

THE URBAN PUBLIC GARDEN

A VISUAL ANALYSIS FOR DESIGNING COURTYARD GARDENS



A MASTER OF LANDSCAPE ARCHITECTURE RESEARCH PROJECT

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MAY 2025

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By
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A research project submitted to
the School of Graduate Studies
Rutgers, The State University of New Jersey
In partial fulfillment of the requirements
For the degree of
Master of Landscape Architecture
Graduate Program in Landscape Architecture
Completed under the direction of
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New Brunswick, New Jersey
May, 2025

Abstract of the Research Project

The Urban Public Garden
A Visual Analysis for Designing Courtyard Gardens
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Guided by the consistent research that asserts an intrinsic human connection to nature and affirms the potential of green spaces to provide humans with physical, emotional, and social benefits, this thesis examines the role of urban public gardens as vital spaces for fostering this connection. It explores how these spaces can strengthen human-nature relationships and what elements contribute to their success through a multi-method research approach that combines scholarly research, observational analysis, and experiential documentation. Literature on biophilia, urban social systems, and landscape architecture precedent provides the theoretical grounding, while field studies of existing public garden landscapes allow for direct, immersive analysis of their spatial, ecological, and social functions.

The research process culminates in the application of findings to a specific design intervention, applying experiential research on successful design features in gardens to the context of urban courtyard gardens in low-income, densely populated areas, where access to nature is often limited. In the design, the identified successful elements of the urban public garden are applied to a specific context of urban public housing within the courtyard of the Kingsborough Houses.

By bridging theoretical research with experiential insight, this thesis advocates for the thoughtful integration of gardens into public urban environments, offering a thought exercise on the kind of spaces

that may foster social interaction, promote community identity, and reconnect people to nature. Rather than prescribing a rigid design solution, this research presents a framework for urban public gardens as adaptable, context-sensitive interventions that enhance both the built environment and the well-being of its residents.

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Introduction

Decades of research have gone into supporting the assertion of the intrinsic human need for connection with nature, and of the myriad benefits to people that access to nature grants. In an equal but opposite reaction, distancing from the natural environment has a variety of repercussions on human wellbeing. With green space being compromised in favor of urban development in the built environment, the urban populous is at the forefront of these repercussions, and in greatest need of a rekindled connection to nature.

While access to green space is widely acknowledged for its benefit to human physical, emotional, and mental health, access to green space also has the power to socially fortify communities, through improved safety and heightened morale. It also fosters a sense of place. Yet, access to such spaces remains inconsistent, especially in dense, low-income urban areas. While large parks serve as critical urban green spaces, smaller-scale green spaces like gardens offer a unique opportunity for heightened community engagement and intimacy in fostering a deeper connection to nature within the built environment. This thesis narrows down the vast umbrella of “green space” to a more compact concept of the urban public garden through which the urban public realm may be revitalized. This is further developed through a design component envisioning the urban public garden in the context of courtyard gardens, specifically applied in the setting of public housing.

At the core of this research are three guiding questions:

1. How can the human connection with the natural environment be fortified through the planting and building of an urban courtyard garden?
2. What makes for successful design in an urban courtyard garden?
3. How can experiential research on successful design features in gardens be applied to urban courtyard gardens in low income, densely populated areas?

Methods and Process

In order to go about answering these questions, the research involved in this thesis includes layered methodology, beginning with scholarly research and review, followed by experiential research — including observation, documentation, and categorization. All of this is then synthesized in a design application.

The first chapter of the thesis establishes the theoretical framework behind the idea of reconnecting people with nature through the green space typology of the urban public garden, specifically examining “biophilia” as the grounding concept in this context. Coined by biologist, naturalist and ecologist Edward Wilson in his 1984 book *Biophilia*, the term refers to the belief that humans are intrinsically connected to nature, and have an innate need for it.¹ The implications of biophilia and the lack of connection with nature in the urban environment are discussed to contextualize the rationale to create more urban public gardens which this thesis establishes. The first chapter also defines the broad term of a “garden” in the particular context of this thesis, specifically in densely populated urban public spaces.

The theoretical framework for the thesis is further built upon in the second chapter, where attention is extended to the social dynamics pertinent to the urban public garden. Further scholarly research helps to

identify the different interpretations of community within the densely populated urban context and provides evidence of the capacity of green spaces to improve social dynamics in urban communities. This includes evidence of impacts such as increased social interaction among members of a physical community, and how that can lead to improved social cohesion.

This theoretical framework is built upon by an experiential research component which involved on-site observation, extensive photographic documentation, and categorization of findings to allow for conclusive analysis. This process included exploration of public green spaces in New York City, as well as of examples of designed landscapes in Switzerland.

The driving goal in this exploration was the search for moments and elements in these spaces that make people feel good — identifying what may qualify as “good design.” As former University of Michigan psychology professors Rachel and Stephen Kaplan stated, “Much of the way humans experience the environment is visual. An understanding of the experience of the environment thus requires visual material.”² Such was the case in the analytical process in this thesis as well, where methodology of on-site observation and photographic documentation were key in shaping an understanding of the spaces in question. Analyzing designed spaces through photographic means prompted a deeper analysis in identifying recurring spatial, sensory, and social elements within the landscapes that induce a feeling of wellbeing and connection to nature. From this emerged the “common threads.” These were identifiable elements from the spaces visited, including both physical observed elements like seating and more ethereal and experienced elements like a perceived sense of ownership in a space.

A key methodological tool used in this thesis is the visual string analysis, wherein a series of images captured at the various sites is categorized by tracing of threads through what revealed to be patterns in successful garden design. This process allows for the identification of specific features — such as seating arrangements, spatial organization, plant diversity, and opportunities for exploration — that contribute to the success of urban public gardens, and demonstrates overlap of elements from site to site, as well as an overlap between initially identified categories. The subsequent categorization of these specific features was made possible by the overlap and informed the “Urban Public Garden Experiential Research” — a guide on the elements that can be integrated for a successful urban public garden. This was represented in seven visual boards which identified the common threads in more comprehensive categories; this categorization included the following themes: Terrain/Habitat/Ecology, Water/Water Features, Circulation/Exploration/Wayfinding, Plants/Spatial Arrangements/Privacy/Sensorial. Seating/Furnishing. Art, and Sense of Agency/Ownership.

The methodology in this thesis is closely related to the process as the component of experiential research provided much insight onto the initially posed research questions. The common thread design elements identified in the process pave the way for application of the urban public garden to the context of a courtyard garden at the Kingsborough Houses public housing development in Brooklyn, NY. Rather than proposing a prescriptive design solution, the intervention serves as an exemplar, offering a garden-driven framework for integrating green space into similar urban environments.

¹ E.O. Wilson quoted in Timothy Beatley, ed., “Planning for Biophilic Urbanism,” in *Resilient Sustainable Cities: A Future*, First edition (Abingdon, Oxon: Routledge, 2014), 105.

² Rachel Kaplan and Stephen Kaplan, *The Experience of Nature: A Psychological Perspective* (Cambridge: Cambridge Univ. Press, 1989), 207.

Chapter 1: Reconnecting with Nature through Urban Public Gardens

It is no new radical idea that humans have an intrinsic connection to nature; humans are a part of nature and require maintained contact with the natural environment in order to thrive, but also to maintain mental, emotional, and physical health. Since the dawn of time, humans have relied on nature to provide everything needed for survival, food, water, shelter, and so on. This existence was not always harmonious, though, as surviving solely off the land was often marked by struggle, danger, and unpredictability. As sociologist Norbert Elias reminds us, “Nature in the raw state, red in tooth and claw, can trigger very different feelings;”³ nature is not always the “peace and beauty” that it is often enjoyed for today. It wasn’t until relatively recently in the timeline of humanity that humans were able to almost fully control their environment. With this control and the ability to find shelter from nature’s sometimes violent raw state came more freedom to appreciate the natural environment for its emotional value and beauty.

With the boom of the industrial revolution and the influx of migrants to cities, increasingly artificial environments were constructed. The masses that settled into an urban lifestyle have become all the more distant from a life at one with nature, leading to a modern reality where much external effort must be applied to foster a love, care, appreciation, and understanding of nature and the role that it plays in our lives. As this thesis makes an argument for the necessity and integration of the urban public garden, it recognizes the biophilic principle as the driving force behind the goal of reconnecting people to nature in the urban environment.

³ Norbert Elias, “On Nature,” in *Essays I: On the Sociology of Knowledge and the Sciences*, The Collected Works of Norbert Elias 14 (Dublin, Ireland: University College Dublin Press, 2008), 64.

⁴ E.O. Wilson quoted in Timothy Beatley, ed., “Planning for Biophilic Urbanism,” in *Resilient Sustainable Cities: A Future*, First edition (Abingdon, Oxon: Routledge, 2014), 105.

Biophilia

The human species is fundamentally wired to be connected with the natural environment; we are part of the natural environment. From the dawn of human civilization, humans learned to coexist with nature, with a reliance on nature being integral to many cultures worldwide, and to human survival. Biophilia, a term coined by Harvard biologist E.O. Wilson in his 1984 book *Biophilia*, describes this intrinsic human connection with nature which Wilson argues is ingrained in the human psyche even in modern times, and remains something humans need for our maintained wellbeing. “The human species has grown up with nature,” Wilson writes; it “is not something that is optional, but essential to health, happiness, and meaningful lives, it increases our resilience to shocks, stressors, and disturbances in the urban system. And the nature we need must be all around us.”⁴ With rapid global urbanization, however, a connection with nature is more difficult for many people to maintain than ever before, putting in jeopardy the physical, psychological, and social health of urban citizens.

Based on official government data sourced through the US Census Bureau dating between 1790 to 2019, the Environmental Protection Agency draws a clear exhibit of the rapid population growth and subsequent urbanization in America over the last century. Between 1950 and 2010, the US population more than doubled,⁵ but the bar graph provided alongside the data shows that this population boom is specifically a growth in urban populations, as rural populations show very minimal fluctuation through this time frame (Fig 1). Census data shows that the urban population in the country boomed by nearly 500% in the century from 1910, while the rural population only grew by 19%. As of 2010, this has left 81% of the

⁵ U.S. Environmental Protection Agency, “Urbanization and Population Change,” n.d., https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=52.

total US population living within the urban environment.⁶ Considering the decline of access to green space that comes with urbanization — especially significant in high-density, low-income urban areas — that is a staggering 81% of the total US population that faces the implications of life removed from nature.

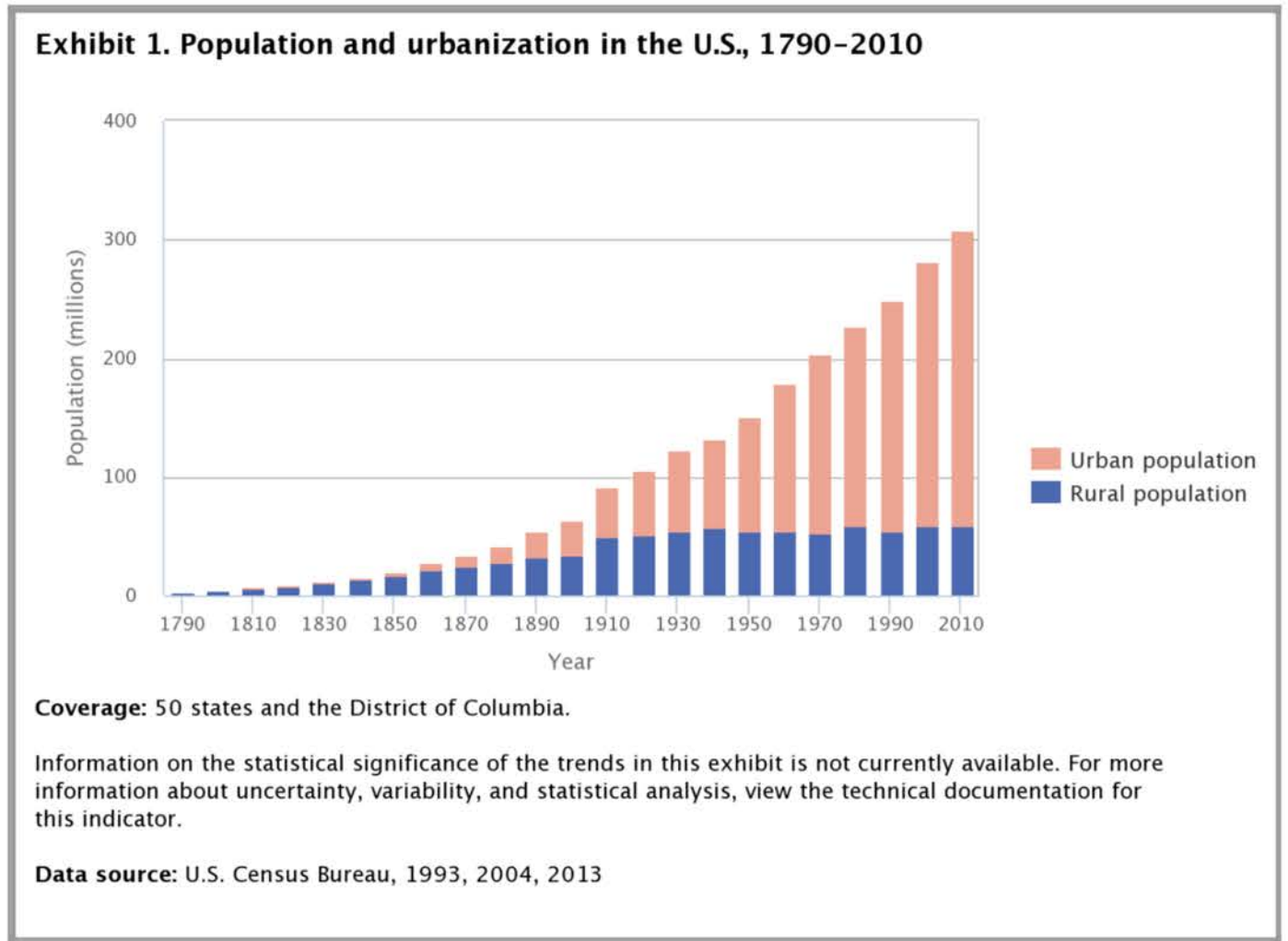


Figure 1: Bar graph providing a visual representation of the rapid population growth in America between the early 1900s to 2010, alongside rapid urbanization. U.S. Environmental Protection Agency, “Urbanization and Population Change,” https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=52.

⁶ Ibid.

⁷ Emily J. Rugel et al., “Exposure to Natural Space, Sense of Community Belonging, and Adverse Mental Health Outcomes across an Urban Region,” *Environmental Research* 171 (2019): 365, <https://doi.org/10.1016/j.envres.2019.01.034>.

Canadian environmental health researcher, Emily Rugel, underscores the tie between dense urban living and detriments to human health including increased odds of depression, anxiety, and lower levels of social connection.⁷ In his book, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*, Richard Louv similarly presents significant research supporting a link between disconnection from nature at developmental stages of youth and an increase in issues like obesity, anxiety and depression, behavioral problems, and lack of creativity.⁸ Positing that the human-nature connection is essential to human wellbeing, the concept of biophilia reveals the detriments of urban life removed from nature, but in it we can also discover biophilia as a hopeful remedy.

Louv points to hopeful evidence of nature’s positive effect on mental, emotional, and physical health, such as being able to better deal with stress and experiencing decreased anxiety levels and symptoms of ADHD. He explains that exposure to nature has shown potential in treating ADHD, used with or, when appropriate, even replacing medications or behavioral therapies.⁹ Louv also cites research conducted in England and Sweden which demonstrates feelings of greater restoration and less depression, for instance, as well as less anxiety and anger among joggers who exercised in a natural green setting with trees, foliage, and landscape views, as opposed to those exercising in gyms and other built settings.¹⁰ Landscape architect Michael Murphy, former professor at Texas A&M University, also supports the potential for the therapeutic qualities of the natural landscape by citing that landscapes are more likely to alleviate stress “if they contain green foliage, flowering plants, calm water, harmonious natural sounds (birdsong, breezes, moving water),

⁸ Richard Louv, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*, Updated and expanded (Chapel Hill, N.C: Algonquin Books of Chapel Hill, 2008), pages 7-100.

⁹ Ibid., 100.

¹⁰ Ibid., 49.

and visible wildlife (butterflies, birds, squirrels).”¹¹ He further asserts that the inverse is also true; landscapes that are dominated by pavement and characteristically urban structures have been linked to diminished therapeutic effects.¹²

The idea of nature’s therapeutic and restorative potential is not a new one; in fact, it is the basis of the “Attention Restoration Theory” (ART) developed by Rachel and Stephen Kaplan, and extensively written about in their 1989 book, *The Experience of Nature: A Psychological Perspective*. The theory proposes that spending time in nature has the power to improve focus, concentration, and alleviate stress.¹³

In the densely populated urban environment, which often demands a faster pace of life, constant stimuli like high sensory load and cognitive demands cause increased stress and mental fatigue. The Kaplans theorize that the natural environment is “preferred” on a molecular level, unlike built environments; therefore, prolonged concentration in the built environment requires greater exertion of cognitive resources, which in turn can lead to irritability, difficulty focusing, and reduced ability for problem-solving.¹⁴ As part of their Attention Restoration Theory, though, the Kaplans propose nature as a remedy for alleviating stress and mental fatigue, outlining four steps on the way to restoration that each require “increasing amounts of time and increasingly high-quality restorative settings in order to be achieved.”¹⁵ What they characterize as a “restorative” setting under this theory is based on components of 1. Being away, 2. Fascination, 3. Extent, and 4. Compatibility.¹⁶ In short, these four components involve a space allowing a person to detach from the cause of their mental exertion, for their attention to be held by the space without additional exertion,

allowing for respite from the fatigue and for a person to feel fully immersed and engaged, and finally to feel enjoyment and at peace in the particular place.¹⁷ The Kaplans reason that because the natural environment is “often experienced as a preferred or aesthetic environment,”¹⁸ with its patterns and rhythms closely resembling our natural human rhythms, the natural environment more easily satisfies the components for a restorative setting. While aesthetic natural landscapes provide pleasure,¹⁹ natural environments are also complex and innately stimulating. They often also provide enough of an “away” from the daily exertion of modern urban life to allow to “clear the head,” therefore satisfying a lot of the restorative setting characteristics.

The Kaplans’ theory of the restorative potential of nature and provided framework is crucial in the context of this thesis because it backs the argument for increased access to nature in the built environment for improved human wellbeing but does not necessarily instill any constraints on the kind of green space that might be of such restorative value. Instead of arguing that nature has to be vast and untouched in order to provide restorative effects, the Kaplans offer inspiration and support for the integration of nature into the built environment on a potentially smaller, but equally meaningful scale. “More important than size is the sense that there might be more to explore than is immediately evident,”²⁰ the Kaplans explain in relation to how the defining characteristic of “extent” is really more about the experience a space offers in its provided opportunity for immersion and exploration, rather than just its physical size. “The sense of miniature, characteristic of many gardens and some backyards, also achieves extent ... through intensity rather than

through the suggestion of distance. In such cases, a ‘whole little world’ may be captured in a small space.”²¹ This consideration is particularly meaningful in the context of the thesis, focusing on the urban public garden. The idea behind the urban public garden may be a smaller-scale intervention incorporating more green space into densely urban environments, but it can be made highly successful through thoughtful design and consideration of elements like opportunity for exploration even without a vast footprint. If we are to understand the biophilic principle of our need to engage with the natural world and acknowledge the physical, psychological, and social benefits that humans reap from a connection with nature, then we can apply this idea to urban design and enhance urban life through interventions like the urban public garden.

Defining "Garden" in the Context of Densely Populated Urban Public Spaces

With the biophilia hypothesis in mind, along with the evidence supporting nature’s benefit on overall human wellbeing, this thesis urges for the necessity to continue to green the urban environment — particularly in the public realm — and posits the garden as a means of doing so.

The term "garden" can encompass a broad spectrum of meanings. Spaces dedicated to horticultural productivity and ornamental arrangements designed for aesthetic pleasure — often associated with affluent estates — are all referred to as “gardens.” For the purposes of this thesis, the definition of a garden is rooted in its role as a shared green space that fosters a connection to nature. Considering again how the decline in access to green space with urbanization is more prevalent in densely populated, low-income urban areas, it is crucial that the garden in question is a publicly accessible one. The goal of the garden is

to rekindle the diminished connection of urban residents to nature, so the garden is one that is strategically located in urban areas lacking in green space.

As many agriculturally productive community gardens in various densely populated cities offer urban residents a connection to nature and their community, the garden implied by this thesis does not reject agricultural productivity; rather, the thesis acknowledges the smaller-scale nature of the garden interventions that are possible in the densely populated urban context, and leaves the option to incorporate limited agriculturally productive garden elements on a case-by-case basis. This thesis considers the value of a garden in creating an urban oasis through a diverse palette of plants and design features that create both personal and communal opportunities for engagement — with people, nature, and place.

¹¹ Michael Murphy, “The Human Landscape,” in *Landscape Architecture Theory* (Island Press, 2016), 106.

¹² Ibid.

¹³ Courtney E. Ackerman, “What Is Kaplan’s Attention Restoration Theory (ART)?,” *PositivePsychology.com*, November 13, 2018, <https://positivepsychology.com/attention-restoration-theory/>.

¹⁴ Kaplan and Kaplan, *The Experience of Nature*, 188.

¹⁵ Ibid., 196.

¹⁶ Ackerman, “What Is Kaplan’s Attention Restoration Theory (ART)?”

¹⁷ Ibid.

¹⁸ Kaplan and Kaplan, *The Experience of Nature*, 196.

¹⁹ Ibid.

²⁰ Ibid., 191.

²¹ Ibid.

Chapter 2: Defining Community and the Garden’s Role in Urban Spaces

What is Community in My Research Context?

In the process of building an argument for urban public gardens, *community* comes to the forefront as a driving force. Community is both the physical process of people congregating in space, but it is also the far more ethereal and intangible relationship between individuals, groups, and physical spaces. Community is the creation of meaningful connections among people and place — a necessary phenomenon for healthy human psyche, as humans are intrinsically social beings. Urban public gardens provide the opportunity to foster community in both the physical and ethereal sense, offering a space of respite from the intense urban fabric while encouraging interaction, stewardship, and collective identity.

In 1923, Stuart A. Queen of the American Sociological Society²² summed up the complex notion of community as “a local grouping of people who share a number of important interests and activities, and who are more concerned about the things which they have in common than about those wherein they differ.”²³ Such a definition still holds its place in our society a century later. In a diverse urban environment like New York City, countless communities can be identified. Some are more physically apparent, such as cultural communities manifesting in enclave neighborhoods, while others are more interest-based, such as the community of gardeners on the Lower East Side, or plein-air artists in Central Park.²⁴

²² “Stuart A. Queen,” American Sociological Association, accessed December 22, 2024, <https://www.asanet.org/stuart-a-queen/>. The Society was later renamed into the “Association.”
²³ Stuart A. Queen, “What Is a Community?,” *The Journal of Social Forces* 1, no. 4 (May 1, 1923): 382, <https://doi.org/10.2307/3004942>.

