

Westlake Union Traverse

Andrea Fitch

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Thaisa Way, Chair

Bob Mugerauer

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west lake union traverse



Envoi

Imprisoned by four walls
[to the North, the crystal of non-knowledge
a landscape to be invented
to the South, reflective memory
to the East, the mirror
to the West, stone and the song of silence]
I wrote messages, but received no reply.

Octavio Paz

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ABSTRACT



Searching out the lines that already exist interests me more than imposing new ones... Pressing leaves into the bark of a tree produces lines dictated by the tree's growth patterns. The intention is not just to make a line, but to draw the change, movement, growth and decay that flow through the place.

ABSTRACT

I am fascinated by one's ability to drift through a space. In an unobstructed environment, water and people flow; people might drift and wander while water takes a more direct route, but both generally follow paths of least resistance. These paths of least resistance are shaped by fine grained elements of built environments, climatic zones, subtle changes in topography and widening and narrowing of a path. Yet, the infrastructure that binds us together and the architecture within it appear large: networks and nodes of roads, energy, and communication reach widely to offer services but in doing so, divide space. The closer you look, the more you see, and the work of several designers and urban thinkers, specifically Irene Scalbert, Lucius Burckhardt, The Situationists and Robin Dripps, inspire us to look more closely at how space is shaped by infrastructure; a careful and thorough inspection of our surroundings inspires site-specific amendments. The path is as important as the destination. In contrast to Rem Koolhaas' "The Problem of Large," what are the advantages of small? How can infrastructure be used to shape space at a site scale and to facilitate small moments in our urban landscape against a backdrop of infrastructural larger intentions?

This thesis focuses specifically on the intersection between walking and space: how might each be used to inform the other and ultimately what is the effect of our social constructions of space on the quality of our walking? More specifically, how can walking be used as a way to transcend the way space has been circumscribed with lines intended to control, and reveal a whole landscape? Ultimately this project will explore design interventions that challenge how we perceive the space around us in order to facilitate pedestrian movement through the landscape of Western Lake Union. In the following section I will explore mapping strategies for visually communicating the many meanings of place. I will then look at design projects that focus on the experience of walking with special attention to scale of intervention, route and destination and connection to the landscape. Additionally, I will zoom out to explore examples of larger landscape infrastructure projects intended to connect the site to a larger urban framework. The design examples I have found the most inspiring are those that are responding to qualities of the land on a small scale, while maintaining a vision for how the site interventions will aggregate and function at a larger scale.



Mapping disciplines such as geology and geography, among others, typically define sites as places bounded by some degree of internal homogeneity. This definition implies that sites exist as a function of our human ability to perceive and reify contrasts and similarities in the features around us, such as topographic landforms, subsurface geology, typical associations of plants, or typical patterns of human use.

Kristina Hill, Shifting Sites

01 THEORY

In order to explore the intersection between walking and space, I have developed a review of literature within which to situate my design work. I have specifically read theories of space and of walking to better understand how to layer uses in a site and meet multiple needs within a single space. I am interested in how we construct perceptions and apply meaning to space and with burgeoning urban density the multifunctional nature of sites will be increasingly important and contested. Walking is an appropriate program with which to explore and ultimately challenge how we perceive space: the very act of walking can transcend established barriers; walking can skirt across lines drawn to control and walking can move counter to the forceful lines of infrastructure carved for transportation networks and energy. As a designer, the act of designing pathways for walking is a strategy for knitting together disparate spaces. Edges can be especially effective in blending fragmentation as they are complex spaces of transition where multiple functions meet and integrate. I want to focus on the edges in order to challenge and expand my own conception of site and what it means to design for walking within a dense urban environment.

I will start by exploring the theoretical underpinnings of walking as a tool of aesthetic perception. What we perceive about our surroundings is largely a result of the mode in which we move through them: we perceive and ultimately learn through our senses, what we can see, hear, smell and feel around us. Many modern urban landscapes assume auto dominance and were not designed to be seen closely and moved through slowly. Fast modes of transportation blur the surroundings and the sequence of spaces and we understand less of the granular detail when we move through an environment quickly. Alternatively, walking shapes a more detailed sequence of spaces and an understanding of the connections between them.

I will examine Lucius Burckhardt's theories of strolling, a blend of sociology and urbanism, which attempt to amend the way technical progress, from trains through cars to GPS, have alienated our perception of the landscape. Strollology asks that we make scientific descriptions of walks and leaving nothing out, so we learn to see landscapes as they are. The work of the Situationists, specifically their theories of the *dérive*, is also based on the notion that walking provides a different and more textured perspective on landscapes. The Situationists are especially effective in connecting the site scale to a larger urban form. Walking, from the perspective of the Situationists, can be an adventure, an exploration and a way to approach urban planning. Theories of the multiple meanings of space became interwoven with those of walking as walking can be used as a tool to transcend prescribed meanings of space. I have examined theories of space to understand the multiple narratives we use to construct and perceive space and how these compete and become reduced to a single dominant narrative.

WALKING

Walking is a way to experience place and to perceive the world around us. Walking freely through a space reflects the ability to move effortlessly, following instinct and intrigue. Walking creates an opportunity for exploration and creativity. Walking enables active participation in the environment by interfacing with details and the processes that create them.

Many critics of built environments have described the unique possibilities that unfold as you walk. Burckhardt and the Situationists describe a passage through space that relies on multiple senses to shape the experience. These thinkers have laid the foundation for my investigation of walking in their focus on details and fine grain elements of everyday pathways and by stressing the opportunity for delight in the variations of terrain and the critiques of larger urban conditions that facilitate or undermine the experience.

Lucius Burckhardt was an influential design thinker who impacted the study of urban planners, landscape architects, architects and designers with his theoretical work on transient landscapes. He wrote about strolling as the primordial mode of perceiving the world.

He invented the term Strollology, or walking science, as a tool for learning about a landscape. According to Burckhardt, walking is a science as much as sociology and psychology.

Looking – that is something we hardly do any more. Urban planning, traffic planning, sociology – are they not desktop sciences? Strollology seeks out places and action, tries to rediscover how to observe. Observing means opening up new visual angles, trying out ways of seeing, noticing the unfamiliar, exposing disturbing elements, making mistakes and catching yourself doing so. In strollology the plan is degraded from a foundation to a guideline for orientation; what is interesting is exactly what it does not include. Strollology wants to uncover the misanthropic planning, the brutality of today's way of life – it is, however, the complete opposite of 'reality TV' because it is not oriented on outward appearances but on underlying causes. Strollology wants to gain a different understanding of time and space. People taking walks are already slower because they are using their feet – and as they are walking because they feel like it and not to get somewhere, they are unpredictable as to timing. Strollology sees space as a construct of perception – hence as ambiguous. V

Any mode of movement that enables you to move quickly, such as driving, creates blurring of the surroundings and detachment from the details. He encourages interventions that enhance user experience and understanding of the connection between environments as one passes through. Burckhardt focused on deeply rooted details, both the visible and invisible qualities of urban environments, arguing that design decisions that appear invisible shape the way we experience our built environment.

Several concepts parallel to strollology emerged during similar time periods that have inspired my interest in urban walking. The 'flâneur' is a term developed in the late 19th century by Charles Baudelaire meaning wanderer. A flâneur is a man who wanders the city to experience it, generally detached and passive but cynical. Baudelaire sometimes referred to the flâneur as 'a botanist of the sidewalk.'

Another example of discerning urban walkers are the Situationists, a 20th century group of French urban critics and professional wanderers that described modern society as a series of spectacles and discrete moments in time. They believed that active participation is critical to the experience of exploring urban environments. One of the

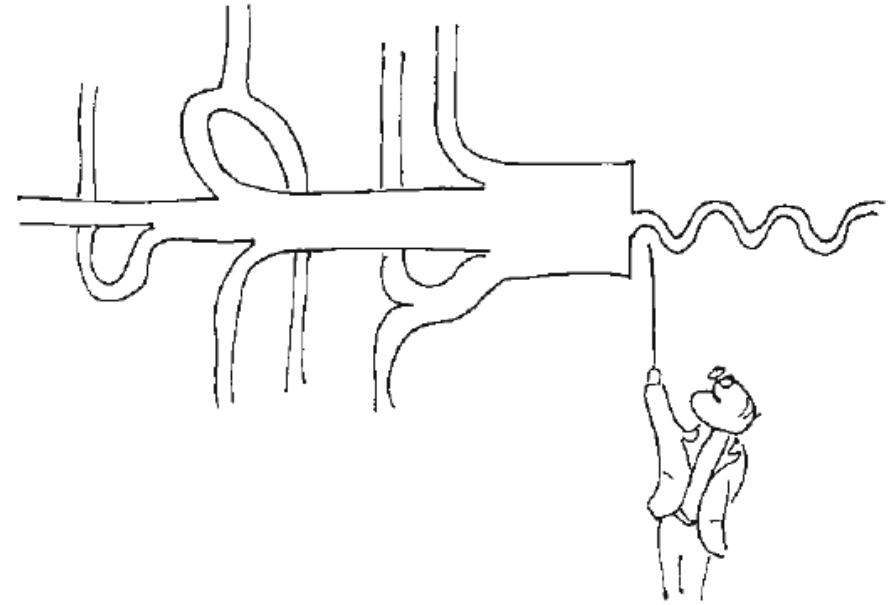
fundamental Situationist practices is the *dérive*, a technique of “rapid passage through varied ambiances and playful-constructive behavior, all the while striving to remain aware of the psychogeographical effects of the experience. Guy Debord, a founder, describes a *dérive* as completely different from strolling, as the latter implies a destination while the former involves one or more persons knowingly and willingly being drawn by attractions of the urban terrain and encounters they find there.- so what is a wander?

Both Burckhardt and the Situationists argue that the freedom to stroll and drift is largely determined by urban form and can be undermined by urban conditions of barriers and borders, rendering much of the urban environment off limits. Burckhardt stresses the importance of fine grained interventions to enhance the human connection to the world around them and create a rich experience of moving through their environment: textures and surfaces, rhythm, depth, climates, perception of time and imagination. In his work “Design is Invisible,” Burckhardt claims that many decisions that designers make are based on invisible decisions of the past, and designers in the future will be unknowingly reliant on the decisions we make.

Design has an invisible component which is institutional and organizational and in which the designer constantly participates. However, due to the common way of classifying our environment, this remains hidden. By dividing the world according to objects, and letting the invisible play a role as a boundary condition the world is being designed, too...

Burckhardt suggests that designers are responsible for intentionally including in their designs invisible systems, relations and objects.

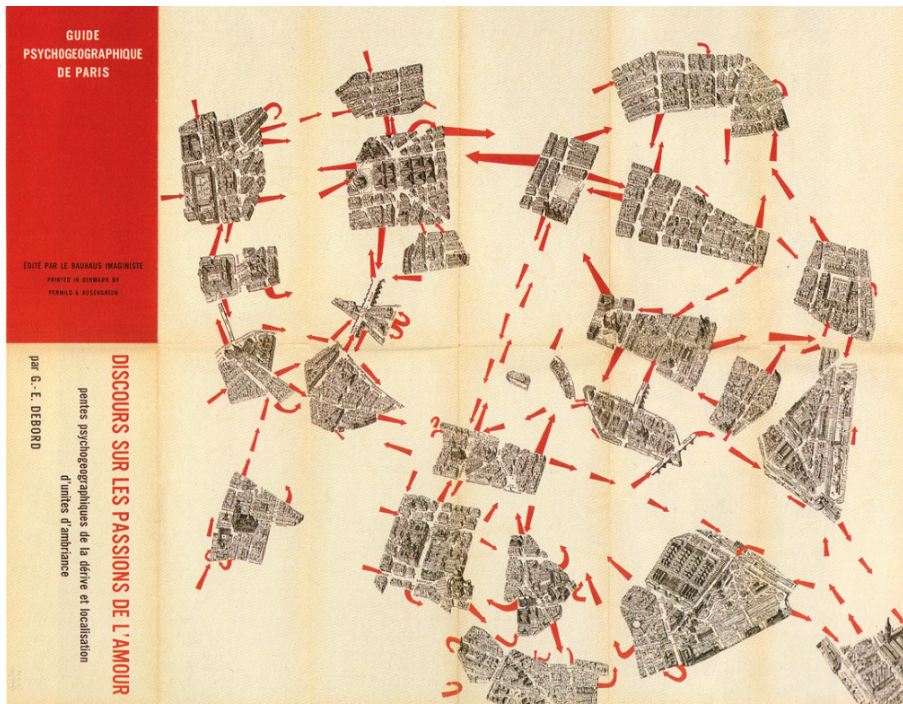
Similarly, the Situationists critique the less visible forces in a city, and emphasize the psychogeographical contours in cities, with constant currents, fixed points and vortexes that strongly discourage entry



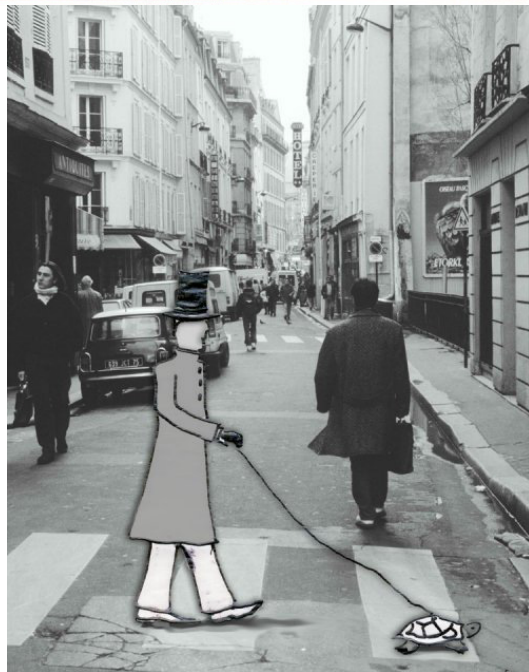
“And this part of the master plan is intended to ensure people understand the need for the highway.” Drawing: Lucius Burckhardt



[top] sketch, L. Burckhardt; [bottom] ephemeral pathway



[top] Derive mapping, Situationists International;
[below] the flaneur and slow walking



into or exit from certain zones. Debord and Constant, both members of the Situationists, looked more broadly than Burckhardt to the actual production of the city as built space. Constant's work became focused on the ability of citizens to construct new atmospheres and situations within the existing urban framework and emphasized the importance of a dynamic environment that citizens could adapt and change through creativity, play and interaction.

Today the different unities of atmosphere and of dwellings are not precisely marked off, but are surrounded by more or less extended bordering regions. The most general change that *dérive* experiences lead to proposing is the constant diminution of these border regions, up to the point of their complete suppression.

The Situationist's critique of urban form, edges and borders are helpful in guiding a larger scale understanding of pedestrian movement and encouraging a design that considers the functionality of a larger framework for walking; Burckhardt's emphasis on the fine grained elements has provoked a shift in my own interest from the figure to the ground, from the larger urban frameworks to the details within them. Both the Situationists and Burckhardt have impelled me to look critically at the layers of planning and design decisions that facilitate or hinder the ability to stroll, drift, and move effortlessly through a place. Both guide me in shifting scales, between the ground under my feet and the larger context and decisions that allow that ground to be there in the first place. When I investigate my surrounding urban environment through the lens of both Burckhardt and the Situationists, I am constantly switching scales and questioning what it is about the larger context that is pulling me in one direction or the other.

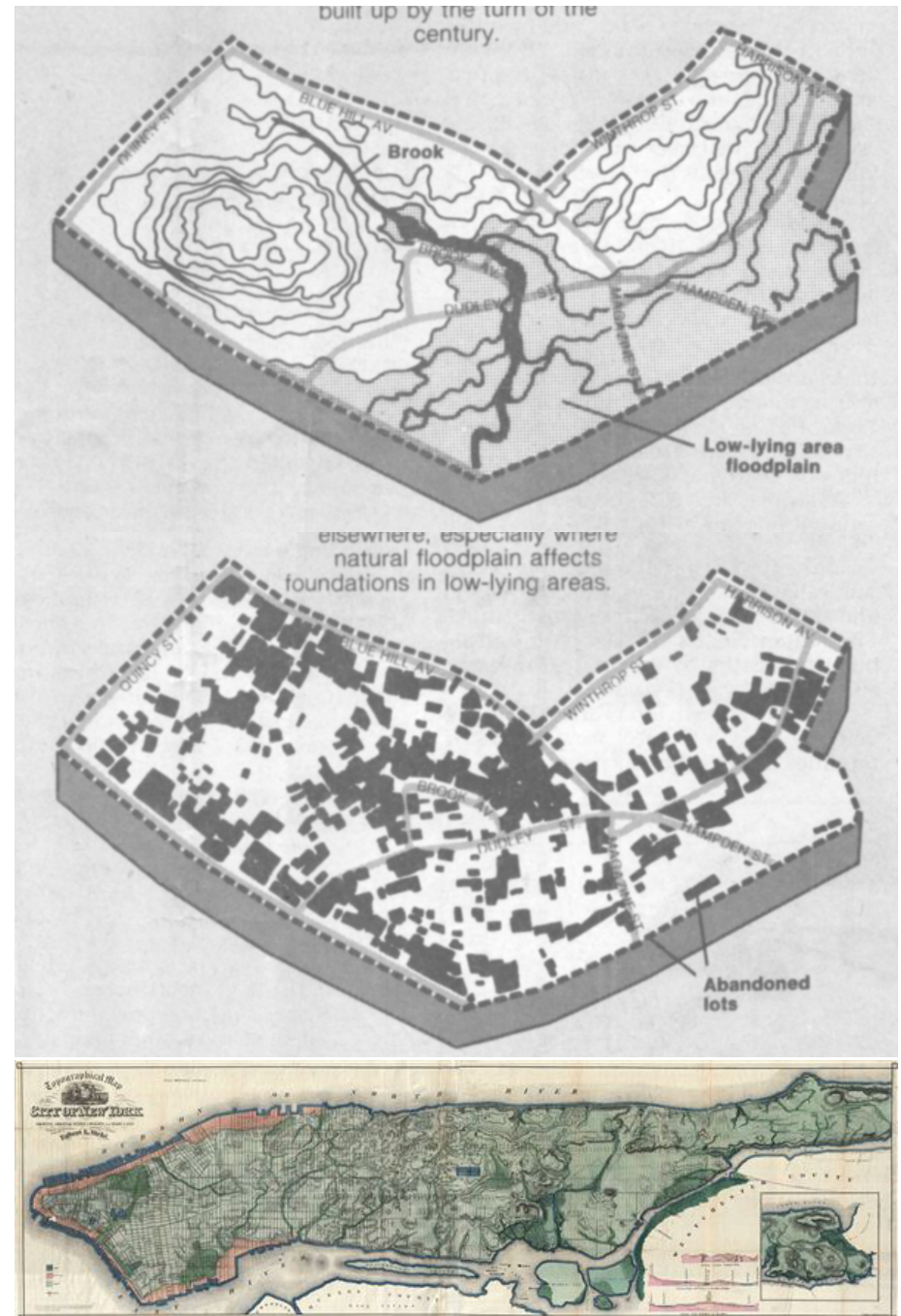
Burckhardt might have gotten along well with Robin Dripps, professor of architecture, whose most recent writing has detailed the importance of the physical grounds and networks that give order to human action on the land. Similar to Burckhardt, Dripps finds the ground beneath our feet to be of utmost importance.

...rich subtleties of the teeming wild, the variegated forms and materials of the landscape, the nuanced patterns of urban texture and the rituals of the everyday. This is the very stuff from which special moments emerge and distinguish themselves. It also provides the necessary complexity to promote an almost endless variety of relationships among things.

In her piece *Groundwork*, Dripps explores the common ground as the field from which all relationships emerge, and suggests that once we develop an awareness of the structure of the ground we can engage the ground in our design. The ground is a physical structure and a metaphor for the “various patterns of physical, intellectual, poetic and political structure that intersect, overlap and weave together to become the context for human thought and action.” Yet the ground does not provide a stable datum, as sections shift, multiple planes intersects, sometimes reinforcing sometimes contradict one another. Successive layers of ground reveal distinct political and cultural moments and “reoccurring physical and political structures operating in the background are crucial components of the urban matrix.” The ground is always in flux despite attempts to control it.

One of the ways we attempt to control ground is through platting which creates edges, connections to the adjacent world and establishes ownership. Platting and the history of platting changes a story of negotiation in a place, its people and political intentions. Even less visible than platting is the topographical structure in many urban places that have undergone extreme change. Anne Whiston Spirn, a current designer and historian and Egbert Viele, a 19th century civil engineer have used the logic and patterns of historic watercourses for example to illuminate contemporary problems of falling houses and disease. Engaging the ground enables more effective and imaginative decisions in the present.

The Situationists, Burckhardt’s *Design is Invisible*, and Dripps’ *Groundwork* look closely at the less visible design decisions that have shaped space. In doing so, the role of infrastructure has emerged



[top] Spirn’s mapping of Mill Creek watershed and vacant buildings;
[below] Viele’s Topographical Map of the City of New York Showing Original Water Courses and Made Land.

SPACE

Space is complex. As a profession that shapes space it is critical that designers honor the simultaneous complexity and contradictory nature of the medium. The form and meaning of space varies depending on a variety of influencing factors; the same space can mean different things to different people. We can also perceive the space in different ways, for example, as simultaneously boundless and bounded. Space is the concrete physical environment that we inhabit and an abstract projection: how we perceive and ascribe meaning to space is largely a reflection of our values, and at the same time how we perceive space informs our interactions within it.

I draw from Henri Lefebvre's concepts on the production of social space to examine the multiple modes of spatial production. If space is a social product then the ways we apply meaning to space is a reflection of what we value as a society. Therefore space is a social product and how we understand and prescribe meaning to space is not fixed. Irene Scalbert, Robin Dripps and Kristina Hill argue that how our values shape space ultimately affects spatial practices and perceptions and focuses more on design and the built environment. How we perceive space informs our design interventions and I draw on these ideas to envision more fluid conceptions of space and more broad and flexible designs that don't reinforce lines but draw attention to the constructed nature of them. I am particularly interested in how we use the word "site" to define space and further create physical and abstract edges using policy and engineering.

Henri Lefebvre, a French philosopher and social theorist most known for his critiques of the alienating conditions of everyday life, especially urban social life and the multiple meanings of space. Lefebvre's theories on the production of space have altered my perspective on the forms and meanings of space. He describes space as a social construction, a social product that affects spatial practices, negotiations and perceptions. Space is perceived, conceived and lived. Space is both a medium of social relations and a material product that can affect social relations.

(Social) space is a (social) product [...] the space thus produced also serves as a tool of thought and of action [...] in addition to being a means of production it is also a means of control, and hence of domination, of power.

Lefebvre focuses on how various societies have particularized space in both form and meaning over time by distinguishing between abstract space and social space. Abstract space, or quantified space, results in the hierarchical space that is result of knowledge and power and is largely conceived by actors who try to control social organization. Social space, or qualitative space, on the other hand is where everyday life takes place by all people, even those that work from the abstract space. Nevertheless, those that see space as abstract are always attempting to control social space even as it continues to transcend boundaries and defy regulation.

Lefebvre's theories on space have encouraged me to think about all spaces through different lenses and to challenge that existing site conditions are absolute: how I understand the form of space, the boundaries and edges, as well as the functions carried out on space, is incomplete. His work has also encouraged me to acknowledge the contradictory, conflicting, and, ultimately, political character of how space is produced.

