1,390 apartments in ten towers, almost all of whom are African-American or Latino.⁷ The differences in income between the communities of Vinegar Hill, DUMBO, and Farragut are shocking, with residents of the former areas making upwards of \$190K per year while in Farragut, the household income is around \$18k.⁸ This, however, was not always the case. Sociologist David J. Madden, who has written extensively about this part of Brooklyn, states, “in 1970 these figures were less than \$2000 apart.”⁹ The gentrification of DUMBO since Walenta’s vision took flight has begun driving out the middle and lower classes from DUMBO and Vinegar Hill, which has in turn created the stark class divide that is physically represented by York Street.¹⁰



Figure 1.05: The York Street Class Divide.

The population of Farragut Houses is currently at a 36% unemployment rate.¹¹ With all of the new construction happening constantly in DUMBO and Vinegar Hill, one would think new jobs would become available for these residents but according to one of David J. Madden’s interviews this is not true:

6 Ibid., 483.

7 David J. Madden, “Pushed Off the Map: Toponymy and the Politics of Place in New York City,” *Urban Studies* 55, no. 8 (2018): 1609. DOI:dox.org/10.1177/0042098017700588.

8 David J. Madden, “Neighborhood as Spatial Project in Brooklyn, New York,” 489.

9 Ibid.

10 Ibid., 484.

11 Paula Katinas, “Fox Pushes for Safety Measures at Farragut Houses,” *Brooklyn Daily Eagle*, August 25, 2017, <https://brooklyneagle.com/articles/2017/08/25/fox-pushes-for-safety-measures-at-farragut-houses/>.

We can't even get a job out of it. I go over there, I say I live in the area and I need a job, and they're like, 'no'. It's wrong. Y'all come to our turf, and you can't just give us a job? We just want to work. There ain't no jobs for us.¹²

Along with high unemployment, 38% of Farragut residents did not complete high school.¹³ Across the street from Farragut on York Street is Public School PS-307 Daniel Hale Williams, where about 50% of the children in attendance come from Farragut families. This pre-kindergarten to grade five elementary school has recently been re-zoned to accommodate children from DUMBO and Vinegar Hill families, who cannot send their children to the overcrowded PS-8 Robert Fulton in Brooklyn Heights. The New York Times writes about this re-zoning in an article from 2015, concluding that no one seems happy about this situation, which only exacerbates tensions between the communities.¹⁴

Vinegar Hill



Figure 1.06: Vinegar Hill. Photography: Google Maps and Lizzie Boyle.

12 David J. Madden, "Neighborhood as Spatial Project in Brooklyn, New York," 490.

13 Alexandra Leon, "WATCH: Documentary Aims to Give a Voice to Forgotten Farragut Houses," *DNA Info*, February 7, 2017, <https://www.dnainfo.com/new-york/20170207/vinegar-hill/forgotten-farragut-houses-documentary-gentrification/>.

14 Kate Taylor, "Race and Class Collide in a Plan for Two Brooklyn Schools," *The New York Times*, September 22, 2015, <https://www.nytimes.com/2015/09/23/nyregion/race-and-class-collide-in-a-plan-for-two-brooklyn-schools.html>.

Vinegar Hill comprises of several blocks just north of Farragut Houses between DUMBO and the Navy Yard. It consists of light industrial warehouses coupled with low to medium density housing. Though sometimes conflated as a part of DUMBO,¹⁵ the scale of this neighborhood is much smaller than DUMBO's densely packed industrial and commercial buildings, giving it a much quieter appeal. Traffic is also considerably lower there. Vinegar Hill's defining characteristics are the historically designated row and town homes sprinkled throughout the neighborhood, some dating back as far as 1830.¹⁶ A looming presence in Vinegar Hill is the Con Edison power plant at the northern most tip, occupying almost 30 acres of space and providing the residents with a consistent humming noise (along with their electricity). The name Vinegar Hill comes from its Irish heritage, more specifically the Battle of Vinegar Hill fought between the Irish and the English in 1798¹⁷ and developers liked the name because it sounded "quaint." Such toponymy, Madden argues, has a negative effect on lower income residents:

DUMBO and Vinegar Hill are names created by and for specific residential typologies, which correspond to privileged class and social categories: loft tenants, luxury condominium residents, and brownstoners. These names signify forms of neighbourhood that exclude working class and poor people, and specifically residents of Farragut Houses and other nearby public housing developments.¹⁸

Urban Agriculture in New York and The Rise of Greenmarket and GrowNYC

Urban Agriculture is not a new concept in New York City and there are many examples of it throughout the five boroughs. A prominent example in New York is the Brooklyn Grange, a 2.5 acre roof top farm that grows produce year round to sell at New York's farmer's markets, which are located all over the city and run by two organizations called Greenmarket and GrowNYC. Myrtle Village Green is another nearby urban community garden specializing in

15 David J. Madden, "Neighborhood as Spatial Project in Brooklyn, New York," 483.

16 "Discover New York City Landmarks," accessed March 28, 2019, <https://nycplc.maps.arcgis.com/apps/webappviewer/index.html?id=93a88691cace4067828b1eede432022b>.

17 Grace Glueck and Paul Gardner, *Brooklyn: People and Places, Past and Present* (H.N. Abrams: New York, 1991), 104.

18 David J. Madden, "Pushed Off the Map: Toponymy and the Politics of Place in New York City," 1608.

educational programs on gardening techniques and providing raised bed space for community members to rent and use as family plots or personal gardens. Produce is harvested from the garden and sold back to the community. Myrtle Village Green is able to produce 1.3 tons of food per growing season according to their website. Since opening, MGV has also diverted 38,000 pounds of food waste from landfills through their composting programs.

Greenmarket dates back to 1978 and has seen an astounding amount of growth since then. It was created by urban planner Barry Benepe as a reaction to urban development's impact on farmland and how it affected small farmers.¹⁹ Benepe's vision was to not only provide New Yorkers with fresh produce in an urban setting while supporting local small farms, but also to "replicate the social amenity of European 'village square' markets and contribute to the neighborhood revitalization in post-fiscal crisis New York." In their opening year, Greenmarket partnered with Council on the Environment of New York City (CENYC), a non profit, privately funded organization that specializes in environmental education and community gardening, known today as GrowNYC.²⁰

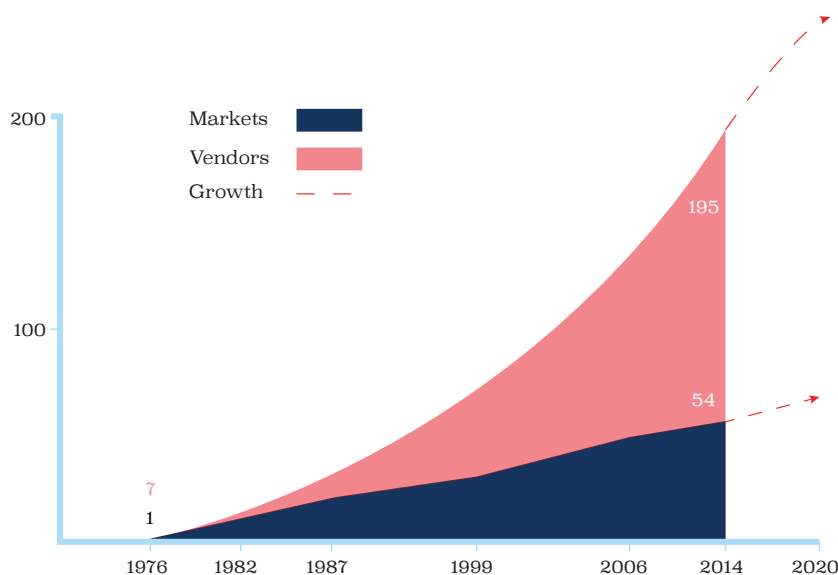


Figure 1.07: The growth of urban farming in NYC since 1976.

Starting out with a single location featuring produce from seven farmers, Greenmarket now has 53 locations across all five boroughs (almost half of which

¹⁹ Dory Kornfeld, "Bringing Good Food In: A History of New York City's Greenmarket Program." *Journal of Urban History* 40, no. 2 (2013): 346.

²⁰ *Ibid.*, 349.

Urban Agriculture and Greenmarkets in New York City



Figure 1.08: Greenmarkets and Urban Farms in NYC. Left Column Photographs: GrowNYC, Sarah Blesener, Brooklyn Grange, Ari Burling. Right column: Meg Cotner, The Real Deal, Bridget Badore, Myrtle Village Green, GrowNYC

are open year-round) serving produce from 195 vendors sourcing food from within 120 miles of New York City.²¹ Benepe's original vision of Greenmarket has shifted over its lifespan whilst drawing both praise and criticism, and in 2007 Benepe left the organization. The current owner, Michael Hurwitz, has gotten the original goals back on track with a main focus on social justice which stems from his work at the community development program at a Red Hook housing project much like Farragut.²² Greenmarket has numerous programs that help provide fresh food to those less fortunate such as accepting SNAP (Supplemental Nutrition Assistance Program) electronic benefits cards (EBT), providing bonuses for EBT use at Greenmarket locations, and also helping supply neighborhood bodegas with fresh produce as well as the means to refrigerate and display it. There are also programs through Greenmarket that enable at-risk youth to work at market stands in underserved neighborhoods.²³

Farragut's Socioeconomic Problems

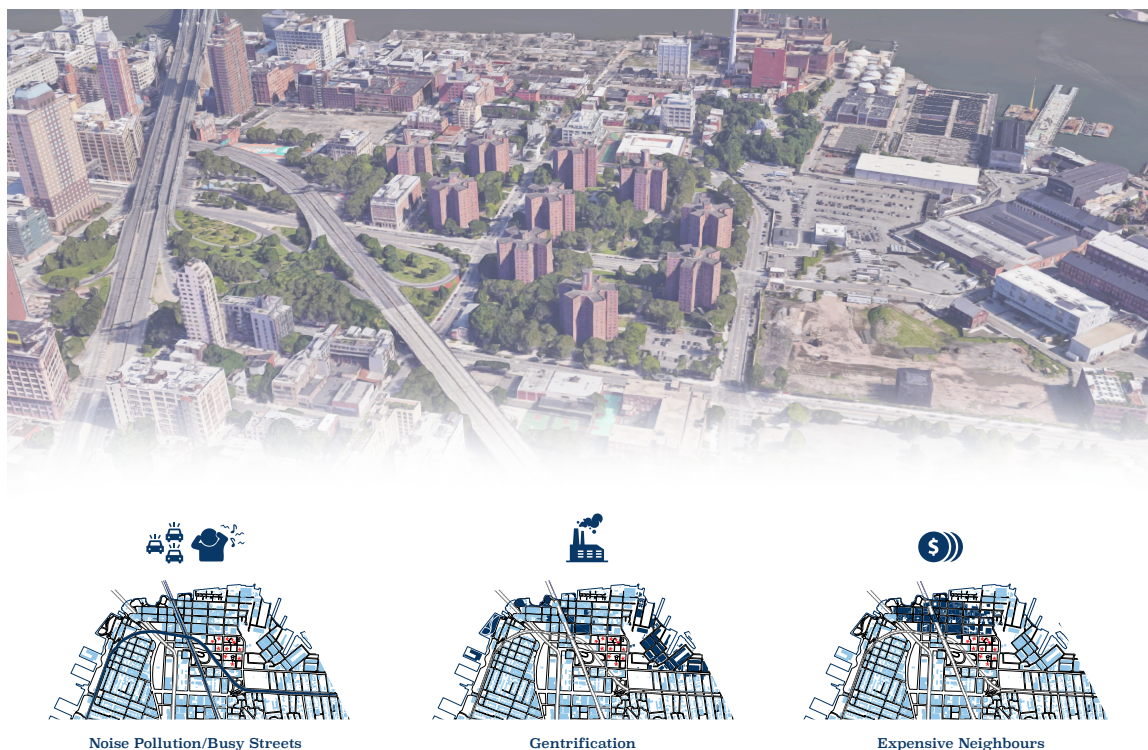


Figure 1.09: Social Isolation of Farragut. Photograph: Google Maps

21 Ibid.

22 Ibid, 352.

23 Dory Kornfeld, "Bringing Good Food In: A History of New York City's Greenmarket Program." *Journal of Urban History* 40, no. 2 (2013): 352.

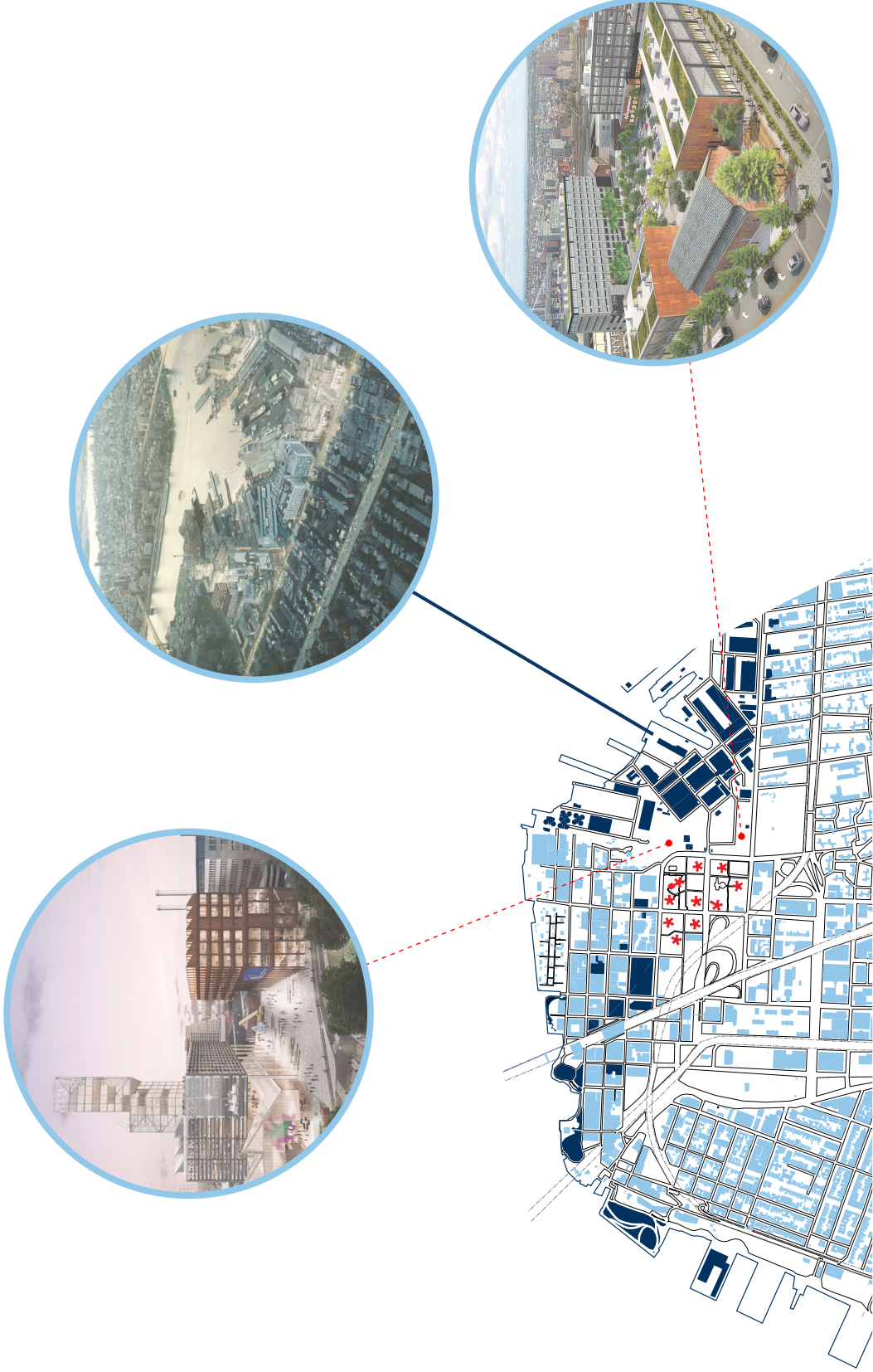


Figure 1.10: The Navy Yard as a major example of gentrifying Brooklyn. Photographs: Brooklyn Navy Yard Development Corp.

Social Isolation

Farragut is an isolated community for a number of reasons. They face physical barriers in the form of the Brooklyn-Queens Expressway (BQE) and the on-ramp to the Manhattan Bridge, and class barriers separating them from the wealthier neighborhoods of Vinegar Hill, DUMBO, and the impending Navy Yard development.

The BQE, a six-lane elevated highway connecting Brooklyn to Queens, wraps around the southwestern edge of Farragut providing the residents with plenty of noise pollution²⁴ and cuts them off from Downtown Brooklyn to the south, making the site hard to access by car and difficult to navigate as a pedestrian.

North of Farragut, the neighborhoods of Vinegar Hill and DUMBO present the residents with a class barrier. Many Farragut residents feel that none of the developments happening in these two areas consider their needs and they feel excluded, as expressed by this Farragut resident interviewed by Madden: “If we went down there, for restaurants and basic activities, it would be too expensive for most of us... it’s not designed around the needs that we have.”²⁵

The Navy Yard to the east has been under construction for the past several years. The project is estimated to be completed in 2021: a \$2.1 billion and 5.5 million square foot development catering towards upper middle class industry that will only serve to underscore the existing isolation felt by Farragut residents.²⁶

Food Desert

Most Importantly, this area is considered a food desert. In terms of grocery shopping and dining amenities, the area consists of several supermarkets of varying quality, restaurants ranging from fast food to fine dining, and several ‘bodegas’, or corner stores. DUMBO is served by two main supermarkets. Peas

24 Paul Berger, “City to Weigh New Option for Highway --- Community members push plan to move BQE over Brooklyn Bridge Park during repairs”, *Wall Street Journal*, October 2018, <https://www.wsj.com/articles/new-york-city-will-consider-new-option-for-bqe-in-brooklyn-heights-1538158476>.

25 David J. Madden, “Neighborhood as Spatial Project in Brooklyn, New York,” 490.

26 Diana Budds, “Exclusive: The Brooklyn Navy Yard is reinventing architecture—and itself”, *Curbed, New York*, September 27, 2018, <https://ny.curbed.com/2018/9/27/17906392/brooklyn-navy-yard-master-plan-wxy-vertical-manufacturing>.

