

THE ROLE OF SURFACE:  
CATALYTIC SURFACE STRATEGIES FOR OPEN SPACE IN URBAN ENVIRONMENTS

by

KYLIE RENÉ HARPER

A REPORT

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Department of Landscape Architecture/Regional and Community Planning  
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Approved by:

Major Professor  
Dr. Jason Brody

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## ABSTRACT

Effective open space is critical to the urban quality of life because it fosters environmental, social, and economic vitality. However, some designers, planners, and developers have a tendency to focus on only one of these aspects and, thus, create spaces that are monofunctional and inefficient over time. To ensure effective open spaces in cities, landscape architects must think strategically and employ design tactics that are multifunctional and perform environmentally, socially, and economically.

My objective was to provide landscape architects with a framework that ensured effective open spaces through the manipulation of the urban surface. In this report, I explored how the urban surface could be used to create multifunctional, flexible, and adaptive solutions that informed and directed (re)development so that urban spaces had lasting value. A thorough literature review that explored concepts from Jane Jacobs, Alex Wall, and Ying-Yu Hung was used to create a theoretical framework that consisted of various tactics. The tactics were aesthetic, programmatic, contextual, and/or performative in nature, and the aggregation of these tactics in the urban surface catalyzed environmental, social, and economic vitality in urban open spaces.

My methodology was iterative, cycling periods of research, design, and analysis in both group and individual settings. The theoretical framework was used to evaluate and inform design decisions, and the design decisions refined and validated the theoretical framework itself. The theoretical framework was first applied to two precedent studies through a series of diagrammatic mapping exercises. Then, the theoretical framework was applied to two collaborative, multidisciplinary redevelopment projects. The first project was the redevelopment of the Village Plaza shopping center in Manhattan, Kansas (MHK Project), and the second project was the revitalization of Downtown East in Minneapolis, Minnesota for the annual Gerald D. Hines Student Urban Design Competition, sponsored by the Urban Land Institute (ULI Competition). Both of these projects were evaluated and refined using the same diagrammatic mapping exercises.

The effectiveness of using the theoretical framework as a guide for designing successful open spaces was validated with my team's victory in the finalist round of the ULI Competition. The tactics in the theoretical framework offered pragmatic and multiscalar strategies that I incorporated into the open spaces that my team and I designed. Ultimately, I discovered that the role of surface was to accommodate, organize, structure, and facilitate the dynamic processes necessary for environmental, social, and economic vitality, which enhanced the urban quality of life and created an indisputable sense of place.

**THE**

**ROLE**

**OF**

CATALYTIC SURFACE STRATEGIES FOR OPEN SPACE IN URBAN ENVIRONMENTS

**SURFACE**

## ACKNOWLEDGEMENTS

In the design world, everyone has a niche, or in some cases, an obsession. I now realize that my interest in surface reflects my original reason for choosing landscape architecture as my academic major; the ground is a canvas. Form, scale, texture, and color - I manipulate surfaces to design experiences for people, and I am fortunate that my academic career in the Landscape Architecture / Regional and Community Planning Department has given me the freedom to experiment and to create such experiences.

Thanks to all of the faculty members who have inspired me, pushed me, and enriched my education in the College of Architecture, Planning and Design - especially Stephanie Rolley, Blake Belanger, Chip Winslow, Jessica Canfield, and Jon Hunt.

Thanks to Dr. Jason Brody and the Knights of the Round Table, Kevin Cunningham, Derek Hoetmer, Lauren Brown, and Tyler Knott, for concluding my academic career with our victory in the 2013 ULI / Gerald D. Hines Student Urban Design Competition.

Thanks to my studio mates for always being there through the hundreds of energy drinks, countless all-nighters, and celebratory pub crawls. You all have made this experience worthwhile.

Most importantly, thanks to my family and my friends for your unconditional support these past five years. I love you all dearly.

Kylie René Harper  
Master's Project + Report

Major Professor / Dr. Jason Brody  
Committee Members / Blake Belanger + Stephanie Rolley

Kansas State University  
College of Architecture, Planning + Design  
Department of Landscape Architecture / Regional + Community Planning

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**SURFACE**



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framework was applied to two collaborative, multidisciplinary redevelopment projects. The first project was the redevelopment of the Village Plaza shopping center in Manhattan, Kansas (MHK Project), and the second project was the revitalization of Downtown East in Minneapolis, Minnesota for the annual Gerald D. Hines Student Urban Design Competition, sponsored by the Urban Land Institute (ULI Competition). Both of these projects were evaluated and refined using the same diagrammatic mapping exercises.

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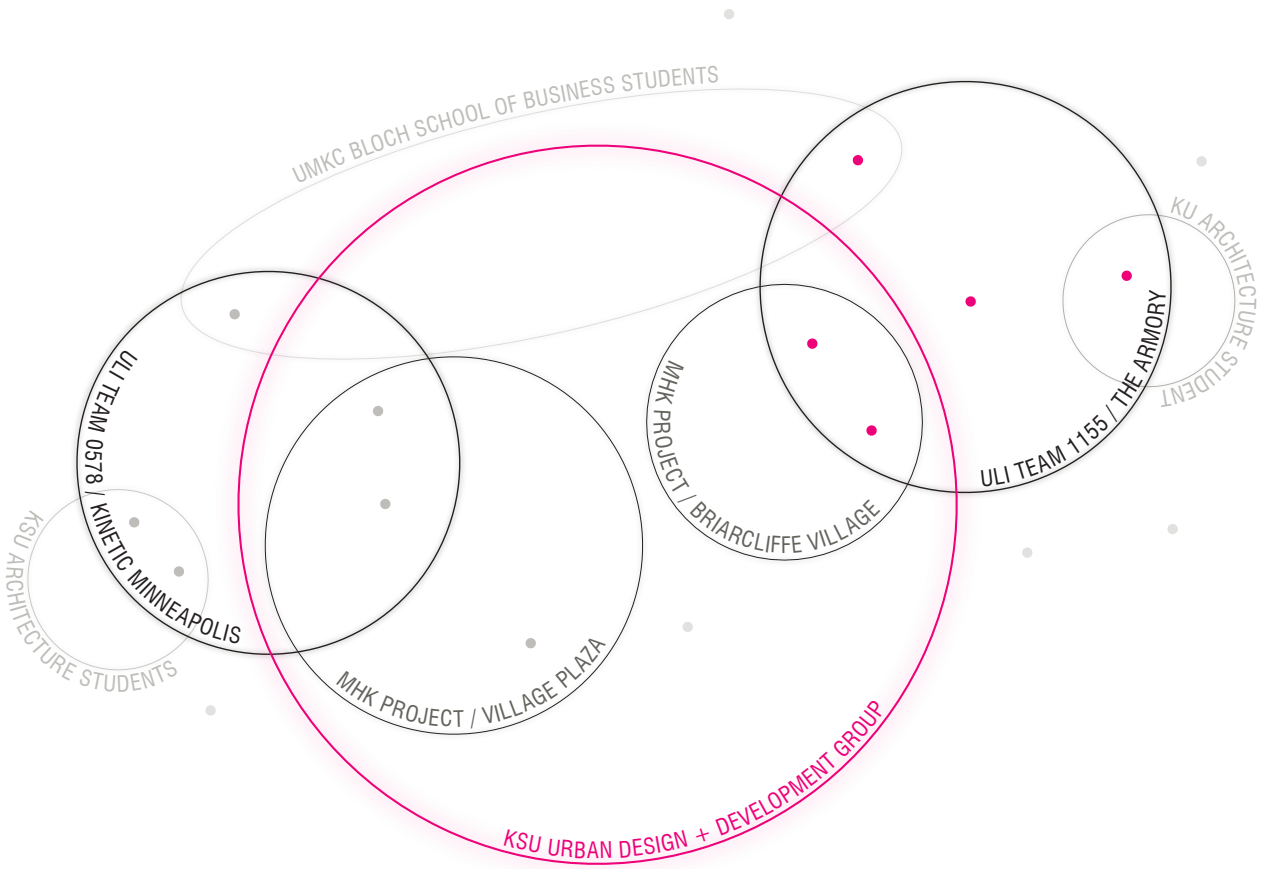


FIGURE 0.1 UDD MESHWORK DIAGRAM (BY AUTHOR, 2013)

# PREFACE

For the final year of my academic career, I was fortunate to pursue my individual master's project and report in the Urban Design and Development (UDD) group. Led by Assistant Professor, Dr. Jason Brody, our group was required to develop our individual research efforts by participating in two predetermined group projects. The first project was the redevelopment of the Village Plaza shopping center in Manhattan, Kansas (MHK Project), and the second project was the revitalization of Downtown East in Minneapolis, Minnesota for the annual Gerald D. Hines Student Urban Design Competition, sponsored by the Urban Land Institute (ULI Competition). Although the redevelopment projects were collaborative, multidisciplinary efforts, our objective was to incorporate our individual research topics to the MHK Project as a means to give our individual projects context and then again to the ULI Competition as a means to further develop and enrich our individual work.

Throughout the course of the academic year, our group functioned as a meshwork, assembling and applying knowledge from both group and individual research for the two redevelopment projects. As seen in Figure 0.1, our group split into two teams for the MHK Project. Later on in the academic year, the two teams recruited other graduate students, as necessary, to fulfill the ULI Competition requirements of three different disciplines represented within teams of five people.

In Figure 0.1, my team was ULI Team 1155, and we were thrilled to be the winning team of the 2013 ULI Competition. We unofficially referred to ourselves as the Knights of the Round Table, and the Knights are Kevin

Cunningham, Derek Hoetmer, and myself in the Landscape Architecture / Regional and Community Planning Department at Kansas State University; Lauren Brown in the Architecture Department at the University of Kansas; and Tyler Knott in the Bloch School of Business at the University of Missouri - Kansas City. The other finalist teams for the 2013 ULI Competition were Ball State/Purdue, Harvard, and Yale Universities.

Coordinating and managing my individual research efforts with the group projects was one of the most challenging tasks in my academic career. My participation in the ULI Competition made the past two semesters especially complicated in terms of clearly framing my individual research project and time management. Because the ULI Competition brief that contained all of the site information was not released until January, the competition constrained me to pursue a flexible research topic that was founded upon literature concepts and applicable to any site condition. This flexibility made my experience in the group projects uncomplicated, which allowed me to be fully engaged in our collaborative efforts instead of being concerned about forcing my individual research upon my team. Ultimately, this experience not only enriched my personal research about urban surfaces and open spaces, but it also made me more perceptive of urban design and development, as well as collaboration.

The following report is my individual product for two semesters of research, collaboration, and distillation.



01

DELINEATE



## INTRODUCTION

Effective open spaces are nodes of intensification in larger urban systems that consist of complex and dynamic processes. However, when these spaces are constructed in monofunctional ways, or to fulfill single purposes, they fail to provide consistent levels of efficiency throughout their lifespans (Hung, 2010, p.16). These inconsistent levels of efficiency may be measured in environmental, social, or economic terms. For example, a channelized waterway may be an efficient short-term solution for directing surface water, but it often results in a perceived barrier, placeless edges, and an increased risk of flooding (RIBA, 2012, p.3). Ying-Yu Hung, a landscape architect and principal at SWA Group, believes that “such a singular approach [to design] produces serious impacts in the way infrastructure contributes [or does not contribute] to urban life” (2010, p.16). Yet, most of the current design strategies in urban environments continue to be founded on these monofunctional principles, which only exacerbate the self-destructive pattern of contemporary urban design and (re)development.

How can landscape architects plan and design multifunctional, flexible, and adaptive places that inform and direct (re)development so that urban open spaces have lasting environmental, social, and economic value?

The solution lies in the urban surface.

The urban surface is more  
intermittent planting beds  
*materials and technologies*  
Liat Margolis and Alexander F  
surface is a three-dimensional  
facilitate and accommodate dy  
often composed of multiple, su  
including growth, physical flo  
weather cycles” (2007, p.36).  
these processes, the urban su  
framework and as a catalyst  
economic performance within a

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s. In *Living systems: Innovative  
es for landscape architecture*,  
Robinson state that the urban  
l profile that has the “ability to  
namic processes ... [which] are  
irging, and overlapping forces,  
ows, program elements, and  
By structuring and organizing  
urface can serve as a dynamic  
for environmental, social, and  
and around urban open spaces.



02

EXPLORE



## LITERATURE REVIEW

The method of using the urban surface to structure and organize processes is a concept that is both clear and elusive. On the one hand, people already implement infrastructural systems, such as highway networks and sewerage pipes into the urban surface. However, on the other hand, when one considers the concepts reviewed so far, one understands that most of the methods are monofunctional, and thus fail to perform environmentally, socially, and economically. In the following paragraphs, I review literature that is relevant to the concept of employing surface tactics in urban open spaces. *The Death and Life of Great American Cities* by Jane Jacobs (2011) provides the foundational knowledge about the components necessary to create and sustain urban open spaces. "Programming the Urban Surface," written by Alex Wall (1999), formally introduces the concept of surface tactics with an emphasis on social performance. Then, Ying-Yu Hung (2010), Liat Margolis and Alexander Robinson (2007) emphasize the opportunities for environmental performance through landscape infrastructure incorporated into urban surfaces. Lastly, Bernard Zyscovich (2008) explains how important open space is to the urban quality of life, and Edward Uhler (2005) describes, in

detail, how much a successful urban place can stimulate economic vitality.

The concept of embedding proactive strategies in urban surfaces may be traced back to *The Death and Life of Great American Cities*, written about half a century ago by Jane Jacobs (2011). In the chapter "The uses of neighborhood parks," Jane Jacobs discusses physical, programmatic, and contextual issues of city parks and identifies factors that transform seemingly vibrant open spaces into abandoned ghost parks, devoid of vitality. Drawing upon her personal research and observations, Jacobs outlines design strategies that aspire to improve city parks; they include intricacy, centering, sun, and enclosure. Jacobs' intricacy strategy involves "subtle expressions of difference" such as changes in elevation, clusters of trees, or framed focal points (Jacobs, 2011, p.104). The intricacy strategy is what visually intrigues users to enter and further explore the park. The centering strategy is an element of intricacy. It refers, not necessarily to a central, monumental element, but rather to a feeling of center within a park design. Jacobs explains how "good small parks typically have a place somewhere within them commonly



understood to be the center - at the very least a main crossroads and pausing point, a climax” (Jacobs, 2011, p.104). The sun strategy is a programmatic suggestion that refers to the consideration of different activities by different users throughout all hours of the day and night. The final strategy, enclosure, is another programmatic suggestion that considers the surrounding context of the park. Jacobs stresses the importance of creating active edges along the perimeter of the park such as mixed-use developments. The enclosure strategy encourages “diversity among adjacent uses, and hence diversity among users and their schedules” (Jacobs, 2011, p.97). The strategies recommended by Jacobs serve as the foundational principles for creating successful urban open space. Additionally, most of these strategies can be achieved through surface tactics that create visual interest and organize programmatic activities. These ideas are further articulated by the architect and urban designer, Alex Wall (1999).

In “Programming the Urban Surface,” Alex Wall (1999) discusses a shift in interests among designers to that of the urban surface. Wall explains that:

*...the urban surface is similar to a dynamic agricultural field, assuming different functions, geometries, distributive arrangements, and appearances as changing circumstance demands. This adaptability derives in part from the planar character of the surface, to its smooth and uninterrupted continuity, but also from the equipment and services embedded within it. Thus, if the goal of designing the urban surface is to increase its capacity to support and diversify activities in time - even activities that cannot be determined in advance - then a primary design strategy is to extend its continuity while diversifying a range of services. This is less design as passive ameliorant and more as active accelerant, staging and setting up new conditions for uncertain futures. (p.233)*

Similar to the design components recommended by Jane Jacobs (2011), Wall suggests proactive strategies for designing the urban surface; they include thickening, folding, new materials, nonprogrammed use, and impermanence. Thickening is a concept that increases the surface’s capacity to support services and activities. As seen in Figure 2.1, one of



FIGURE 2.1 (OPPOSITE) SCHOUWBURGPLEIN  
(FLICKR USER ILLUSTRIR, 2013)

FIGURE 2.2 OLYMPIC SCULPTURE PARK  
(WARCHOL, 2006)

the best examples of a thickened surface is the public square known as Schouwburgplein in Rotterdam, the Netherlands. Designed by West 8, the surface of the square is raised to accommodate for underground parking. Additionally, there are a range of other utilities and services below the surface that influence the uppermost layer of the surface. Lighting elements create “a Milky Way of light across the floor at night,” and variations between metal and wood decking are fitted with “fence- and tent-post holes, enabling temporary structures and coverings to be erected” (Wall, 1999, p.243). Folding is a strategy that “joins interior and exterior spaces into one continuous surface” (Wall, 1999, p.245). As seen in Figure 2.2, an example of the folding strategy is the Olympic Sculpture Park in Seattle, Washington, designed by Weiss/Manfredi Architects. New materials is a strategy that encourages the use of new synthetic materials or the use of familiar materials in new ways in effort to inspire new activities among users. Nonprogrammed use is a strategy of “equipping the surface with services and furnishings that can be appropriated and modified by the public [which] enables a diverse and flexible range of uses. Instead of compromising elements serving only one

function, a design that can accommodate many functions is both economical and enriching of social space” (Wall, 1999, p.245). The user appropriation created by the thickening, folding, new materials, and nonprogrammed use tactics is what ensures personal relationships to the designed space, thus sustaining vitality over time, which is the objective of the impermanence strategy. Wall explains that “needs and desires can change overnight, and city administrators must be able to respond quickly without massively overhauling entire tracts of land. Designing to create an indeterminate and propitious range of affordances replaces the traditional fascination of designers with permanence with that of the temporal and dynamic” (1999, p.246). The concepts presented by Wall are strategies for organizing and structuring urban surfaces to encourage social activity. Although they are valuable methods, Wall does not discuss their relationships to the environment. However, Ying-Yu Hung (2010), Liat Margolis and Alexander Robinson (2007) provide a range of opportunities for environmental performance through discussion and precedents of landscape infrastructure.

In "Landscape Infrastructure," Ying-Yu Hung (2010) describes landscape infrastructure as a temporal, flexible, and adaptable system that is multifunctional, decentralized, and a catalyst for urban revitalization (p.17). The primary objective of landscape infrastructure is to "redefine the old [infrastructural] system within a new set of paradigms ... aligned to the natural systems of ecology" (Hung, 2010, p.17). Hung (2010) describes four attributes of landscape infrastructure; they include performance, aggregate, network, and increment. Performance is straightforward and relates to the ability of the landscape infrastructural system to produce measurable results. Aggregate describes how landscape infrastructure, "when consolidated, the collective whole has the ability to remediate and sometimes even reverse negative impact" (Hung, 2010, p.18). Examples of aggregate landscape infrastructure are renewable energy technologies such as photovoltaic panels or wind generators. Both provide electricity, which lessens the amount of nonrenewable resources for energy production. Network relates to the ability of landscape infrastructure to serve as "a connective tissue that brings together disparate elements, instilling cohesion and purpose" (Hung, 2010, p.18). Lastly, increment relates to the "city's ability to sustain growth through a measured period of time" (Hung, 2010, p.18). Increment gives municipalities the freedom to implement landscape infrastructure projects over time, depending on cost, funding, and policy. Hung concludes the article by stating that "infrastructure is an untapped resource with the capacity to effect positive change. Through the employment of ecological and social principles, the urban infrastructural systems can play a multifaceted role that actively contributes to the betterment of urban life" (2010, p.19). Liat Margolis and Alexander Robinson (2007) substantiate the claims made by Ying-Yu Hung (2010) through precedent studies that analyze

landscape infrastructure strategies in urban surfaces.

In *Living Systems: Innovative Materials and Technologies for Landscape Architecture*, Liat Margolis and Alexander Robinson (2007) examine how the concept of the ground as a flat surface has shifted to a three-dimensional profile of stratified layers that "facilitate and accommodate dynamic processes ... composed of multiple, surging, and overlapping forces, including growth, physical flows, program elements, and weather cycles" (2007, p.36). They explain that:

*...within a composite system, materials breathe, exchange nutrients, seal contaminants, facilitate drainage, retain and infiltrate water, contain technological infrastructure, sustain vegetation, provide structural support, and host multiple programs. Transitions between softscape and hardscape, between the shell and the flesh, between biologically active and nonactive elements become systematic, seamless, and 'functionally graded' - a term borrowed from material science that describes composite structures with a gradual variation between different material compositions or properties, much like an epidermis." (Margolis & Robinson, 2007, p.36)*

Margolis and Robinson (2007) substantiate their ideas about surfaces by reviewing and analyzing built landscape infrastructure projects. Two of the most evocative projects discussed are the previously mentioned Olympic Sculpture Park in Seattle, Washington (Figure 2.2, p.8), designed by Weiss/Manfredi Architects and the High Line in New York City, New York, designed by Field Operations.





FIGURE 2.3 THE HIGH LINE (FLICKR USER GARCIA, 2011)

The Olympic Sculpture Park is located on top of several challenging conditions. Firstly, the project straddles a railway and an arterial road. Secondly, the site is located on a steep and rocky slope to the shoreline of Elliott Bay. In terms of surface tactics, “the park employs a constructed topography [that serves] as an armature to negotiate and ultimately capitalize on the site’s array of conditions. [Weiss/Manfredi’s] zigzagging landform, which seamlessly crosses rail and road, unifies the site’s topography, park program, and experience” (Margolis & Robinson, 2007, p.38). The surface exemplifies the folding strategy, recommended by Alex Wall (1999). In terms of environmental performance, “landforms and plantings control, collect, and cleanse stormwater as it moves through the site before being discharged into Elliott Bay” (Margolis & Robinson, 2007, p.38). Lastly, the project addresses social performance by equipping the sub-surface with a system of “water, power, and data, providing artists with additional resources for ... installations” (Margolis & Robinson, 2007, p.38). Thus, the Olympic Sculpture Park incorporates several of the surface tactics previously described by Alex Wall (1999), and it incorporates a level

of environmental performance with landforms and plantings to manage and treat stormwater.

As seen in Figure 2.3, the High Line adaptively reuses an abandoned elevated railway that runs through the west side of Manhattan borough in New York City. In terms of surface, the ground is composed of a synthetic planking system that undulates to produce a series of planting beds and seat walls (Margolis & Robinson, 2007, pp.44-5). The High Line performs environmentally not only by harvesting rainwater for irrigation, but also by salvaging and reusing the existing railway infrastructure. As previously described by Alex Wall (1999), the industrial character of the High Line attracts social activity because it uses familiar materials in a new way. The project also exemplifies Wall’s thickening strategy (1999) because “the multi-functional planking system integrates planting, irrigation, walking surfaces, and seating on a suspended rail structure” (Margolis & Robinson, 2007, p.45). The surface tactics and principles reviewed thus far have focused on creating social and environmental vitality in urban open spaces, but when used effectively, they also have economic benefits.







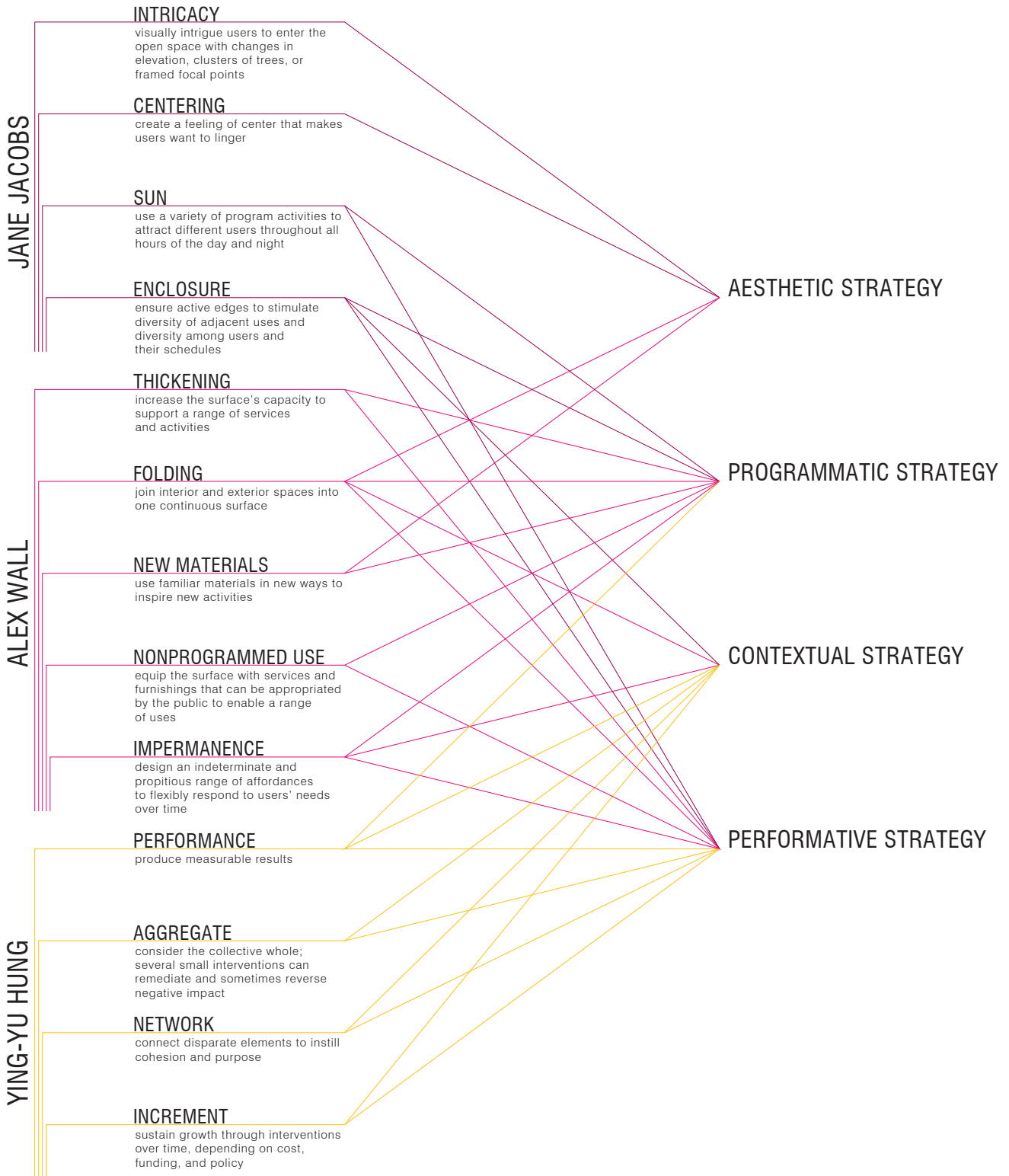
In *Getting Real About Urbanism: Contextual Design for Cities*, Bernard Zyscovich (2008) explains how the urban quality of life is dependent upon effective open spaces. Zyscovich states that cities “should regard the conservation of natural landscapes as no less important for sustaining urban life than the construction of transportation, water supply systems, schools, and other public facilities and amenities. Green spaces ... support the urban quality of life that inhabitants value and the natural environment on which all people depend. ... [They also] convey positive images to community residents, workers, and visitors” (2008, pp.42-43). For this reason, people relocate themselves and their businesses around green spaces as a means of marketing themselves and capitalizing on the intensified activity. This magnetism of green spaces causes the surrounding property values to increase significantly, which results in millions of dollars worth of revenue. An example of this kind of result is described by Edward Uhler (2005) in the article “The Millennium Park Effect: Creating a Cultural Venue with an Economic Impact”.

As seen in Figure 2.4, Millennium Park was opened in 2004 and directly adjacent to Grant Park and the central business district. The 24.5 acre park was the result of “an extraordinary public/private partnership” (Uhler, 2005, p.21). The City of Chicago provided \$270 million for the park’s infrastructure, and private sector individuals, foundations, and corporations donated “\$160 million for ... [park] enhancements and [another] \$60 million as a separate campaign for the Harris Theater for Music and Dance” (Uhler, 2005, p.21). Implemented in a series of phases, the construction of Millennium Park substantially enhanced the real estate values and the property tax base of the surrounding area. For example, “[as] reported in *Crain’s Chicago Business*, the

opening of Millennium Park stimulated the sales of condominium projects along central Michigan Avenue ‘with buyers standing in line for hours to put down deposits, and sales contracts being signed at a faster pace than any other downtown neighborhood’” (as cited by Uhler, 2005, p.22). Additionally, as of April 2005, the Millennium Park, URS Corporation, and Goodman Williams Group prepared an economic impact study for Millennium Park, which calculated the impact over the next ten years on the adjacent real estate market to total \$1.4 billion (Uhler, 2005, p.22).

The literature review made a case for the potential of the urban surface to not only increase property values, but also to serve as the medium that accommodates, organizes, structures, and facilitates many dynamic processes. Although the authors used varying terminology, their objectives were one in the same - to engender environmental, social, and economic vitality in cities and to improve and protect the urban quality of life. The surface tactics that I derived from the literature review were the foundation of my theoretical framework, which served as my guide for evaluating and refining the urban open spaces of the MHK Project and the ULI Competition.

FIGURE 2.4 MILLENNIUM PARK  
(FLICKR USER SUNFACE13, 2009)



## THEORETICAL FRAMEWORK

In the literature review, four themes stand out; they are aesthetic, programmatic, contextual, and performative. As seen in Figure 2.5, these themes are strategies that consist of several surface tactics. The surface tactics of the aesthetic strategy rely on visual perception as a means to intrigue users to enter and to engage the urban open space. The surface tactics of the programmatic strategy encourage several different types of program in urban open spaces to ensure activity among various users throughout various times of day. The challenge, however, is that the programmatic tactics also need to be flexible enough to adapt to users' needs and desires over time. The surface tactics of the contextual strategy necessitate active edges around urban open spaces to ensure activity within the space and to stimulate activity in the surrounding context. Lastly, the surface tactics of the performative strategy express how the surface tactics can be extrapolated, organized, and implemented at multiple scales.

FIGURE 2.5 LITERATURE SUMMARY DIAGRAM  
(BY AUTHOR, 2013)



03

CLAIM

## THESIS

The urban surface can be used to create effective places that enhance the urban quality of life and provide lasting value to cities. In this report, a theoretical framework derived from the literature of Jane Jacobs, Alex Wall, and Ying-Yu Hung accommodates, organizes, structures, and facilitates dynamic processes through the employment of various surface tactics in urban open spaces. The tactics are aesthetic, programmatic, contextual, and/or performative in nature, and the aggregation of these tactics in the urban surface ensures multifunctional open spaces that catalyze environmental, social, and economic vitality.

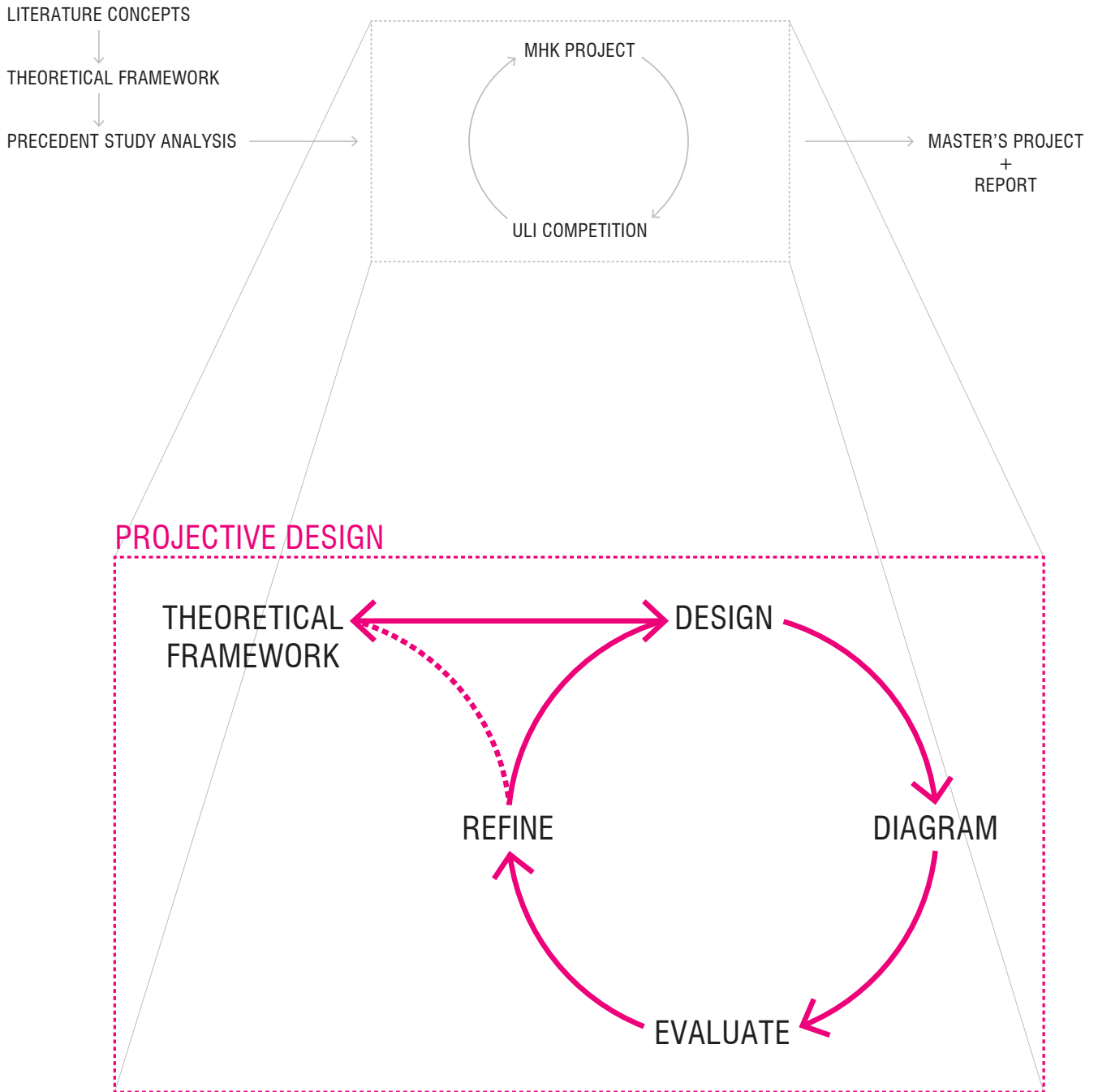


FIGURE 3.1 METHODOLOGY DIAGRAM (BY AUTHOR, 2013)



## METHODOLOGY

How can the urban surface create dynamic, multifunctional open spaces that enhance the urban quality of life and catalyze environmental, social, and economic vitality?

I investigated this question by exploring relevant literature, deriving a theoretical framework (as seen in Figure 2.5, p.13), and applying the framework to both built and hypothetical projects as a means of comparing, evaluating, refining, and validating my thesis. My process was iterative. Because I was a member of the UDD group, I participated in the two required collaborative projects and, therefore, I switched back and forth repeatedly between group and individual settings.

Figure 3.1 illustrates how my individual research developed over the course of the academic year in relation to the collaborative MHK Project and ULI Competition. The following paragraphs explain the steps of my investigative process.

Because I was required to participate in two predetermined projects for the UDD group, I started my individual research by selecting design precedents that were similar to the MHK

Project and the ULI Competition sites. Since I did not find out the location and conditions of the ULI Competition site until January, I made some assumptions based on past competition briefs. I assumed that the 2013 ULI Competition site would be located near a high-density urban core, and I assumed that there would be some kind of environmental, social, or economic challenge. I selected two precedent studies previously described in my literature review, Schouwburgplein (as seen in Figure 2.1, p.7) and Olympic Sculpture Park (as seen in Figure 2.2, p.8). Then, I started to analyze each one using my theoretical framework.