It re-emerges when the 'spaces of consumption' become the 'consumption of space'" (1991, p. 352). When does this occur? In tourism, for example, "when people seek a qualitative space-

sun, snow, the sea" (1991, p.352); when capitalism transforms the circulation of commodities for people into the circulation of people through commodified places.

Social relations are spatial relations. The production of space under capitalism for example involves the fragmentation and homogenization of space. The advance of capitalist industrialization super imposes abstract space, the quantified space everywhere which articulates space as sites, making it easier to control and own. An over-territorialized urban form is counter to many of the qualities that facilitate walking as outlined by Burckhardt and the Situationists, and undermines the ability to move freely.

Power is a pivotal component to the production of space. In industrialized societies, space is not only homogenized and fragmented but also hierarchical and the development of space, financing, and speculation in land is a means of acquiring wealth and power. Infrastructure is a physical tool that can be used to demarcate and control space. The term infrastructure means "underlying construction" and typically refers to core public facilities and systems that sustain neighborhoods, regions and nations. Infrastructure is often categorized as networks [of distribution and collection] and nodes [for example, the locations of facilities for source, treatment and control]. The term infrastructure has been applied to multiple phenomenon ranging from sewers to highways, and has come to include the less visible communication and energy facilitates that have emerged as underpinnings of development in the last 50 years.

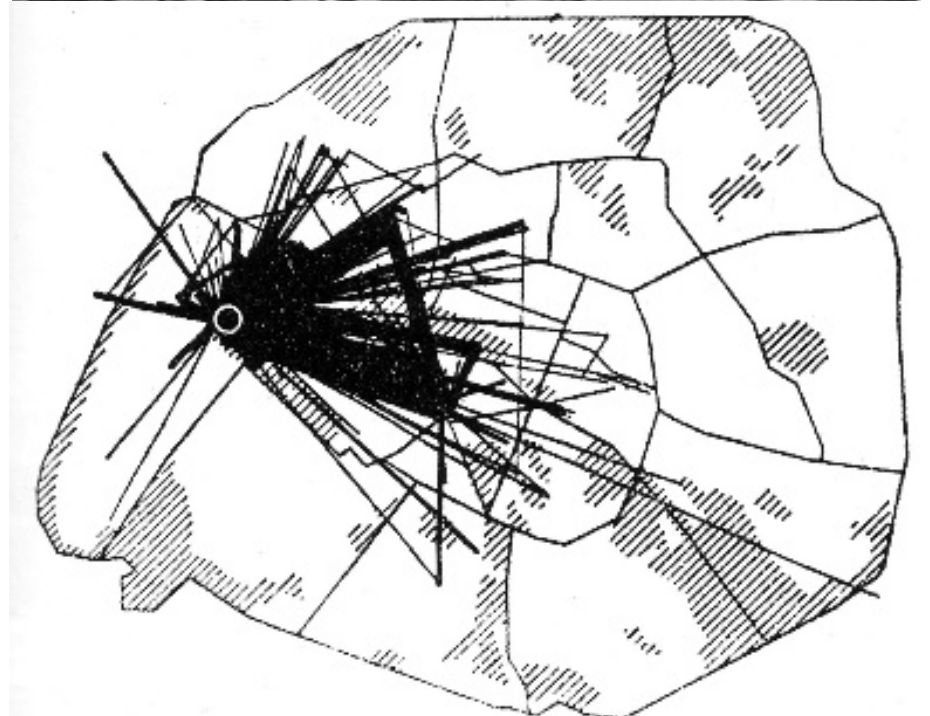


Diagram mapping the movements of inhabitants of Paris by ethnographer Paul-Henri Chombart, whose work had a strong influence on Lefebvre

Space. Site. Infrastructure.

Urban form has been largely shaped by the development of infrastructure systems. Infrastructure systems create lines around unbounded space, limiting and controlling connections to adjacent spaces. Infrastructure makes a space more appealing and profitable to own by bringing water, energy, resources and offering allowances for housing, commercial, or industrial uses. Infrastructure decisions are often the authority on validating one narrative over another. "Growth follows sewers." A report published by the Council on Environmental Quality called highways and major sewer lines "the growth shapers," a phrase that also served as the title of the report.

It is telling that the current usage [of the term infrastructure] emerged when we needed a way to explain a new world order, a change in what had been not only geographically distinct systems but also politically and operationally autonomous ones. The contemporary use of the term can be traced to the postwar western military alliance. In 1949, NATO's predecessor, the Western Union, wanted to develop airfields, communications projects, and defense headquarters in France and the Netherlands but financed and used jointly by all alliance members. It was labeled the "infrastructure program," implying transnational benefits underlying a common defense.

Infrastructure creates edges and in doing so, creates sites.

Infrastructure works not so much to propose specific buildings on given sites, but to construct the site itself. Infrastructure prepares the ground for future building, and creates the conditions for future events.

Infrastructure decisions are deep physical, political and ethical imprints on the ground. Infrastructure services are intended to serve public good but often infrastructure provides connections for some while creating barriers for others. In this transition, some narratives lose out.

Most infrastructure systems that exist were built within a twenty year period. The rapid expansion of many cities, including Seattle, has enabled and arguably required a top-down approach to infrastructure planning and implementation and a cursory emphasis on infrastructural insertions at a human scale and affects on user experience of a place. Most of the infrastructure that binds us together appears large: networks and nodes of roads, energy, and communication reach widely to offer services but in doing so, divide space.

While the intentions of most infrastructure systems are lofty: highways connect long distances; sewers transport water; and wires provide electricity and communication, planners and designers can develop infrastructure systems that consider the human scale and honor the specific qualities of a place when making critical planning and design decisions. Designers and planners can create infrastructure systems that simultaneously move people across a city while also considering the human desires to pause, sit, and explore. Architect Irenée Scalbert, architect, historian and urban critic, speaks about the effect of big things on our landscape in his work, *The City of Small Things*.

Big architecture - big sheds, big shopping malls, big hotels ... - does indeed fuck context externally, but compensates with little internally, except junk space.

Scalbert has most recently critiqued the future of architecture and planning in an increasingly commercial world, and for encouraging designers to approach the urban realm more holistically over time and space. Similar to Scalbert, Burckhardt argues that often designers are too quick to divide the world according to objects instead of problems

and therefore offer solutions that ignore surrounding conditions. Burckhardt believes that the designer's reliance on predetermined labeling and problem solving shows that there is little awareness of social effects their work might have. Further, he argues that the role of the designer must expand to include overall systems of objects and human relations, both visible and less visible.

The closer you look, the more you see. Both Burckhardt and Scalbert's maintain that designers should move beyond the diagrammatic scale and start to imagine and design spaces at a 1:1 scale.

The argument for the rehabilitation of smallness is not an invitation to make everything cute or domestic, to transform our homes into doll's houses and our cities into NIMBY celebrations of themselves. To the contrary, the city of small things is vast and infinite. It is vast in direct proportion with our ability to grasp smaller and smaller elements in the field of experience. The ideology of bigness has impoverished townscapes, making them diagrammatic and cartoon-like. Strong on machismo, the city of big intentions is conceived at the scale of 1/500 or 1/5000, at a scale appropriate - so it was at Euralille - for the planning of motorways.

Scalbert's work has urged me to look more closely at infrastructure shapes space and the ability to move on foot within the urban environment. What are the advantages of small? Similar to the work of Scalbert, the Situationists speak to the importance of using site conditions at a microscale to inspire design. In using site qualities to inspire design and in focusing on how infrastructure projects realize at a site scale, I intend to enhance the fine grained character of the urban environment.

Similarly, Robin Dripps stresses the importance of knowing the ground yet recognizes a growing indifference towards it. In part because the ground is constantly in flux and its boundaries are unclear, we

are too quick to make heavy handed changes to make the ground comprehensible. It is critical, she argues, that we "enter into a dialog with the ground," in order to "reveal or to make present something that, although always there, has remained obscure or hidden." Engaging with the ground ultimately results on more responsible and effective interventions.

It is challenging for infrastructure systems to engage the ground scale, either because the intentions are too big, the time required for groundwork is too great, or the details of the ground are too daunting. Designers can do a better job of using site characteristics to inform infrastructure planning at a larger scale. Designers have a role in infrastructure development, one that uses site characteristics and natural systems to eliminate the need for heavy handed systems often deemed necessary by???. How can infrastructure link small moves with big intentions? Scalbert argues that variation in scale can help augment our landscape of bigness.

To obtain a correct sense of perspective, bigness must be matched with its opposite, with smallness, so that like can be compared with like, as well as with unlike. In this way, the city of big intentions can be set against the city of small things (and not merely next to it).

Infrastructure systems that grow from the microscaled details of a space can too serve big intentions and inevitably enhance the experience of that space. I intend to explore the nature of the spaces created by infrastructure and how ultimately infrastructure can create a looser urban form that is less reactively dictated by edges and organized more by a proactive designation of spaces specifically related to infrastructure.

Ecotone



Infrastructure + Edge

Within many theories of space is discussion of the boundaries and edges that define it. Dripps argues that the edge registers and responds to similarity and difference; the edge, “whether made by adjacency, juxtaposition, overlap or by things brought together by seam is important for mediating relationships with the ground.” The idea of edge territory is discussed extensively in ecology as some of the richest habitat, where layering, diversity and redundancy are abundant. Soft edges are more resilient and more accepting of change while hard edges attempt to resist change. In nature edges are thick and overlapping making it rich in diversity. The edge functions to simultaneously separate and bring together which requires it to be thick and porous at the same time. While we have come to accept more blurriness in our ecological systems while our built environment remains divided and subdivided by hard edges. Infrastructure is largely responsible for creating these edges.

The primary modes of infrastructure are: the division, allocation, and construction of surfaces; the provision of services to support future programs; and the establishment of networks for movement, communication, and exchange. Infrastructure’s medium is geography.

The vast infrastructures that have rapidly descended upon areas like western Lake Union have created an environment with many edges, borders and barriers with little acknowledgement of ground qualities. Over time this has led to a regularized urban form.

Designers and thinkers of the built environment critique edges and taut the benefits achieved by blurring boundaries and superimposing

functions. The Situationists find the most potential in the edges and Debord uses the term fissures to describe the gaps that facilitate “situations” occurring. Fissures are created by edges which can either be an opportunity or a barrier.

The absolute or relative character of fissures in the urban network, of the role of microclimates, of distinct neighborhoods with no relation to administrative boundaries, and above all of the dominating action of centers of attraction, must be utilized and completed by psychogeographical methods.

While these moments are often realized independent of larger schemes for the city, through their work I have been reminded that the opportunity for such moments to occur, or “situations,” is the result of patterns in the larger landscape that are in fact affected by these same larger schemes.

Andrea Kahn, designer and theorist, discusses the importance of site edges in her essay, *Defining Urban Sites*, suggesting that expanding vocabulary of site is the first step towards new spatial imagining. Site edge is just one of the terms that she believes that, when incorporated into design vocabulary, will stretch our understanding of site and our resultant designs. There will always be edges and boundaries in our built environment, as political reality requires it. Thus, drawing from Kahn’s work, how can planners and designers expand design discourse to empower the edges to be more than just flat and negative lines in space?

The vast diversity and unlimited combinatorial and connective potential of the ground suggests an expansive account of the site. Perhaps rather than limiting the site to its artificial political and economic boundaries, the site ought to be considered more as a special repository of clues – an opening to more extensive and varied grounds.

There are different suggestions for dealing with the edge: Debord suggests edges should be completely suppressed stating,

Today the different unities of atmosphere and of dwellings are not precisely marked off, but are surrounded by more or less extended bordering regions. The most general change that derive experiences lead to proposing is the constant diminution of these border regions, up to the point of their complete suppression.

Dripps however maintains that edges serve a function but the way they are actualized in the built environment should be reconsidered.

This the edge so involved in the process of engaging ground, it will prompt a substantial reconsideration of the walls, ceilings, roofs, and even floors that define the room so that they too can participate in the expanded network of linkages revealed within the site. At this point it seems that the long-standing desire to erase boundaries separating inside and outside might be reconsidered and reframed.

The landscape ecologist Kristina Hill challenges us to think bigger than the boundaries that define space on paper. Edges are just a fraction of the information we need to know about a space.

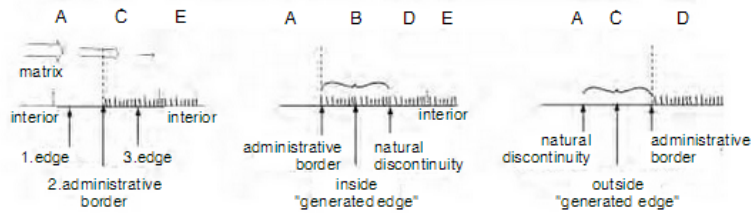
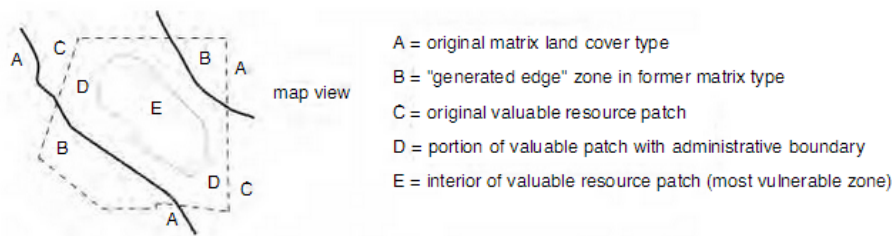
Boundaries should not be treated as real biophysical phenomena, but rather, be stretched, shrunken, and reinvisioned across multiple landscape scales. Designers must come to treat these edge zones as dynamic, like weather patterns, not as artifacts that deserve permanent memorialization simply because they once existed. In cultural terms, sites are best understood as space shifters, and boundaries as tricksters that teach us that what we see in a moment of time is not necessarily

what matters most to the river of time.

While infrastructure often creates boundaries, edges and barriers, it is also one of the few things legally permitted to transcend these very boundaries.

Infrastructure’s legacy has been a strategic one, responding to conditions, transcending geographies, and serving as the ground for political negotiation. These remain the strengths and, paradoxically, the ambiguities of designing infrastructure.

There is potential for infrastructure to create edges that are literally and figuratively abstract. The notion of landscape infrastructure



Boundaries + Ecological Systems, K. Hill.



edge in the ground

has emerged as a niche within the field of landscape architecture and urban planning that encourages softer, more flexible systems in response to a heightened understanding of ecological systems as dynamic rather than static. Most of the discourse describing the role of infrastructure uses similar vocabulary and encourages similar function: soft, flexible, resilient, multi-scalar, etc. Notions of infrastructure have been shifting to expand to support the built environment and protect the natural world. Brought on in part by ecological disasters that have revealed the mutually reliant and destructive relationship between infrastructure and ecological systems, much discourse on the built environment has argued for urban infrastructure to include landscapes of systems, services, scales, resources, flows, process and dynamics.

Human settlements are increasingly understood as comprised of systems of flows, and as a result the notion of sites and site boundaries has been shifting. Site Matters, compiled by designers and theorists Carol Burns and Andrea Kahn, challenges physical and conceptual understandings of site. Within this compilation, Kristina Hill's piece Shifting Sites describes how the recent trend of reevaluating site boundaries as posing problems for professions such as landscape architecture and planning that propose site designs. She asserts, "when spatial scales of perception shift, boundaries in the mosaic, like those at a single site, realign or disappear." The diagram below illustrates the relationship between legal or administrative boundaries and ecological systems.

As preconceived boundaries dissolve because of the increased understanding of the open nature of systems in space, new systems of demarcation will be dependent on something else.

Adopting a new basis for demarcation and delineation would require a major shift in thinking for design theorists who have relied heavily on geographic dimensions as their primary means of recognizing and reproducing important relationships.

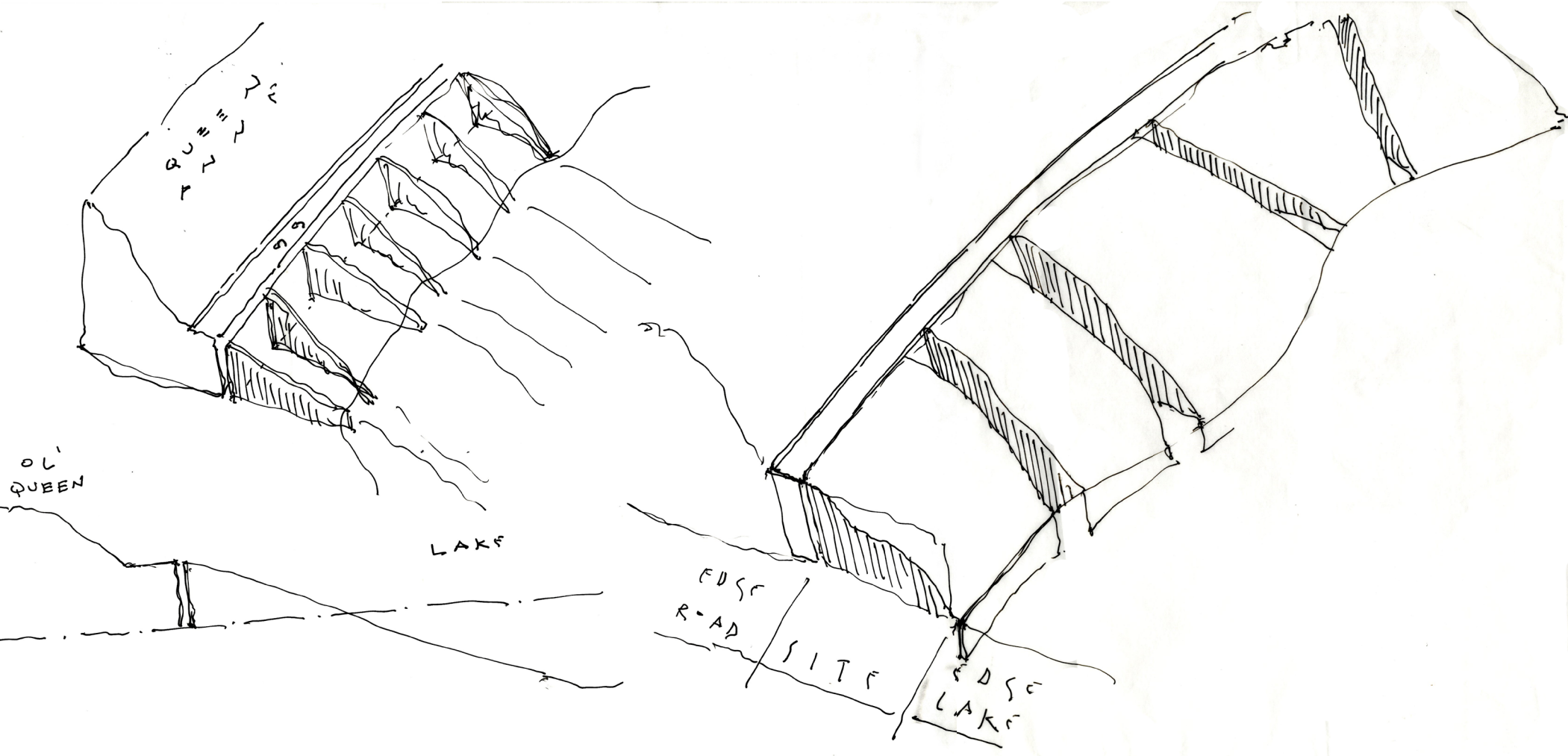
Regardless of the shift in thinking required to move away from clear bounded relationships to more open fluid ones, designers appear ready for the challenge.

This is an especially formidable time within the field for as ideas of flexible infrastructure and porous boundaries are being tested, infrastructure systems of the last generation are deteriorating. Now is an opportunity to move forward. Ideas of designing for flexibility and changing conditions are emerging as normative in many design fields. It is time to create infrastructure systems using the ideas of designers and thinkers such as Pierre Belanger, Stan Allen, Lewis Mumford.



development creep

02 PRECEDENTS



02 PRECEDENTS

This section outlines literature and design precedents that operate within the theoretical framework of walking and space outline above. I have drawn from the exploratory works below for written, graphic and design examples of design for walking. I chose each of these case studies for a specific strategy within each of three categories: reading the site, pathway design, and design within a unified landscape.

Some of the strategies I've identified are related to a large-scale approach to connectivity or sequencing while others are site-scale details such as materiality and form. Each case study is followed by the specific strategy that I believe they exemplify.

READING THE SITE

A successful design emerges from a complete understanding of a place. Dripps believes that the topographic structure, especially in urban areas, is invisible due to layers of change imposed on it. An awareness of the topographic past is critical to understanding current conditions and more importantly for designers, provides a broader background for making “effective and imaginative” decisions in the future. Similarly, Mircea Eliade, historian and author of *Sacred and Profane*, argues that uninhabited space is homogenous and chaotic until some order is drawn on the landscape. Order is achieved by revealing layers of the landscape .

As the ground is understood as much more than a simple, thin, two-dimensional plane, the opportunities its multi layered structure offers for architecture become more obvious. The interweaving of different thickening and thinning layers that gives the ground such a sectional complexity provides far more effective a structure for expanding the three-dimensional connective potential among places and activities than the now-common stack of undifferentiated floor plates with point connection by the elevator and fire stare. Within a structure of overlapping and intersecting differential ribbons of space, the limitations of the singular ground plane no longer hold. Multiple ground planes increase the opportunity for more parts of the

architectural project to be grounded in the particularly of the larger world. Furthermore, the ground’s impressive capacity to extend beyond arbitrary boundaries and its mutable and open structure give it a far greater porosity to surrounding natural and political structure.

The following pieces of visual communication have helped me develop an approach for reading, communicating, and ultimately understanding the complex history of my own site, Western Lake Union.

Soak- visual communication of complex processes

Soak is a beautiful compilation of visual images that communicate the messy, conflicting and often invisible forces that shaped Mumbai, India. The authors represent the powerful dichotomy between land and water, ecology and development in this region through photographs, maps and digital models that are transformed into dynamic, rich but clear graphics. Historic conditions are seamlessly woven into the story which has inspired me to delve into historic documents to more fully understand the development decisions that have shaped space in Western Lake Union. [figure 2: Soak graphic]

Mapping the Border of Mexico City as an Event in the Physical and Virtual Landscape – visual communication of a dynamic edge

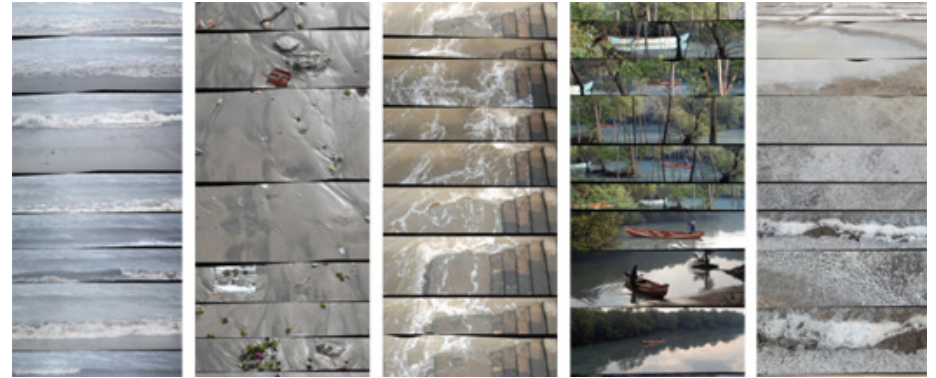
Infrastructure is a wall. This project is a visual representation of walking along a political boundary. This project transforms a borderline from a line to a place that is much more, a changing landscape, a place of exchange, and neighborhoods. “While social phenomena, ecological systems and infrastructure should work organically thus respond to social and environmental natural dynamics, the geographic line that defines what is in and what is out, leaves in its places a field of great conflict.” This project calls for understanding transversal landscape and infrastructural systems independent of political boundaries.