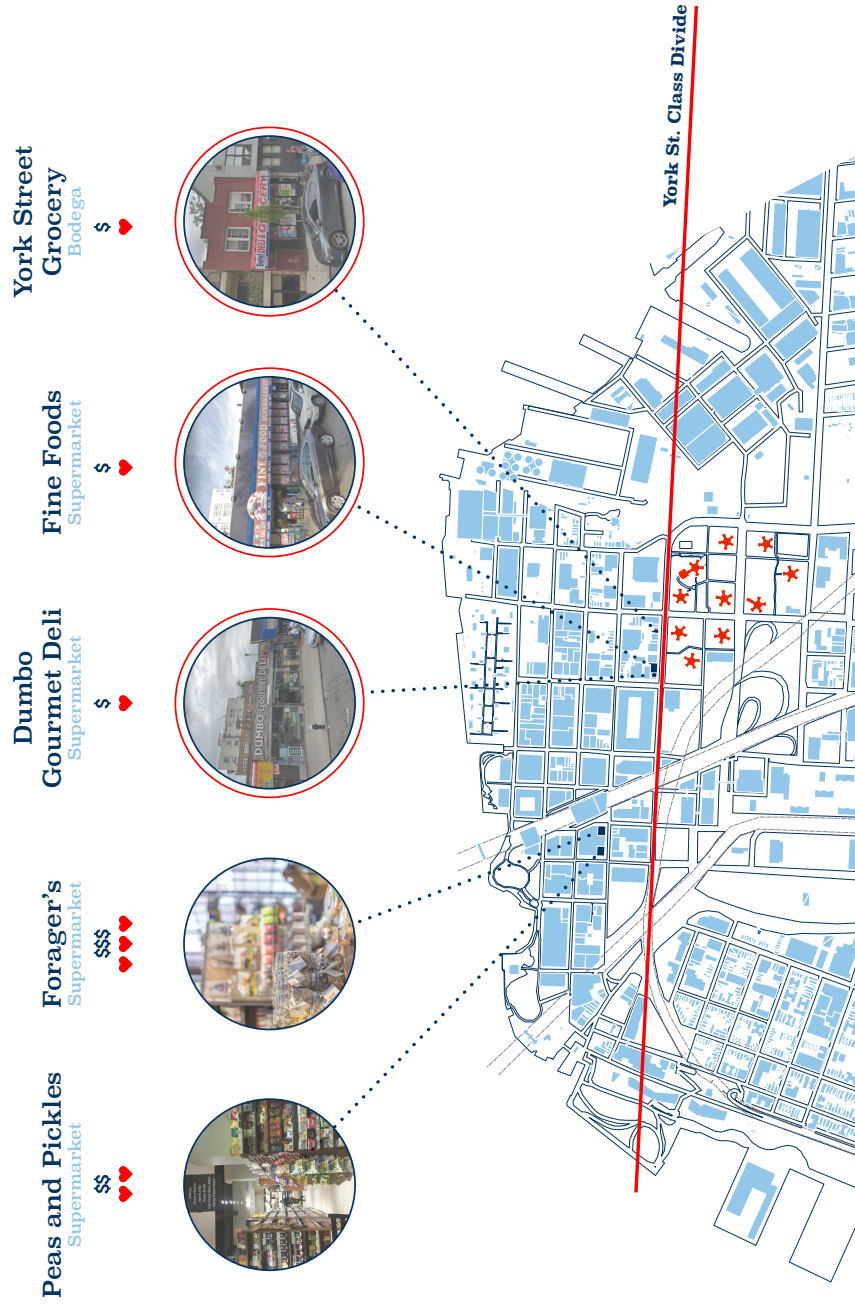


Figure 1.11: Grocery Shopping Options for DUMBO, Vinegar Hill, and Farragut Residents. A New York Think Tank called the Manhattan Institute states that an area is considered underserved if there is less than 3 square feet per person of supermarket space. For all three communities, some rough calculations show supermarket square footage at 1.9 per person. For Farragut residents, most of whom are limited to the poor quality options along York Street, the number is more like 1.6. Photography Left to Right: Trip Advisor, Postmates, Google Street View

and Pickles, on the corner of Front and Washington street, serves made-to-order lunches and has a single aisle of produce along with several aisles of packaged groceries and household necessities. On the same block at the opposite corner, Foragers is the fine foods market and grocery store with better quality produce and groceries at a considerable mark-up. For Farragut, the closest grocery options lie along York Street, facing Farragut. Fine Foods Supermarkets, DUMBO Gourmet Deli, and York Street Grocery are the most accessible grocery options.

York Street Grocery is what New Yorkers refer to as a ‘bodega’. Gothamist, a prominent NYC website about news, arts, and culture provides this description of what a bodega is to a New Yorker: “Inside we are not surprised to find a resident cat, slightly dusty groceries, and a few neighborhood guys bullshitting about current events.”²⁷ A Farragut resident describes the grocery shopping situation faced by her community:

I can’t go food shopping around here,” said Michelle’s mom, Michelle Nieves, squeezing a mushy cantaloupe at Fine Food, the closest supermarket to the Farragut Houses. “Everywhere else around here is too expensive.”²⁸

In 2009, Councilwoman Letitia James declared that the residents of Vinegar Hill and Farragut lived in a food desert.²⁹ In 2010, a supermarket was promised by the Bloomberg office to be developed in the Admiral’s Row portion of the Navy Yard, which consisted of a strip of historic row houses neighboring Farragut along Flushing Avenue. That supermarket, a Wegman’s, is currently under construction after a tumultuous development period and is set to open in 2021 with the Navy Yard. For Farragut residents such as Karen Mann, who needs to take a cab to do her grocery shopping at Western Beef supermarket over three miles away and get her fresh produce twice a week from the Pathmark

27 “Ask A Native New Yorker: What’s The Difference Between A Bodega, A Deli & Corner Grocer?” *Gothamist*, May 2, 2014, http://gothamist.com/2014/05/02/ask_a_native_new_yorker_whats_the_d.php.

28 Simone Weichselbaum, “Life of poverty and fear for those living in the shadow of wealth,” *Brooklyn Daily Eagle*, February 27, 2011, <https://www.nydailynews.com/new-york/life-poverty-fear-brooklyn-housing-project-shadow-wealth-article-1.136773>.

29 Mike McLaughlin, “Want to open a supermarket? Here’s your chance,” *Brooklyn Paper*, July 17, 2009, https://www.brooklynpaper.com/stories/32/29/32_29_mm_navy.html.

in the Atlantic Center a mile and a half away, this could not happen any sooner.³⁰ This is proof enough that steps are being taken to address the problem of food security faced by this community. However, as the next section will discuss, merely adding a grocery store to a food insecure community is not enough to change poor consumption habits.

Effects of Food Deserts

Fringe Foods

Underserved neighbourhoods are a city wide problem in New York. According to a report by Howard Husock, vice president for research and publications at a think tank for domestic policy and urban affairs called the Manhattan Institute, over half of NYCHA's properties are located in what the city has declared to be a food desert. The most prominent health related problems in these areas are obesity, diabetes, and heart disease.³¹ Jada Fehn asserts that the main contributing factors to the social and economic problems presented by food insecurity are what's known as fringe foods. These are salty, fatty, sugary foods made affordable and convenient, intensely marketed (especially towards youth) and sold in fast food restaurants and convenience stores such as bodegas, where many of Farragut residents do their shopping.³²

Consumption Habits

Adding a supermarket to a region suffering from food insecurity or insufficient healthy food options is not enough to ensure a change in behavior, as is illustrated by a study featured in the journal *Public Health Nutrition*. The study took a neighborhood in the Bronx borough of NYC called Morissania, a known food desert largely inhabited by minorities, and surveyed the residents on

30 Keith Williams, "Promised a Supermarket Five Years Ago, a Housing Project Is Still Waiting," *The New York Times*, April 17, 2015, <https://www.nytimes.com/2015/04/19/nyregion/promised-a-supermarket-five-years-ago-a-housing-project-is-still-waiting.html>.

31 Howard Husock, "Turning Food Deserts into Oases: Why New York's Public Housing Should Encourage Commercial Development," *Manhattan Institute*, October 25, 2016, <https://www.manhattan-institute.org/html/turning-food-deserts-oases-new-york-public-housing>.

32 Jada Fehn, "Swamped: How Local Governments Can Improve Health by Balancing Exposure to Fat, Sugar, and Salt-Laden Fringe Foods," *Journal of Affordable Housing & Community Development Law* vol. 24, no. 3 (2016): 2. <http://ezproxy.library.dal.ca/login?url=https://search.proquest.com/docview/1787151453?accountid=10406>.

their shopping choices over a year after the opening of a new supermarket in the neighborhood. The results concluded that although at first the consumption of fringe foods saw a slight decrease, after a year the levels were back to what they once were. The authors attribute this to the pervasive marketing and addictive nature of fringe foods trumping any efforts to shop differently.³³ According to Francine Rodier and Fabien Durif, the most important thing that needs to happen is education on nutrition.³⁴

Crime Rates

Crime rates in Farragut are high. The buildings are used to traffic drugs like cocaine and heroin, and violence is reported on the premises often, ranging from fights and muggings to murder. Last year a man was gunned down at a bus stop across the street from the site.³⁵ Research has proven that communities suffering from malnutrition tend to have higher crime rates.³⁶ The results of a study conducted by The Journal of Criminal Justice concede the link between poor nutrition in kindergarten students and antisocial behavior in later elementary years.³⁷

33 Brian Ebel et al, "Assessment of a government-subsidized supermarket in a high-need area on household food availability and children's dietary intakes," *Public Health Nutrition* 18 (2015): 2889.

34 Francine Rodier and Fabien Durif, "Food Deserts: Is it all about a limited access?" *British Food Journal*, vol. 119, no. 7 (2017): 1505.

35 Kerry Burke and John Annesse, "Man Shot Dead at Brooklyn Bus Stop," *Brooklyn Daily News*, October 26, 2017, <https://www.nydailynews.com/new-york/nyc-crime/gunman-kills-brooklyn-grad-student-bus-stop-article-1.3589326>.

36 Debbie S. Thompson et al, "Socioeconomic factors associated with severe acute malnutrition in Jamaica," *PLoS ONE* 12 (3): e0173101. <https://doi.org/10.1371/journal.pone.0173101>.

37 D.B. Jackson, "The Link Between Poor Quality Nutrition and Childhood Antisocial Behavior: A genetically Informative Analysis," *Journal of Criminal Justice*, vol. 44 (2016): 17. DOI: 10.1016/j.jcrimjus.2015.11.007.

CHAPTER 2: DESIGN

Case Studies

A Community Food Centre, a Canadian concept, is described as “a welcoming space in a low-income neighbourhood where people come together to grow, cook, share, and advocate for good food. CFCs provide people with access to high-quality food in a dignified space.”³⁸ The term was coined by Nick Saul, the CEO of Community Food Centres Canada, and there are currently twelve CFCs nationwide. This section will discuss two of these CFCs and their benefits to their respective communities—The Stop, the original Community Food Centre in Toronto, Ontario and Dartmouth North Community Food Centre in Dartmouth, Nova Scotia. The Dudley Greenhouse in Roxbury, Massachusetts will be examined as an American example of a similar concept.

The Stop

Nick Saul began working at the The Stop in 1998, when it was originally a food bank for a social housing building called Symington Place in Toronto’s Davenport West neighbourhood.³⁹ After realizing how ineffective it is to simply provide food for those who do not have easy access to it in the form of charitable donation, Saul began looking at the problem differently. In 2001, the project adopted the name The Stop: Community Food Centre and focused on building community ties and improving mental and physical health for the impoverished residents of the community (one of the poorest in Toronto⁴⁰) through their drop-in meal programs, advocacy for social justice, and educational classes on cooking and food preparation.⁴¹ In 2009, The Stop partnered with Artscape, an organization that promotes the rehabilitation of derelict community buildings into arts and cultural hubs, for the adaptive reuse of an old repair station for Toronto’s streetcars, designed by Joe Lobkin and DTAH Architects. Within Wychwood Barns, the name of the building consisting of five linear repair stations, The

38 Community Food Centres Canada, “About Us - Our Work,” www.cfccanada.org.

39 Charles Z. Levkoe and Sarah Wakefield, “The Community Food Centre: Creating a Space for a Just, Sustainable, and Healthy Food System,” *Journal of Agriculture, Food Systems, and Community Development* (2011), 251.

40 Ibid.

41 Ibid.

Stop opened the ‘Greenbarn’ which includes a greenhouse, commercial kitchen, demonstration gardens, and classrooms located only a short street car ride from the original CFC site.⁴² The space has a beautiful design that maximizes natural light, greenhouse technology, and coordinates flow between community based activity. The community kitchen and educational gardens serve many roles in community outreach programs. Both of The Stop’s locations serve a vitally important role in the well-being and cohesiveness of this neighbourhood in Toronto.⁴³



Figure 2.01: The Stop Community Food Centre. Photographs Left to Right: Artscape, Ted Chai, Schuster Gindin/Suzanne Long/Cookie Roscoe

Dartmouth North

Dartmouth North Community Food Centre is a local example of a fully functioning CFC model here in Nova Scotia. Only three years old, and located in an old grocery store building in the community of Dartmouth North, the CFC has had a massive impact on the lives of the residents in the community:

It helps people get out of their houses,” says 72-year-old Ken Maynard, a retiree who works at the community plot three or four days a week.
 “[...] it gives you a sense of pride in this community and what we can

⁴² Charles Z. Levkoe and Sarah Wakefield, “The Community Food Centre: Creating a Space for a Just, Sustainable, and Healthy Food System,” 251.

⁴³ Nick Saul and Andrea Curtis, *The Stop: How the Fight for Good Food Transformed and Community and Inspired a Movement* (Brooklyn, NY: Melville House, 2013), 15.

do for ourselves.⁴⁴

The statistics from 2017 are encouraging: 90% of people surveyed say DNCFC provides an important source of healthy food, 71% have noticed positive changes in their mental health, and 99% of people feel like they belong to a community at DNCFC⁴⁵. The Stop CFC and DNCFC are operated by Community Food Centres Canada, so their goals and programs are mandated by a singular entity: everything is oriented around growing, providing, educating, and gathering. I visited the DNCFC after reaching out to Anne-Marie McElrone, their Director of Partnerships. Meeting some of the volunteers (who are all community members) and seeing the enthusiasm and sense of camaraderie in the kitchen and dining hall as they prepped for that night's family drop-in dinner was inspiring.

DNCFC did not have much room to maneuver in the design of their project from a building standpoint, but the 21,000 square foot community garden outside exhibits some smart planning and execution, including maintaining the public travel paths through the site prior to the gardens being planted in order to leave the natural public circulation through the space uninterrupted. Not all community members want to engage with projects like this right away, but are still interested in fresh vegetables. To mitigate this, DNCFC included raised beds along the periphery of the site where passers by can take what they please without having to engage with the garden activity if they choose not to.

The role of an architect in projects like this could only improve the situation. For example, as Anne-Marie and I sat and chatted while we waited for the doors to open for dinner at 5:30 p.m. (the kitchen and dining hall would be overwhelmed if they had an open door policy, so dinner hours are posted between set times while the staff and volunteers prepare meals), she expressed to me how she hates seeing people lining up outside because she feels it is not dignified, and the CFC model is predicated upon dignified space. That is one simple yet important observation that could be mitigated by thoughtful design of interstitial space.

44 John Demont, "Community garden alive, thriving in North Dartmouth," *The Chronicle Herald*, October 2, 2017, <http://thechronicleherald.ca/opinion/1508398-demont-community-garden-alive-thriving-in-north-dartmouth?from=slidebox&slidebox=img>.

45 Dartmouth Family Centre, *2017-18 Annual Report*, accessed on March 27, 2019. <https://static1.squarespace.com/static/56315c33e4b015394b071f02/t/5bb7ae26eef1a1268a737ef6/1538764341879/combinepdf.pdf>.

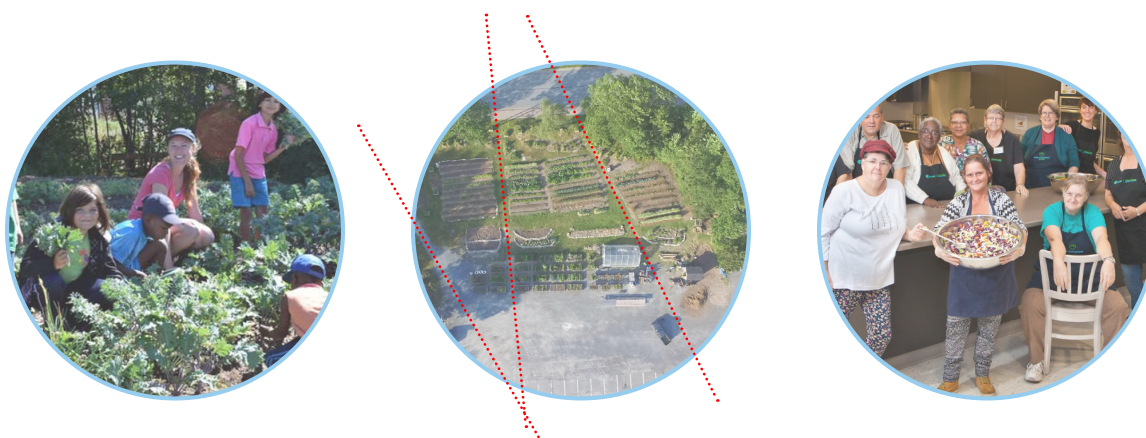


Figure 2.02: Dartmouth North Community Food Centre. Photographs Left to Right: Bella Noakes/The Coast, DartmouthCFC/Twitter, Dartmouth Family Centre

Dudley Greenhouse

The Dudley Greenhouse is a community greenhouse in Roxbury, Massachusetts. The community of Dudley saw deep decline in the 1980s due to violence, crime, and property abandonment resulting in ‘red-lining’ of the neighbourhood, which barred any economic growth and condemned the residents to an isolated existence. The area was a food desert for its mainly minority residents, it was an illegal dumping ground, and lacked any parks or recreational facilities.⁴⁶ In 2010, the Food Project and the Dudley Street Neighbourhood Initiative (DSNI) partnered up to create the Dudley Greenhouse, a 10,000 square foot greenhouse and educational center for the community. The greenhouse functions on one side as a year-round growing station for produce to be sold at market rates to restaurants and farmer’s markets, and on the other side as a community garden designed for the community members to congregate, learn, garden, and share experiences together around the anchoring subject of food and healthy habits. The Food Project runs their “Grow Well, Eat Well, Be Well” initiative through the greenhouse and overall the project has made great improvements to the neighbourhood.⁴⁷ Along with the greenhouse, the social justice initiative started by the partnership between the Food Project and

⁴⁶ Isabelle Anguelovski, *Neighborhood as Refuge: Community Reconstruction, Place Remaking, and Environmental Justice in the City* (Boston: MIT Press, 2014), 13.

⁴⁷ “The Dudley Greenhouse,” *The Food Project*, accessed March 28, 2019, <http://thefoodproject.org/dudley-greenhouse>.

DSNI has helped turn half of Roxbury's 1300 vacant lots into vegetable or plant gardens, helped decrease poverty from 32.4% in 1989 to 27% in 2008, and bring unemployment down to 10.5% in 2011 from 16.3% in 1990.⁴⁸



Figure 2.03: The Dudley Greenhouse. Photographs Left to Right: The Food Project, DSNI/Twitter, Chris Fowler

Conclusion

This research implies that as an anchor for solidifying social fabric and building stronger community ties in an area where social isolation, class divide, and food insecurity are major issues, a building inspired by the Community Food Centre model and the initiative of the Dudley Greenhouse is logical and appropriate. For Farragut residents, the surrounding area has been developing over the last few decades without considering them and will likely continue to do so, as the Navy Yard development proves, despite the inclusion of a desperately needed supermarket. The main problem, however, is the education on healthy habits and lack of community oriented, inclusive infrastructure. Without changing the perspective of shoppers, the same unhealthy fringe foods will continue to be purchased and the same health and social problems will persist as a result. The proposed building in Vinegar Hill will aim to tackle this problem from the ground up rather than the top down by providing hands on experience with growing food, preparing healthy meals, and bringing community members together in a space designed to be inclusive and dignified.

⁴⁸ Isabelle Anguelovski, *Neighborhood as Refuge: Community Reconstruction, Place Remaking, and Environmental Justice in the City* (MIT Press, 2014), 69.