In my precedent study analysis, I analyzed each precedent by diagramming each surface tactic in my theoretical framework. For example, when I diagrammed Jane Jacobs' enclosure tactic, I initially marked the buildings and land uses that surrounded the precedent sites. However, after several diagram iterations, I realized that the enclosure tactic was multiscalar, and enclosure occurred at the human scale, as well, with design elements such as walls and trees. Thus, I realized the importance of repeated diagram iterations for every surface tactic, and I completed several iterations for



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each precedent study. This process lent a more accurate evaluation of the precedent sites and a deeper comprehension of the literature concepts.

I evaluated each precedent site based on my own conclusions drawn from the diagrammatic mapping exercises. My evaluations were based upon the effectiveness of each surface tactic and the degree to which each satisfied the objectives outlined in my theoretical framework.

Simultaneously with my precedent study analysis, I started my projective design methodology with the first phase of the MHK Project. A couple of months later, I started the ULI Competition. For both of these initial phases, I used my theoretical framework as a design guide. Then, I followed the same cycle as I did for the precedent studies. I did diagrammatic mapping exercises, I evaluated the diagrams, and I made refinements to either the design or the theoretical framework itself. This thorough cycle of designing, evaluating, and refining ensured that the redevelopment projects had theoretically sound solutions that were capable of engendering environmental, social, and economic vitality. The thoroughness also ensured that my research was achieving a level of depth that was appropriate for my master's project and report.

FIGURE 3.2 SCHOUWBURGPLEIN WATER JETS  
(FLICKR USER DEDE90, 2005)



04

INVESTIGATE

## PRECEDENT STUDIES

As I mentioned in my methodology, my precedent studies were selected based on their conditional and contextual similarities to the MHK Project and the ULI Competition sites. Although I did not find out the ULI Competition site until January, I made assumptions based on past competition briefs. I knew that I needed to select precedents that were located near high-density urban cores and had some kind of challenge. The two precedents that I selected were initially introduced in my literature review, Schouwburgplein in Rotterdam, the Netherlands (Figure 2.1, p.7) and Olympic Sculpture Park in Seattle, Washington (Figure 2.2, p.8).

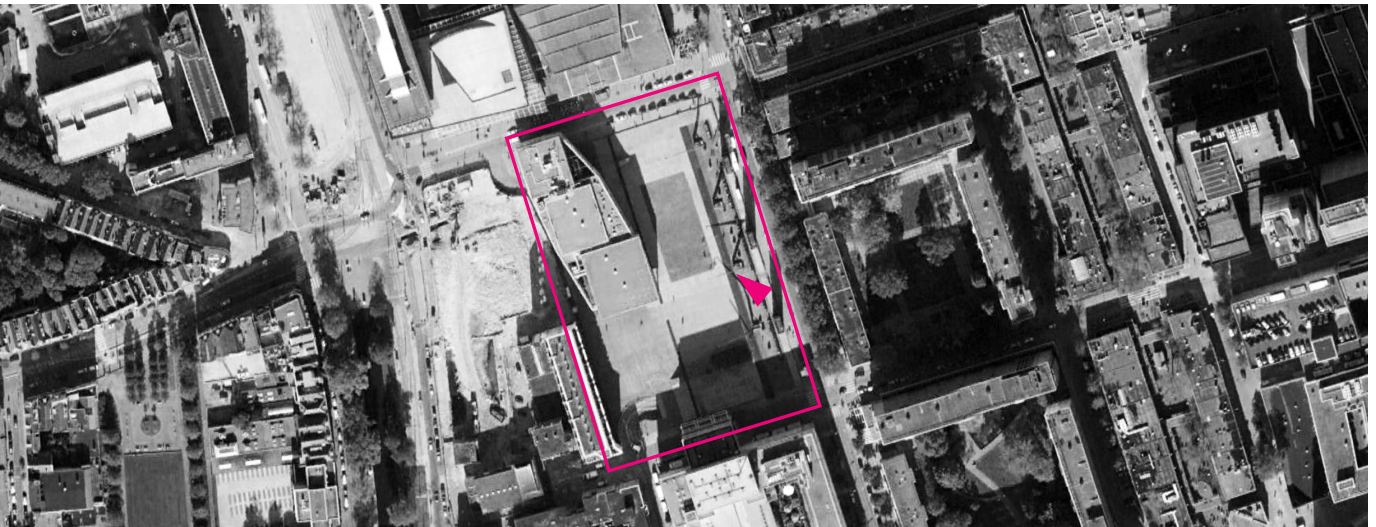
Schouwburgplein is one of my precedents because of its proximity to the central business district of Rotterdam and its interesting social dynamic. The public square is surrounded by a variety of land uses, which demands a certain level of flexibility within the open space to accommodate a range of users. The interesting thing about Schouwburgplein is how it seems empty. The square is entirely flat, excluding the bold industrial crane elements, which can be seen in Figure 4.2 on the following page. However, the surface of the square is

interchangeable and equipped with services that can accommodate the diverse activities necessary to create and sustain an active public square.

Olympic Sculpture Park is one of my precedents because of its proximity to Seattle's urban core and its highly designed form (Figure 4.27, p.41). The park is anchored by the Seattle Art Museum and serves as a sculpture field with both permanent and temporary art displays. The park is surrounded by mostly mixed-use residential buildings and some office buildings. The interesting thing about Olympic Sculpture Park is how the entire site straddles highway and railway lines, which ingeniously creates a connection to the Elliot Bay waterfront without inhibiting circulation.

In this chapter, I break down and evaluate the components that comprise my precedent studies, and I gain a better understanding of the literature concepts in my theoretical framework.





## SCHOUWBURGPLEIN

Schouwburgplein is a three acre public square that is located in the heart of Rotterdam. West 8, the Dutch urban design and landscape architecture firm that designed the square, describes Schouwburgplein as one of the most dynamic and contextually appropriate urban open spaces. They state that “nowhere else in the world is there a square so relevant to its context” (West 8, 2013). Anchored by a performing arts theater, a music hall, and a movie theater, Schouwburgplein itself is designed as a stage that has the infrastructure to support a variety of activities.

In the following paragraphs, I evaluate Schouwburgplein by applying my theoretical framework in diagrammatic mapping exercises.

FIGURE 4.1 (TOP)  
SCHOUWBURGPLEIN VS. ROTTERDAM  
(BY AUTHOR, 2013)

FIGURE 4.2 (MIDDLE) CHILDREN PLAYING IN THE  
SQUARE (FLICKR USER ILLUSTIR, 2013)

FIGURE 4.3 (BOTTOM) SCHOUWBURGPLEIN AERIAL  
PHOTOGRAPH (BY AUTHOR, 2013)

# INTRICACY

Intricacy is an aesthetic surface tactic that visually intrigues users to enter and explore a space (Jacobs, 2011, p.104). Intricacy can be achieved in several ways. But, at Schouwburgplein, intricacy is created with bold design elements, materiality, and lighting.

Because of Rotterdam's industrial past, Schouwburgplein has four, bold cranes that are adjustable to the public and provide dramatic lighting in the square. Next to the cranes, three towers provide ventilation to the subterranean parking garage. Together, these elements frame the square, which can be seen in Figure 4.5.

In the middle of the square, varying materials define space. Wooden planks organized in a herringbone pattern designate the primary space of

the square. The same material is repeated along the ventilation towers. The rest of the square consists of removable metal decking, to host a variety of programs. This metal decking reflects the materials used for the Pathé Theater in Figure 4.6.

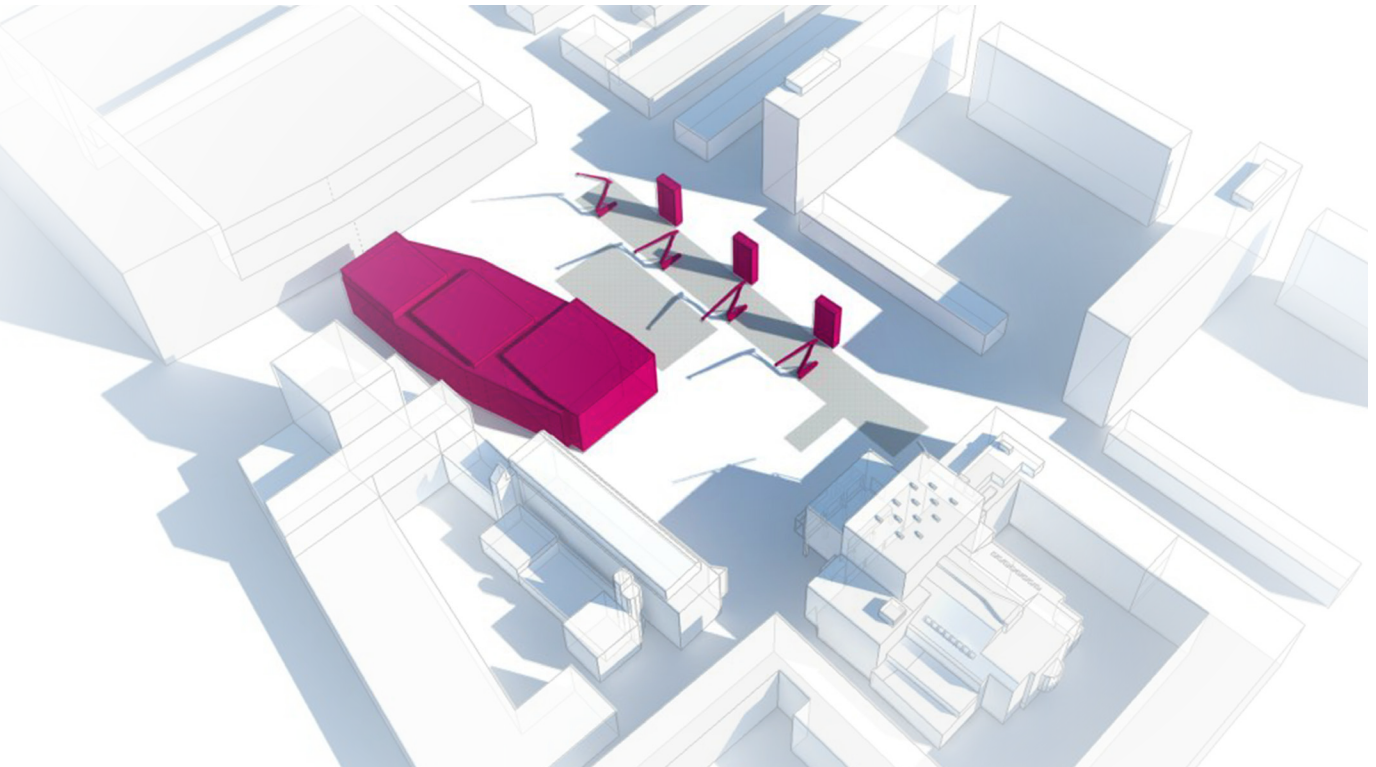


FIGURE 4.4 SCHOUWBURGPLEIN INTRICACY (BY AUTHOR, 2013)



## CENTERING

Centering is an aesthetic surface tactic that creates a feeling of center or climax that makes users want to linger (Jacobs, 2011, pp.104-5). Jane Jacobs describes centering as being “the most important element [of] intricacy” (2011, p.104). Therefore, centering is dependent upon the same design elements used to create intricacy.

The industrial cranes in Figure 4.5 provide the climax of the space. However, because Schouwburgplein is a small square, centering is also created by the surrounding buildings. Schouwburgplein is enclosed by neighboring entertainment, retail, and residential buildings.



FIGURE 4.5 INDUSTRIAL CRANES AND WATER JETS (FLICKR USER DEDE90, 2005)



FIGURE 4.6 PATHÉ THEATER LIGHTING (THE SLEEPING BEAUTY, 2013)

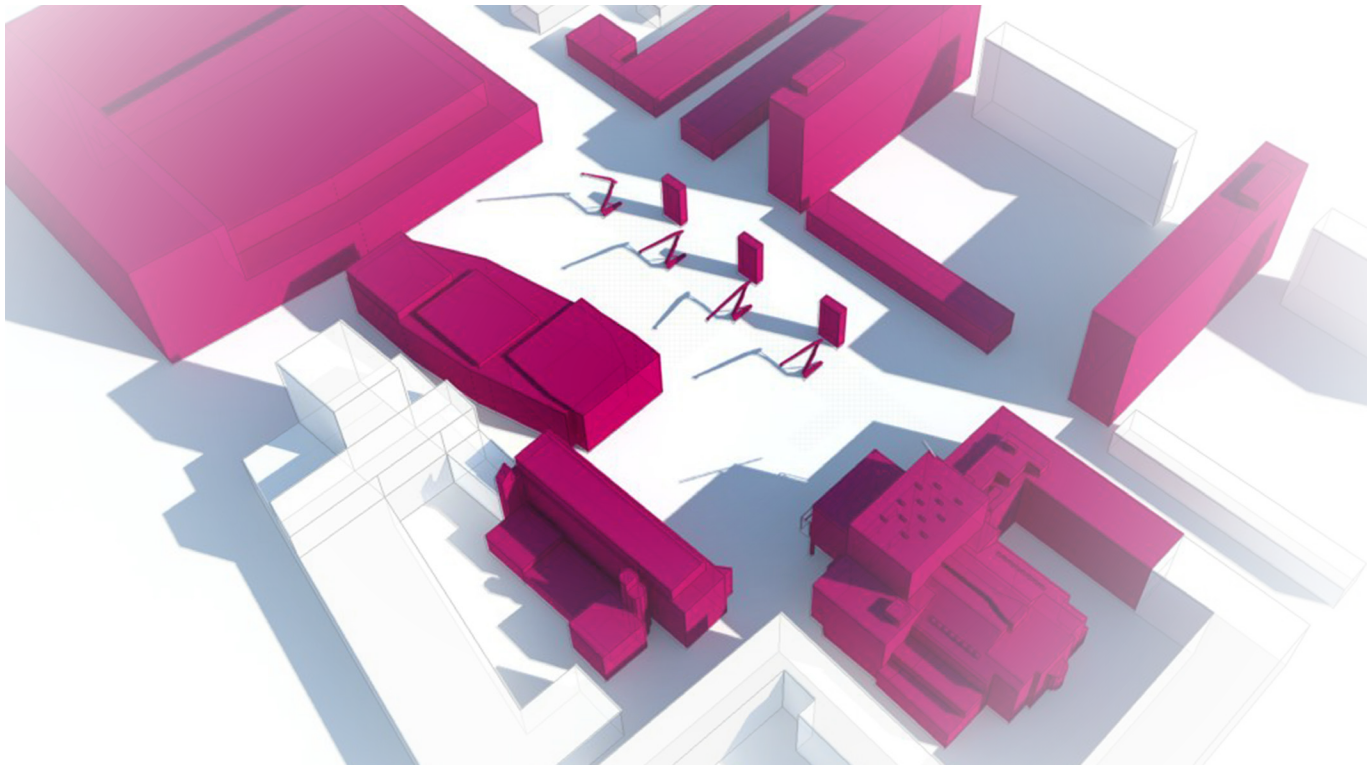


FIGURE 4.7 SCHOUWBURGPLEIN CENTERING (BY AUTHOR, 2013)

# SUN

Sun is a surface tactic that uses a variety of program activities to attract different users throughout all hours of the day and night (Jacobs, 2011, pp.105-6). Therefore, the sun tactic is both a programmatic and a performative strategy because it identifies the relationships between users, program activities, program locations, and time of day. The sun tactic is performative in terms of its ability to foster social vitality.

Schouwburgplein satisfies the sun tactic because the surface of the square is highly flexible and capable of accommodating an indeterminate range of activities. This flexibility allows the square to better respond to users' needs and desires over time. Figure 4.9 shows the water jets that are located at

the southern end of the square, which provide summertime fun for children.



FIGURE 4.9 WATER JETS  
(FLICKR USER GROENEVELD, 2009)

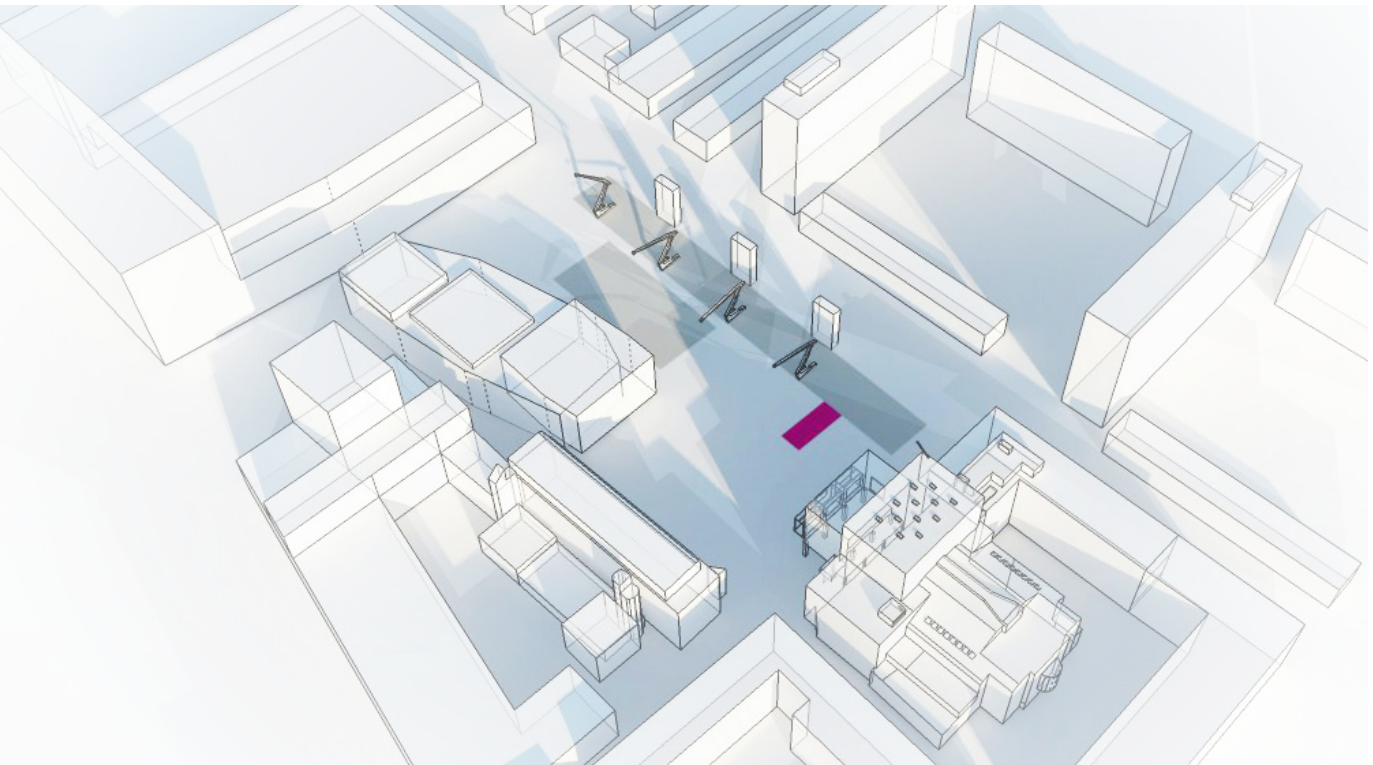


FIGURE 4.8 SCHOUWBURGPLEIN WINTER SUN (BY AUTHOR, 2013)

# ENCLOSURE

Enclosure is about creating diversity among users and their schedules (Jacobs, 2011, p.106). The tactic creates active edges around an urban open space through a variety of adjacent land uses. Therefore, the enclosure tactic is similar to the sun tactic, but enclosure deals with the surrounding context of the open space.

Schouwburgplein is a great example of the enclosure tactic because the open space is framed by entertainment, retail, and residential land uses. The residences support the daily retail commerce, as well as some nighttime activities at Pathé Theater. The area also draws upon the larger region for nighttime and weekend activities with a performing arts theater and a music hall.

### LAND USE KEY

- Civic / Institutional
- Commercial
- Residential

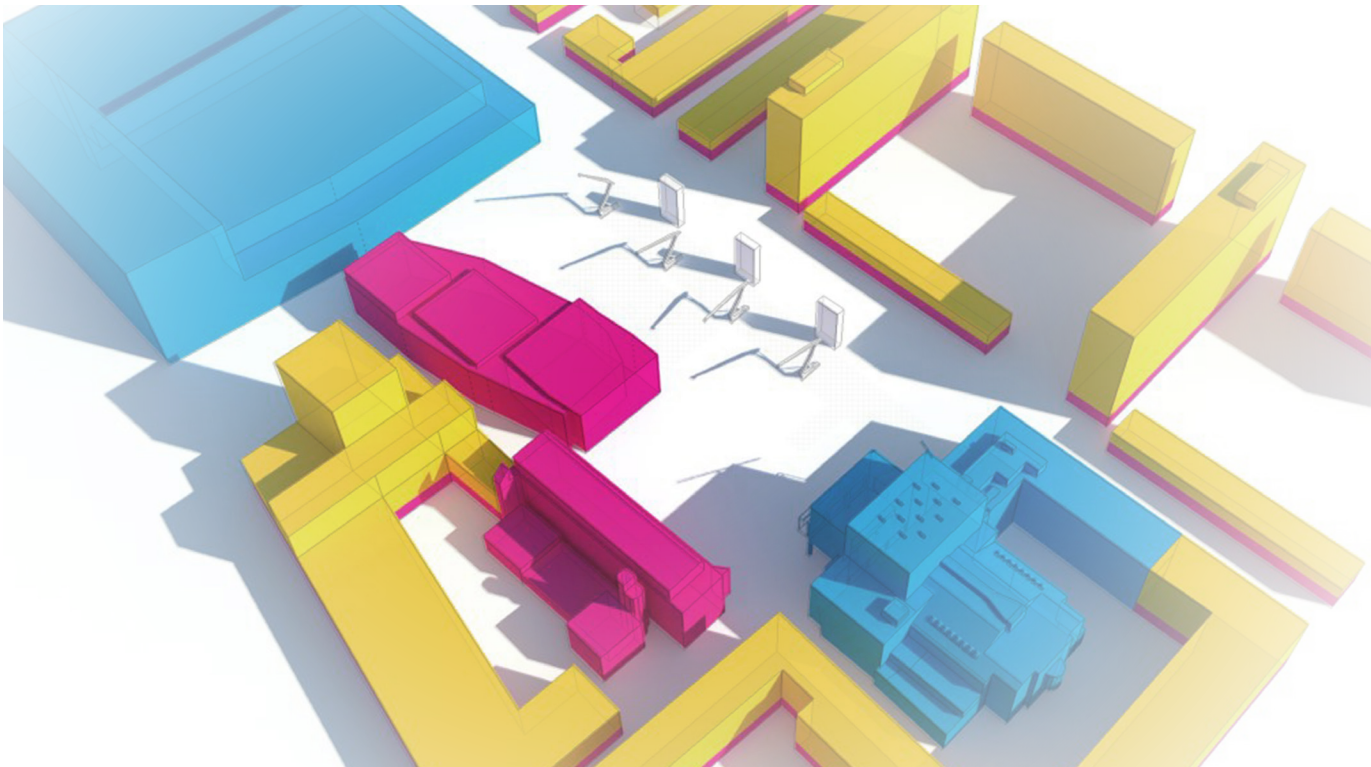


FIGURE 4.10 SCHOUWBURGPLEIN ENCLOSURE (BY AUTHOR, 2013)



## THICKENING + FOLDING

Thickening is a tactic that increases the surface's capacity to support a range of services and activities (Wall, 1999, pp.244-5). Thickening is a programmatic and performative strategy because a thickened surface can accommodate an indeterminate range of programs and functions.

Schouwburgplein is composed of several layers. The bottom layer is a subterranean parking garage. Above the parking garage are infrastructural layers that support the square in terms of structure, utilities, and services. Three of the services provided are water jets, lighting features, and fence- and tent-post holes (Wall, 1999, p.243). Lastly, the uppermost layer of Schouwburgplein is the lightweight metal and wood decking, which is designed to be interchangeable.

Folding is a surface tactic that cuts, warps, and folds the surface to create a "smooth geology that joins interior and exterior spaces into one continuous surface" (Wall, 1999, p.245). Folding is a creative way of engaging users, defining spaces, and solving problems.

In Figure 4.12, Schouwburgplein uses folding to provide pedestrian access from the square to the subterranean parking garage.



FIGURE 4.12 FOLD PROVIDES ACCESS TO PARKING (FLICKR USER ROOLROOL, 2008)

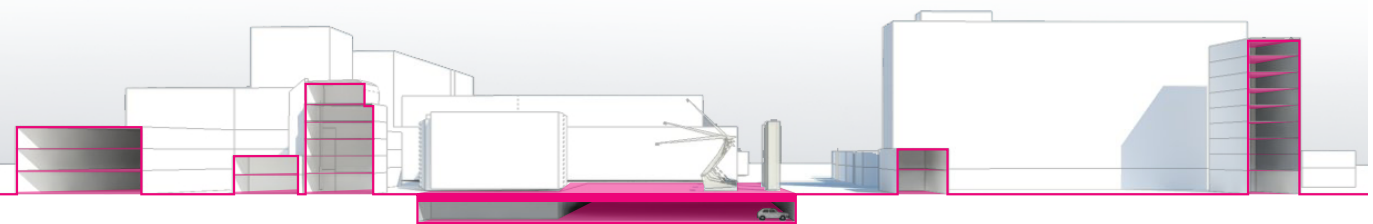


FIGURE 4.11 SCHOUWBURGPLEIN THICKENING + FOLDING (BY AUTHOR, 2013)

## NEW MATERIALS

New materials is a surface tactics that uses familiar materials in new ways as a means of inspiring new activities, creating intricacy, and defining space (Wall, 1999, p.245).

Because Schouwburgplein is entirely flat, the square relies heavily on materiality to attract and engage users, as well as to function programmatically. The most dramatic material used at Schouwburgplein is the industrial crane lights. They resonate with Rotterdam's industrial past, yet create excitement among users who can adjust the lights by putting coins into a slot. Other materials that are critical to the success of Schouwburgplein are the metal and wood decking. The lightweight metal decking is used throughout the entire square, and the wood decking is used as an accent material

that defines primary spaces. Both the metal and wood decking are interchangeable, which provides maximum flexibility for activities.

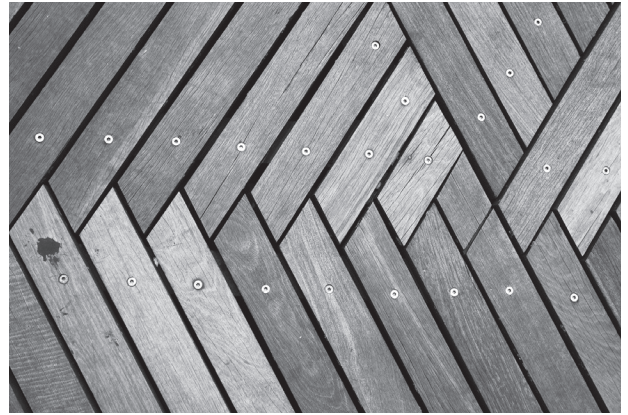


FIGURE 4.14 WOOD HERRINGBONE DECKING (FLICKR USER JMTENNAPEL, 2011)

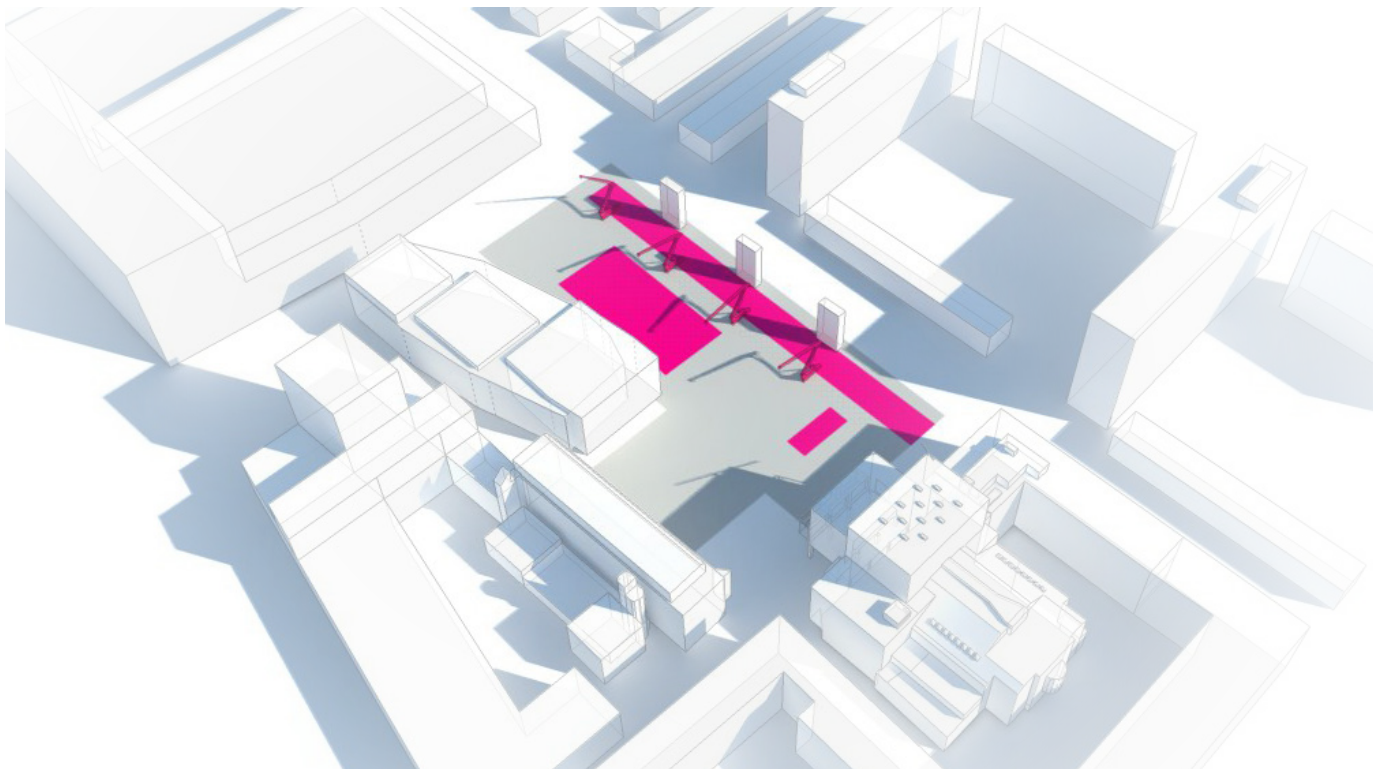


FIGURE 4.13 SCHOUWBURGPLEIN NEW MATERIALS (BY AUTHOR, 2013)

## NONPROGRAMMED USE

Nonprogrammed use is a tactic that equips the surface with services and furnishings that can be appropriated by the public to enable a flexible range of uses (Wall, 1999, p.245). Alex Wall states “instead of comprising elements serving only one function, a design that can accommodate many functions is both economical and enriching of social space” (1999, p.245).

For the most part, Schouwburgplein does not have definitive programs. The only area of Schouwburgplein that has a more specific use is the water jets to the southern end of the site, in Figure 4.15. Yet, even the surface of the water jet area is interchangeable.

The square is designed to accommodate a range of programs, which fosters a range of social

activities. Figure 4.16 illustrates how the surrounding land uses, such as Pathé Theater, draw people into the site to interact with one another.



FIGURE 4.16 IMPROMPTU CAPOEIRA (FLICKR USER FACEMEPLS, 2010)

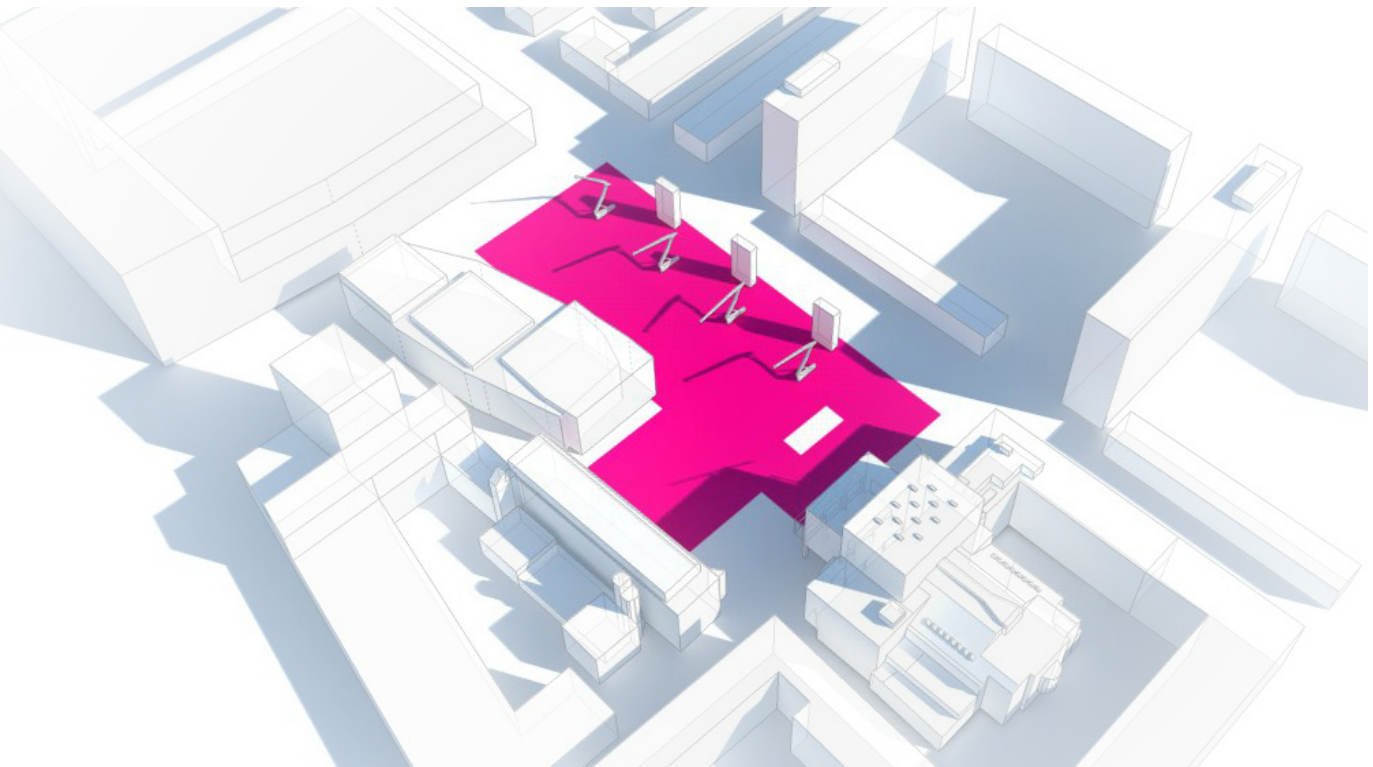


FIGURE 4.15 SCHOUWBURGPLEIN NONPROGRAMMED USE (BY AUTHOR, 2013)



## IMPERMANENCE

Impermanence is a surface tactic that provides an indeterminate and propitious range of affordances to flexibly respond to users' needs over time (Wall, 1999, pp.245-6). Alex Wall states “[peoples’] needs and desires can change overnight, and city administrators must be able to respond quickly without massively overhauling entire tracts of land” (1999, pp.245-6).