Anne Spirn :: Mill Creek – space vs. site

In a fascinating project directed by Anne Spirn, maps of historic streams outside of Philadelphia, Pennsylvania were compared with condemned houses. She finds that derelict houses follow the course of where the streams once ran, shedding light on the pervasive problem of structural problems and humbling our confidence in building wherever we want.

A similar project was undertaken by Egbert Viele to connect underground watercourses with health issues utilized topographic maps of New York. Using his maps, which are still the most reliable source for anticipating subsurface problems, it would now be possible to take advantage of, or make the best of, these evocative watercourses by bringing them into the design of the city as something with intrinsic value. The meandering streams running mostly diagonally through the city have a logic and pattern of connection different from the rigors of the orthogonal, cellular grid imposed over them. The conjunction of the political, which operates locally, with the extensive pattern of the hydrological structure, offers opportunities to open the bounded site to places far beyond. Along with this comes the ability to use the natural system to create local microclimates as part of a larger project of environmental control.

These works have inspired me to use mapping as a tool for synthesizing what I know about a place and to inspire future action. It can be easy to view specific events, like a landslide, in isolation, when in fact it is connected to a myriad of other things that have happened, but is Spirn's project is a useful reminder of how seemingly disconnected pieces of information are often related. It is remarkable how visually overlaying the multiple qualities and events on a site can provide an enhanced understanding of past, current and potential future conditions.



[above] select graphics, Soak

[below] Meters Mapping the Border of Mexico City as an Event in the Physical and Virtual Landscape



TRAIL DESIGN, WALKING, SMALL MOMENTS

I have selected the following projects as examples of design that inspires walking as a form of discovery. I indicate my reason for choosing each project in the headings but can you summarize here?

The following reads as an annotated bibliography of projects- can you weave into more of a discussion? You could still list them but then try to discuss them together? Or add an appendix with the descriptions listed but here describe what you learned from the projects as a whole

Punte Pite, Teresa Moller, Chile – Minimal Interventions



Punte Pite, Teresa Moller, Chile

Punta Pite is a 27-acre piece of land that connects two seaside towns. It was designed as a series of parts connected by a walking path, one part of which seems to be sculpted out of the existing cliffs, while the other part passes through a restored creek. Different approaches to defining space are seen throughout the site: arranged stones to configure meeting places under dense preexisting cypresses and among native orchids; a series of quarried stone platforms on a pebble beach; a construction of quarried stone platforms that lead to a preexisting resting place, in the center of which a sculpture has been placed; a lookout with a view down the cliff side into a small inlet. The intent was to create a single spatial experience on the site. The design revealed the existing landscape through a system of quarried stone walkways.

This pathway design has beautifully facilitated exploration without impacting the land. There is a unique rustic quality to the pathway as the stairs, bridges and pathways were all built by hand by stone masons. Sometimes the path is defined by monumental piece of architecture and sometimes it vanishes into the contours of the cliff. Sometimes it's clear where to walk, sometimes you have to look for clues.

Cap de Creus Restoration – Deconstruction

Similarly, the restoration work at Cap de Creus distills and enhances landscape characteristics by deconstructing parts of the site to expose geological formations, vegetation, the wind and the water. The hierarchical pathway system is especially intricate and connects a network of viewpoints.

This project is a showcase for landscape driven nature restoration projects. It turns a demolition order, a purely and strictly habitat reclamation, into a creative landscape restoration development. The objective was to turn a 'straight' and strict restoration order into a 'landscape' narrative project in the intent to monumentalize it.

This project inspires a minimal approach to shaping space in order to appreciate the richness of the existing landscape. The design carefully adds and subtracts from the landscape in order to choreograph visitors on the pathway.

Indeed, the project's goal was not to build or un-build, a landscape but to conceive the conditions for its experiencing.

The simultaneous construction and deconstruction required in-depth site knowledge and a collective, open process to design so that there was flexibility to integrate discoveries. This site leaves an important design question, "is erasing and voiding is just as valid as filling in and adding?"



Cap de Creus Restoration



Garden of 1,000 Bridges

Garden of 1,000 Bridges – Seek and Reveal

Garden of 1,000 Bridges is a magnificent project that “plays with the limits and sensation of surprise” created the sense of crossing thousands of bridges. Located in Xian, China, this park design explores the notion of poetry and narratives through a winding pathway that oscillates from ground level to a raised span.

Gardens tell a story. They combine poetry and narrative. The Garden of 10,000 Bridges represents the human life; the path of people’s lifetime, which is a route of uncertainty and burden, but also of highlights and elation. The garden design takes you on this walk of life as a meandering, winding trail – continuous and like a labyrinth. It lets you find your way through nature and takes you over 10,000 bridges.

The park consists of five semi-circular bridge structures that rise and fall into bamboo gardens. The series of red fiberglass bridges are set in a maze-like pattern making the path feel very long.

I love this project and I want to pull it apart, stretch it out and wind it around the hills and buildings along Western Lake Union. What if this same concept of a narrative, of poetry, were applied to an existing urban setting, winding around, over, under and between? What if this ability to move expanded outside a park with a clear entry and exit? What if you could get lost inside this space while walking through the city? Even in his larger projects, Governor’s Island for example, Geuze uses concepts of mystery and exploration in this project even though the entire space is much larger than the Garden of 1,000 Bridges. Geuze uses topography to create a coherent and meaningful experience. Unfolding views of hilltop panoramas followed by intimate view corridors create a hide-and-reveal experience throughout the park.

Norwegian Tourist Routes – Emerging from the Landscape

Larger in scope than the previous projects, the national tourist route project provides public access to a scenic travel experience through series of detours. Existing locations were selected for views or other features and combined with new architectural installations and architectural interventions.

I am drawn to these projects because the installations appear to be grounded in the site characteristics: the designs create a clear narrative through the space and accent the extraordinary moments. The installations themselves are magnificent and demonstrate a unique blending of inside and outside, building and landscape. The material, size and scope of the installations vary from site to site: some are “quite humble, cultivating a small piece of Mother Earth to create a functional rest area along the road... and some are almost exhibitionistic.” The design features that interest me most are the strategies for experiencing extreme terrain without changing the character of the topography underneath and the moments of comfort and respite along the way.[figure 8: select projects Norwegian Tourist Routes]

View areas and meandering pathways are included on almost every site. My own work is motivated by the opportunity for detours through a space and enhancing the sense of wonder and mystery.

The tourist routes differ from the straight mundane high-capacity roads by maintaining old roads as detour routes and introducing deliberate destination points, punctured by independently designed installations. The sites are chosen for their existing qualities and the routes then to connect them. The sites however feel independent from one another and the auto centric approach to travel that these projects promote could put pressure on the transportation infrastructure.



Norwegian Tourist Routes :: Map of detours + select projects

Heide Martin - phenomenological approach to designing a pathway

Heide Martin's thesis work is a beautiful execution of using site characteristics to inspire the design of a pedestrian trail, while considering the larger function of connection and movement. In her thesis work, *Armature Urbanism: Trail Design in the Contours of Metropolitan Infrastructure*, the thoughtful and delicate way that she approaches amending site conditions is lacking in most design of infrastructure of pedestrian movement. From a design perspective, Martin pushes the boundary of scale, as she looks smaller and smaller. She uses sectional strategies to understand site conditions and airs on the side of under detailing her designs, to allow for future changes.

Martin set out several design guidelines that served to limit interventions to those necessary to enhance and streamline the user experience. These rules include an awareness of addition and subtraction, repetition and pattern, edge/body relationships, and blurred edges. Her design interventions, while minimal in isolation, are best understood and appreciated when aggregated. Martin practiced self-restraint that was rooted in a clear vision for the overall experience of this trail: facilitating the ability to drift. Adding where needed, subtracting hardly ever, but striving to design an almost intangible guide through 2.5 miles of ground.

Superkilen – overlaid design to organize pathway

Unlike the previous examples this design is purposely artificial. This urban park project is composed of three distinct areas distinguished by bright colors and pavement patterns. This design works well in the urban context where the scale and density of the surroundings make it difficult for anything to stand out. I like this project because it goes all out.



Installation and graphics, H. Martin

Martin's work leaves me with a question more than a critique, for while I respect the light touch and restrained design that she executed, her touch is too light to be permanent. She writes about the future plans for this trail, and they are far from her visions. And while that may have been her intention, it is not mine. I want to facilitate pedestrian movement and inspire the act of drifting in a way that becomes permanent. I want the small moments, the fissures, the "situations", to serve in part as a framework, around which other changes occur. It is precisely this reason, combined with the understanding of infrastructures near permanence in our built environment, why I am investigating and designing through the lens of infrastructure. How can pedestrian movement and opportunities for drifting be engrained in our urban form? How can my designs be proactive rather than reactive?



Superkilen, Copenhagen, Denmark

Forest Stair, Sti For Øye Sculpture Park in Stokke, Norway – intrigue, transitions

'Forest Stair' is an observation point that emerges from the wooded landscape. The corten stairway is positioned along a nature walk where open riser stairs made from wood lead to an elevated platform where a glass railing is the only barrier. This stairway stands alone in the forest.

I like this project for its simplicity. It provides an artificial opportunity to rise above the forest and the corten material seems harsh against the forest surroundings but it is successful because it is simple. This stairway reads well in the surrounding landscape as the verticality juxtaposes nicely with the flatness of the forest. Something of this scale may not stand out as dramatically in an urban setting but the design in an urban setting doesn't need to be overbuilt – it can still be elegant and simple.



Forest Stair, Sti For Øye Sculpture Park

Running Fence, Christo and Jean-Claude – land vs. property

This project was a temporary installation in Sonoma County from 1972 to 1976. It is 18 feet high and 25 miles long, spanning the private properties of 59 ranchers, over rolling hills and dropping into the Pacific Ocean. This installation crossed 14 roads and the town of Valley Ford, leaving passage for cars, cattle and wildlife. It was designed to be viewed by following 40 miles of public roads.

I love this project because the scalar juxtaposition to the surroundings serves to enhance the topography of the land. Additionally, it was inspired by the fence that marks the continental divide in Colorado and is meant to draw attention to lines on the land and how rather than separating people they can bring people together.



Running Fence, Sonoma County, CA

ONE LANDSCAPE

The idea of the site as a distinct, bounded space in a landscape became less relevant to this system-based concept of biological relationships because these energy flow systems were generally described in terms of graph theory, without using geographic dimensions. Instead, the system metaphor suggests that nodes exist where more numerous interactions occur. In ecosystem ecology, sites can be thought of as nodes of interaction: a conceptual shift that places emphasis on the processes of exchange and flow, rather than geography of bounded sites.

The previous projects focus site scale designs that focus on human experience and emerge from existing characteristics of the landscape. I am interested in how individual sites aggregate into a larger network at a larger urban scale. How are site qualities included or not in the design of current landscape infrastructure projects? What about the scale of landscape infrastructure projects? What is the experience of moving through the space created by the design?

Stan Allen – Diagramming Space

Stan Allen is an architect and urban thinker that inspires the way I think about the relationship between infrastructure and space. He argues that infrastructure plays a pivotal role in shaping space and determining the boundaries of a site. In his work, *Field Conditions*, Allen uses the term “field” to describe what I can only guess is similar to Dripps use of the term “ground” and he beautifully depicts existing “field conditions” in urban environments through series of diagrams.

Allen’s work on infrastructure emerges from an understanding of field conditions and he is above all pragmatic with his expectations and designs of infrastructure systems. He sees these diagrams as situated between figure and abstraction, in order to show that the individual pieces, when organized strategically, can create dynamic qualities such as vortexes, peaks, and protuberances out of individual elements that are themselves regular or repetitive.

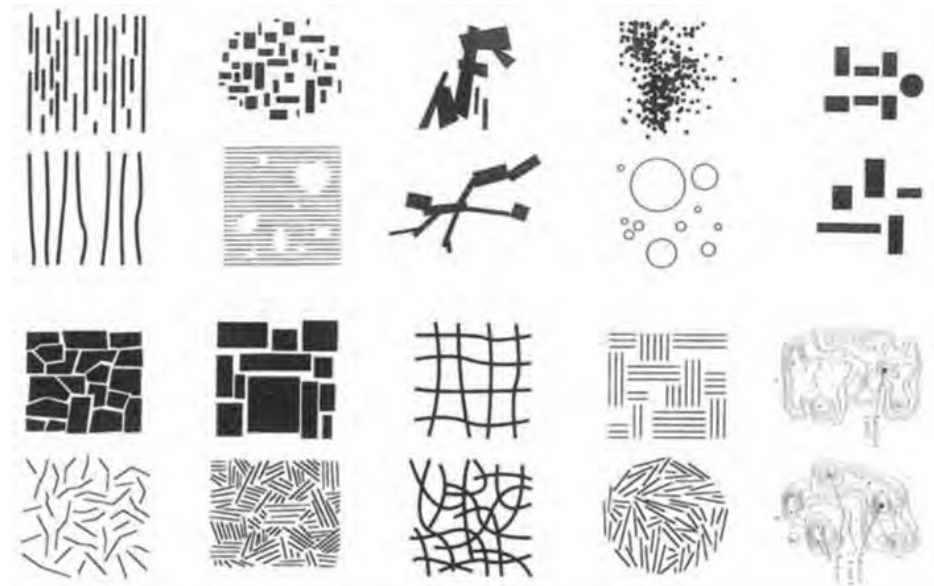
He urges close attention to differences at the local scale without concern for the larger form of the whole. Thriving local conditions and social interactions is completely unrelated to the larger scale forms.

One of the potentials of the field is to redefine the relation between figure and ground. If we think of the figure not as a demarcated object read against a stable field, but as an effect emerging from the field itself – as moments of intensity, as peaks or valleys within a continuous field – than it might be possible to imagine figure and field as more closely allied.

His written work has kept me cognizant of the regularity and continuity that is generally expected and required of infrastructure systems. In the design of highways, bridges, canals, or aqueducts, for example, an extensive catalog of

strategies exist to accommodate irregularities in the terrain [doglegs, viaducts, cloverleaves, switchbacks, etc.] which are creatively employed to accommodate existing conditions while maintaining functional continuity.

Allen’s strategies for employing creativity in infrastructure also emerge out of an understanding of existing conditions and irregularities. Pay special attention to synergies when systems overlap and interchange, where field conditions that result are unpredictable. Instead of moving from large to small, think about the potential for what the infrastructure can do. Allen diagrams of field conditions and explorations of the overlap between infrastructure and space have inspired techniques for reading urban environments as one space.



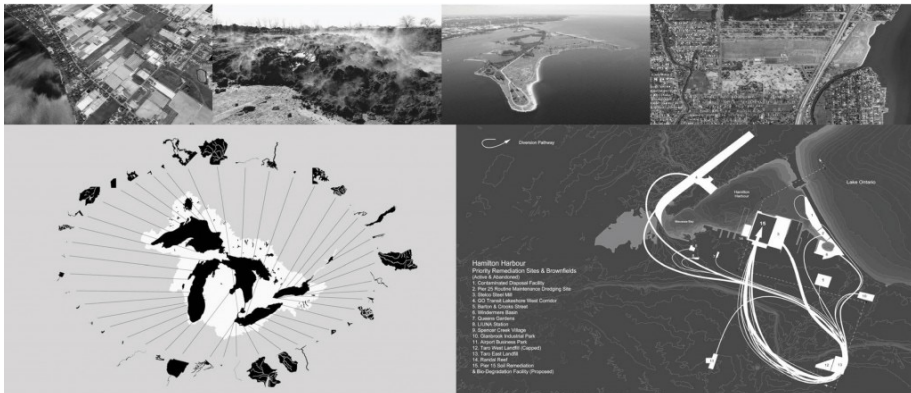
Field Conditions diagrams, S. Allen

Pierre Belanger - Redefining Infrastructure

Similar in scale, Pierre Belanger's research focuses heavily on infrastructure: landscape as infrastructure, landscapes of infrastructure and infrastructure systems. He challenges what he views are closed systems in the hands of engineers that are focused on the task at hand irrespective of future uses or potential. Recalibrate and retool networks and systems of infrastructure as a first step in reimagining the regional metropolis.

One of the potentials of the field is to redefine the relation between figure and ground. If we think of the figure not as a demarcated object read against a stable field, but as an effect emerging from the field itself – as moments of intensity, as peaks or valleys within a continuous field – than it might be possible to imagine figure and field as more closely allied.

The scale of Belanger's work often remains at the regional or metropolis scale, as he investigates broad economic and production flows and networked systems. Much of his work is in the form of extensive site analysis and mapping, acting as a call to action for designers, planners and engineers to scale down, close loops and think about the future of our infrastructure. For example, in his research on waste economies, Belanger aggregated the flows of garbage, disposal, waste management, etc and produced a diagram to show the potential synergies and efficiencies in the systems. The image on the left, Systems of Diversion, maps the flows of contaminated soils from brownfields and organic solids from landfills in Hamilton, Ontario redirected to new soil remediation and composting facilities.



Mapping Infrastructure, P. Belanger

Belanger asks us to imagine the new spaces that may be created when urban systems are designed to be tightly integrated in.

Another example by Belanger involves sediment in the Great Lakes Region, see the above diagram on the right. With more than 70 million tons of sediment dredged from the ports of Great Lakes cities over the past 30 years, there is a considerable potential for landscape practitioners to engage in the design and planning of sites involving the diversion of excavated materials from the mouths of rivers towards inactive or abandoned industrial sites." Belanger argues that when compounded, landscape-based strategies that can solve multiple challenges at once. Belanger provides us with the information we as designers need to take the next step.

I would argue that Belanger investigates infrastructure systems at one scale, yet he continually stresses the importance of moving scales. Overtime we can engage infrastructure as a landscape with strategic interventions that span short and long time spans and move across different scales.

Design becomes telescopic, sliding across different scales, systems and strategies that are no longer defined by professional or political boundaries but rather by trans-disciplinary, trans-boundary collaborations. In contrast to the hard, fixed infrastructures, this interpretation provides the room for the design of softer, looser ecological systems, with a concentration on the effects at macro and micro levels.

He also argues that new spaces are realized with shifting scales of intervention.

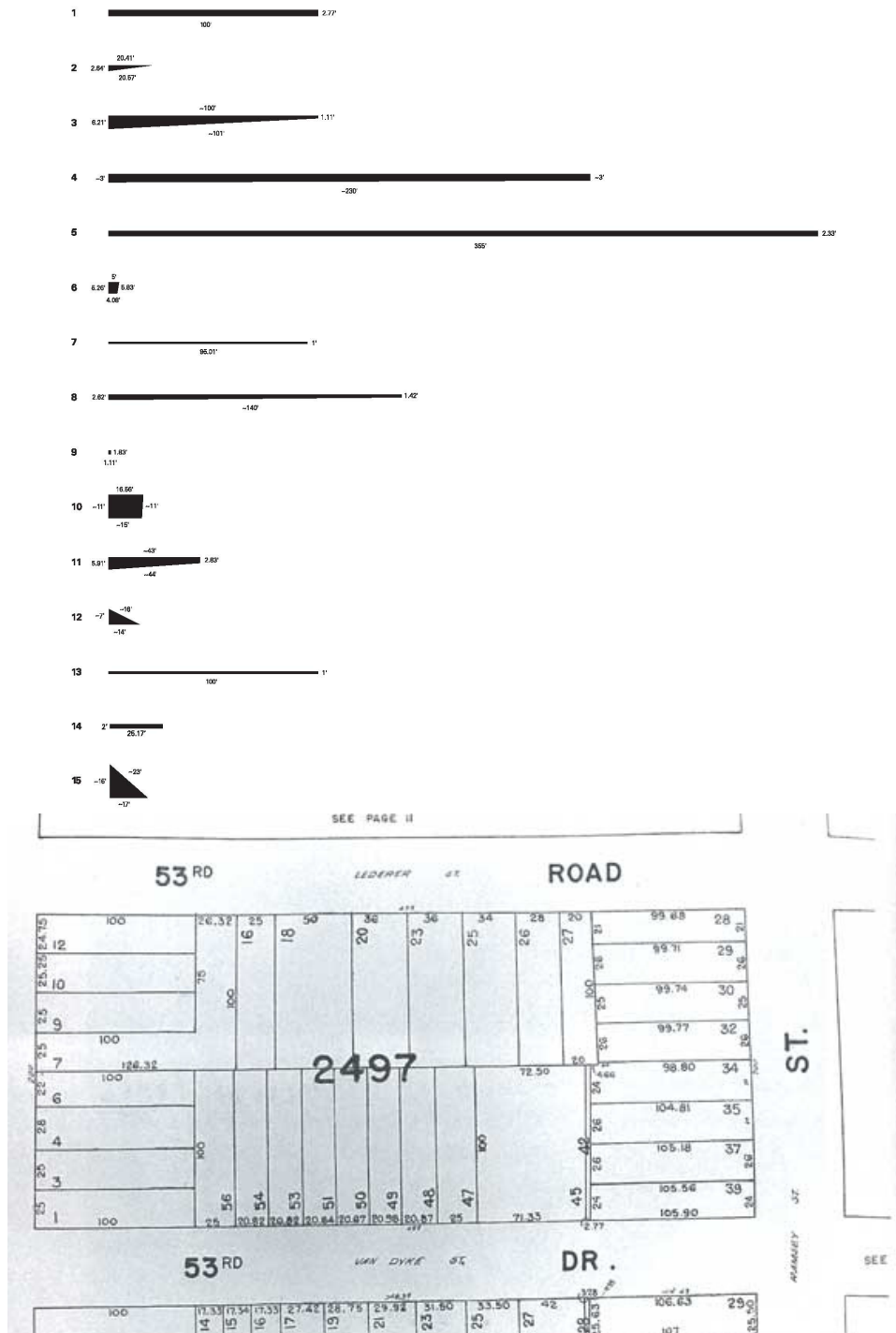
Design of territories, zones of intervention, and modes of organization become soft design processes that eventually lead to the formation of new spatial morphologies and performative ecologies.

Nonetheless, Belanger's work is incomplete: I want to know what his projects would look like at the site scale. What would a site, inspired by waste sediment dredged from the Great Lakes, look like? His ideas are on the forefront of our field so it makes sense that there is much work to be done for them to be realized. I intend to take that next step of scaling down in my own work.

Odd Lots – inventory of vacant land

Similar in concept to Detroit’s current work, Odd Lots focuses on a city-wide condition, unowned parcels of land. This work by Gordan Matta-Clark describes a unique strategy for cataloging space. Using historical platting maps, he identifies unowned plots of land, awkward in shapes that have been detached from their original plat due to rezoning processes.