Key Principles

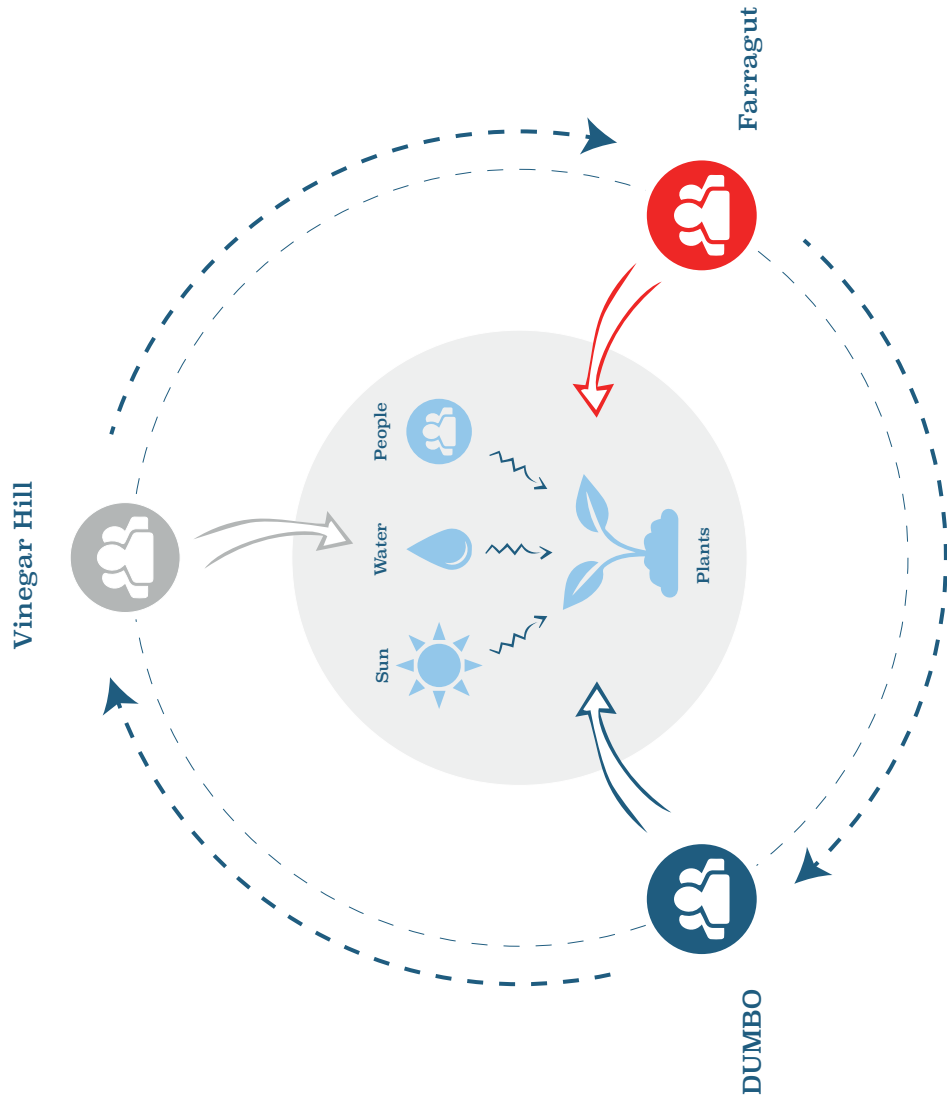


Figure 2.04: Design Principles. Plants need sunlight, water, and people. People need each other and benefit from having a sense of purpose. These are the core principles in designing the program and environmental needs of this project.

Adaptation to Brooklyn

Site and Context

The chosen site for this project is a 21,000 square-foot parking lot just north of Farragut along Gold Street. The site is an end lot, with frontages on Front Street, Gold Street, and Water Street, all providing unique and interesting ways with which the architecture can interact with the street and neighbouring buildings. The idea is to provide a mixing ground for these different communities who do not seem to want to interact with each other⁴⁹ through the implementation of this building whose program—primarily the activities and processes involved in growing vegetables—invites interaction between community members. Therefore, the siting of the project has been carefully considered. The location of a CitiBike station across the street from the proposed building site also helps make it accessible to anyone that wants to visit the building from other parts of the city. The closest public transportation is the B62 bus that stops outside of PS 307 Daniel Hale Elementary School, and the F train York Street Station, a few minutes' walk from Farragut.

Materiality

The character of Vinegar Hill is influenced by the charming appearance of the brick row and town homes that are sprinkled throughout the neighbourhood. These buildings, some dating as far back as 1830, are largely built of brick or other types of heavy masonry, such as brownstone or travertine. These residential buildings are the main contextual buildings surrounding this project, along with several brick warehouses, corrugated steel sheds, and the unmissable Dorje Ling Buddhist Centre, built in yellow-painted stone. In hopes of fitting this project into this neighbourhood sensitively, brick is chosen as the main cladding for the building.

For the structure of the building, I have selected a glue-laminated (glulam) column and beam grid system, with floors and roofs made from cross laminated timber (CLT), another form of engineered lumber. The intention is to leave the columns and beams exposed inside the building, and glulam has a warm

49 David J. Madden, "Pushed Off the Map: Toponymy and the Politics of Place in New York City," *Urban Studies* 55, no. 8 (2018): 1609.

aesthetic and relates poetically to the theme of cultivation and growth, which the project aims to express. Glulam also performs well in areas of high heat and humidity (or kitchens and greenhouses), hence its application in indoor swimming pools making it useful for greenhouse spaces.

Phase 1

By locating the proposed building just within Vinegar Hill, the project is itself a gesture of inclusion for the residents of Farragut, but a critical design challenge lies in designing the impetus for crossing York Street and inhabiting the new space. Simply dropping an expensive new building with utopian aspirations just beyond the imaginary line said to be rarely crossed by Farragut residents is bound to fail. To combat this, one approach to this project is to develop the building in phases. This allows the project to slowly work its way into the community over time. This is also logical because building the project in smaller pieces would be more financially viable for the imagined stakeholders of the project, which would likely consist of community partnerships and organizations such as GrowNYC or Core Services, or perhaps scholastic organizations such as City Growers who run educational programs for kids at urban farms throughout New York.⁵⁰

The first phase has a minimal intervention. The goal is to provide a platform for a new Greenmarket location, a benefit to this entire region of Brooklyn, as well as growing space for urban farming and a communal dining space. Outdoor barbequing in public parks is a popular New York activity and designated spaces for this can be provided as well, where cooking demonstrations of market produce can also happen. Rented space for rotating food trucks, another popular lunch option in this part of Brooklyn, could serve the market goers and the working class in the area and provide the project with revenue. The growing spaces are oriented towards the south and the whole site is treated as a catchment area for rainwater, which is collected and stored in two cisterns and accessed through the central mechanical room. The main materials used here are glue-laminated beams and columns forming the super structure sitting on isolated concrete pad footings and the service cores are built in concrete block with temporary roofs to enable future growth. These large cores can be used as canvases for local artists to paint over, making the site a

⁵⁰ City Growers, "About," accessed March 28, 2019, <https://citygrowers.org/>.



Figure 2.05: Site Character/Materiality. Top row (left to right): Painted garage door opposite north end of site along Water Street; View of existing site from southeast corner of Gold and Front Street; View of existing site from northwest corner on Water Street. Middle row (left to right): Townhomes on the corner of Gold and Water Street; Townhouse and adjacent warehouse along Gold Street facing site; Dorje Ling Buddhist Centre. Bottom row (left to right): Townhouse adjacent southwest corner of site; New brick condominium at corner of Water and Bridge Street; Scale increase and hints of modernity as Water Street becomes part of Dumbo.

platform for local artists as well. Foundations for future bearing walls are poured as well, and can be seen in section offset from the column grid. Accessibility is also considered with ramping between the two site levels, and this concrete easement with a stair landing can double as a performance platform for cultural performances of music, dance, or theatre.



Figure 2.06: Rotating food trucks serve DUMBO lunch at the DUMBO Lot.



Figure 2.07: Public barbequing in Brooklyn Bridge Park, DUMBO. Photo: Sai Mokhtari/Gothamist.

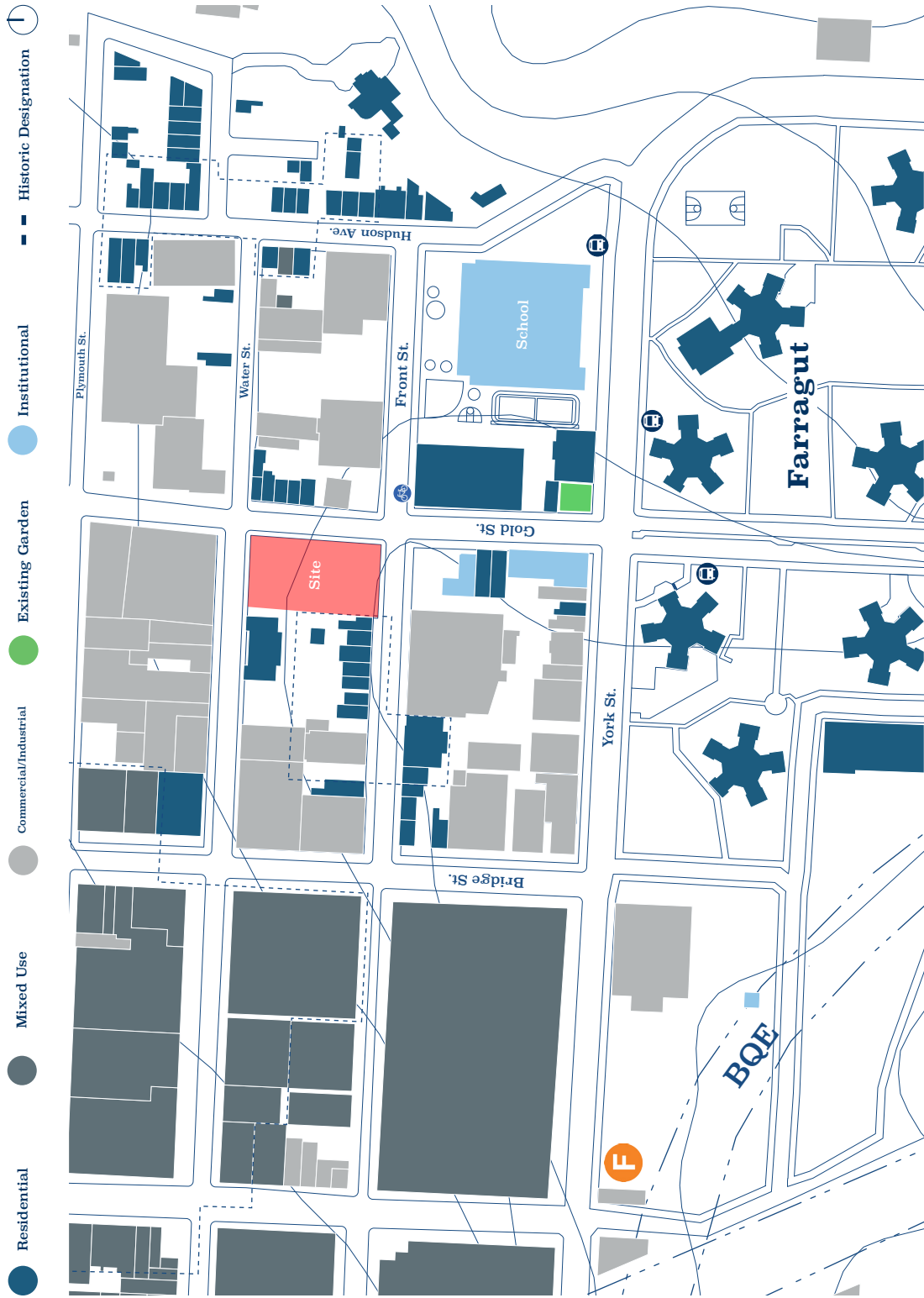


Figure 2.08 : Site Plan. Not to scale.

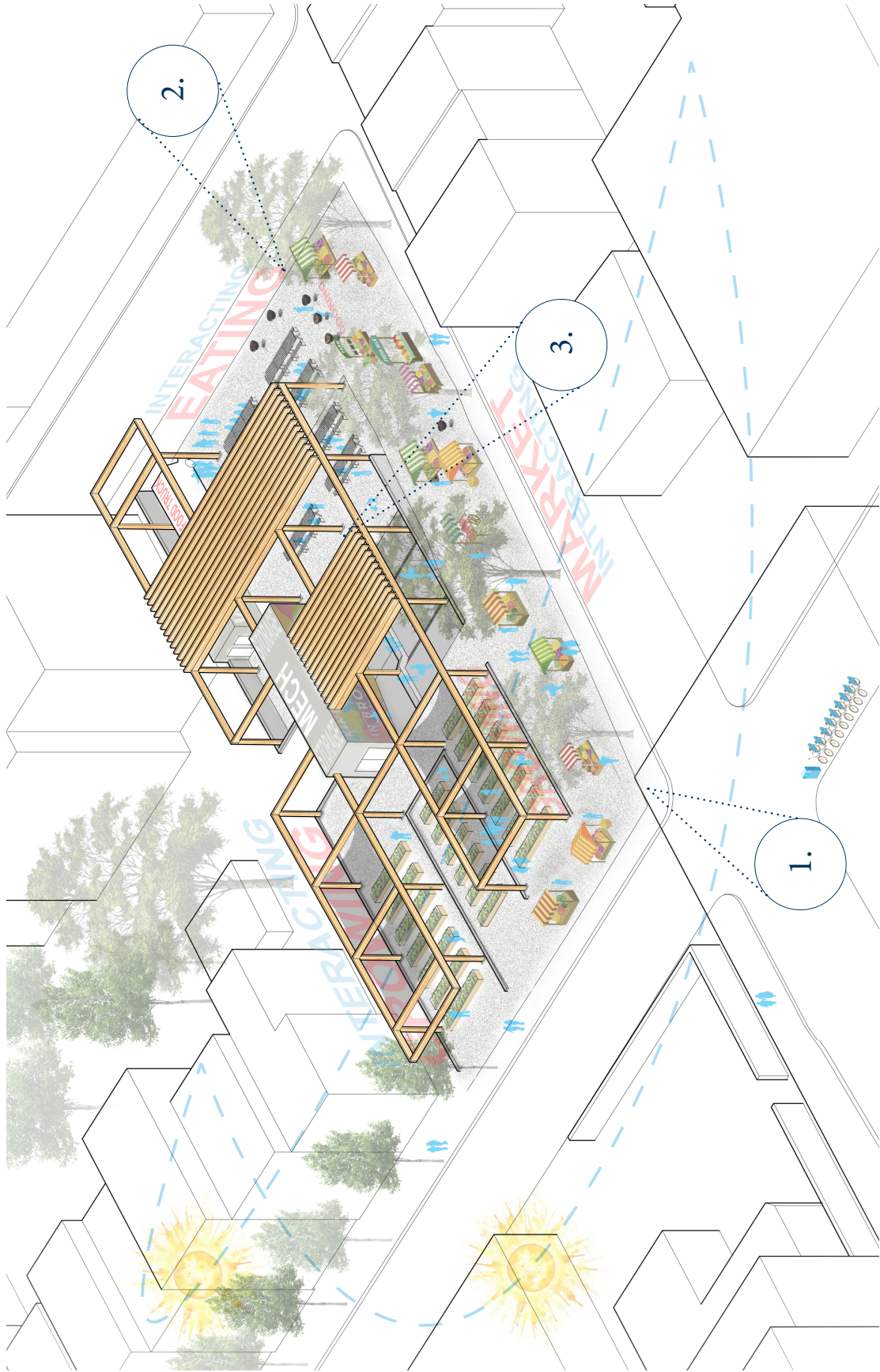
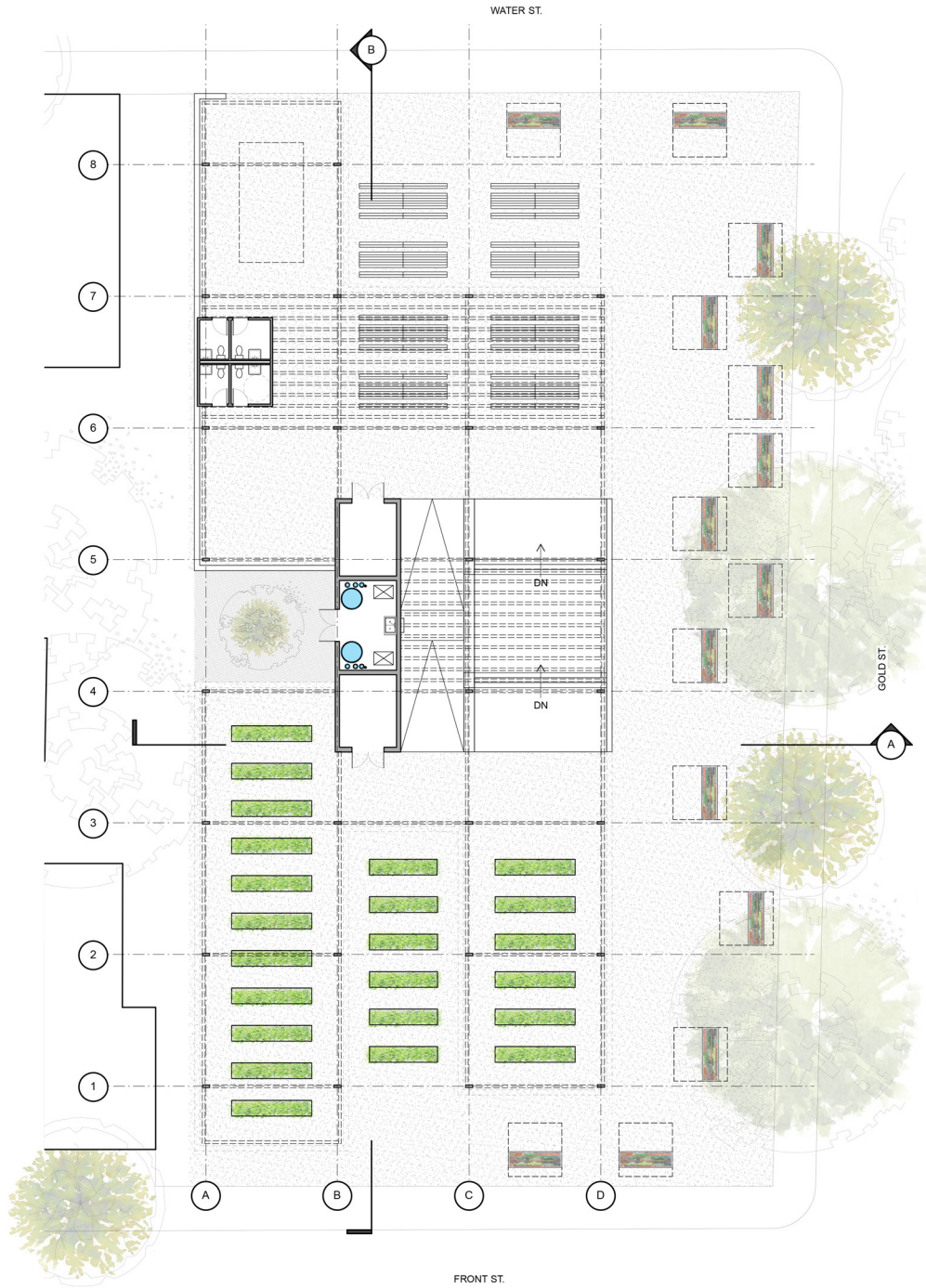


Figure 2.09: Phase 1 Isometric View.



Phase 1 Ground Floor 1:400



Figure 2.10: Floor plan.