Because the site has such a dynamic surface, the square is impermanent. At Schouwburgplein, one week the site could be an art installation and the following weekend the site could be an extreme sports venue, such as in Figure 4.18. The irony is that the impermanence of the surface actually establishes a sense of permanence for Schouwburgplein.



FIGURE 4.18 SKATEBOARDING EVENT (FLICKR USER PHOTOLIVIER, 2005)

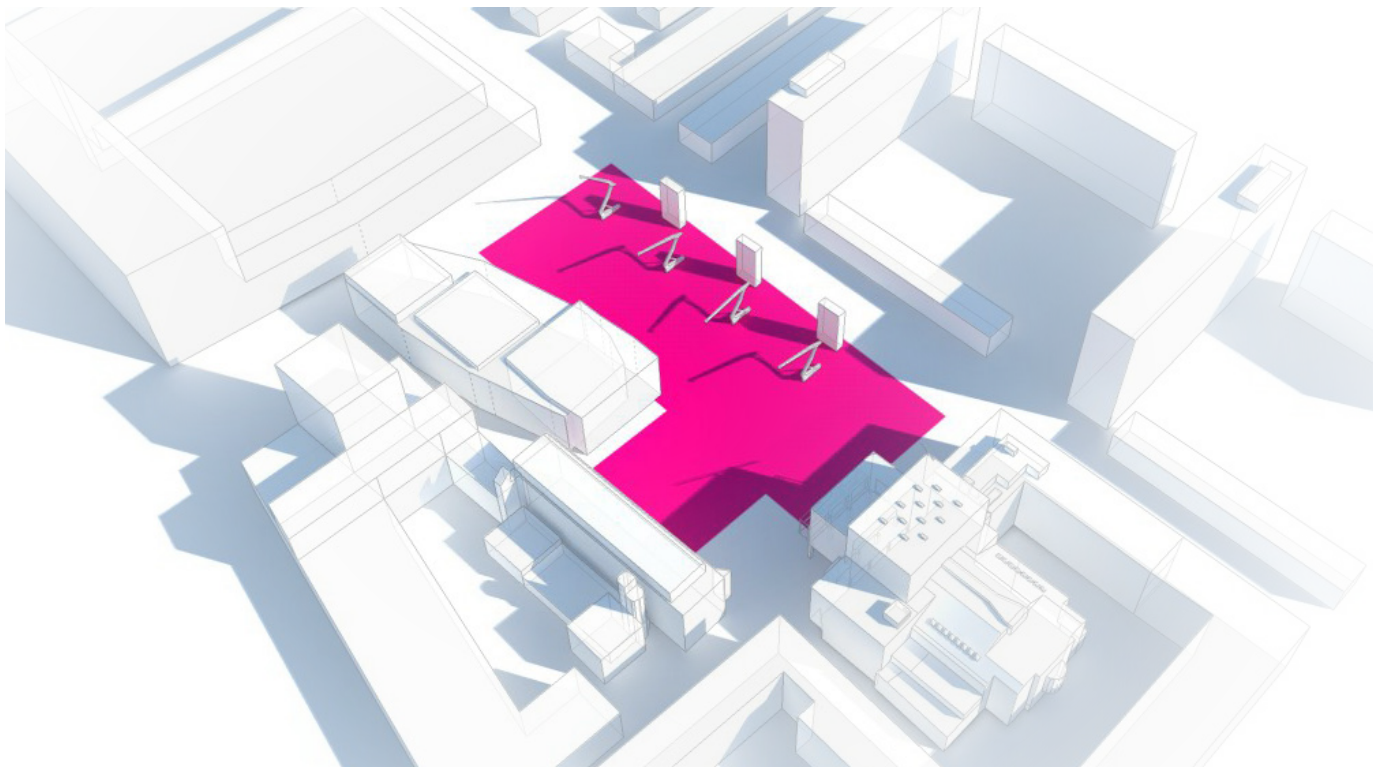


FIGURE 4.17 SCHOUWBURGPLEIN IMPERMANENCE (BY AUTHOR, 2013)

## PERFORMANCE

Performance is the ability of infrastructure to perform its intended functions and provide additional social, environmental, or economic value (Hung, 2010, p.17). Ying-Yu Hung states “aside from performing its intended functions, the multifunctional variations of these vital [infrastructural] systems can be a catalyst for urban revitalization through open-space augmentation, habitat creation, community revitalization, and transformation of urban blight into urban destination” (2010, p.17).

The infrastructure embedded within the surface of Schouwburgplein includes all of the technical features necessary for the square to function appropriately in terms of drainage, structure, and utilities. Yet, what

sets Schouwburgplein apart from other open spaces in Rotterdam is the square’s ability to change.

All of the surface tactics that I have discussed thus far convey that Schouwburgplein is a square for the people of Rotterdam. As such, the flexible infrastructure of the square is a product of the people, which makes Schouwburgplein a social and economic asset to the city.



FIGURE 4.19 INTERNATIONAL FILM FESTIVAL AT SCHOUWBURGPLEIN (FLICKR USER PHOTOCOPY, 2007)



## AGGREGATE

Aggregate is a tactic that considers the collective whole and consolidates piecemeal objects to remediate or to reverse negative impact (Hung, 2010, p.18). For example, Ying-Yu Hung states that in the U.S., “tremendous resources and government incentives have been put toward research of fuel-efficient cars, alternative fuels, waterless car washing, and green parking lot design. These seemingly uncoordinated efforts, if implemented within a given time frame, could help reverse the negative impacts of global warming” (2010, p.18). Although Hung’s example considers a much larger scale and broader issue, the same ideas can be applied to smaller scales.

Schouwburgplein could have been another static open space with rigid programs and

infrastructural systems. However, because the surface is aggregated with all of the aforementioned tactics, the square is a dynamic social and economic asset that serves as a vibrant model for future open spaces in Rotterdam.



FIGURE 4.20 “THE BLEEDING CITY” ART INSTALLATION (FLICKR USER HENK VAN DER EIJK, 2007)

## NETWORK

Network is a tactic that connects disparate elements to instill cohesion and purpose (Hung, 2010, p.18). For example, Ying-Yu Hung believes that the alleyways of Los Angeles, California could have multifunctional purposes as a connective tissue within the larger urban system (2010, p.18). Hung believes that the “alleyways could be retrofitted with bioswales, exploratory bicycle trails, and pedestrian greenways and pocket parks, in addition to being service corridors. As a collective system, the alleyway infrastructure ... can reduce stormwater runoff, increase tree coverage, and offer health benefits through outdoor exercise” (2010, p.18). Hung’s insight about the multifunctional potential of the alleyway network in Los Angeles reveals the multifunctional

potential for other infrastructural systems in other cities.

Rotterdam is a canal city. Currently, most of the canals are lined with vegetative buffers, which is successful in terms of performing the intended functions and creating a sense of place. But how can the aggregated surface of Schouburgplein strengthen this network? In Figure 4.21, Schouburgplein is adjacent to one of the canals. This proximity is an opportunity to build upon the strengths of Schouburgplein and continue the dynamic surface throughout the city of Rotterdam.

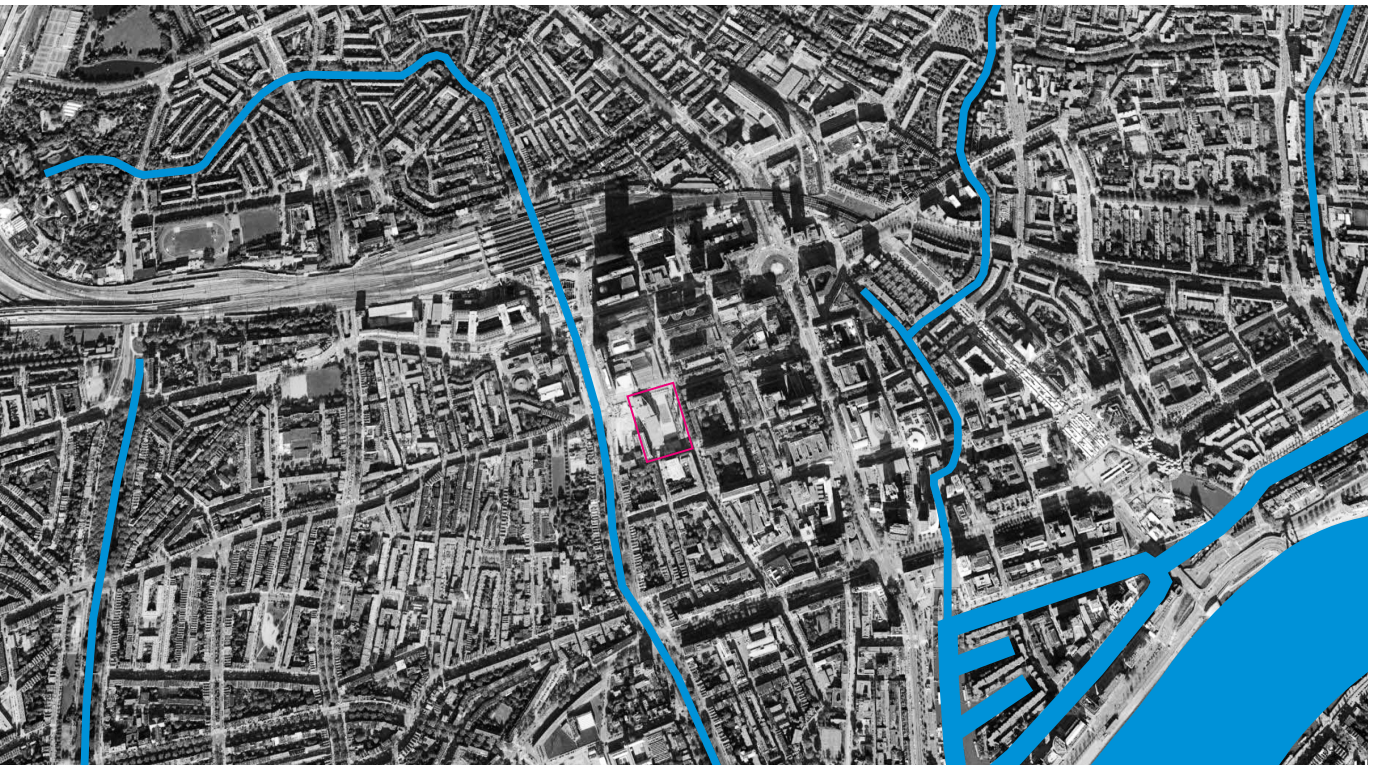


FIGURE 4.21 ROTTERDAM CANAL NETWORK (BY AUTHOR, 2013)



## INCREMENT

Increment is a tactic of sustaining growth through interventions over time depending on cost, funding, and policy (Hung, 2010, p.18). Increment forces landscape architects to prioritize their larger visions and to make small interventions that incite change.

At Schouwburgplein, the intervention that incited change was Pathé Theater. Although the site was surrounded with mixed-use development, the square was “formerly a dead urban space; infrequently used, dreary, and dilapidated. Poor management and uninviting spatial arrangements were largely to blame” (Schneider, 2010). Therefore, Pathé Theater was the anchor for Schouwburgplein, and, together, they brought culture into the area.

Similar strategies can be repeated throughout Rotterdam to reinvigorate stagnant areas.



FIGURE 4.22 “CITY PARK” ART INSTALLATION (FLICKR USER ON1STSITE., 2008)





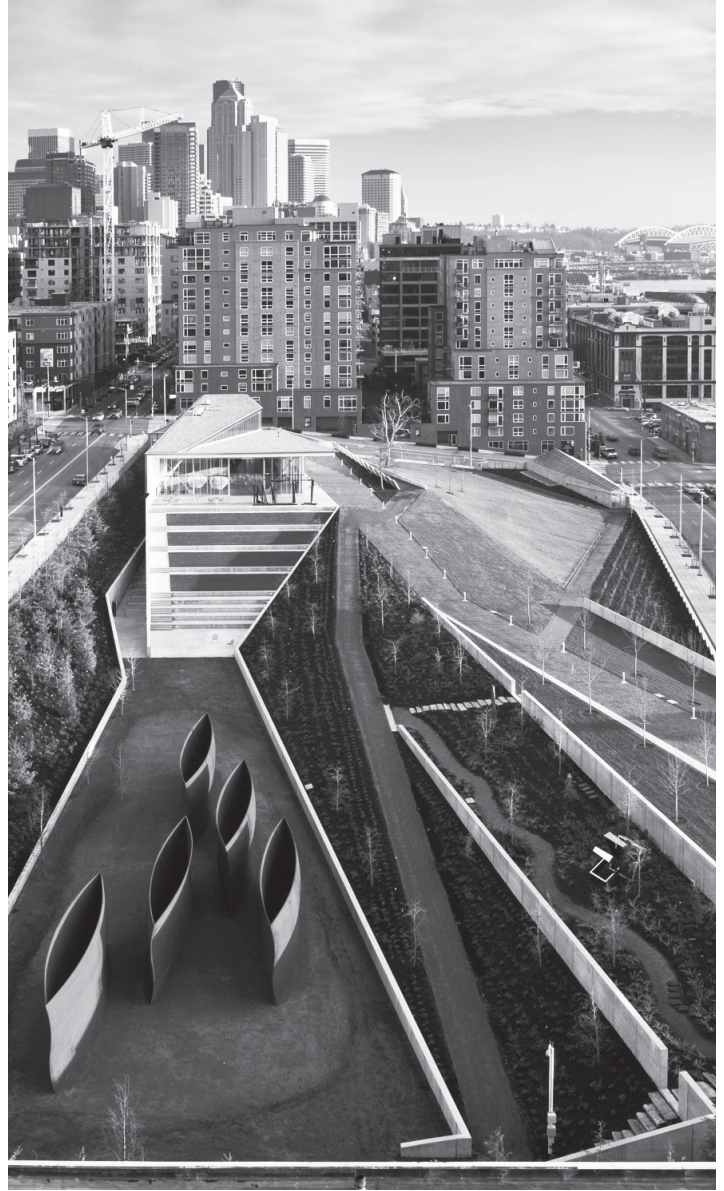
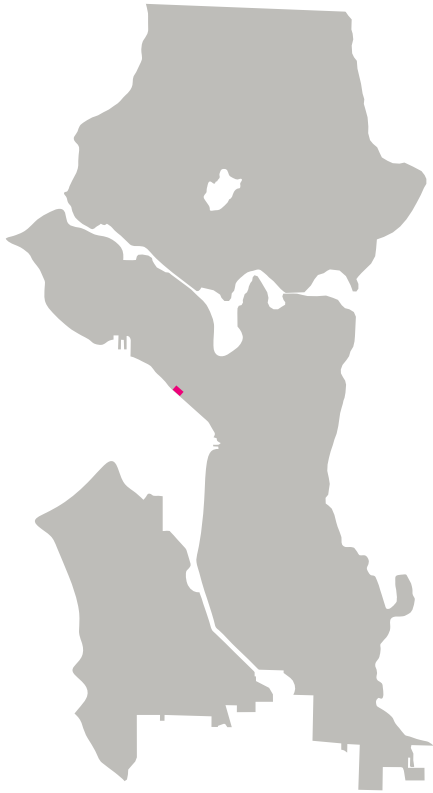
## SCHOUWBURGPLEIN CONCLUSIONS

Schouwburgplein is a dynamic public square that redefines infrastructure as an adaptable medium that can provide social value. The ability of the surface to transform materials and programs while still performing its intended functions exemplifies the multifunctional performance described by Ying-Yu Hung (2010). However, throughout my diagrammatic mapping exercise, I have realized that Schouwburgplein is highly dependent on its context.

Although Schouwburgplein is situated among mixed-use buildings, the square relies on the activities created by Pathé Theater, the performing arts theater, and the music hall. As previously mentioned, the square itself is designed as a stage to be an extension of the adjacent civic uses. Therefore, because of the nature of civic activities, Schouwburgplein has moments of peak activity rather than sustained activity. Thus, Schouwburgplein is a prime example of how urban open spaces are products of their surroundings.

FIGURE 4.23 INTERNATIONAL FILM FESTIVAL  
(FLICKR USER VEERBEEK, 2009)







## OLYMPIC SCULPTURE PARK

Olympic Sculpture Park is a nine acre park situated in between Seattle's urban core and Elliot Bay. The park itself is a highly designed open space that straddles existing highway and railway lines. Weiss/Manfredi, the New York based architecture and landscape urbanism firm that constructed the park, describes the design as "a continuous constructed landscape ... [that] forms an uninterrupted Z-shaped 'green' platform ... [that capitalizes] on views of the skyline and Elliot Bay ... [and reconnects] the urban core to the revitalized waterfront" (2013).

In the following paragraphs, I discuss how Olympic Sculpture Park has influenced my theoretical framework and my understanding of surface by highlighting key surface strategies.

FIGURE 4.24 (TOP LEFT)  
OLYMPIC SCULPTURE PARK VS. SEATTLE  
(BY AUTHOR, 2013)

FIGURE 4.25 (TOP RIGHT) PROXIMITY TO CENTRAL  
BUSINESS DISTRICT (WARCHOL, 2006)

FIGURE 4.26 (BOTTOM) OLYMPIC SCULPTURE PARK  
AERIAL PHOTOGRAPH (BY AUTHOR, 2013)







Olympic Sculpture Park is an effective open space that exemplifies four surface tactics: intricacy, centering, folding, and performance. As seen in Figure 4.27, the park achieves intricacy primarily through its changes in elevation. The surface is visually interesting because it folds and steps to meet several different elevations. Within these changes, a variety of textures is created by the diverse plant palette. The textures further accentuate the elevation changes.

In terms of centering, Olympic Sculpture Park does not have a center. Instead, it has a series of climaxes; some are more powerful than others. These climaxes are pausing points that make users want to linger and further explore the site.

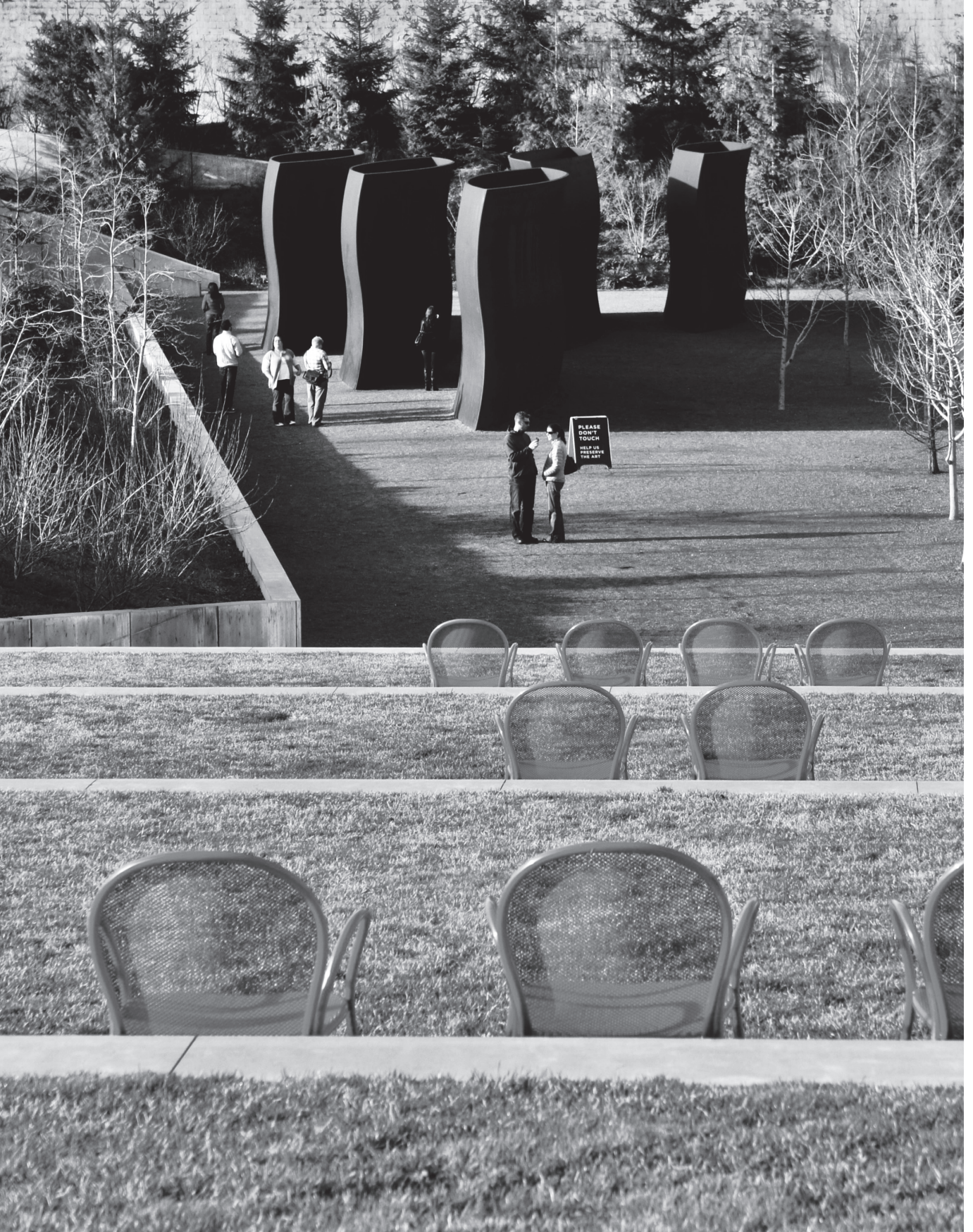
Olympic Sculpture Park exemplifies Alex Wall's (1999) folding surface tactic. The surface acts as one continuous plane that folds to create a park among street and railway infrastructure. The surface achieves performance because it performs all of its intended functions as a museum, a parking garage, a sculptural lawn, and a bridge. However, the surface also provides environmental, social, and economic value. The surface provides environmental value as a park that provides an urban forest and intercepts stormwater runoff. The surface provides social value as a cultural amenity that displays art and hosts entertainment. Lastly, the surface provides economic value as an iconic green space that raises the property values of the surrounding real estate. Therefore, Olympic Sculpture Park is a great example of a multifunctional open space that improves the urban quality of life and provides lasting value. However, there are some drawbacks to such a highly designed surface.

Contrary to the flat, dynamic surface of Schouwburgplein, Olympic Sculpture Park has a sculptural surface with static infrastructure. The folded surface is structurally rigid with loosely

programmed areas. Thus, the park is relatively flexible. Yet, compared to Schouwburgplein, the surface of Olympic Sculpture Park is programmatically exclusive because there is a limited amount of activities that the surface can actually accommodate.

FIGURE 4.27 THE FOLDED SURFACE OF OLYMPIC SCULPTURE PARK (BENSCHNEIDER, 2006)





## PRECEDENT STUDY FINDINGS

My precedent study analysis of Schouwburgplein and Olympic Sculpture Park has revealed that some surface tactics are more important than others. For example, through my diagrammatic mapping exercise of Schouwburgplein, I have realized the importance of the enclosure surface tactic for all open spaces. At Schouwburgplein, because the program is indeterminate, the square relies on the adjacent buildings to draw people into the site. Additionally, because the adjacent uses are Pathé Theater and other entertainment venues, the square has moments of peak activity rather than sustained activity. Therefore, it is important for landscape architects to understand the relationship between urban open spaces and their adjacent uses.

My research about Olympic Sculpture Park has expanded my understanding of the enclosure surface tactic. Enclosure is not only about establishing a variety of adjacent building uses, but it is also about spatial variety within the open space. The folded surface of Olympic Sculpture Park provides users with a spatially engaging experience as they explore the open space. The spaces are defined by

changes in elevation, retaining walls, and vegetation, which ultimately achieve the intricacy surface tactic. Therefore, all of the surface tactics are related to one another.

FIGURE 4.28 MOVEABLE CHAIRS AT OLYMPIC SCULPTURE PARK (FLICKR USER TURTLE, 2011)



05

DEVELOP

## REDEVELOPMENT PROJECTS

The MHK Project and the ULI Competition were collaborative redevelopment projects that were required by our UDD group. As previously mentioned, the MHK Project was the redevelopment of the Village Plaza shopping center in Manhattan, Kansas, and the ULI Competition was the revitalization of Downtown East in Minneapolis, Minnesota. The purpose of participating in these two projects was to not only to enrich our individual master's projects and reports through collaboration, but also to apply our research to something tangible, to coordinate with stakeholders, and then to further explore our research by applying it to an urban typology that was completely different.

As seen in Figure 5.1 on the following page, our UDD group was divided into two pairs of teams. The first pair of teams consisted of UDD group members only for the MHK Project. Derek Hoetmer and I were a team and our project was Briarcliffe Village. Bryan Zundel, Jose Abraham, and Michael Bennett were the other UDD members who formed the second MHK team. For the ULI Competition, Derek and I added Kevin Cunningham, Lauren Brown, and Tyler Knott to our team, and we became Team 1155. The other UDD members

became Team 0578, along with other students from KSU and UMKC.

Our UDD group was familiar with the MHK Project site at Village Plaza and with the city of Manhattan itself, which made the project easier in terms of the amount of research we did and the amount of support we had. During the fall semester, we coordinated with Eric Cattell, the Assistant Director for Planning, as well as Chad Bunger and Kevin Credit, both planners for the City of Manhattan. We met with them regularly and their inputs helped us redevelop the Village Plaza shopping center and grounded our individual research topics in a tangible, realistic setting. This ultimately prepared us for the ULI Competition, which started in January.

To explain the ULI Competition itself, the competition was a multidisciplinary urban design and development competition. Graduate students from the U.S. and Canada formed teams of five people that consisted of at least three disciplines. The teams had "two weeks to devise a comprehensive design and development program for a real, large-scale site full of challenges and opportunities" (ULI, *About the competition*, 2013). No site information was

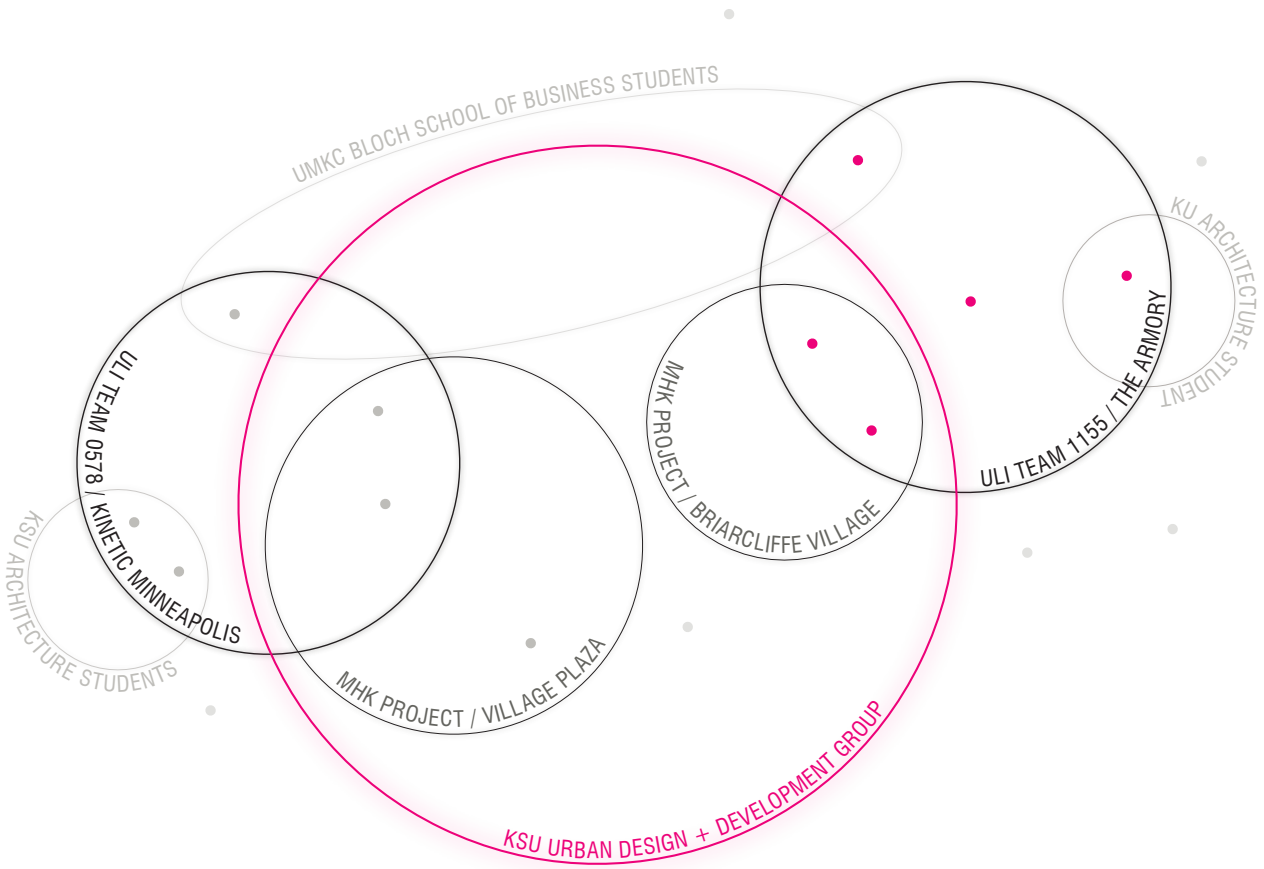


FIGURE 5.1 UDD MESHWORK DIAGRAM (BY AUTHOR, 2013)



released until the first day of the competition. After two weeks, teams submitted presentation boards, financial pro formas, and written summaries that explained their proposals. Jurors from around the world deliberated and announced four finalist teams in March. Then, the finalist teams had an entire month to further develop and refine their original proposals. The ULI paid for one representative from each team to fly to the site for additional inventory and analysis. In April, the finalist teams flew to the city where the site was located and gave formal presentations to the jurors. The presentations occurred in the morning and the winner was announced that afternoon.

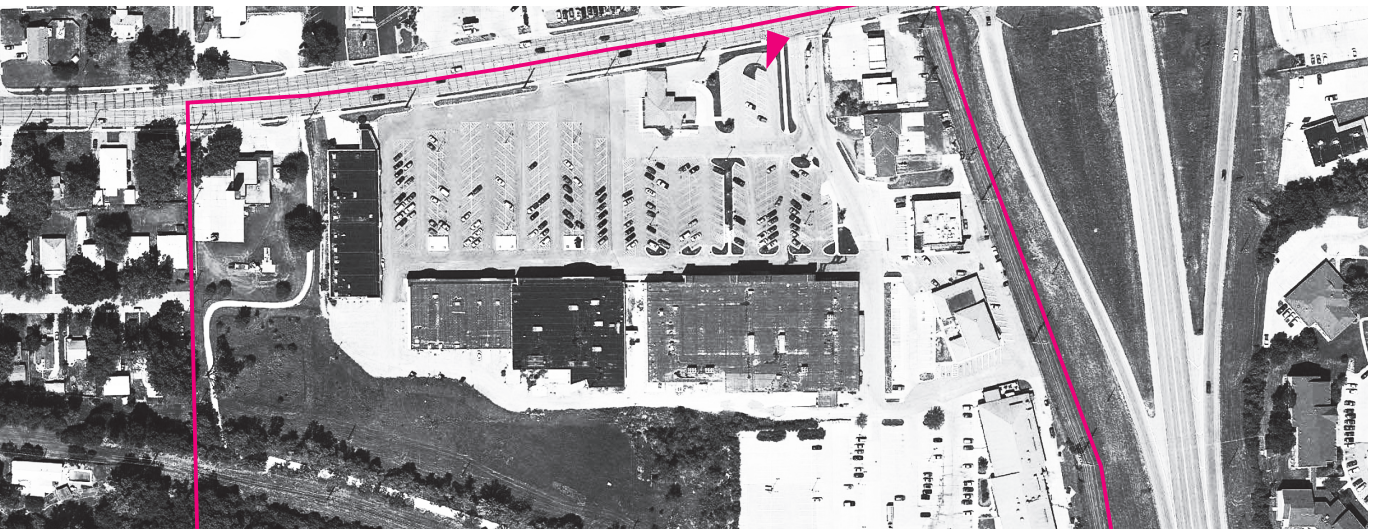
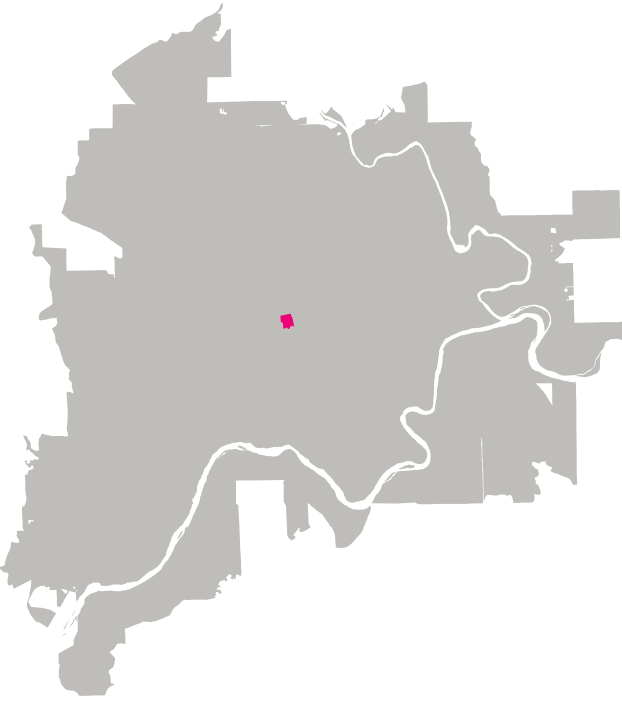
My team and I were excited that Minneapolis, Minnesota was the location of the 2013 ULI Competition site. We started the first phase of the competition with a plan of attack and a clear idea of our individual roles. We worked over 200 hours each within the two weeks, and our hard work paid off. In March, our team leader, Kevin Cunningham, received a phone call from the ULI that we were selected as one of the four finalist teams.

For the finalist round, our team moved at a much slower pace because we all had other obligations. For Derek and I, our other obligation was the second phase of the MHK Project. However, our team gained momentum after we all drove to Minneapolis for the site visit. We were the only finalist team that had all five teammates present for the site visit. We returned to Kansas and continued to work on our proposal and rehearse our presentation. We scheduled several mock presentations in front of faculty advisors, peers, and professionals at Kansas State University, Kansas City Design Center, and 360 Architecture. Ultimately, our diligence and solidarity as a team earned us the title as the 2013 ULI

Competition winners. Bart Harvey, the ULI Jury Chairman and former chief executive officer of Enterprise Partners in Baltimore, Maryland, stated that the “winning team composed from three different disciplines and three different universities designed and presented so seamlessly [that] the jury evidenced first-hand the best of interdisciplinary functionality and thinking that Gerry Hines had sought in this competition” (ULI, *The Sacramento Bee*, 2013).

Both the MHK Project and the ULI Competition were great opportunities that not only taught me about collaboration, urban design and development, but also about the value of my personal research about the role of surface.

The following chapter illustrates how I have used my theoretical framework in a projective design approach for the MHK Project and the ULI Competition sites.