Unlike Detroit or any of the previous projects, this work remains more of an exhibit than a landscape architecture or planning project with larger intentions for the orphaned land. Yet the plats can be viewed as a system of fragmented spaces and there is certainly potential for it to be something greater. The project simply states what is, and allows the viewer to draw their own conclusions, perhaps about the arbitrary edge of property lines or the stark boundary between public and private space. I too intend to challenge the arbitrary edges of property lines that limit the infrastructural potential and ability to move in within and between spaces, but I want the sum of these fragmented spaces to become something greater.



Select graphic, plat map and photographs of vacant plats, G. Matta-Clark

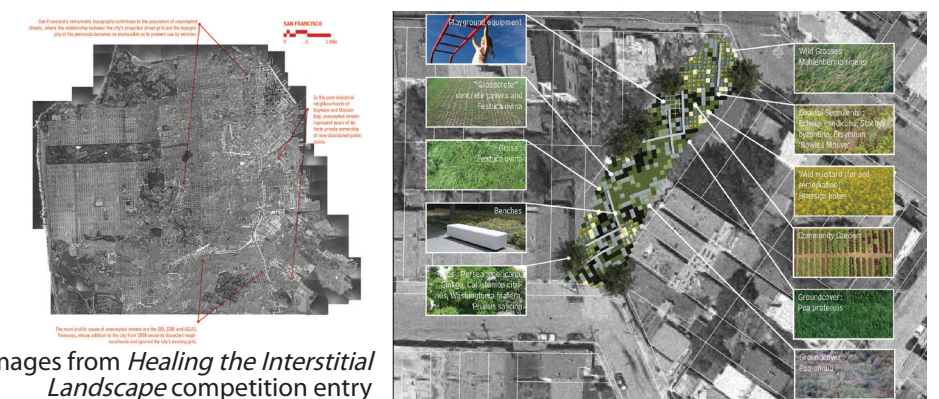
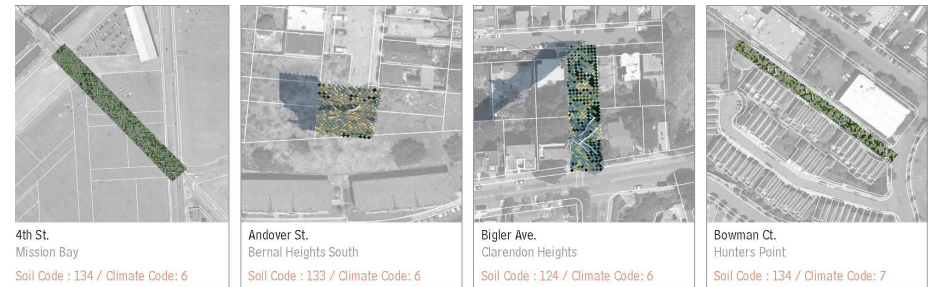
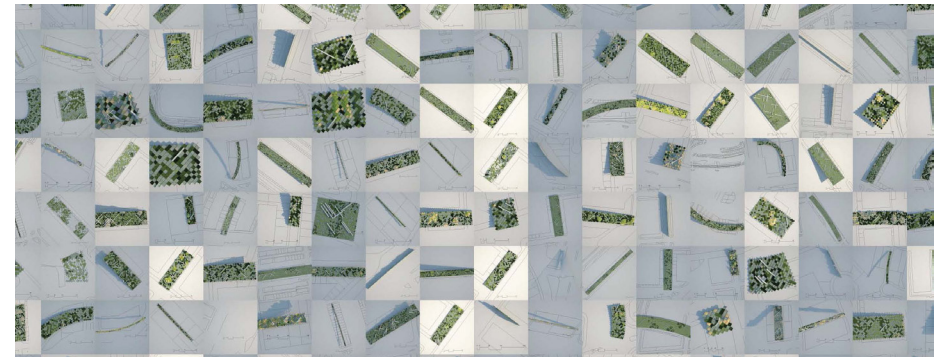
Healing the Interstitial Landscape, WPA Competition Entry – Organizing Principle for Small Sites

Very much inspired by Gordon Matta-Clark's Odd Lots Fake Estates, Healing the Interstitial Landscape proposes a strategy for disseminating design intelligence on publicly-owned abandoned sites throughout San Francisco. Identified through the Department of Public Works, the “unaccepted streets” of San Francisco are those interstitial sites which occupy the position of streets in the city grid, but are not maintained by the city, or necessarily even passable to traffic. These streets are “seen separately and individually, the sites are litter-filled, residual spaces, condensing around highways and industrial sites. There are over 500 acres of unused space because of this designation.

The next step was to map the unacceptable streets and doing an inventory of the ground, including elevation, microclimate, hydrology, topography, soil conditions, population and density, demographics and crime. Following the inventory, an overall design concept was developed as a strategy to activate and unify these spaces. “Instead of attempting a single solution for these sites, they propose a process, a network of urban catalysts in publicly-owned abandoned sites, designed and built by public and local partnerships.

I find this project fascinating for many reasons. The inventory of sites and ground conditions successfully organizes and brings life to many forgotten spaces. The attempt to bring order to these sites through a unified design is also very cool. The proposal seeks to envision these sites choreographed together as a cultural, agricultural and ecological resource. The proposed designs include recycled hardscape, public gardens, play-spaces and facilities for water retention. There is enough flexibility in the design matrix to allow for specific site conditions, irregularities and inspiration, but overall, each of the sites plugs into this larger “archipelago.”

Design for walking requires a critical eye at multiple scales and the case studies in this chapter provide many strategies for walking at a broad urban form level to the details of surface and dimension.



03 THE TALE OF MULTIPLE EDGES



03 THE TALE OF MULTIPLE EDGES :: HISTORY OF WESTERN LAKE UNION

Moving from literature and design precedents to the thesis project, we come to Lake Union, a complex and contested place in Seattle with a rich and conflicted history. Lake Union and its surroundings afford the opportunity to examine the potential of challenging edge territories and harnessing the potential of border areas for urban walking. This section provides a synopsis of the evolution of Lake Union.

Lake Union was once just a groove carved out of the precarious topography of Puget Sound, a basin holding freshwater. The complex maze of hills and valleys of the region generated equally complex microclimates. The constant instability of the physical environment benefitted the ecological life of the region, as the turmoil and chaos provided the complex nourishment for fir and cedar trees to grow to immense heights.

This piece focuses on the many meanings of Western Lake Union, and especially the water's edge: who determines where land interfaces water? Where is the line drawn? What is considered the lake edge and what is the experience along that edge? How can we make space for the multiple narratives that have shaped this edge?

MULTIPLE STORIES ALONG THE SAME EDGE

To term the interface between land and water on Lake Union as the edge, even as an edge, is misleading. Historically the water level fluctuated which resulted in unclear boundaries between land and water; a more accurate description of this territory where water and land meet is a term used in ecology, ecotone. An ecotone is the transitional zone between two distinct ecological communities, characterized by abundance of natural resources and living organisms. Historically, this prolific territory was relied upon by natives for foraging, fishing and boat building; controlling this zone would have undermined their ability to survive.

The shoreland territory of Lake Union has had many lives throughout which the line has been increasingly manipulated, contested and ultimately reduced to one easy to control line. Multiple efforts and uncoordinated agendas to change and lay claims to the land surrounding Lake Union have shaped Seattle's history. The land directly abutting the water went from being the most bountiful and sacred of all places to regarded as empty and damaged. It was this location, the interface between land and water, that withstood the brunt of the efforts to manipulate land and where the physical and social repercussions of our manipulating the land manifested.

Lake Union was home to Native American's of the Duwamish tribe for thousands of years. The first settlers in the region recognized the instability

the same edge



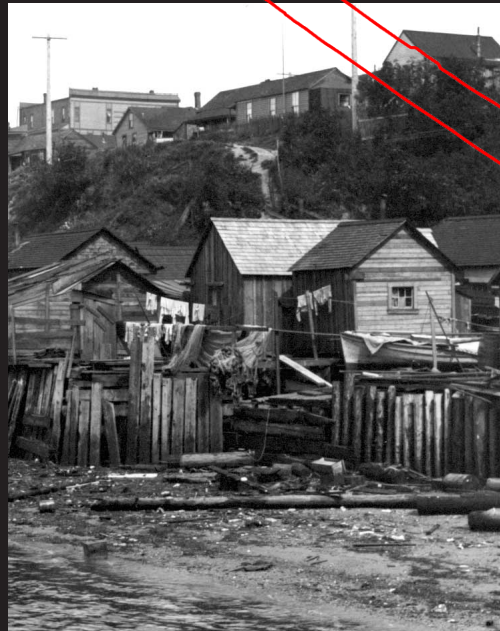
INDIAN CAMP

WESTLAKE AVENUE

THE pioneers were naturally resourceful, but it took all their ingenuity to bring coal from the Renton mine to the narrow gauge railroad running from Lake Union to Pike Street by way of what is now Westlake Avenue.

Some years later a shorter route for bringing the coal to Seattle was chosen by way of Mox La Push, or Black River Junction, and the Lake

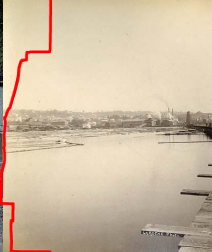
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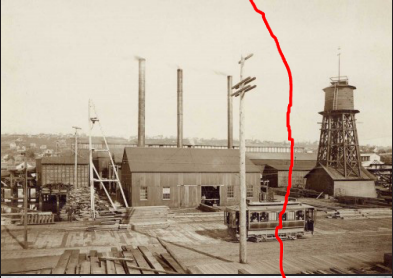
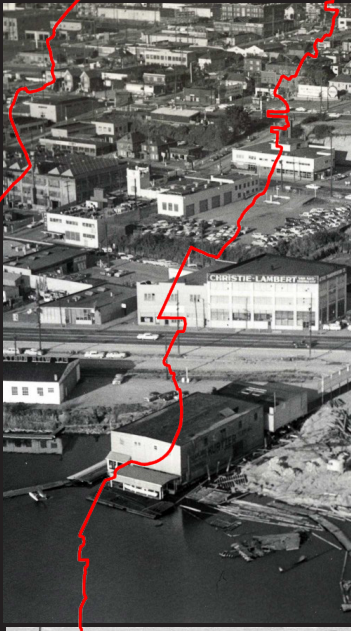


dumping



movement

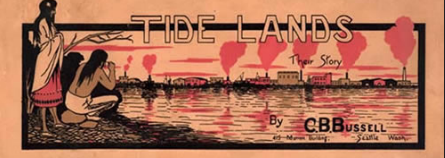




LAKES CALLED HEALTH MENACE

Dr. Read Demands Removal of All Houseboats

Lake Union is a virtual cesspool.



OPPORTUNITY RIGHT HERE

Lot's in this DISTRICT \$3000.00 @ UP

This Is Just How It Looks

Note the sewage marked on above map.
 Who should you buy from? Because we can sell you 100 ft. lots with garage and railroad facilities for the price of a good residence lot.
 We are able to direct you to houses we know personally nearly all the owners of lake front lots and have all prices to compare by. Remember, there are only a few agents. This brochure will send you to the best agent and he will hold it at that price now by word.

industry

houseboats

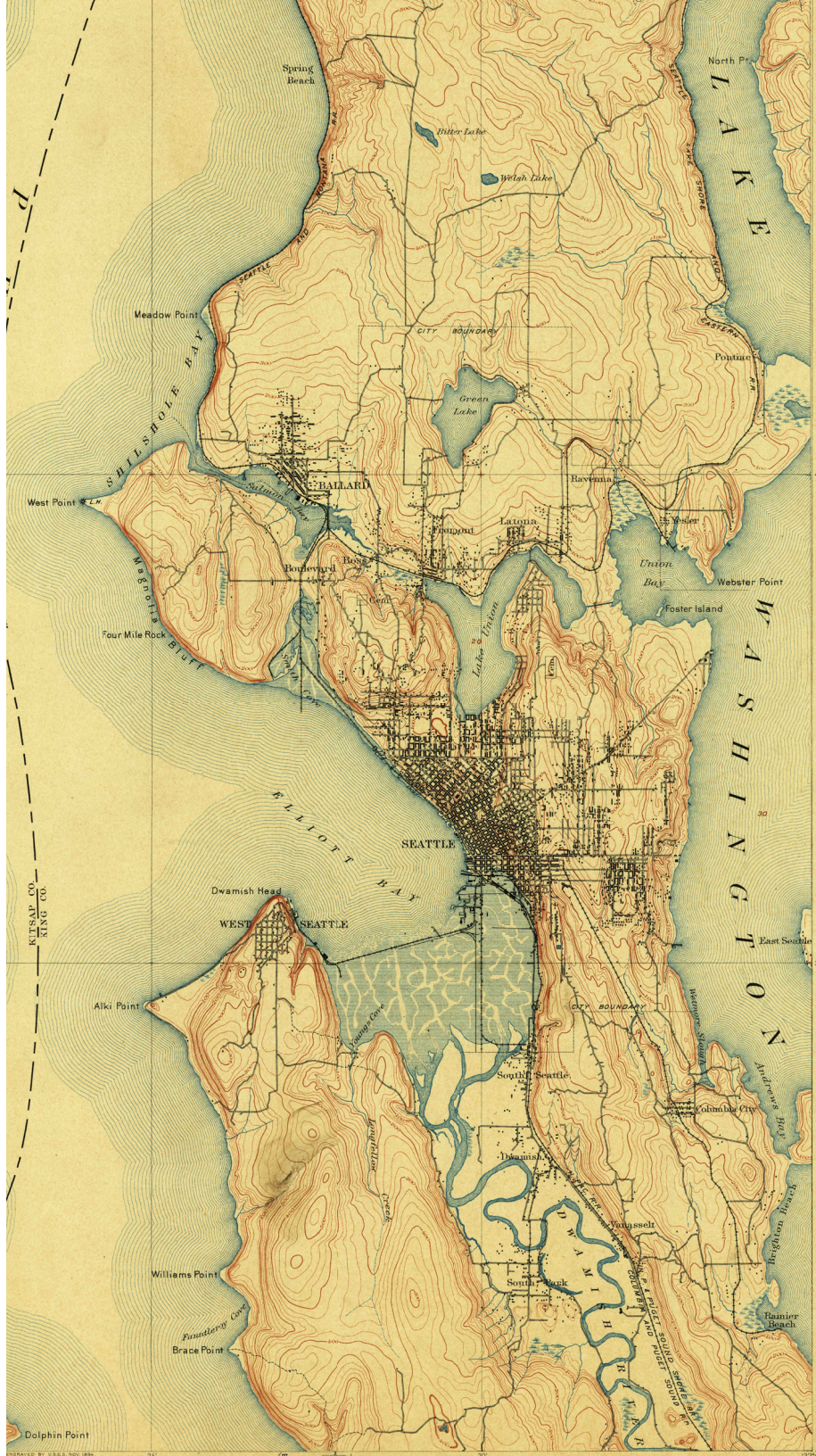
of the land and waters, organizing their lives around the rhythms of the natural world: of the rising and falling waters, the shifting lands, the complex but never static ecosystems. Early settlers arrived with a different view of the land. They found the landscape so unstable that it was impossible to run survey chains over the terrain; notes from early days in the field include the assertion that there is “not one true line between sections.” Early settlers made changes to the physical and social conditions of Seattle and the Puget Sound region to meet the needs of economic pursuits, as they relied heavily on the landscape and could not, or would not allow it to be anything but static. Early settlers were especially frustrated by the unpredictable nature of the shorelands and initially deemed these lands unworthy of any serious development or infrastructure. As a result the shorelands became the collecting ground for undesirable populations.

The shorelands along Lake Union were unused or underdeveloped at the turn of the century but by 1914, settlers were changing the landscape along most shorelands in Puget Sound. Industrial activity concentrated in the shoreland areas for easy access to water transportation and low property values. Industrial activity compounded with sewage and general indifference resulted in extreme pollution of the shorelands of Lake Union: waste and effluent were dumped into the lake. Initially worshiped by the natives, now the land was shared with migrant workers and squatters. The shoreland became the collective home of many laborers who helped build early Seattle: Greek and Italian fisherman, African American stevedores, Swedish and Japanese loggers, Russian Jewish merchants, farm workers from the rural Northwest, and natives.

Those unable or unwilling to work, unwanted in parks and feared by city leaders, looked to the old watershed commons, home to Indians, migrant workers and indigent immigrants, as a place to live and survive. On Lake Union, jerry-rigged tankers supplied heating oil to the growing houseboat population, lumbermen sold sawmill debris for stoves and fisherman in runabouts peddled their catch from slip to slip.

The highlands were far enough removed that the elites retreated, literally looking down while the poor were left with the lowlands.

Multiple industrial functions, dry docks, marinas, machine shops, mills, and factories, competed for space with old squatter houseboats and worker cottages. Once the last of the sewage outfalls were diverted from Lake Union in the 1930's, the lake edge became a more desirable place to live. Seattle health officials attempted on multiple occasions to vacate the slumlands but the squatters were persistent; by 1935, the department of health and sanitation reported the shanty population was upwards of four and five thousand and located mostly along water fronts and on filled in tideland. Starting in 1967 however, the city required houseboats to connect with the municipal sewer system, which eliminated the houseboat population that was squatting on public waterfront. Currently, houseboats on Lake Union comprise coveted real estate.



LINES: THE PROCESS OF SITE ISOLATION

Every mode of social organization produces an environment that is a consequence of the social relations it possesses

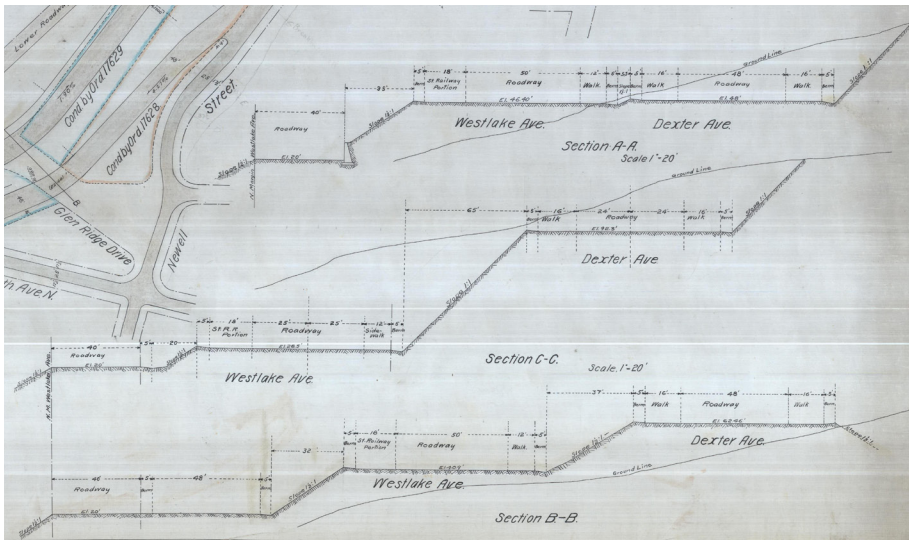
The lake edge, flat and continuous amid the hilly topography, provided a natural path for moving people and water. Seattle developers prioritized industry and order above all else which reinforced the shoreline of Lake Union as a single hard line to delineate water from land. This one line is now permanently etched in the landscape and reinforced by decades of infrastructure and platting. Everything to make a complete and prolific society, movement for people, movement for water, and plats, were fit like puzzle pieces along this newly molded line and previous ties to the land were cut.

Movement Lines – moving people and water

The lake edge served as the spine for moving people goods and water, into which additional lines plugged in. This infrastructure ran parallel and transverse to the lake edge. Early development along the lake edge was focused on enhancing the connection from the south end of the lake to downtown Seattle and then onward to Elliot Bay.

Early development on the western edge included a streetcar line from downtown to Ballard area and other burgeoning towns and suburbs north of lake union and along Westlake and small rail lines for industry-related transport. Seattle's first sidewalk was built in 1879 along the lake edge and what had been an indigenous trail. Early maps show that, by 1888, a street grid was set up and laid out according to a north-south/ east-west grid that is the basis for the grid seen today. In 1909, the Northern Pacific Railroad was granted a franchise to build a railroad line along the west side of Lake Union. Increased demand for connection followed the opening of the ship canal in 1917. The Aurora Speedway, completed in 1932, was built primarily for motorists and was the first major transportation infrastructure project without a railway.

Historically, the Western edge of the lake was of less of an infrastructural focus as it has long been overshadowed by the south end of the lake.



Sewer Lines

Sewer lines are some of the earliest forms of infrastructure that both denoted space and created edges. The first sewer systems was erected in response to the pollution and disease that plagued the most populated parts of the city and was exacerbated by the scalped land and barren slopes.

The origins of the disease were in the changed landscape of the city. Roads carved out of the rocky, clayey soil, strewn with stumps and exposed rock, with grades on many streets exceeding 10 percent, turned into muddy streams that flowed through outhouses and garbage sumps on their way down the barren hills into Lake Union and Lake Washington.

As described earlier, the most affected by the unpleasant conditions were those that inhabited lower grades by the lake edge. Seattle residents, which were increasing rapidly grew from 3,553 in 1880 to 237,194 in 1910, desired a comprehensive sewer system long before it became a reality.

The planning and building of early sewer systems coincided with the development of transportation infrastructure in the 1880's. In the 1880's city officials passed an ordinance requiring sewer lines for all new residences; since engineers were also developing a road system at the same time, it would be easy and orderly if the sewer system and transpiration infrastructure followed the same lines. Planning

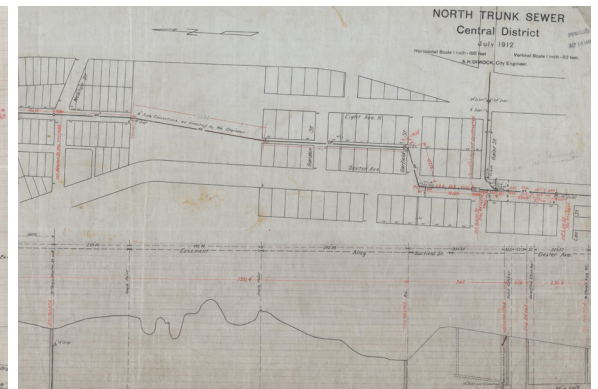
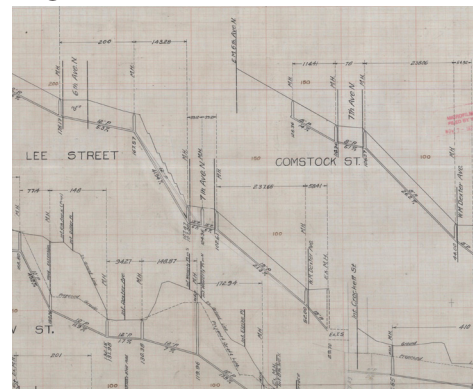
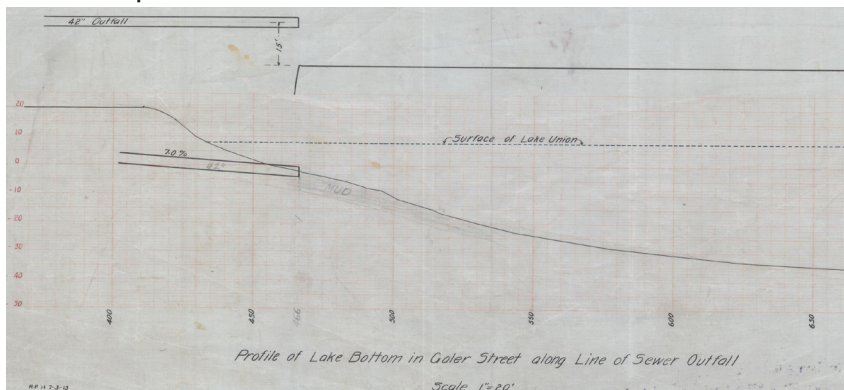
and building of sewer systems in Seattle was rapid, responding to the increase in population.