Another example of community within the urban context is public housing. While each development is, by definition, a community, the physical design and frequent lack of funding leaves much opportunity to better promote social community within these spaces. Urban public housing developments such as those under New York City’s Housing Authority (NYCHA)²⁵ were initially brought to life in a massive effort to improve living conditions for low-income populations within densely populated urban areas.²⁶ Initial designs of NYCHA developments actually sought to fulfill a vision of “green and pastoral superblocks,” with significant acreage dedicated to lawns, paths, and overall public space.²⁷ Over time, however, the public spaces at many of the city’s public housing developments became characterized by large expanses of paved impervious surfaces and limited communal elements to promote social interaction. A crucial aspect of community is the social facet — the opportunity for social interaction and communion that, too, promotes psychological wellbeing — thus underscoring the need for spaces that would foster this. Having space available within physical communities like public housing complexes allows the opportunity for people to come together and bond over shared interest and activities in a way that would not be so possible without access to such a shared space. Where hundreds of residents go about their own daily lives and retreat to the small space of their apartments, vibrant shared public space becomes a necessity to allow for that interaction, and therefore even the opportunity to foster a social community.

²⁴ “Plein-Air Painters of Central Park,” Facebook, n.d., <https://www.facebook.com/people/Plein-air-Painters-of-Central-Park/100067621728412/>.
²⁵ About NYCHA, <https://www.nyc.gov/site/nycha/about/about-nycha.page>
²⁶ “NextGeneration NYCHA,” May 2015, 25, <https://www.nyc.gov/assets/nycha/downloads/pdf/nextgen-nycha-web.pdf>.
²⁷ *Living in the Shade*. Exhibition curated by Prof. Matthias Altwicker and Prof. Nicholas Dagen Bloom, 2025.

Green Spaces Are Conducive to Community-Building

Just in the way that being surrounded by a green landscape has a myriad beneficial effect on human health, mentally, emotionally, and physically, nature’s presence in a landscape also positively contributes to the social dynamics of a location. A variety of studies have evidenced green spaces as being conducive to community-building, namely in promoting social interaction, social cohesion, an improved sense of place and boosted morale.

Green spaces can play an important role in the lives of people within a community in their potential for cultural and recreational activities.²⁸ Considering, again, human nature as social beings, people require an extent of social and environmental connectivity in order to thrive—whether as individuals, as part of a family, or as part of a larger community. The presence of nature in the built environment has, in turn, been proven to foster these necessary social connections. For one, studies have shown that publicly accessible neighborhood nature has been useful in addressing feelings of social isolation.²⁹ In a study done by Rugel and her team across Vancouver and California, evidence was found to support the “role of natural space in facilitating social connections ... via increased sense of community belonging.”³⁰ Where a group of urban residents of the ethnically and racially diverse city of Vancouver were asked to answer how they would describe their sense of belonging to their local community, responses could vary on a scale from “very strong” to “very weak.”³¹ The team’s hypothesis that a person’s closer proximity to publicly accessible

²⁸ Allen Kearns, ed., “Building Urban Resilience Through Green Infrastructure Pathways,” in *Resilient Sustainable Cities: A Future*, First edition (Abingdon, Oxon: Routledge, 2014), 58.
²⁹ Rugel et al., “Exposure to Natural Space, Sense of Community Belonging, and Adverse Mental Health Outcomes across an Urban Region,” 374.
³⁰ Ibid.
³¹ Ibid., 368.
³³ Kearns, “Building Urban Resilience Through Green Infrastructure Pathways,” 59.

greenspace would correlate to a higher *sense of community* score was ultimately corroborated with the study’s results.

The bottom line is that amplifying a physical urban space with green spaces provides opportunity for social connection, whether that be for individuals to be among others, for organized group events, or for informal gatherings.³³ Furthermore, though, smaller green spaces like paths, trails, and small seating areas also offer locals an opportunity to feel a sense of identity within their space, and a sense of belonging that helps foster a sense of ownership over these areas.³⁴ In providing outdoor green spaces that also function as gathering spaces to residents of dense urban housing, the opportunity is presented (and perhaps promoted) for neighborly interaction, which in turn “increases familiarity and mutual investment in well-being.”³⁵ The theory of “collective efficacy” urges that by allowing a group of people to feel empowered by a sense of ownership over the green spaces in their community — and in being able to build better social ties with their community through these spaces — a collective care may emerge for the space.³⁶

⇒ Public Housing Communities

This is especially an important consideration in regard to public housing communities. In researching the relationship between poverty and social cohesion, one study found that residents in poor neighborhoods were more prone to lacking social ties with their neighbors³⁷ while another concluded that

³⁴ Ibid.
³⁵ Mardelle Shepley et al., “The Impact of Green Space on Violent Crime in Urban Environments: An Evidence Synthesis,” *International Journal of Environmental Research and Public Health* 16, no. 24 (2019): 10, <https://doi.org/10.3390/ijerph16245119>.
³⁶ Ibid.
³⁷ Seunghye Hong, Wei Zhang, and Emily Walton, “Neighborhoods and Mental Health: Exploring Ethnic Density, Poverty, and Social Cohesion among Asian Americans and Latinos,” *Social Science & Medicine* 111 (June 2014): 4, <https://doi.org/10.1016/j.socscimed.2014.04.014>.

“neighborhood poverty is negatively associated with social cohesion.”³⁸ Meanwhile, public housing communities tend to have significantly high percentages of residents living at or below poverty. New York City’s public housing authority is the largest in the country. Within it, 49.8% of residents throughout all five boroughs lived below the national poverty line as of 2009. At less than just 5% of the total city’s population, these NYCHA residents accounted for approximately 14% of the city’s population living under the poverty threshold.³⁹

While the problem of poverty in public housing may not have a clear solution, there is an option for improving social cohesion in these communities — investment in green spaces. In fact, a survey done by the former Robert Taylor Homes in Chicago, once the largest public housing community in the country at their completion in the 1960s, supports these ideas of increased overall social cohesion through increased access to nature and green space.⁴⁰ This research indicated higher levels of social contact, greater neighborliness in residents’ buildings, and stronger social networks amongst the people who resided in high-nature areas as opposed to those who lived in low-nature areas. In the context of this study, distinction between “high-nature” and “low-nature” was defined by something so simple as the number of trees found in the space. In addition to a demonstrated positive correlation between the presence of trees and grass on the use of common spaces within the public housing complex, studies at the Robert Taylor Homes showed positive results in improved mood and feelings of personal adjustment in the space, as well as reduced stress among residents with more access to greenery. Notably, this was the case even among a resident

population that struggled with unemployment and poverty,⁴² and brings the idea of nature’s restorative potential full circle in relation to the Kaplans’ theories presented earlier.

This research also further emphasizes the importance of forming “neighborhood social ties” in low-income communities, acknowledging that while they are beneficial among all populations, they “may serve an especially critical function” within these communities.⁴³ This resounding evidence that supports facilitating greater social interaction to allow for improved social ties and community through increased access to green space is crucial in the context of the urban public garden, which is meant to be applied particularly to low-income, high density urban areas, which typically disproportionately lack access to green space.

Eyes on the Street

Investing in increased access to green space in the densely populated urban environment is furthermore conducive to community building in creating safer social spaces through the indirect influence on crime reduction. Evidence has shown that an increased presence of natural elements in an urban environment is conducive to an increased social presence outdoors, with more people spending time outside and partaking in social interaction, in turn contributing to the creation of a stronger sense of community.⁴⁴

⁴² Frances E. Kuo et al., “Fertile Ground for Community: Inner-City Neighborhood Common Spaces,” *American Journal of Community Psychology* 26, no. 6 (December 1998): 836, <https://doi.org/10.1023/A:1022294028903>.
⁴³ Ibid., 846.
⁴⁴ sShepley et al., “The Impact of Green Space on Violent Crime in Urban Environments: An Evidence Synthesis,” 10.

A physical landscape that makes people want to be in it is in turn conducive to social interaction, making it easier to “foster neighborliness and social relationships”⁴⁵ within the specific community. Research has shown that the presence of green elements in the landscape, such as trees, helps to promote social interaction in a landscape, while at the same time the presence of more people and a lively social community promotes greater natural monitoring of the space, and increased supervision of children. This has been especially found to be the case in impoverished urban neighborhoods.⁴⁶

As mentioned previously, public housing communities such as NYCHA are, unfortunately, some of the city’s most concentrated impoverished urban neighborhoods. They are also often hotspots of crime. An assistant Professor at the John Jay College of Criminal Justice, with a doctorate in crime analysis and crime mapping and former experience as a Crime Analyst Supervisor focusing on Citywide Shooting and Homicide,⁴⁷ Chris Herrmann provides an overview of the crime statistics at NYCHA, specifically looking at gun violence. While New York City altogether averaged 1297 shooting victims annually between 2010 and 2019, NYCHA alone accounted for 27% of that — averaging 348 shooting victims between the same years.⁴⁸ Undoubtedly, there are many factors that lead to high crime rates within a community, and redesigning NYCHA courtyards will not miraculously make crime disappear. Investing in green space does, however, offer the potential to make a physical space safer indirectly through the increased opportunity for social interaction, community building, and through the natural monitoring that follows as a result.

⁴⁵ Coley, Kuo, and Sullivan, “Where Does Community Grow? The Social Context Created by Nature in Urban Public Housing,” 488.
⁴⁶ Ibid., 468.
⁴⁷ “Christopher Herrmann,” John Jay College of Criminal Justice Faculty, n.d., <https://www.jjay.cuny.edu/faculty/christopher-herrmann>.
⁴⁸ Christopher Herrmann, “Risky Places and Public Housing: Understanding Gun Violence in NYC,” 11, <https://www.sakraplatser.abe.kth.se/wp-content/uploads/sites/60/2020/12/Risky-Places-and-Public-Housing-in-NYC-FINAL.pdf>.

The concept of a public space being safer as a result of natural monitoring just by people occupying the space is one well supported by urban activist and author Jane Jacobs in her 1961 book *The Death and Life of Great American Cities*, which offers a highly influential critique of mid-century urban planning policies.⁴⁹ As she urges, promoting “eyes on the street” allows for natural surveillance of a space, which in turn promotes safety and deters crime. Architect and city planner Oscar Newman speaks further on this phenomenon in his book *Defensible Space: Crime Prevention through Urban Design*, where he asserts that “the surveillance provided by the casual passerby on foot or in a car is important as a deterrent to criminal activity.”⁵⁰ Specifically in regard to public housing, one study found that “spaces with trees [attract] larger groups of people, as well as more mixed groups of youth and adults, than [do] spaces devoid of nature.”⁵¹ Another study even found no adults in the spaces that lacked nature’s presence. The studies also noted that the residential landscape appeared to be less crowded when there was more nature within it,⁵² as opposed to bare urban construction, contributing to a more pleasant impression of a space even though the same number of people may be present. Furthermore, a study on the relationship of greenery to social behavior in the context of Chicago’s public housing also supports these findings. It was found that “residents with more trees and grass around their buildings displayed less aggressive behavior, and their buildings were associated with fewer crimes,” in addition to the research evidencing an increased sense of safety being in direct relation to increased social interaction in the given public housing context.⁵³

⁴⁹ Jane Jacobs, *The Death and Life of Great American Cities*, Vintage books ed (New York: Vintage Books, 1992).
⁵⁰ Oscar Newman, *Defensible Space: Crime Prevention through Urban Design*, 3. print, Architecture, Urban Affairs (New York: Collier Books [u.a.], 1978), 25.
⁵¹ Coley, Kuo, and Sullivan, “Where Does Community Grow? The Social Context Created by Nature in Urban Public Housing,” 468.
⁵² Ibid., 488.
⁵³ Terry Hartig et al., “Nature and Health,” *Annual Review of Public Health* 35, no. 1 (March 18, 2014): 216, <https://doi.org/10.1146/annurev-publhealth-032013-182443>.

In order for people to have eyes on the street, there should be stimulus for people to be going, and spending time outdoors. Many of the public housing complexes under NYCHA have significant favorable qualities that serve as solid foundation for potential design interventions that would enhance opportunities for access to green space and social interaction. Whether it be a lush tree canopy retained from NYCHA's extensive tree planting efforts in the 1950s and 1960s,⁵⁴ or an existing artwork that resonates with the local residents, these elements can be fully embraced and enhanced even with a simple intervention like seating that takes advantage of the existing shade and provides the opportunity to pause and reflect on the artwork. These opportunities currently exist at the Kingsborough Houses development, so it is selected as the site for an illustrative urban public garden application in the public housing context, presented as a culminative example of the arguments in this thesis. Approaching NYCHA's public space courtyards with the concept of the urban public garden is an opportunity to rekindle the connection to nature and vibrant social community that NYCHA was initially designed to be, and this is later addressed in the design application.

⁵⁴ Altwicker and Bloom, "Living in the Shade."

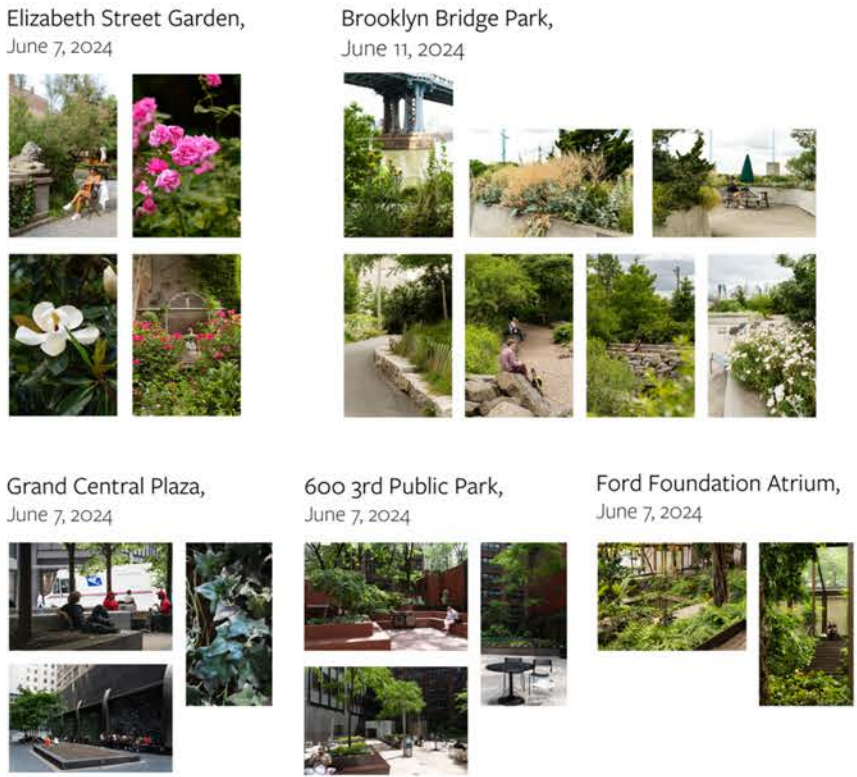
Chapter 3: Common Threads: Lessons from Urban and Public Gardens

The search for the positive characteristics of urban public gardens has led to an analysis a plethora of public green spaces — from large urban public parks like Brooklyn Bridge Park to the smaller scale urban community gardens of the Lower East Side, and less urban landscape park designs in Switzerland. A variety of simple, commonplace elements like seating and thoughtful plant selection have emerged without fail as the main elements characterizing designed public spaces. Just these things alone, however, do not contribute to the experience curated by a space, so further analysis was necessary to help take apart the big idea of successful urban public green space design.

The process of identifying what makes for successful design in an urban landscape first turned my attention to New York City and its public green spaces. In growing up in Brooklyn and completing my undergraduate degree in Manhattan, the search for a personal connection with nature within this city has grown my connection to its public green spaces. Some places, like the Elizabeth Street Garden and Brooklyn Bridge Park felt like spaces of respite within the built urban environment, and I sought to understand exactly why that was. During the process I also happened upon a variety of other public spaces, like Grand Central Plaza, tucked away between tall buildings; each location and designed public space had something for me to take away, some leading me to surprising observations. While I first identified the Ford Foundation Building Atrium as a high contender for a "successful" public green space based on images of the lush design, an in-person experience of the space proved otherwise. The atrium, although lush in planting and offering seating, did not feel welcoming; a security check was mandated upon entrance, food was not allowed, and being in the space felt as though voices should be kept to a whisper as in an upscale gallery.

The experience of New York City's public green spaces was a good preliminary experience to begin understanding how public green spaces feel and how they can be assessed. As the experience of Swiss designed landscapes followed later in the summer, my approach in analyzing these spaces was already more streamlined and was also informed through extensive research on the corresponding projects and their designers. Eventually, the analytical process led to a more narrowed-down, focused appreciation of the design of the spaces, and led to the common threads.

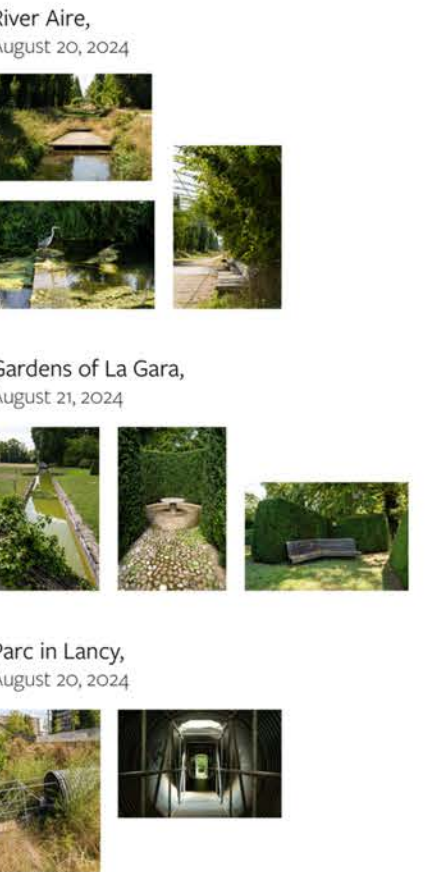
NEW YORK CITY PUBLIC GREEN SPACES



- > What makes for successful design in an urban landscape?
- > How can the human connection with the natural environment be fortified within the built landscape?

Figure 2: Preliminary exploration of public green spaces to look for examples of "good design," by author.

SWISS GARDENS & LANDSCAPES



Rationale for Categories of Common Threads

On a basic level, the notion of “good” design prompted by the thesis research questions — or what feels “good” in a designed landscape — is subjective, and a broad concept to grasp. One of the goals in process was to break down the larger observed landscapes into more assessable features to be able to identify the role they individually may play in a landscape, how they come together to form the big picture, and how these identifiable elements can be replicated to create successful urban public gardens. These identifiable elements became the “common threads” in my visual and experiential analysis (Fig 2). These ranged from straightforward physical elements like seating to more ethereal elements like concepts of agency and ownership of a space.



Figure 3: Common Threads Visual String Analysis, by author.

⁵⁵ Kaplan and Kaplan, *The Experience of Nature*, 10.

From the photographic documentation I gathered in the process, I wanted to visualize any connections between all these observed spaces to help answer my research questions, and identify, are there any common threads and themes that arise from the analysis? I selected broad components that stood out in the images to try and make connections with. For instance, in selecting “exploration,” as one of the common thread components, I identified spaces where there were things to be discovered on site, and circulation that promoted freedom of experience. The thread analysis demonstrated that — what started off as random elements identified based on a preliminary examination of the subjects of my photography — was not at all random. In demonstrating an overlap between even such different categories as physical seating versus the more ethereal, intangible element of agency, the common threads became a visual representation of how closely intertwined many of these elements are within the spaces studied. These findings support the research framework presented by the Kaplans that asserts the landscape as being “more than the enumeration of the things in the scene.”⁵⁵ In emphasizing the importance of the organizational patterns of these elements in a space and the role this plays in how a space is received by the public,⁵⁶ further analysis of the common threads and their relation to each designed landscape contributes to understanding the research questions posited in this thesis.

Following the common threads analysis, I created more all-encompassing categories to further identify the elements of “good design,” and understand their impact on a space.

The process of categorizing these elements quickly began to resemble the bottom-up process of implementing a design in a landscape, where terrain and the ground plane are established first,

⁵⁶ Ibid.

with elements like plantings and furnishings coming in after the fact, and in this case, concluding with the most intangible elements. This categorization process was crucial in allowing to break down the vast big picture of curated landscapes around me in order to hone in on the compositional elements of design and therefore aid in providing insight to my research question of what makes for good design, in the urban garden context.

Common Threads Categories

The 2008 book *Biophilic Design*, written by former Yale social ecology professor Stephen Kellert who worked alongside Wilson to advance the theory of biophilia, outlines six biophilic design elements and a variety of biophilic attributes which Kellert urges should inform biophilic design in the architectural context.⁵⁷ Most of the attributes are equally applicable to the landscape realm, however, and informed the elements that guided the common threads visual string analysis.

The elements selected as common thread identifiers for this analysis range in scale and in the degree to which they appear from one site to another, but all play a fundamental role in shaping the experience at the green spaces observed. Water, Circulation, Exploration, Privacy, Ecology, Sensory, Seating, Art, and Agency; these nine elements represent both physical, tangible, and more intangible, ethereal critical aspects of designed landscapes.

⁵⁷ Stephen R. Kellert, ed., “Dimensions, Elements, and Attributes of Biophilic Design,” in *Biophilic Design: The Theory, Science, and Practice of Bringing Buildings to Life* (Hoboken, N.J.: Wiley, 2008), 3–14, <https://download.e-bookshelf.de/download/0000/5929/05/L-G-0000592905-0002338697.pdf>.

⁵⁸ Kaplan and Kaplan, *The Experience of Nature*, 9.

⁵⁹ Kellert, “Restorative Environmental and Biophilic Design,” 7.

⁶⁰ Kaplan and Kaplan, *The Experience of Nature*.

⇒ *Water*

In the book *Experience of Nature*, the Kaplans identify water as a highly prized element in the landscape,⁵⁸ and it has shown to play a significant role in a variety of the landscapes observed as well. Kellert, too, supports the importance of water, stating that it “commonly elicits a strong response in people,”⁵⁹ and identifying it as one of his biophilic attributes.

Water plays a unique dual role in the landscape as it serves both a functional and aesthetic purpose in designed space. It holds aesthetic value within natural, untouched landscapes just as it does in designed landscapes, providing a pleasurable sensory experience through sight, sound, touch, and sometimes even smell. The aesthetic value of water in landscape often overlaps with function too; it is closely related to the restorative power and soothing effect on the human psyche,⁶⁰ often being associated with contemplative, reflective practices like prayer, meditation, and spiritual cleansing across a variety of global faiths and religions.^{61,62} The ecological value of water cannot be understated as well, as water facilitates, attracts, and maintains biodiversity.⁶³

At Brooklyn Bridge Park, a waterfront urban park, water heavily influences the full sensory experience of the space, in addition to its intrinsic influence on design decisions for the park. The design incorporates multi-purpose stone stairs that provide seating for a passive visual enjoyment overlooking the East River and Manhattan skyline and also lead to a rocky shore which allows for a direct interaction with the water.

⁶¹ C. Pierce Salguero, “Cultural Associations of Water in Early Chinese and Indian Religion and Medicine,” *Education About Asia* 22:2, no. Water and Asia (Fall 2017): 24, <https://www.asianstudies.org/publications/ea/archives/cultural-associations-of-water-in-early-chinese-and-indian-religion-and-medicine/>.

⁶² “Cultural Values of Water,” UNESCO; UN World Water Development Report 2021, September 21, 2023, <https://www.unesco.org/reports/wwdr/2021/en/cultural-values-water>.

⁶³ HyeJin Kim et al., “Understanding the Role of Biodiversity in the Climate, Food, Water, Energy, Transport and Health Nexus in Europe,” *Science of The Total Environment* 925 (2024): 6, <https://doi.org/10.1016/j.scitotenv.2024.171692>.