## MHK PROJECT

Village Plaza is a 31 acre shopping center that is located at the intersection of Seth Child Road and Anderson Avenue in Manhattan, Kansas. Although the city boundary extends much farther west, the site rests on the western side of the city and does not attract students from Kansas State University. However, because of the military base, Ft. Riley, and some single-family neighborhoods to the west, Village Plaza survives. The site is anchored by Ray's Apple Market, a Department of Motor Vehicles office, a gym, and some other retail stores and small restaurants. Village Plaza is connected to the rest of Manhattan via the Linear Trail, which follows Wildcat Creek along the southern boundary of the site.

Because the site is dominated by impervious surface parking, Village Plaza directs excessive amounts of stormwater runoff into Wildcat Creek. As a result, flood events are becoming more frequent and intense which deters new retail tenants from moving into the center and inhibits future commerce.

FIGURE 5.2 (TOP LEFT) VILLAGE PLAZA VS. MANHATTAN  
(BY AUTHOR, 2013)

FIGURE 5.3 (TOP RIGHT)  
SURFACE PARKING EXACERBATES FLOODING ISSUE  
(BY AUTHOR, 2013)

FIGURE 5.4 (BOTTOM) VILLAGE PLAZA AERIAL  
PHOTOGRAPH (BY AUTHOR, 2013)





Anderson Ave.

Seth Child Rd.

Waters St.



1 INCH = 230 FEET



## MHK PROJECT / BRIARCLIFFE VILLAGE

Briarcliffe Village was the redevelopment project proposed by Derek Hoetmer and I for the first phase of the MHK Project. The name Briarcliffe came from an existing park located to the south of our site. Throughout the first phase, Derek and I had three main objectives: to mitigate flooding, to maintain existing tenants, and to provide residential options.

Briarcliffe Village was driven by the need to resolve the flooding issue along Wildcat Creek. Our design solution stepped back the existing levee and created a series of floodable terraces. The terraces permitted adequate stormwater infiltration and ultimately increased the flood storage capacity of the riparian area. The terraces also had some programmed areas, including a multifunctional field, a community garden, a playground, and the Linear Trail.

To restore the Wildcat Creek floodplain, Derek and I pushed the buildings to the northern end of the site along Anderson Avenue. We provided street front retail and office spaces for both existing and future tenants. We created a central green space that was anchored by Ray's Apple Market and Max Fitness, both existing tenants. To the south, we provided more retail spaces

with residential apartments and townhomes. The apartments were meant to attract some military and college students, while the townhomes were meant to attract single families. Lastly, the vacant firehouse was repurposed as a community center, which served as an ATA bus stop.

In the following paragraphs, I explain how I have applied my theoretical framework to Briarcliffe Village to evaluate and to refine our proposal for the second phase of the MHK Project.

- 1 Max Fitness
- 2 Max Bodyworks
- 3 Local Food + Friends Restaurant
- 4 Manhattan Running Co.
- 5 Ray's Apple Market
- 6 4 Olives Restaurant
- 7 Computer Hospital
- 8 ATA Bus Stop + Community Center
- 9 Briarcliffe Community Garden
- 10 Multifunctional Field
- 11 Briarcliffe Square
- 12 Briarcliffe Playground
- 13 Linear Trail
- 14 Briarcliffe Park / Wildcat Creek Habitat

FIGURE 5.5 BRIARCLIFFE VILLAGE ILLUSTRATIVE PLAN (HARPER + HOETMER, 2012)



## INTRICACY

At Briarcliffe Village, Derek and I visually intrigued users to enter and to explore our site through the unique urban form and the terraces. As seen in Figure 5.6, the urban form was visually intriguing because it was something not typically used in Manhattan, Kansas. Our objective was to give the street a distinct character along Briarcliffe Village to entice people into the site.

Within the site, the buildings framed a central green space. This central space was interesting because it was another unfamiliar design typology to the city.

In terms of the terraces, the changes in elevation and vegetative variety created visual richness and provided an elegant solution to the flooding issue.

Overall, Derek and I did a decent job of achieving intricacy. However, to create a district along Anderson Avenue, the northern side of the street would have needed to be built up. Additionally, the buildings that fronted Anderson Avenue would have needed to permit more visual access into the site.

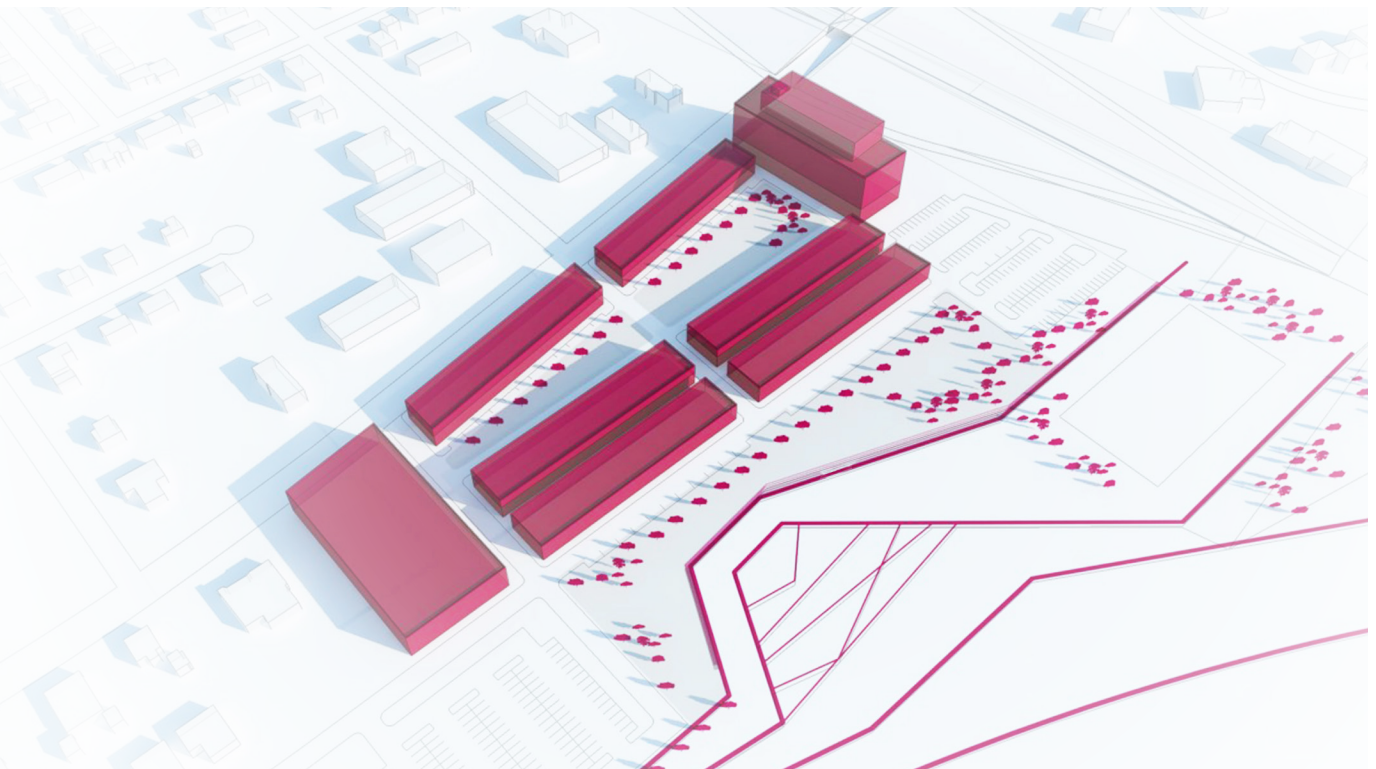


FIGURE 5.6 BRIARCLIFFE VILLAGE INTRICACY (BY AUTHOR, 2013)



## CENTERING

Centering was achieved with the same design elements used to create intricacy, the urban form and the terraces. Derek and I designed two access points from Anderson Avenue into our site. As seen in Figure 5.7, the street that ran through the center of our site served as a central axis that provided visual and spatial variety as people progressed through our site. People would have entered through the gateway and circulated through the central open space before terminating at the terraces. Therefore, both the central open space and the terraces were our centers that would have made people want to linger.

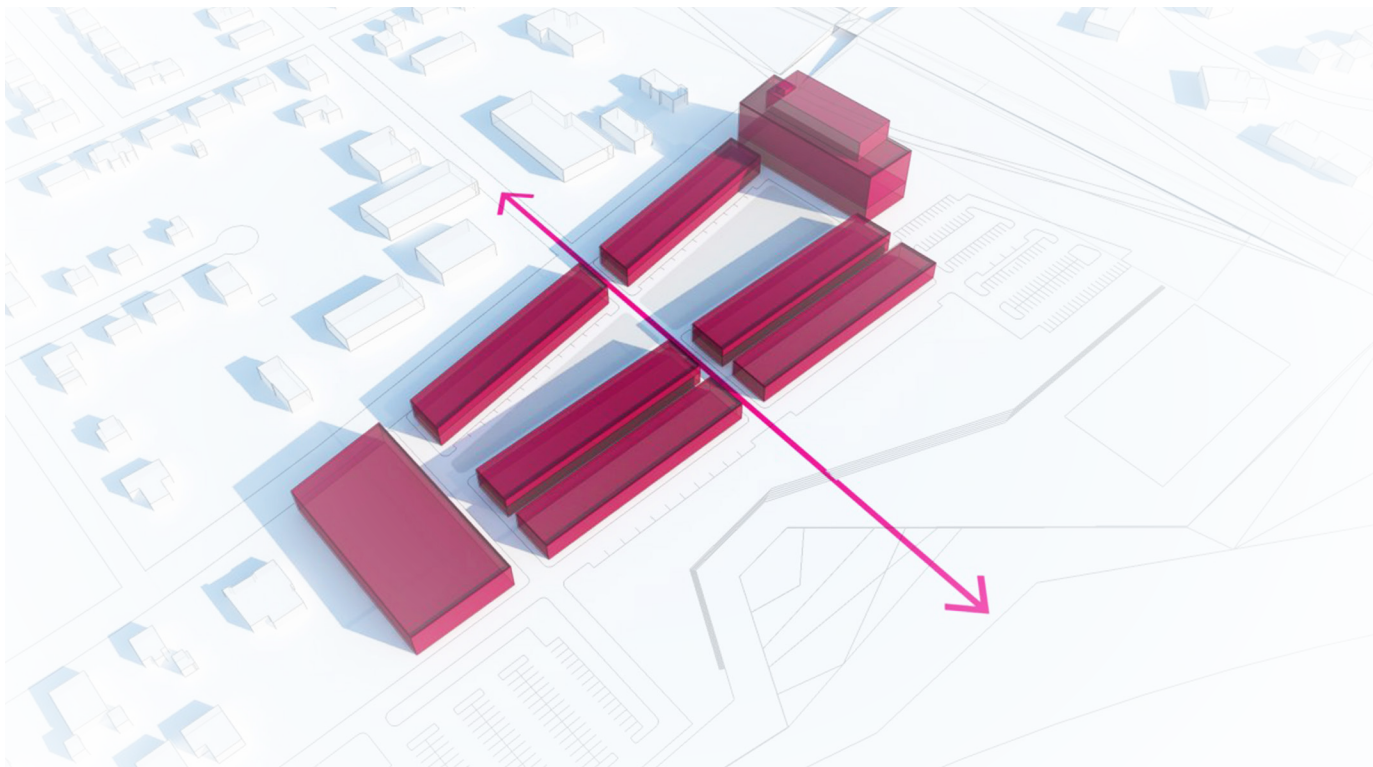


FIGURE 5.7 BRIARCLIFFE VILLAGE CENTERING (BY AUTHOR, 2013)

## SUN

Sun was achieved by including programs that were appropriate to the context and to the target demographics. Because the site was located near residential neighborhoods and our proposal included residential units, it was not appropriate for us to include programs that were active throughout the nighttime. Therefore, we included programs that were most active throughout the daytime and weekends.

As seen in Figure 5.8, the central open space functioned as an interior courtyard for commercial tenants, customers, residents, and visitors. Additionally, because the space was surrounded by buildings, it received the most shade. Therefore, the space would have been most active throughout the afternoon.

The terraces were loosely programmed with a multifunctional field, a community garden, a playground, and the Linear Trail. These activities would have been most active throughout the day, and, besides shade from trees, the terraces would have received full sun.

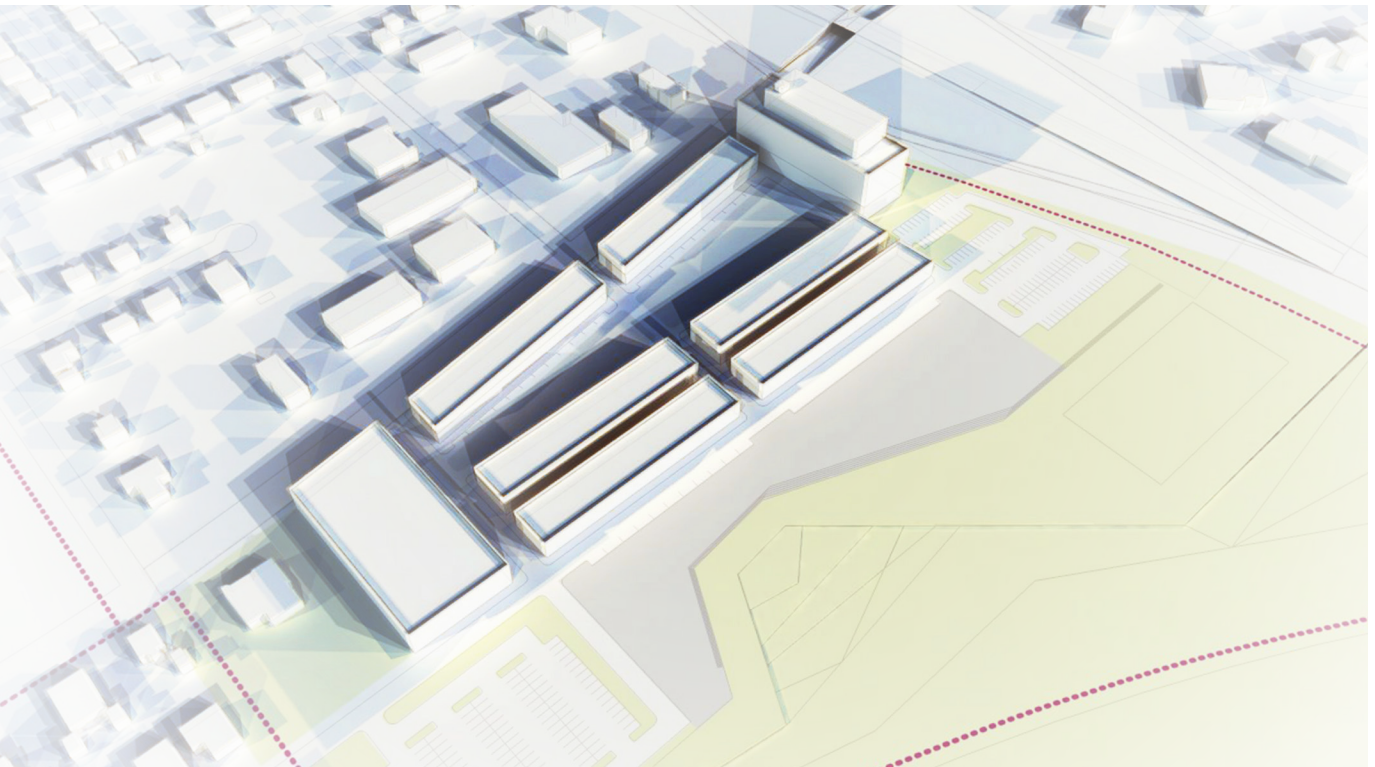


FIGURE 5.8 BRIARCLIFFE VILLAGE WINTER SUN (BY AUTHOR, 2013)

## ENCLOSURE

Enclosure was created through the diversity of uses within the urban form. As seen in Figure 5.9, the central open space was entirely enclosed with ground level retail, office, and residential units, as well as Ray's Apple Market and Max Fitness, which anchored the open space. This diversity of land uses would have activated the central open space at different times throughout the day.

The southern end of Briarcliffe Village served more recreational purposes as the front yard of the townhomes. The terraces also served as a pass-through space for people who used the Linear Trail to commute or to exercise.

Derek and I were conservative with the land uses that we included in our proposal. We did

this primarily because we wanted to create a mixed-use residential district that was contextually appropriate to Manhattan. However, our conservativeness resulted in a timid attempt to create a unique place. If we had included more restaurants, bars, or entertainment venues along Anderson Avenue, then we would have activated the site and created a more effective district that was still favorable for residents.

### LAND USE KEY

- Civic / Institutional
- Office
- Retail
- Residential

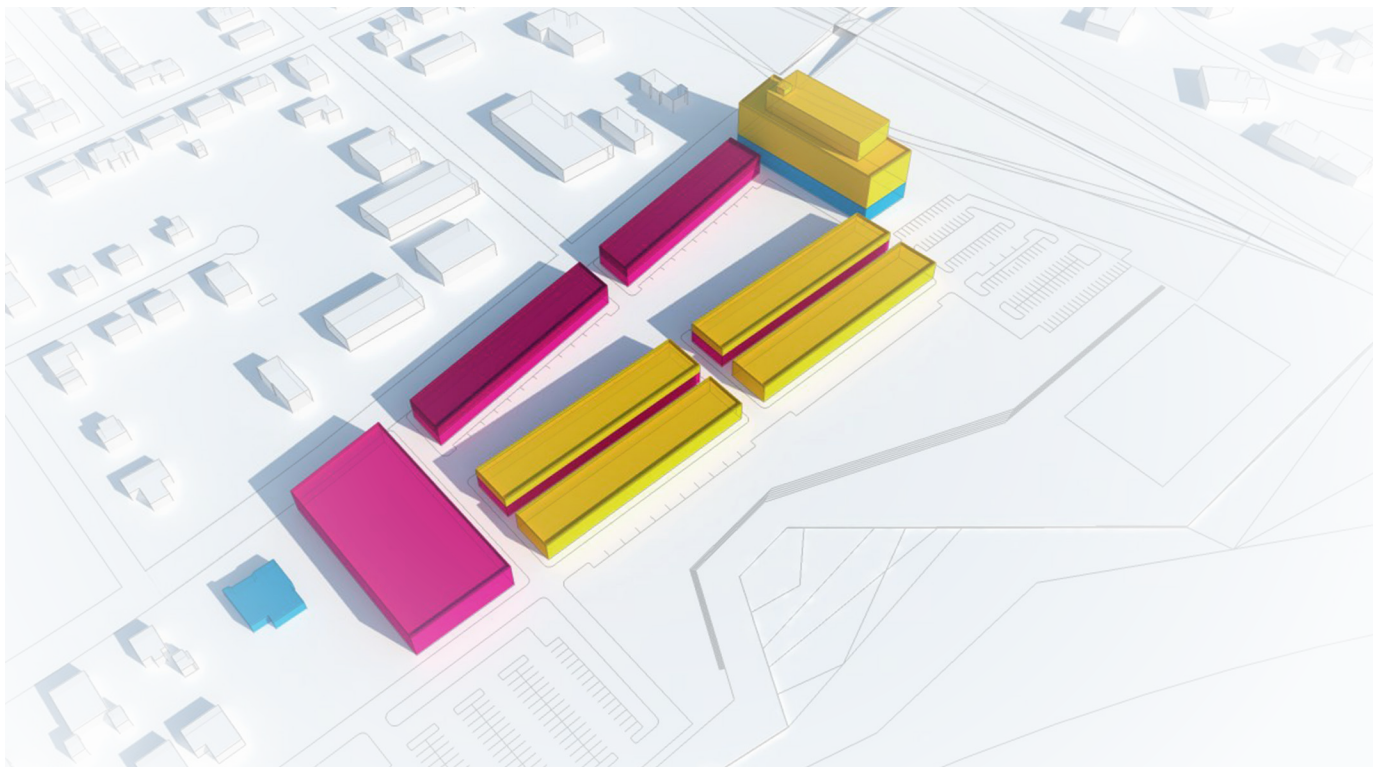


FIGURE 5.9 BRIARCLIFFE VILLAGE ENCLOSURE (BY AUTHOR, 2013)



## THICKENING + FOLDING

At Briarcliffe Village, thickening was achieved through the multifunctional terraces. From a technical standpoint, the terraces included the necessary drainage, electrical, and structural infrastructure. Yet, the terraces also functioned environmentally and socially. As seen in Figure 5.10, the floodable terraces were an elegant solution that stepped back the existing levee and restored the Wildcat Creek floodplain. This surface strategy reduced runoff by intercepting and infiltrating stormwater, which ultimately would have increased the flood storage capacity of the riparian area. The changes in elevation and vegetation provided people with visual richness that would have made them want to explore the place. This visual richness would have been similar to the General Maister Memorial Park designed by Bruto Landscape Architecture in Figure 5.11.

The folding surface tactic was used to create terraces and interior spaces. The rhythm of the folds provided spatial variety and defined spatial hierarchy. For example, because the central open space was enclosed by interior spaces, the space became the primary open space surrounded by ground level retail.



FIGURE 5.11 GENERAL MAISTER MEMORIAL PARK BY BRUTO LANDSCAPE ARCHITECTURE (KAMBIC, 2010)

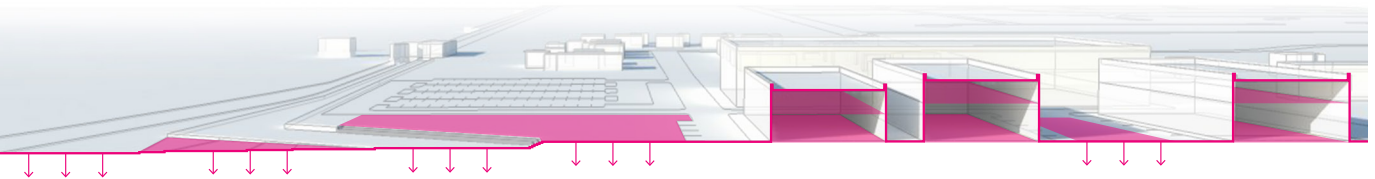


FIGURE 5.10 BRIARCLIFFE VILLAGE THICKENING + FOLDING (BY AUTHOR, 2013)

## NEW MATERIALS

Due to time constraints, Derek and I were not able to design any of the fine-grained details of Briarcliffe Village. However, we had ideas about what those details would have been like if we had more time. For example, as seen in Figure 5.12, the community garden was a series of smaller terraces that served as separate planting beds. These planting beds would have consisted of bare soil to give the residents of Briarcliffe Village their own garden plots. In the spring, the community would have gotten together to plant their crops, and then they would have helped each other maintain the garden throughout the summer.

Derek and I also placed a playground directly across the street from our proposed town-homes. This playground would have consisted

of brightly colored recycled rubber, similar to the Safe Zone playground designed by Stoss in Figure 5.13.



FIGURE 5.13 SAFE ZONE PLAYGROUND BY STOSS  
LANDSCAPE URBANISM (MALTAIS, 2008)

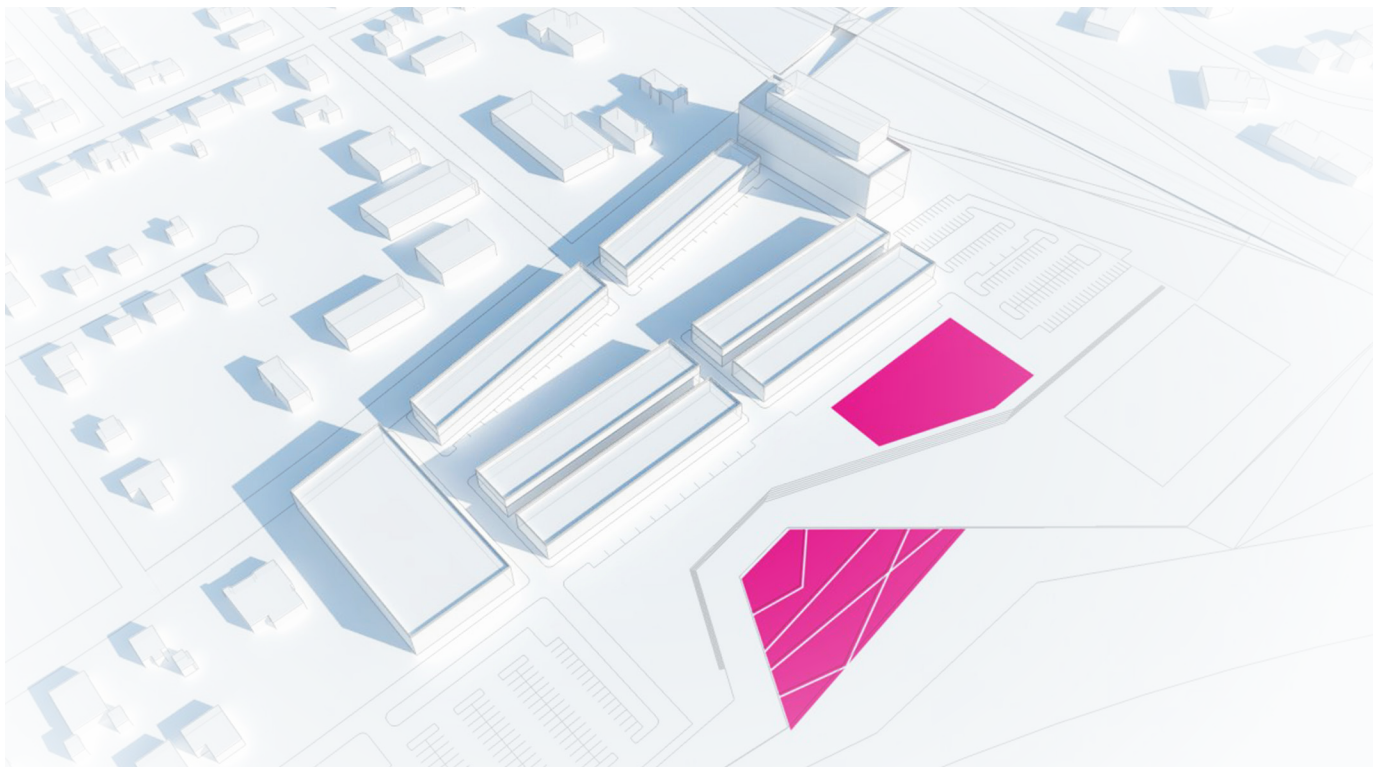


FIGURE 5.12 BRIARCLIFFE VILLAGE NEW MATERIALS (BY AUTHOR, 2013)

## NONPROGRAMMED USE

Nonprogrammed use was achieved throughout most of the open spaces at Briarcliffe Village. This was not intentional, but rather a result of the land uses that we proposed and the loosely programmed open spaces. Because Derek and I included a variety of land uses, including retail, office, and residential units, the open spaces would have been used by different people for different reasons. For example, the terraces could have potentially served as a place where retail workers would have interviewed prospective employees. The same space could have doubled as a recreational field or picnic area for residents on weekends. Therefore, although Derek and I did not fully design the open spaces, the basic components still achieved nonprogrammed use.

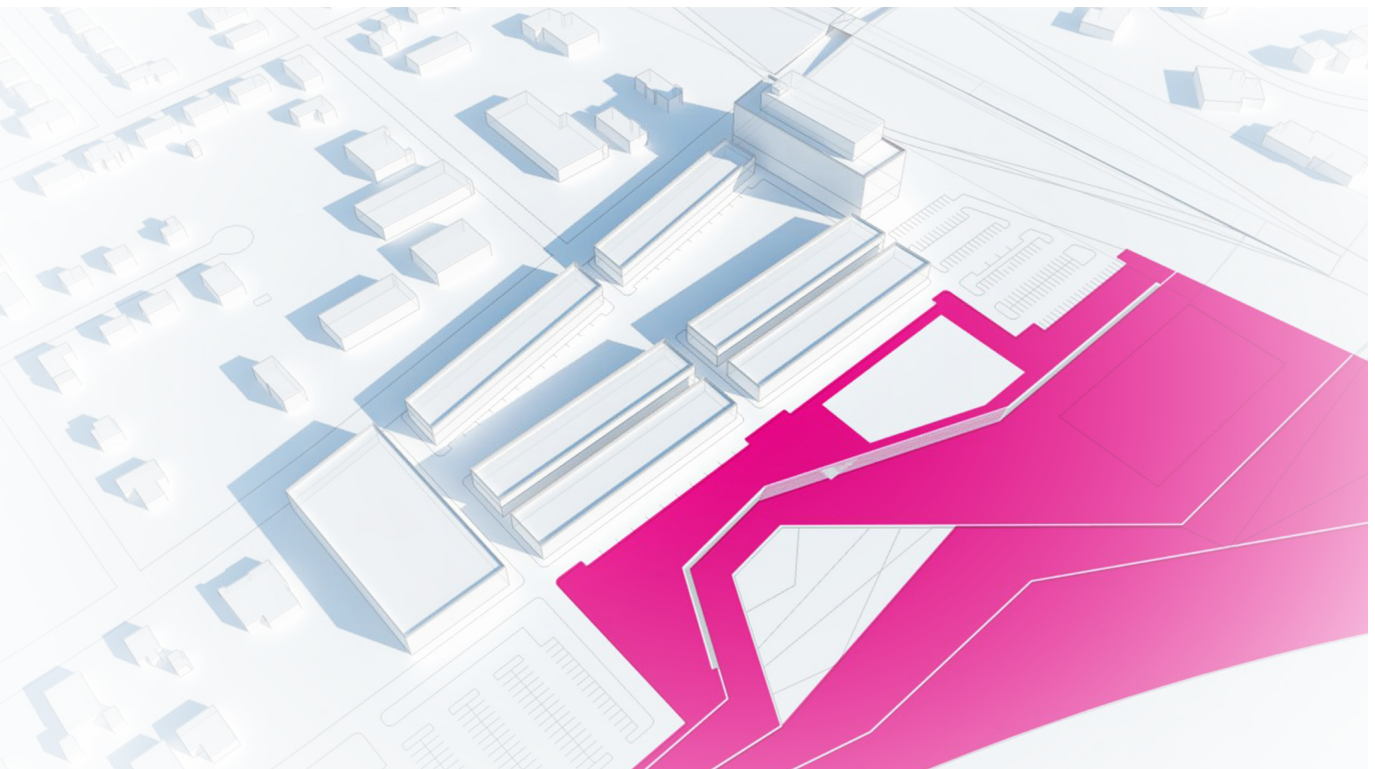


FIGURE 5.14 BRIARCLIFFE VILLAGE NONPROGRAMMED USE (BY AUTHOR, 2013)



## IMPERMANENCE

Impermanence was created by the loosely programmed open spaces and the multifunctional terraces. Because Derek and I were limited on time, we did not fully design the open spaces. This open-endedness lent more flexibility in the open spaces of Briarcliffe Village, which would have responded to users' needs and desires over time. However, the most critical design element that achieved impermanence was the terracing strategy. The terraces restored the floodplain, and, over time, they would have reduced the frequency and intensity of flood events at Briarcliffe Village. In fact, if similar strategies were implemented elsewhere along Wildcat Creek, the City of Manhattan could have reduced the likelihood of extreme flood events entirely.

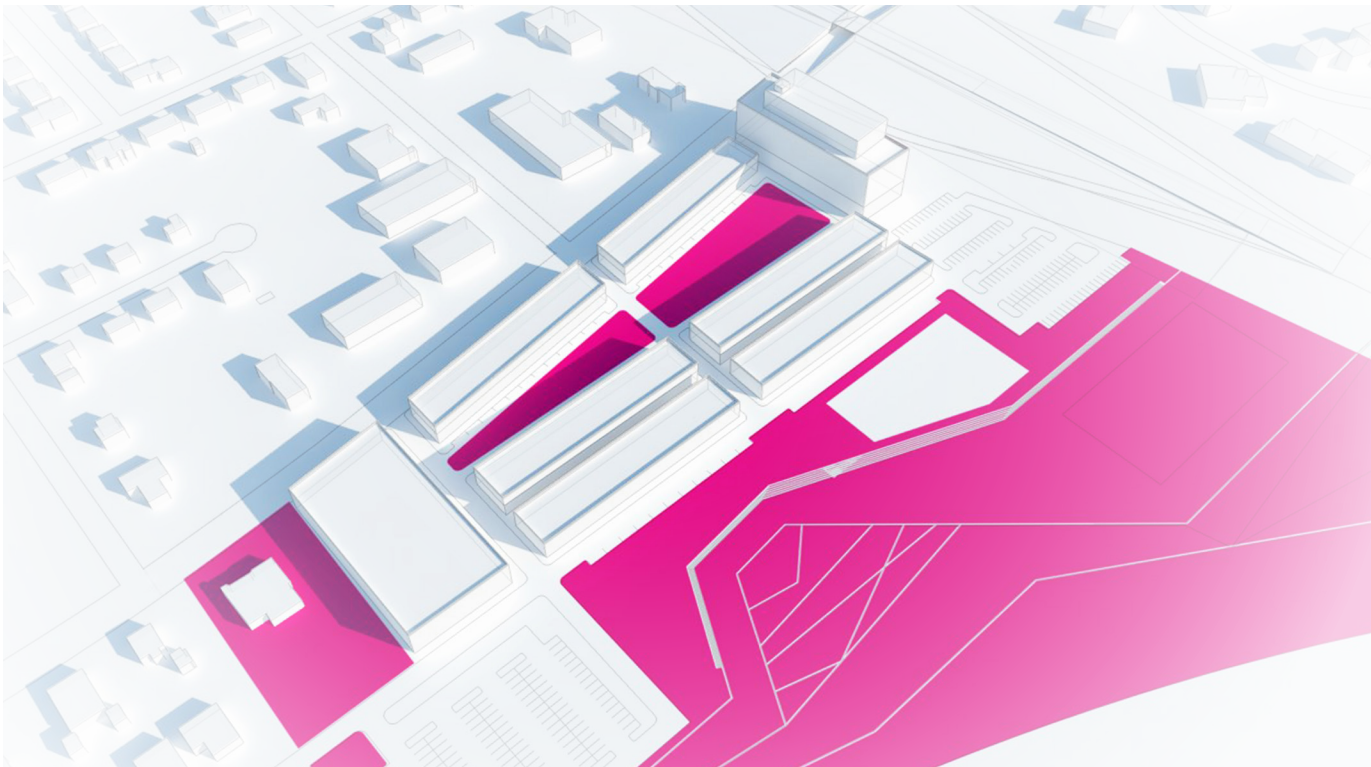


FIGURE 5.15 BRIARCLIFFE VILLAGE IMPERMANENCE (BY AUTHOR, 2013)

## PERFORMANCE

At Briarcliffe Village, performance was achieved by the surface's ability to function technically and environmentally. The proposed terraces would have performed all of the intended technical functions, including drainage and electrical utilities. Yet, the terraces would have also performed environmentally. In Figure 5.16, the proposed terrace strategy would have allowed necessary flooding to occur. The permeable terraces would have allowed surface water to infiltrate into the ground, which would have decreased flood frequency and intensity over time.

The floodable terraces created an interesting relationship between Briarcliffe Village and Wildcat Creek. In a sense, the development respected the natural phenomena of the

stream, which would have given Briarcliffe Village a unique identity, as a place that explicitly valued the environment. Ultimately, this reputation could have attracted niche market vendors and businesses.