By the end of 1891, about 14.9 miles of sewers had been constructed, and increased rapidly in subsequent years. One man, R.H. Thompson, was responsible for laying the foundation of the sewer system that still exists today. Thompson served as the city engineer from 1892 to 1911, some of the most prolific periods of engineering. He was motivated by a vision of flat ground and orthogonal lines and quick to make large structural changes to the land despite lacking knowledge of geologic conditions.

The unseen subterranean landscape, the legacy of the massive glaciers that had scoured the region repeatedly during the Ice Ages, would frustrate city utilities workers in the decades to come.

Engineering work that followed was plagued with problems. Nonetheless, Thompson continued his work. The north trunk sewer is the sewer system that serves the western side of Lake Union and areas to the north. To this system he attached branches, to storm drains, houses and businesses. While they were significant steps in improving the condition of water in the city and the water bodies, they aggravated conditions for a long period after they were built.

These massive feats of infrastructural development, the railways, roadways and sewer systems, created opportunities for some and barriers for others.



Property Lines

Land ownership followed infrastructure development in an attempt to impose order on the erratic landscape. Plat lines plugged into sewer lines which ran parallel and transverse from the railways and sewers, making a neat and controlled landscape. Reflecting back on work of Hill and Dripps, the open systems that exist in space do not adhere to the infrastructure, movement and property lines we establish on paper. This was the case in Seattle as settlers found it was difficult to impose order, physical or social, as Seattle's dynamic landscape undermined the divisions between property owners, functions and public and private spaces.

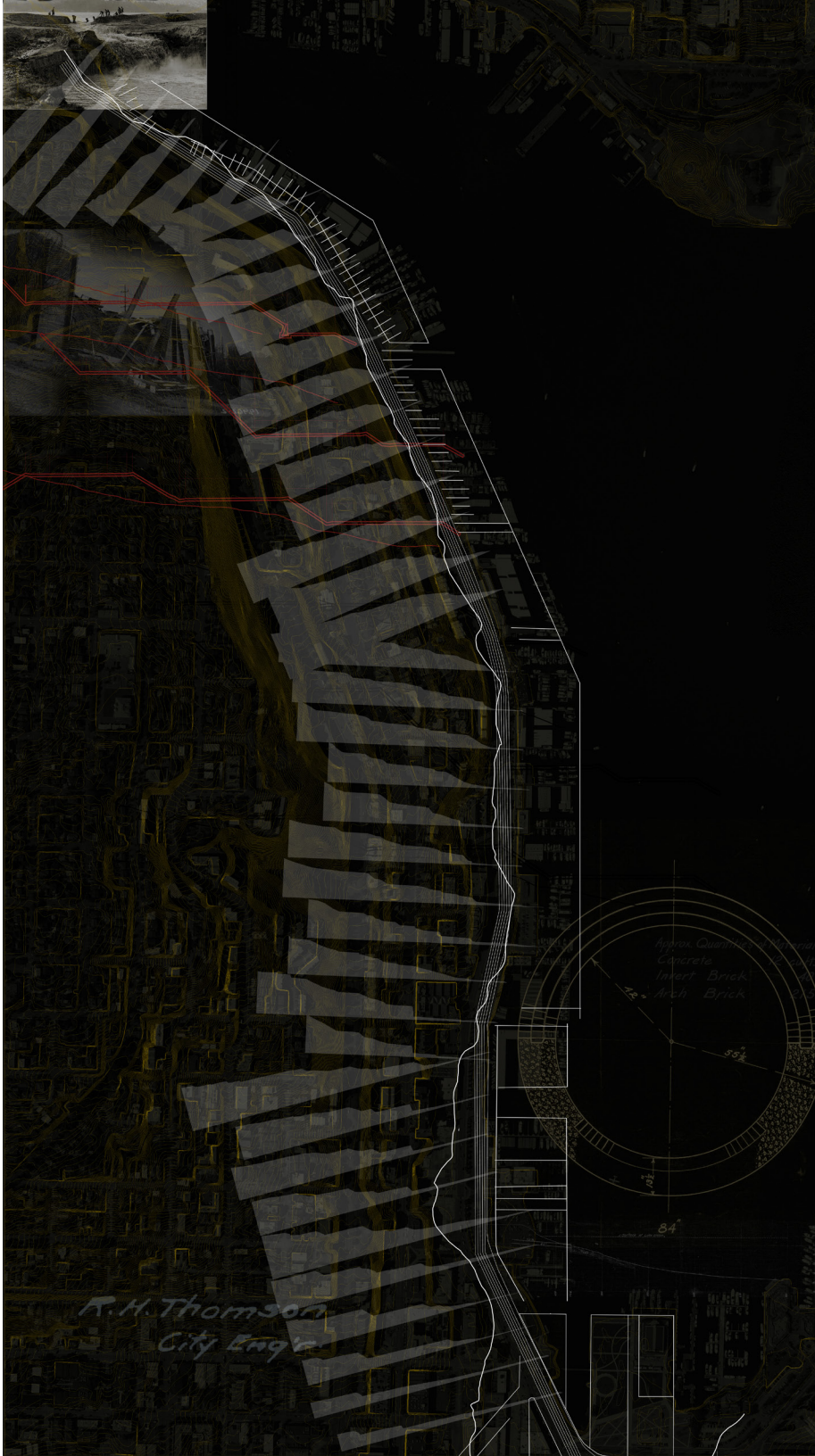
Chittenden had imagined a plan resonant of Progressive Era ideals: public-minded engineers allied with private interests to produce solutions to protect the common good. Yet waterways that were public on paper were often private in practice, leaving them vulnerable to continual tinkering. With each subsequent improvement – a filled estuary here, a new waterway there – the economy and the physical environment both grew more erratic. Taking rivers and lakes apart to reassemble them meant taking apart and reassembling preexisting property as well, and Chittenden was unprepared for this and also

unprepared to face the fact that the physical environment eluded easy human control.

Nonetheless, principal actors, including railroad developers and local investors, continued attempts to impose order on the land and their properties with no thought to existing inhabitants and functions. Property lines, both arbitrary and stringent, served to reinforce what land matters and who matters and zoning laws and building regulations reinforced the “geography of poverty.” Additionally, national laws made it difficult for natives to own land and as a result the land available to native subsistence was constricted jeopardizing natives ability to be self sufficient. Those without property rights were forced to inhabit land that wasn't claimed. Historic plat records indicate that the western edge of Lake Union, and in particular the northern most section on the west edge, was late to be platted.

Immigrant squatters and natives therefore, made a home along the unclaimed and least desirable part of the city, the waters edge. As interest in the shorelands of Lake Union increased, so did the pressure on those living there, and they were circumscribed by arbitrary but stringent property lines that determined where they could and more often, could not go.





NO LAND IS EMPTY

The water's edge of Lake Union provided the foil against which development plans, primarily infrastructure and property lines, were offset and this one line was the confluence of multiple interests. Early development along Lake Union was disjointed and uncoordinated: the narrow vision of developers, industry, homeowners and engineers showed little concern for existing uses on the land. Multiple stories compete for attention, some win and some loose.

The narratives embedded in this landscape will never fully go away. Engaging the richness of narratives on this land means more creative possibilities for future uses.

Social change, according to Lefebvre, cannot occur in a planned way without the production of a changed space. To change life means to change space. The transformation of social relations, Lefebvre believes, means a transformation of sociospatial relations, a production of a new, liberatory space.

Figure 1, Mapping Meanings

THREATS TO WESTERN LAKE UNION :: WHY THIS PLACE MATTERS

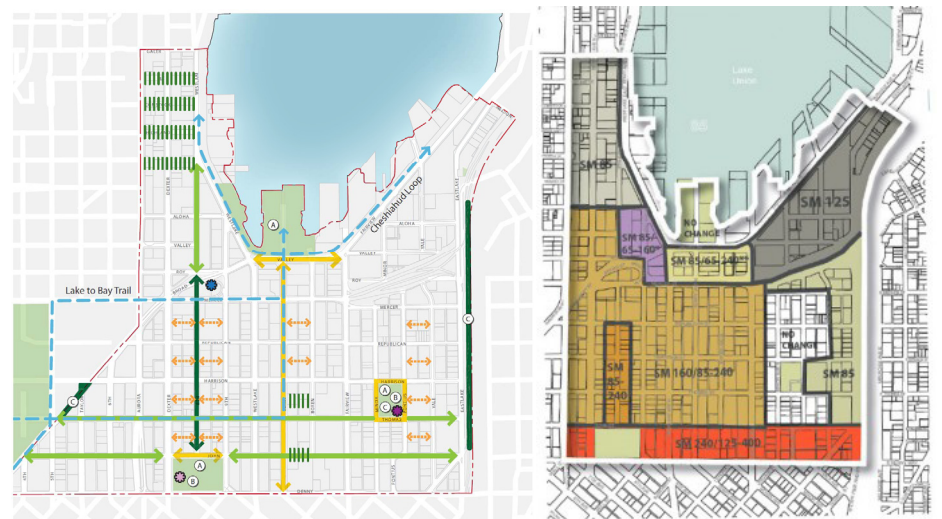
When culling historic resources for information on Western Lake Union, it becomes apparent that this side of the lake lacked overt significance and was important primarily for its proximity to south lake union and downtown Seattle. This is still the case. Walking through the landscape shows a visible inconsistency in the care given to the pathways and edges and there is an intangible sense that much of it has slipped under the radar of community interest.

More overt evidence of the shadow over Western Lake Union by South Lake Union are the plans currently underway for reshaping South Lake Union. South Lake Union is currently on the cusp of dramatic change and has the potential to serve as a strong anchor to our downtown. An outline of the designated area of interest, by developers, by city council, by business owners and by the community, shows where the time and money is being spent.

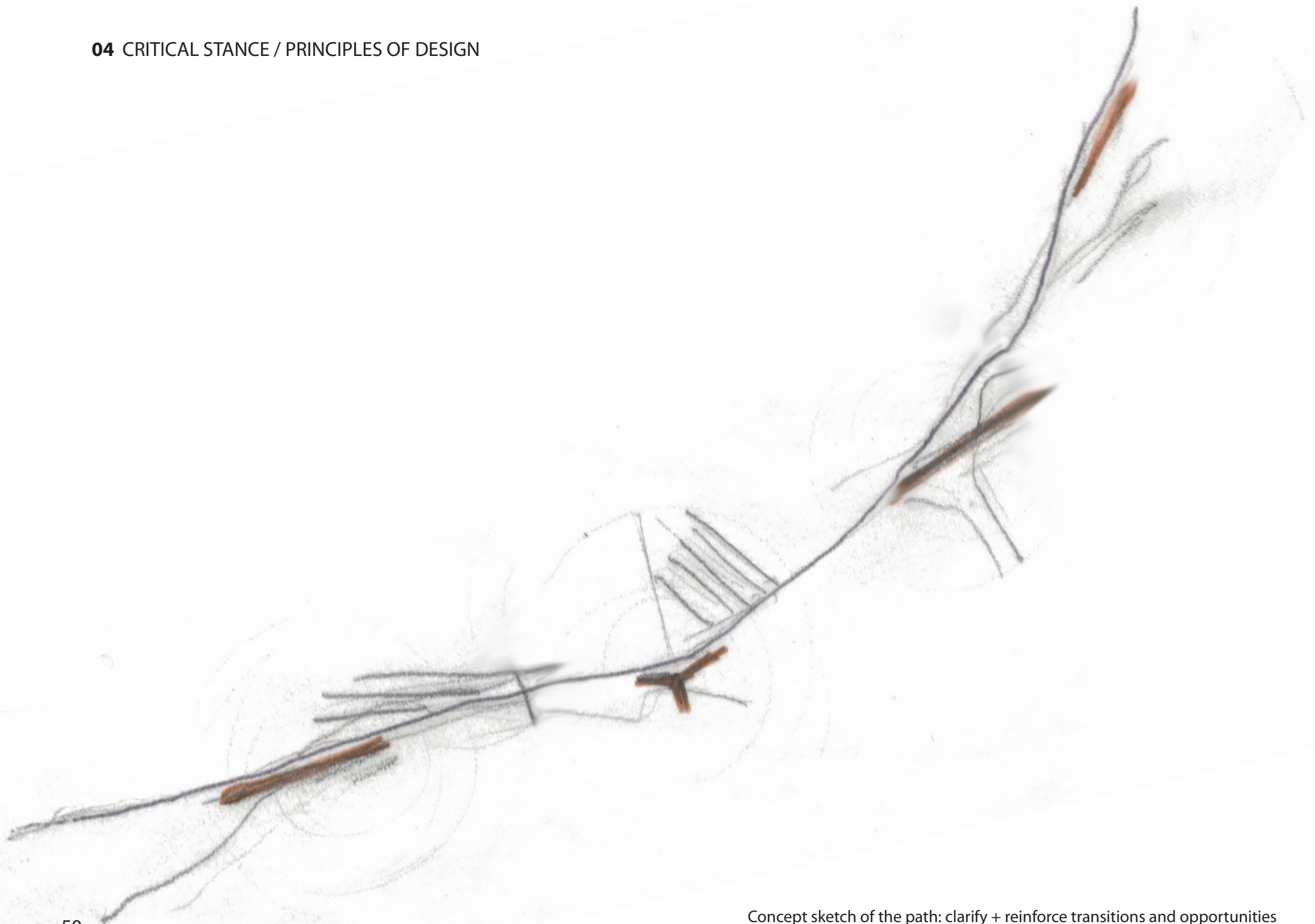
South Lake Union subject of significant attention by developers, city officials and residents, but it is not clear how the development of South Lake Union will affect the western side of Lake Union. The blast radius concept describes how far development spreads beyond the point of intended effect. It is possible that the blast radius will stop at Aloha as indicated by the development map. It is also possible that it will extend beyond as interested actors will start eying the spaces north of Aloha, and assuming South Lake Union development thrives, surrounding property values will increase and threaten existing functions. Neither is good or bad, right or wrong; I believe that what is wrong is indifference. History has shown that this area has lacked confidence as it has provided space for the spillover and the less beautiful functions of Lake Union. Western Lake Union must take an intentional stance for how it wants to grow or it will continue along a similar trajectory. West Lake Union needs a new narrative, one that is uniquely its own.



Various levels of care



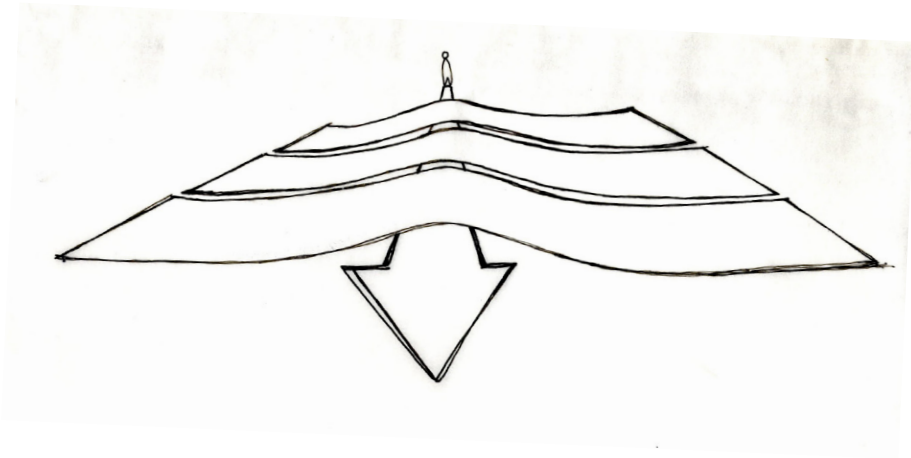
Maps showing location of South Lake Union development planning



04 CRITICAL STANCE/ PRINCIPLES OF DESIGN - Experience of Walking

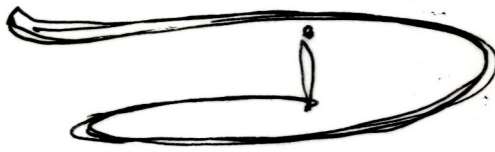
Successful design emerges from a complete understanding of a place. Walking is a powerful way to understand your environment. Walking without a clear destination allows for discovery of alternative worlds and perspectives that can go unnoticed. For the Situationists, cities were profoundly historical landscapes and a *dérive* attempts to unlock the secrets hidden within an urban landscape. The technique of urban exploration is reliant upon individual desires and knowledge of the city, but also upon urban morphology and characteristics of the landscape. How can site-scale design encourage drifting through a city without a clear agenda or end point? What human-scale amenities improve the quality of the experience under your feet and the choreography of connections within a larger landscape?

Designing sites with multiple constraints is the reality of 21st century urban ecological design. The challenge of messy edges, vague empty spaces and multiple narratives competing for attention is the reality of urban sites. Before addressing the site, it is important to outline how I approach designing for walking in any site, particularly those that present as completely claimed, full, yet have more potential. The theories and case studies discussed previously informed how I approach an urban site and what follows are several guiding principles synthesized from this work to illustrate a design philosophy. This chapter and the one that follows describe the framework I built within which to approach the design of the chosen. In this chapter I outline a set of basic overarching principles that define my approach towards the design of walking within dense and contested urban environments, which include challenging edge conditions, movement and pause, control and choice, and unfinished design. It is my goal to guide my design and make my intentions clear.



Challenge edge conditions

The term ecotone suggests that edge conditions are inherently rich, as overlapping functions create redundancy and diversity of resources. While edge conditions in urban environments present the same potential for dynamic interaction, the physical lines delineating ownership and function usually create flat, repellent edges, becoming awkward spaces of spillover. Unused and underdeveloped and these absent and obsolete edge spaces are persistent in the urban landscape. Activating edges and facilitating overlap can improve the connections between different parcels and ultimately transform a space. In order to challenge edges, it is often necessary to critique the way we define sites by drawing hardlines on a map, lines that rarely coincide with ecological flows or landscape conditions.

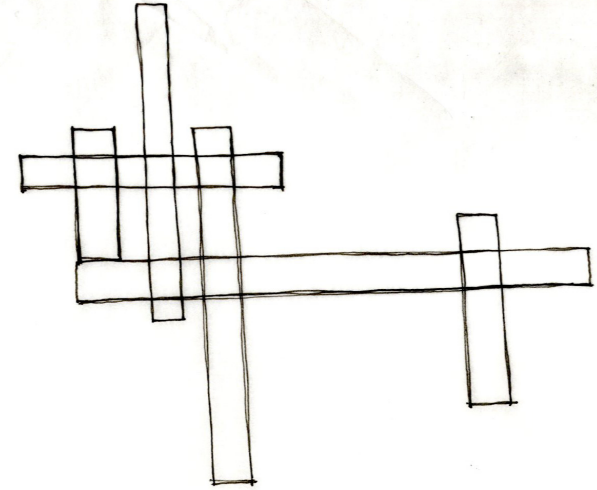


Movement + Pause

Many of the projects I highlighted in earlier sections demonstrate that successful trail design, in both urban and rural areas, include spaces for movement and spaces for pause. I intend to design a comprehensive and dynamic pathways system while also highlighting specific points of interest along it: places to pause, nodes where the trail diverges, and opportunities for play.

Control + Choice

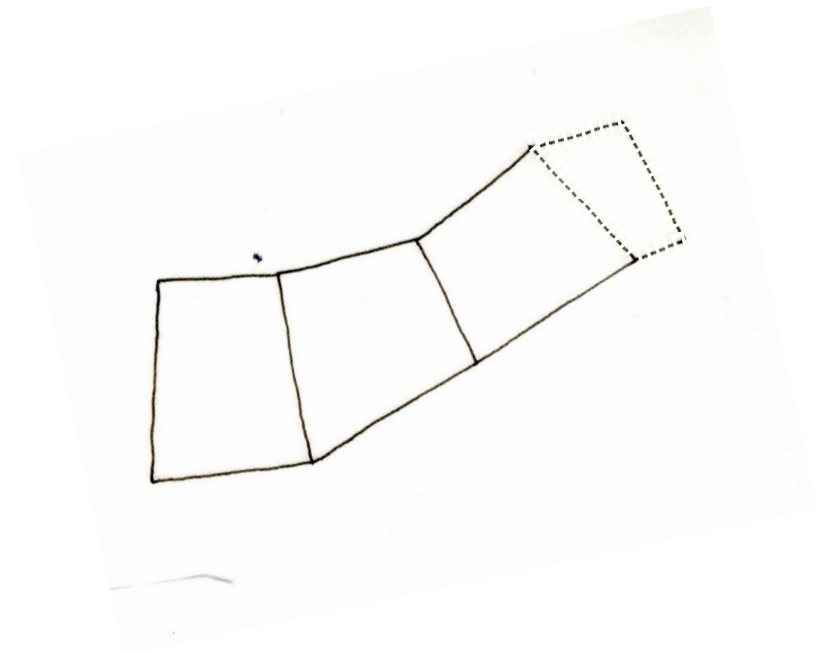
A successful walk is one that uses pathways to stitch together a variety of spaces into a dynamic network that can unfold in different ways based on choices that the user can control. In order to fully wander, you need choices.