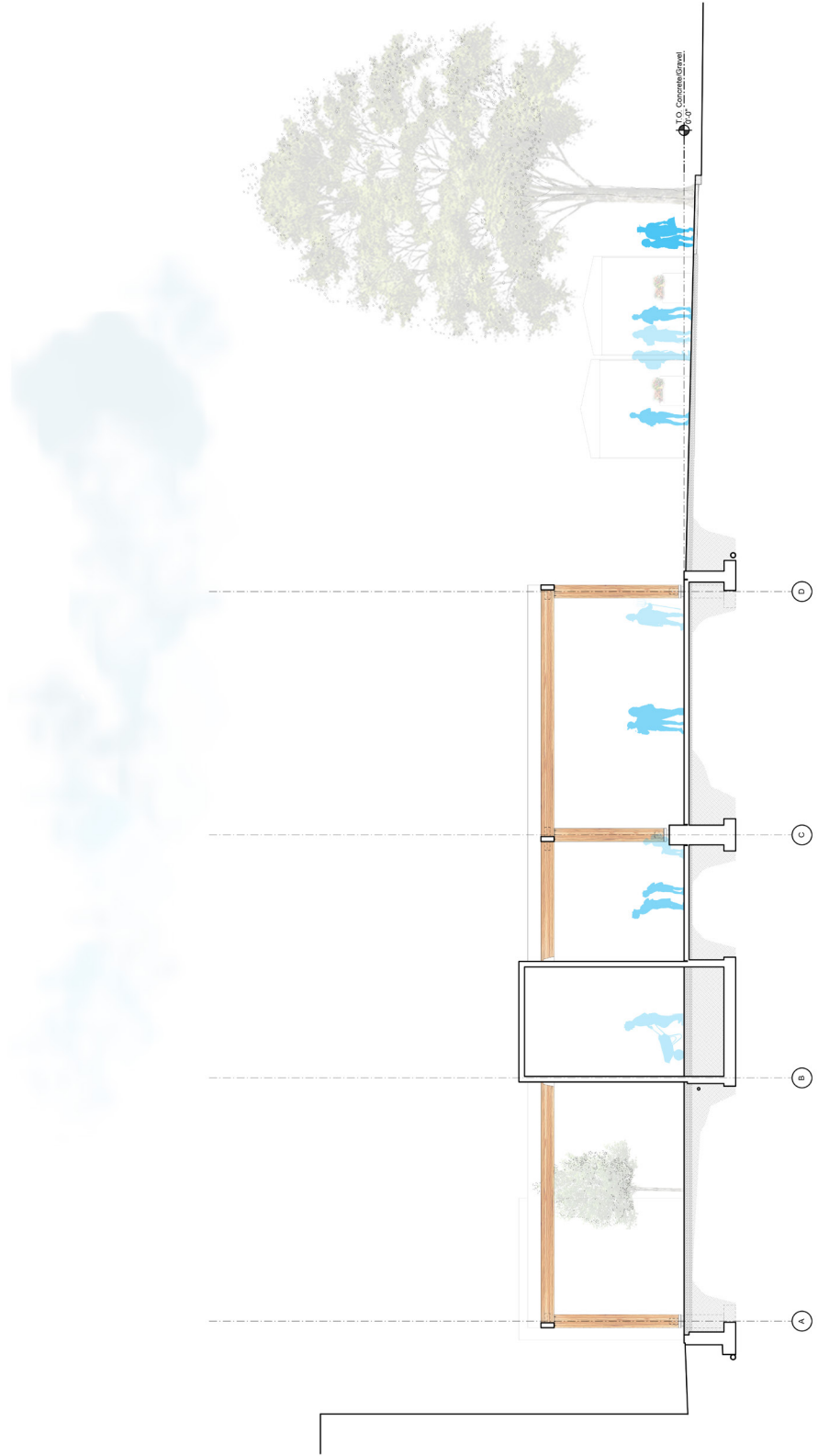


Figure 2.11: Phase 1 Cross Section A. Not To Scale.

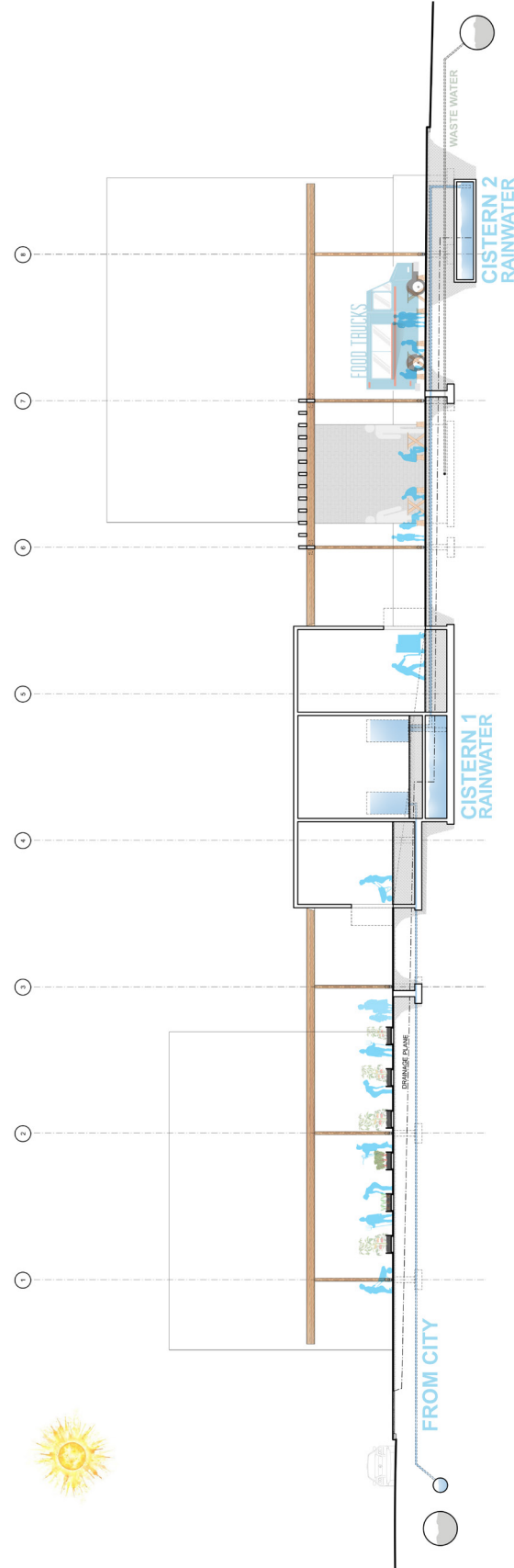


Figure 2.12: Phase 1 Longitudinal Section B. Not To Scale.

Farm to Market 1.

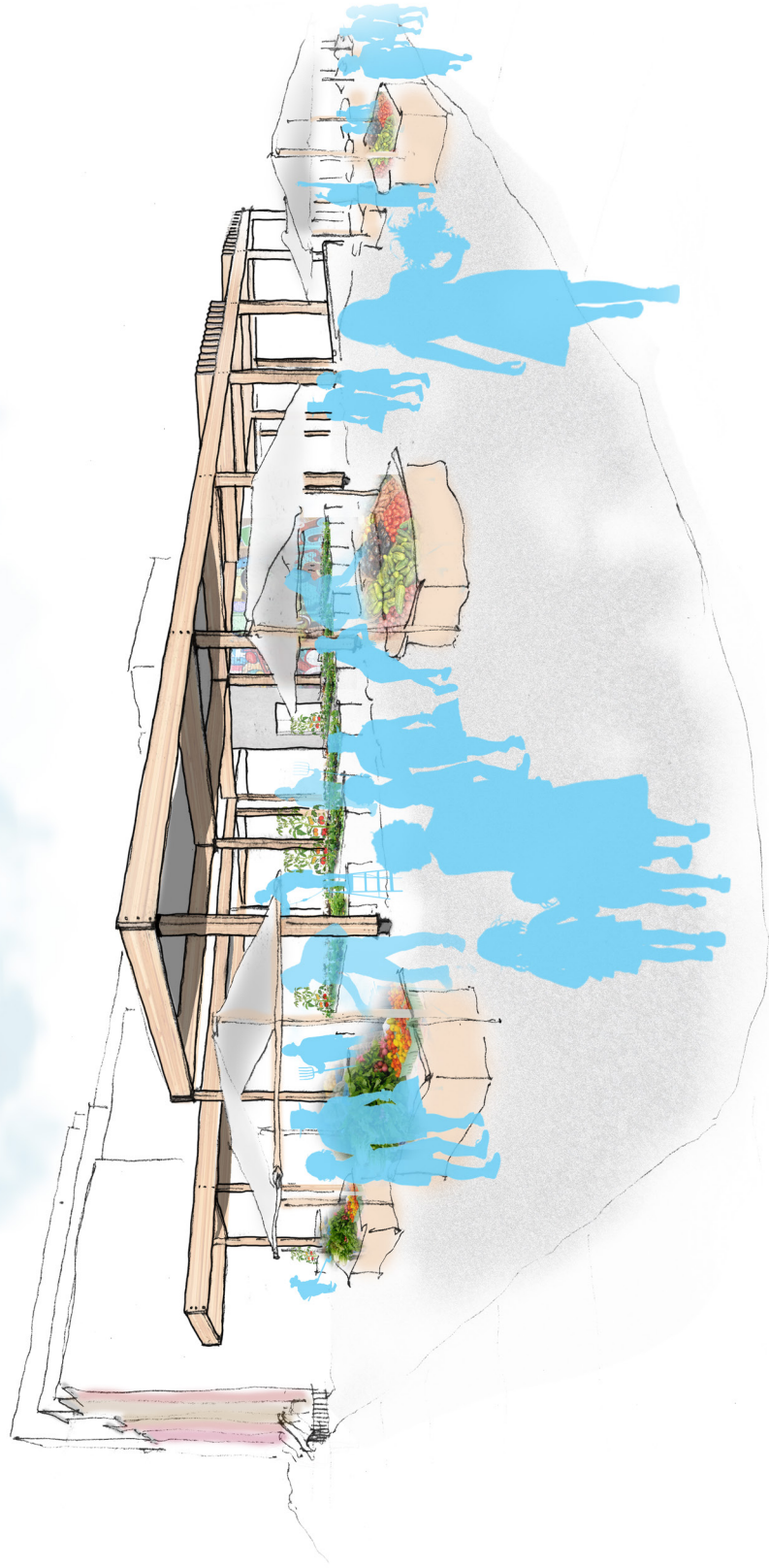


Figure 2.13: View of Market and Raised Beds.

Eating Together 2.



Figure 2.14: View of Communal Eating Space.

Cultural Events 3.

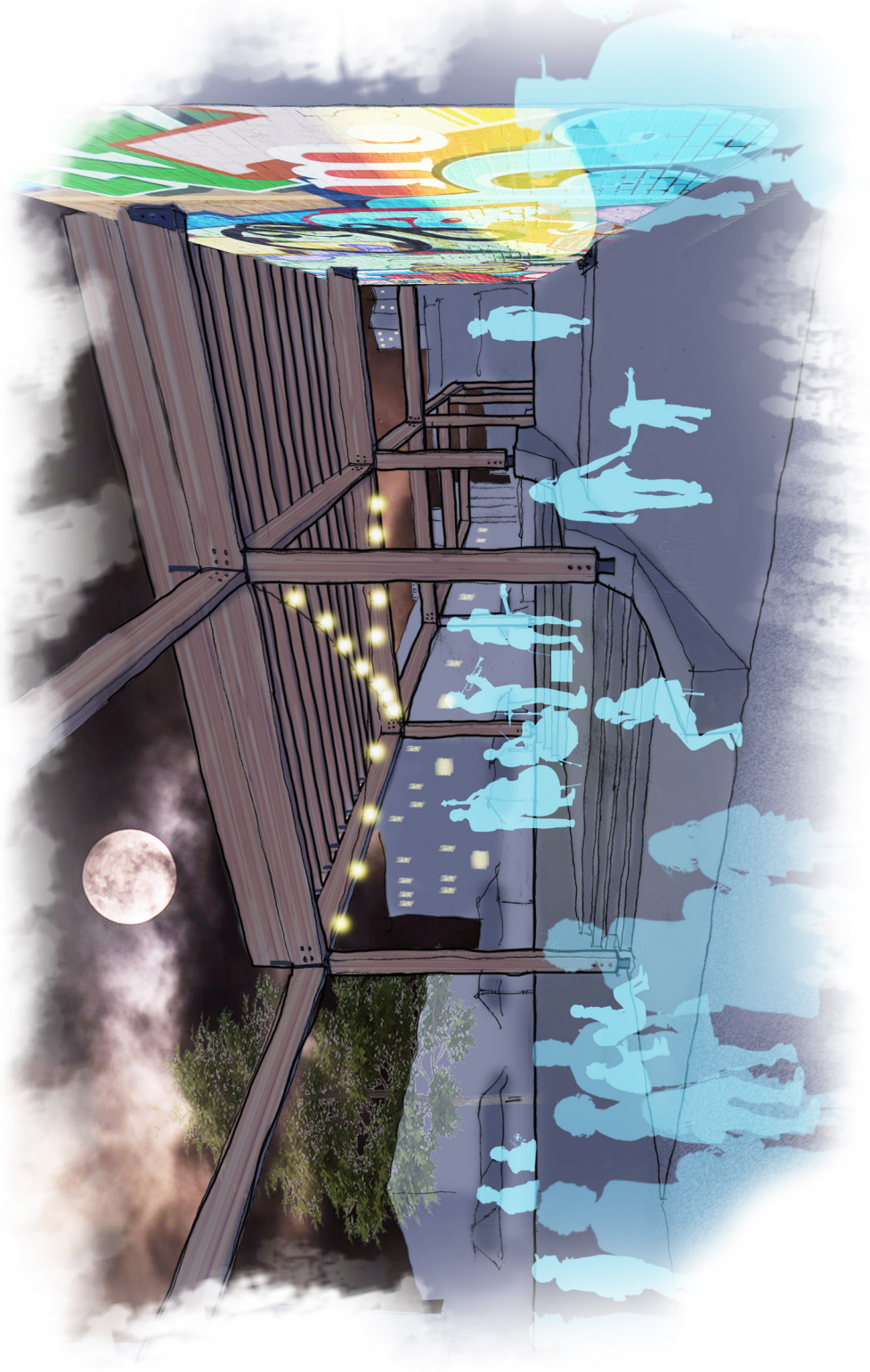


Figure 2.15: A band performing on the stair landing beside the ramp.

Phase 2

After a number of years, it might be decided that the project has picked up enough speed to justify the next phase. Most of the ground floor program remains the same but some spaces have become enclosed and the 1st floor has been partially built. There is now a large kitchen classroom on the ground level and the first greenhouse is built on top of it using polycarbonate, allowing for extended growing seasons and winter farming of appropriate crops. Adjacent to this space is a post harvesting room and educational lab, where people work together to clean and prepare grown produce for the market or further distribution, or where children and adults can learn about harvested food preparation. Opposite this space is the child-care so primary care givers can bring their children to work with them, and children are also encouraged to learn about growing and prepping food through workshops or after school programs potentially run by a partnering organization such as City Growers. In terms of architectural language, as the spaces are enclosed in brick, parts of the building nod to the adjacent historic townhouses, some dating back to 1830, before transitioning into a more unique form, with cantilevers providing new covered spaces on the market level. All of the growing spaces are still oriented south and water can be collected using new roof catchment areas, bringing it back into the central mechanical rooms for storage and access, which have grown by one storey with the rest of the building.



Figure 2.16: School children touring the Brooklyn Grange through City Growers. Photo: City Growers.

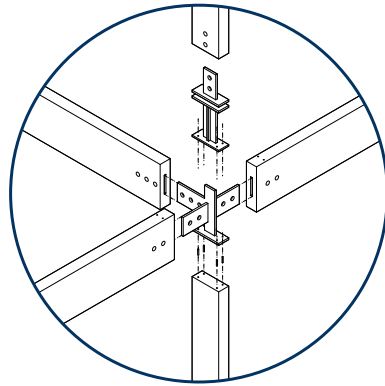


Figure 2.17: An imagined glulam connection detail using custom welded steel knife plates.

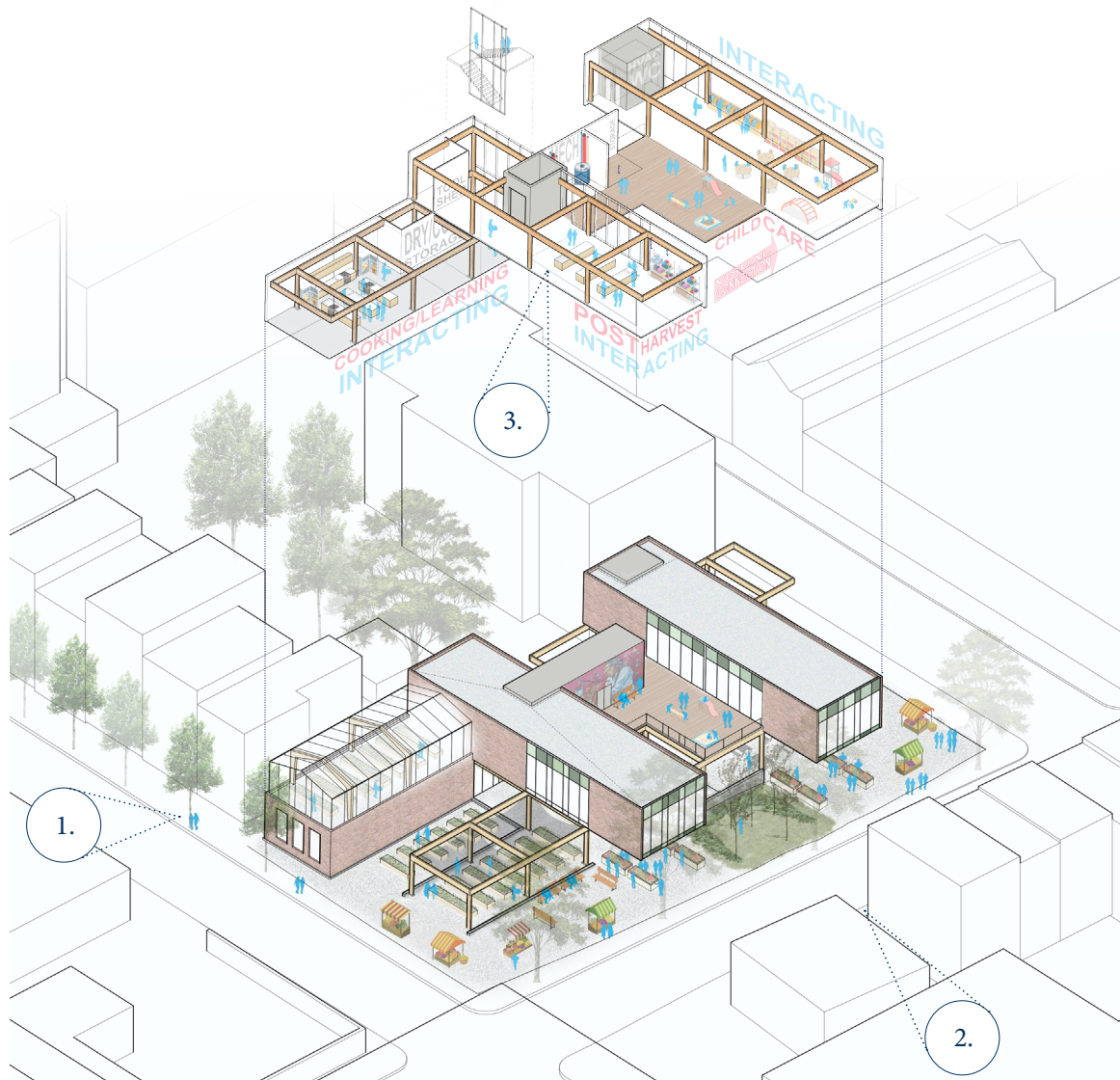
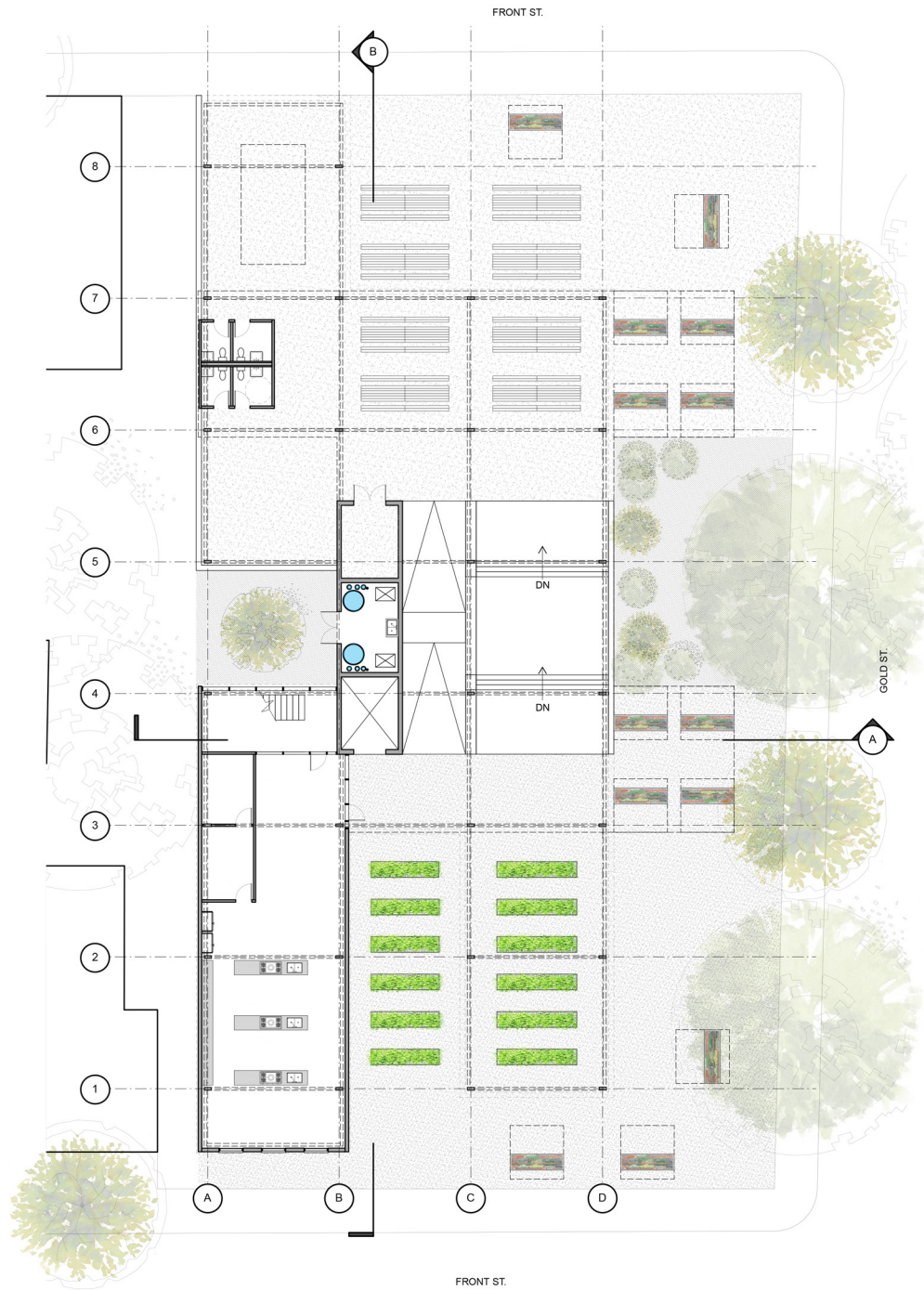