⇒ *Circulation*

Movement through space is determined by the design of circulation, and this in turn dictates the experience of a space. Decisions like directionality and directedness of pathways and transitions in a landscape influence how people are able to traverse through it, therefore influencing the overall experience in and of the space. For instance, circulation directed by a linear path cutting through openness in a landscape may lead to a more surface-level experience of the space. In the case of a meandering pathway, however, a person may find a deeper experience of the landscape as the path leads away from a central area and reveals new, more secluded areas. Circulation also appears in Kellert’s consideration of biophilic design attributes, particularly in reference to the comfort provided by transitional spaces. Although in his context, transition pertains to movement between built and natural environments, the same principle can be applied to movement through the landscape, especially in the context of urban green spaces and their intrinsic position within the built environment. When considering circulation as one of the elements integral to successful design, an effective approach to circulation would blend the experience of openness and enclosure, seeking to create a rhythm in the experience of the landscape.

At the Gardens of La Gara in Geneva, Switzerland, Belgian landscape architect Erik Dhont introduces a redesign of the picturesque property where design of circulation is crucial to the creation of rhythm in the landscape.⁶⁴ Maintaining that the garden is a private residential property, “random but also formal and sometimes functional routes”⁶⁵ allow for a sense of freedom in traversing the space, while still leading to some main focal or experiential points in the property. The creation of rhythm through design of circulation

is highly intentional in this space. “The invitation to walk freely is based throughout the project on the possible choices of paths to follow, which depend on light, time or seasons;”⁶⁶ here, the passing of time contributes to the rhythm in giving the garden an ever-changing quality, but also in reflecting nature’s rhythms.

⇒ *Exploration*

The element of exploration in a designed landscape arises from the power of the space to spark interest, curiosity, and the opportunity for movement through the space in a manner which acts on that curiosity. Being more so an intangible force rather than a physical quality of a landscape, the element of exploration can be seen as a direct result of effective and dynamic circulation. The presence of winding paths, for instance, provides opportunity for heightened exploration. Layered spaces, a dynamic balance between openness and enclosure, and the presence of hidden nooks can all again inspire deeper exploration of and engagement with a landscape.

This freedom to act on curiosity, to explore a space, and the ability to be captivated by it hearkens back to the “fascination” aspect of the Attention Restoration Theory⁶⁷ posited by the Kaplans as a necessary experience in order to achieve restoration: “Curiosity reflects the human need for exploration, discovery, mystery, and creativity.”⁶⁸ This idea also resonates with Kellert, and thus identifies curiosity as another critical biophilic design attribute.⁶⁹ Curiosity and exploration go hand in hand in his interpretation, and informs the selection of exploration as an element integral to effective landscape design.

⁶⁴ Anette Freytag (Ed.), *The Gardens of La Gara: A 18th Century Estate in Geneva with Gardens Designed by Erik Dhont and a Labyrinth by Markus Raetz* (Zürich: Scheidegger & Spiess, 2018), 213.
⁶⁵ “Geneva,” Erik Dhont Landscape Architects, n.d., <https://erikdhont.com/projects/geneva/>.
⁶⁶ Ibid.

⁶⁷ Ackerman, “What Is Kaplan’s Attention Restoration Theory (ART)?”
⁶⁸ Kellert, “Restorative Environmental and Biophilic Design,” 13.
⁶⁹ Ibid.

⇒ *Privacy*

One of the aspects of the dynamic element of exploration is the ability to discover spaces of greater seclusion — spaces that are away from the center of action within a landscape, spaces in which to find respite. Particularly in the context of the urban public garden, a balance between communal interaction and personal quiet escape is necessary. Humans require access to quiet, peaceful, possibly secluded areas that offer a sense of retreat in order to decompress and experience mental restoration; urban overstimulation makes such experience all the more necessary for urban dwellers.⁷⁰ The element of privacy, therefore, acknowledges the importance of providing such opportunities for personal refuge within a landscape. Again, this implies a balance between moments of enclosure and openness in a space but identifies the particular value in the opportunity to find privacy within a landscape.

⇒ *Ecology*

For the purpose of the visual common threads analysis, the element of ecology very broadly encompasses everything from habitat to the particular planting palette within a landscape. Ecology as an analytical element also encompasses ecological landscape design ideals, namely, the goal of designing landscapes with consideration of the “unique climate, weather patterns, soil types, geography, and wildlife connections of the specific region.”⁷¹ Shifting focus to native plantings is an example of an ecological design

⁷⁰ “Mind and Body in a Nearby Quiet Space,” Nature Sacred, February 14, 2017, <https://naturesacred.org/quiet-space/>.
⁷¹ “Ecological Landscape Design,” National Wildlife Federation, n.d., <https://www.nwf.org/Native-Plant-Habitats/Plant-Native/Ecological-Landscape-Design>.
⁷² Gayle M. Volk, Tara L. Moreau, and Patrick F. Byrne, “Importance of Plants for Mitigating and Adapting to the Effects of Climate Change,” in *Conserving and Using Climate-Ready Plant Collections*, 2023, <https://colostate.pressbooks.pub/climate-ready-plant-collections/chapter/importance-of-plants/>.

approach, which supports local biodiversity, helps mitigate the effects of climate change,⁷² and promotes social awareness of these crucial plants among the local community.

On several occasions, Kellert also identifies ecology as a critical biophilic design attribute, underscoring its importance in landscape design. In his mention, ecology appears across several separate attributes of the fifth biophilic design element, “place-based relationships.”⁷³ First, it is identified in the attribute of ecological connection to place. This aligns with the aforementioned goal of designing landscapes in a manner that supports local biodiversity, ecological integrity, and biological productivity.⁷⁴ It is also emphasized in the attribute of landscape ecology, specifically in designing to reinforce landscape ecology in the long term. Similar to the ideals of ecological landscape design described previously, this attribute underscores the need for considering various parameters of functioning natural systems for effective landscape design, including landscape structure and patterns, ecological boundaries and biological corridors.⁷⁵ The different facets of ecology and application of ecological principles is crucial for urban green spaces, and as such is clearly identified and incorporated as an element in the common threads analysis.

⇒ *Sensory*

The presence of elements in a space that engage the full spectrum of human senses — sight, sound, touch, smell, and even taste — helps to create for a more immersive experience, and deeper interaction

⁷³ Kellert, “Restorative Environmental and Biophilic Design,” 12.
⁷⁴ Ibid.
⁷⁵ Ibid.

within a landscape. A sensory experience can be facilitated through the presence of water as referenced earlier, where water can contribute to rich experience of touch, sound, and sometimes even smell (such as the smell of the ocean). Through plant selection, sense of smell can be activated through fragrant flowers, while vibrant and diverse color can stimulate a visual experience, and textural variety aids in a tactile experience. In the example of edible berries, plants can also contribute to a sensory experience of taste. Of course, other attributes contribute to sensory experience, but sensory diversity in a designed landscape is key to creating immersive and effective spaces.

The sensory experience is also identified as a biophilic attribute, making it all the more relevant in the context of urban green space and the effort to connect urban dwellers to nature. Kellert identifies sensory variability as an attribute of “natural patterns and processes,”⁷⁶ the third biophilic design element. While the biophilic theory asserts that the root of the intrinsic human to nature connection is the result of evolutionary biology aimed at human survival, Kellert draws the same parallel with the need for sensory variability in effective landscapes. Human survival, he explains, depended on “coping with a highly sensuous and variable natural environment, particularly responding to light, sound, touch, smell,” etc.⁷⁷ In order to effectively connect people to nature in the built environment, designed landscapes need to appeal to the most basic human self, and incorporating sensorial diversity in design is one way to do so.

⇒ *Seating*

Just as how circulation in a landscape can dictate the movement of people through a space, the physical attribute of seating also contributes to this regulation of movement. Seating also plays a role in

⁷⁶ Ibid., 9.

determining the manner in which people engage with a space, patterns of congregation, and the duration of time spent within a particular area. For instance, conventional seating like individual bistro chairs and tables within a garden may be more likely to promote passive engagement such eating lunch, while the presence of more unconventional elements like boulders and rock slabs can encourage more active engagement in play and exploration, in addition to providing seating. Ample seating located around a focal point, such as a fountain to artwork, can also attract more social congregation and people density in that space, as opposed to if there was very limited seating, or no point of interest in the area. Strategically placed, comfortable seating can also extend the duration of use and a person’s presence in a given landscape.

⇒ *Art*

The inclusion of art, whether through sculpture, murals, or other integrated design elements, can also play a role in the manner of engagement within a landscape. For instance, a strategically located artwork can also attract more people to a space and encourage social interaction and community building as a result.

Art in a landscape can also celebrate and uplift the identity of a space and its surrounding community. It fosters creative cultural expression, contributes to the narrative of a place, and can serve as a meaningful landmark. For example, the “Exodus and Dance” frieze by Richmond Barthé, standing tall in the plaza at NYCHA’s Kingsborough Houses, serves as an inspiration to the local community. Depicting “Black figures engaged in a dance,” this artwork reflects the “voices and narratives of the community and significance of

⁷⁷ Ibid.

the rich cultural heritage of Kingsborough Houses with its stories, memories, and dreams of the broader African-American community.”⁷⁸ Art is a powerful tool for the expression of self, for exploration and introspection, and sometimes simply for the experience of aesthetic pleasure. Through this, though, it can be a highly impactful element within effective designed landscapes.

⇒ *Agency*

Just as art can help foster a personal connection to a landscape, the element of agency considers the importance in the ability of designed landscapes to provide people with a sense of place — a sense of belonging, ownership and care, and the sense of having some control, or agency, within a space. With thoughtful design, the garden landscape typology is in a unique position to offer varied opportunities for participation, and with that foster a sense of agency. Whether it be through gardening opportunities, participation in community programming, or being involved in the design and decision-making process, there is a variety of ways to foster meaningful participation to aid in a sense of agency within a space. Even sophisticated circulation in a space can offer a sense of agency; from something simple as a pathway branching off into several options, or a more extreme example like the labyrinth at La Gara, circulation allows the visitor agency in deciding how to maneuver through the space. The garden can also present itself as a very unique green space where a visitor can become an active creator in it, as opposed to just being a passive user; the garden has great potential to allow people to shape their outdoor environments, creating personal meanings and relationships with the landscape.⁷⁹ It is especially critical to foster a sense of place

⁷⁸ “Connecting A Community With Art: Barthé’s Exodus & Dance,” Evergreene Architectural Arts, n.d., <https://evergreene.com/exodus-dance/>.
⁷⁹ Mimi Tsai, Debra Flanders Cushing, and Mark Brough, “I’ve Always Lived in a Place with Gardens: Residents’ Homemaking Experiences in Australian Aged-Care Gardens,” *Health & Place* 61 (January 2020): 102259, <https://doi.org/10.1016/j.healthplace.2019.102259>.

within the built, urban environment where higher density living often implies reduced ownership and agency in the surrounding landscape.

While not all urban garden green spaces offer an agricultural experience, sense of agency can be fostered through involvement in communal, social activities. Studies on the relationship between social events and sense of place have shown a positive correlation, showing a heightened sense of place resulting from more frequent participation in local events.⁸⁰ This heightened sense of place also implied a “stronger connection to the place,” including greater satisfaction with corresponding local neighborhoods, and increased desire to remain in the area long-term.⁸¹ A heightened sense of connection to place often implies that a person would be more likely to feel motivated to act upon making a difference in that space, therefore directly fostering a sense of agency. Sense of agency becomes a critical element in a designed landscape when it is understood in the context of empowerment, allowing for people to feel like they can make a difference, whether in their own lives or in the lives of others in their community and beyond.

Rationale for Selected Projects

The sites selected for the common threads visual string analysis include the Elizabeth Street Garden as well as a series of New York City’s Community Gardens, Brooklyn Bridge Park, and several examples from Swiss gardens and landscapes — the River Aire, Parc in Lancy, and the Gardens of La Gara. Although these sites vary greatly in scale, and across a range of urban and suburban landscapes, they all represent landscape typologies that balance ecological, communal, and aesthetic values. The designed landscape at all these

⁸⁰ Insun Sunny Son and Chris Krolikowski, “Developing a Sense of Place through Attendance and Involvement in Local Events: The Social Sustainability Perspective,” *Tourism Recreation Research*, April 16, 2024, 9, <https://doi.org/10.1080/02508281.2024.2335749>.
⁸¹ Ibid.

sites has great potential to serve as a teaching moment for what makes a successful garden landscape, and how the nature-human connection can be fostered through garden design and applied to the urban context.

⇒ Elizabeth Street Garden and NYC Community Gardens

Arising from the dust of dozens neglected vacant lots in the economic downturn of the 1970s and 1980s, many of New York City's community gardens represent a grassroots reclamation and revitalization of urban green space. Although they stand in contrast to the formal landscape design interventions in the city, the deeply personal relationship and care for these gardens experienced by their users inspires the urban public garden.

These community gardens are a testament to the desire for communal green space in the urban environment where people can feel significant for the role they play in the landscape. Standing strong against local government and developers who had other plans for the city's vacant lots and opposed community gardens,⁸² this grassroots movement gained traction, persevered, and led to the country's most extensive community garden/urban gardening system under the NYC Parks Green Thumb program,⁸³ with a particular community garden district in the Lower East Side (Fig 3). These community gardens were born out of necessity, creativity, and communal strength, and many remain vibrant today, fostering continued community resilience, ecological participation and awareness, and cultural expression.



Figure 4: Map of the community garden district in NYC's Lower East Side, compiled by LUNGS - Losaida United Neighborhood Gardens. <https://lungsnyc.org/map-of-gardens/>.

Unlike projects designed by professional landscape architects, the city's community gardens are curated by and cared for by those who use them. For the purpose of this thesis, observing spaces with such a dynamic was an opportunity to witness and understand the deeply personal and responsive ways in which people shape the landscape around them when employing their sense of agency to do so. Observing and analyzing these informally designed spaces was an opportunity to understand what kind of elements people value in their green spaces, to identify how those compared to or contrasted design choices in formally designed landscapes, and to hopefully apply findings to the context of the urban public garden.

Even upon initial selection of NYC community gardens for the visual analysis, it was clear that, despite the informal origins of their design, there was overlap in some aspects of landscape design. Plants at the community gardens, for example, are selected and layered not just for aesthetic appeal, but with consideration of ecological benefit and support of biodiversity, for the purpose of food production, for privacy, and/or for sensory engagement (Figs 4-5). Water features are occasionally also present at community garden sites. Whether in the form of small bird baths or rainwater collection systems, and irrigation, these features appear to be maintained with care and help support the gardens' local ecology (Figs 6-7). It is clear that water is critical in these landscapes.

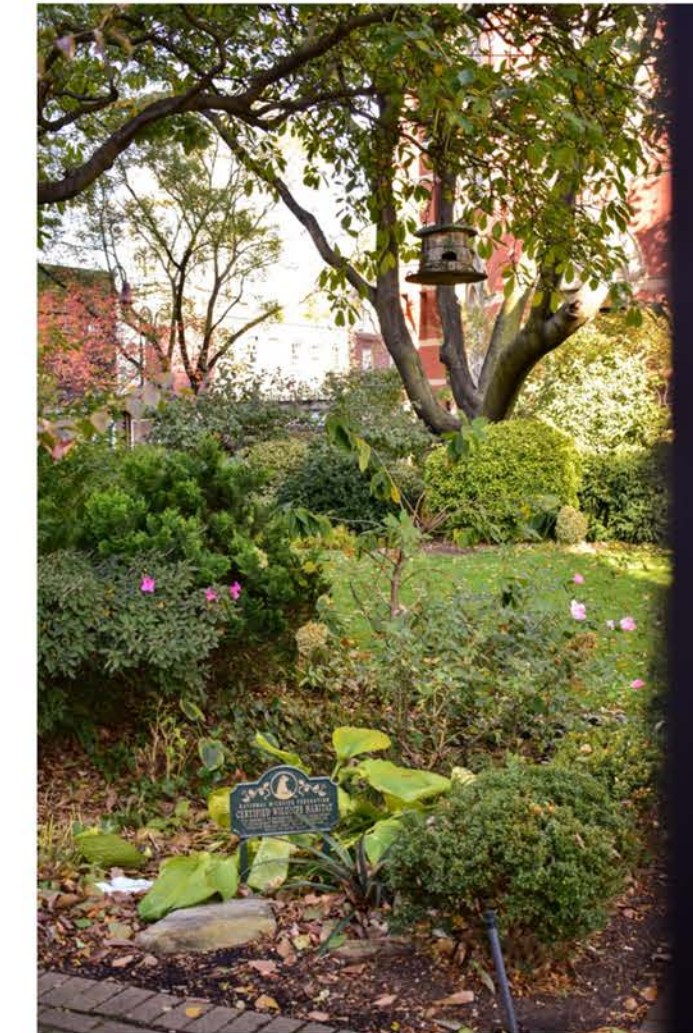


Figure 5: A Certified Wildlife Habitat plaque certifying the ecological benefit of the Jefferson Market Garden.



Figure 6: Plant arrangements at the LaGuardia Corner Garden attract pollinators and create a sensory tactile and visual experience.

⁸² "Reclaiming Space: Community Gardens," Museum of Reclaimed Space, n.d., <https://morusnyc.org/reclaiming-space-community-gardens/>.

⁸³ "NYC Green Thumb," NYC Parks, n.d., <https://www.nycgovparks.org/greenthumb/>.

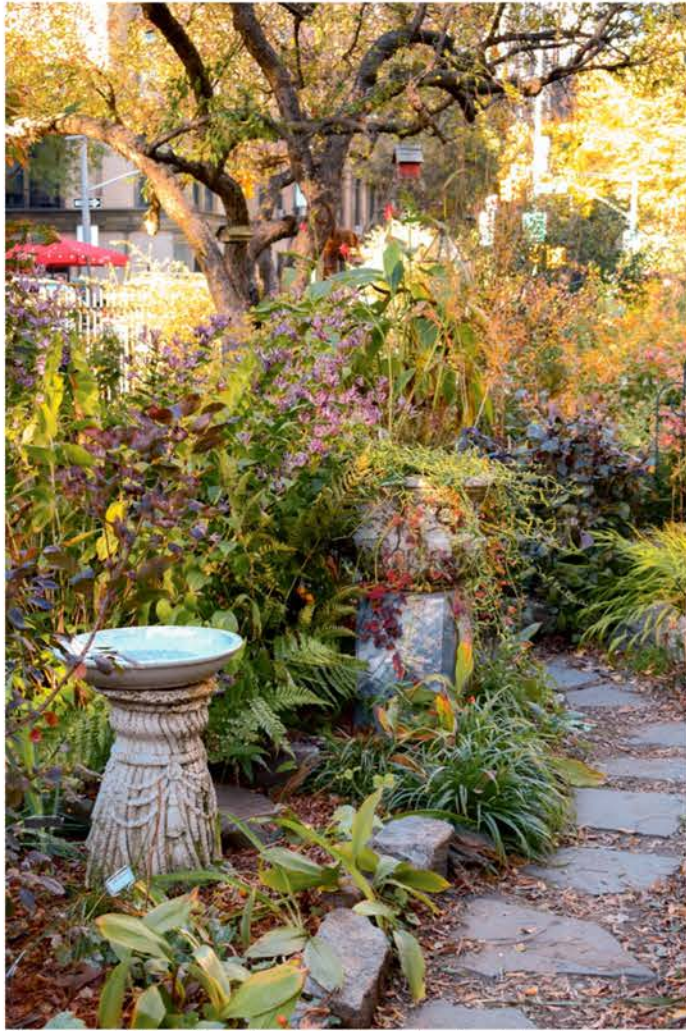


Figure 7: A well-maintained bird bath with clean water supports the birds and pollinators at the LaGuardia Corner Garden.



Figure 8: Orange rain barrels collecting rainwater to be used for watering the garden at La Plaza Cultural-Armando Perez.

and sculptures, the art found at community gardens reflects the diverse cultures and identities of the people who curate it and the communities they are part of.



Figure 9: A handmade bench provides seating in the private nook of a trellis at the LaGuardia Garden.



Figure 10: Household items like a chair and hammock create an informal seating/relaxation area at La Plaza Cultural-Armando Perez.

The inclusion of informally designed community gardens in the analytical context of the thesis reveals that people in the densely populated urban environment do seek respite in green spaces, and through their own initiative and agency seek nature, aesthetic pleasure, privacy, play, and expression in their local landscapes. It is inspiring to consider that in order for a space to become successful and appreciated within a community, it does not have to be a large-scale, grand budget intervention; it can be made so through

smaller-scale interventions, while the important thing is attentiveness to human needs, ecological systems, and opportunity for people to participate in their landscape.



Figure 11: A commissioned artwork adorns the fence at La Plaza Cultural-Armando Perez, with a mural in the background.



Figure 12: A mural encourages democratic participation during the 2024 election season at the First Street Garden.

One particular garden that stood out among others in the experience that it curated for its visitors was the Elizabeth Street Garden in SoHo, just at the edge of the city's famed community garden district. Situated just outside the Western edge of what has come to be known as the New York City Community

Garden District at the city's Lower East Side, the unique Elizabeth Street Garden serves as a beloved neighborhood gem of culture and green space. In its location within SoHo and Little Italy, its residents have access to one of the lowest ratios of open space in the city, just 3 square feet per resident.⁸⁴

In this intensely dense urban area, the Garden may be the “only public green space that provides an open, tranquil environment for locals,”⁸⁵ but that is far from the sole reason why it has received so much love in the past decade.

While the community gardens in the adjacent Lower East Side are all overseen under the umbrella of the city's NYC Parks Green Thumb program, the Elizabeth Street Garden has traded hands under more private influence in the past few decades, until officially becoming a non-profit, volunteer-based organization (ESG) in 2017.⁸⁶ The lot that is the Garden today was first leased to, and revitalized in the 1990s by Allan Reiver, owner of the Elizabeth Street Gallery which eventually moved next door and allowed public access into the garden. With his care and eclectic eye as a collector of antiques, the former junk yard was transformed with tree, shrub, and grass plantings, the installation of a front lawn with two pear trees and decorated with statues and structures from his own collection.⁸⁷ The evolution of the Garden over the years can be observed in Figures 12-14. In the early days, Reiver used the space to display his sculptures and statues, but by 2014, community involvement had allowed the Garden to set up formal events programming and a volunteer program to allow for daily operation, among contributions to landscape maintenance. This personalized approach to a garden space by both Reiver and the community definitely left its unique mark on the landscape, with the ESG itself mentioning how the garden's “unique combination of whimsical

⁸⁴ “Elizabeth Street Garden,” accessed November 22, 2024, <https://www.elizabethstreetgarden.com/>.

⁸⁵ Ibid.

⁸⁶ “Elizabeth Street Garden - History,” Elizabeth Street Garden - Official Website, accessed November 22, 2024, <https://www.elizabethstreetgarden.com/intro>.

⁸⁷ Ibid.

statues and lush greenery created a magical atmosphere.”⁸⁸ It is indeed this magical atmosphere that draws in the community — the dedicated community that has been fighting for years to keep this garden from being forced to shutter and cave to the city’s continued plans to demolish the garden to pave way for new development.