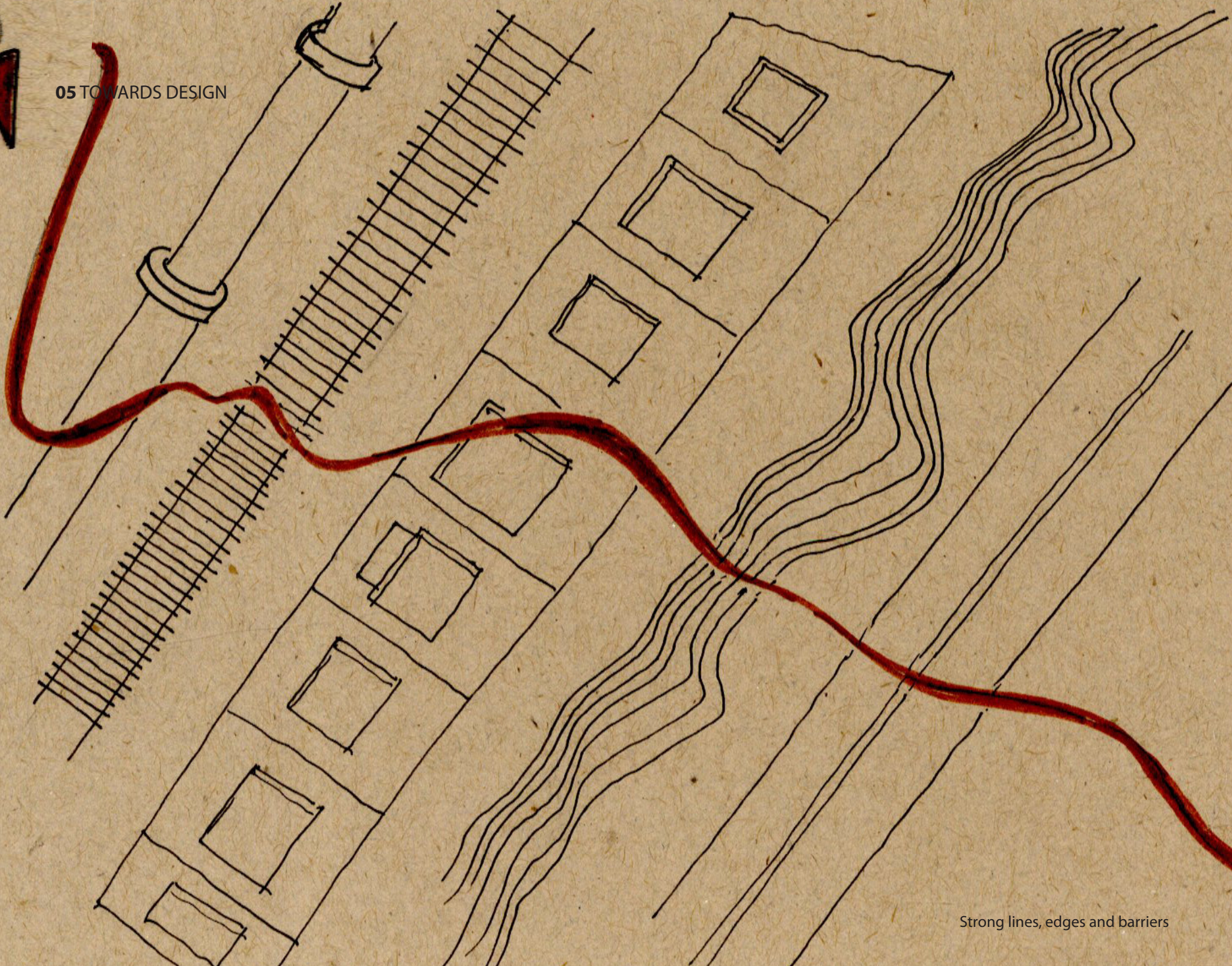


Unfinished is okay

Interventions without clear resolution are sometimes quite powerful. Design can be a negotiation; it can be unfinished and unresolved, left to future users to layer in their narratives. A design can initiate the process of making a new trail, to gather, reveal and catalyze relationships and processes.

Counter to the history of infrastructure development in the United States that as previously described, occurred quickly and superficially, I strive to implement changes slowly so as not to move towards a predetermined state but evolving within a loose envelope. I strive to practice restraint and design a degree of play into systems by leaving places under designed as the potential for infrastructure to enable new freedoms is often achieved through leaving gaps in the system for unanticipated development.

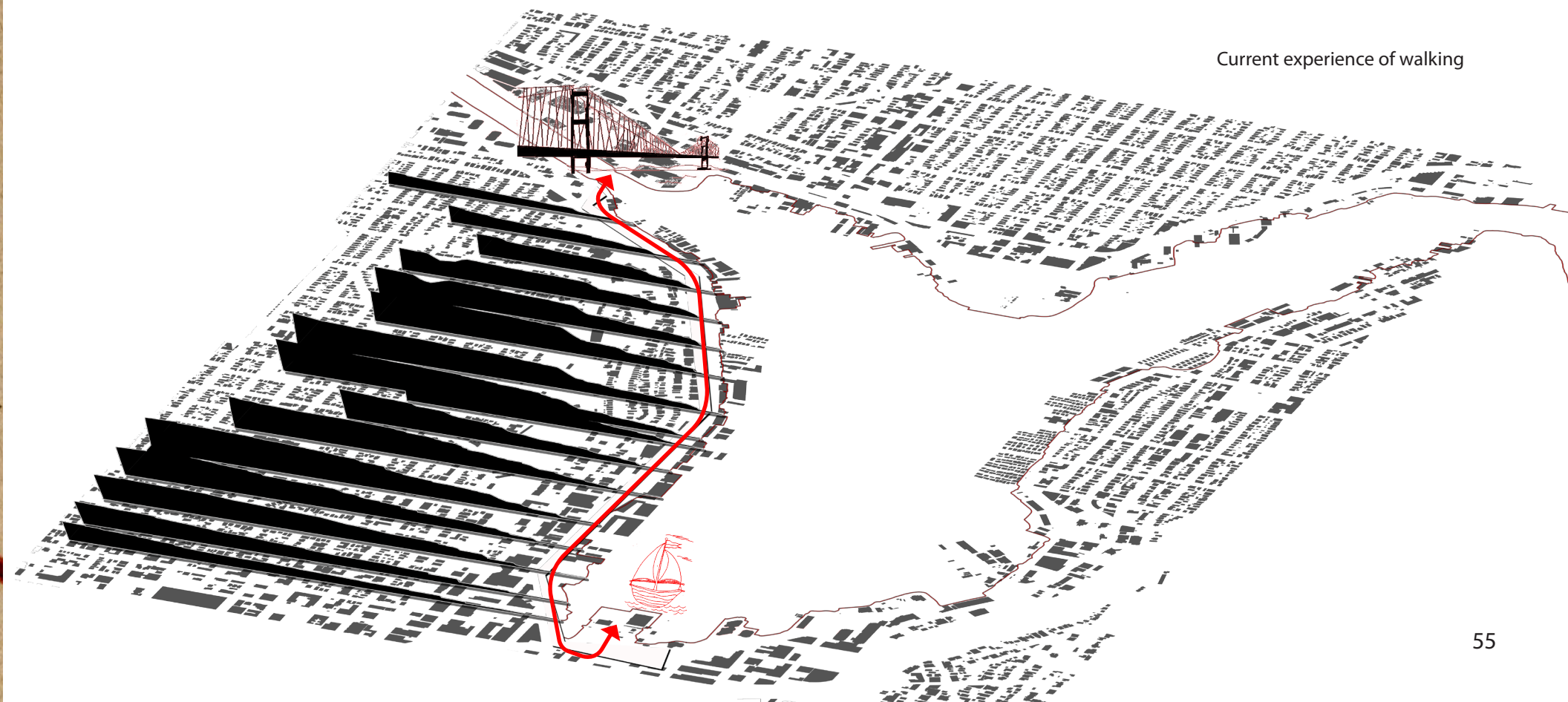




05 TOWARDS DESIGN

SITE ANALYSIS :: DECONSTRUCTING WESTERN LAKE UNION :: PERSONAL EXPERIENCE + CRITIQUE

I love wandering and I am quite good at it. I have a special gift for getting lost almost anywhere which can be scary but also incredibly rewarding as they are the times when I have seen the most, when I have been able to peel back the layers of my surrounding environment to see the raw and gritty... and appreciate the real. When walking through Western Lake Union, I have found it difficult to get lost despite my best efforts. Opportunities for walking along the western side of Lake Union are primarily confined to one discontinuous path, the Cheshiahud Loop. There are plans to improve the quality of this path but the route and design will stay the same.



The physical line of the single shoreline of Lake Union is strongly deterrent to any desire to stray: physically reinforced by fences, walls, roads, sewers, steep hills and less visible but equally impermeable property lines, has created a forcefully singular experience of walking from the northwestern most point to the south of Lake Union.

My relationship with the site has transformed from the first time I set out, sketchbook and camera in hand. The more time I spent on the site, the more I saw; the more I saw, the more I learned about the present and past of the landscape. Walking, seeing and reading the landscape over and over again has pulled me in directions transverse to the strong line that has been the spine of everything else around it. Once I began challenging the physical and legal edges that I saw on the map and allowed myself to break away from where I was supposed to walk, my understanding of the western side of lake union was transformed. Traversing in the way my body and mind wanted to revealed narrow footpaths and artifacts in the landscape that provided different perspectives on the same place, alternate realities that I was shocked to discover. Through walking I gained a more complete understanding of this landscape.

Traversing Western Lake Union has the potential to be a rich experience with opportunities for exploration and curiosity. Unlike the [popular and desirable] South Lake Union, Western Lake Union has not been the focus of development efforts or investment which has allowed the landscape to retain physical and experiential pieces of its past, and provide a strong framework for wandering. Additionally, it is much more reward to

experience this landscape on foot as there are connections available for pedestrians and pedestrians are much more nimble on the steep slopes. Vehicles are forced to move north to south with few opportunities to do anything else.

In order to communicate my experiences of traversing Western Lake Union, it is helpful to catalog formidable conditions. The act of cataloging conditions that shaped my traverse forced me to ask questions of myself in real time: Why did I turn left instead of right? What can I see from this point that I couldn't see 15 feet away? How do I feel in this space? Why? How might less proficient wanderers feel in this space? Why? Cataloging conditions also helped me to relate my understanding of the landscape gleaned from historic maps to my understanding of current conditions. For example, right now I see a dilapidated wall, but on engineering drawings from 1911 I see that a retaining wall was built in this location in order to stabilize the grade.

Some of these experiences relate to the small textural elements of walking while others are monumental. Some are reoccurring and therefore shape the overall narrative of passage while others are singular moments. All of them related directly to what matters to me while I wander and the direction I intend to take my interventions.

I am concerned with both singular moments and how they inform the larger narrative revealed throughout the traverse: how do the collective qualities I have identified shape the experience of passage. The development of transportation and water infrastructure has shaped Western Lake Union to what it is today but walking along just one edge does not tell a complete story of this landscape. The images below describe the complexities of the west side of Lake Union.

Monotonous :: textures, visuals, experiences

Layered :: edges; layered meanings, layered functions

Disjointed :: There is no clear vision for this side of the lake. It serves as the space you move north-south.

Disjointed scale :: big fences, big parking lots, big hills

Disjointed connectivity :: east west because of Dexter and Aurora; north south as a walker

Disjointed care :: juxtaposed topiary with blackberry.

Forceful :: strong edges force you to move from north to south with little opportunity for pause. All of the cues provided by the built environment do not want you to move beyond your 5-10' stretch of sidewalk; The land itself is forceful, as it has been manipulated into something that it is not, and inherently tries to find its equilibrium.

Hidden :: Industry is in important function along the western side of Lake Union and is a piece of or history that is often too easily dismissed.

Hidden shoreline.

Hidden topography.

Hidden meanings.

Figure x: Conditions of the landscape along the western side of Lake Union

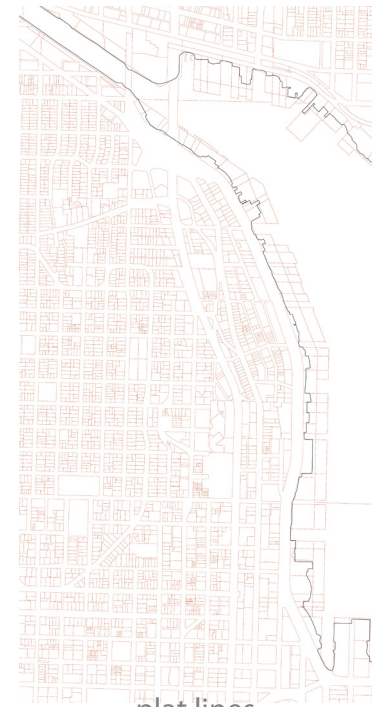




steep slopes

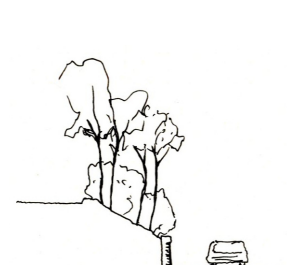
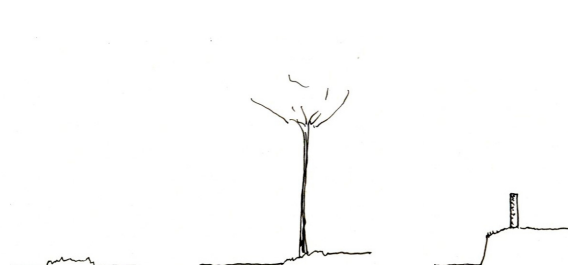


known + potential slide zones



plat lines

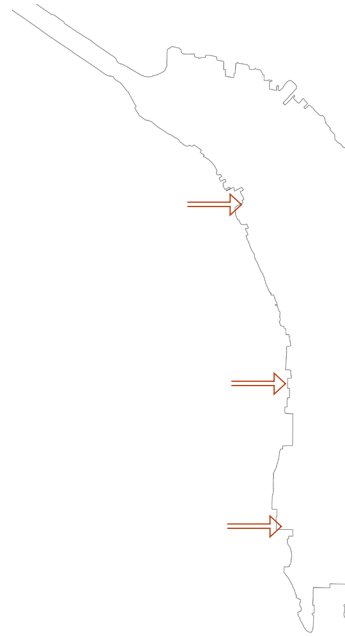
Existing Conditions



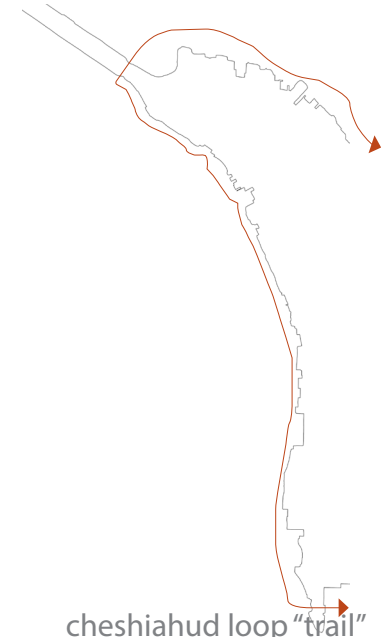
Inventory of edge conditions



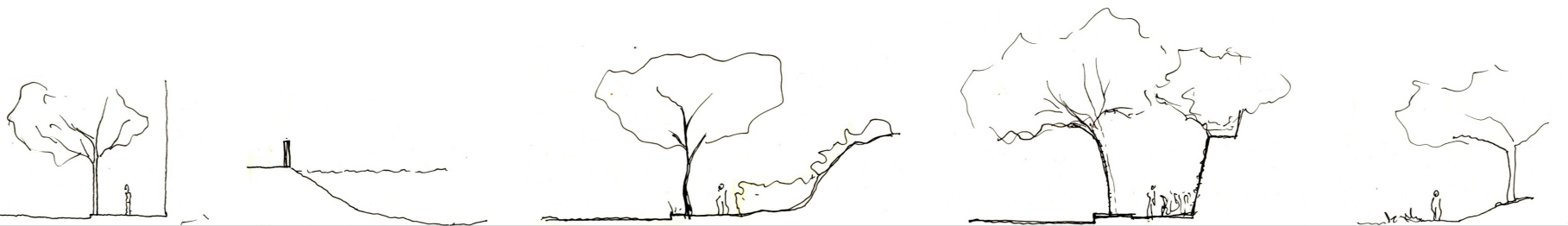
stormwater outlets

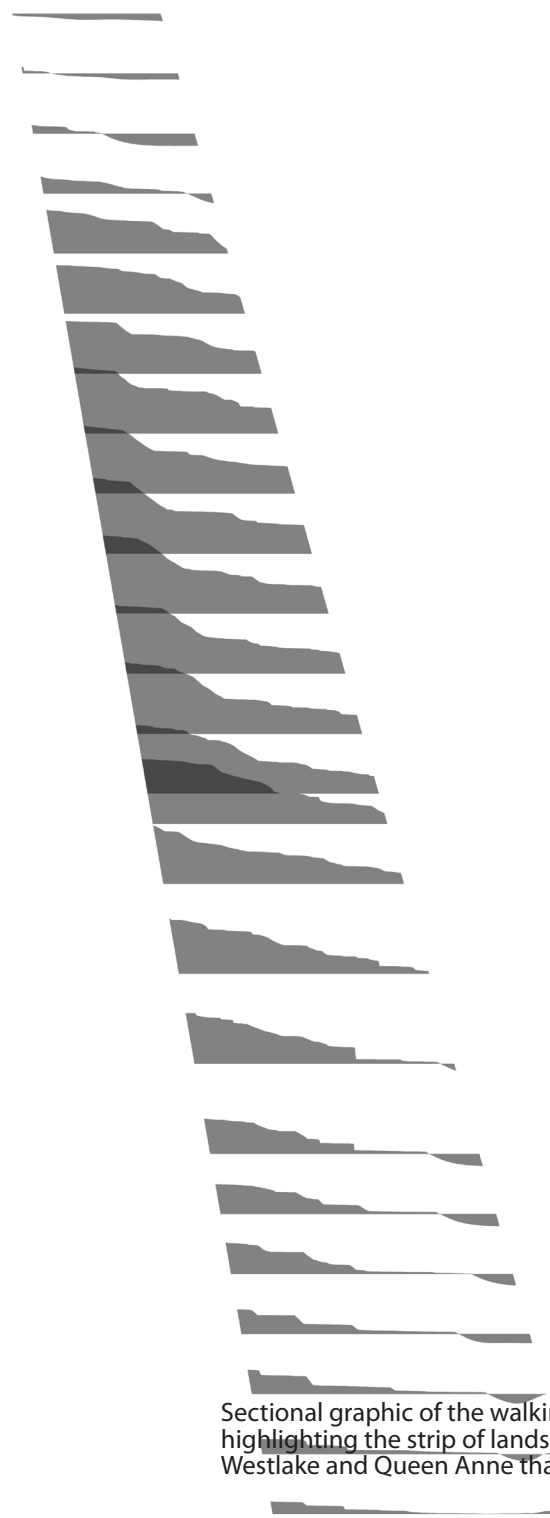
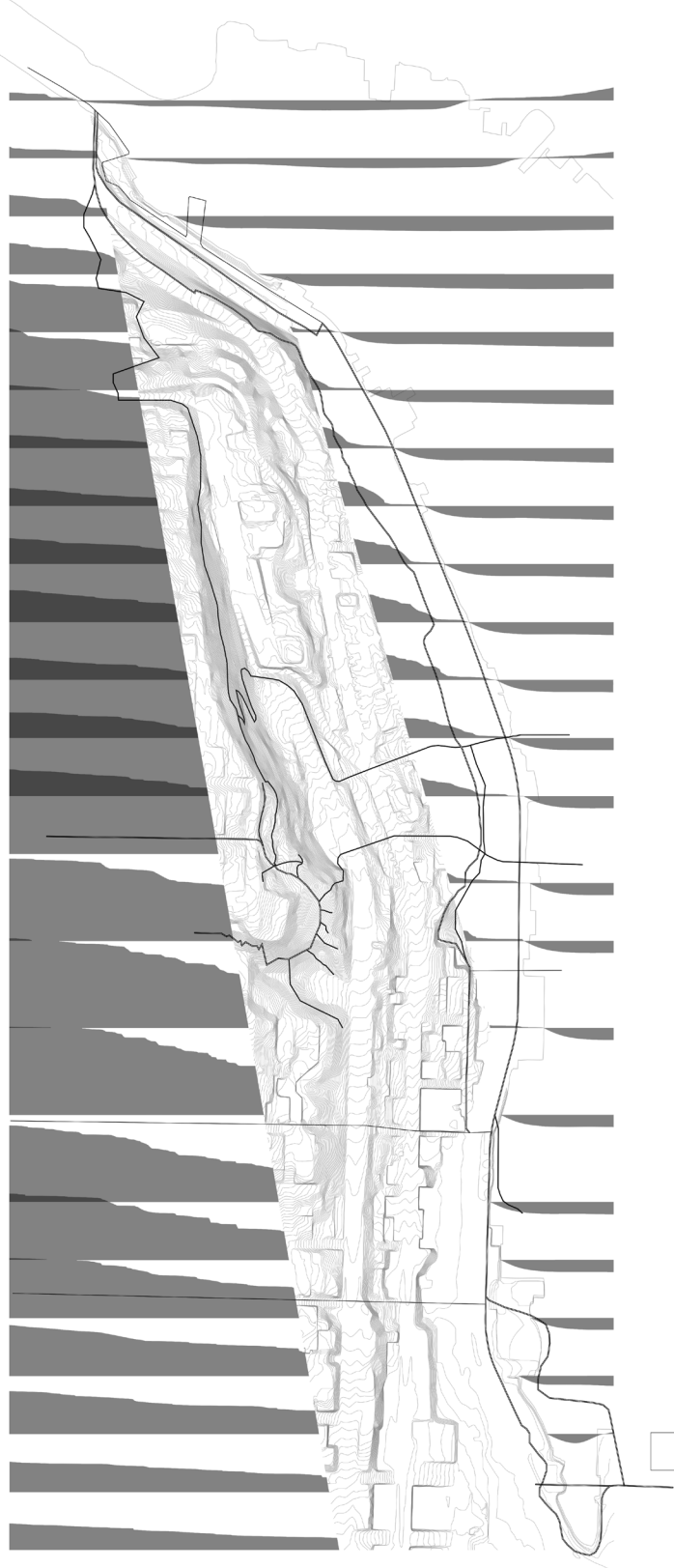


public-lake interface points



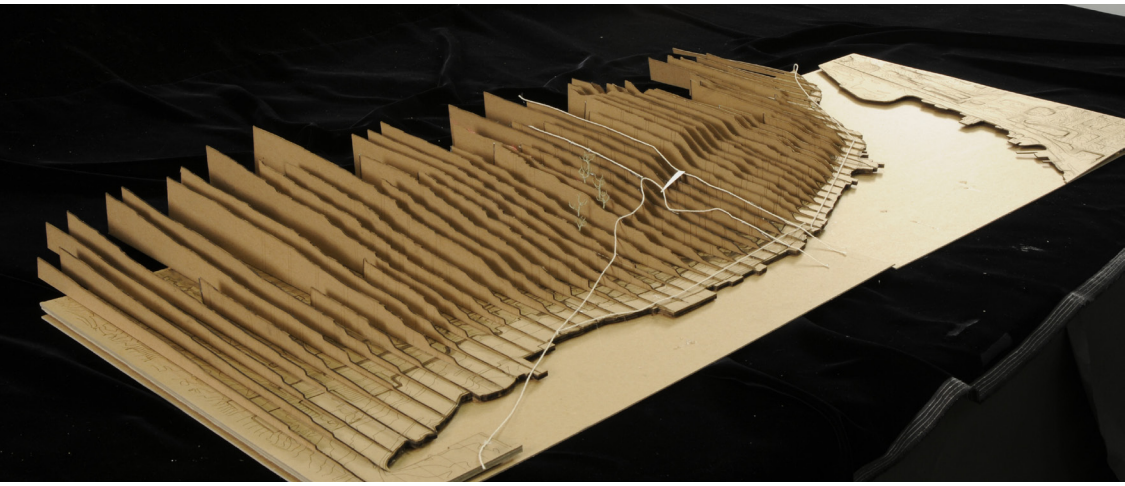
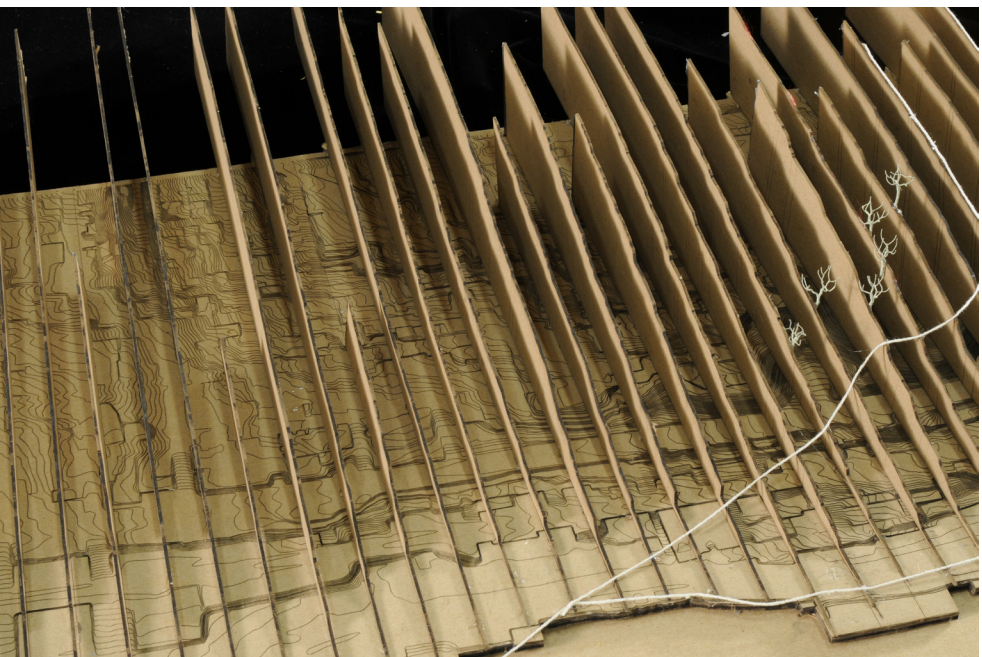
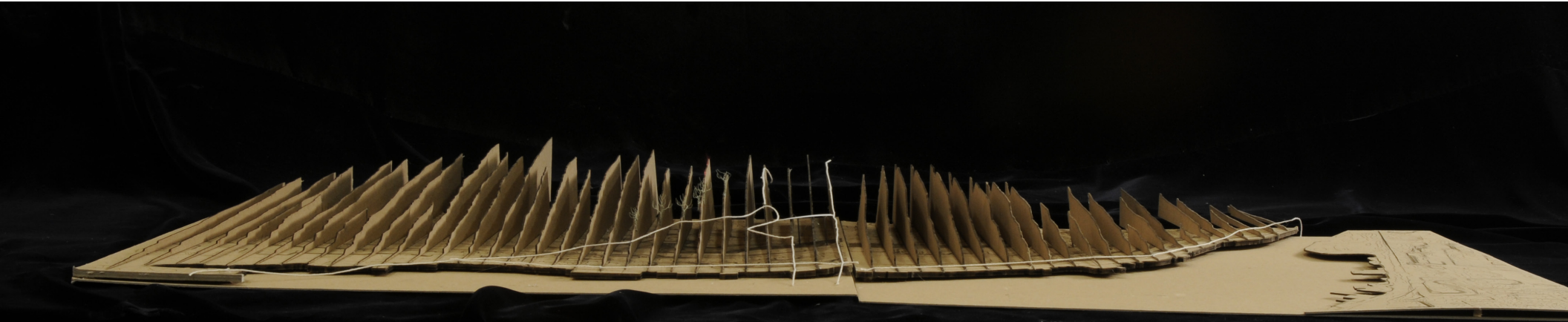
cheshiahud loop "trail"
+
MOHAI nodes





Sectional graphic of the walking experience, highlighting the strip of landscape between Westlake and Queen Anne that is difficult to access

Conceptual model depicting the dynamic terrain as all a part of the same landscape, the same shoreline, and unified from east to west.