### FLOODPLAIN KEY

- 500 year floodplain
- 100 year floodplain
- 50 year floodplain
- 10 year floodplain

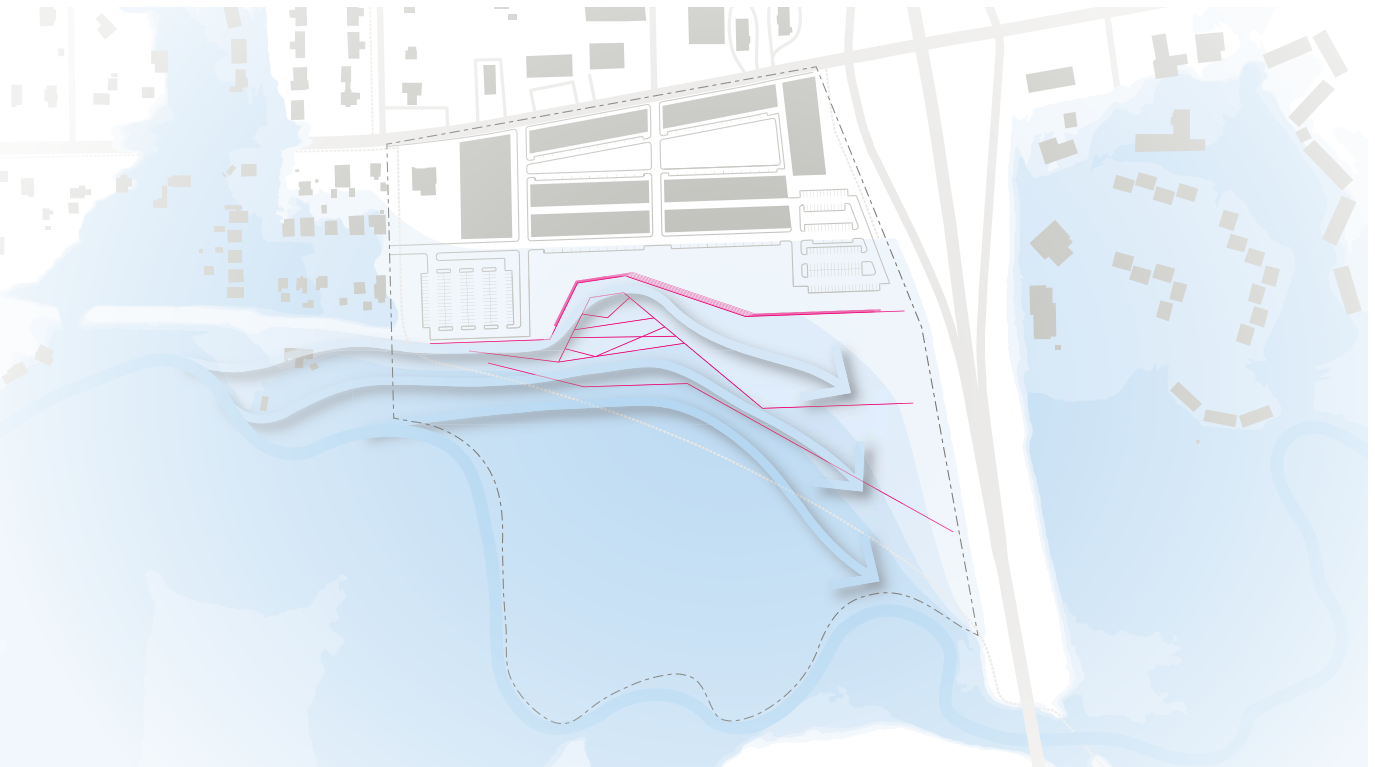


FIGURE 5.16 BRIARCLIFFE VILLAGE PROPOSED TERRACE STRATEGY (HARPER + HOETMER, 2012)

## AGGREGATE

At the site scale, Derek and I achieved the aggregate surface tactic by layering all of the aforementioned tactics together to create a dynamic place that performed in multiple ways. Briarcliffe Village had environmental value because of its resilient terracing strategy that responded to Wildcat Creek. The development had social value because of its diversity of land uses and its identity as an environmentally conscious district. Lastly, the development had economic value because it included a variety of land uses and environmentally sensitive design. Briarcliffe Village would have attracted niche market vendors and businesses that shared the same values.

At the city scale, similar terracing strategies within the Wildcat Creek floodplain could have reduced

the frequency and intensity of flood events throughout the entire city of Manhattan. As seen in Figure 5.18, there were four other developed areas that rested in the floodplain, the largest being the historic downtown.

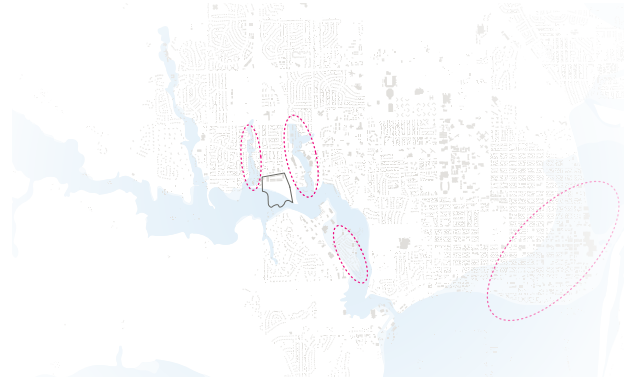


FIGURE 5.18 DEVELOPED AREAS WITHIN FLOODPLAIN (HARPER + HOETMER, 2012)

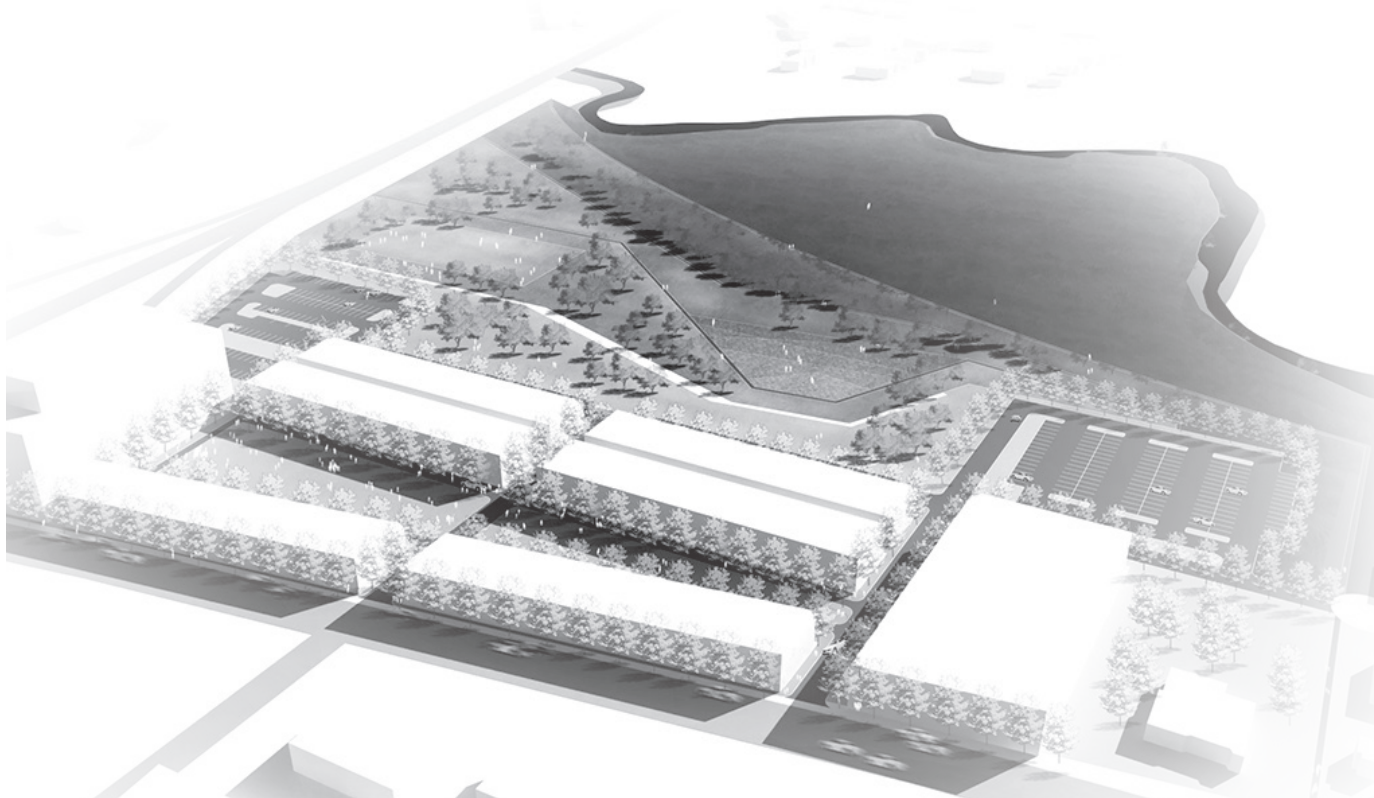


FIGURE 5.17 BRIARCLIFFE VILLAGE AERIAL PERSPECTIVE (HARPER + HOETMER, 2012)



# NETWORK

Given the limited amount of time that Derek and I had to develop our initial proposal, we did not define a citywide vision. However, our site had potential to connect to other parks using existing and future bike routes. Because the Linear Trail ran through our site, we could have used the bike route to link Briarcliffe Village explicitly to other destinations throughout the city. These connections could have instilled cohesion and purpose as a park system in Manhattan.

## NETWORK KEY

- Park
- Existing bike routes
- - - Future bike routes

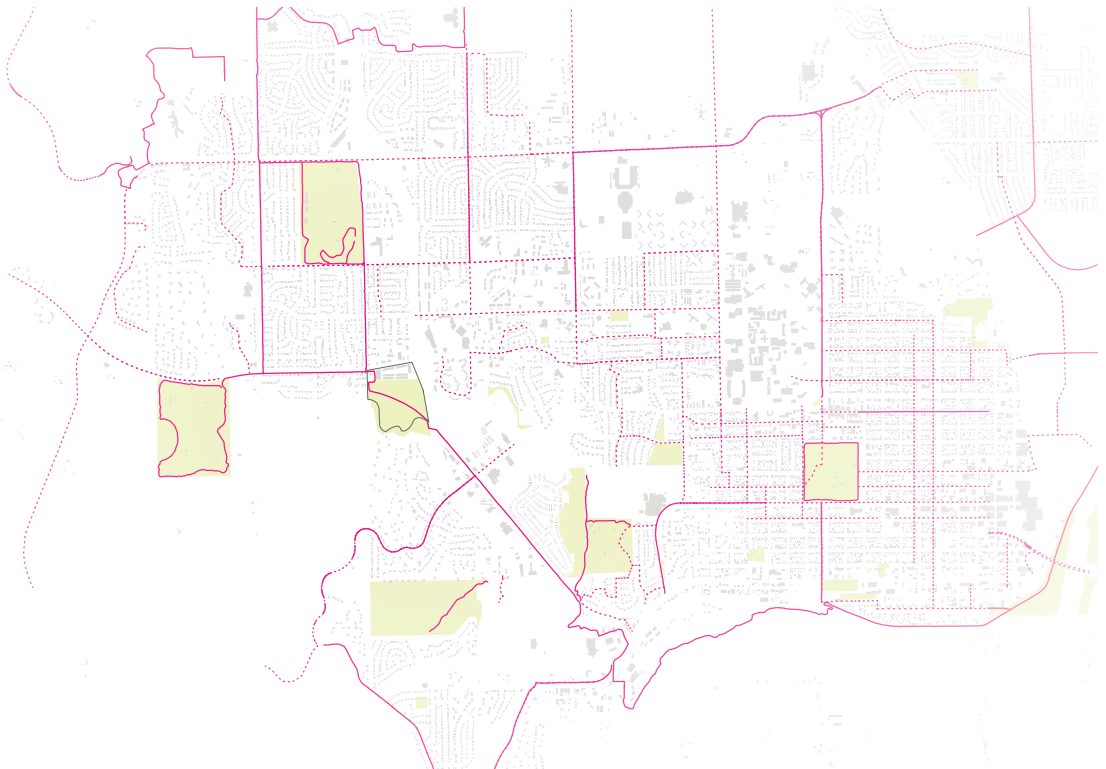
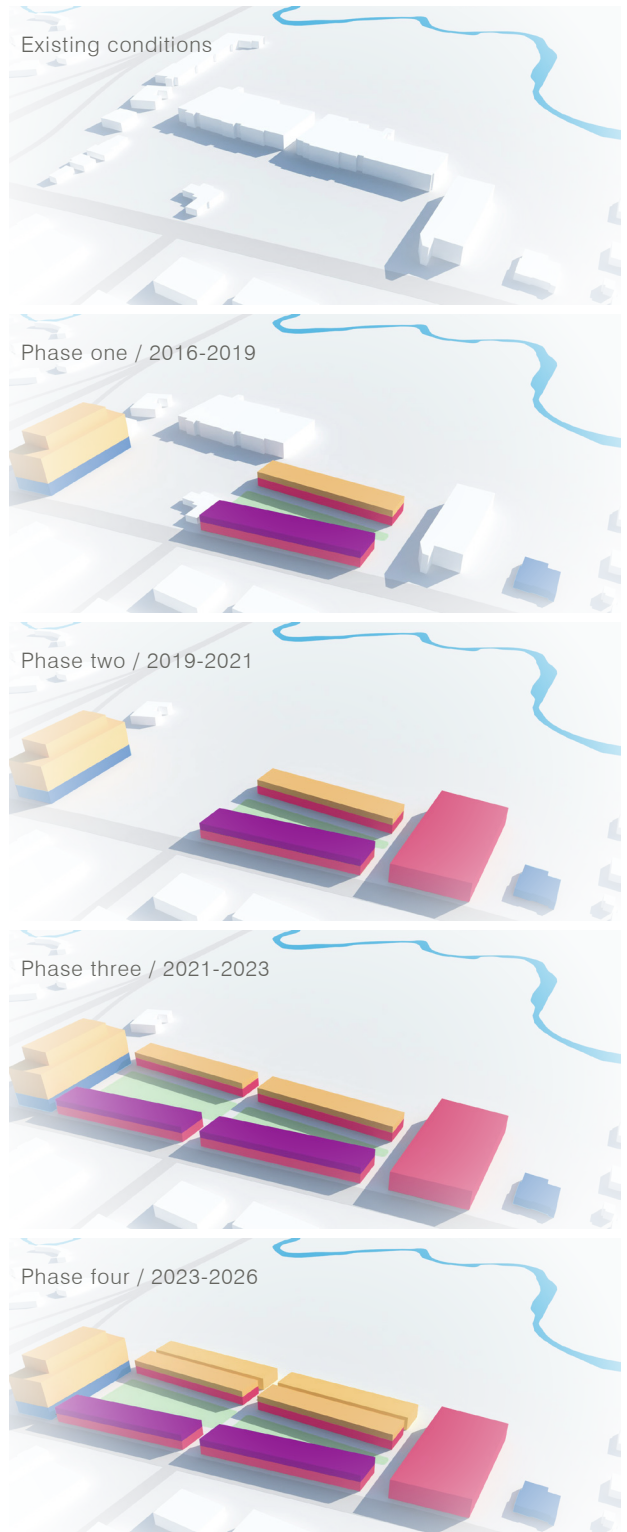


FIGURE 5.19 BRIARCLIFFE VILLAGE NETWORK (HARPER + HOETMER, 2012)

# INCREMENT

Increment was achieved through our development plan. As seen in Figure 5.20, Derek and I figured out how to transform the site over time through phasing. The goal of phase one was to introduce residential units and the community center into the site. Phase two relocated Ray's Apple Market to be the anchor of the central open space. Phase three enclosed the central open space with more retail, office, and residential units. The final phase introduced townhomes that faced the terraces to the south.

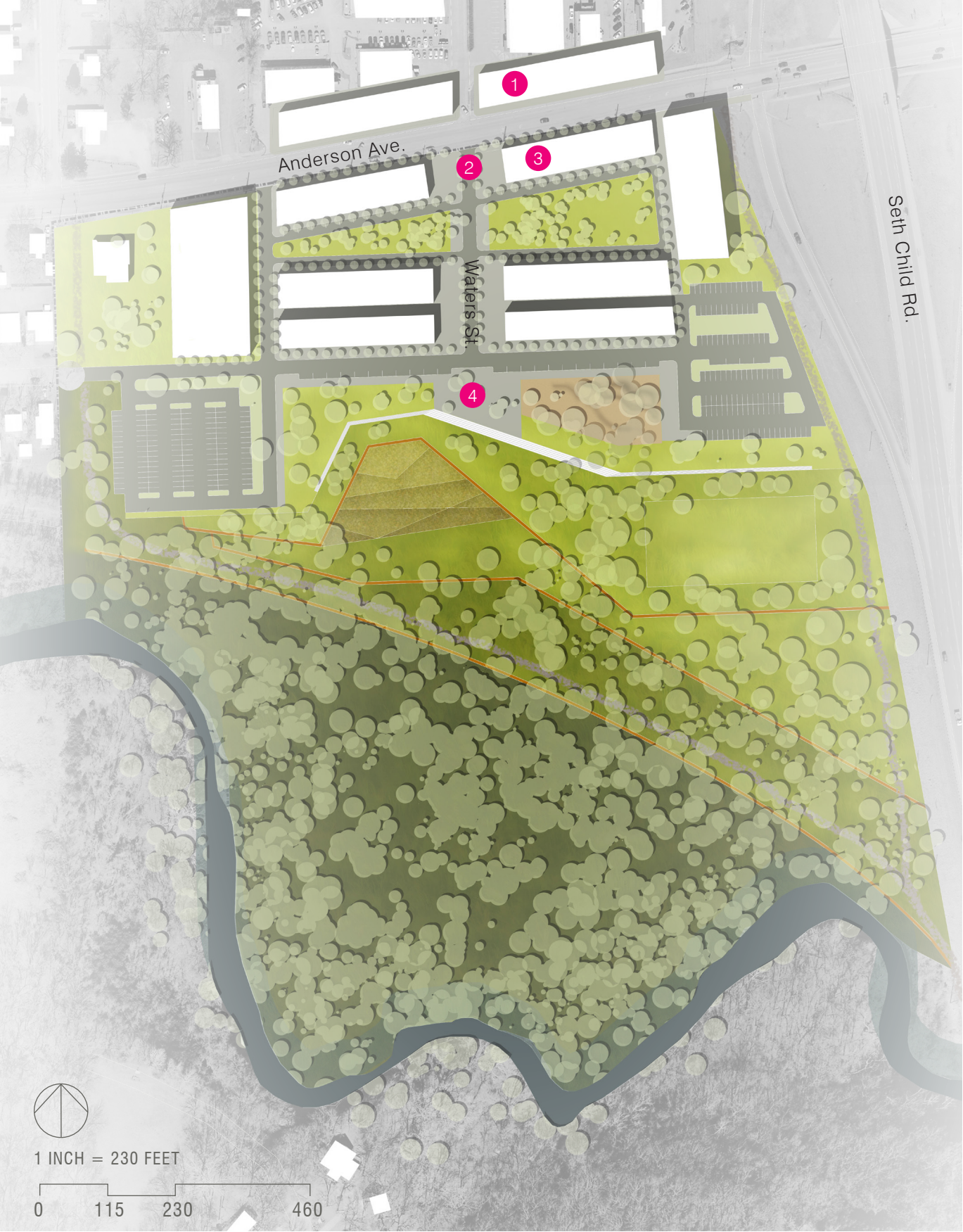
In our development plan, Derek and I thought about how small interventions could have incited the most change. For example, we started by framing the central open space rather than leaving it exposed to Anderson Avenue. This strategy established a sense of place and suggested an identity for the development.



## LAND USE KEY

- Civic / Institutional
- Office
- Retail
- Residential

FIGURE 5.20 BRIARCLIFFE VILLAGE PHASING DIAGRAMS (HARPER + HOETMER, 2012)





## MHK PROJECT CONCLUSIONS

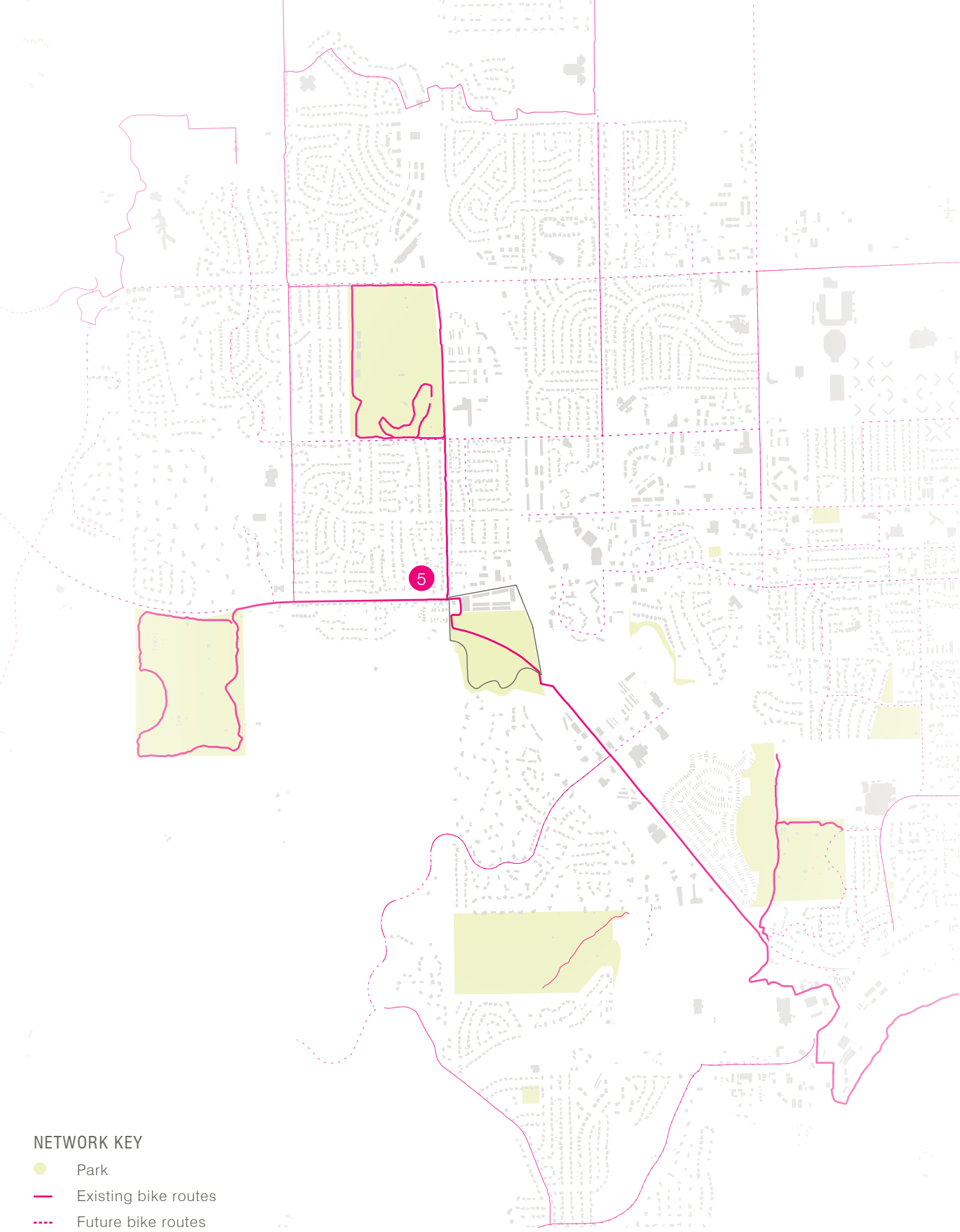
The first phase of Briarcliffe Village was a contextually appropriate redevelopment proposal. Although it was somewhat underdeveloped, the proposal was founded on environmental, social, and economic realities.

In terms of environmental realities, the project was driven by the need to mitigate the flooding issue of Wildcat Creek. Derek and I proposed a multifunctional terracing strategy that restored the floodplain and decreased flood events. In terms of social realities, we proposed rental apartments and townhomes to satisfy the market demand for military and student housing. Lastly, our proposal was based on economic realities with our development plan. We strategically demolished and constructed buildings in phases, maintaining the existing commercial tenants. These strategies resulted in a practical redevelopment proposal for the first phase of the MHK Project. However, after my diagrammatic mapping exercise, I realized some of the drawbacks of our initial proposal.




Based on my theoretical framework, I made five adjustments for the second phase of the MHK Project. As seen in Figure 5.21, my first improvement was to frame Anderson Avenue

- 1 Framed Anderson Avenue to establish district
- 2 Provided visual access into the site
- 3 Introduced more restaurant/bar/entertainment venues
- 4 Visually intrigued people into the site
- 5 Emphasized connections to establish network

FIGURE 5.21 REFINED DESIGN FOR BRIARCLIFFE (MODIFIED FROM HARPER + HOETMER, 2013)



**NETWORK KEY**

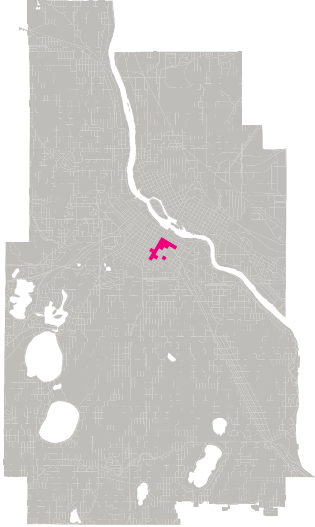
-  Park
-  Existing bike routes
-  Future bike routes

with a similar development to the north. This would have established a greater presence as a district along the street. Second, I created a gateway into Briarcliffe Village, which allowed better visual access from Anderson Avenue into the site. Third, I introduced more restaurants and bars along Anderson Avenue to activate the district throughout the evening. Fourth, I designed a plaza at the end of Waters Street to draw people into the site. Lastly, in Figure 5.22, I proposed to emphasize bike routes that connected to other parks in effort to establish a cohesive network. These connections would have been accentuated with signage, native plantings, and incremental rest areas.

These adjustments improved the Briarcliffe Village proposal based on my theoretical framework. Additionally, the process of designing, evaluating, and refining the MHK Project was the first time I completed my projective design methodology. The process was valuable because it helped me understand that my theoretical framework was not just a design guide. To use the framework effectively, I needed to use it as a guide to design, to evaluate, and to refine. The complete process revealed new insights about the design and about the surface tactics themselves in every step.

FIGURE 5.22 EMPHASIZE CONNECTIONS  
(HARPER + HOETMER, 2012)





## ULI COMPETITION

The site for the 2013 ULI Competition consists of about 18 acres or 16 city blocks within the Downtown East district of Minneapolis, Minnesota. Downtown East is bordered by the central business district to the west, the Mill District to the north, the Vikings stadium to the east, and the Elliot Park neighborhood to the south. The central business district is known for its extensive skyway system that functions like a mall and links most of the office buildings downtown. This area also includes Nicolett Mall, which is a popular retail corridor. East of downtown and along the Mississippi River, the Mill District provides the most residential opportunities with the historic mill buildings being renovated into high-end loft apartments, offices, and restaurants.

With regard to the Vikings stadium, the Minnesota State Legislature recently approved a plan to construct a new stadium that includes parking ramps, or garages, and other plaza spaces. This provides the area with an opportunity to become a regional, mixed-use center. To the south, Elliot Park is geared towards lower income residents with some SRO housing and homeless shelters, as well as multi-family buildings, senior living,

and some single-family homes. (ULI, 2013 *Competition Brief*, p.5)

The site itself is characterized by an extensive amount of surface parking lots. Scattered among the parking lots are mostly small commercial buildings with some mixed-use residential buildings to the north. Two important buildings within the site are the historic Armory building and the Star Tribune. Per the competition brief, the Armory building must remain, and it can be adaptively reused. The Star Tribune building is the local newspaper office and distribution center.

Additionally, the site is located between two light rail transit hubs. The Hiawatha line runs through the site, presenting the opportunity for Downtown East to become both a destination and a point of departure for Minneapolitans.

FIGURE 5.23 (TOP LEFT) DOWNTOWN EAST VS. MINNEAPOLIS (BY AUTHOR, 2013)

FIGURE 5.24 (TOP RIGHT) SITE PRIMARILY USED FOR SURFACE PARKING (BY AUTHOR, 2013)

FIGURE 5.25 (BOTTOM) DOWNTOWN EAST AERIAL PHOTOGRAPH (BY AUTHOR, 2013)







## ULI COMPETITION / THE ARMORY

The Armory was the redevelopment project proposed by our ULI team for the first phase of the ULI Competition. Our proposal was centered on the historic Armory building, which we framed with an iconic civic open space, as seen in Figure 5.26. Our main objectives were to connect to larger networks, to provide downtown with a cultural amenity, and to create a livable community.

The Armory proposal built upon the strengths of Minneapolis by connecting to the larger park system and improving the bicycle network. Our proposal transformed two blocks of surface parking lots into a large park that connected to the larger park system via bike routes that converged on Portland Avenue. We designated Portland Avenue as a bicycle boulevard that served as the spine of our development that linked the Elliot Park neighborhood in the south to the Marcy Holmes neighborhood in the north. We designed the street to have protected bike lanes, vegetated bioswales, and on-street parking. In addition to bike lanes, our site was connected to the larger region by the Hiawatha light rail line.

Our proposal created a cultural amenity by repurposing the historic Armory building as a flexible-use market and civic space that faced




















-  The Armory / Flexible-use market + civic space
-  1 Armory Green + parking ramp
-  2 Armory Galleria / NikeTown, Armory Fitness Center, Google Store, Bremer Bank, Lucky Strike Bowling, health spa, day care, restaurants + bars
-  3 Portland Avenue bicycle boulevard
-  4 Star Tribune
-  5 Star Tribune Terrace
-  6 Armory Towers
-  7 Armory Hotel
-  8 Washington Avenue apartments
-  9 AMC Theaters at The Armory
-  10 East Village senior living
-  11 7th Street Flats affordable housing
-  12 Skyway connection
-  13 Thrivent Financial
-  14 New Vikings stadium
-  15 Mill District
-  16 Central business district
-  17 Wells Fargo
-  T Light rail stop

FIGURE 5.26 THE ARMORY ILLUSTRATIVE PLAN (BROWN ET. AL, 2013)



our park, Armory Green. The Armory building included both permanent and temporary vendors. Additionally, the space could be rented by the public for special events. These special events could have also taken place in the adjacent open space. As seen in Figure 5.27, Armory Green was an extension of the Armory building that culminated as a four-story landform that accommodated various retail shops. Underneath the park, we proposed a subterranean parking garage that spanned two blocks and compensated for the removed surface parking lots. Armory Green also included a recreational lawn, shaded rest areas, and retail terraces. Both the Armory building and Armory Green would have been hosts to various civic events which would have instilled cultural value.

To create a livable community, our proposal was a mixed-use development that provided several different housing options. As previously mentioned, the Armory building was repurposed as a flexible-use market that would have provided local residents, workers, and commuters with their daily groceries. At Armory Green, the retail shops within the landform were titled Armory Galleria, which would have offered various retail goods, services, and entertainment. We framed Armory Green with a Wells Fargo office and two upscale apartment buildings, all of which connected to the skyway network. Along Washington Avenue, we provided affordable rental apartments with ground level retail. Near Vikings stadium, we provided rental apartments, a hotel, and a movie theater. To the south of our site, we provided more rental and affordable rental apartments with some senior housing options. This variety of land uses would have sparked a vibrant urban district that would have significantly increased the downtown residential population.

Our objectives set up a strong foundation that ultimately distinguished The Armory proposal as

one of the four proposals that advanced to the finalist round of the ULI Competition. Thus, I focused my individual research on improving the centerpiece of our proposal, Armory Green.

In the following paragraphs, I explain how I have applied my theoretical framework to evaluate and to refine Armory Green for the finalist round of the ULI Competition.

FIGURE 5.27 ARMORY GREEN  
(MODIFIED FROM BROWN ET. AL, 2013)



## INTRICACY

For the design of Armory Green, our ULI team created intricacy with the landform, the skyway connections, the skylights, the shaded rest areas, and the pedestrian promenade.

The iconic landform was both visually and spatially engaging as the park surface folded up to accommodate the retail uses of Armory Galleria. Terraces on the landform established a unique relationship between the interior retail spaces and the exterior park.

The retail uses of Armory Galleria were linked to the surrounding office and residential buildings via the skyway. As overhead design elements, the skyway connections influenced the character of the streets and repeated the spatially dynamic street typology of Downtown West.

Linear skylights were informed by the geometry of the Armory building's facade. The skylights extended across the recreational lawn and up the surface of the landform providing natural light to the subterranean parking garage and interior retail spaces. At night, the skylights doubled as fluorescent lights that would have enticed users to further explore Armory Green.

The shaded rest areas were located around the recreational lawn and consisted of trees, planters, and seat walls. Essentially, these passive areas juxtaposed the active recreational lawn and landform, which created experiential variety.

Lastly, the pedestrian promenade connected Armory Green to Vikings stadium and influenced the adjacent urban form. The promenade diagonally cut through a city block, and the resultant urban form would have provided pedestrians with a spatially rich experience.

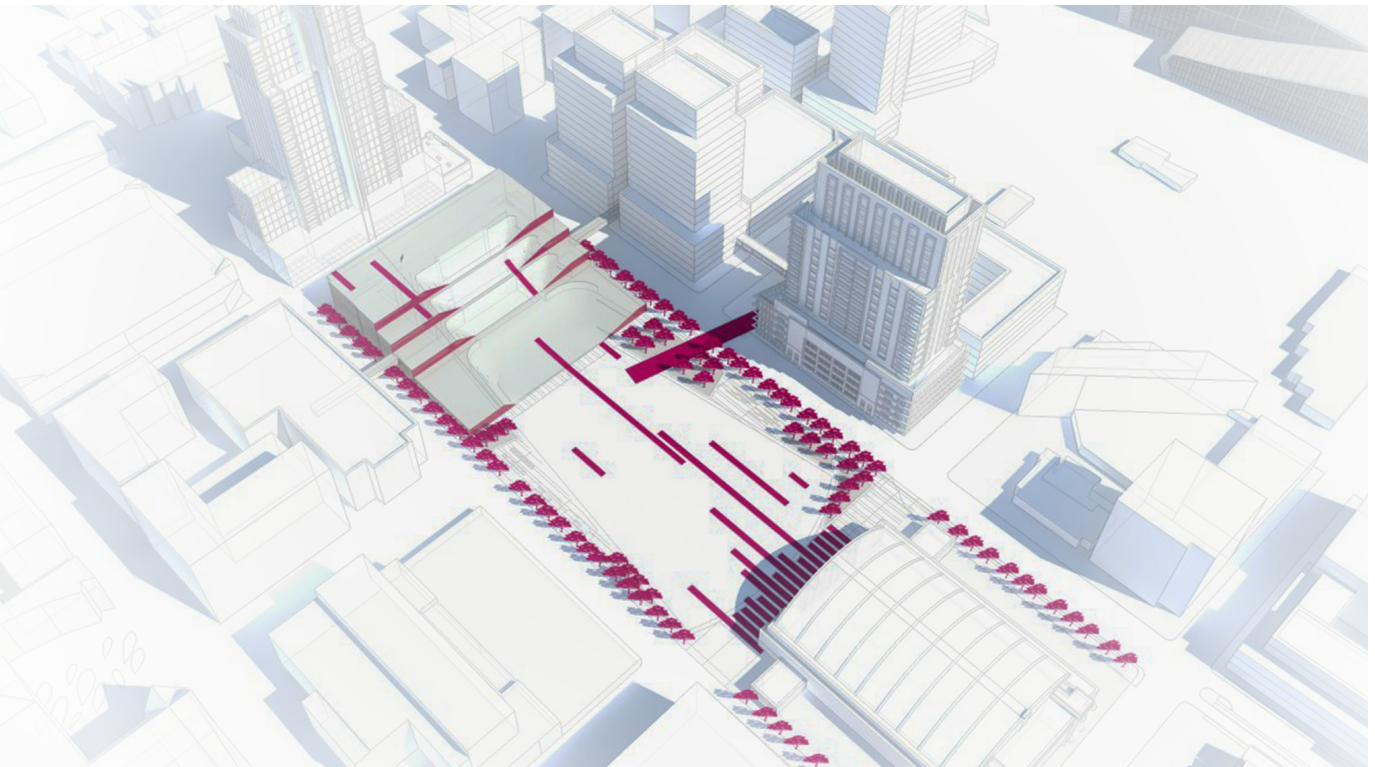


FIGURE 5.28 ARMORY GREEN INTRICACY (BY AUTHOR, 2013)

## CENTERING

Armory Green achieved the centering surface tactic in two ways, enclosure and symmetry. The open space was framed by the surrounding buildings and the landform itself. Initially, the slope of the landform suggested that the recreational field was the center. However, because both the landform and the Armory facade were symmetrical, our team established an imaginary line of symmetry that extended from the Armory to the uppermost terrace of the landform. Therefore, a feeling of center would have been created at any point along this central axis.