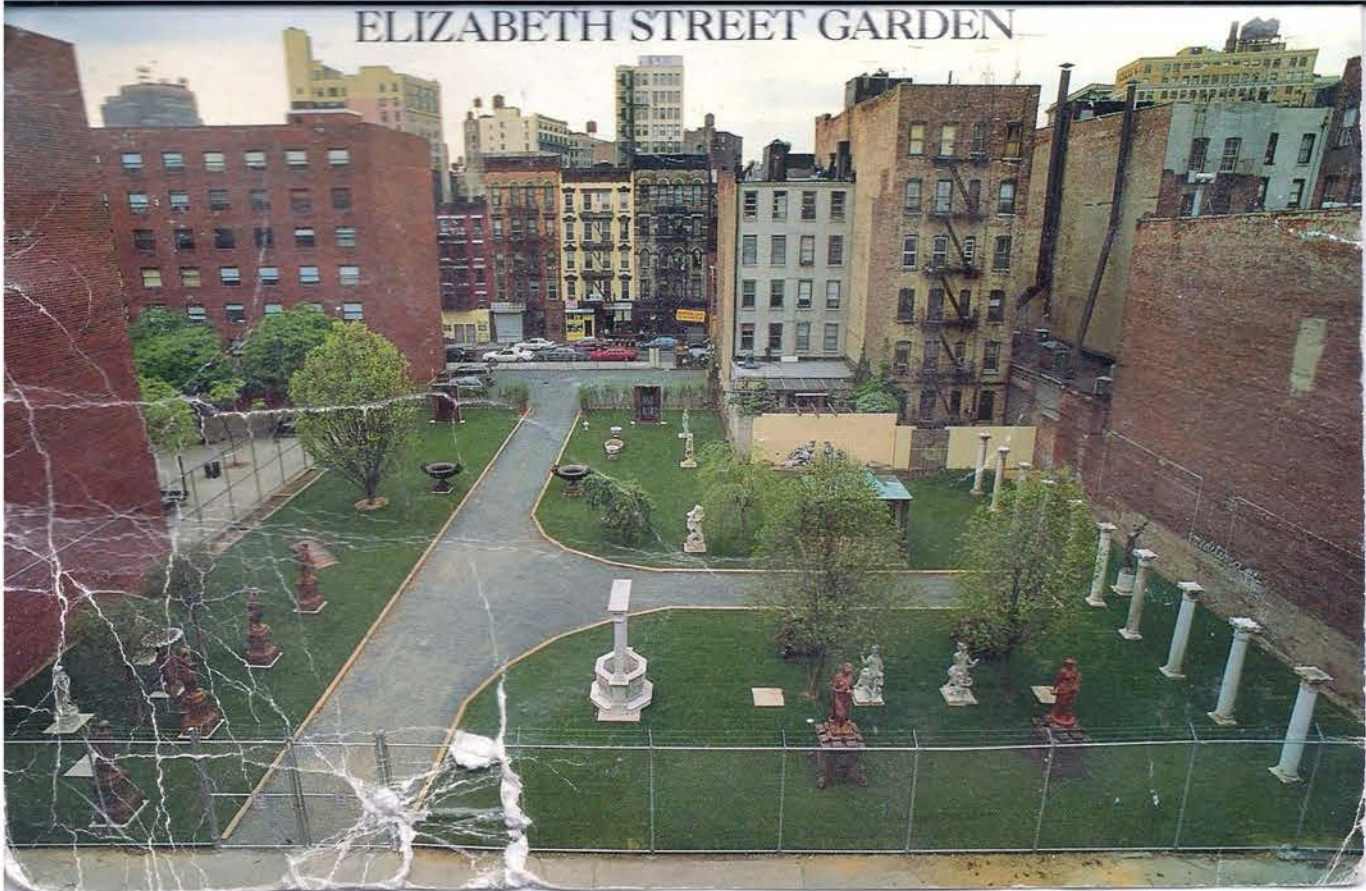


Figure 13. Elizabeth Street Gallery, “Elizabeth Street Garden in the Early Days.” Photograph. <https://www.elizabethstreetgarden.com/intro>.



Figure 14. NYC Now & Then. Aerial view of the Elizabeth Street Garden in 2008. NYS Orthoimagery Program; ESRI. <https://arcg.is/0qLDHT1>.



Figure 15. NYC Now & Then. Aerial view of the Elizabeth Street Garden in 2014. NYS Orthoimagery Program; ESRI. <https://arcg.is/0qLDHT1>.

Through a case study analysis of this garden, the Elizabeth Street Garden revealed its “magic” in the eclectic, malleable, lush, community-driven landscape design. What makes ESG so compelling is not just its aesthetic composition, but the experience it affords — a “choose your own adventure” type of garden that grants visitors the freedom to engage with it however they desire to. This malleability closely intertwines with attributes of exploration, curiosity, reflection, engagement and connection, and is an important learning moment for the model of the urban public garden. In order to offer the malleability and freedom of exploration in experience while still maintaining interest, a space must be layered and offer a variety of experiences. The Elizabeth Street Garden does this beautifully.

Within the informal garden space and among the many eclectic elements in the space that just are, there is also much intentionality in the garden’s design elements. A visitor might duck behind the fig tree to find a hidden sculptural concrete bench and read in solitude, wander past rose bushes to a shaded trellis arch and be a silent observer, or find themselves joining friends around a repurposed table for an outdoor

lunch. Meanwhile, the barn-like structure in the back, complete with furniture and shade, creates a flexible “living room” within the garden that can either offer privacy or facilitate a social event (Fig 15-18). The garden’s design is also malleable enough that it allows to host a variety of social community events, from arts events like live music and poetry afternoons, to fitness events like yoga and tai chi, and even events to benefit the local community, like the Bowery Mission Food Drive.⁸⁹ The Elizabeth Street Garden is a space that enables both an experience of retreat and respite, alongside vibrant social community interaction.



Figure 16: Secluded seating under a trellis, behind blooming rose bushes.



Figure 17: Bistro tables and chairs lining the main linear walkway through the garden.



Figure 18: A repurposed table and park bench offer a makeshift dining nook, tucked away among lush foliage.



Figure 19: A barn-like structure with house furniture serves as an outdoor living room in the garden.

The Elizabeth Street Garden is an inspirational model of an urban garden oasis where people can feel a sense of belonging and wonder, be prompted to explore, and have the ability to connect with nature and have a restorative experience. This garden helps support and establish ground for the core argument that biophilic, community-responsive urban gardens have a place to be within the urban built environment and have great potential to achieve the goal of bringing people closer to nature.



Figure 20: Lush flowering plants surround a secluded seating area at the Elizabeth Street Garden.

⁸⁸ Ibid.

⁸⁹ “Elizabeth Street Garden,” <https://www.elizabethstreetgarden.com/calendar?view=calendar&month=08-2024>.

⇒ Brooklyn Bridge Park

The design of Brooklyn Bridge Park by Michael Van Valkenburgh Associates (MVVA) is a modern example of the return to gardening within the field of landscape architecture. A park that spans 85 acres along the East River waterfront⁹⁰ in downtown Brooklyn, New York, the park transforms a post-industrial landscape into a dynamic public space which brings ecology, planting design, and immersive public experience to the forefront of landscape architecture. In its effective creation of green spaces within a densely populated urban environment, this park also serves as an inspiration for rekindling the connection between person and nature through the urban public garden.

Brooklyn Bridge Park was also selected as a site for the visual common threads analysis because of the way the park's design approaches greening in the urban landscape. MVVA's approach to this post-industrial landscape did not seek to erase that history and overwrite it completely with a foreign, sterile landscape, but rather it responded to the existing site and transformed it to support ecology, exploration, and public gathering. Throughout the park, salvaged materials⁹¹ remind of the park's industrial past as they are reclaimed and incorporated as design elements, from lighting fixtures, to pavement, timber, and railroad tracks. Considering also the unique site characteristics of the East River waterfront, including the heavily urban context, flooding, and exposure to saltwater, the design successfully addresses these aspects and transforms "this environmentally hostile site into a thriving civic landscape while preserving the dramatic experience of the industrial waterfront."⁹²



Figure 21: Native plants like yarrow support the biodiversity of the park and foster sensory interest at Brooklyn Bridge Park.



Figure 22: Design decisions at Brooklyn Bridge Park help draw visitors into the landscape.



Figure 23: Salvaged and repurposed railroad tracks embrace the site's industrial history at Jay Street Plaza.



Figure 24: A barn-like structure with house furniture serves as an outdoor living room in the garden.

MVVA's landscape design at Brooklyn Bridge Park also embraces the linear nature of the park and maritime history of the landscape, creating a series of varied landscape experiences that engage both active and passive programming. Open lawn space allows for a malleable visitor experience, whether people choose to engage in active sports, enjoy a picnic with a waterfront view, or simply admire the current public art installation on a leisurely stroll. Reintegrated piers provide engagement with water in the landscape, with options for fishing off pier 5, kayaking off pier 2, or just observing or dipping your toes in the water at Pebble Beach.

The park's design also creates a variety of green landscape experiences, with designed meadows, woodlands, wetlands, bioswales, tidal marshes and dunes not only helping immerse visitors in nature but also playing a critical ecological role. The berm for instance, borders between the park and the Brooklyn Queens Expressway and fosters a more tranquil experience removed from the city's urban noise, but it also provides habitat for bumblebees and nesting birds with its grass and wildflower coverage.⁹⁴ The tidal and

salt marshes become vibrant points of interest for birders as they support coastal wildlife and provide habitat for ducks and other waterfowl, while also serving the critical role of shoreline protection.⁹⁵



Figure 25: Pebble Beach provides direct access to the water at Brooklyn Bridge Park and is surrounded by the stone rip-rap shoreline.



Figure 26: Privacy and exploration are fostered by the gardens at The Cliffs, which also feature ecologically conscious vibrant plantings.

Brooklyn Bridge Park is an important site in the visual string analysis because it provides an example of successful application of biophilic design principles in the heavily urban context, where despite the vast scale of the site, an intimacy is preserved. Through a significant focus on gardening and plants, this design effectively blurs the lines between park and garden, green space and the urban environment, and ecology with human experience. There are many lessons to be learned from the design of Brooklyn Bridge Park, and applied to a successful, smaller-scale urban public garden.

⁹⁰ "Brooklyn Bridge Park History," Brooklyn Bridge Park, n.d., <https://brooklynbridgepark.org/about/history/>.

⁹¹ "Sustainability," Brooklyn Bridge Park, n.d., <https://brooklynbridgepark.org/about/sustainability/>.

⁹² "Brooklyn Bridge Park History."

⁹⁴ "Gardens," Brooklyn Bridge Park, n.d., <https://brooklynbridgepark.org/places-to-see/gardens/>.

⁹⁵ Ibid.

⇒ *River Aire*

The River Aire Renaturation Project arose as a bold conceptual approach to restoring a landscape. Responding to a competition which sought a design to free the river through a more conventional “restoration” approach of destroying the artificially constructed canal on the outskirts of Geneva in Switzerland, the project instead repurposes the old canal into a linear garden⁹⁶ and gives the river agency in design.



Figure 27: Secluded seating surrounded by a lush landscape offers respite while overlooking the linear garden.

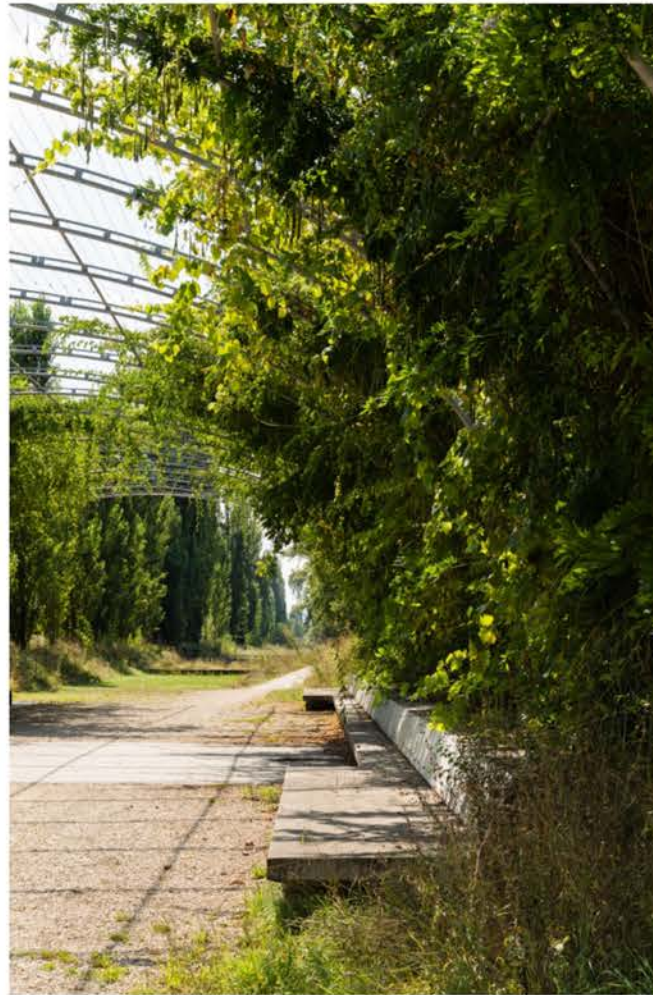


Figure 28: The repurposed old canal becomes a linear series of garden nodes, including this shaded gathering space with seating and a planted arch trellis.



Figure 29: Aerial view of infill diamonds as the river just begins to alter the shape of this designed terrain. Photograph by Fabio Chironi, <https://landezine.com/renaturation-of-the-river-aire-geneva/>.



Figure 30: Aerial view of the landscape after some time, showing how the river amends the carved diamond terrain. Photograph by Fabio Chironi, <https://landezine.com/renaturation-of-the-river-aire-geneva/>.

Rejecting a conventional approach of restoration through demolition of the concrete engineered canal structure, this design by Atelier Descombes Rampini and Superpositions instead reimagines the canal in a way that feels more “honest” in acknowledging a broader cultural context surrounding the landscape,⁹⁸ and challenges the notion in “renaturalization” that a landscape can be restored to its “original state.”⁹⁹ The landscape architecture firm led an interdisciplinary team composed of engineers, hydrologists, biologists

and designers¹⁰⁰ to achieve this stand-out vision. Their design provokes thought on the human-nature relationship in our modern world; it evokes a push and pull between the desire and inclination to tame nature and allowing nature to reclaim its agency. Serving as a conceptual counterpoint to the repurposed canal, the design frees the water into a highly altered terrain where infill diamonds direct its flow. The river is allowed to reclaim its agency in altering the shape of the carefully infilled diamonds. It deposits sediment in some places and carves away at the diamonds in others, smoothing the rigid geometry of the diamonds into a more organic form. The extent of this freedom offered to the river in this newly designed landscape only extends insofar as the design blueprint allows. This new river landscape was specifically designed to change, and the flow of the river amending the state of the terrain is a choreographed dance of anticipated changes. Nonetheless, this approach challenges the rigidity of seeking full control over nature, allowing the landscape the freedom to grow into itself.

The Renaturation of the River Aire is also an influential and inspirational project for the concept of the urban public garden, because despite the difference in scale and suburban context, the design teaches a fluid, responsive, ecologically landscape approach to public space. It is an interesting study in seeing nature as a partner in design and helps expand the notion of the human to nature connection within a designed landscape.



Figure 31: The former canal becomes a linear garden with varied garden experiences along the way, and the interplay of constructed and natural elements.



Figure 32: The project “renaturates” the former canal with an ecological landscape approach that promotes wildlife habitat.

⇒ *Parc in Lancy*

The Parc in Lancy, one of George Descombes’ earlier projects before the River Aire, is a captivating study of play, immersion, and exploration in a designed garden landscape. A generalized project brief was presented by city authorities for this public space project, which called for a new green space to “provide an antidote to the increasing density of building in the area and offer zones of tranquility to residents.”¹⁰¹ It should also provide children with a stimulating environment and ensuring safety in crossing between the two park areas to be designed. In this landscape Descombes incorporated a variety of elements that foster curiosity, exploration, and immersion in the whole landscape. As opposed to designing a conventional playground with standard colorful play equipment, for instance, he designed a unique compartmental concrete sandbox to encourage play. This was integrated into the landscape adjacent to a planted pergola and an outdoor hall with concrete columns and seating to allow for social congregation in the space.¹⁰²

⁹⁶ “Renaturation of the River Aire,” Landezine, June 30, 2016, <https://landezine.com/renaturation-of-the-river-aire-geneva/>.

⁹⁸ “Renaturation of the River Aire.”

⁹⁹ Georges Descombes and Superpositions, eds., *Aire: The River and Its Double* (Zurich: Park Books, 2018), 53.

¹⁰⁰ “The Aire Renaturation Project Wins the Landscape Award of the Council of Europe,” Swiss Federal Office for the Environment, October 16, 2019, <https://www.bafu.admin.ch/bafu/en/home/topics/landscape/dossiers/landscape-award.html>.

¹⁰¹ Marc Treib and Georges Descombes, *Doing Almost Nothing: The Landscapes of Georges Descombes*, First edition (Novato, Calif: ORO Editions, 2018), 109.

¹⁰² *Ibid.*, 111.

Deliberate plantings adorning elements like the pergola and hall make these spaces feel more like nooks, sheltered, and meant to be discovered. The materiality of Descombes' designs is also playful and exploratory in nature, with the pergola being constructed out of standard greenhouse parts.¹⁰³ The park landscape also fosters exploration with circulation designed to lead from one experience to another — from the open space with a sandbox, to a woodland where one discovers a waterfall, and through the “tunnel-bridge.” Descombes' solution for ensuring safety at the heavily trafficked road crossing separating the two sections of the park was “a ‘tunnel-bridge,’ a structure that supports passage beneath the neighborhood's main road.”¹⁰⁴ (Figs 31-32). This unique design intervention is a crucial element in the depth of immersion and exploration that is afforded by the site; it allows for visitors to traverse through lush vegetation, over a steel-caged bridge crossing a stream and through shallow ravines, and through a steel-tubed tunnel “illuminated at its center by a round oculus.”¹⁰⁵ The experience of the tunnel-bridge is choreographed to be explorative, surprising, and intriguing, fostering a deeper immersion into the landscape. Descombes referred to the park as one meant for kids, but its awe-inspiring design is an encouragement to people of all ages to reconnect with their inner child and hopefully feel inspired to let loose in exploration.



Figure 33: View of an entrance to the “tunnel-bridge” surrounded by dense vegetation.



Figure 34: A view from the perspective of passing within the “tunnel-bridge.”

⇒ The Gardens of La Gara

Situated in the countryside outside Geneva, the La Gara estate that goes back to the 18th century contrasts the other selected sites in the process of visual analysis; it is removed from the urban context and is also a private estate as opposed to a public space. Nonetheless, this site curiously contributes to the search for successful landscape design elements in demonstrating the possibilities that arise when embracing rhythm, horticulture, and the human need for exploratory, multisensory experience in design.

¹⁰³ Ibid., 113.

¹⁰⁴ Ibid., 119.

¹⁰⁵ Ibid., 123.

Landscape architect Erik Dhont offers a “contemporary reinterpretation”¹⁰⁶ of the gardens and grounds at the La Gara estate, which is in tune with the playful interior design that went along with the careful restoration of the historic buildings. One of the notable approaches in Dhont's renewal of the garden is the creation of rhythm, and choreography of movement in the space while also respecting the history of the gardens, which speak to the recurring theme of exploration. This exploration begins before even entering the property, on the drive up through the scenic landscape where the first impression of La Gara is the 18th century tree-lined driveway leading toward the manor. Large boxwoods alternate with rose bushes in between the trees on either side of the driveway to make every driver slow down and appreciate the landscape. This arrangement shifts as visitors approach closer to the manor. Dhont dramatizes the final stage of the journey,¹⁰⁷ defining this section with large sculptural, geometric yews which is immediately identified as a recurring element in the landscape. This topiary intervention is then repeated on the grounds at La Gara, positioned on the central meadow behind the manor house. The positioning of this topiary in the landscape creates a sort of implied promenade, with a succession of spaces leading to a historic canal further into the meadow (Fig 35). “These spaces qualify as open areas, but as free and natural environments in their own right still have a certain random intimacy,”¹⁰⁸ Dhont explains. Through the arrangement of the sculpturally cut yews within the landscape, numerous implied paths are created, inspiring meandering movement and inviting people to move freely through the space. The topiaries invite people to venture further, and with potential to discover a surprise within, people can allow for themselves to give into the need for exploration.

¹⁰⁶ Freytag and Aerni, *The Gardens of La Gara*, 130.

¹⁰⁷ Ibid., 190.

¹⁰⁸ Ibid., 213.



Figure 35: The entrance to the La Gara estate is framed by a tree-lined driveway and Erik Dhont's sculptural yew structures.



Figure 36: Sculptural yew structures repeat throughout the landscape, assisting in the experience of circulation.

Dhont's garden designs are intended to make people curious and urge exploration, and he does so through creating small mazes: “a maze is not a physical but a mental adventure,”¹⁰⁹ Freytag quotes Dhont in her chapter, “La Gara and the ‘Good Life.’ The Story of a Country Manor from the Sixteenth Century to Its Contemporary Revival.” While the concept of a mazes is applied literally in the context of La Gara with a labyrinth by artist Markus Raetz¹¹⁰ (Fig 36), Dhont also incorporates the idea more freely in other parts of the garden. For example, the arrangement of garden beds within the kitchen garden at La Gara, and the plantings within them, imply another type of labyrinth. In this case, visitors can wander through paths along the garden that lead past a rich variety of edible berries and herbs.

¹⁰⁹ Ibid., 194.

¹¹⁰ Rainer Michael Mason, “The Palindromic Labyrinth Of Markus Raetz,” in *The Gardens of La Gara: A 18th Century Estate in Geneva with Gardens Designed by Erik Dhont and a Labyrinth by Markus Raetz* (Zürich: Scheidegger & Spiess, 2018), 301–64.



Figure 37: The historic canal past Dhont's topiary features creates an a-ha moment in the landscape.



Figure 38: The central point of Markus Raetz' classic labyrinth, with a literary riddle emphasizing the mental adventure in the landscape.

canals, wetlands and grasslands, and oak woodland creating habitat for many species.¹¹² As such, any design must embrace an ecological approach to design in order to preserve it.

In the case of the La Gara estate, aesthetic beauty, horticulture, and ecology all coexist and contribute to a highly immersive landscape. Even though this is a private estate in a rural landscape, the lessons at La Gara are applicable to the urban public garden. Erik Dhont's thoughtful and immersive reinterpretation of the historic landscape inspires thought on how a malleable experience and spaces for quiet wonder can be incorporated into smaller, denser spaces in the urban context, while emphasizing the importance in thoughtful plant palettes and creating "moments."



Figure 39: Lush hydrangeas sit against a backdrop of the picturesque Swiss landscape, ahead of a topiary.



Figure 40: A planted rock garden sits to the side of the manor at La Gara.

Beyond the rich explorative experience promoted by the design at La Gara, this project also presents a unique consideration of horticulture in landscape architecture, also bringing gardening to the forefront of the profession. The edible plant palette at La Gara — typically marginalized in formal design — is elevated in Dhont's contemporary garden design.¹¹¹ There is also a rich biodiversity at La Gara, with the ponds, water

¹¹¹ Erik Dhont, "Plant List by Erik Dhont," in *The Gardens of La Gara: A 18th Century Estate in Geneva with Gardens Designed by Erik Dhont and a Labyrinth by Markus Raetz* (Zürich: Scheidegger & Spiess, 2018), 365–70.

¹¹² "The Gardens of La Gara by Anette Freytag," *Landezine*, December 18, 2024, <https://landezine.com/the-gardens-of-la-gara-by-anette-freytag/>.

Result of the Experiential and Visual Analysis: Elements of Successful Urban Public Gardens

In observing the very different landscapes introduced here, the result was a discovery that a lot of the same elements can be found throughout a variety of different landscape typologies. From larger scale, formally designed urban parks like Brooklyn Bridge Park, to smaller local community gardens, and landscapes in the suburban context as with River Aire, a lot of the same elements came up time and time again, and many moments documented showed an overlap across several categories at once.

Another takeaway from this process is an appreciation for the importance of non-physical elements on a space; some of the elements that make a space feel good are more intangible and ethereal but play an incredible role in how welcoming a place feels, per se, or the opportunities it affords for self-expression. It is inspiring to see the myriad ways in which the identified elements merge on each individual site to create a unique landscape and experience. Therefore, the identified elements are not meant to be a formula to be copied into any space; they are malleable and should be seen more as composition blocks to be taken into consideration and applied thoughtfully with regard to a particular context.