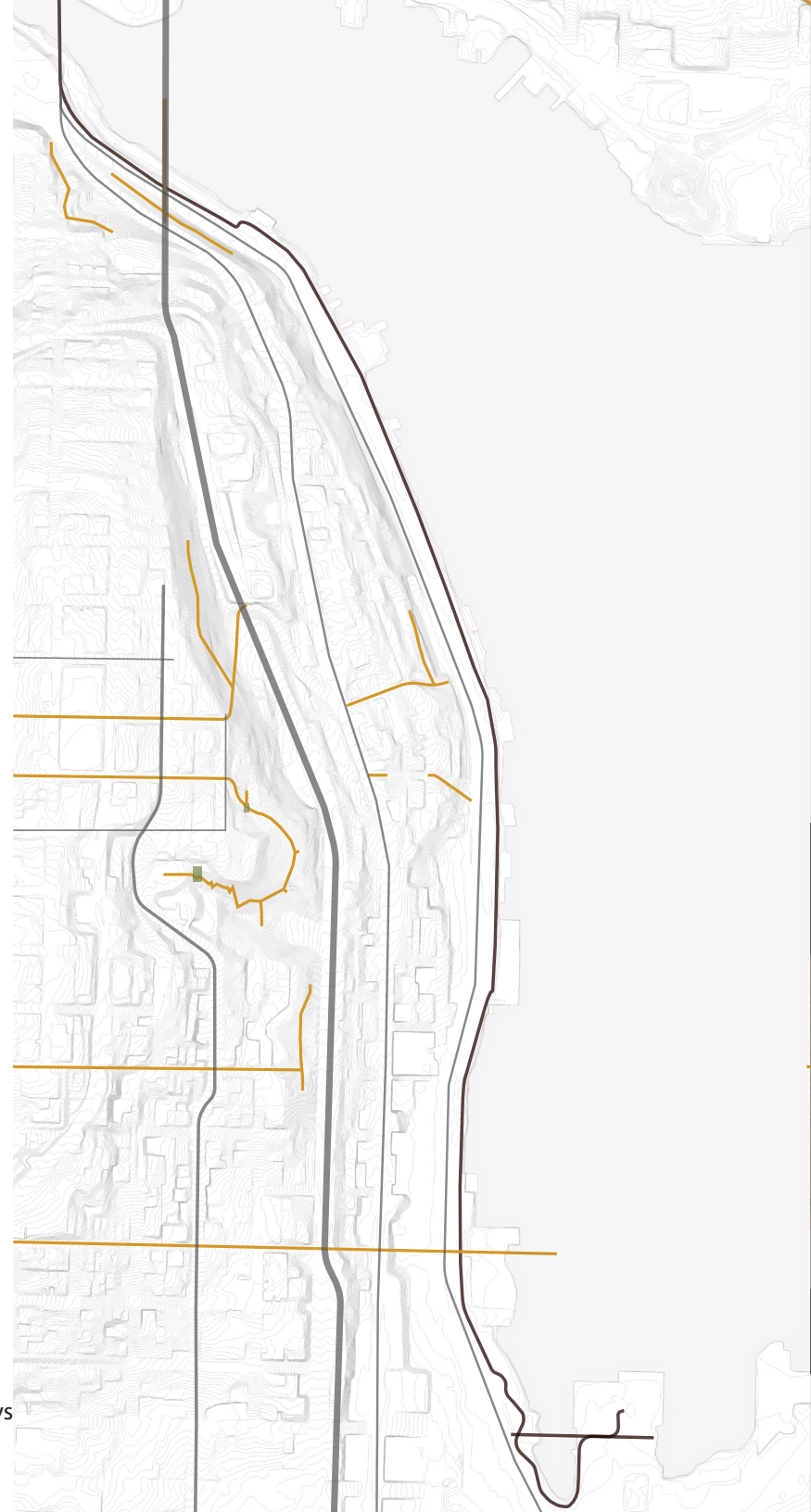
SITE SELECTION

I learned quickly that it would be impossible to design the entire pathway network fully so in order to communicate my design intentions I needed to choose smaller locations to design in detail. It felt like a tradeoff for a while: if I design the entire walk it will be vague and cursory and similar to the large infrastructure projects that I critiqued in the earlier chapters; but if I choose sites to design, will I be losing the essence of the walk?

Identifying my network of pathways and designing the experience of movement was one phase of site selection. I synthesized what I knew of the spaces for moving through the site on foot, the existing footpaths, stairways and sidewalks. Using terrain models and physical models, I was able to read the topography with only the slightest indication of the edges created by roads and buildings, to identify points along the pathway that were overlooked or missing altogether.

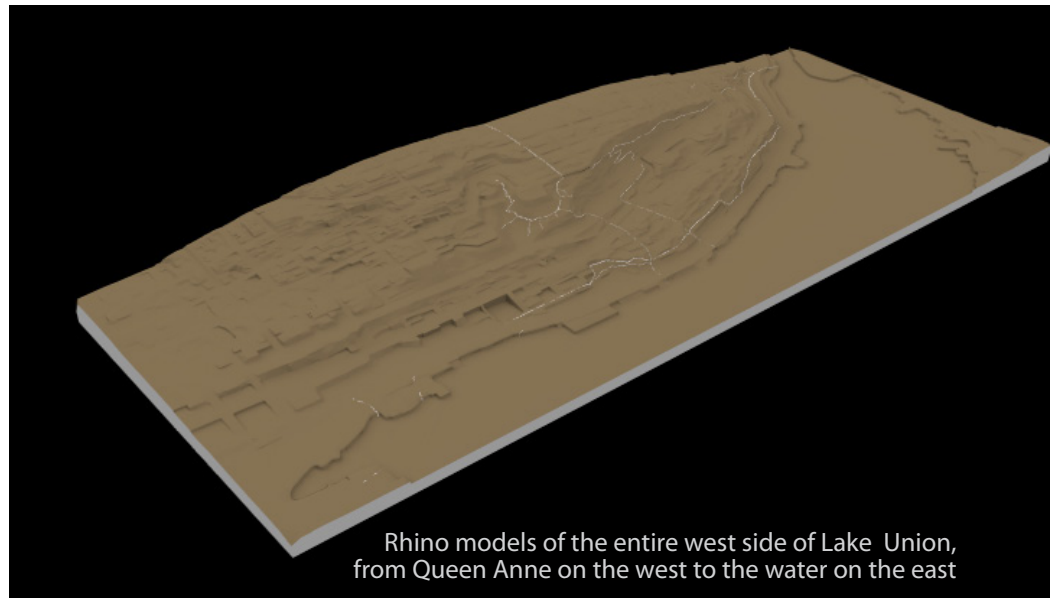
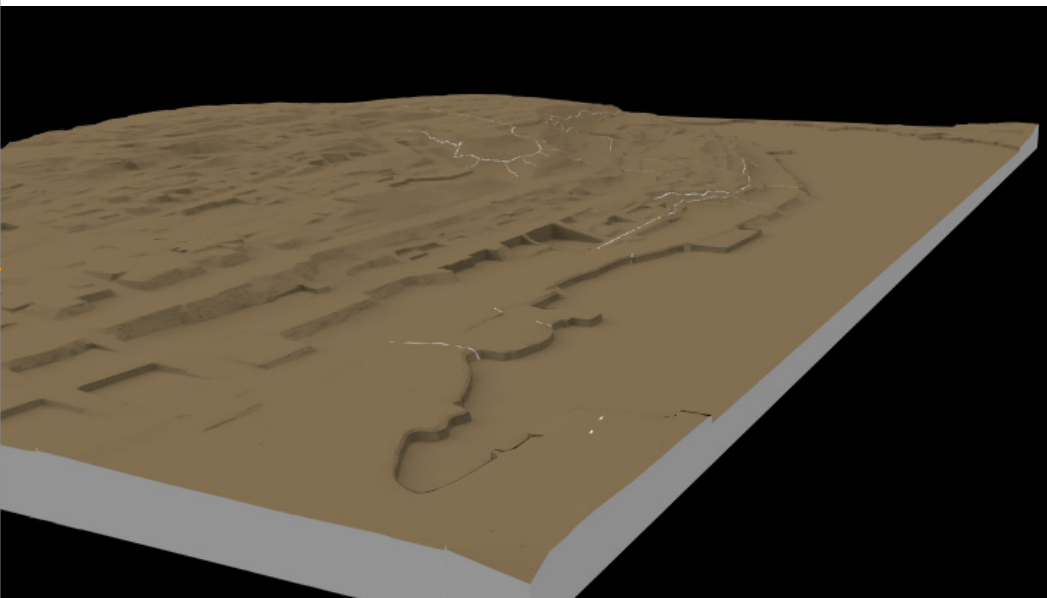
It is clear that walking north to south is easier but the experience is bland : the pathway is wide and bound by 90' of parking lot on the west and on the east by shoreland, views and access that are obstructed by fences, buildings and docks. There is a sense of dullness- a designed boredom.

Existing pathways





Terrain model of western site of Lake Union, between McGraw and Galer Streets.

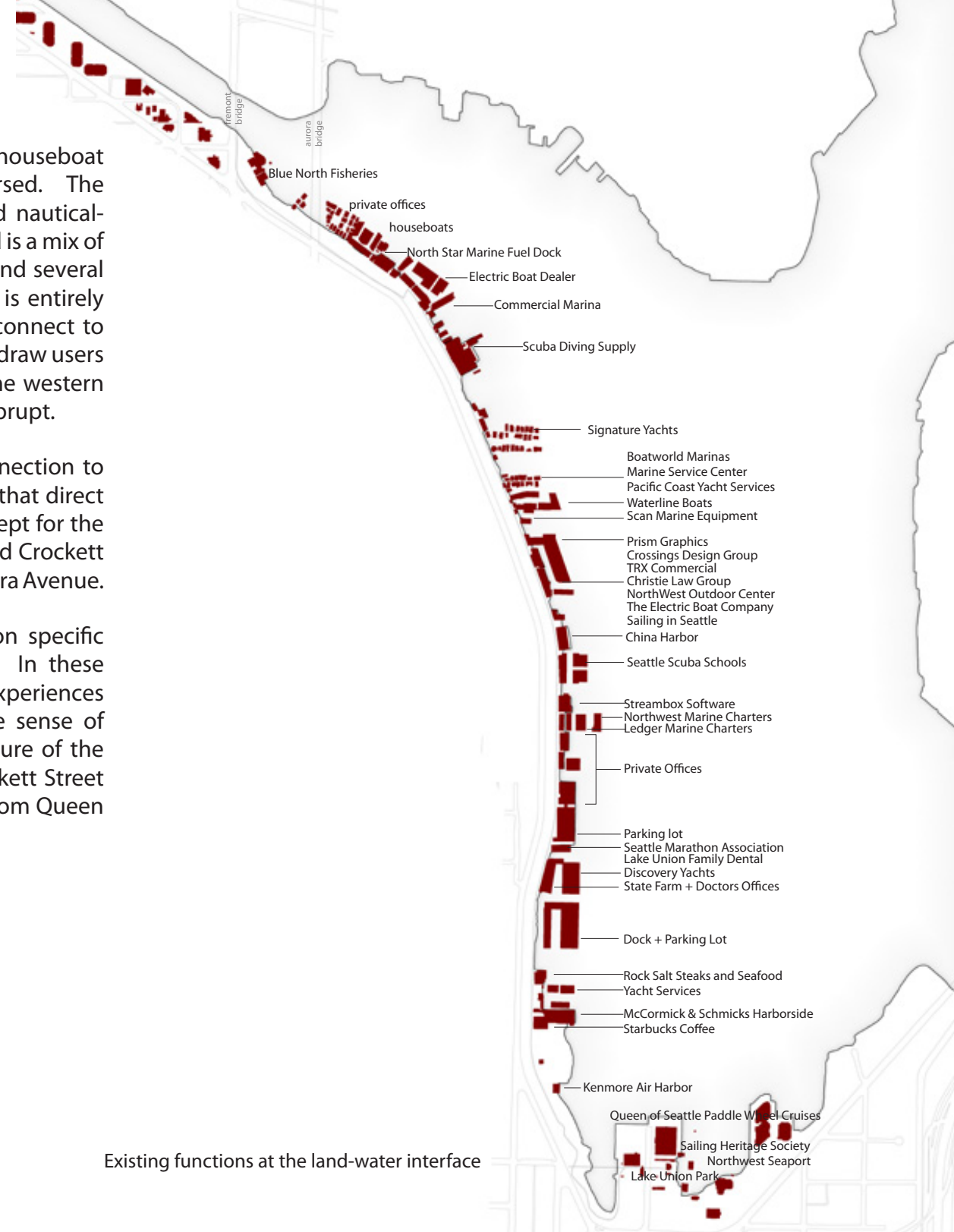


Rhino models of the entire west side of Lake Union, from Queen Anne on the west to the water on the east

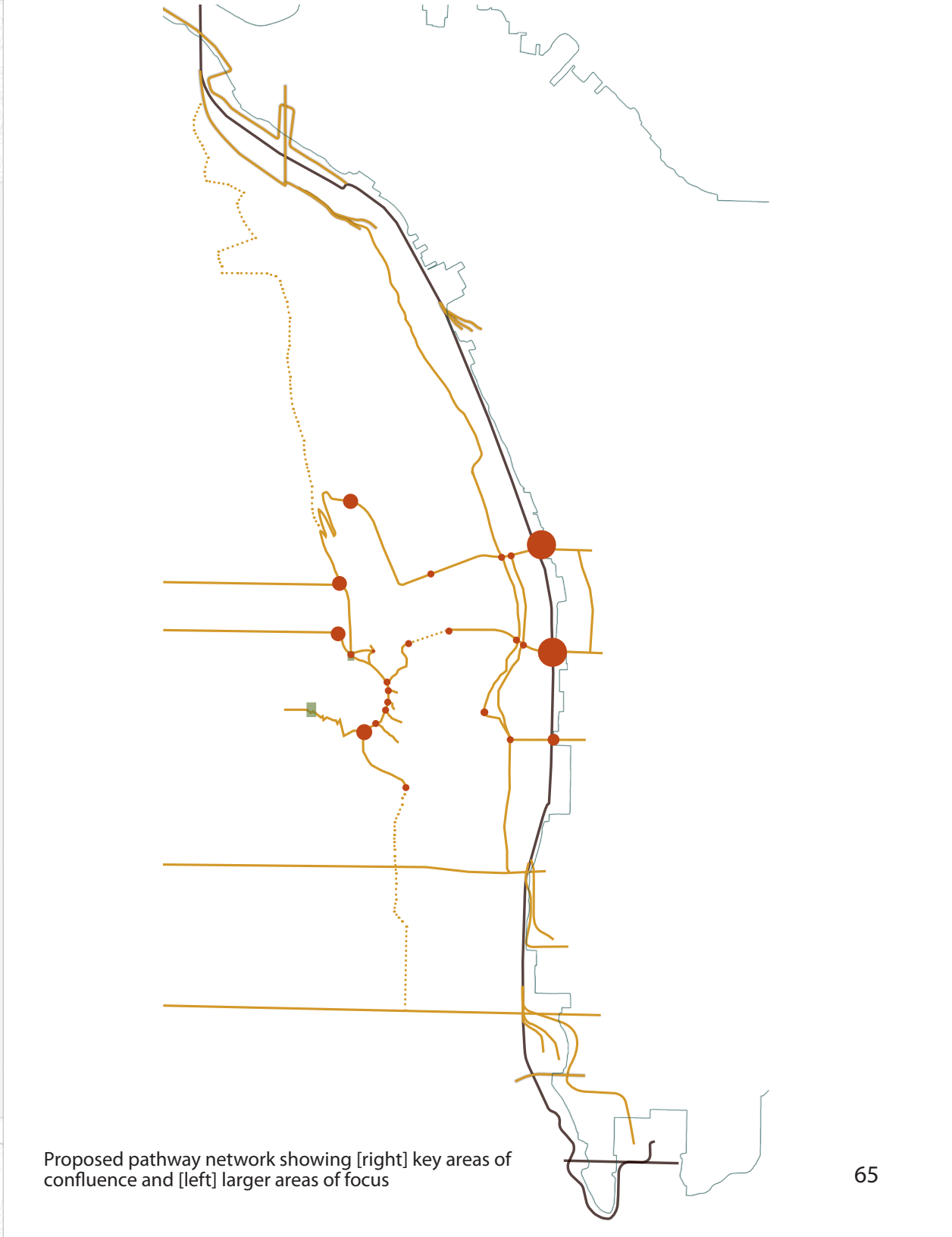
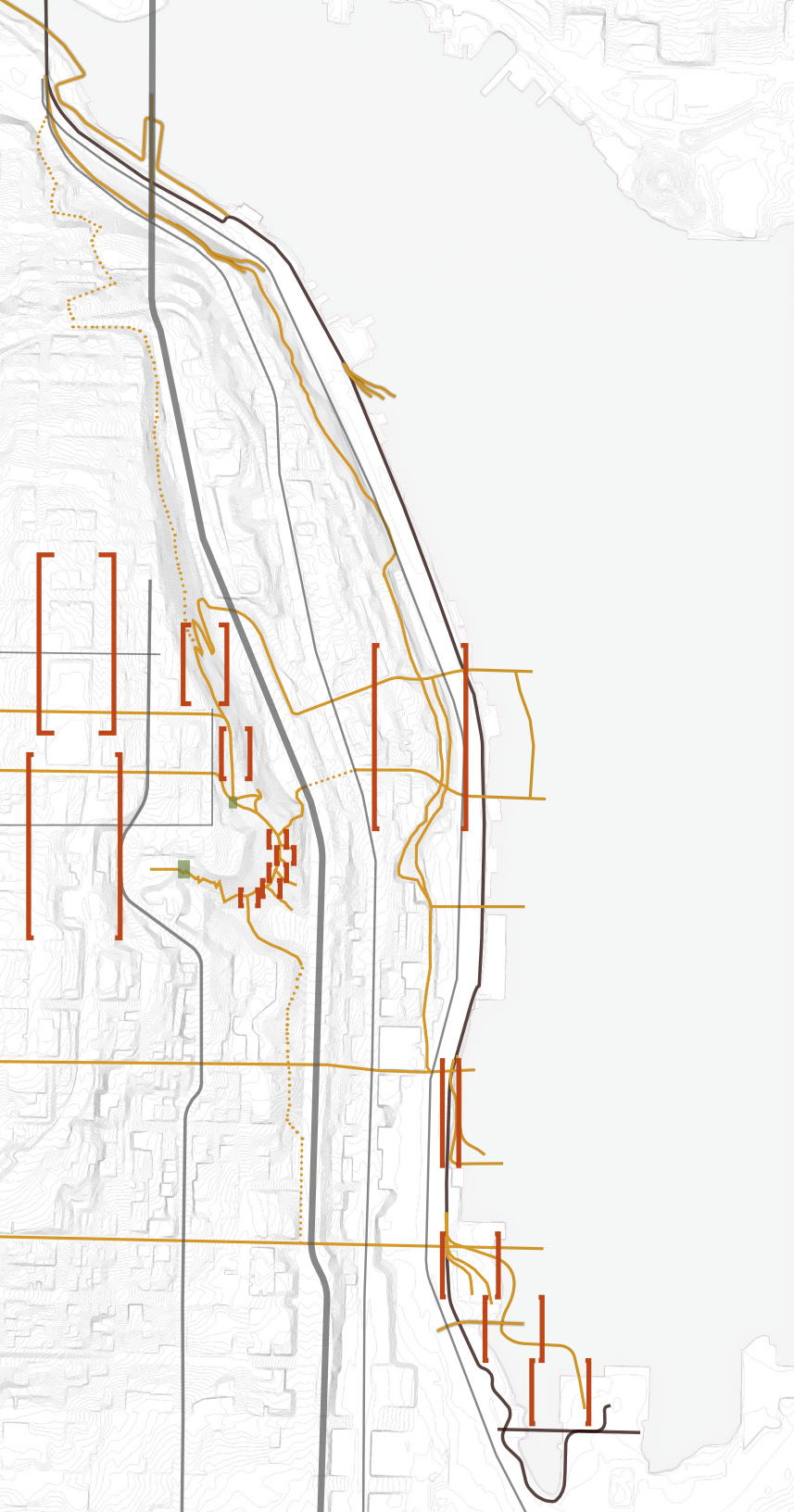
The north-west section of shore is occupied mainly by houseboat communities, with some small businesses interspersed. The middle section of shoreland is primarily industry and nautical-related businesses. The southwest section of shoreland is a mix of non water dependent businesses, some restaurants, and several large over-water parking lots. The shores edge itself is entirely unarmored. There is an opportunity for this trail to connect to MOHAI and the Center for Wooden Boats which would draw users that might not otherwise experience the lake from the western edge. The existing transition to South Lake Union is abrupt.