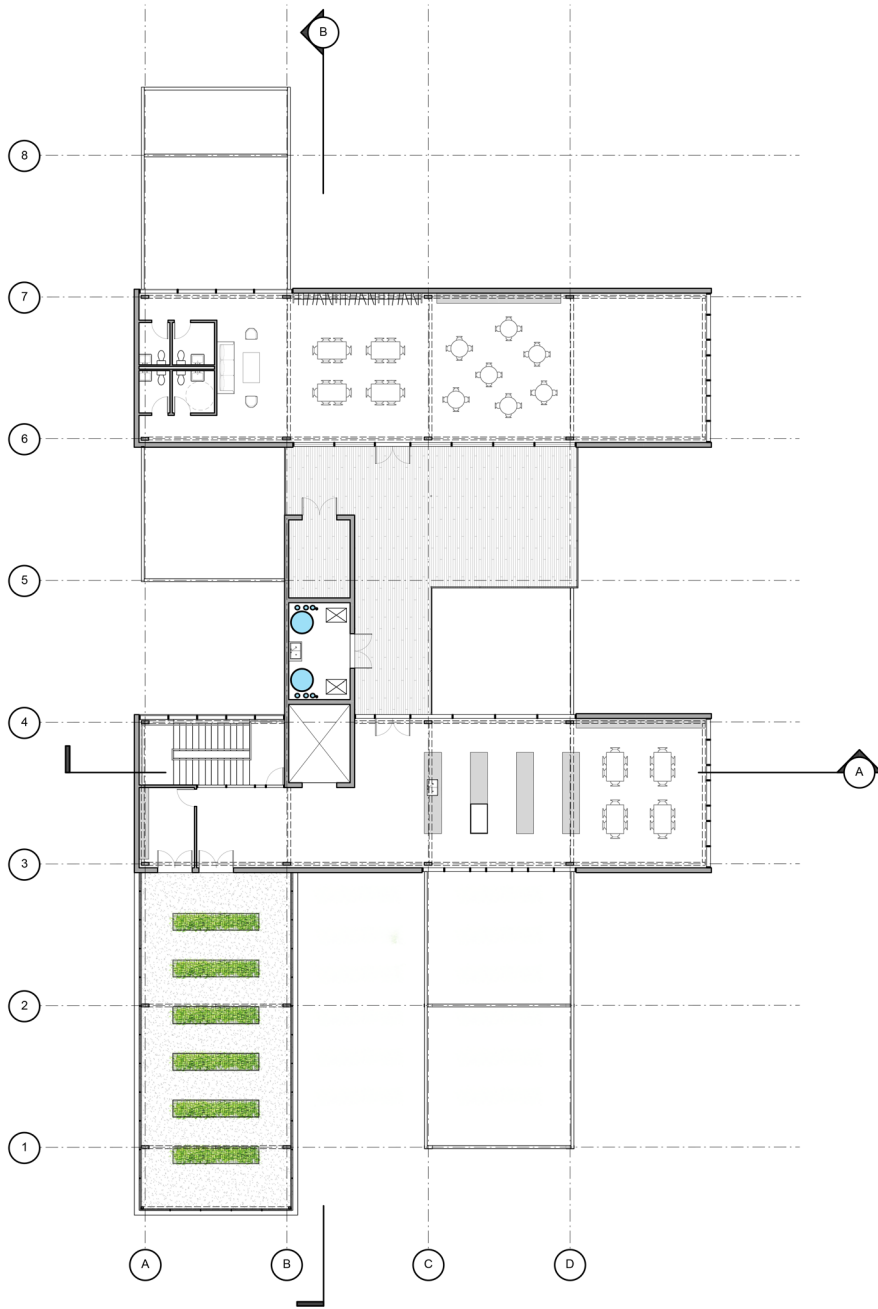
Figure 2.18: Phase 2 Isometric View.



Phase 2 Ground Floor 1:400



Figure 2.19: Floor plan.



Phase 2 First Floor 1:400



Figure 2.20: Floor plan.

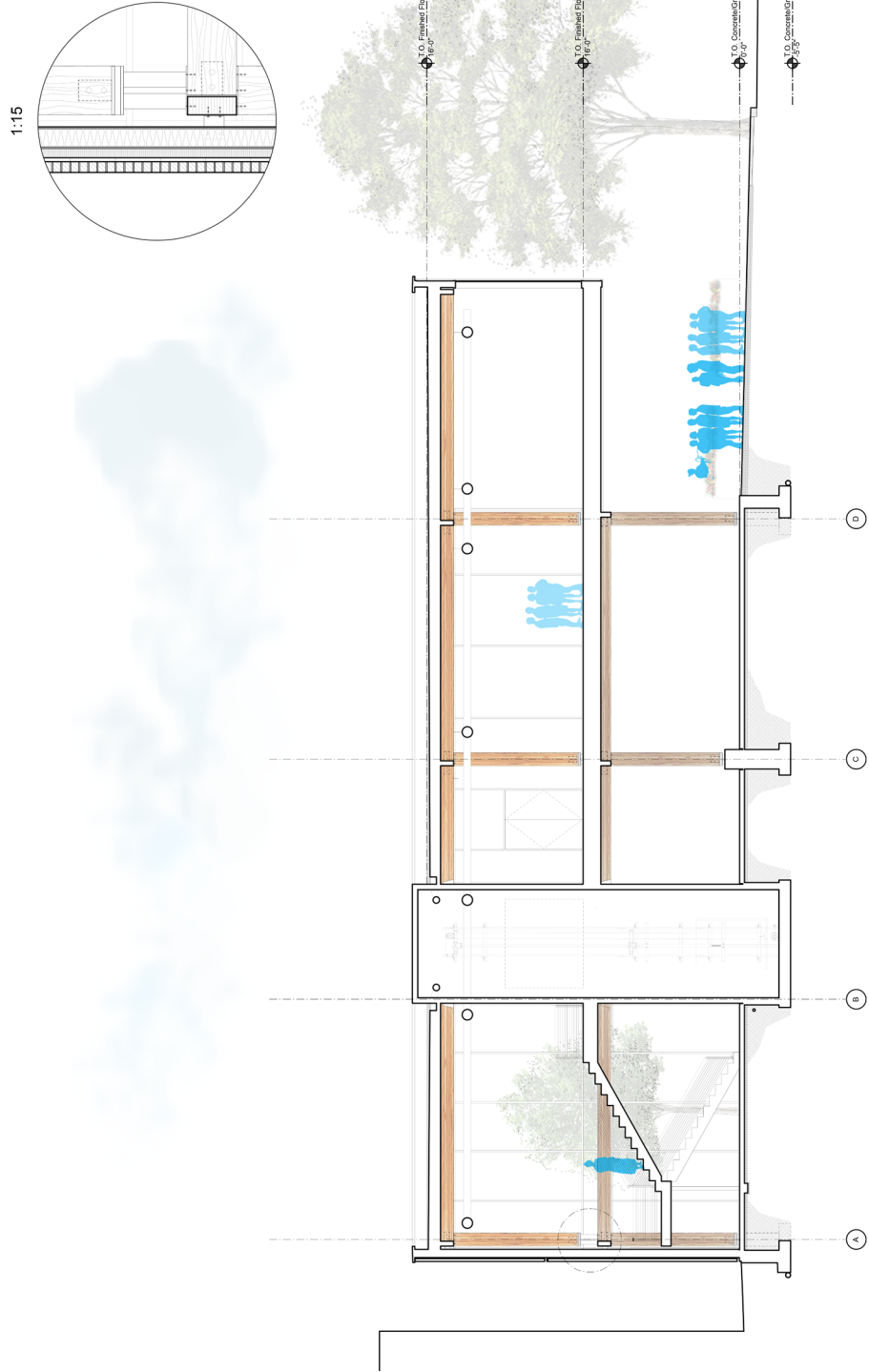


Figure 2.21: Phase 2 Cross Section A. Not to scale. Different weathering is noticeable on the glulam members from phase 1, which have been exposed to the elements and have been in place much longer.

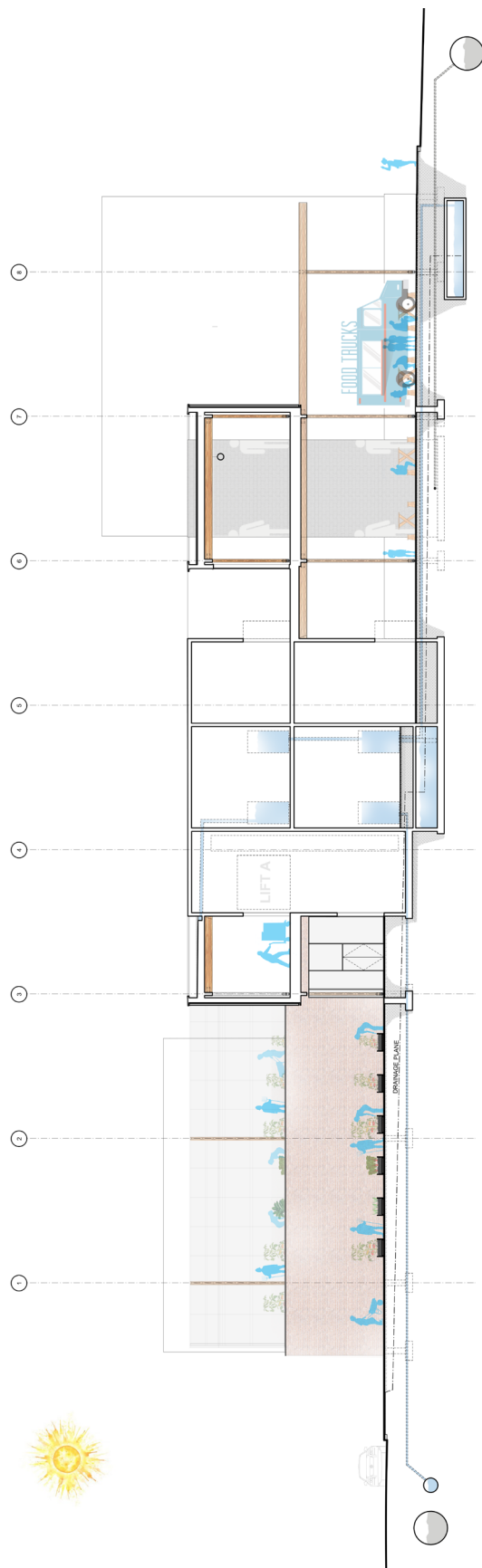


Figure 2.22: Phase 2 Longitudinal Section B. Not to scale.

Fitting In 1.

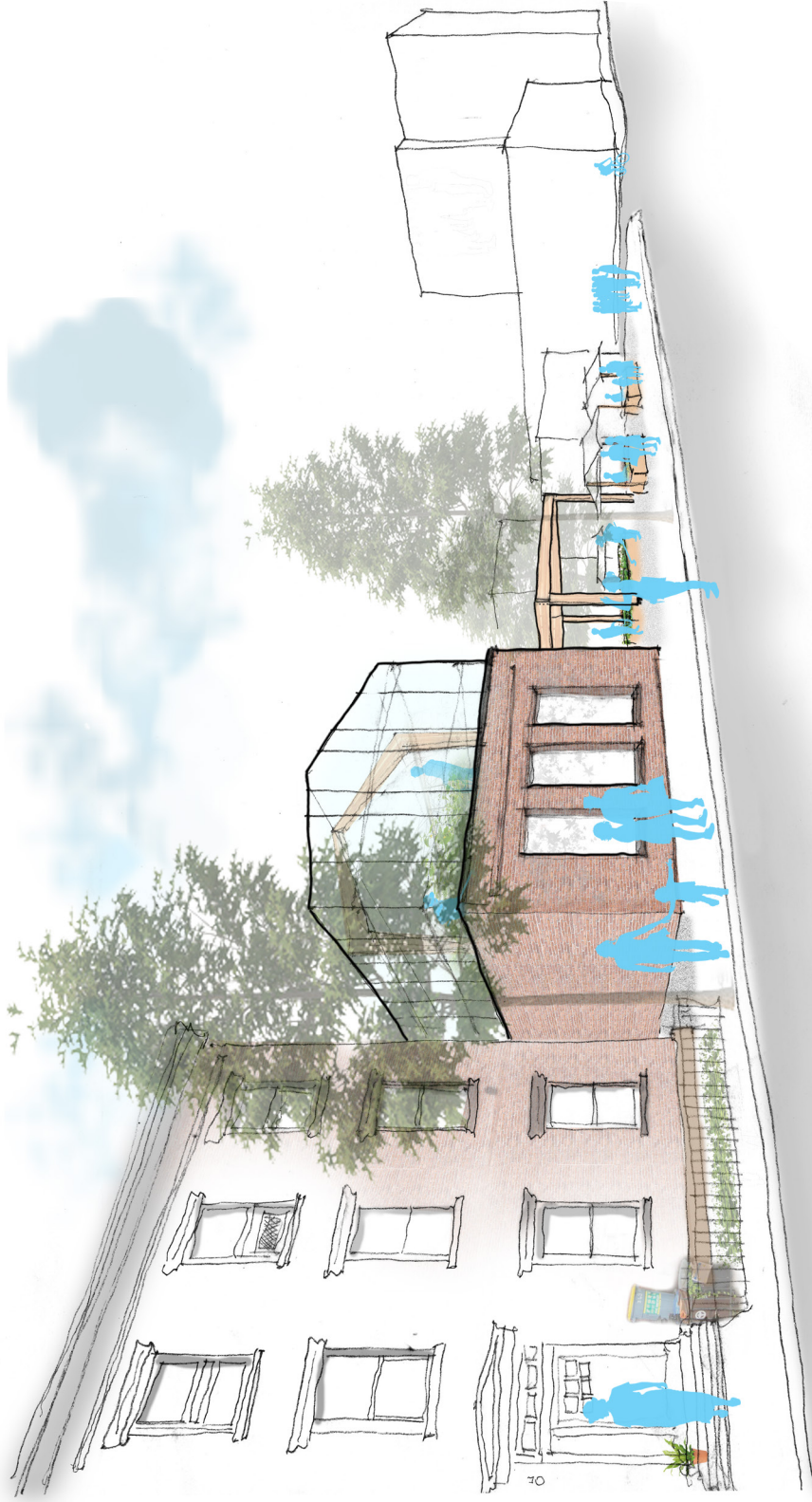


Figure 2.23: Relating to the historic brick townhomes in the neighbourhood.

Indoor/Outdoor 2.



Figure 2.24: A view of phase 2 from the opposite side of Gold St.

Post Harvest Room 3.

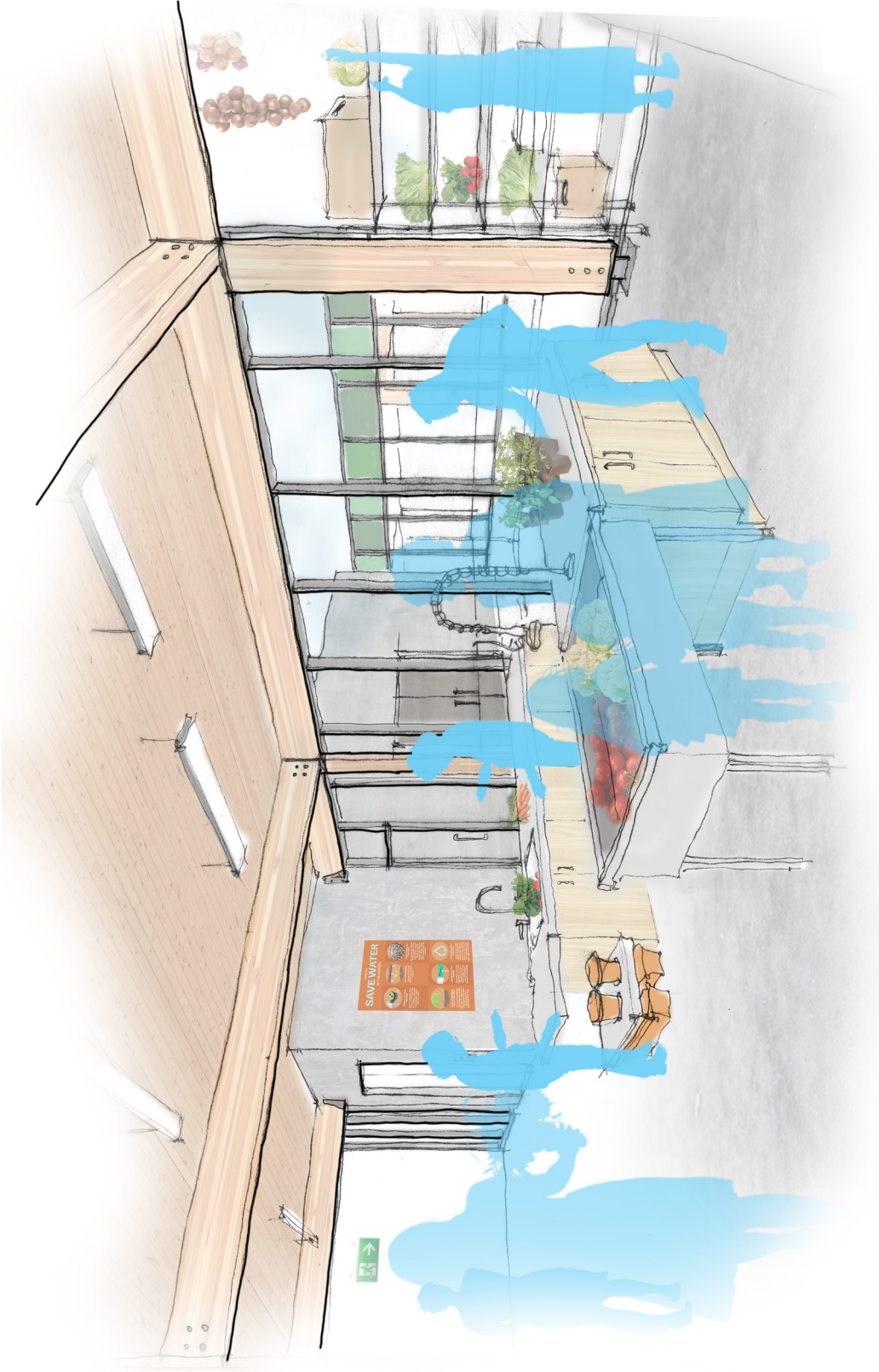


Figure 2.25: The phase 2 post-harvest room.