This process has also led to the takeaway that the common threads identified in contributing to a good experience of an urban public garden are already present in some capacity at the NYCHA site — some seating, abundant trees, spaces for privacy, and the integration of art which has been expressed to give Kingsborough Houses residents a sense of pride and ownership in their space. The common threads have shown to be a good orienteer for the elements in a space that can help contribute to community-building and foster a greater connection to nature in the urban environment. The NYCHA courtyard has great potential for increased social cohesion and community in the space; simple interventions like incorporating more seating around key elements like the artwork, with a diversified plant palette, can go a long way.

Chapter 4: Design Proposal: Reimagining Kingsborough Houses Courtyard

The findings of the visual analysis and rich experiential research informed the application of an urban public garden design to the context of a courtyard, specifically in the NYCHA public housing setting. Rather than proposing radical change to the full extent of the courtyard, the proposed design addresses series of garden nodes within the existing interior courtyard are implemented at the selected site of the Kingsborough Houses development in Brooklyn, New York.

Rationale for the Choice of the Site – Context of NYCHA

This thesis focuses the proposed design implementation of an urban public garden specifically to the context of the New York City Public Housing for several considerations. For one, a goal of the urban public garden is to increase access to green space in the built urban environment, and in NYC there is a clear correlation between access to green space and income.¹¹³ As referenced earlier, the NYCHA residents represent 14% of the city's population living under the poverty threshold. NYCHA developments are also often situated within lower income neighborhoods, meaning that their residents tend to have less access to green space. The ability to connect with nature in the built environment and to benefit from it in all the ways explored earlier in the thesis should be universal, though; applying the typology of the urban public garden to the context of NYC's public housing seeks to address this disparity through small-scale, but effective interventions.

¹¹³ Anna Snyder, "Income, HVI, and Access to Green Space in New York City," ArcGIS StoryMaps, December 6, 2023, <https://storymaps.arcgis.com/stories/99afb8eba74d4b65a716a99064acfaa3>.
¹¹⁴ "Weeksville Heritage Center," n.d., <https://www.weeksvillesociety.org/>.
¹¹⁵ Ibid., <https://www.weeksvillesociety.org/about-us/>.

The Kingsborough Houses development particularly presents a unique opportunity for transformation. The arrangement of the houses creates a central shared open space that has a lot of potential to promote social interaction and community-building, increased access to nature, celebrate art and culture, and enhance the quality of life for residents. Situated in Brooklyn's Crown heights neighborhood, the Kingsborough Houses are also directly across the street from a key cultural hub in the neighborhood — the Weeksville Heritage Center.¹¹⁴ Weeksville was "one of the largest free Black communities in pre-Civil War America,"¹¹⁵ and today is a historic site and cultural center aimed at preserving, documenting, and inspiring engagement with this community. Weeksville Heritage Center has an extensive array of programming and community engagement events focused around education, the arts, and social justice, which can serve as a crucial resource to enhancing participation in the urban public garden proposed in the courtyard at the Kingsborough Houses.

Inventory and Analysis of the Site

⇒ Existing Vegetation & Shade Potential

The presence of mature trees in a landscape is advantageous in providing shade and supporting local ecology. Ample tree canopy is one of the advantages at many NYCHA developments due to extensive tree planting in the 1950s and 1960s; in the one decade, NYCHA planted over 26,000 shade trees and 22,000 minor trees.¹¹⁶ This resulted in the presence of many mature trees across various public housing campuses, also reflected at the Kingsborough Houses. As of 2017, the site has 47% tree canopy cover,¹¹⁷

¹¹⁶ Altwicker and Bloom, "Living in the Shade."
¹¹⁷ Siobhan Watson, Joy Sinderbrand, and Michele Moore, "Climate Change at NYCHA: A Plan to Adapt," October 2021, 80, https://www.nyc.gov/assets/nycha/downloads/pdf/Climate-Change-at-NYCHA_lores_single-pages.pdf.

which is higher than in other parts of the city and the surrounding neighborhood. Since tree canopy contributes to cooling landscapes, the site also has a lower outdoor temperature rank and has many opportunities for shade.

In comparison to a lush tree canopy, though, the courtyard at the Kingsborough Houses lacks plant diversity and opportunities for people to interact with nature. Aside from trees, most other plant material is a limited number and variety of shrubs, and even the grassy areas that are present on site are mostly fenced off and inaccessible.

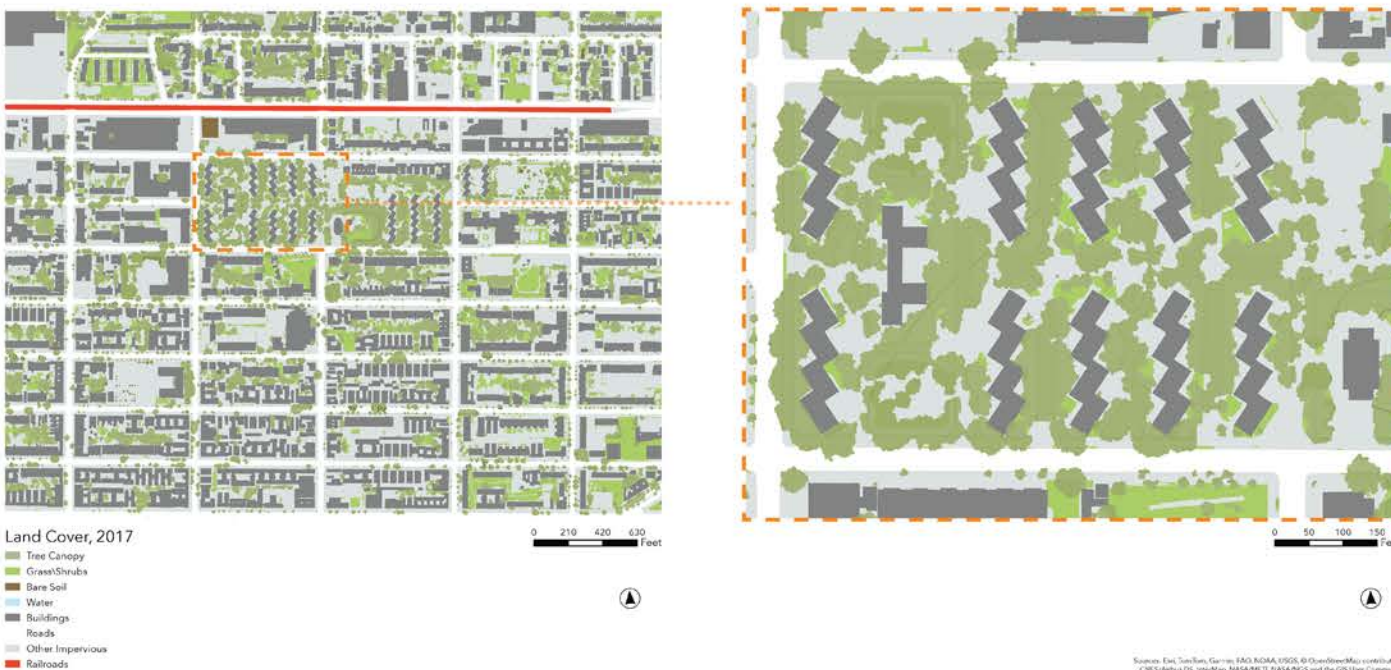


Figure 41: Land Cover GIS maps showing the tree canopy density on the site and in relation to the surrounding neighborhood. Maps by author.

⇒ Circulation & Accessibility

The existing courtyard extends in a linear fashion through the center of the campus with identical mirrored buildings on either side of a main road, with smaller pathways extending outward between the Houses.



Figure 42: Example of a fenced-in grassy area on 2nd Walk and lush tree cover. Google Street View.
Figure 43: Example of a fenced grassy area on 4th Walk. Google Street View.

While this offers potential for activating the central node, many of the roads and pathways through the campus are currently accessible to vehicles. This leaves existing spaces for social congregation on the sidelines and contributes to use of the pathways being limited to necessity, rather than experience.

⇒ Seating & Social Spaces

While advantageous attributes like shade and the intimacy of the courtyard nestled in between the Kingsborough Houses provide much opportunity for vibrant social spaces, there are limited options for seating on site. Overall, seating within the existing courtyard appears along some curved gates separating grass areas from walkways, with a few more instances throughout the campus with benches arranged in twos. An important consideration is the lack of seating around the public art frieze that adorns the central walkway on this campus, missing opportunities for vibrant social interaction that could be enhanced if people had somewhere to pause, contemplate, and rest.



Figure 44: Interior courtyard seating facing towards the exit onto the street at 3rd Walk. Google Street View.



Figure 45: Street view of a seating area at the entrance at 3rd Walk. Google Street View.

⇒ Cultural and Artistic Elements

A special feature of this specific courtyard, colloquially referred to as “the wall,” is the “Exodus and Dance” frieze by Richmond Barthé, located at the western wing of the community. As referenced earlier in the thesis, this artwork, with a community-created mural on the other side of the frieze, is a moment of cultural appreciation and association for the Kingsborough residents as well as the local community. Enhancing accessibility around this frieze through new seating opportunities would provide increased opportunities for engagement and appreciation.



Figure 46. Head-on view of Exodus and Dance Frieze at 2nd Walk Intersection, Google Street View, May 2019. Images stitched together by author for panoramic view.

Rationale for the Design Proposal

The proposed design of the urban public courtyard garden at the Kingsborough Houses is guided by the principles established through the common threads visual analysis, which identified key elements of water, circulation, exploration, privacy, ecology, sensory experience, art, and agency. The design proposal seeks to merge these elements in the context of the site to create a courtyard garden that is restorative, engaging, and meaningful to the local community.

In order to do so, the site design includes the following interventions:

- Ecologically contextual and intentional plantings
- Defined circulation leading to defined gathering spaces
- Multi-functional seating opportunities
- Enhancement of the arts experience on campus



Figure 47: View of the existing site at the frieze shown side by side with a proposed design rendering.



Figure 48: Street view of the existing site at the 3rd Walk entrance, side by side with a proposed design rendering.

Lessons Learned by Applying the Experiential Research and Visual Analysis on a Concrete Site

In applying methodology of experiential research, visual analysis, and site-specific design, the process of this thesis has revealed the potential of gardens to serve as strategic tools for rekindling the connection of human to nature within the dense urban environment. The thesis approached an exploration of what makes gardens successful in their design in order to develop the typology of the urban public garden, and advocate for its vital role in contemporary urban landscape architecture.

The findings of the criteria that make for successful urban public garden design — revealed through the rich experiential research and visual analysis of a variety of precedent gardens — were applied to the context of a real-world courtyard at a NYCHA development to demonstrate the place-making potential of the urban public garden. Through an approach that valued the site’s existing characteristics sought to enhance their experience, the design application at the courtyard demonstrated that the urban public garden can be transformative through smaller scale, yet thoughtful interventions. For instance, introducing seating to a key shaded area of the courtyard at the communally appreciated frieze in turn also increased opportunity for interaction with the artwork. It also enhanced this space as a focal point of the courtyard, expanding on its potential to be a vibrant communal social space. Incorporating texture, color, and cultural significance into a carefully selected plant palette stimulated the visual complexity of the spaces defined by these seating nodes, enhancing opportunities for sensory experience within the courtyard.

Inspired by biophilic principles, these elements harken back to the attributes identified by the Kaplans in fostering the sense of exploration and “soft fascination,”¹¹⁸ where the varied and intriguing plant selection can be enough to captivate visitors’ attention without overwhelming it. With the biophilic design

¹¹⁸ Kaplan and Kaplan, *The Experience of Nature*, 192.

attributes in mind, the process of applying the urban public garden to the courtyard also underscores that

ecology and aesthetic experience should coexist in a landscape. This is especially important in the current

age of climate change, where every landscape can benefit from an ecologically conscious approach.

Nonetheless, a design that solely values aesthetic — such as in a plant selection purely based on color —

will miss out the opportunity to create or enrich ecological habitats. Especially in its role within the biophilic

principles, ecology is critical to the experience of place, so without it, an urban public garden could not

reach its full potential.

The exercise of the urban public garden design application at the NYCHA courtyard also speaks to

the Kaplans’ reasoning on extent, reiterating that the success of an urban green space is not reliant on size.

As the design exercise included activation of individual experiential nodes within the courtyard, the process

revealed the ability of the urban public garden to function on a smaller scale. Even within the constraints of

the smallest lots, courtyards, and spaces-in-between within the dense urban environment, the urban public

garden has the potential to offer an immersive experience and expanded interaction with nature for its

urban visitors, in turn supporting social, mental, and emotional well-being. The design application exercise

has supported that the urban public garden is an essential and restorative green space typology, uniquely

suited for the densely populated and developed urban environment, and malleable to the needs of specific

communities.

While such must be true of any designed landscape, applying the urban public garden to the NYCHA

courtyard context has also reiterated that design must be responsive to the context of each individual

community and space. A more-than-surface-level understanding of a space and its community is necessary

in order to achieve a successful design; what works in one space may not necessarily work in another space

and cannot just be replicated without consideration of the existing physical landscape, and socio-cultural

contexts.

The design process also asserts the essential quality of community involvement in the success of a

space. As landscape architects, a lot of the spaces we design are *for* people. Such is also the case of the

urban public garden, particularly meant to be a method of connecting people to nature within the built

environment. While the aspect of community involvement would be better fortified by a real-life

implementation of the project ideas, the design process considers and reasserts that spaces should be

designed with the intention of long-term community engagement. A successful urban public garden will

thus help foster a sense of agency to its users as a result.

Conclusions and Outlook

This thesis explored the characteristics that make for a successful urban green space with the goal

of applying them to the urban public garden and use it as a tool to connect people to nature in the urban

environment — especially in low-income densely populated areas. Through methods of observation and

visual analysis, many insights were revealed onto what factors contribute to the creation of successful urban

public garden spaces. The application of these findings and the particular urban public garden landscape

typology to the context of the Kingsborough Houses public housing courtyard served to illustrate the core

argument of this thesis – that urban public gardens have immense potential in enhancing the human-nature

connection, building on social communities, and providing restorative experiences.

Although the design application in the context of NYCHA may be utopian and not fully feasible for

reasons like maintenance, the future outlook of this design proposal may involve a more feasible adaptation

of the urban public courtyard garden. Future outlooks may also entail scaling and adapting this landscape

typology into other courtyard contexts within the urban environment. Identifying methods in which to raise

awareness of the urban public garden and its strong potential is also an important step in its application to

the real-world context. This also includes identifying a model for community engagement to address

implications like needs for maintenance of these garden landscapes. Finally, the urban public garden should

be advocated for as a necessary component of urban planning, which could mean influencing policy to

support the implementation of such garden landscapes within New York City’s built environment, and

perhaps beyond.

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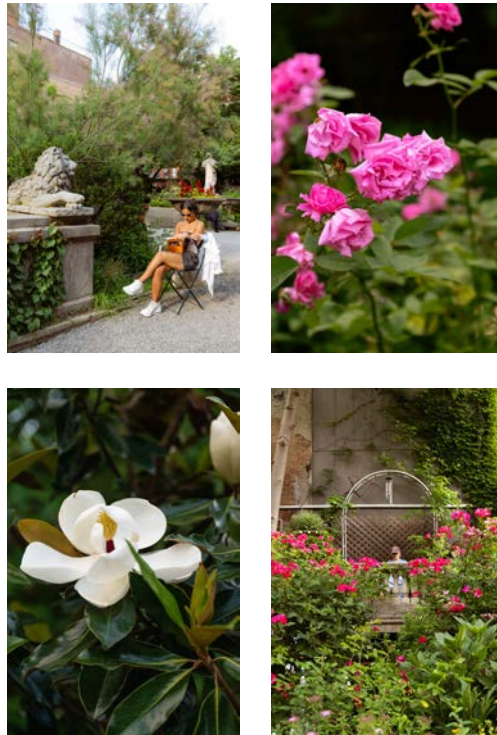


THE URBAN PUBLIC GARDEN

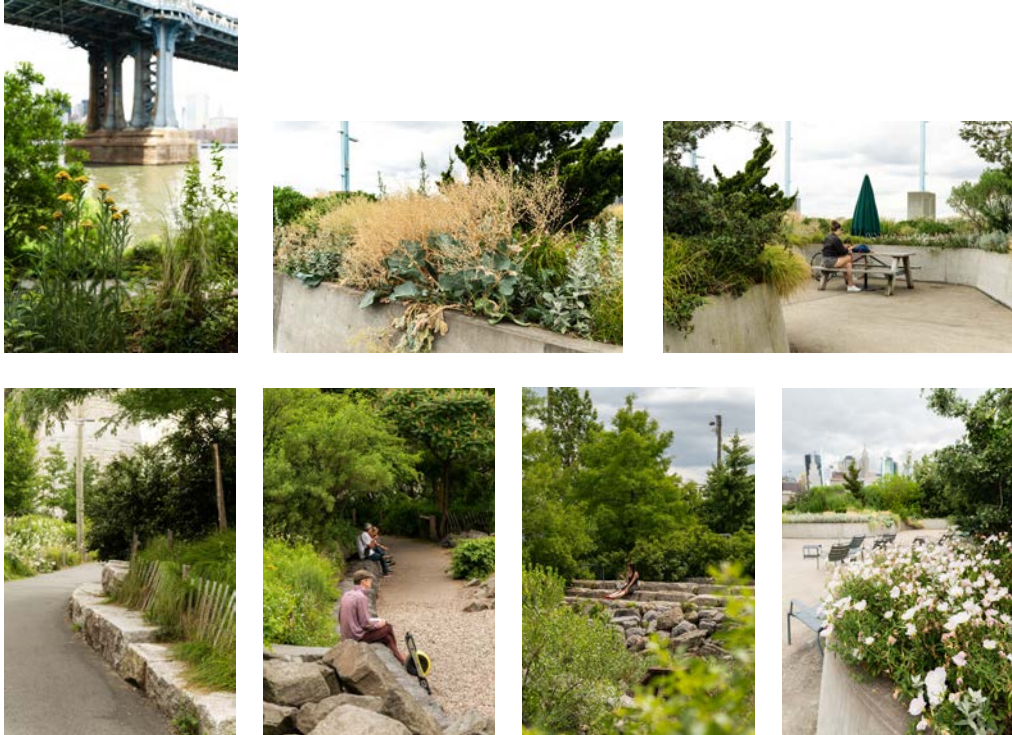
EXPERIENTIAL RESEARCH

NEW YORK CITY PUBLIC GREEN SPACES

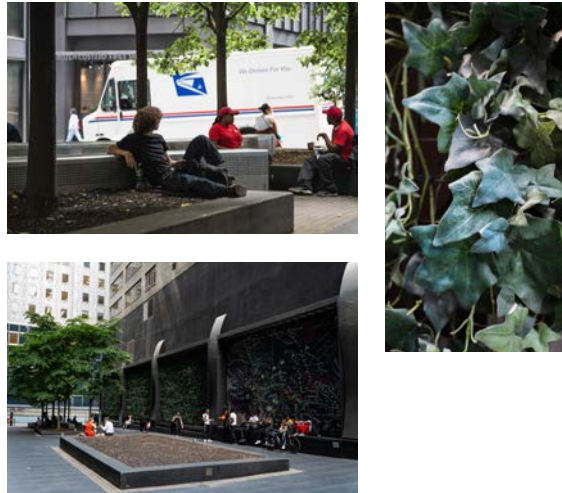
Elizabeth Street Garden,
June 7, 2024



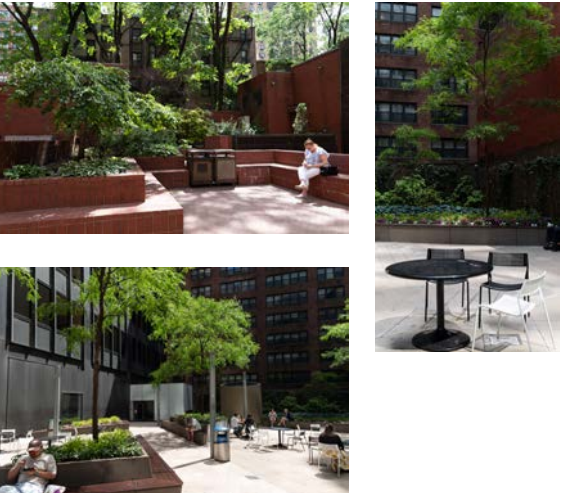
Brooklyn Bridge Park,
June 11, 2024



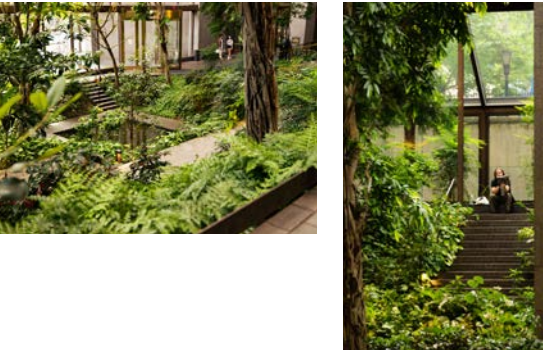
Grand Central Plaza,
June 7, 2024



600 3rd Public Park,
June 7, 2024



Ford Foundation Atrium,
June 7, 2024



- > What makes for sucessful design in an urban landscape?
- > How can the human connection with the natural environment be fortified within the built landscape?

SWISS GARDENS & LANDSCAPES

River Aire,
August 20, 2024



Gardens of La Gara,
August 21, 2024



Parc in Lancy,
August 20, 2024



ABOUT THE PROCESS

The notion of “good” design — or what feels “good” in a designed landscape — is subjective.

One of the goals in the experiential analysis process was to break down the larger observed landscapes into more assessable features to be able to identify the role they individually may play in a landscape, how they come together to form the big picture, and how these identifiable elements can be replicated to create successful urban public gardens.

These identifiable elements became the “common threads” in the visual and experiential analysis.