FIGURE 5.29 ARMORY GREEN CENTERING (BY AUTHOR, 2013)

## SUN

Because our ULI team only had two weeks to complete the first round of the ULI Competition, we did not have time to fully develop the program for Armory Green. However, our major design elements set up a strong foundation for the sun surface tactic. For example, the arrangement and orientation of the landform and recreational lawn was well thought out. As seen in Figure 5.30, we placed the landform on the northern end of Armory Green to frame the park and to capitalize on solar orientation. The surface of the landform faced south, which would have allowed Armory Galleria to be lit naturally.

In terms of program, our ULI team had several conceptual ideas. The surface of the landform would have been used as an amphitheater for

summer performances. Throughout the winter, the landform would have been used as a sledding hill. The adjacent retail terraces would have been used for various retail services such as a venue for yogis at the fitness center or an outdoor dining area for the Armory Cafe. The recreational lawn would have been used for sports, markets, and performances. However, these ideas were still largely undeveloped. Thus, I realized that we needed to improve our sun surface tactic for the finalist round of the ULI Competition.

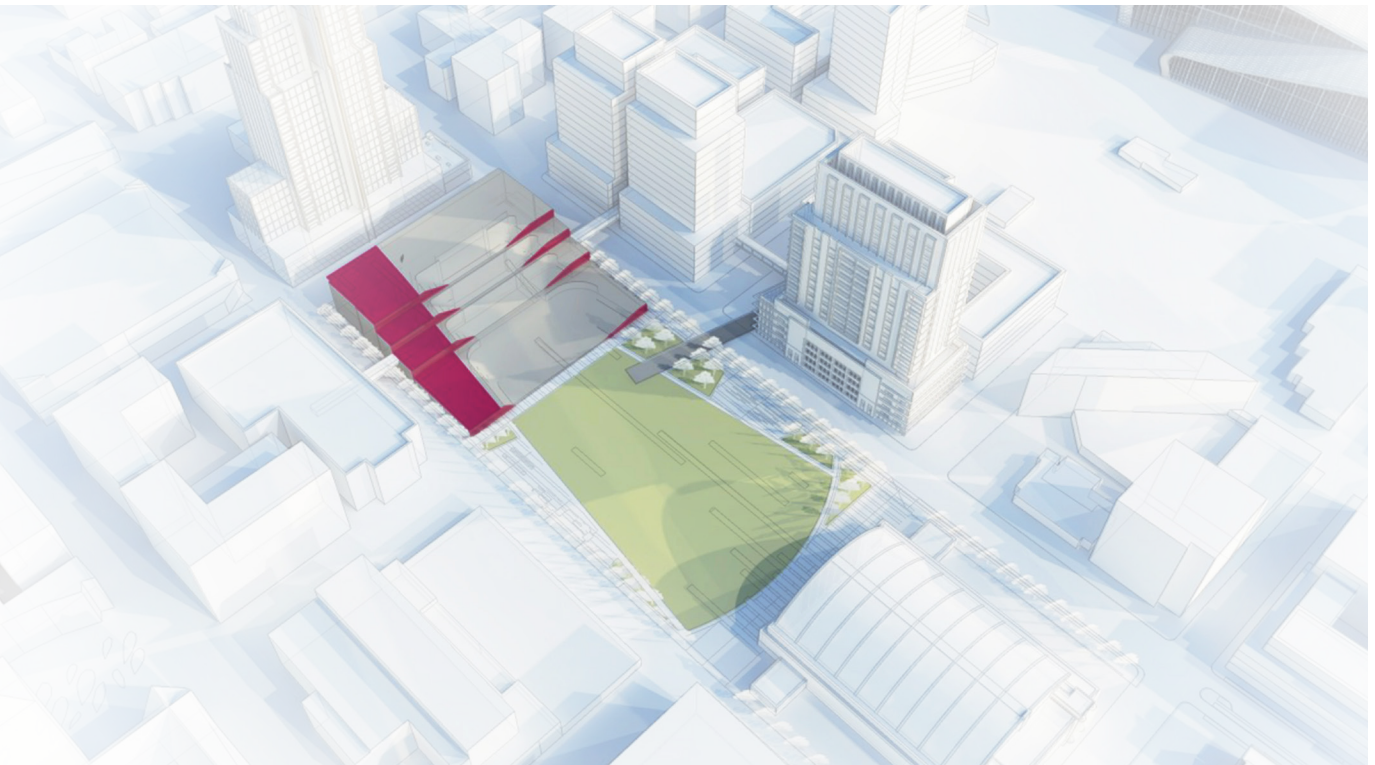


FIGURE 5.30 ARMORY GREEN WINTER SUN (BY AUTHOR, 2013)



## ENCLOSURE

Enclosure was achieved by the buildings that framed Armory Green and the variety of land uses within them. The park was enclosed by mixed-use buildings with ground level retail to ensure active edges throughout all hours of the day and night. Throughout the day, the office and retail buildings would have had the most activity. Then, throughout the night, the residential buildings and some retail spaces would have become more active.

### LAND USE KEY

- Office
- Retail
- Residential
- Parking ramp

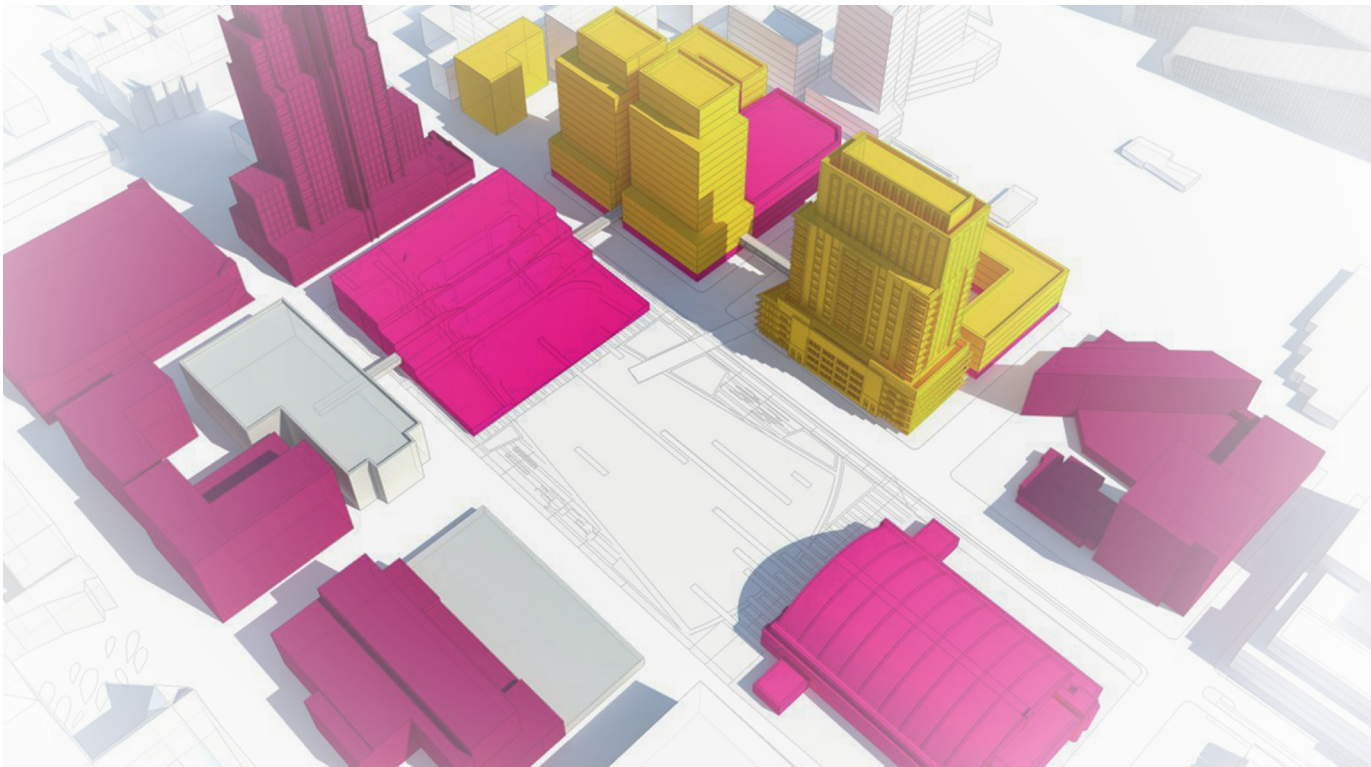


FIGURE 5.31 ARMORY GREEN ENCLOSURE (BY AUTHOR, 2013)

## THICKENING + FOLDING

Thickening and folding were key surface tactics used in the design for Armory Green. Thickening was created by the layering of the subterranean parking garage, the retail uses in Armory Galleria, and the park surface. To compensate for the removal of the extensive surface parking lots, Armory Green provided a subterranean parking garage that spanned the entire length of the park. On top of the parking garage was the vertically integrated retail uses of Armory Galleria. The first and second stories were designated to be retail services, the third story was boutique retail, and the fourth story was boutique retail with some nightlife venues. The uppermost layer of the thickened surface was the park, which consisted of several more layers of infrastructure, vegetation, and program.

The folding surface tactic was used to artfully accommodate the aforementioned retail uses. Folding was also used to create the exterior retail terraces and to provide access into Armory Galleria from the park.



FIGURE 5.32 ARMORY GREEN THICKENING + FOLDING (MODIFIED FROM BROWN ET. AL, 2013)

## NEW MATERIALS

New materials was achieved through the landform itself, the exterior retail terraces, and the skylights. The landform exemplified the new materials surface tactic because it was a familiar material used in a new way. The grass of the landform was a familiar material that was not particularly impressive. However, the manner in which the grass on the park surface warped and folded to define spaces was impressive. Additionally, the paving of the exterior retail terraces contrasted the rest of the landform. This contrast would have cued users that the terraces were a different kind of activity.

The skylights also achieved the new materials surface tactic because of the way that they were designed. The skylights became the

unifying element throughout the entire park as they extended from the Armory, across the recreational lawn, up the landform, and on the retail terraces.

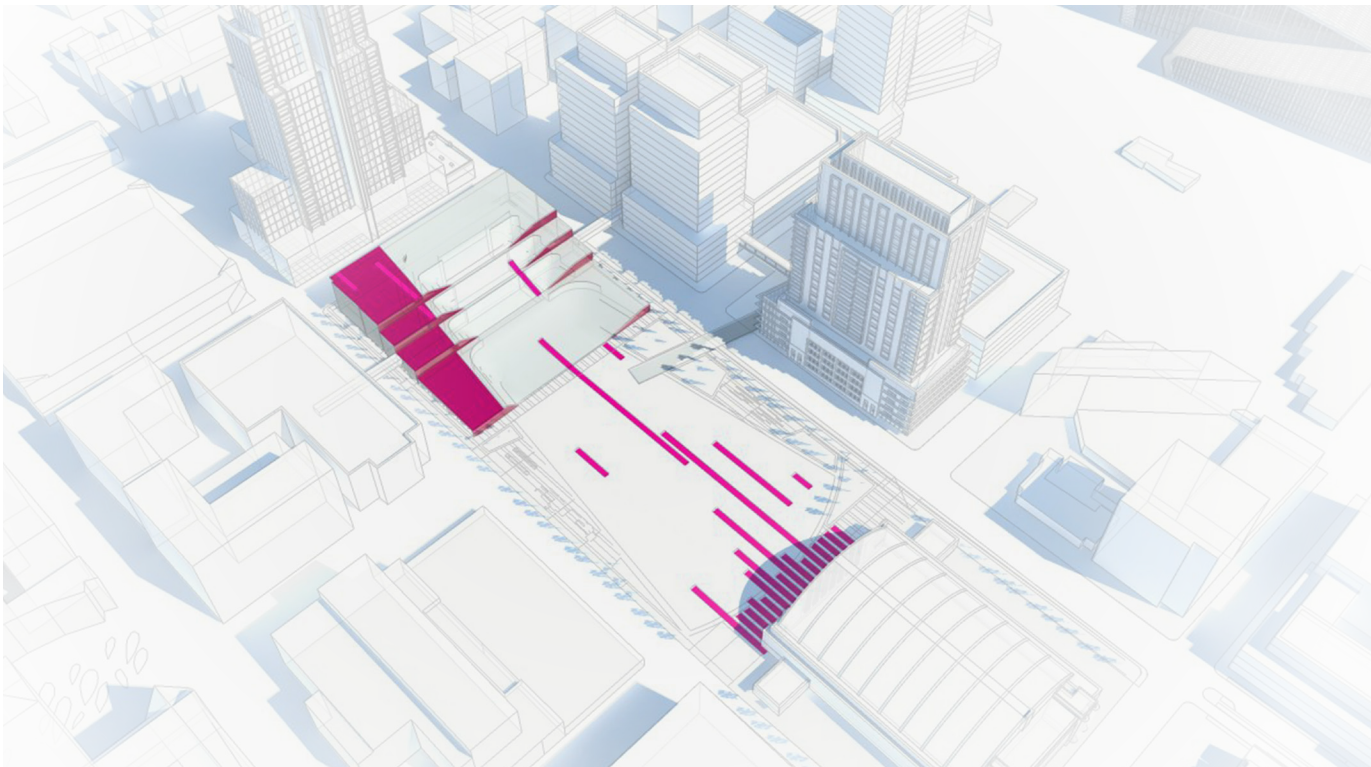


FIGURE 5.33 ARMORY GREEN NEW MATERIALS (BY AUTHOR, 2013)



## NONPROGRAMMED USE

The nonprogrammed use surface tactic was not achieved by equipping the surface with services and furnishings that could have been appropriated by the public. Instead, Armory Green achieved nonprogrammed use through the flexibility of the recreational lawn and the unpaved areas of the landform. People would have used the recreational lawn however they desired because it offered plenty of unobstructed open space. Additionally, people would have used the landform however they desired because it was a highly designed surface unlike anything else in Minneapolis.

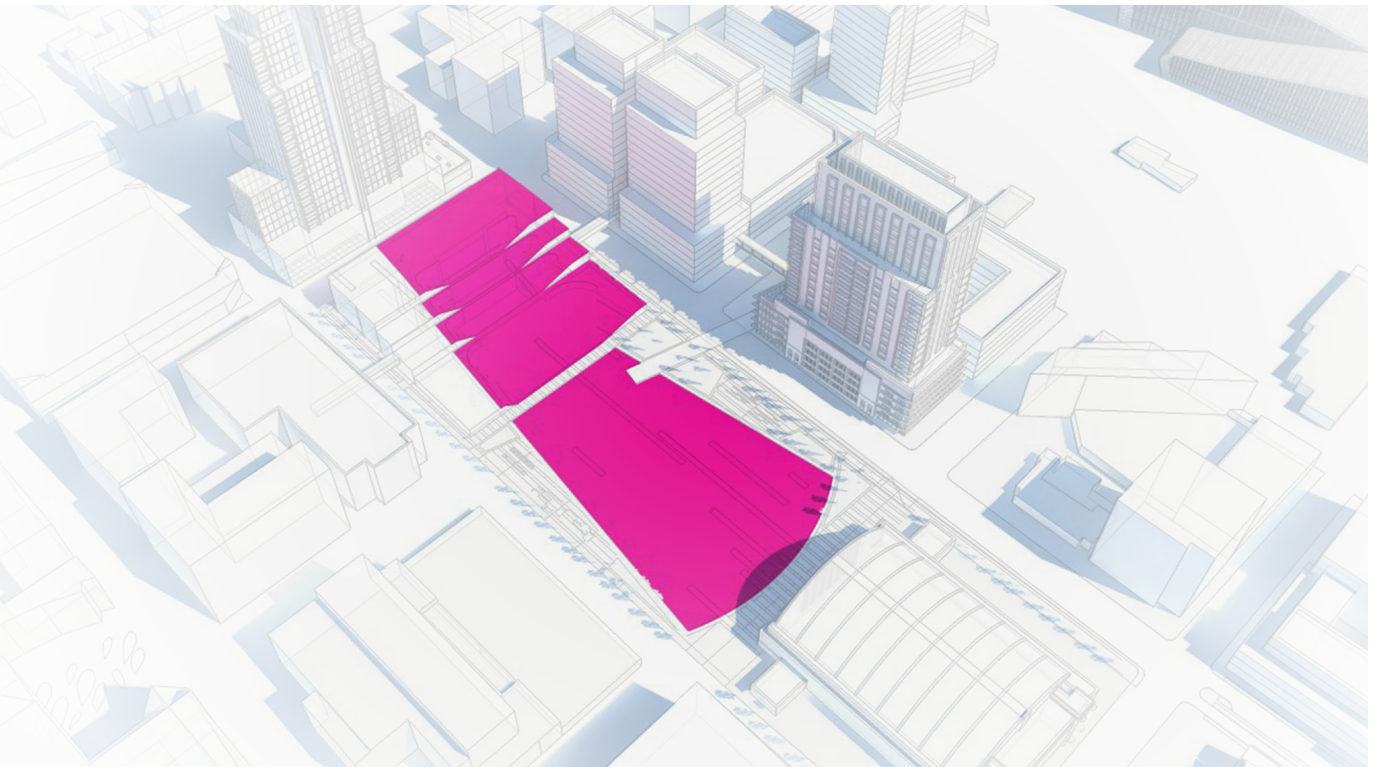


FIGURE 5.34 ARMORY GREEN NONPROGRAMMED USE (BY AUTHOR, 2013)

## IMPERMANENCE

Impermanence was achieved on the southern half of Armory Green. The flexibility of the recreational lawn and the loosely programmed surrounding spaces were capable of responding to users' needs and desires over time. The landform, however, was not as flexible over time. Similar to the surface of Olympic Sculpture Park (Figure 4.27, p.41), the sculptural surface of Armory Green consisted of rigid infrastructure that was permanent and not conducive for all programs or all users. However, the programmatic indeterminacy of the landform gave the surface a sense of impermanence.

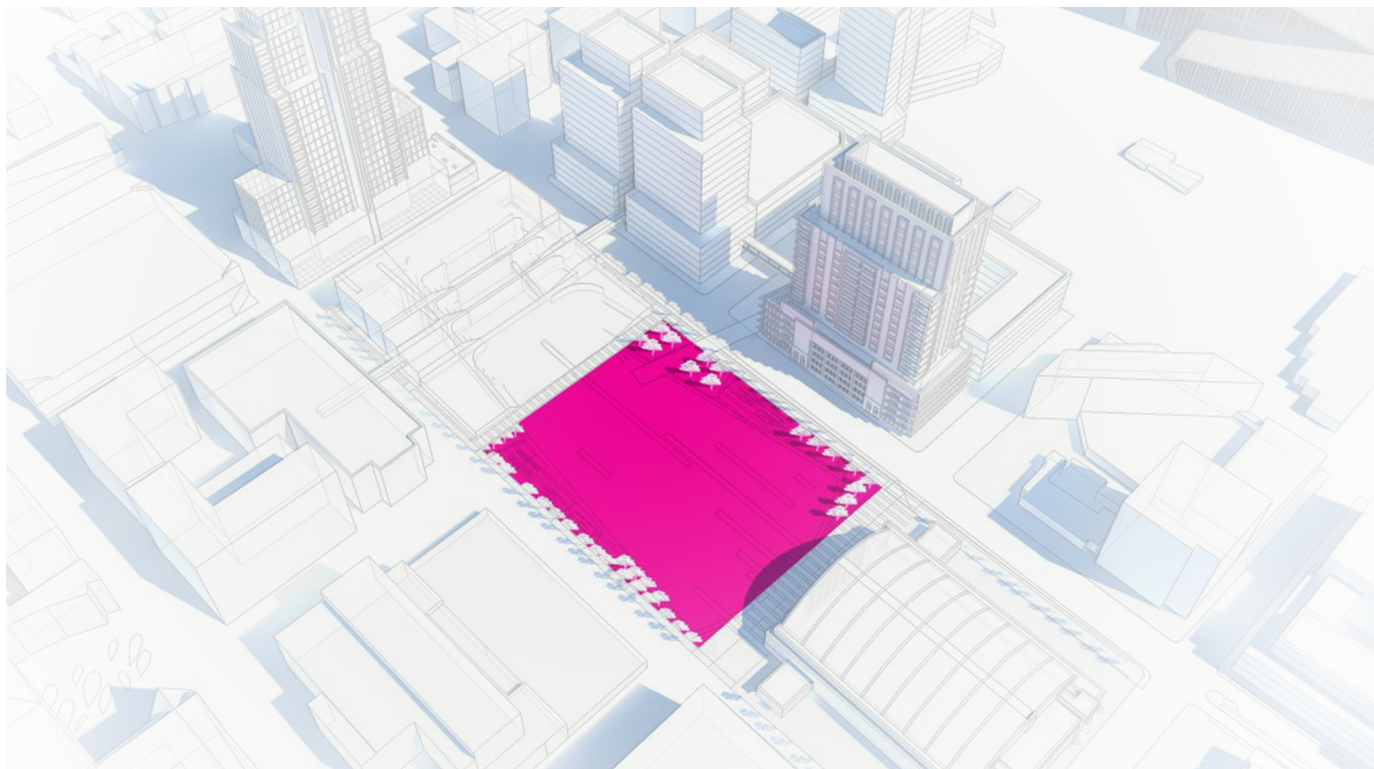


FIGURE 5.35 ARMORY GREEN IMPERMANENCE (BY AUTHOR, 2013)

## PERFORMANCE

The performance surface tactic was achieved through the multifunctional design of Armory Green. The thickened surface allowed Armory Green to perform all of its intended functions as a subterranean parking garage, a retail center, and a park while also providing social and economic value.

Armory Green provided social value as a cultural amenity for Minneapolis. The park served as a venue for local vendors, markets, and entertainment. Armory Green provided economic value as an iconic civic space and retail center. The unique landform would have raised the adjacent property values and would have attracted high-end retail and residential tenants.



FIGURE 5.36 ARMORY GREEN LAND USE SECTION (MODIFIED FROM BROWN ET. AL, 2013)

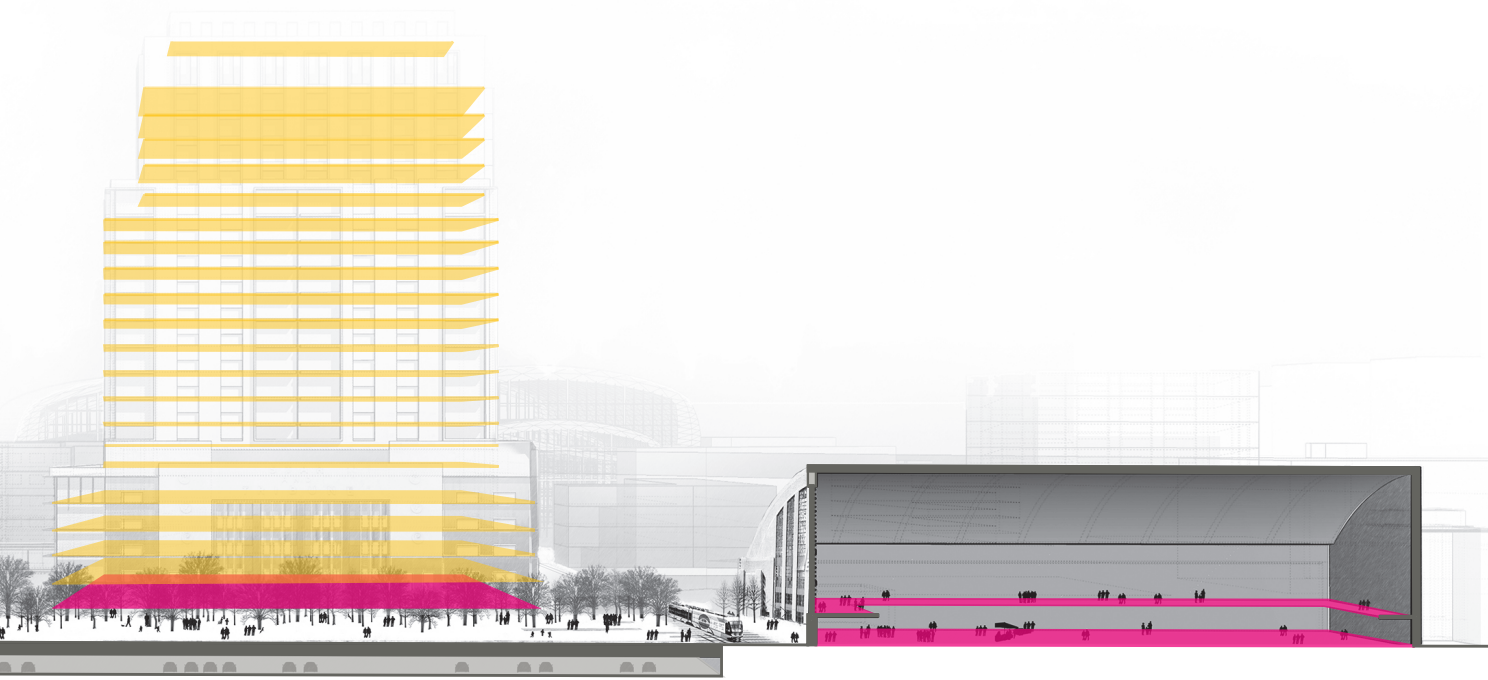


# AGGREGATE

Armory Green achieved the aggregate surface tactic at two scales. At the site scale, the park was an aggregation of all of the aforementioned surface tactics. This aggregation resulted in a multifunctional open space that performed environmentally, socially, and economically. At a regional scale, the park achieved the aggregate surface tactic as an addition to the larger park system, which could have remediated or reversed negative impacts.

## LAND USE KEY

- Office
- Retail
- Residential
- Parking ramp



# NETWORK

The network surface tactic was achieved by transforming Portland Avenue into a bicycle boulevard and connecting to the existing skyway system. Portland Avenue served as the spine of our development that linked Armory Green to the larger park system via bike routes. We designated Portland Avenue as a bicycle boulevard with protected bike lanes and bike storage within the adjacent buildings for office workers and residents.

Our proposal also expanded upon the existing skyway system by making connections to Armory Green, the Wells Fargo office, and the two residential buildings that framed the open space.

## NETWORK KEY

- Attractions
- Park
- Existing bike routes
- - - Future bike routes
- Skyway connections
- Nicolett Mall
- Portland Avenue bicycle boulevard

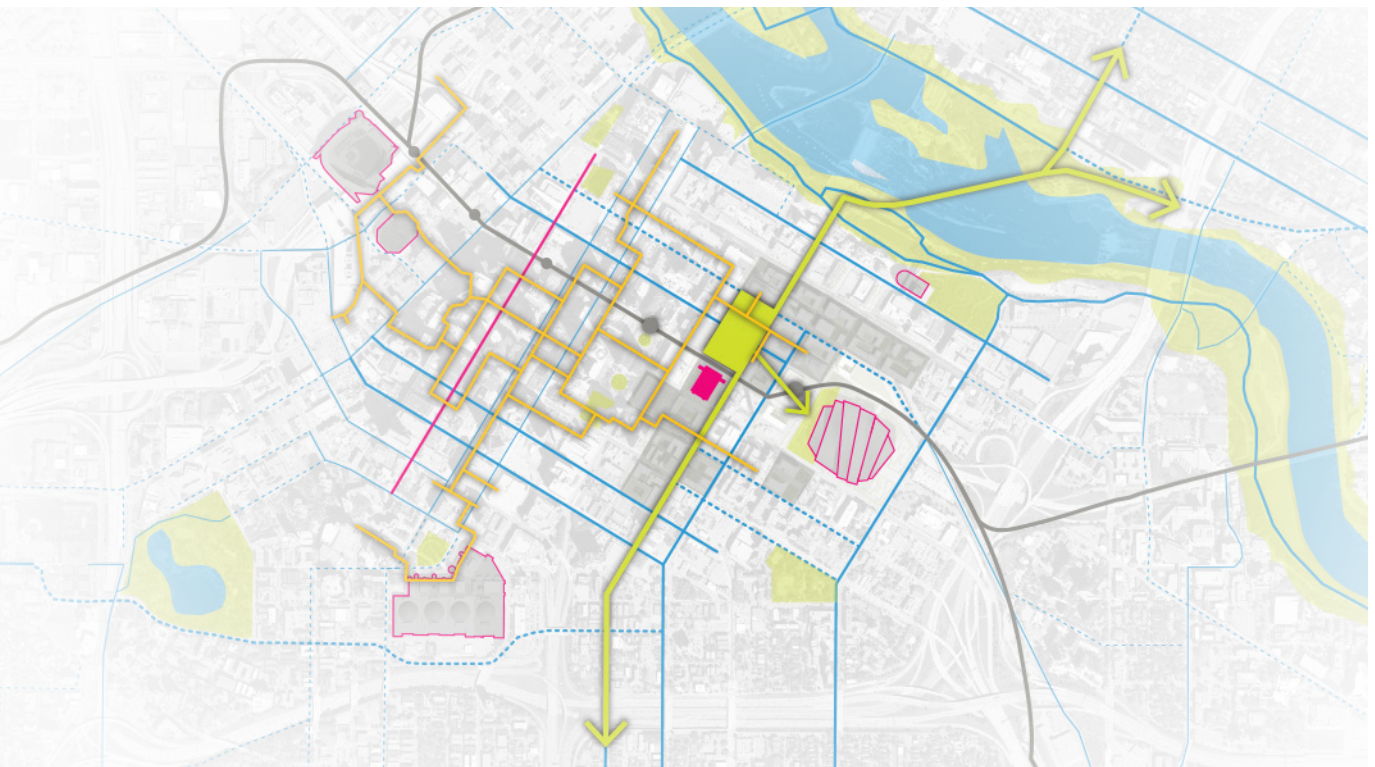
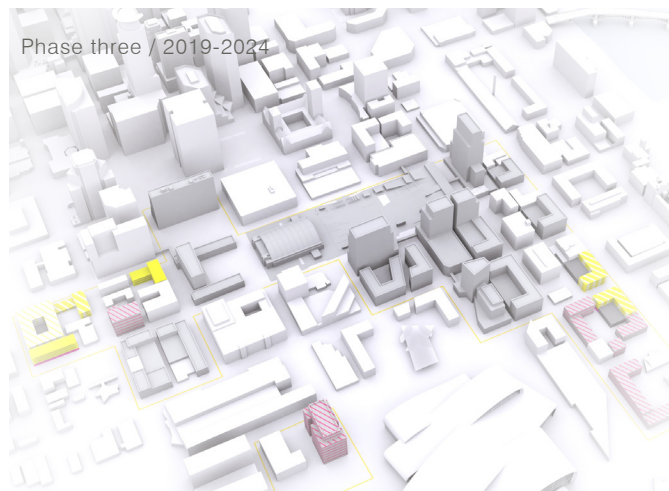


FIGURE 5.37 ARMORY GREEN NETWORK (BROWN ET. AL, 2013)

# INCREMENT

The increment surface tactic was achieved through our strategic development plan for the entire Armory district. In phase one, we established a place with the construction of Armory Green, the Wells Fargo office, the Armory Towers, the Armory Hotel, the Star Tribune office, and the repurposed Armory building. Phase two leveraged the value of our development with the construction of more housing options. We proposed to build more upscale apartments at the Star Tribune Terrace, senior housing, affordable housing, and rental apartments. Phase three captured the demand created by our development with more rental apartments, affordable housing, and senior living.

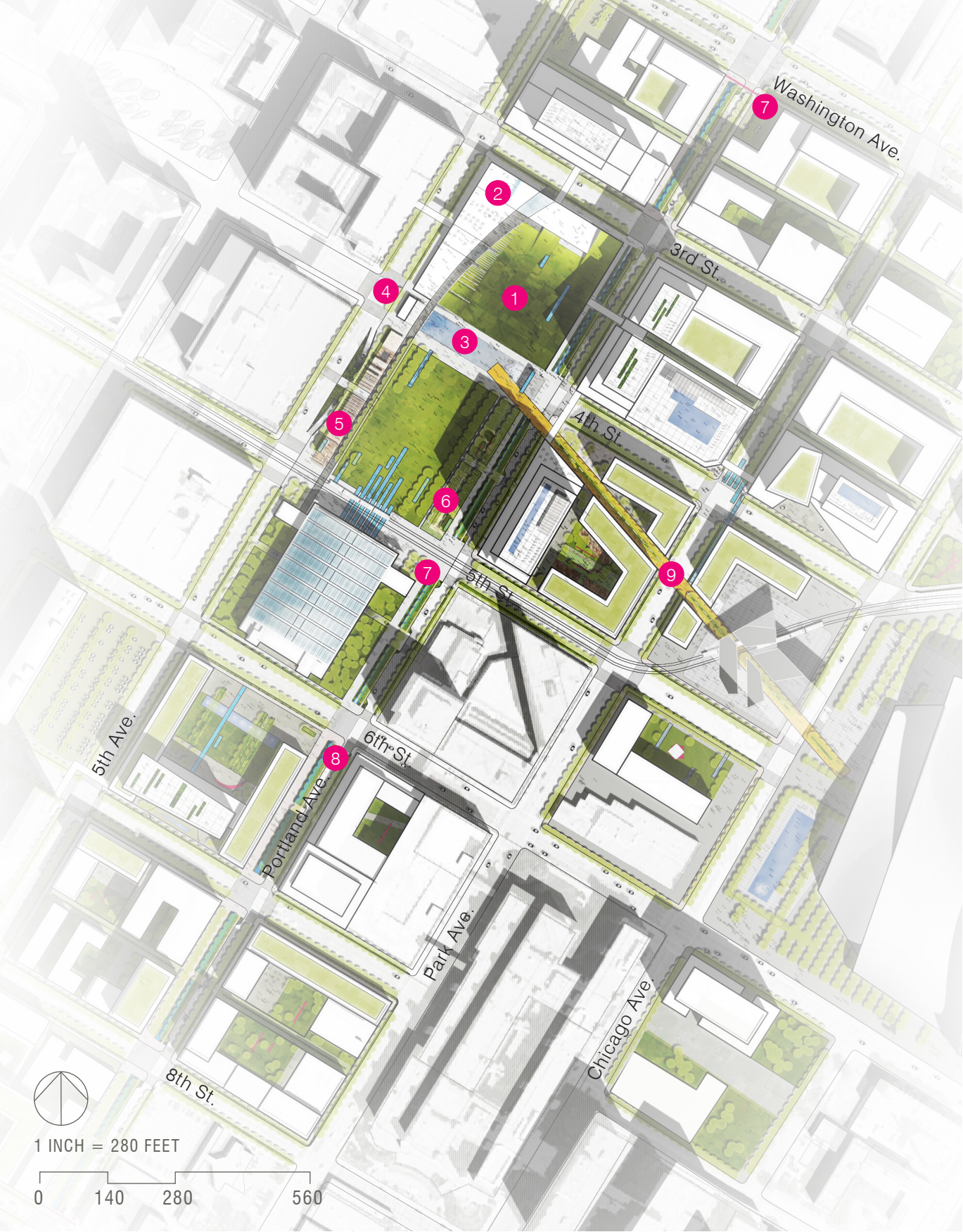


## LAND USE KEY

- Office
- Retail
- Hotel
- Upscale apartments
- Rental apartments
- ▨ Affordable rental apartments
- Senior housing
- Open space
- Parking ramp
- ▨ Future phase development

FIGURE 5.38 THE ARMORY PHASING DIAGRAMS (BROWN ET. AL, 2013)





Washington Ave.