Phase 3

It should be mentioned that this project could theoretically evolve in different ways, based on what the community wants or needs. For this project the trajectory looks like these three phases. The main idea is that nothing is taken away, only relocated or added to, and everything stays relevant. So for this phase, across from the kitchen classroom, a new space is enclosed where art exhibits, pop up events, or community meetings could take place. This wing could also house an indoor market space during colder months. The communal eating area functions seasonally as an indoor and outdoor public cafe, where drop in meals can be provided for the less fortunate or those who simply wish to dine communally. On the first floor, office space has been provided for the building's administrative body. All of the original growing spaces have been relocated to the roof tops and inside the second greenhouse, where they receive practically zero shade from surrounding buildings, maximizing sunlight. Along with both indoor and outdoor farming space, the top floor also hosts a second post-harvesting room and educational space, including an outdoor space for beekeeping. The solar roof tilts towards the sun to maximize solar harvesting and opens the post-harvest room to a nice view of the Manhattan skyline, providing an inspiring and dignified working or learning space. Water is still collected by all the rooftops and stored centrally in the mechanical rooms on all three levels, where it can be distributed to all the growing spaces as required.

The planting beds on the ground level serve as what's called a "grab garden," for people who would still like to harvest freshly grown fruits or vegetables but might not yet feel comfortable getting involved with the building activities, and this also encourages people of any age to learn about edible environments and get comfortable being around the building. The market from the first two phases now takes place on weekends, like most Greenmarkets, along Gold Street between Farragut and the new site, creating a final physical link between the two and activating the otherwise dead space along Gold street. This also provides a strong visual connection for Farragut residents living in the towers closest to York Street, generating curiosity and interest in the bustling market below. As a final thought, other buildings in this area could partner up with this new building and offer up their largely blank roof tops for more planting space and perhaps more solar panels, turning this neighbourhood into a powerhouse of sustainability and a model for how communities can work together.

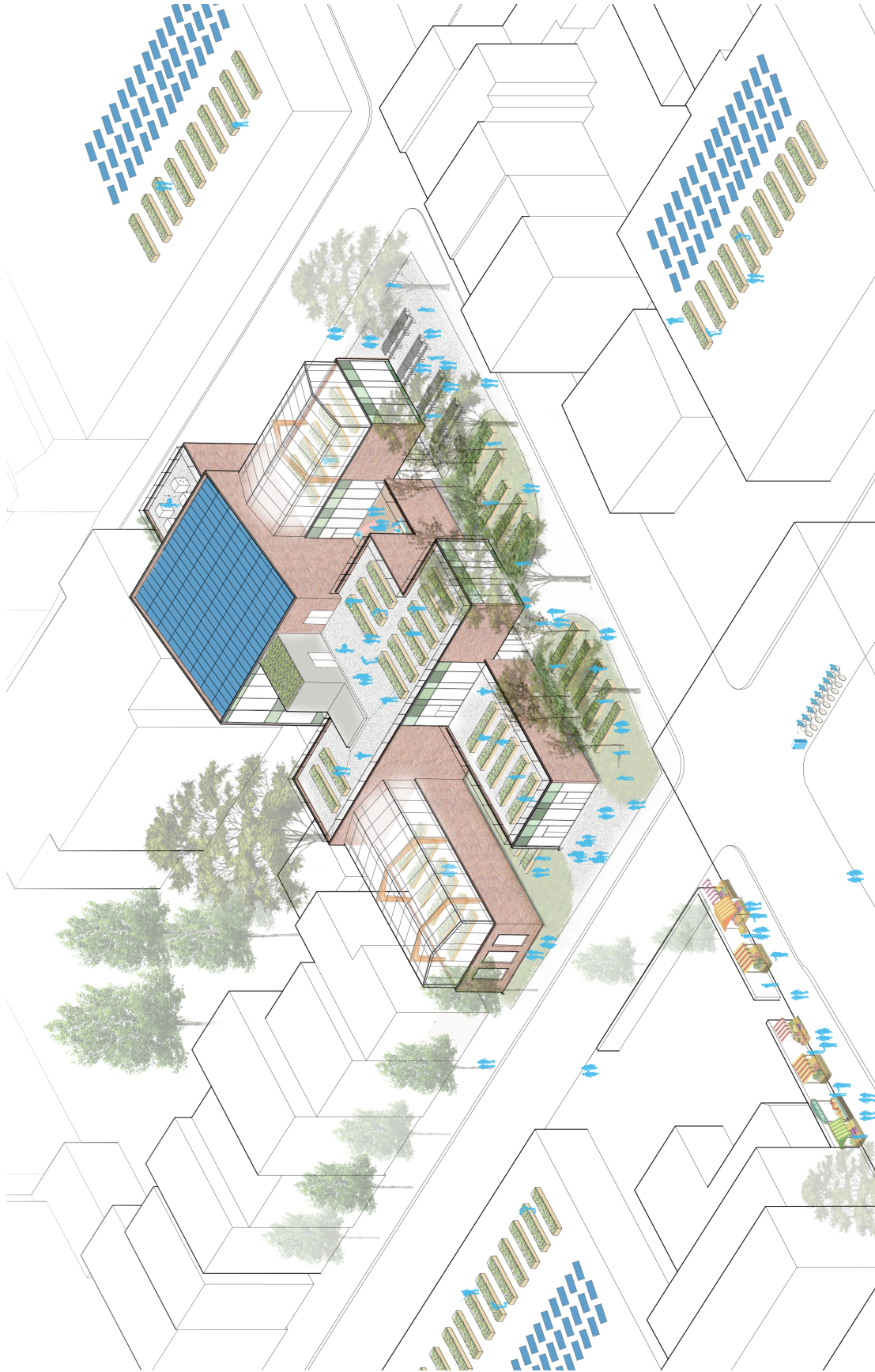


Figure 2.26: Phase 3 Isometric View.

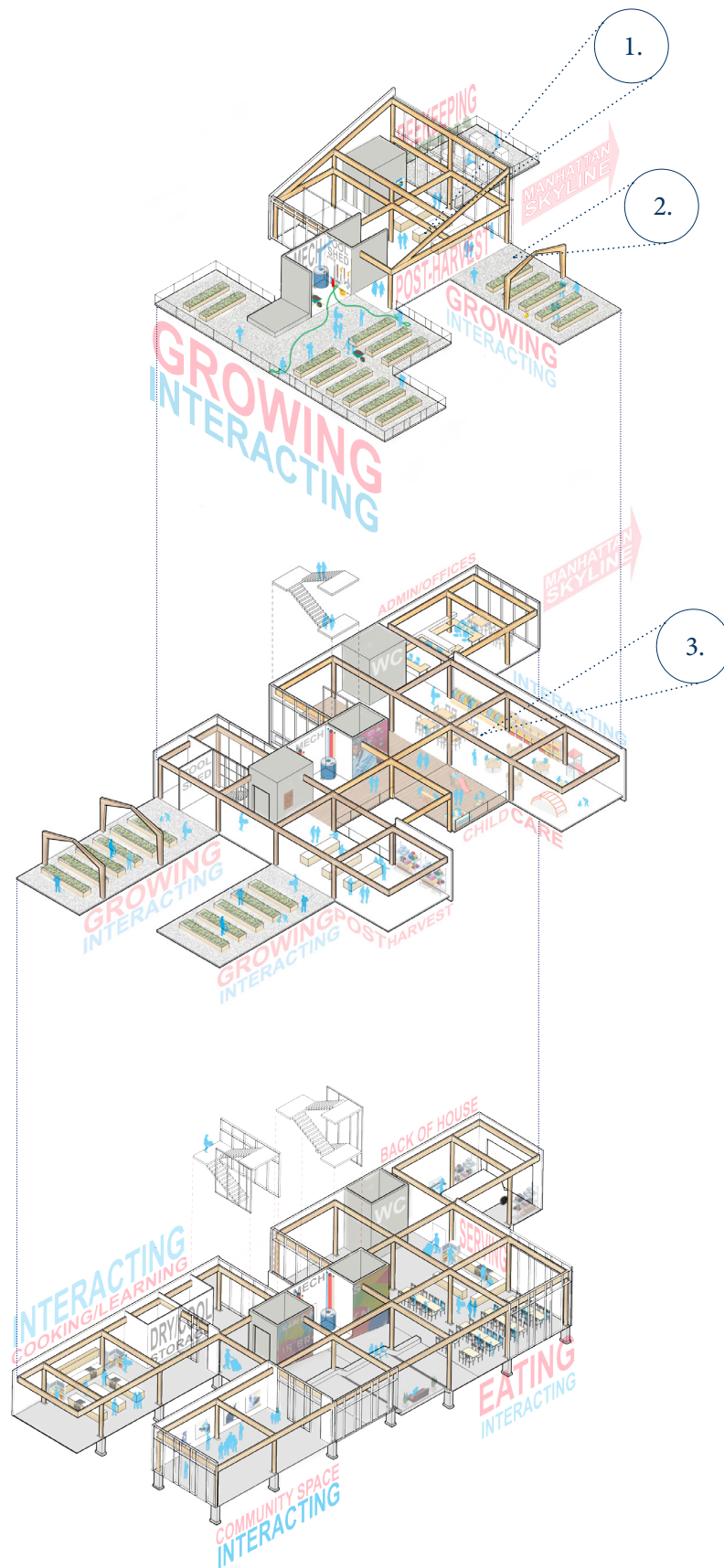
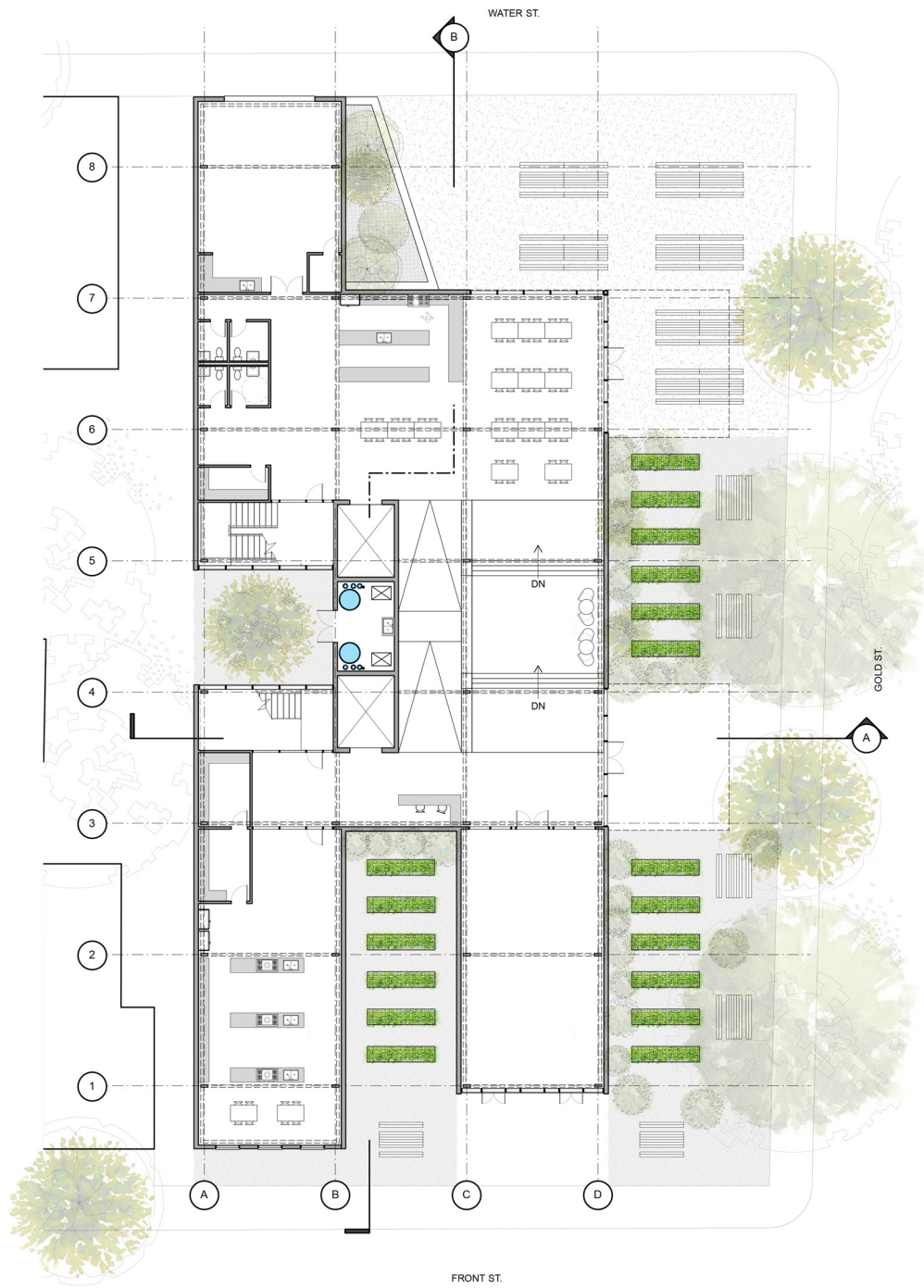
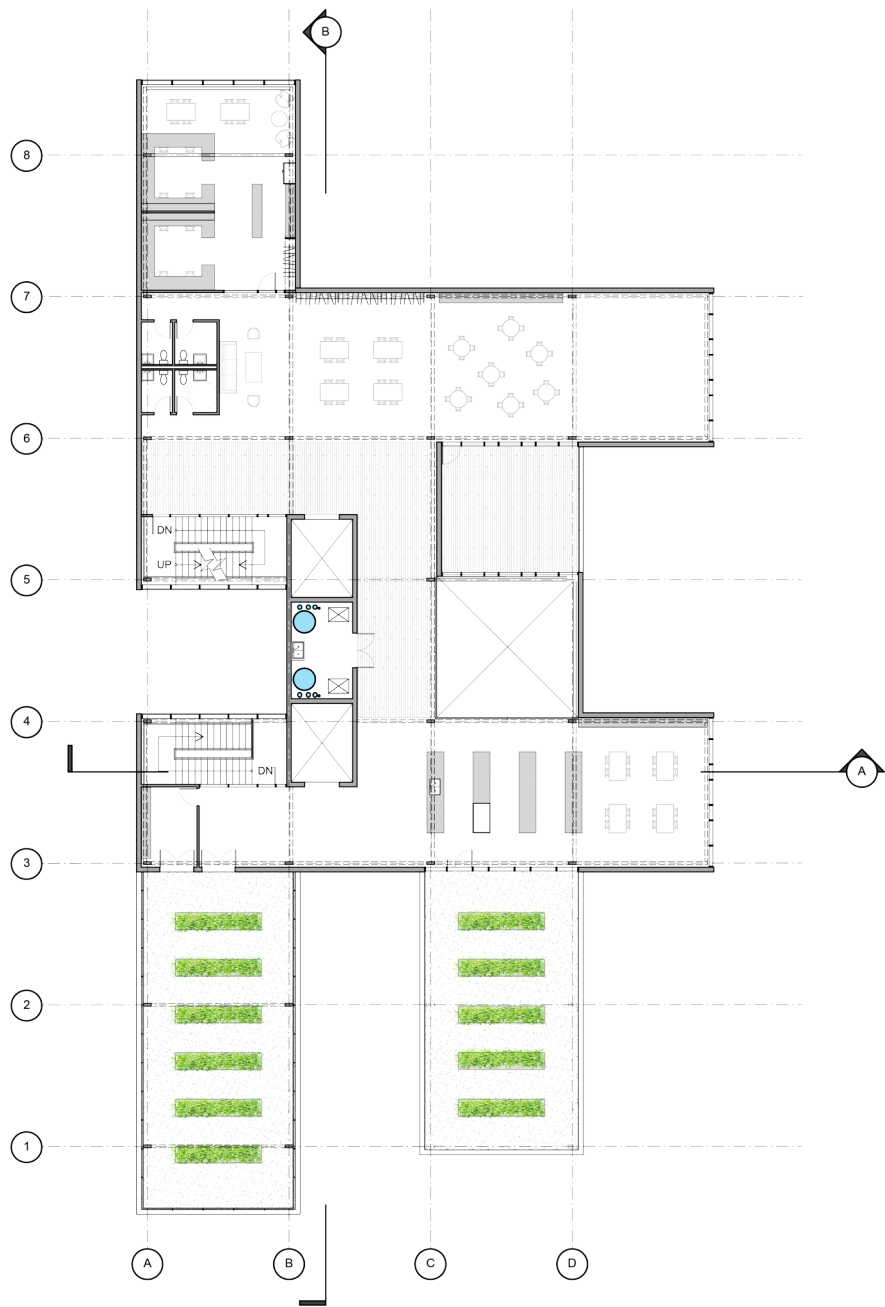


Figure 2.27: Phase 3 Isometric View Exploded.