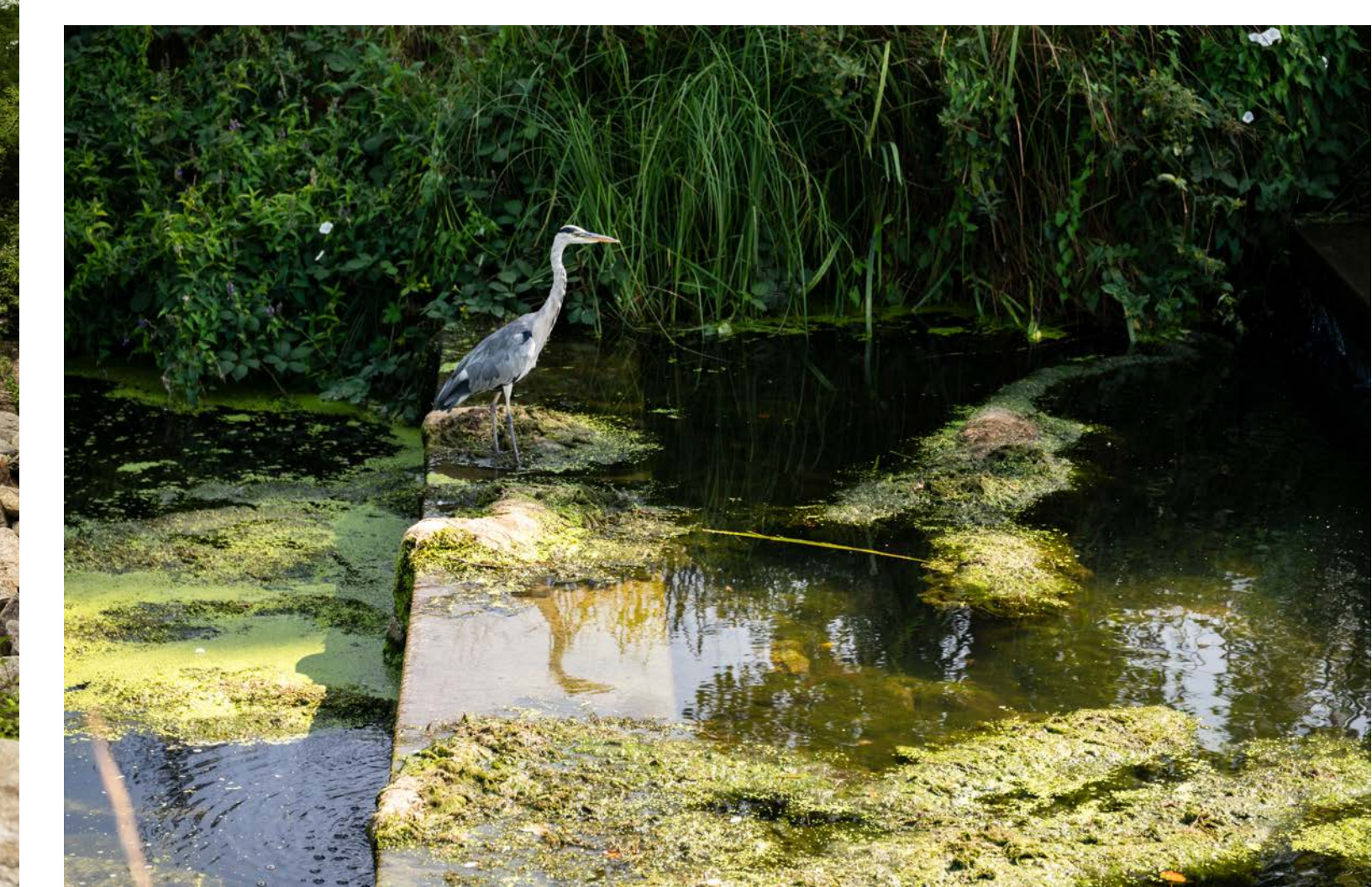
They range from straightforward physical elements like seating to more ethereal elements like concepts of agency and ownership of a space.

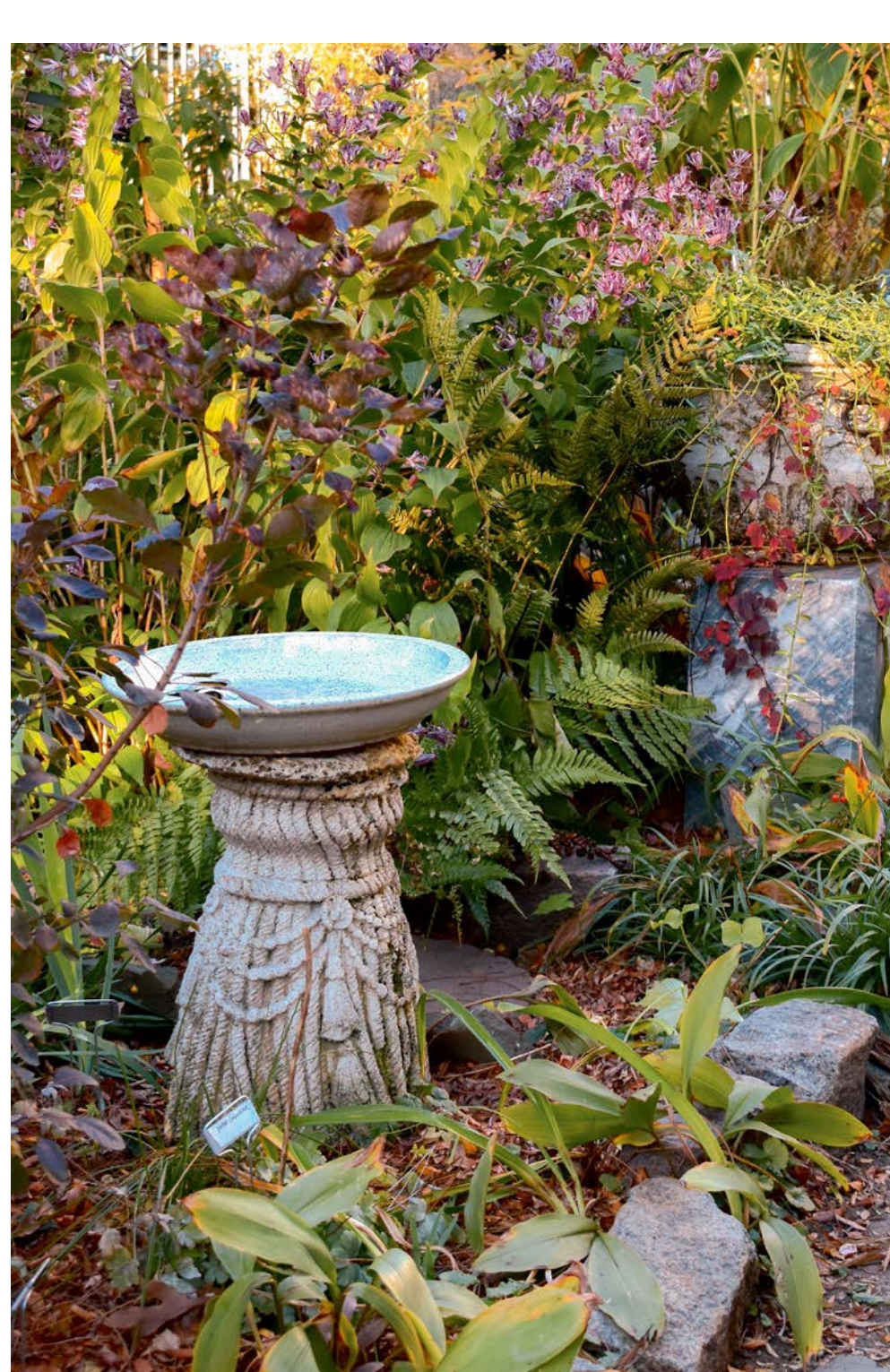




TERRAIN SHAPES EXPERIENCE

- › Natural terrain influences design
- › Designed terrain influences human experience within a landscape



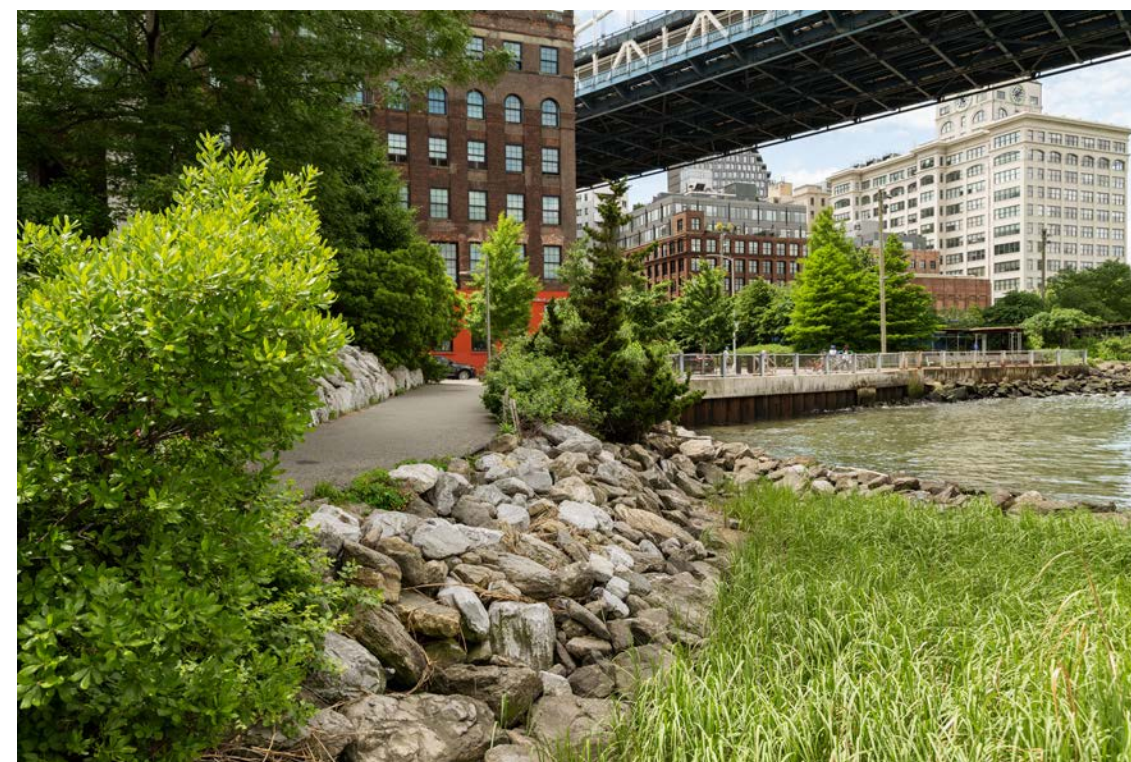
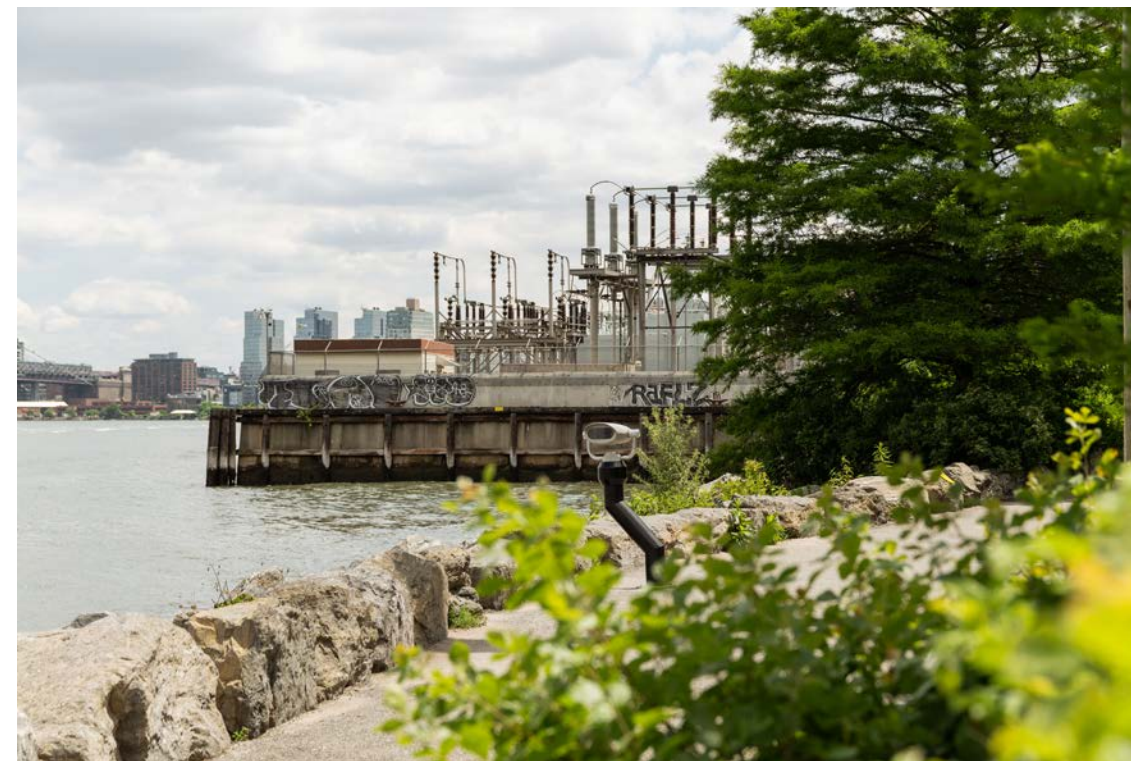


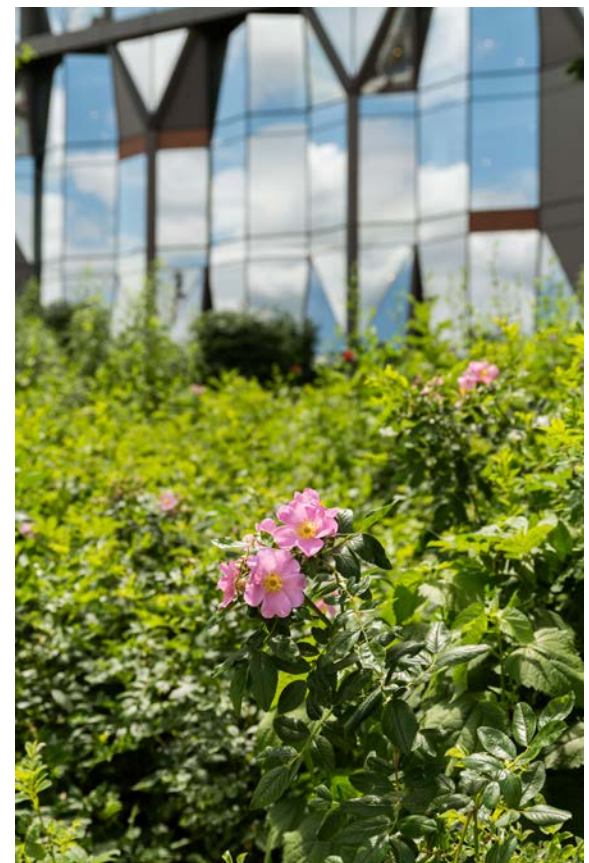
SENSORY EXPERIENCE OF WATER & ECOLOGICAL BENEFIT

- › Tactile, audible, visual aspects of water in the landscape
- › Water promoting habitat across a wide range of landscape typologies

CURATION OF EXPERIENCE

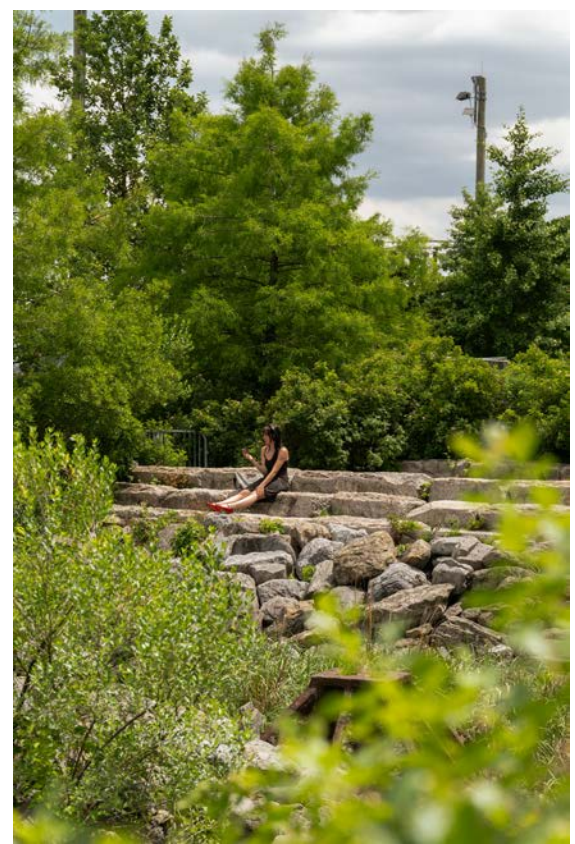
- > Circulation design influences opportunity for exploration of & participation in a site
- > Pick Your Own Adventure: Freedom to Experience

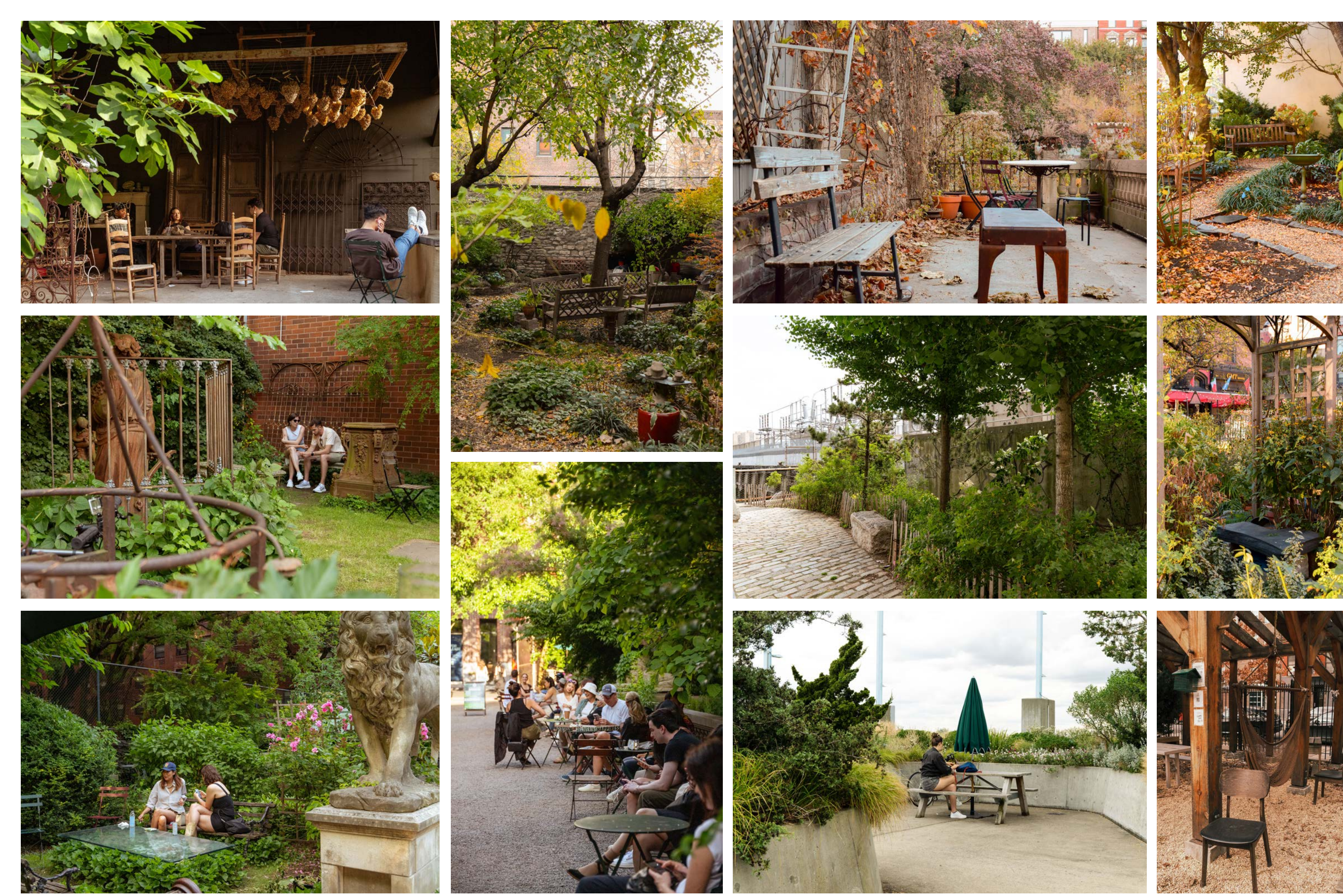




PLANT PALETTE FOR SENSORY INTEREST & PRIVACY

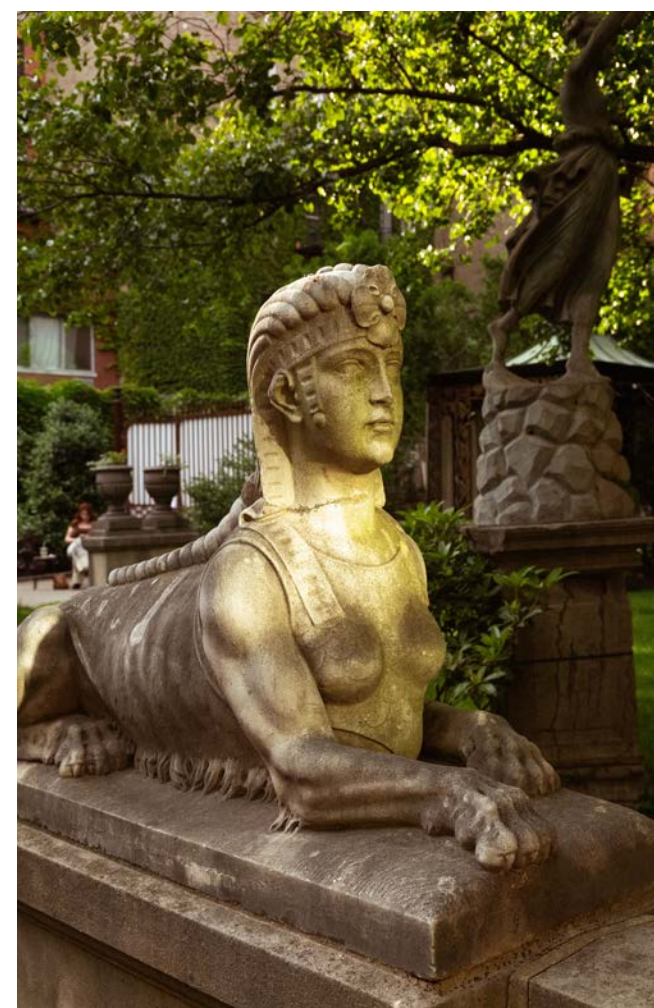
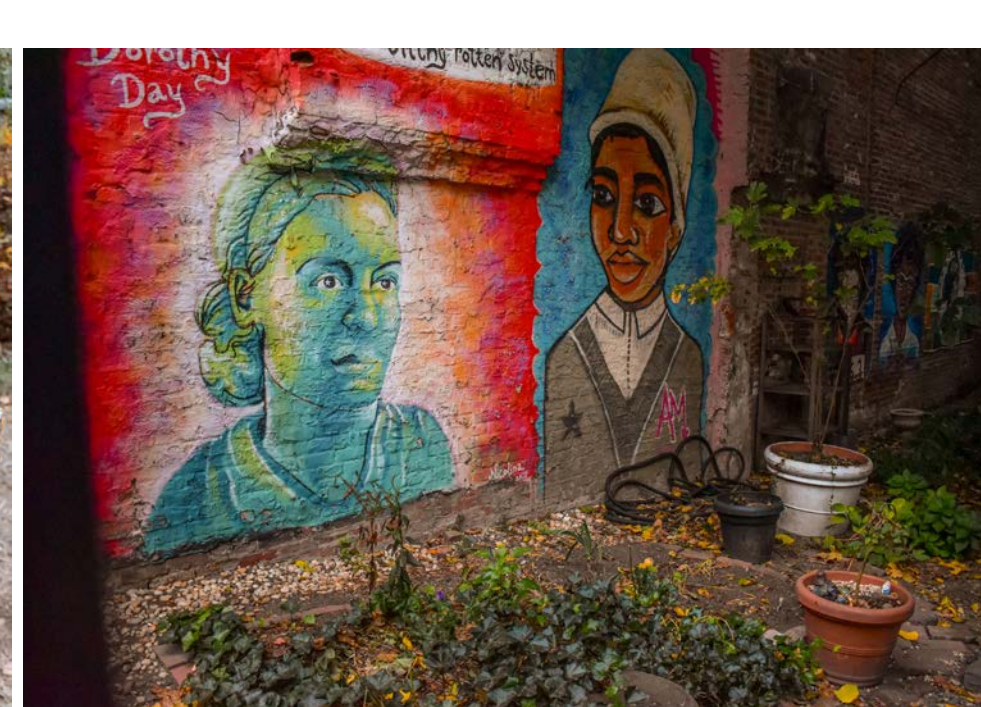
> Texture: Tactile Stimulation | Color: Visual Stimulation | Fragrance