3rd St.

4th St.

5th St.

6th St.

8th St.

5th Ave.

Portland Ave.

Park Ave.

Chicago Ave.



1 INCH = 280 FEET

0 140 280 560

## ULI COMPETITION CONCLUSIONS

The Armory was a bold proposal that was based on the social and economic realities of Minneapolis. In terms of social realities, the proposal provided Minneapolitans with an iconic civic open space and aimed to increase the downtown residential population based on market demand. In terms of economic realities, the proposal created a vibrant urban district that leveraged peak activity from the new Vikings stadium, but did not depend upon for effective commerce. Our strategies were validated with our recognition as a finalist team for the second round of the ULI Competition. However, after my diagrammatic mapping exercise, I realized that some of the surface tactics for Armory Green were largely undeveloped, especially the environmental strategy. Thus, for the finalist round, I used my evaluations to guide our team as we refined our initial proposal.

For the finalist round of the ULI Competition, we made nine adjustments to Armory Green. As seen in Figure 5.39, we refined our iconic landform by redesigning the slope into a series of strips that had varying slopes and programs. We incorporated visually intriguing light walls that punctured through the surface of the landform and served as entrances into the skyway and

- 1 Refined surface strategy / varied surface strips, extruded light walls, skyway entrances
- 2 Extruded retail terraces
- 3 Introduced skim pool with interactive water wall for summer and winter activities
- 4 Provided parking garage entrance with 'Wich Craft Sandwich Shop
- 5 Activated 5th Avenue with trellis and food vendors
- 6 Provided passive space with shaded rest area
- 7 Provided bike share locations and storage along Portland Avenue
- 8 Developed environmental strategy along Portland Avenue / increased urban forest, provided Silva Cells, intercepted stormwater with vegetated bioswales, provided permeable on-street parking + protected bike lanes
- 9 Improved Pedestrian promenade / activated by restaurants + bars, provided shaded rest areas, provided interactive water wall as terminus

FIGURE 5.39 REFINED DESIGN FOR THE ARMORY (BROWN ET. AL, 2013)







Armory Galleria. At the base of the landform, we proposed an interactive water wall and a skim pool that functioned as a fountain in the summer and an ice skating rink in the winter. Both the water wall and skim pool anchored the pedestrian promenade that connected Armory Green to Vikings stadium. Our team figured out the circulation for the subterranean parking garage and provided a parking garage entrance that doubled as a sandwich shop. We activated 5th Avenue by incorporating a trellis that shaded local food vendor trucks. We provided more shaded rest areas. We provided two bike share locations along Portland Avenue, as well as bike storage within some of the buildings for office workers and residents. We developed our environmental strategy along Portland Avenue by increasing the urban forest, providing Silva Cells, intercepting stormwater with vegetated bioswales, providing on-street parking, and protecting bike lanes. Lastly, we improved the pedestrian promenade by incorporating more bars and restaurants, as well as providing shaded seating.

All of the aforementioned refinements improved various surface tactics for Armory Green using my theoretical framework as a guide. In April, our ULI team was announced the winning team of the 2013 ULI Competition. Ultimately, our victory not only attested the value of collaboration, but also the power of design.

FIGURE 5.40 THE SURFACE OF ARMORY GREEN AT NIGHT  
(MODIFIED FROM BROWN ET. AL, 2013)

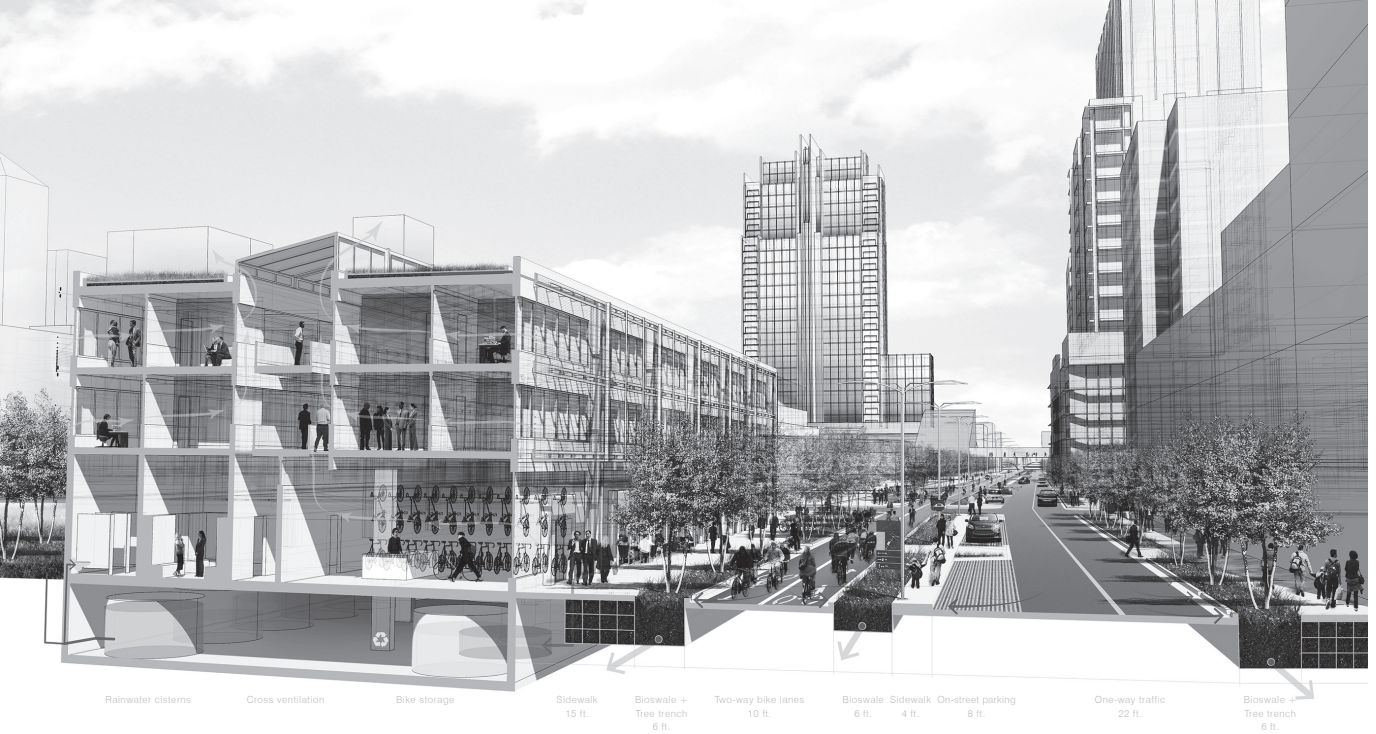


FIGURE 5.41 THE MULTIFUNCTIONAL SURFACE OF PORTLAND AVENUE (MODIFIED FROM BROWN ET. AL, 2013)

	SITE	DISTRICT	CITY	REGION
ENVIRONMENTAL	trees, bioswales, permeable paving	parks, streetscapes	parks, streetscapes	park networks
SOCIAL	seat walls, lighting	gathering spaces	civic event venues	regional destinations
ECONOMIC	retail shop	mixed-use development	commercial center	regional commerce, distribution

FIGURE 5.42 INCREMENT MATRIX (BY AUTHOR, 2013)

## PROJECTIVE DESIGN FINDINGS

Throughout the MHK Project and the ULI Competition, I learned that my projective design methodology was a seemingly endless process (Figure 3.1, p.17). With every cycle that I completed, I gained a greater understanding of each surface tactic and deeper insights about my theoretical framework.

Throughout the redevelopment projects, I realized that all of the surface tactics were multiscalar and that all of them could have been directed at environmental, social, and economic aspects of a place. For example, the increment surface tactic was about sustaining growth over time depending on cost, funding, and policy. As seen in Figure 5.42, increment could have been applied to multiple scales, and the surface tactic could have focused on how environmental, social, and economic interventions could have been achieved over time. In terms of environmental aspects, increment could have been applied to the site scale to determine the most effective process for planting trees or constructing bioswales. At the district scale, increment could have been used to create a realistic development plan for parks or streetscapes. At the city scale, increment could have been used to develop a citywide

plan for parks and streets. Lastly, at the regional scale, increment could have been used to develop a regional plan for a larger park network. Therefore, my theoretical framework not only provided surface tactics for creating multifunctional places, but it also provided pragmatic solutions for developing effective places over time.



06

CONCLUDE

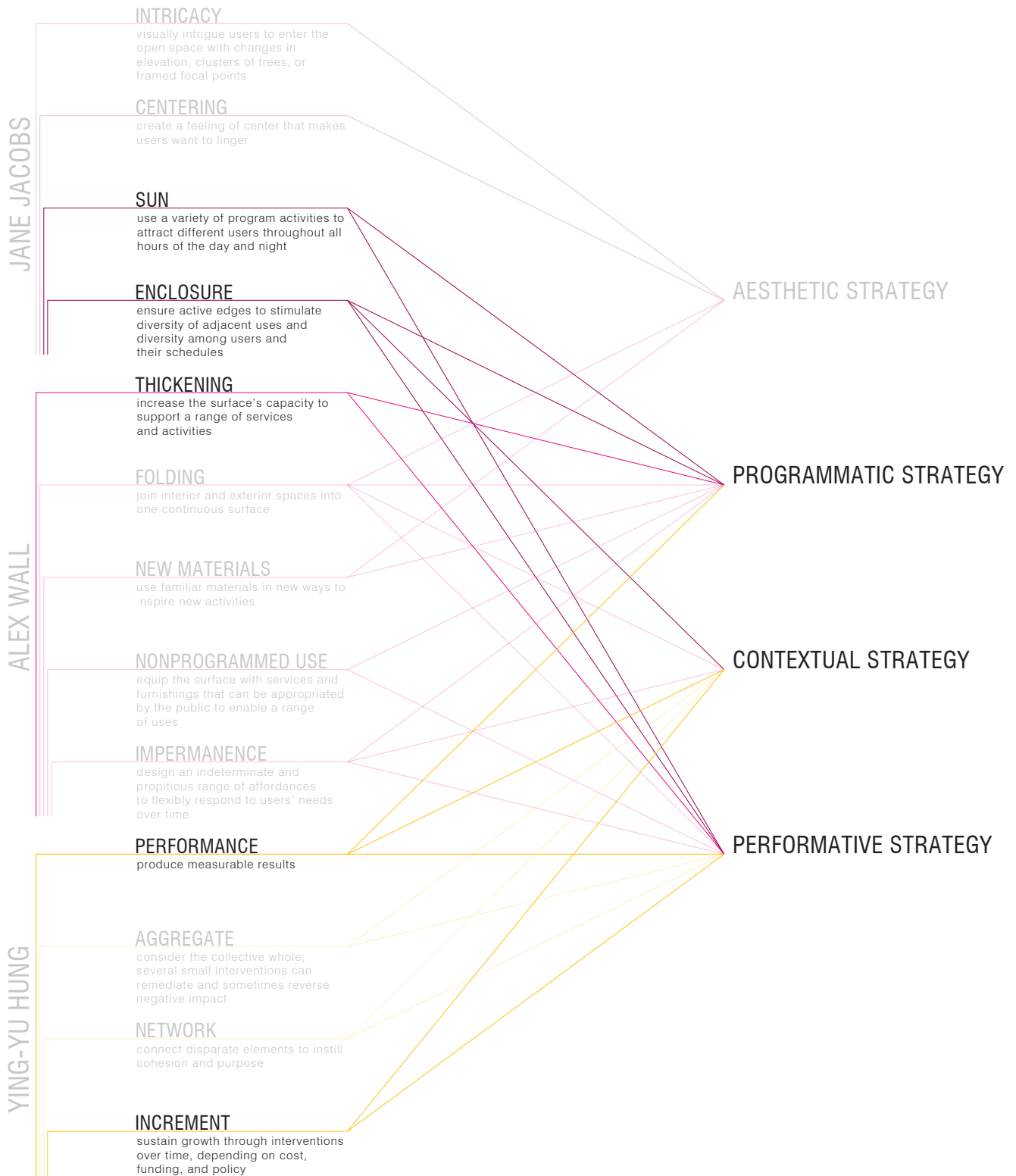
## CONCLUSIONS

In this report, I present a new perspective about the role of surface. The urban surface is a dynamic medium that can provide aesthetic value, incite social activity, influence surrounding conditions, and facilitate multifunctional performance over time. Using the literature of Jane Jacobs, Alex Wall, and Ying-Yu Hung, I have provided landscape architects with a theoretical framework that consists of various surface tactics that are multifunctional, multi-scalar, and pragmatic. These surface tactics have served as my design principles and evaluative tools for two precedent studies, the MHK Project, and the ULI Competition. Throughout this process, my projective design methodology has allowed me to develop a greater understanding of the surface tactics and deeper insights about my theoretical framework. Overall, I have learned that all of the surface tactics are interrelated, yet some are more impactful than others for creating effective open spaces in urban environments.

My iterative methodology has revealed that all of the surface tactics are related to one another. For example, the aesthetic surface tactics are intricacy, centering, folding, and new materials (Figure 2.5, p.13). All of these surface tactics

aim to create visually and spatially rich places to draw people into the site. Therefore, all of the aesthetic surface tactics ultimately achieve intricacy. However, the folding and new materials surface tactics also perform programmatically as means for defining spaces and accommodating activities. Thus, each surface tactic performs in several ways, which identifies relationships between the tactics and reveals insights about the theoretical framework itself.

Throughout the precedent studies and redevelopment projects, I have learned that all of the surface tactics are valuable for creating multifunctional open spaces, yet I have concluded that some tactics are more impactful than others. In Figure 6.1 on the following page, I have defined primary and secondary surface tactics within my theoretical framework based on my research. The primary surface tactics are sun, enclosure, thickening, performance, and increment. These surface tactics are the most impactful because they can accomplish the objectives of the secondary surface tactics. For example, the sun and enclosure surface tactics are about providing a variety of programs and land uses within open spaces and the surrounding buildings to ensure diversity





of users and activities throughout all hours of the day. If these two surface tactics are used effectively, they can accomplish the objectives of intricacy and centering through the activities of people. The sun and enclosure surface tactics are about satisfying the needs and desires of users, and, inherently, satisfied users attract more users. Therefore, the people themselves create visual interest and provide a feeling of center that makes other people want to linger in the open space. Additionally, if sun and enclosure are used with the thickening surface tactic, the place would achieve the impermanence and nonprogrammed use surface tactics because the resultant open space would become a dynamic place that users could appropriate.

The performance and increment surface tactics are also primary tactics because, when used effectively, they can provide a development strategy for creating multifunctional open spaces that have lasting environmental, social, and economic value. These surface tactics are based on realities, which force landscape architects to prioritize their visions based on cost, funding, and policy. The performance and increment surface tactics aim to incite change within the larger urban system through pragmatic interventions. Both of these surface tactics, as well as sun, enclosure, and thickening, are the primary surface tactics within my theoretical framework. However, all of the surface tactics are valuable, and each can be achieved in multiple ways, allowing creative freedom and site-specific design solutions.

In the future, I plan to explore the surface tactics at a range scales. This exploration of the individual surface tactics and further reflection of the theoretical framework could result in my ownership of the ideas. However, for me, the true value of this report is that I have created something that has changed the way that I

approach design. Undoubtedly, this report is something that I will continue to use throughout my career because the concepts are timeless.

Urban open spaces need to be multifunctional places that improve the quality of life and provide lasting value to cities. This can be achieved through the aggregation of tactics in the surface that accommodate, organize, structure, and facilitate dynamic processes. Therefore, the urban surface is the catalyst.

FIGURE 6.1 PRIMARY SURFACE TACTICS  
(BY AUTHOR, 2013)

# APPENDIX







*Aggregate* is a surface tactic that employs several small interventions in effort to remediate or reverse negative impact (Hung, 2010, p.18).

*Centering* is a surface tactic that creates a feeling of center that makes users want to linger (Jacobs, 2011, p.104).

In this report, *economic vitality* refers to the relationship between urban open spaces and commerce. Effective open spaces catalyze economic vitality by attracting people and increasing the property values.

*Enclosure* is a tactic that ensures diverse users and active edges by providing a variety of adjacent land uses (Jacobs, 2011, p.106).

*Environmental vitality* is the durability or ability of environmental systems to function appropriately and sustainably.

*Folding* is a surface tactic that joins interior and exterior spaces into one continuous surface (Wall, 1999, p.243).

*Impermanence* is a surface tactic that provides an indeterminate and propitious range of

affordances to flexibly respond to users' needs over time (Wall, 1999, p.243).

*Increment* is a tactic that refers to sustaining growth through interventions over time depending on cost, funding, and policy (Hung, 2010, p.18).

*Intricacy* is a surface tactic for visually intriguing users to enter and to explore an open space (Jacobs, 2011, p.104).

*Network* is a surface tactic that connects disparate elements to instill cohesion and purpose (Hung, 2010, p.18).

*New materials* is a surface tactic that uses familiar materials in new ways to inspire new activities among users (Wall, 1999, p.243).

*Nonprogrammed use* is a surface tactic that equips the surface with a services and furnishings that can be appropriated by the public to enable a range of uses (Wall, 1999, p.243).

*Performance* is a surface tactic that refers to the surface's ability to produce measurable results (Hung, 2010, p.18).

# GLOSSARY

*Program indeterminacy* is a dynamic condition used to describe designed spaces where the programmatic activities are not well defined or unpredictable so that spaces remain open to multiple interpretations. Program indeterminacy is achieved by embedding a range of services and equipment in the surface so that the space accommodates multiple functions and types of events. This strategy allows the space to remain active as social needs and desires change over time, which is a way of sustaining social and economic vitality. (Wall, 1999, p.242)

*Social vitality* is less quantifiable, and it is based on the quality or character of a space to attract and engage people.

*Sun* is a surface tactic that strategically uses a variety of program activities in particular locations to attract users and to ensure activities throughout all hours of the day and night (Jacobs, 2011, p.105).

*Thickening* is a surface tactic that increases the surface's capacity to support a range of services and activities (Wall, 1999, p.243).

An *urban surface* is a "three-dimensional profile, within which living and dynamic systems ... originate, develop, flow through, or are contained. Its profile extends beyond the top/interface layer to a series of overlapping horizons that interchange resources for reinforcement and symbiosis" (Margolis & Robinson, 2007, p.36).

*User appropriation* is the underlying goal of program indeterminacy because it encourages people to take an active stance by creating, adapting, or imagining whatever they want to in a space. Thus, user appropriation creates vitality in designed spaces. (Wall, 1999, p.243)

*Vitality* is the liveliness or the abundant physical and mental energy applied to situations and activities. It is also the durability or the ability of something to live, grow, or continue to exist. (Encarta World English Dictionary, 1999)





# WORK PLAN

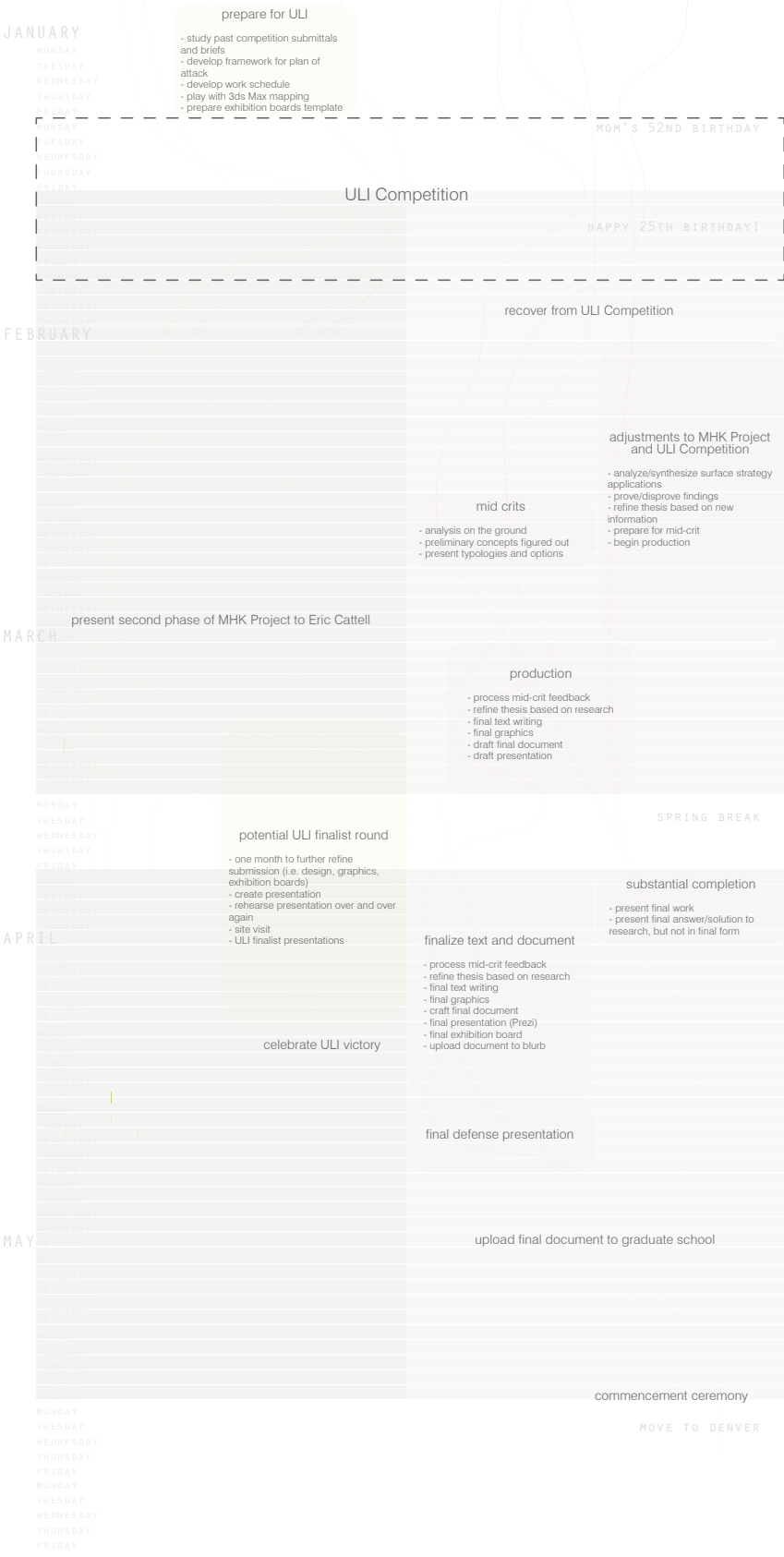


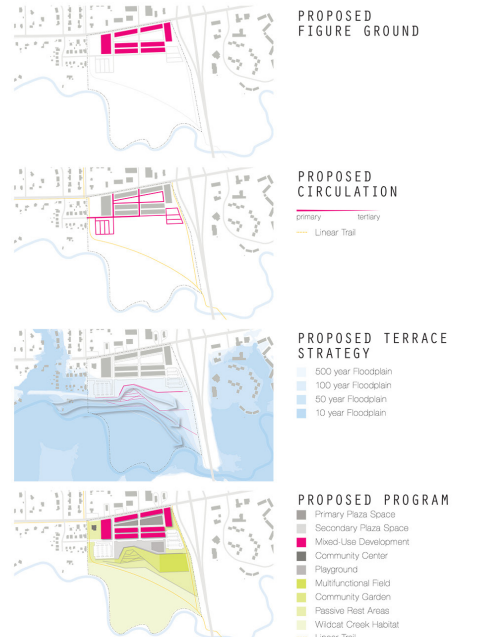
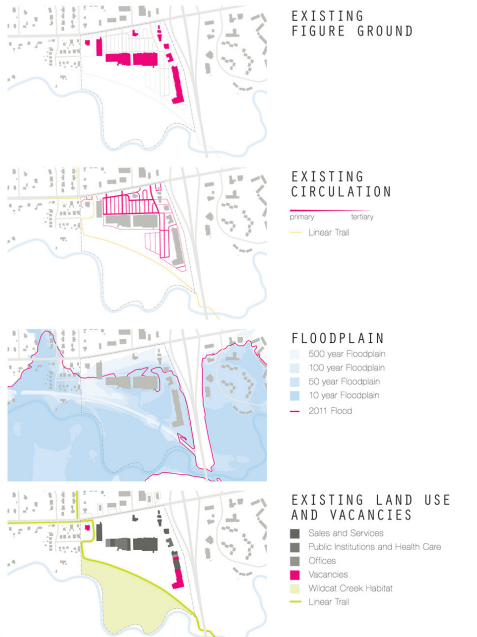
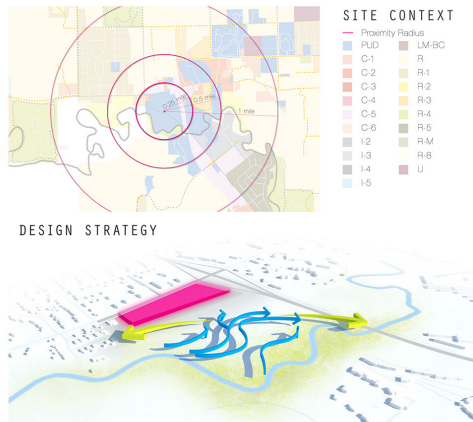
FIGURE 7.1 WORK PLAN (BY AUTHOR, 2012)

# BRIARCLIFFE VILLAGE

## A CONTEMPORARY TYPOLOGY FOR THE FUTURE MANHATTAN

Manhattan, Kansas is a rapidly growing college town that seeks to redefine its communities through new sustainable development practices. With the population projected to increase significantly due to student enrollment at Kansas State University and the National Bio and Agro-Defense Facility (NBAF), Manhattan is facing potential housing demand issues. In addition to the housing demand, Manhattan faces environmental issues involving more frequent and intense flood events along Wildcat Creek in effort to remediate this flooding issue

and plan for the future housing demand, the City of Manhattan has recognized the need for more sustainable development models. The opportunity is realized through the redevelopment of the underperforming commercial center, Village Plaza. Village Plaza contains multiple dilemmas that exemplify the typical dilemmas throughout the city such as a lack of identity, connectivity issues, flooding hazards, and continuing underperformance. However, these issues are resolved in the **Briarcliffe Village** redevelopment project.



### CONCEPT

### SITE INVENTORY

### SCHEMATIC DESIGN

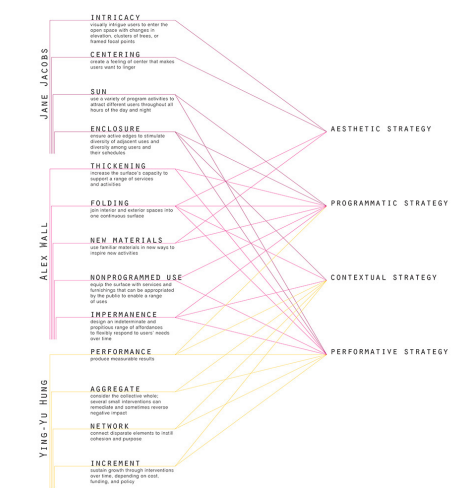
FIGURE 7.2 BRIARCLIFFE VILLAGE PRESENTATION BOARD FOR THE CITY OF MANHATTAN (HARPER + HOETMER, 2012)

# THE ROLE OF SURFACE

## CATALYTIC SURFACE STRATEGIES FOR OPEN SPACE IN BRIARCLIFFE VILLAGE

The urban surface can be used as a tool to create dynamic places that enhance the urban quality of life and provide lasting value to cities. In this report, a theoretical framework derived from the literature of Jane Jacobs, Alex Hall, and Ying-Yu Hung accommodates, organizes, structures, and facilitates

dynamic processes through the employment of various tactics in urban open spaces. The tactics are aesthetic, programmatic, contextual, and/or performative in nature, and the aggregation of these tactics in the urban surface catalyzes environmental, social, and economic vitality in urban open spaces.

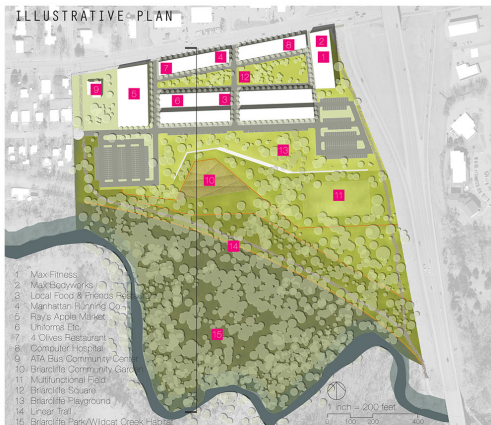


### THESIS

### INVESTIGATION

### APPLICATION

FIGURE 7.3 INDIVIDUAL THESIS PRESENTATION BOARD FOR THE CITY OF MANHATTAN (BY AUTHOR, 2013)



**Briarcliffe Village** is a culmination of big moves that encourage a more contemporary and sustainable model of development. Propelled by the recurring flood events of Wildcat Creek, the existing connectivity issues, and the underutilized single-use function of Village Plaza, Briarcliffe Village revitalizes the area by creating a new destination and identity for West Manhattan. Briarcliffe Village moves toward a private + public partnership in which the City of Manhattan expands the recreational space of Briarcliffe Park to engage Wildcat Creek and ultimately create a district typology unknown to Manhattan. Boasting a mixture of uses, a pedestrian friendly environment, a range of residential options, and a copious amount of open space, Briarcliffe Village provides a rich urban experience that informs the future development of Manhattan.

EXISTING	PHASE ONE	PHASE TWO	PHASE THREE	PHASE FOUR	PROPOSED TOTALS
Timeline: present Residential: 0 units Retail: 118,595 sf Civic: n/a Office: 44,149 sf Health: 25,910 sf Infrastructure: parking lots, linear trail	Timeline: 2018-2019 Residential: 151 units Retail: 37,578 sf Civic: 4,256 sf Office: 19,059 sf Health: 45,000 sf Infrastructure: riparian clearing, central space construction, street adjustments	Timeline: 2019-2021 Residential: 151 units Retail: 35,650 sf Civic: n/a Office: n/a Health: n/a Infrastructure: complete access roads and relocation of tenants	Timeline: 2021-2023 Residential: 16 units Retail: 37,809 sf Civic: n/a Office: n/a Health: n/a Infrastructure: back roads, parking lots complete, open space, central space complete	Timeline: 2023-2026 Residential: 16 units Retail: n/a Civic: n/a Office: n/a Health: n/a Infrastructure: briarcliffe park completion	Timeline: build out Residential: 163 units (+153%) Retail: 111,537 sf (+49%) Civic: 4,256 sf (+4256%) Office: 37,426 sf (+18%) Health: 45,000 sf (+73%) Infrastructure: floodplain restoration, briarcliffe park, briarcliffe square

## DEVELOPMENT PLAN

These were the two presentation boards from the MHK Project. Derek Hoetmer and I collaborated and made the Briarcliffe Village board for the first phase of the project, as seen in Figure 7.2. Together, we presented to the City of Manhattan's Planner, Eric Cattell, in late November. Derek and I revisited the project the following semester, and we continued developing our original proposal individually.

Figure 7.3 was my individual board for the second phase of the MHK Project. I applied my theoretical framework to the original proposal, evaluated the scheme through diagrams, and made adjustments that were informed by my thesis. I presented my individual board to Mr. Cattell at the end of February.

These boards went on display in the Chang Gallery of Seaton Hall at the end of March. The Chang Gallery was reserved by my major professor, Dr. Jason Brody, to exhibit the academic accomplishments of the UDD group.



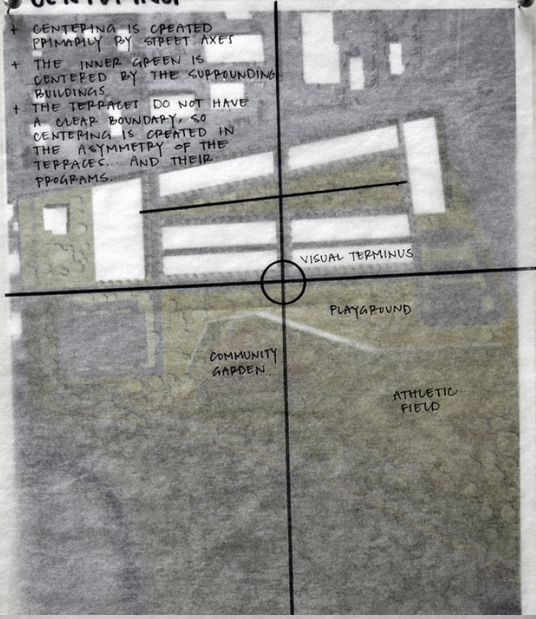
### INTRICACY

- + THE INNER GREEN
- + THE TERRACE STRATEGY WITH PLAYGROUND + COMMUNITY GARDEN + ATHLETIC FIELD



### CENTERING

- + CENTERING IS CREATED PRIMARILY BY STREET AXES
- + THE INNER GREEN IS CENTERED BY THE SURROUNDING BUILDINGS
- + THE TERRACES DO NOT HAVE A CLEAR BOUNDARY, SO CENTERING IS CREATED IN THE ASYMMETRY OF THE TERRACES... AND THEIR PROGRAMS.