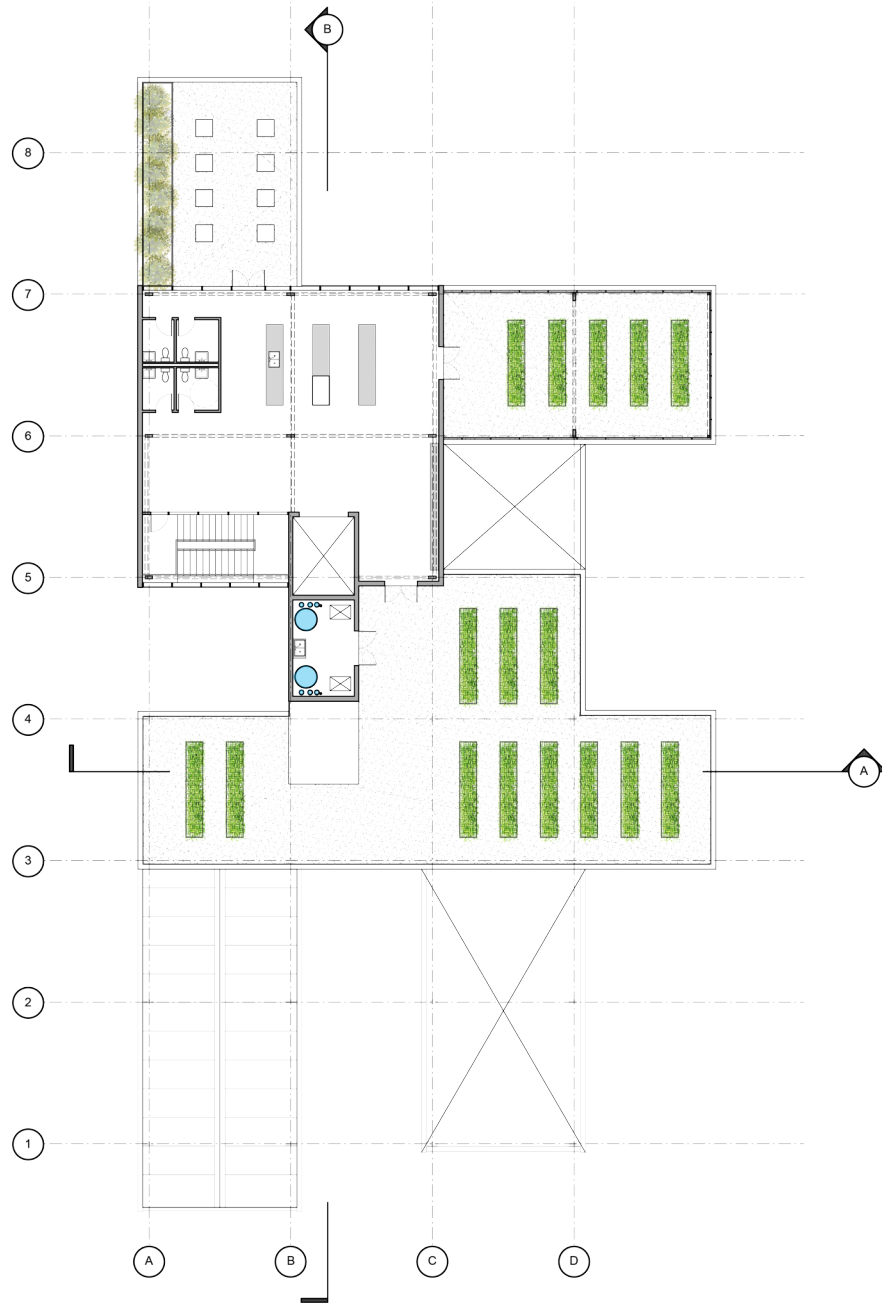
Phase 3 Ground Floor 1:400

Figure 2.28: Floor plan.



Phase 3 First Floor 1:400 

Figure 2.29: Floor plan.



Phase 3 Second Floor 1:400 

Figure 2.30: Floor plan.

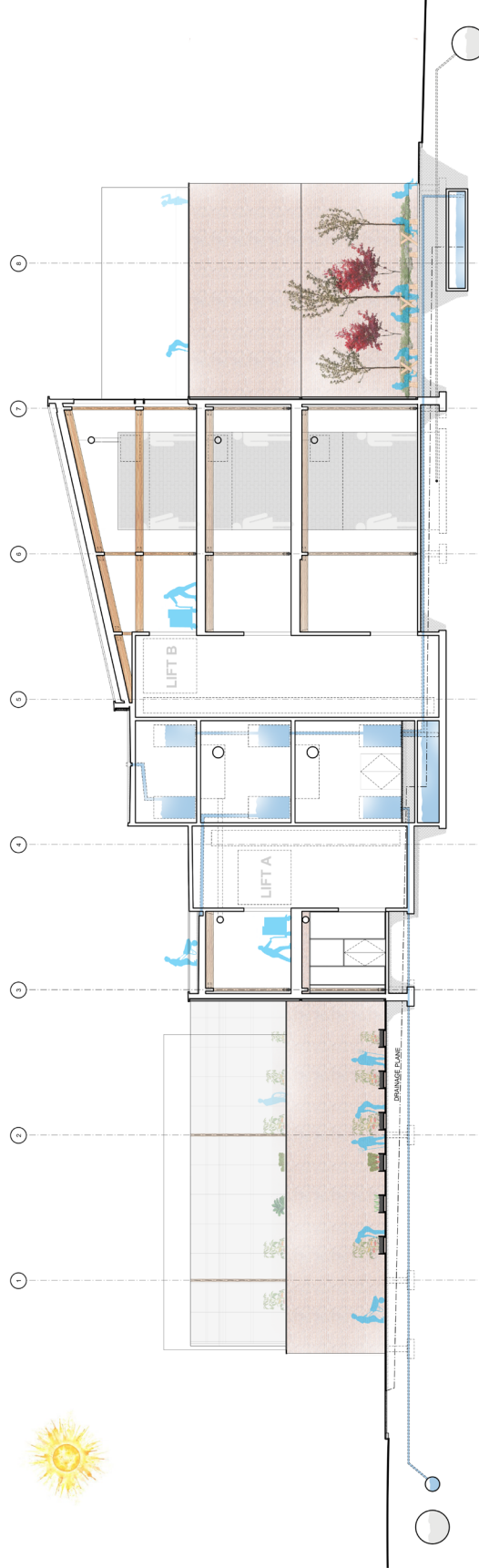


Figure 2.31 : Phase 3 Longitudinal Section B. Not to scale.

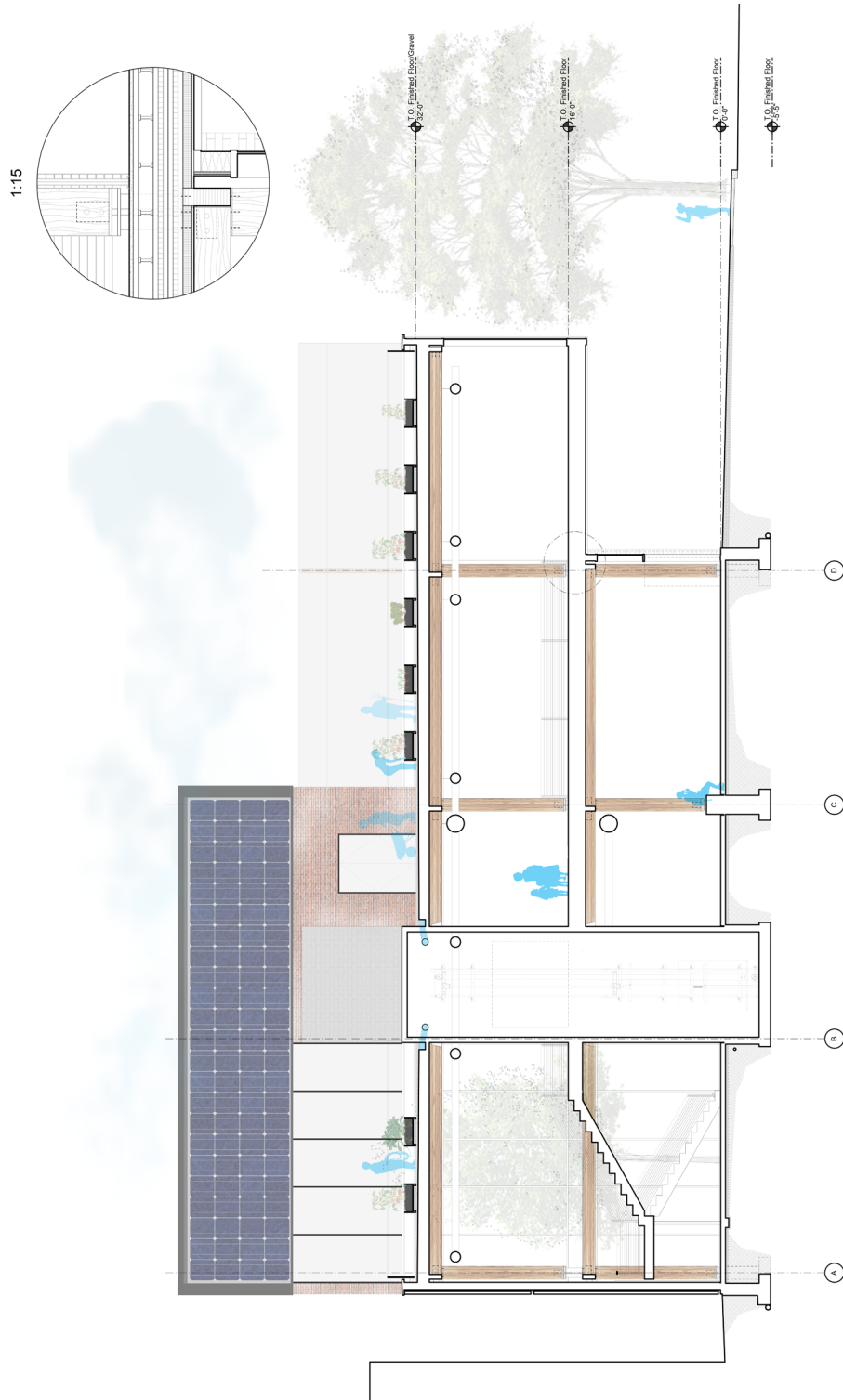


Figure 2.32: Phase 3 Cross Section A. Not to scale.

Working With a View 1.

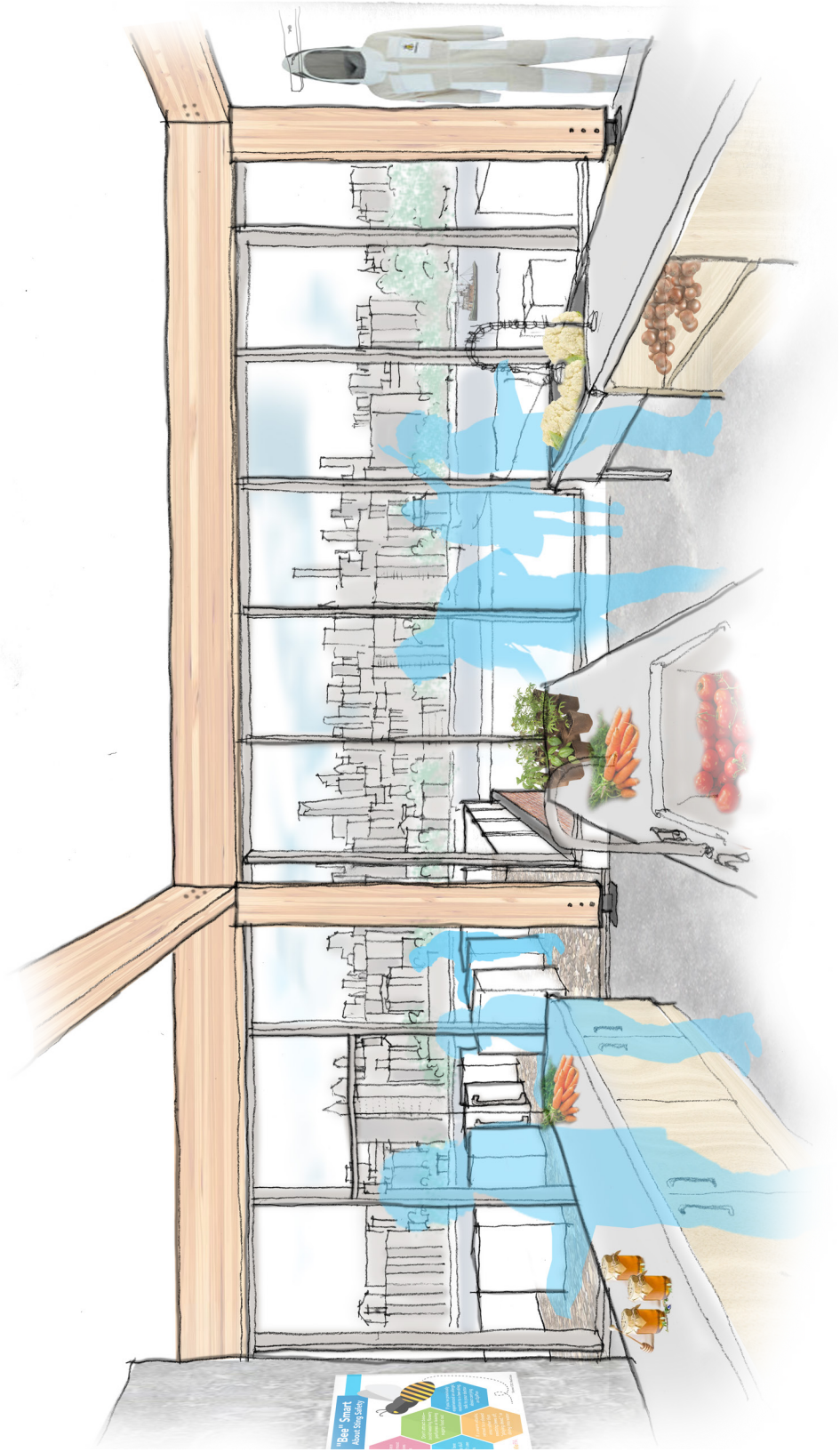


Figure 2.33: A view of Manhattan from the second post-harvest room.

Greenhouse #2 (2.)

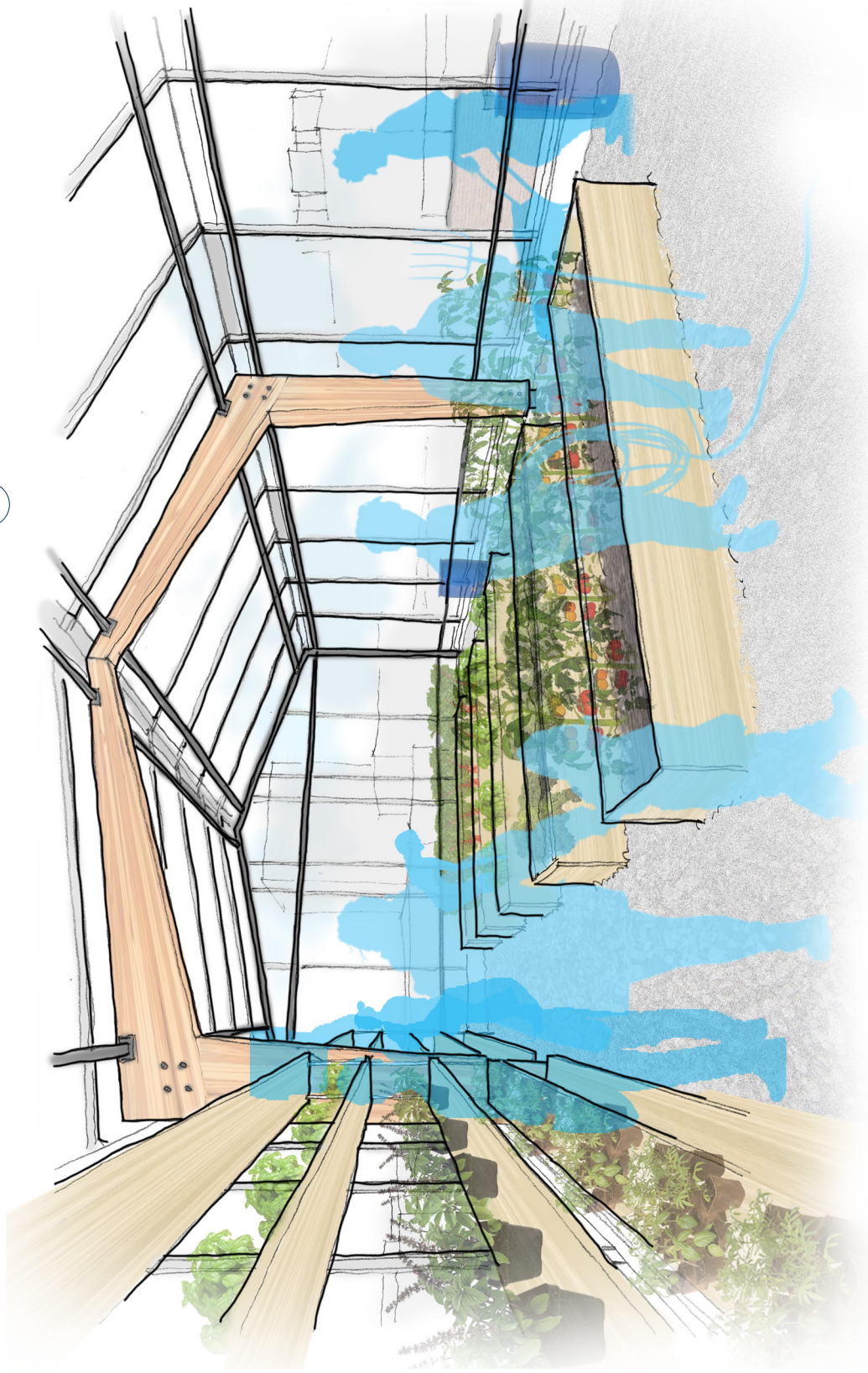


Figure 2.34: A view from inside the second greenhouse.

Day Care Centre 3.

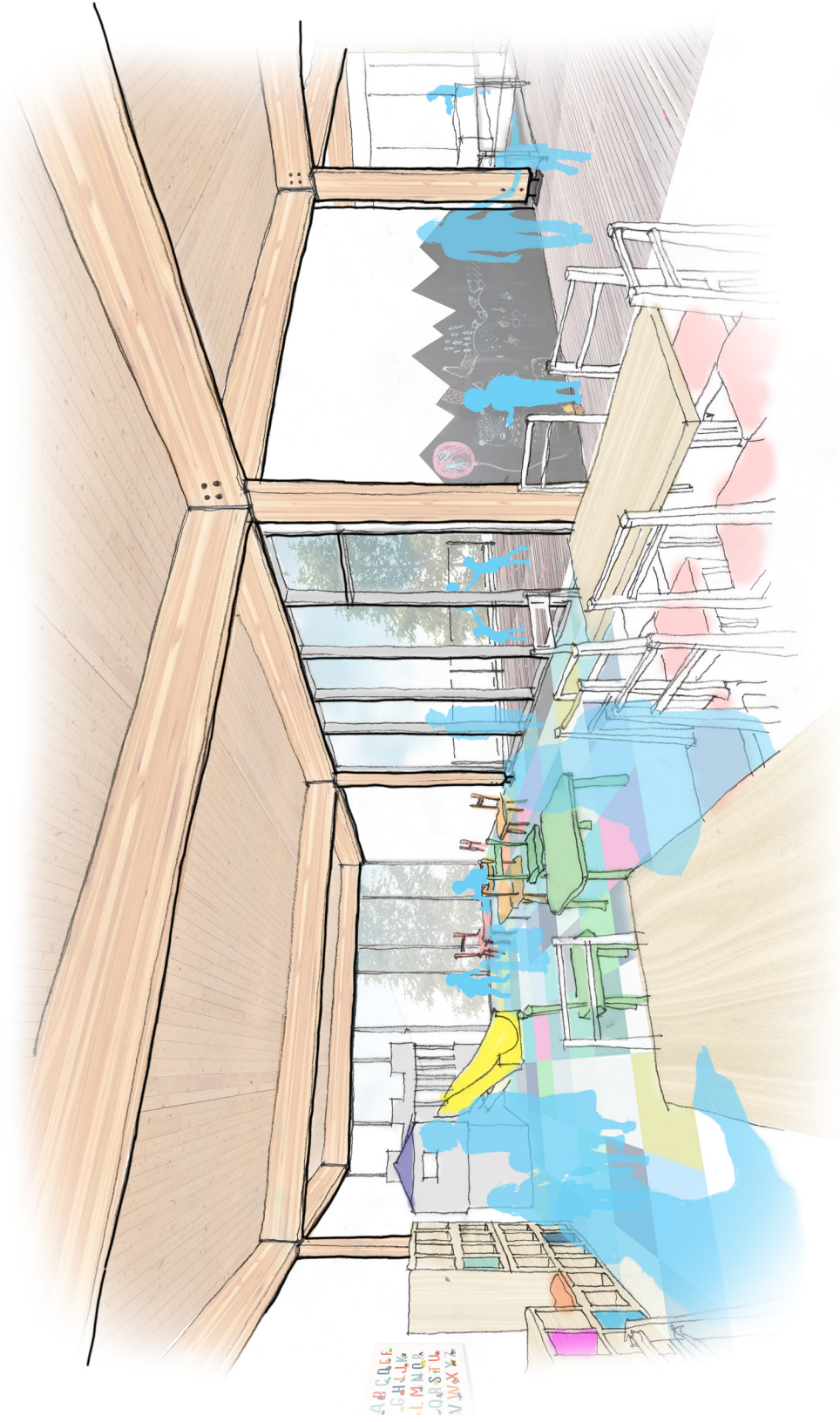


Figure 2.35: A view the Phase 3 childcare space.