PURSUIT OF THE CREATIVE SPIRIT

- > Mural | Sculpture | Statue
- > Environmental Art | Found Art



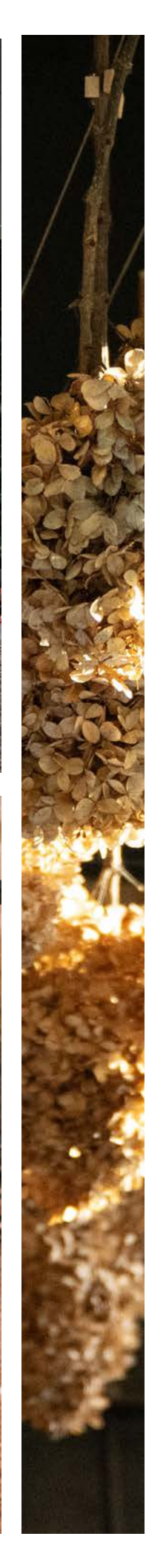
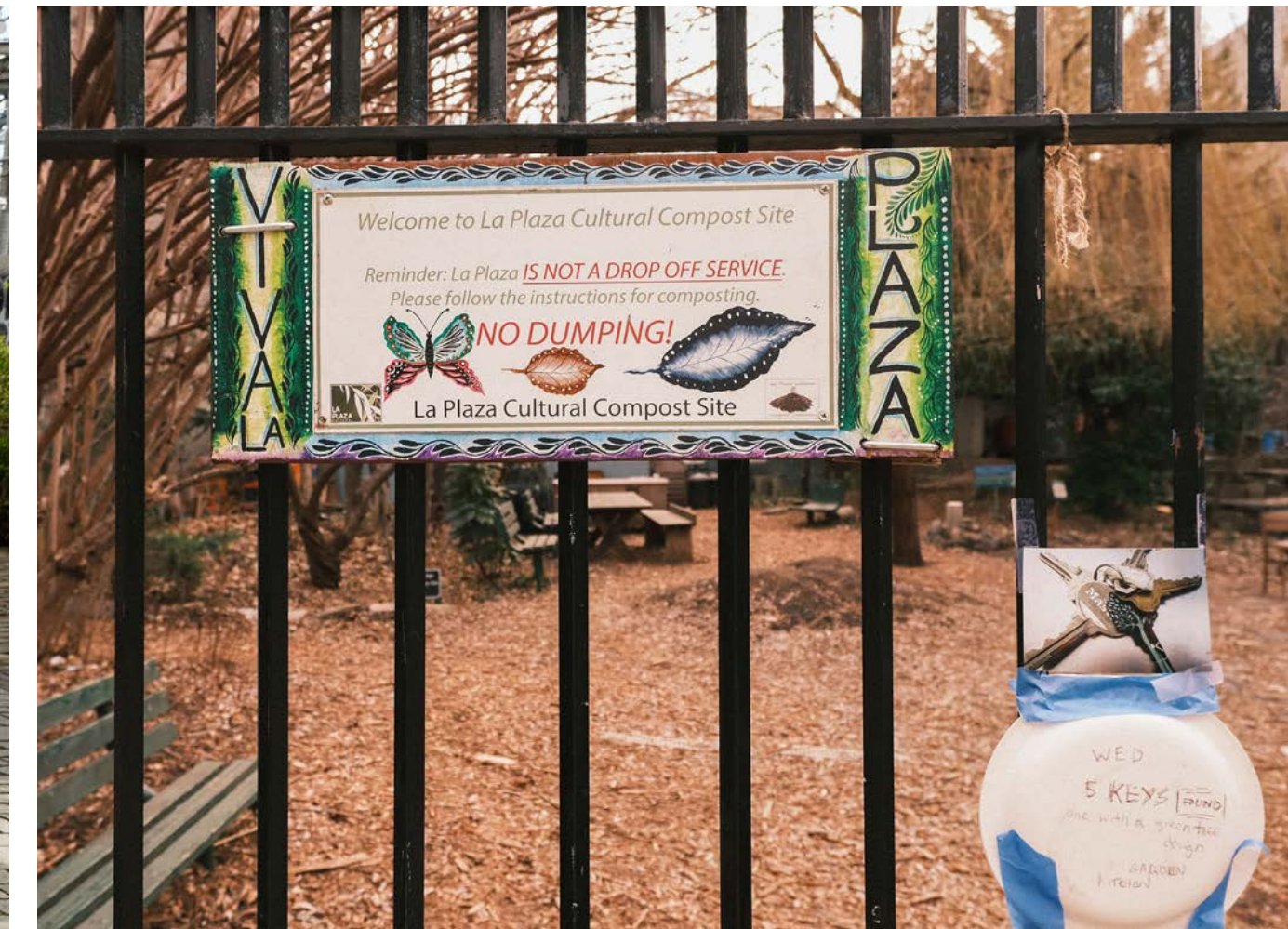
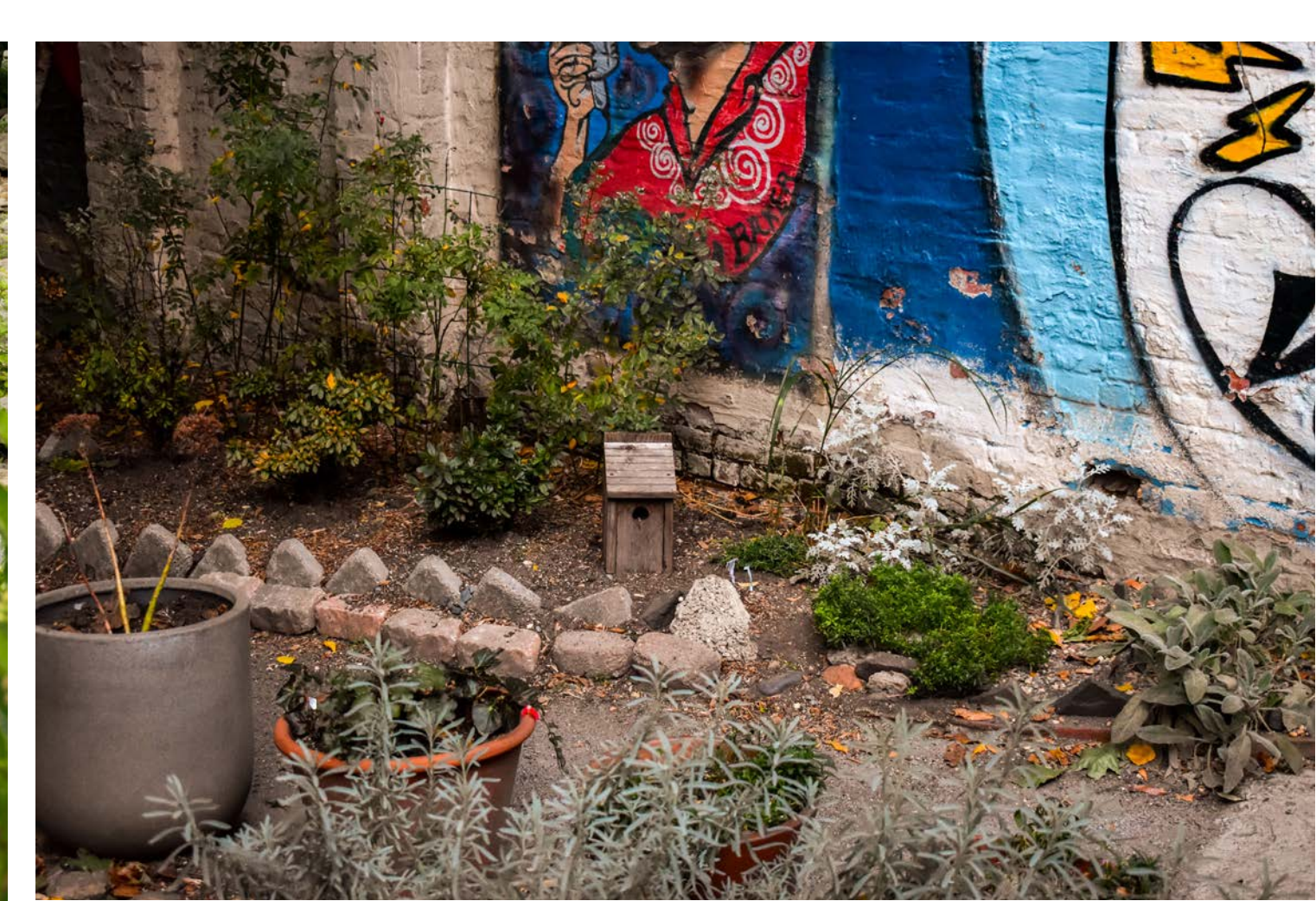
URBAN PUBLIC GARDEN

EXPERIENTIAL RESEARCH



OPPORTUNITY FOR SELF-EXPRESSION

- > Personal Curation
- > Fruits of Labor
- > Contribution to Community



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URBAN PUBLIC GARDEN DESIGN APPLICATION

KINGSBOROUGH HOUSES COURTYARD



The Kingsborough Houses NYCHA Complex is uniquely located in the heart of the local community, in closest proximity to the Weeksville Heritage Center and other local community hubs like the Baptist Church.

Meanwhile, the arrangement of the buildings and the courtyards created as a result are not conducive to social interaction, with nearly no usable green space.

A garden-oriented courtyard redesign would be best applicable at the Kingsborough Houses where there is a clear lack of green and community space, but opportunity for better maintenance and success through integration into the local community.

● WEEKSVILLE HERITAGE CENTER

INVENTORY & ANALYSIS

EXISTING CONDITIONS: TREE CANOPY



KEY TAKEAWAYS

Tree Canopy as SITE ADVANTAGE

- > 47% Tree Canopy Cover (2017)*
- > Existing opportunities for shade
- > Low Outdoor Temperature Rank*
- > Higher perceived canopy density than surrounding urban area

TREE PALETTE SAMPLE



Northern Red Oak
Quercus rubra



Pin Oak
Quercus palustris



Sweetgum
Liquidambar styraciflua



Japanese Zelkova
Zelkova serrata



Honey Locust
Gleditsia triacanthos

VEGETATION

NYCHA's open spaces support about 1,000 acres of tree canopy, which contribute to lowering temperatures inside campuses by 2°F compared to outside.

NYCHA's extreme open space ratios are a management challenge, but many underappreciated benefits exist. Before widespread air conditioning, the need for natural cooling of outdoor and indoor spaces for large residential populations influenced the scale of NYCHA open space. Hot summers in the 1950s and 1960s brought many children and adults outside, leading to broader usage of the grounds and play facilities. The grounds are quieter today, but they still provide green space and porous surfaces. NYCHA landscapes are up to 10 degrees cooler than adjacent neighborhoods.

Tree Planting

NYCHA's tree canopy results from managers diligently following the initial planting program. Between 1950 and 1960, for instance, NYCHA planted over 26,000 shade trees. 22,000 more trees, nearly 300,000 miscellaneous hedge plants, and hundreds of thousands of shrubs today but remains under stress thanks to deferred maintenance, the death, changing climate, and saltwater intrusion due to Hurricane Sandy.

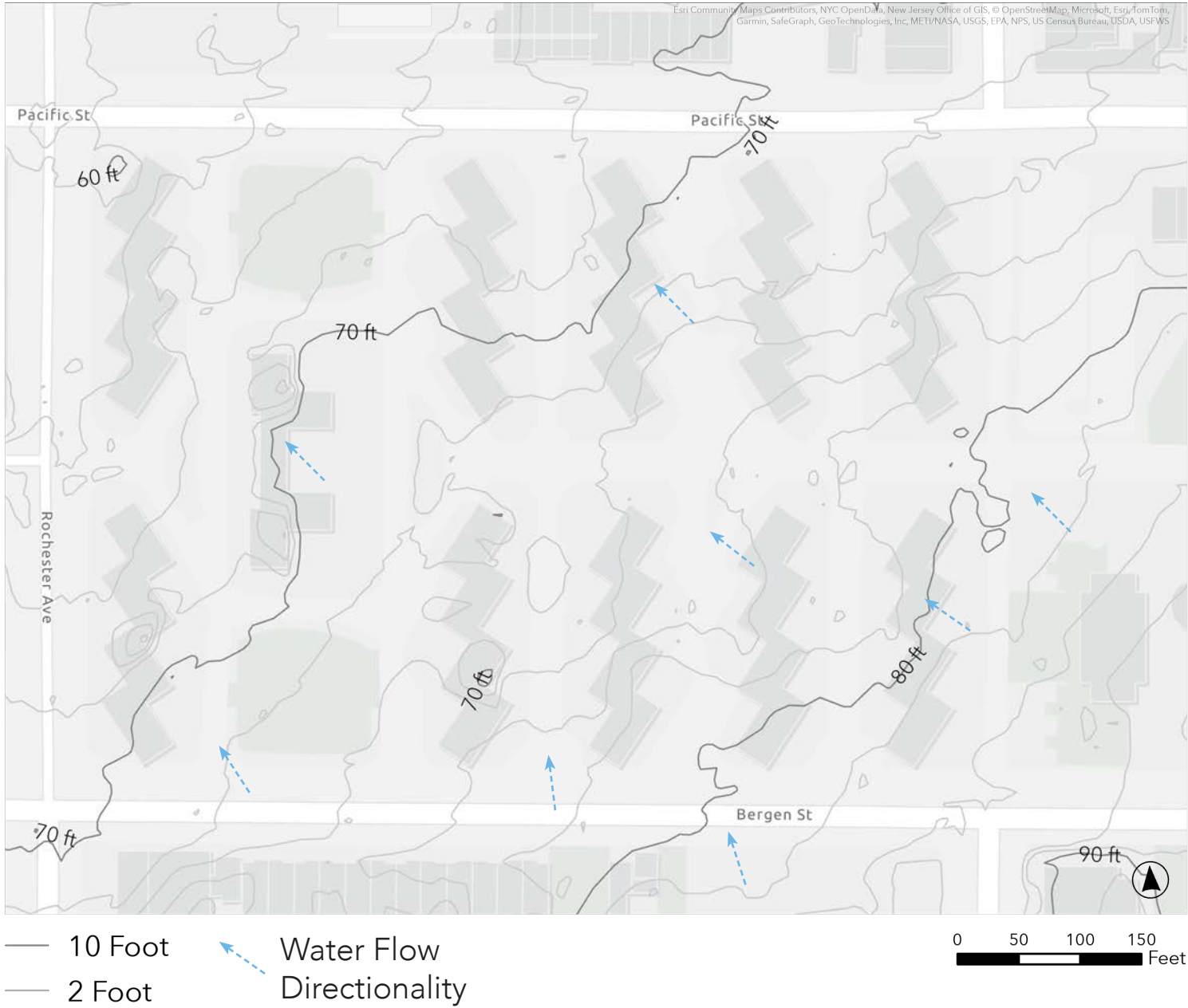
Tenant Gardens
NYCHA helped organize an extensive community garden program. Residents frequently turned small fenced areas into productive flower and vegetable gardens, a rare instance where NYCHA permitted resident personalization in exterior spaces. The plots remained small, regardless of demand, but the activity was popular enough for NYCHA to sponsor an annual garden competition.

By 1981 there were over 1,000 tenant gardens throughout NYCHA projects.

“Between 1950 and 1960 ... NYCHA planted over 26,000 shade trees, [and] 22,000 minor trees”

INVENTORY & ANALYSIS

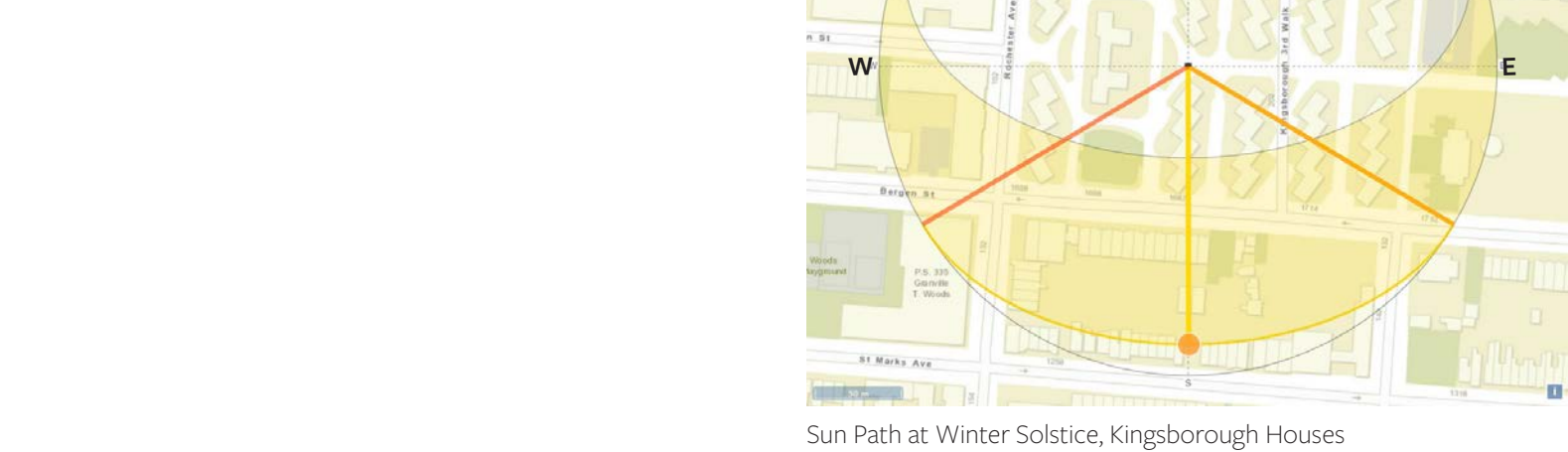
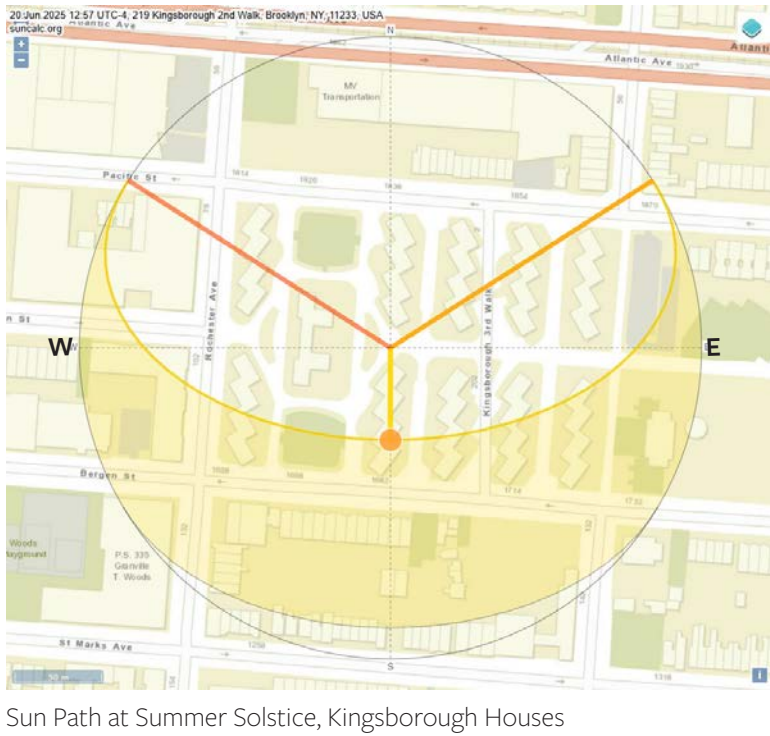
TOPOGRAPHY & SUN PATH



KEY TAKEAWAYS

General NorthWest downward slope through site

- > Strategic placement of gardens to intercept water flow through the site
- > Minimize Runoff

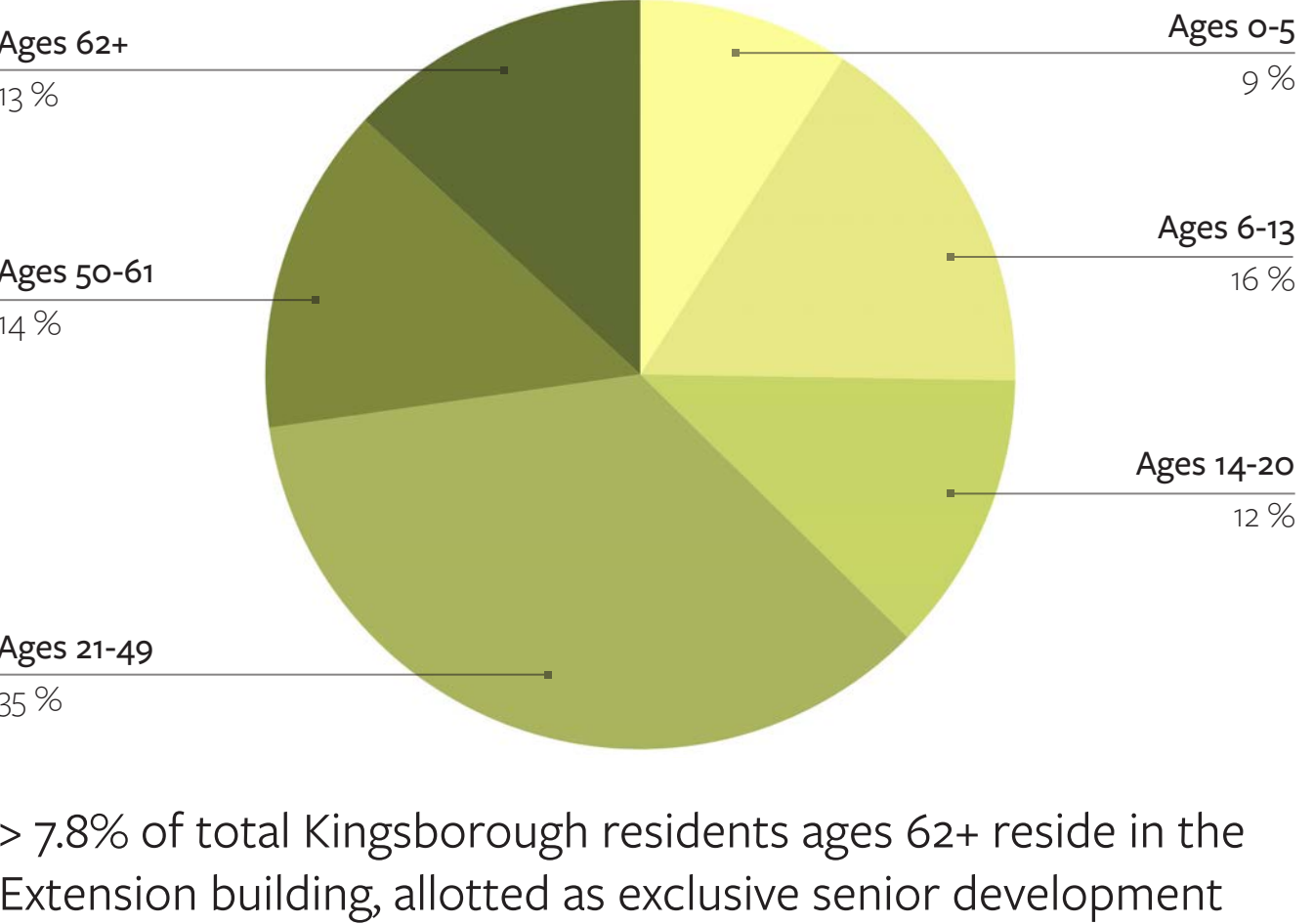


KEY TAKEAWAYS

- > More sunlight received through North/South corridors
- > More shadow cast at 4-way intersections; plant selection should be at least partially shade-tolerant