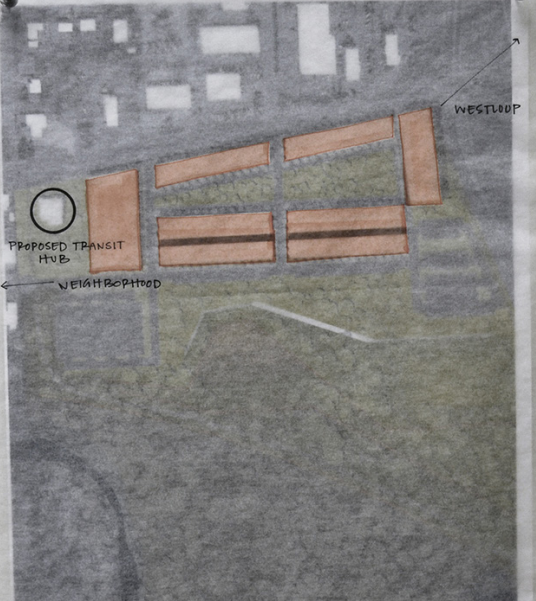


### SUN

- LINEAR TRAIL
- INNER GREEN FLEX FIELD
- PLAYGROUND
- COMMUNITY GARDEN
- COMMUNITY CENTER
- FLEXIBLE OPEN SPACE
- PARKING



### ENCLOSURE



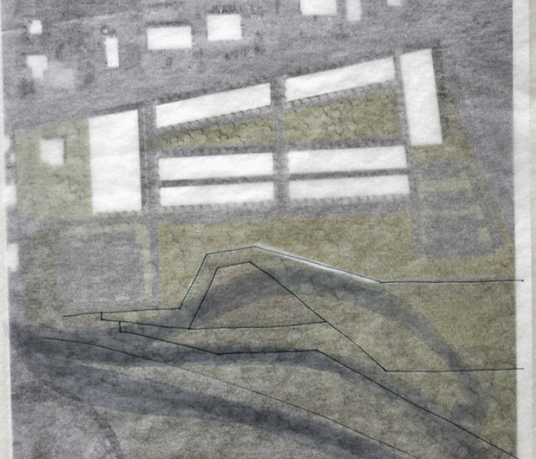
### THICKENING

- + THE THICKENING STRATEGY IS UNDERDEVELOPED.
- + THE CURVES SHOW OPPORTUNITIES FOR THICKENED SURFACES



### PERFORMANCE

- + THE DESIGN PERFORMS WELL ECOLOGICALLY...
- + THE FLOOD-ABLE TERRACES ALLOW SIGNIFICANTLY MORE INFILTRATION.

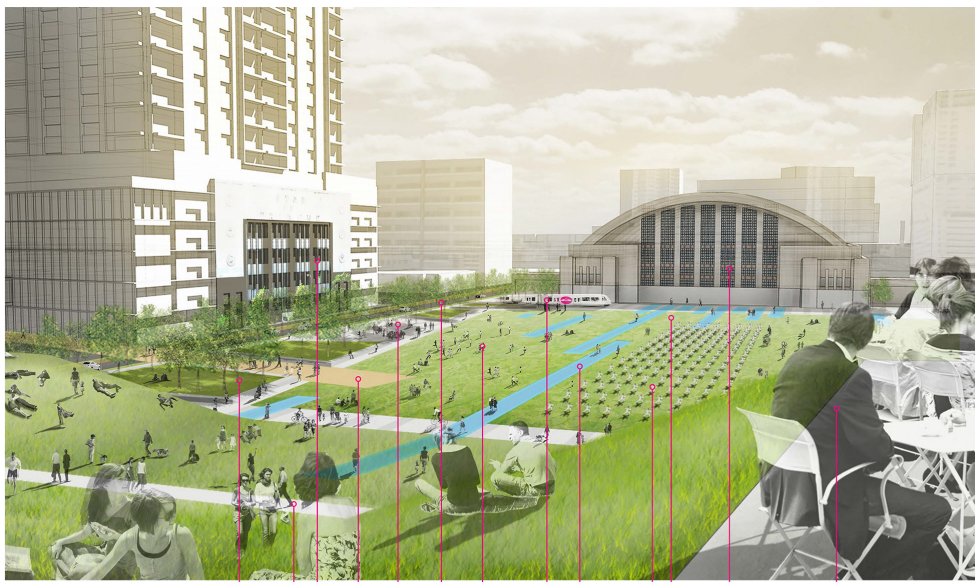




# MHK PROJECT PROCESS

To evaluate the Briarcliffe Village proposal, I created a series of rapid-fire diagrams that illustrated the various surface tactics described in my theoretical framework. Figure 7.4 was my initial set of diagrams for the MHK Project. This early set of diagrams not only helped me make informed adjustments to the original scheme, but it also helped me figure out the most effective methods to illustrate my diagrams. For example, I realized that Alex Wall's thickening tactic was not fully explained from plan view. I later started to explore axonometric drawings and sections.

FIGURE 7.4 MHK PROJECT PROCESS DIAGRAMS (BY AUTHOR, 2013)



AN AFTERNOON AT THE ARMORY

- Armory Boutique Library
- Connections to Skyway
- Preserved Star Tribune facade
- Freedom Promenade to LRT stop
- Charles Schulz Walker Park
- Portland Ave.
- Day Care recess
- LPT Lanes
- Skyways to parking ramp
- Tilt CH on the lawn
- Flexible civic lawn
- The Armory
- Lunch on the terrace



CONCEPTUAL FRAMEWORK



VEHICULAR + TRANSIT CIRCULATION

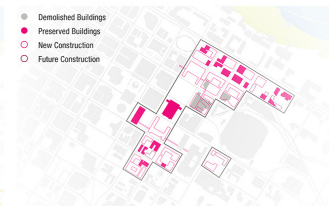
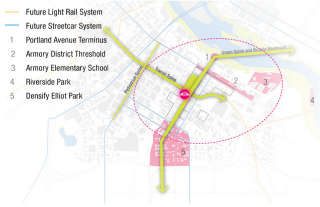
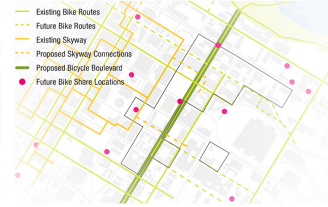


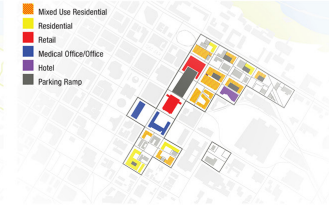
FIGURE GROUND



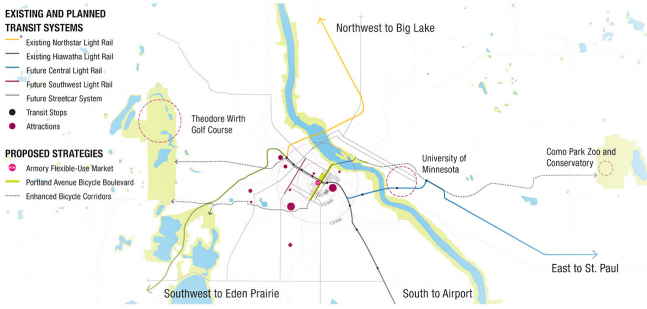
VISION PLAN - AN ADAPTIVE FUTURE



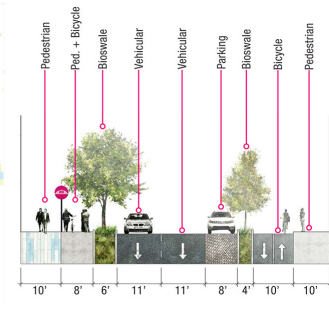
PEDESTRIAN + BICYCLE CIRCULATION



LAND USE



REGIONAL CONNECTIVITY



PORTLAND AVENUE BICYCLE BOULEVARD

# THE ARMORY

## A LANDMARK COMMUNITY FOR



- 1 Armory - re-purposed as an indoor market and flexible civic space
- 2 Armory Green #500 car parking ramp
- 3 The Shops at Armory (former JW Marriott), Armory Fitness Center, GPOH Store, Branner Bank, Lucky Strike Bowling, health spa, day care, restaurant, recreation, Armory Store, hair/salon, etc.
- 4 Portland Ave. pedestrian + bicycle experience
- 5 Armory District Medical Clinic and Research Facility
- 6 Star Tribune Terrace
- 7 Armory towers
- 8 Armory hotel
- 9 Neighborhood shop mall
- 10 AAC Theater at the Armory
- 11 Shared-oriented living
- 12 Affordable housing
- 13 Skyway connection
- 14 Existing Theater building
- 15 New Vikings stadium
- 16 Light rail stop
- 17 Day Care
- 18 Mental Business District
- 19 Responsive walk



**A** Dusty  
An avid cyclist and graduate student at the University of Minnesota, Dusty lives in Drakeham and works at the Armory District Medical Clinic. He enjoys dining, lunch at the Armory, the food of Helsinki restaurant, and organizing his favorite beer-pairing, the Gashorn.



**B** Bruce + Sara  
Bruce and Sara recently purchased a condo at Armory Towers. They frequently buy a bottle of wine and overlook the park from their balcony. Bruce is a director of technology at Target, while Sara is an active volunteer in the community.



**C** Amoon  
A single mom, Amoon has worked for years at City Hall. She commutes from the suburbs with her daughter, who attends nearby De La Salle High School. Amoon often packs up a few things for dinner at the Armory on her way home.



**D** Don + Ashley  
Don decided to move to independent living off of Portland Ave. to be closer to his love for the park and the view. He and Ashley are frequent visitors to the park. Don is a frequent golfer and attends his piano recital.



VIKING VICTORY MARCH TO ARMORY GREEN



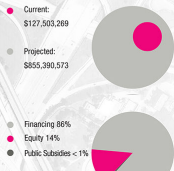
# ULI COMPETITION / FIRST ROUND

## ARMORY

AN ADAPTIVE URBAN LIFESTYLE



### Site Value



Unleveraged IRR Before Taxes  
**12.79%**



**E** Jason + Wendy

Jason and Wendy came into town for the Wings vs. Packers game. While waiting at Armory Green, Wendy was surprised by the variety of retail nearby. She frequents local shops and boutiques for her Christmas shopping.



**F** Dave + Michael

Dave works via Skyway to his job at a marketing firm downtown and Michael commutes by light rail to a law firm in Bloomington. They enjoy the variety of Minneapolis Community College. Most weekends, they enjoy the scenic views of the city from their favorite restaurants.



**G** Cai

Cai lives in a studio apartment in the Armory District where she works nearby as a bartender and is finishing her degree at the University of Minnesota. She frequents her favorite restaurants and shops in the Armory District to get her fresh produce and coffee.



**H** Elijah

Elijah is a recent graduate from culinary training courses at the nearby Catholic Charities Center after looking for a way out of homelessness. He now works at an Armory District restaurant that provides an equity, local food business.



### AN ICONIC GREEN FOR DOWNTOWN MINNEAPOLIS



**PHASE ONE - 2015** Total: 1,729,849 SF



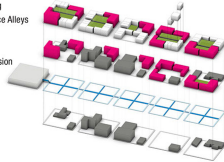
**PHASE TWO - 2017** Total: 1,999,494 SF



**PHASE THREE - 2021** Total: 714,793 SF

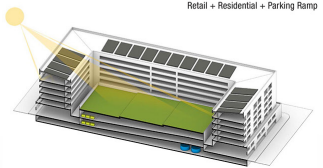
### Infill Strategies

- Internalized Parking
- Pedestrian + Service Alleys
- Wind Relief
- Variable Facades
- Cellular Parcel Division

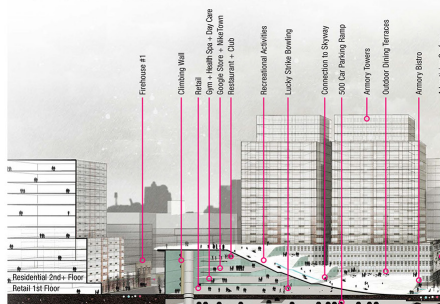


### Sustainable Strategies

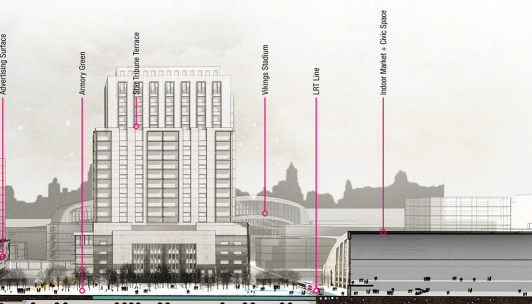
- Daylighting
- Green Roof Terraces
- Electric Car Charging Stations
- Grey Water Storage
- Solar Energy Collection



### WASHINGTON AVENUE INFILL STRATEGY



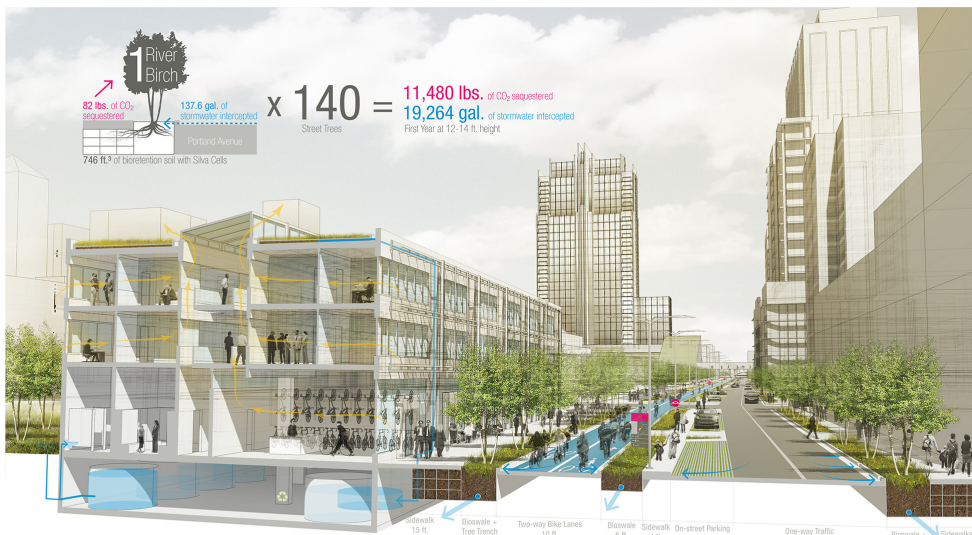
### MIXED-USE BUILDING TYPOLOGY



### WINTER ACTIVITIES AT ARMORY GREEN







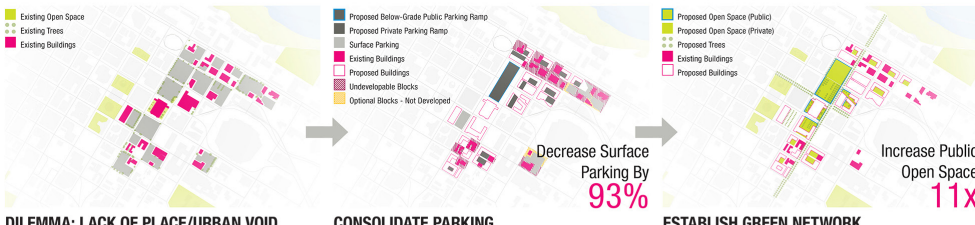
**BUILDING STRATEGIES** Recycle Greywater + Rainwater - Daylight + Naturally Ventilate Spaces - Reduce Energy Consumption  
**STREET STRATEGIES** Intercept + Cleanse Stormwater - Establish Urban Forest - Foster Bikeability

**MORNING RIDE ON PORTLAND AVENUE: A SUSTAINABLE CORRIDOR**

Downtown Minneapolis currently lacks functional open space. Inactive downtown plazas focused on office buildings and outlying neighborhood parks rudimentarily connect to the greater open space network that the city is known for. Downtown East is characterized by an urban condition that relies upon convenient and inexpensive surface parking lots. The consistent revenue generated by surface parking is a disincentive to further development. Together, these two conditions contribute to an urban void and an absence of place.

The Armory consolidates surface parking into structured ramps, allowing for an intensification of development that fills the existing urban void with an iconic design. This strategy encourages the Downtown workforce to shift towards other modes of commuter transportation. A smaller dwelling unit to parking space ratio allows for space that can be utilized for other uses, including public and private open space. The consolidation of parking also development. Together, these two conditions contribute to an urban void and an absence of place.

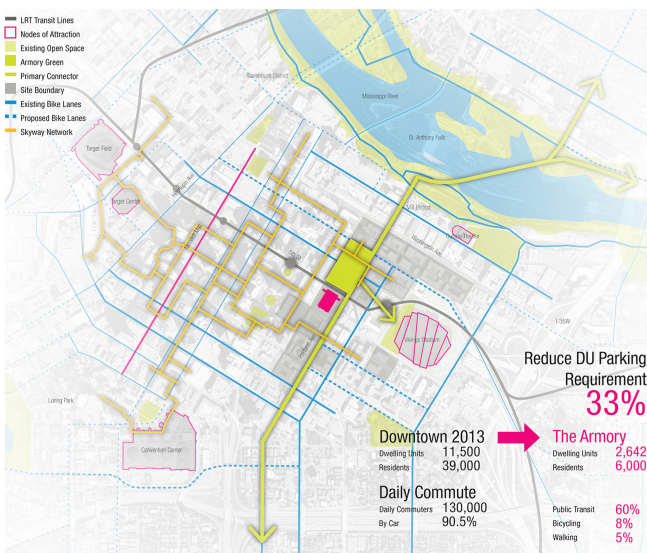
The Armory provides the primary civic, multi-use open space that serves Downtown and the Mississippi/St. Paul region. This open space directly connects to the River and Elrod Park via a revitalized Portland Ave. that is transformed into a bicycle boulevard. 5th St. enters into Downtown from the Vikings stadium and transit stop as a green corridor. Together, a network of public and private open space contributes to a strong sense of place for Downtown. This sense of place creates the value for a development that captures the desire for Minneapolis to become a walkable urban destination.



**DILEMMA: LACK OF PLACE/URBAN VOID**

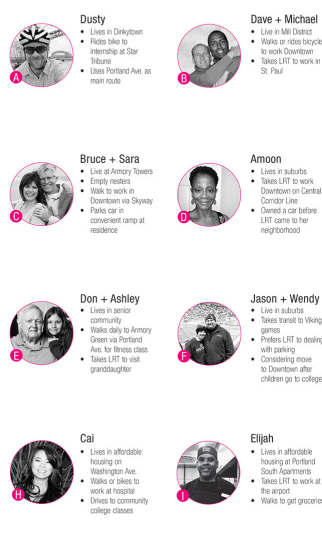
**CONSOLIDATE PARKING**

**ESTABLISH GREEN NETWORK**

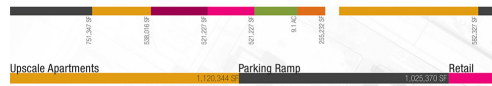
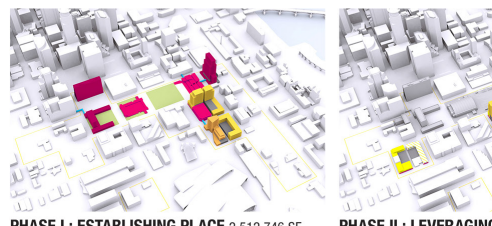


**THE ARMORY - A PROMINENT COMPONENT OF DOWNTOWN MINNEAPOLIS**

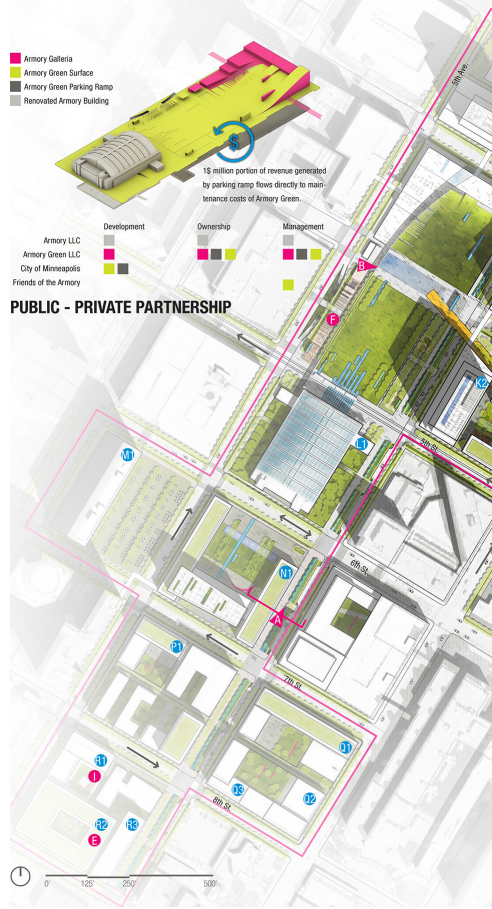
**THE ARMORY SERVES A DIVERSE POPULATION**



**THE ARMORY**  
**RESILIENT MINNEAPOLIS**



**TOTAL BUILDOUT 4,657,919 SF**

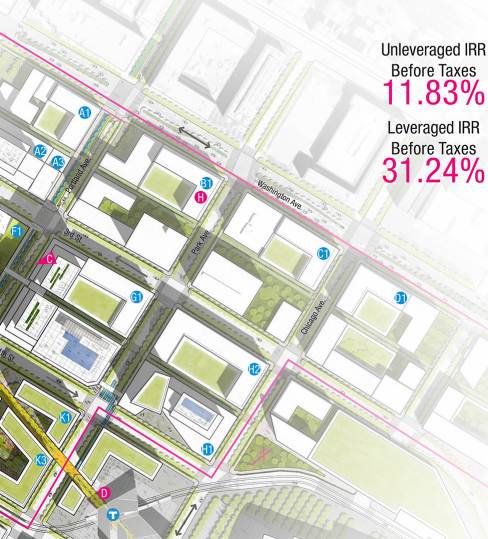
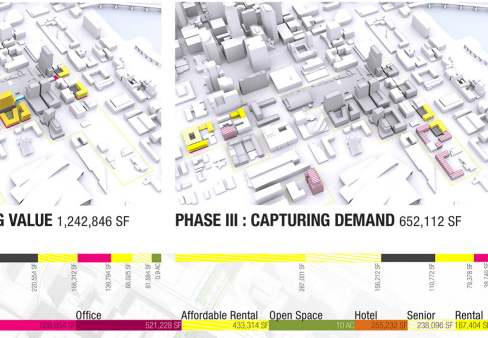




# ULI COMPETITION / FINALIST ROUND

# ARMORY

## CHICAGO BY DESIGN



### A LEED GOLD NEIGHBORHOOD DEVELOPMENT

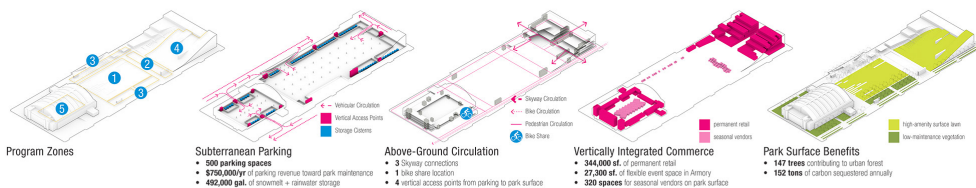
Building	Type	Features	SF	Units	FAR
1	Portland - Work Apartments	Adjacent to Portland Ave.	75,404	73	3.6
2	Office Retail	LEED Certified	410,689	n/a	7.9
3	Retail	Adjacent to Bike share	6,186	n/a	2.0
4	Ground Floor Retail	Adjacent to Portland Ave.	166,162	135	5.0
5	High End Apartments	Proximity to Quinn Theater	113,821	165	4.1
6	Ground Floor Retail	Adjacent to Portland Ave.	112,277	95	1.59
7	Retail	Service + Specialty Retail	164,789	n/a	1.69
8	Movie Theater + Gallery	Movie Theater + Gallery	654,645	318	61.4
9	Hotel	Connected to Skyway	308,072	719	5.7
10	High End Apartments	Connected to Hotel	248,247	130	4.65
11	Residential of the 'M'	Proximity to Quinn Theater	121,182	88	5.79
12	High End Apartments	Connected to Skyway	488,470	305	6.30
13	High End Apartments	Proximity to Quinn Theater	128,412	162	2.89
14	Hotel	Market - Flexible Open	70,253	n/a	1.96
15	Office	Views to Armory	438,660	n/a	4.11
16	Plaza + Portland Ave.	Plaza + Portland Ave.	240,325	n/a	2.23
17	Market Rate Rental	Ground Floor Retail	88,625	79	3.29
18	Senior Rental	Proximity to Hospital	155,704	91	2.82
19	Market Rate Rental	Ground Floor Retail	61,186	48	3.22
20	Market Rate Rental	Adjacent to Portland Ave.	17,261	42	3.05
21	Market Rate Rental	Adjacent to CBD	65,738	61	2.32
22	Senior Rental	Proximity to Hospital	201,181	123	4.03
23	Market Rate Rental	Ground Floor Retail	67,150	67	4.36
<b>Total</b>			<b>4,222,319</b>	<b>2,604</b>	<b>115.5</b>

Site Value: Current (\$135,071,168), Projected (End of Year 10: \$1,377,965,514), Assets (\$1,377,965,514), Liabilities (\$696,690,501), Net Worth (\$681,275,014)

2024 Owner's Balance



### HOLIDAY SEASON AT ARMORY GREEN



### ACTIVATING THE ARMORY THROUGH MULTI-FUNCTIONAL DESIGN





## INTRICACY

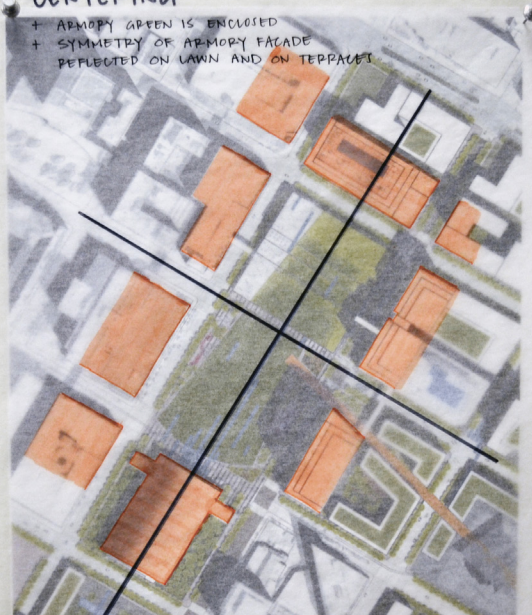
- + THE SURFACE RAMPING UP
- + THE TERRACES
- + THE SKYWAY CONNECTION
- + THE PLANTERS
- + TREE CLUSTERS
- + SKYWAYS TO PARKING GARAGE



Besides paving, there isn't any other visual cue to make people want to walk to Armory Green.

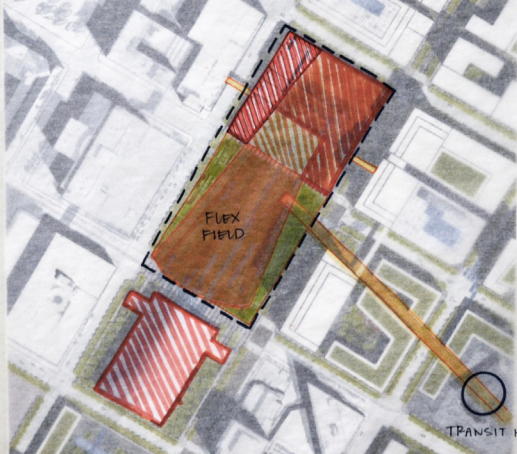
## CENTERING

- + ARMORY GREEN IS ENCLOSED
- + SYMMETRY OF ARMORY FACADE REFLECTED ON LAWN AND ON TERRACE



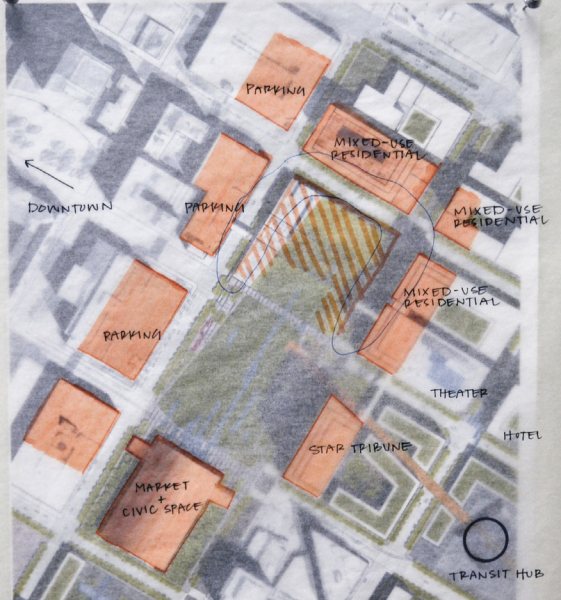
## SUN

- PARKING GARAGE
- FLEX FIELD - RECREATION, CIVIC EVENTS, CULTURAL FAIR
- THE HILL - PASSIVE ACTIVITIES OR SLEDDING IN WINTER
- RETAIL - CLOTHING APPAREL, RESTAURANTS, GYM, DAY CARE
- SHADED REST AREAS, VEGETATED PLANTERS, SEAT WALLS
- PEDESTRIAN CONNECTIONS
- PAVED TERRACES - OUTDOOR DINING, REST AREAS



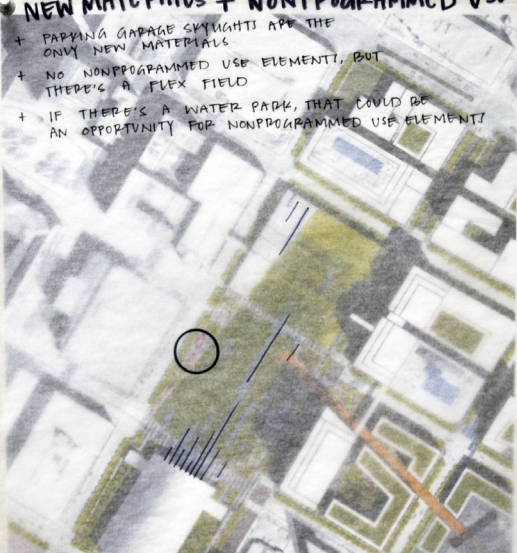
TRANSIT HUB

## ENCLOSURE



## NEW MATERIALS + NONPROGRAMMED USE

- + PARKING GARAGE SKYWAYS ARE THE ONLY NEW MATERIALS
- + NO NONPROGRAMMED USE ELEMENT, BUT THERE'S A FLEX FIELD
- + IF THERE'S A WATER PARK, THAT COULD BE AN OPPORTUNITY FOR NONPROGRAMMED USE ELEMENT



## PERFORMANCE + AGGREGATE

- + THE SITE PERFORMS SOCIALLY AND ECONOMICALLY, BUT IT HAS POOR ECOLOGICAL PERFORMANCE
- + ARMORY GREEN IS BASICALLY A LARGE GREEN ROOF ON TOP OF A PARKING GARAGE. THEREFORE, SOME WATER MAY COLLECT IN THE SOIL, BUT THERE ISN'T ANY ABOVE WATER RECHARGE.
- + THE BIOSWALE ALONG PORTLAND COLLECTS STORMWATER, CLEANSSES IT, AND DIRECTS IT TO THE RIVER. HOW CAN THIS BE BETTER?





# ULI COMPETITION PROCESS

To evaluate our ULI Competition proposal, I created a series of rapid-fire diagrams that illustrated the various surface tactics described in my theoretical framework. Figure 7.7 was my initial set of diagrams for the ULI Competition. These diagrams illustrated our successes and failures in the open space of our original proposal. For example, the intricacy diagram revealed how our pedestrian promenade did not have a terminal element; it just abruptly ended on the lawn of Armory Green.

These discoveries helped us improve our design for the finalist round of the competition.





# KNIGHTS OF THE ROUND TABLE



FIGURE 7.8 (OPPOSITE TOP) REHEARSING IN HOTEL (BRODY, 2013)

FIGURE 7.9 (OPPOSITE BOTTOM) WINNING TEAM ANNOUNCED (BRODY, 2013)

FIGURE 7.10 (TOP) FIRST ROUND SUBMISSION (AL-ASADY, 2013)

FIGURE 7.11 (BOTTOM) TEAM 1155 (LEFT TO RIGHT) - LAUREN BROWN, KYLIE HARPER, KEVIN CUNNINGHAM, TYLER KNOTT + DEREK HOETMER (BRODY, 2013)



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**Figure 0.1 UDD meshwork diagram / XII**

Harper, K. (2013). *UDD meshwork diagram*. Adobe Illustrator 6.

**Figure 2.1 Schouwburgplein / 7**

Flickr user Illustir (Photographer). (2013). *Schouwburgplein*. Retrieved April 2013, from: [http://farm4.staticflickr.com/3139/2442681539\\_7c3900bc8b\\_b.jpg](http://farm4.staticflickr.com/3139/2442681539_7c3900bc8b_b.jpg)

**Figure 2.2 Olympic Sculpture Park / 8**

Warchol, P. (Photographer). (2006). *Olympic Sculpture Park*. Retrieved March 2013, from: <http://ad009cdnb.archdaily.net/wp-content/uploads/2011/01/1294327331-pwserra-valley.jpg>

**Figure 2.3 The High Line / 10**

Flickr user Garcia, N. (Photographer). (2011). *High Line Park New York City*. Retrieved March 2013, from: <http://www.flickr.com/photos/cityprojectca/6047170255/>

**Figure 2.4 Millennium Park / 11**

Flickr user Sunface13 (Photographer). (2009). *Looking west from the lakefront*. Retrieved March 2013, from: <http://www.flickr.com/photos/sunface13/3886613805/>

**Figure 2.5 Literature summary diagram / 13**

Harper, K. (2013). *Theoretical framework*. Adobe Illustrator 6.

**Figure 3.1 Methodology diagram / 17**

Harper, K. (2013). *Methodology diagram*. Adobe Illustrator 6.

**Figure 3.2 Schouwburgplein water jets / 19**

Flickr user Dede90 (Photographer). (2005). *Schouwburgplein, Rotterdam*. Retrieved March

2013, from: <http://www.flickr.com/photos/dede90/4913513556/>

**Figure 4.1 Schouwburgplein vs. Rotterdam / 23**

Harper, K. (2013). *Schouwburgplein vs. Rotterdam*. Adobe Illustrator 6.

**Figure 4.2 Children playing in the square / 23**

Flickr user Illustir (Photographer). (2013). *Schouwburgplein*. Retrieved April 2013, from: [http://farm4.staticflickr.com/3139/2442681539\\_7c3900bc8b\\_b.jpg](http://farm4.staticflickr.com/3139/2442681539_7c3900bc8b_b.jpg)

**Figure 4.3 Schouwburgplein aerial photograph / 23**

Harper, K. (2013). *Schouwburgplein aerial photograph*. Source map: Google Earth. Rotterdam, the Netherlands. Accessed April 2013. Adobe Illustrator 6.

**Figure 4.4 Schouwburgplein intricacy / 25**

Harper, K. (2013). *Schouwburgplein intricacy*. Adobe Illustrator 6 + SketchUp 8.

**Figure 4.5 Industrial cranes and water jets / 26**

Flickr user Dede90 (Photographer). (2005). *Schouwburgplein, Rotterdam*. Retrieved March 2013, from: <http://www.flickr.com/photos/dede90/4913513556/>

**Figure 4.6 Pathé Theater lighting / 26**

*The Sleeping Beauty*. Rotterdam info. Retrieved April 2013, from: <http://en.rotterdam.info/visitors/events/10674/the-sleeping-beauty/>

**Figure 4.7 Schouwburgplein centering / 26**

Harper, K. (2013). *Schouwburgplein centering*. Adobe Illustrator 6 + SketchUp 8.

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## Figure 4.8 Schouburgplein winter sun / 27

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