Figure 2.36: A view of Phase 3's north eastern corner.

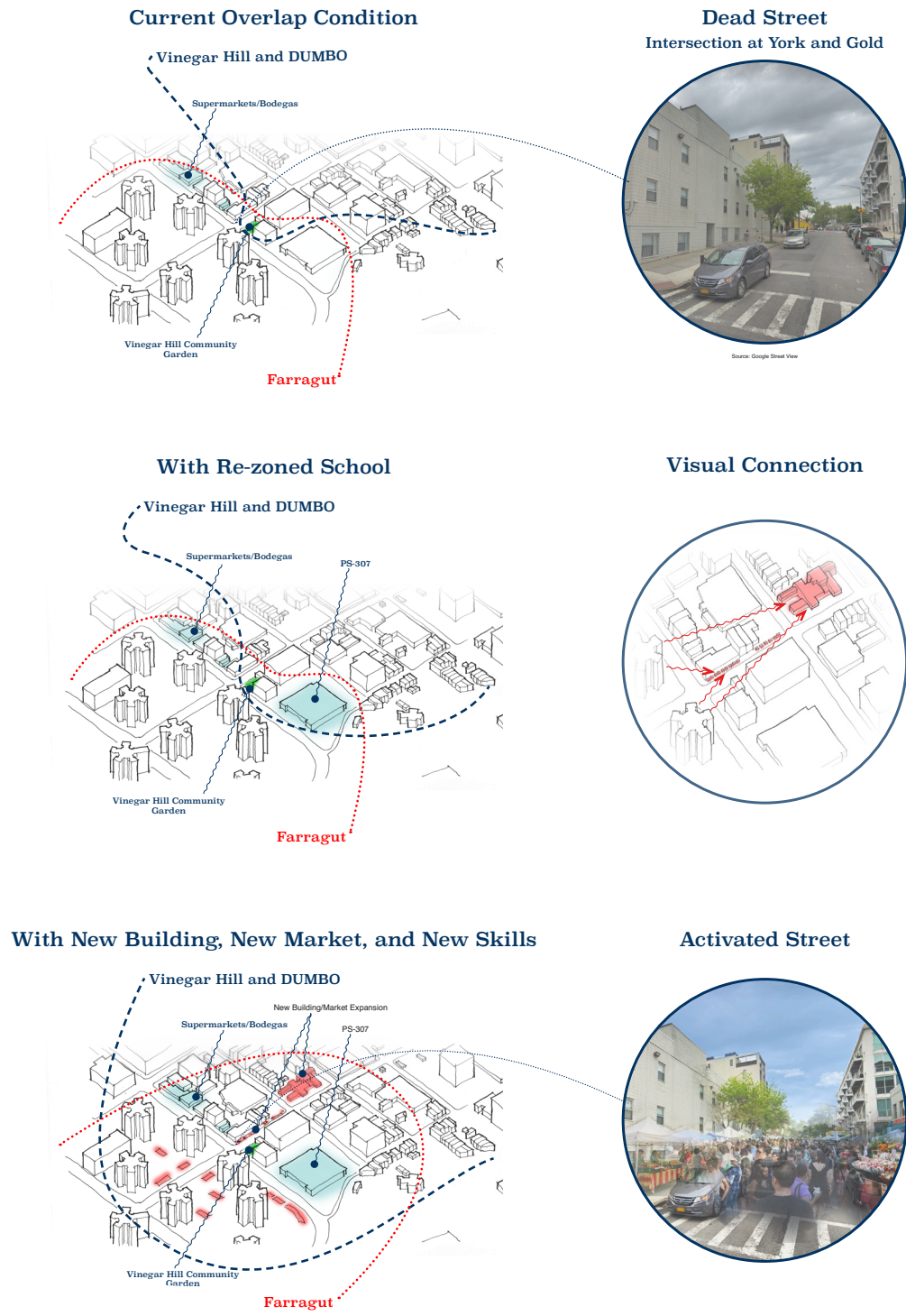


Figure 2.37: Desired community overlap outcomes. Photo: Google Street View.

CHAPTER 3: CONCLUSION

In conclusion, the expectation for this project is that through the care of plants and programs centered around education, childcare, culture, and “hive-mind”, the different communities who have been at odds with each other will find a common ground and explore a more synergetic and healthy lifestyle. What was once a minimal overlap between Farragut and Vinegar Hill has already been expanded through the rezoning of the school, and after this project begins to have an effect on people’s lives, that overlap can increase further as skills and alliances made at this new site can be transferred to Farragut’s own green spaces, giving more purpose to Farragut in the end. In fact, there are already plans to start a new community garden on Farragut property this year.⁵¹

Reflection

It became clear during the question and answer period of the presentation that the siting of this project within Vinegar Hill rather than on Farragut property was a contentious issue. As previously mentioned in this report, siting the project within Vinegar Hill was done intentionally in an attempt to draw residents of Farragut Houses out of their isolated living conditions within this part of Brooklyn. To reflect on this I will revisit several aspects that were taken into consideration along with the precedent project, The Stop, which made a similar gesture that has proven to be effective.

Firstly, Farragut’s property is considered a high crime zone in Brooklyn and needs work done on-site to improve it’s appeal to the public. Search results for news articles on Farragut are littered with the word ‘homicide’. This is an unfortunate reality. A news article from 2011 describes the property as follows: “Used condoms litter the sidewalk. Drug-dealers peddle their wares in the open. And bullets too often fly outside [...] the Farragut Houses.”⁵² To propose a site like this for a project meant to bring together community members, including children, in a safe space would be irresponsible. Vinegar Hill is a safer area to initiate such a project.

51 Citizens NYC, “Pulse Garden (Farragut Houses Gardeners),” accessed March 29, 2019, <https://www.citizensnyc.org/grantee/pulse-garden-farragut-houses-gardeners>.

52 Simone Weichselbaum, “Life of poverty and fear for those living in the shadow of wealth,” *Brooklyn Daily Eagle*, February 27, 2011, <https://www.nydailynews.com/new-york/life-poverty-fear-brooklyn-housing-project-shadow-wealth-article-1.136773>.

Secondly, the positioning of the project in close proximity to the school is meant to be strategic. Since many children from different walks of life will now be attending this school together, making friendships that will inevitably involve families getting to know each other. The potential after school programs created through this project create yet another mixing ground for these families to mingle, and having this project sited just off of Farragut creates more opportunity for face-to-face interaction between parents when children are picked up.

The Stop CFC began as a food bank in the lobby of a poor housing project in Toronto, where poverty-stricken residents would line up for food handouts. When they expanded and opened the Green Barn in Wychwood, a ten minute street car ride from the food bank, it was a different world - a mix of upper-middle class and low-income immigrants and minorities. Nick Saul describes the siting of the new satellite project as ideal for addressing the socioeconomic divide:

From the beginning, we saw the Green Barn as the perfect site for illustrating the connections between all the players in the food system. Set in a more stable and affluent community than we'd been engaged with before, it seemed an ideal place to find common ground.⁵³

The new site, located within the more affluent area, was where the real community interaction was possible through activity. This is where the farming and gardening workshops happen, where the cooking classes are held, and where the markets buzz with activity on the weekends. This resonates with the proposed project in Vinegar Hill on many levels. The site provides a safe and quiet platform for the issue of food insecurity to begin to be addressed in a complicated setting of class divides and socioeconomic imbalances. This quote from Saul reinforces this idea and helps emphasize the true aspirations of this project in Brooklyn:

That people see The Stop as a space to break down these barriers also reflects an intuitive sense about the potential of food—growing it, cooking it, sharing it, advocating for it—as a great equalizer. We built the Green Barn, in part, to test this intuition, to see how a public space focused on good food for everyone can begin to bring together our divided society.⁵⁴

53 Nick Saul and Andrea Curtis, *The Stop: How the Fight for Good Food Transformed and Community and Inspired a Movement* (Brooklyn, NY: Melville House, 2013), 158.

54 Nick Saul and Andrea Curtis, *The Stop: How the Fight for Good Food Transformed and Community and Inspired a Movement* (Brooklyn, NY: Melville House, 2013), 158-159.

With The Stop in mind as an example of a project with direct relation to the socioeconomics and class divide of this part of Brooklyn, and based on the success seen by the Green Barn's location, siting the project in Vinegar Hill helps to 'set the table' for a project such as this one to begin addressing this complicated problem.

BIBLIOGRAPHY

Anguelovksi, Isabelle. *Neighborhood as Refuge: Community Reconstruction, Place Remaking, and Environmental Justice in the City*. Boston: MIT Press, 2014.

Artscape Wychwood Barns. Accessed March 29, 2019. <http://artscapewychwoodbarns.ca/>.

Bellafante, Ginia. "Brooklyn's Food Gap." *New York Times*, September 9, 2016. <https://www.nytimes.com/2016/09/11/nyregion/brooklyns-food-gap.html>.

Berger, Danielle. "A GIS Suitability Analysis of The Potential for Rooftop Agriculture in New York City." Master's thesis, Columbia University, 2013. DOI: 10.7916/D85T3SN1.

Berger, Paul. "City to Weigh New Option for Highway --- Community members push plan to move BQE over Brooklyn Bridge Park during repairs." *Wall Street Journal*, October, 2018. <https://www.wsj.com/articles/new-york-city-will-consider-new-option-for-bqe-in-brooklyn-heights-1538158476>.

Boyle, Lizzie. "Vinegar Hill: Step Into the Old World of Brooklyn." *Atlas Obscura*, May 13, 2013. <https://www.atlasobscura.com/articles/vinegar-hill-in-brooklyn>.

Brooklyn Grange. *About*. Accessed March 19, 2019. <https://www.brooklyngrangefarm.com/about-brooklyn-grange-1>.

Brooklyn Grange. *Farm Dinner / Spring Into Summer*. Accessed March 29, 2019. <https://www.brooklyngrangefarm.com/upcoming/spring-into-summer>.

"Brooklyn Navy Yard to get 45,000-sf rooftop farm." *The Real Deal*, March 13, 2012. <https://therealdeal.com/2012/03/13/brooklyn-navy-yard-to-get-45000-square-foot-rooftop-farm/>.

- Budds, Diana. "Exclusive: The Brooklyn Navy Yard is reinventing architecture—and itself." *Curbed, New York*, September 27, 2018. <https://ny.curbed.com/2018/9/27/17906392/brooklyn-navy-yard-master-plan-wxy-vertical-manufacturing>.
- Burke, Kerry and John Annesse. "Man Shot Dead at Brooklyn Bus Stop." *Daily News (Brooklyn)*, October 26, 2017. <https://www.nydailynews.com/new-york/nyc-crime/gunman-kills-brooklyn-grad-student-bus-stop-article-1.3589326>.
- Citizens NYC. *Pulse Garden (Farragut Houses Gardeners)*. Accessed March 29, 2019. <https://www.citizensnyc.org/grantee/pulse-garden-farragut-houses-gardeners>.
- Cotner, Meg. "A Visit to the Socrates Sculpture Park Greenmarket." *We Heart Astoria*, June 16, 2013. <http://weheartastoria.com/2013/06/a-visit-to-the-socrates-sculpture-park-greenmarket/>.
- Dartmouth Family Centre. *2017-18 Annual Report*. Accessed on March 27, 2019. <https://static1.squarespace.com/static/56315c33e4b015394b071f02/t/5bb7ae26eef1a1268a737ef6/1538764341879/combinepdf.pdf>.
- Demont, John. "Community garden alive, thriving in North Dartmouth." *The Chronicle Herald (Halifax)*, Oct 2, 2017. <http://thechronicleherald.ca/opinion/1508398-demont-community-garden-alive-thriving-in-north-dartmouth?from=slidebox&slidebox=img>.
- Deeny, Mairead. "The 7 Most Instagrammable Spots in New York." *Aer Lingus*, January 22, 2019. <https://blog.aerlingus.com/the-7-most-instagrammable-spots-in-new-york/>.
- Dobkin, Jake. "Ask A Native New Yorker: What's The Difference Between A Bodega, A Deli & Corner Grocer?" *Gothamist*, May 2, 2014. http://gothamist.com/2014/05/02/ask_a_native_new_yorker_whats_the_d.php.

Ebel, Brian, Alyssa Morna, L. Beth Dixon, Kamila Kiszko, Jonathan Cantor, Courtney Abrams, and Tod Mijanovich. "Assessment of a government-subsidized supermarket in a high-need area on household food availability and children's dietary intakes." *Public Health Nutrition* 18 (2015): 2881-2890. DOI:10.1017/S1368980015000282.

Fehn, Jada. "Swamped: How Local Governments Can Improve Health by Balancing Exposure to Fat, Sugar, and Salt-Laden Fringe Foods." *Journal of Affordable Housing & Community Development Law* 24, no. 3 (2016): 565-587.

"Foragers City Grocer Dumbo." *Postmates Inc*, accessed March 29, 2019. <https://postmates.com/merchant/foragers-city-grocer-dumbo-brooklyn>.

Glueck, Grace and Paul Gardner. *Brooklyn: People and Places, Past and Present*. New York: H.N. Abrams, 1994.

Google Maps, *Vinegar Hill, Brooklyn*, accessed April 4, 2019. <https://maps.google.com>.

GrowNYC. *Greenmarket*. Accessed March 29, 2019. <https://www.grownyc.org/greenmarket>.

Husock, Howard. "Turning Food Deserts into Oases: Why New York's Public Housing Should Encourage Commercial Development." *Manhattan Institute*, October 25, 2016. <https://www.manhattan-institute.org/html/turning-food-deserts-oases-new-york-public-housing>.

Jackson, D.B. "The Link Between Poor Quality Nutrition and Childhood Antisocial Behavior: A genetically Informative Analysis." *Journal of Criminal Justice*, vol. 44 (2016): 13-20. DOI: 10.1016/j.jcrimjus.2015.11.007.

- Katinas, Paula. "Fox Pushes for Safety Measures at Farragut Houses." *Brooklyn Daily Eagle*, August 25, 2017. <https://brooklyneagle.com/articles/2017/08/25/fox-pushes-for-safety-measures-at-farragut-houses/>.
- Kornfeld, Dory. "Bringing Good Food In: A History of New York City's Greenmarket Program." *Journal of Urban History* 40, no. 2 (2014): 345-356. DOI: 10.1177/0096144213510162 juh.sagepub.com.
- Leon, Alexandra. "WATCH: Documentary Aims to Give a Voice to Forgotten Farragut Houses." *DNA Info*, February 7, 2017. <https://www.dnainfo.com/new-york/20170207/vinegar-hill/forgotten-farragut-houses-documentary-gentrification/>.
- Levkoe, Charles Z. and Sarah Wakefield, "The Community Food Centre: Creating a Space for a Just, Sustainable, and Healthy Food System." *Journal of Agriculture, Food Systems, and Community Development* 2, no. 1 (2011): 249-268.
- Madden, David J. "Neighborhood as Spatial Project in Brooklyn, New York." *International Journal of Urban and Regional Research* 38, no. 2 (2013): 471-497. DOI:10.1111/1468-2427.12068.
- Madden, David J. "Pushed Off the Map: Toponymy and the politics of place in New York City." *Urban Studies* 55, no. 8 (2018): 1599-1614. DOI: 10.1177/0042098017700588 journals.sagepub.com/home/usj.
- McKibben, Bill. *Deep Economy*. New York: Henry Holt and Company, 2007.
- McLaughlin, Mike. "Want to open a supermarket? Here's your chance," *Brooklyn Paper*, July 17, 2009. https://www.brooklynpaper.com/stories/32/29/32_29_mm_navy.html.

NYC Landmark Preservation Commission. "Discover New York City Landmarks."
Accessed November 15th, 2019. <https://nyc LPC.maps.arcgis.com/apps/webappviewer/index.html?id=93a88691cace4067828b1eede432022b>.

Rodier, Francine and Fabien Durif, "Food Deserts: Is it all about a limited access?" *British Food Journal* 19, no. 7 (2017): 1495-1510. DOI: www.emeraldinsight.com/0007-070X.htm.

Roscoe, Cookie. "ALL IN A WEEK'S WORK: Managing The Stop's Wychwood Farmer's Market." *Living Toronto*, October 3, 2014. <https://livingtorontojournal.com/2014/10/03/all-in-a-weeks-work-managing-the-stops-wychwood-farmers-market/>.

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

Sullivan, Robert. "Directions." *Places Journal*, June 2018. <https://placesjournal.org/article/directions/?cn-reloaded=1>.

Taylor, Kate. "Race and Class Collide in a Plan for Two Brooklyn Schools." *The New York Times*, September 22, 2015. <https://www.nytimes.com/2015/09/23/nyregion/race-and-class-collide-in-a-plan-for-two-brooklyn-schools.html>.

The Food Project. *The Dudley Greenhouse*. Accessed November 20th, 2018. <http://thefoodproject.org/dudley-greenhouse>.

Thompson, Debbie S., Novie Younger-Coleman, Parris Lyew-Ayee, Lisa-Gaye Greene, Michael S. Boyne, Terrence E. Forrester. "Socioeconomic factors associated with severe acute malnutrition in Jamaica." *PLoS ONE* 12 (3): 1-15. <https://doi.org/10.1371/journal.pone.0173101>.

Trip Advisor Canada. *Peas N'Pickles*. Accessed March 29, 2019. https://www.tripadvisor.ca/Restaurant_Review-g60827-d5561951-Reviews-Peas_N_Pickles-Brooklyn_New_York.html.

Warerkar, Tanay. "NYC's most expensive neighborhoods include several new Brooklyn entrants." *Curbed New York*, April 16, 2018. <https://ny.curbed.com/2018/4/16/17243018/tribeca-most-expensive-neighborhoods-nyc-q1-2018>.

Washington, John. "The Underground Farm Delivering Rare Herbs to New York's Top Chefs." *Atlas Obscura*, February 14, 2018. <https://www.atlasobscura.com/articles/underground-farm-one-new-york-herbs>.

Weichselbaum, Simone. "Life of poverty and fear for those living in the shadow of wealth." *Brooklyn Daily Eagle*, February 27, 2011. <https://www.nydailynews.com/new-york/life-poverty-fear-brooklyn-housing-project-shadow-wealth-article-1.136773>.

Whole Foods Market. *Brooklyn Greenhouse: Gotham Greens*. Accessed March 29, 2019. <https://www.wholefoodsmarket.com/service/brooklyn-greenhouse-gotham-greens>.

Williams, Keith. "Promised a Supermarket Five Years Ago, a Housing Project Is Still Waiting." *The New York Times*, April 17, 2015. <https://www.nytimes.com/2015/04/19/nyregion/promised-a-supermarket-five-years-ago-a-housing-project-is-still-waiting.html>.

Yakas, Ben. "NYC Grilled: See What Everyone Was Grilling Up In Brooklyn Bridge Park For July 4th Weekend." *Gothamist*, July 6, 2016. http://gothamist.com/2016/07/06/grilling_brooklyn_bridge_park.php#photo-1.