INVENTORY & ANALYSIS

DEMOGRAPHICS

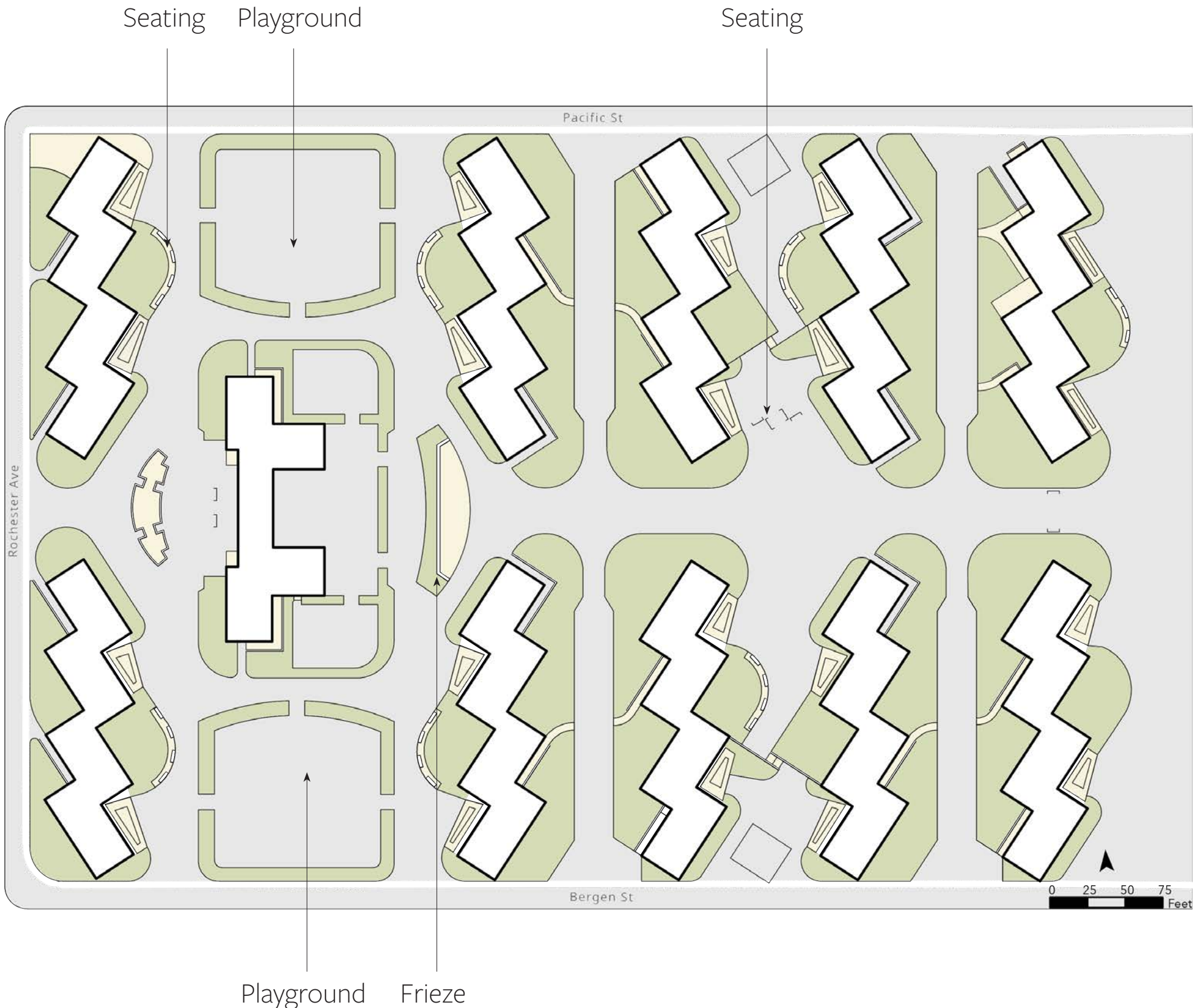


KEY TAKEAWAYS

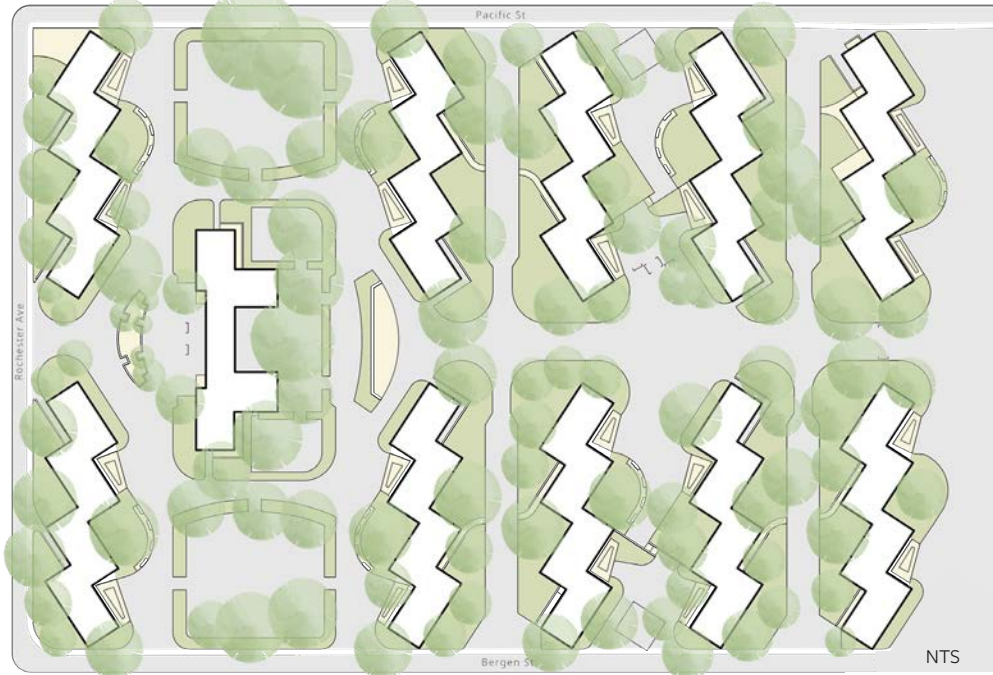
The design of the courtyard must be suitable, stimulating, and accomodating to a wide age range

KINGSBOROUGH HOUSES COURTYARD GARDEN

EXISTING SITE PLAN



Site Plan With Tree Cover

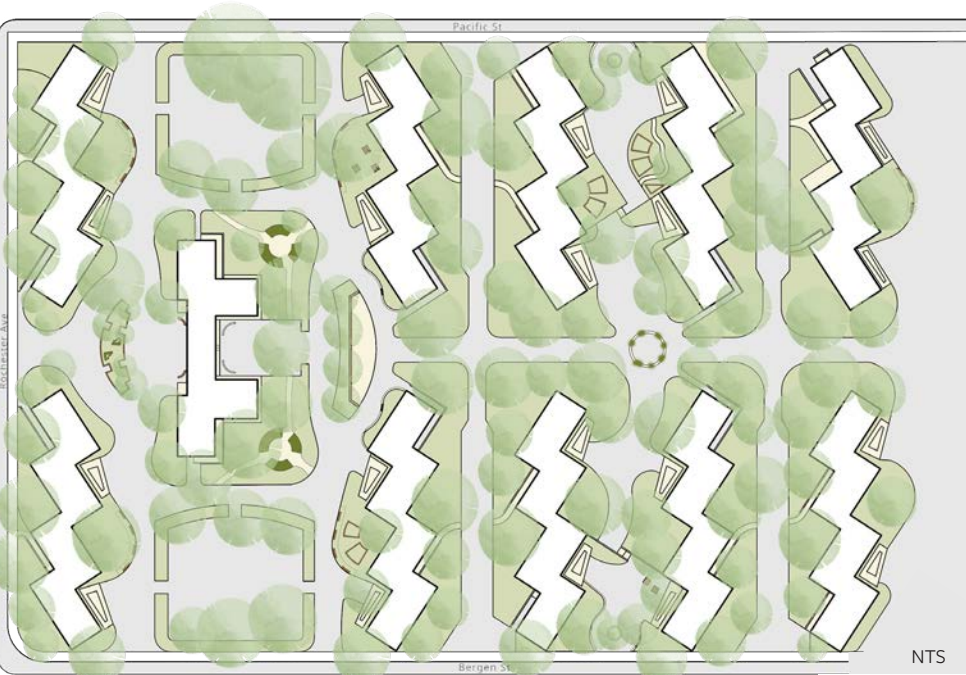


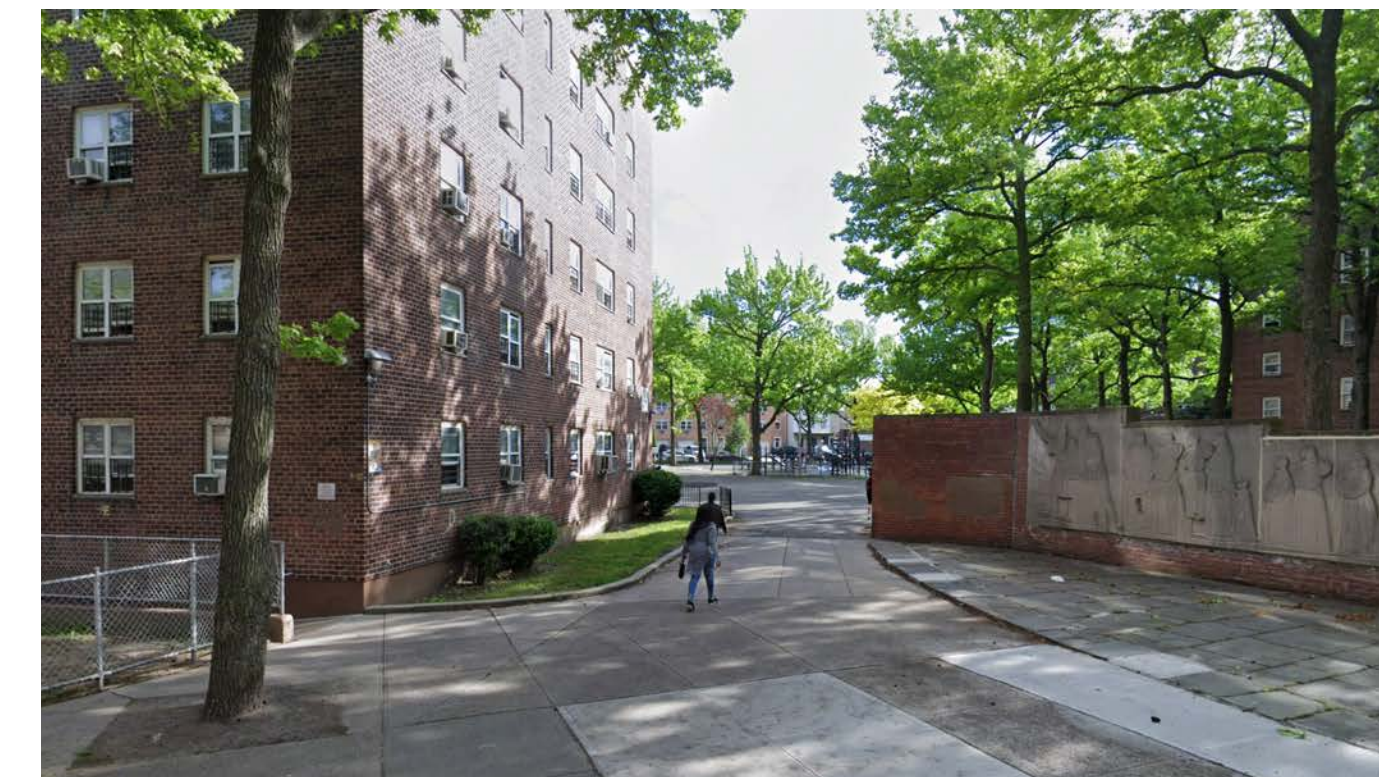
KINGSBOROUGH HOUSES COURTYARD GARDEN

PROPOSED SITE PLAN



Site Plan With Tree Cover





Design Goals at this Intersection:

- > Maintain well-defined **circulation** with frieze as central focal point
- > Embrace the artwork's **cultural significance** & value to the community
- > Enhance opportunities for **seating** & increased passive presence in the space
- > Enhance sense of **agency** by expanding non-fenced green space

Design Concept:

- > *A place to pause & ponder*
 - Seating facing frieze
 - Along line of main circulation, bike rack provided
 - Plant palette that honors African American resilience and heritage through healing and culturally significant plants



Spotted Bee Balm
Monarda punctata



Wild Sage
Salvia lyrata

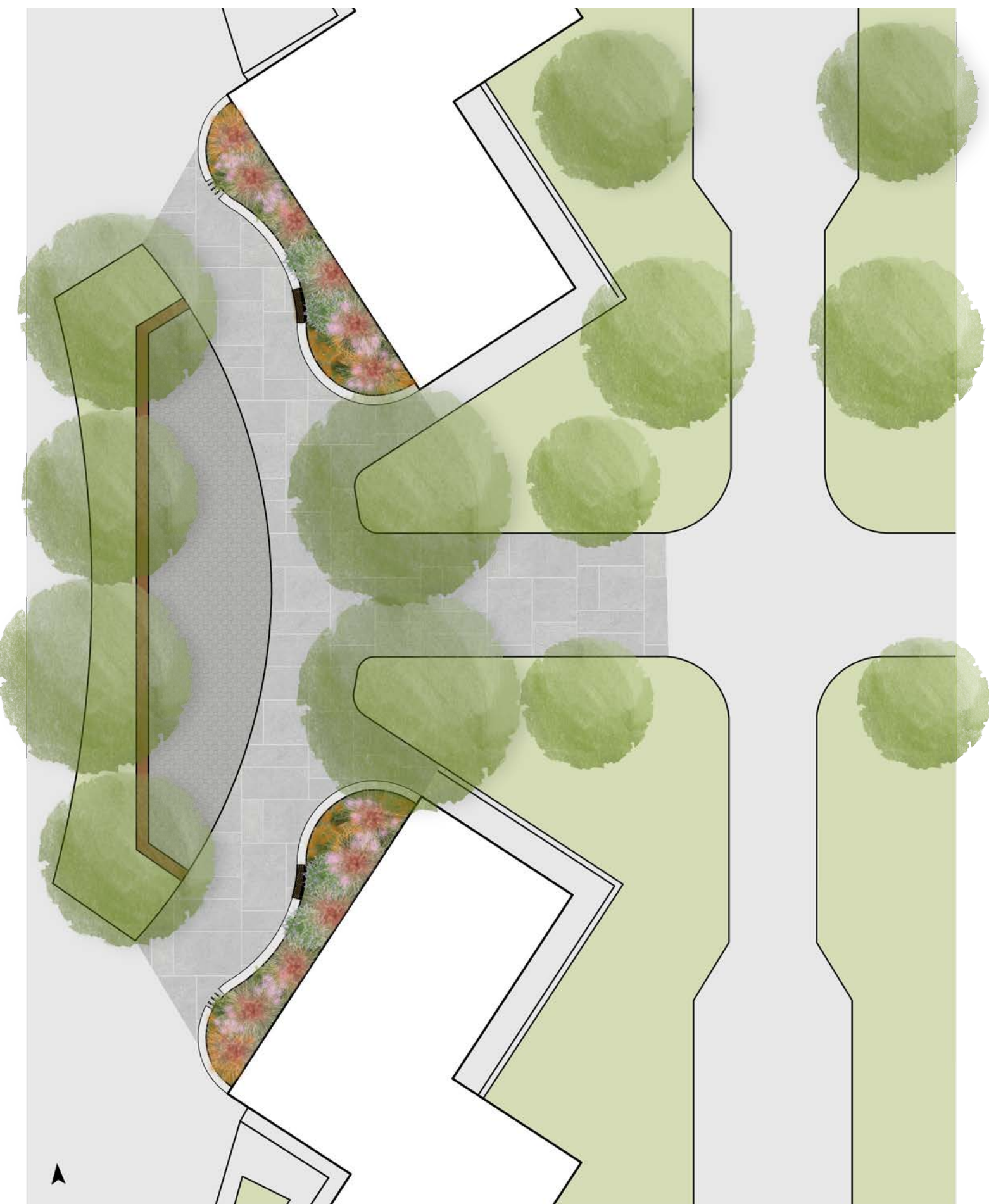


Butterfly Weed
Asclepias tuberosa



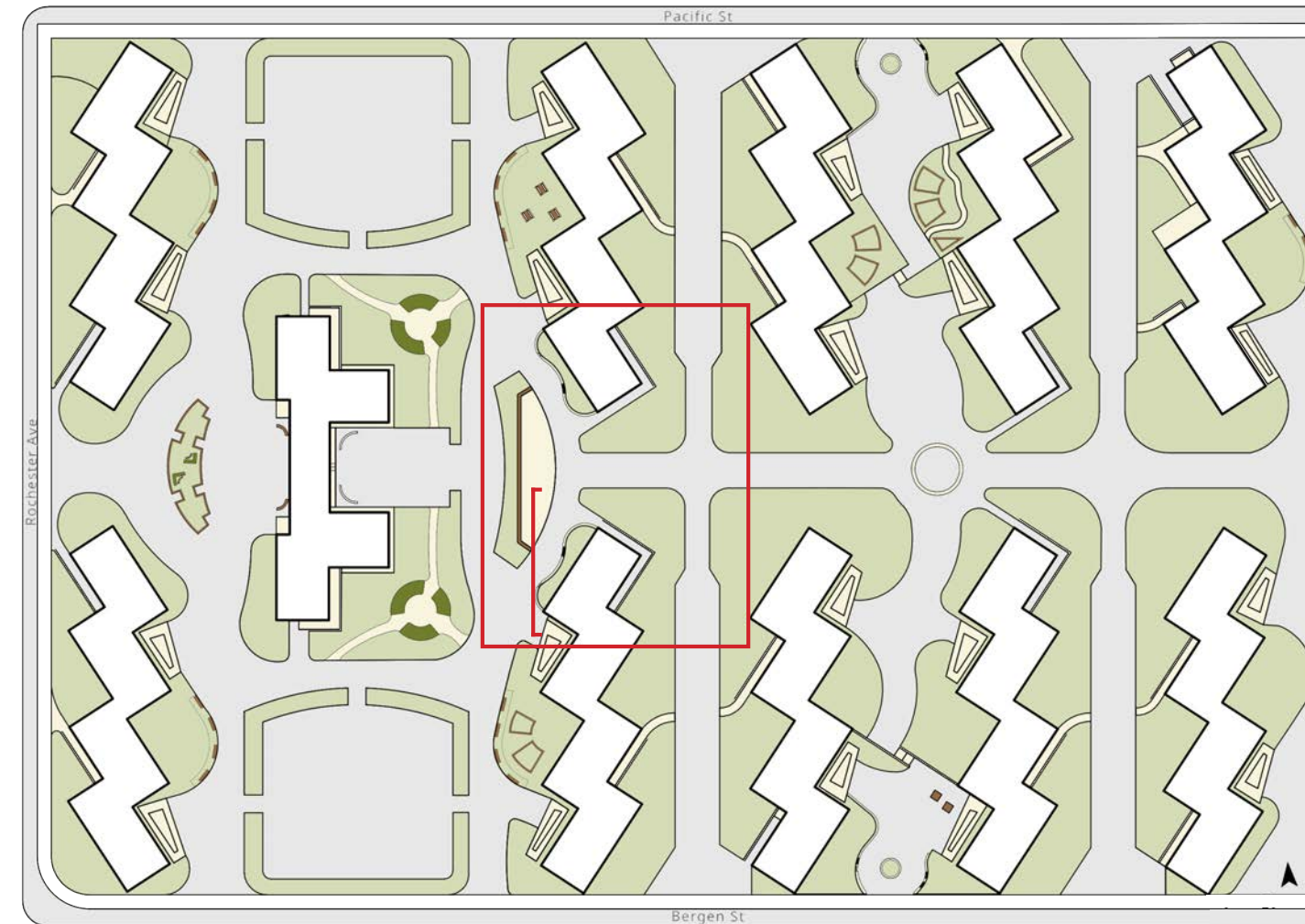
Muhly Grass
Muhlenbergia capillaris





INTERSECTION AT *EXODUS & DANCE*
Garden Node Site Plan

0' 20' 40'
SCALE: 1"=20'



CIRCULATION

SEATING

SENSORY EXPERIENCE

ART

ECOLOGY



INTERSECTION AT *EXODUS & DANCE*, BETWEEN 1ST & 2ND WALKS
Elevation of Garden Seating at the Frieze

0' 5' 10'
SCALE: 1"=5'

Cultural + Ecology
Supporting Plants

Bike Rack

Concrete Curved
Seating with
Bench Insert



STREET ENTRANCE COURTYARD

3rd Walk South



Design Goals for the Courtyard:

- > Stormwater management; reducing amount of water flowing down stairs into interior courtyard
- > Elaborated plant palette for privacy, sensory experience, & ecological benefit

Design Concept:

- > Courtyard design as a small plaza space that feels publicly accessible, drawing in the local community from beyond the NYCHA development
- > Rain garden adjacent to staircase wall; shade & moisture-tolerant plantings for on-site stormwater capture

Central Node



Spotted Bee Balm
Monarda punctata



Butterfly Weed
Asclepias tuberosa



Blazing Star
Liatris spicata



Feather Reed Grass 'Karl Foerster'
Calamagrostis x acutiflora 'Karl Foerster'



White Wood Aster
Eurybia divaricata

Rain Garden



Eastern Red Columbine
Aquilegia canadensis



Lady Fern
Athyrium filix-femina



Prairie Dropseed
Sporobolus heterolepis





CIRCULATION

SEATING

SENSORY
EXPERIENCE

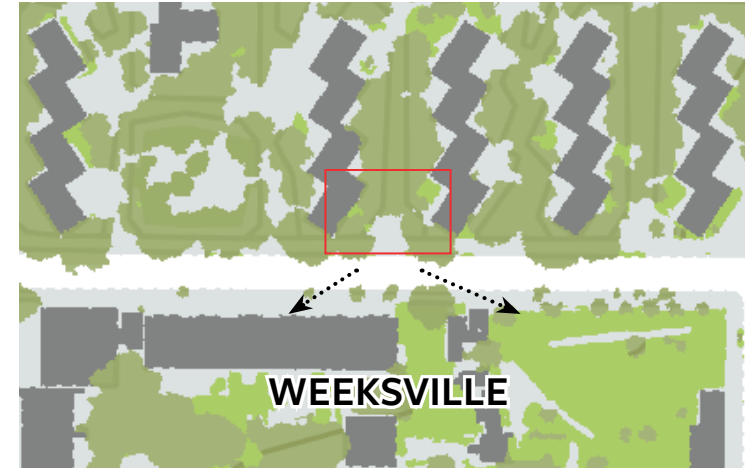
ECOLOGY

PRIVACY



STREET ENTRANCE COURTYARD, 3rd Walk South
Site Plan

0' 10' 20'
SCALE: 1"=10'



3rd Walk North/South directly connects to an entrance to the Weeksville Heritage Center.

Redesigning the entrance courtyards at 3rd Walk is an opportunity to enhance a community space that would fortify the connection between the courtyard and Weeksville.

Sensory + Habitat
Supporting Native Plants

Rain Garden

Concrete Curved Seating
with Bench Insert



STREET ENTRANCE COURTYARD, 3rd Walk South
Elevation Facing Courtyard

0' 10' 20'
SCALE: 1"=10'