Moving east to west I focused on improving the connection to the lake for walkers. There are three sets of stairways that direct connection from the water's edge to Queen Anne except for the barrier that Aurora Avenue presents: Galer, Newton and Crockett Street stairs. There is only one opportunity to cross Aurora Avenue.

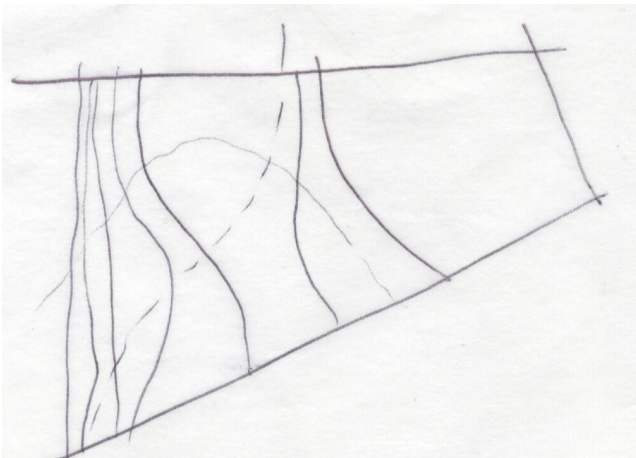
The second phase of site selection was honing in on specific moments along the pathways to design in detail. In these locations I would communicate the human-scale experiences of occupying the space: the texture under foot, the sense of enclosure or exposure, the stability or precarious nature of the ground. I decided to focus on the Newton and Crockett Street Stairs, which could provide connection west to east, from Queen Anne to the lake edge.



Existing functions at the land-water interface

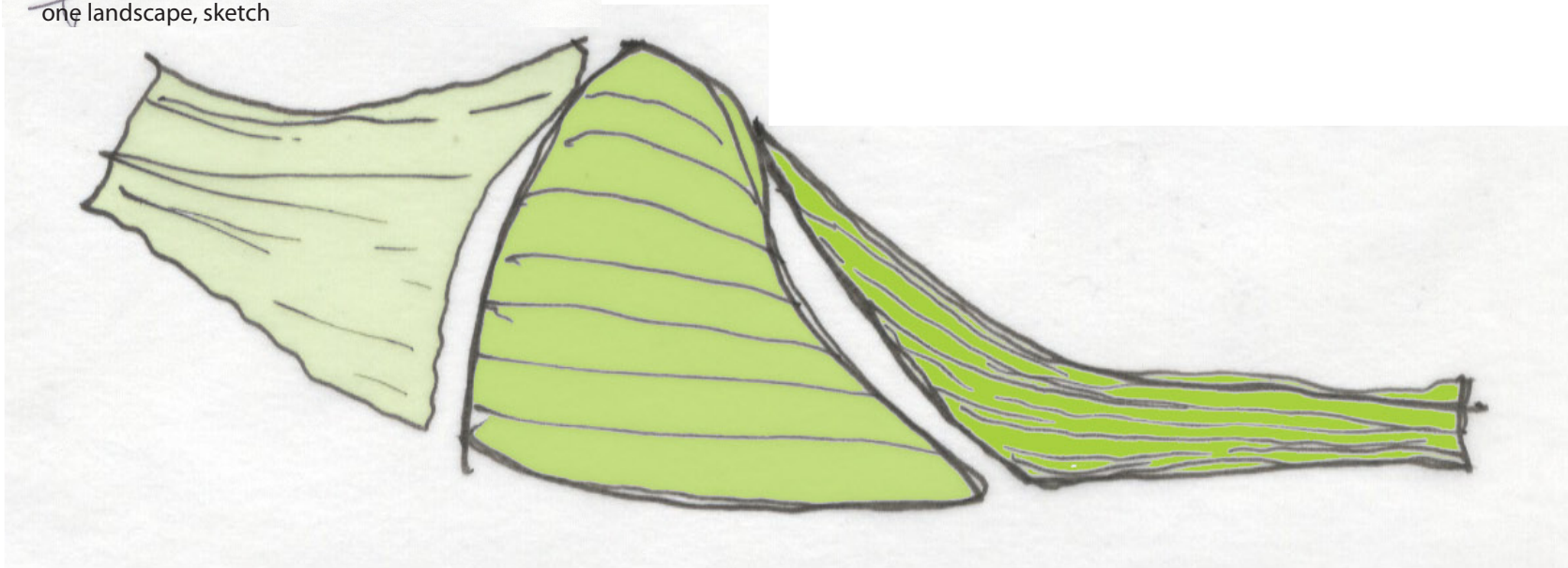


Proposed pathway network showing [right] key areas of confluence and [left] larger areas of focus



one landscape, sketch

Again the terrain models were useful in choosing my four sites as I was able to understand the pathway in relationship to the terrain and in relationship to the water's edge. I distinguished four landscape types along this connection: the upper terrace, middle terrace, lower terrace, and lake edge, each situated in a distinct landscape niche.



[above] terraces in plan and section

Within the upper terrace, middle terrace, lower terrace, and lake edge, I will focus on the section bound by Newton Street on the north and Crockett Street on the south, as an example of design strategies for the entire western edge. The section between Newton and Crockett Street is comprised of compelling landscape features and existing opportunities in the built environment that provide a strong framework for the design. Additionally, while the current connection between the highest point and the lake edge in the Newton-Crockett section is fragmented and crude, it is the most effective east-west route.





Crockett Street Entrance



Newton Street Entrance

Upper Terrace

Starting at the highest point, the upper terrace is wooded with undulating topography and steep slopes that plunge into Aurora Avenue. The intermittent landslides are concerning but intriguing, and it crosses your mind to be careful.

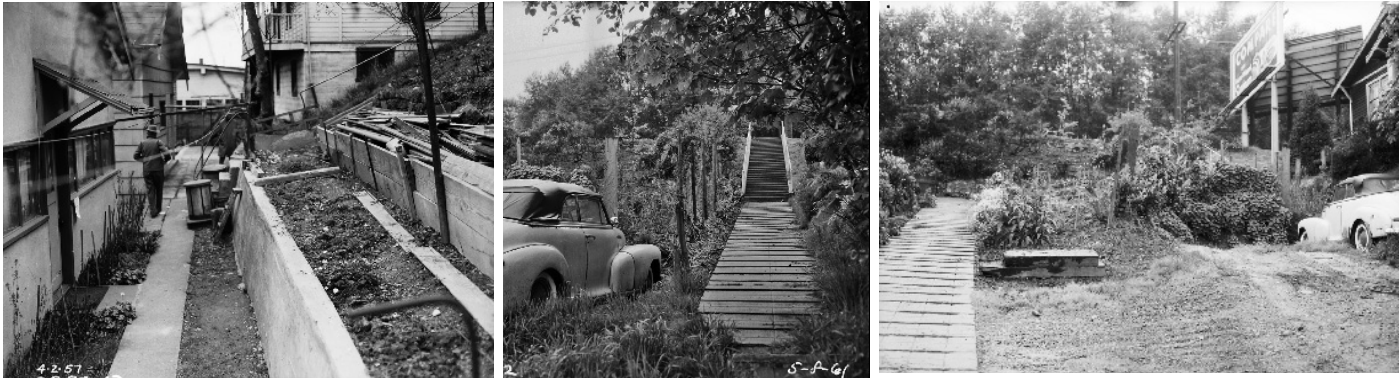
The narrow dirt pathways pull you out on the edge of the slope towards wide views and from this location, you can see welders working on boats, trucks making deliveries, and fishing on houseboats. You can see the green slopes of Gas Works Park and float planes descending onto the lake. From this point along the edge of Lake Union, you feel small and overwhelmed with love for this city.



Meandering pathways just above Aurora Avenue

Middle Terrace

The middle terrace is situated between Aurora Avenue and Dexter Avenue. A steep set of stairways shows you the way, out of the forest and into a neighborhood. Except for brief openings between houses, you are visually disconnected from the water. But that is okay because you are more drawn to the life that is happening here: the moments between buildings and the ad-hoc gardens built into the hillside. The tight but comfortable living is reminiscent of early development in this location.



Space between buildings, Crockett Street, 1950 Pathway, Newton Street, 1956



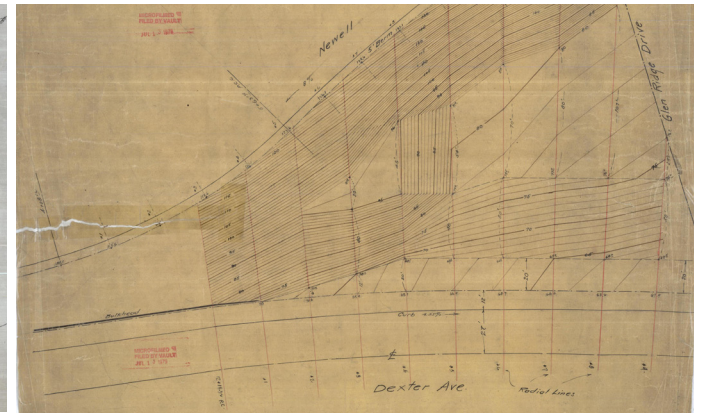
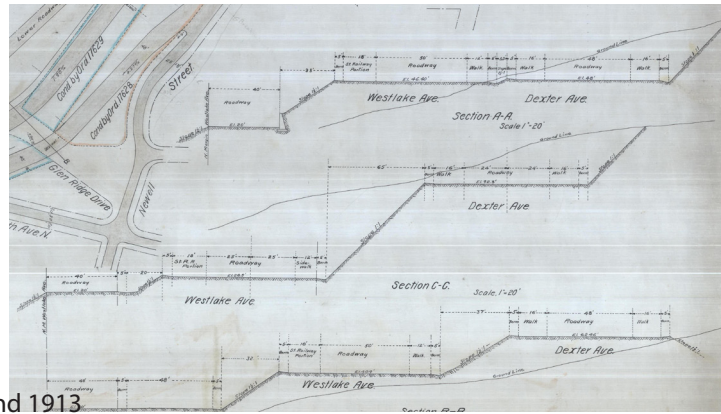
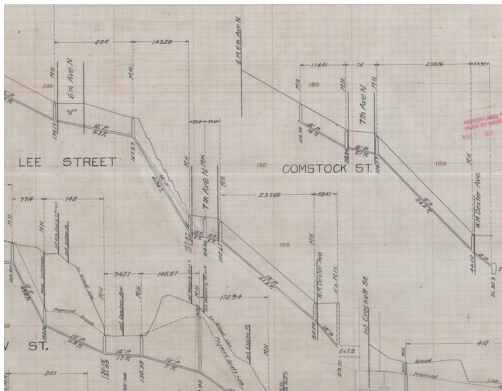
Pathway connecting Newton and Crockett Streets, between Dexter and Westlake, 2013

Lower Terrace

The same set of narrow stairs pull you down into the lower terrace where once again you are reminded that you are traversing the shore of Lake Union. The Newton and Crockett Street Stairs are in close proximity which presents the opportunity for a connection between the two. What you don't know while walking down Crockett Street Stairs is that far underneath your feet is stormwater pipe, put there in the early 1900's by R.H. Thompson himself; the pipe pulls water away from Dexter Avenue and outfalls straight into Lake Union.



Newton and Crockett Street stairs, 2013



Grading plans and sectional drawings, 1908 and 1913



Grading and landslides along western side of Lake Union, past and present

Water's Edge

Both Newton and Crockett Street stairs end at a narrow sidewalk along the four-lane, busy Westlake Avenue. A crosswalk at both streets is an opportunity for crossing Westlake Avenue, after which you are greeted by a 90' wide parking lot, wider than Westlake Avenue, which spans the entire west edge of Lake Union. A sidewalk on the water's edge of the parking lot is the closest you can get to the water. From few points along the western shore of the lake can you touch the water, or even get closer than a couple of feet. From select points along the sidewalk you can see the water; Newton and Crockett Streets are both designated street ends which require public access and open views. Both of the street ends are raised about 10' above the water and bordered by a 4' fence. Most physical access to the water is blocked by houseboats, industry, businesses and parking lots. Most visual access is blocked by the fences, walls, gated entries, and other barricading devices to separate the houseboats, industry, businesses and parking lots from everything else. A typical section of the interface between land and water is below.

The amount of parking along the lake edge is excessive however I propose converting the section between Newton and Crockett streets, in the hopes that it will be the first of many points along the parking lot that will be reclaimed for public use. In this section of parking lot, I will demonstrate my vision for the interface between land and water that could be implemented along the entire west edge.



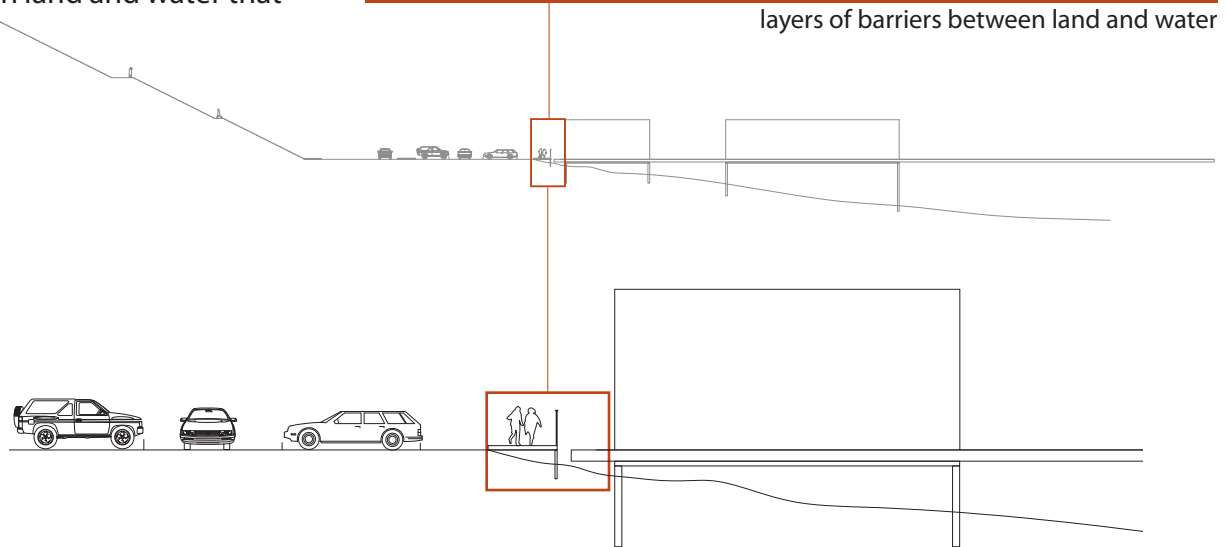
Crockett Street interfaces Westlake Avenue and parking lot



Crocket Streetend



layers of barriers between land and water



section of land-water interface : so close but so far

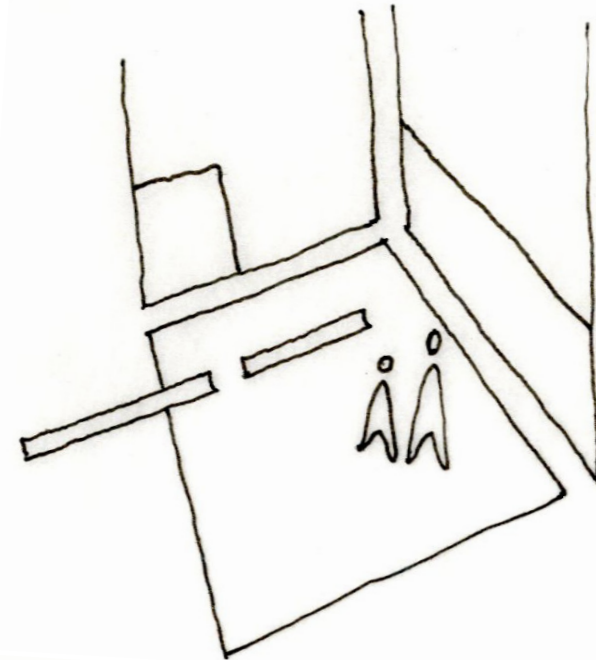
DESIGN GOALS

In the previous section I discussed design principles that I will inform my approach for walking in dense urban settings. These principles form an overarching ethic that will guide my design in most urban spaces. In the following section I use those design principles combined with site understanding to formulate a series of specific goals for the program and design of the site. These design goals include a focus on interesting features more than vacant spaces, trust, response to surrounding conditions, and variety.

Focus on what is interesting rather than vacant

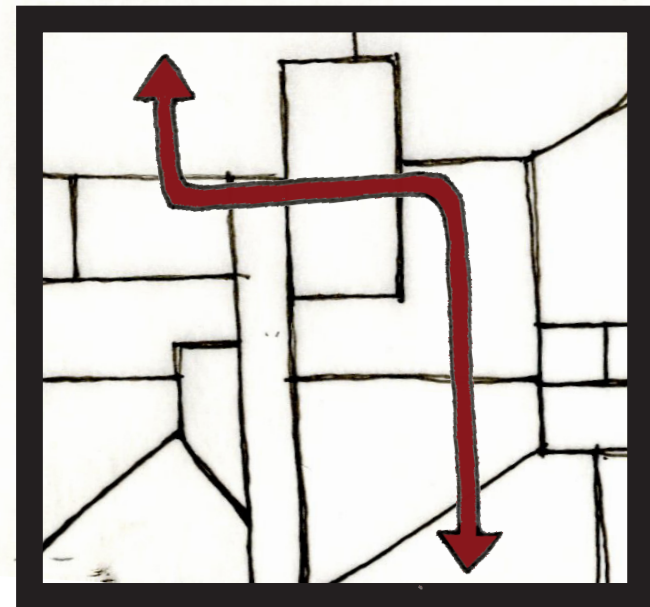
All landscapes have history; some layers of history are subtle and many conflict. Understanding the landscape of Western Lake Union is challenging considering the attempts made to change it and parse it out over time. On foot, I was overwhelmed with the infinite barriers, edges and borders that defined space. Zooming out helped me to read the landscape in a way that is impossible on foot.

A series of terrain models, both digital and constructed, helped me see the site as one unified space as if a large mesh was draped over the landscape. Instead of collecting disparate pieces of landscape, I was able to selectively erase margins and blend edges to create seamless transitions and fluid pathways. Design can reveal multiple histories by creating softer more fluid spaces that generate open, flexible uses. Enabling access to multiple points within Western Lake Union requires challenging edges and deterritorialize existing sites.



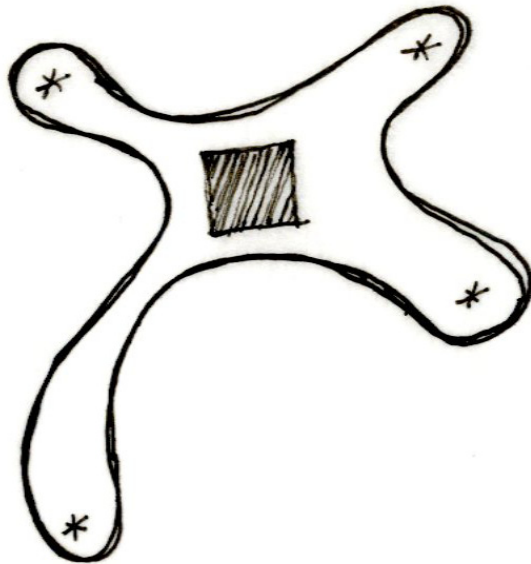
Trust

Because my design process seeks to reveal opportunities for experiencing landscape from points other than the paths most traveled, it is critical that my design instills trust in the user. While a true *dérive* can require being somewhat disoriented, it is possible to design for both mystery and trust. This might involve intermittent periods where one can see the path in front of them for a distance, followed by moments where sharp turns or blocked views make it impossible to see more than a couple feet in front of where you are. The design will provide safe risks and choices.



Respond/compete with busy surroundings

I am inspired by designs that use small interventions successfully and I want to do that here. I recognize however, that Western Lake Union is a busy place that might require a similarly overt intervention to compliment it. Development around Lake Union was disjointed and uncoordinated; engineers relied on layers of stop-gap measures to solve problems as they arose rather than approaching the landscape holistically. Over time, various parts of the land were claimed and changed: roadways were constructed to move people and goods; sewer lines were installed to move water, and property lines were all drawn to make it clear who belonged where. The western side of Lake Union feels fragmented; it is fragmented. Therefore, I am proposing a combination of big moves and small moves: human-scale design interventions that focus on the experience of walking must fit into a larger and consistent narrative of moving through the landscape. The big moves will speak to the landscape as a whole. The small moves provide opportunity to improve thresholds and focus energies towards specific areas of interest. A series of smaller interventions will weave together different niches within the same landscape in a way that unifies but honors differences.



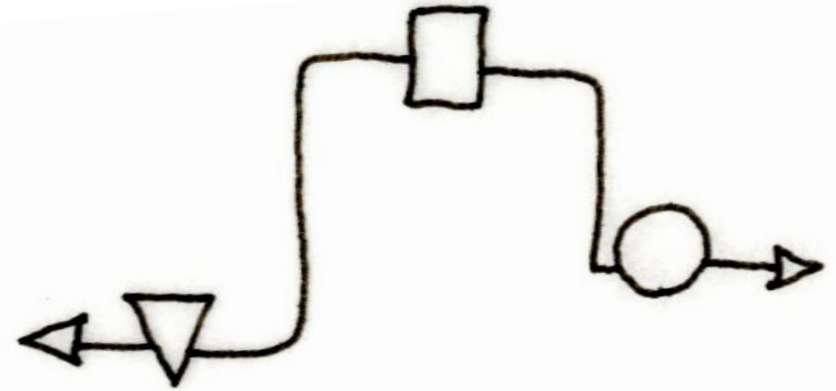
What kinds of spaces currently exist and how can my design emerge from these conditions? How can they weave in and out of the landscape so that over time the two fit together? Rather than adding another layer onto a site, I am more interested in peeling back and revealing what is already there. Many urban environments are so full already and cluttered with redundancy that I believe a designers role is often to selectively remove or erase.

Interventions should compliment the physical and psychological scale of the surroundings. Dynamic Urban Fabrics is a competition project that examined the scale of industrial buildings in relation to each other and to the surrounding context. The series of diagrams below illustrates a strategy for communicating scalar juxtapositions.

Variety

The landscape along the western edge of Lake Union is varied, representing various ecosystems and habitat niches. The current experience of moving along the water's edge is somewhat bland but there is potential to reach out and engage a wider edge and encourage, as in a *dérive*, "passage through varied environments." This area is currently lacking mixed-use amenities and is just far enough from downtown that the main users are associated with the industries and businesses located along Westlake Avenue, Dexter Avenue and Aurora Avenue. There are also peak periods of traffic associated with the workday when bikers speed through but rarely stop. It appears as though the main users of the site are frequent users and therefore I think it is important to design for temporal changes, both throughout the day and seasonally throughout the year, so that the experience of moving through the site is different.

Providing variety also includes addressing all planes of the experience.

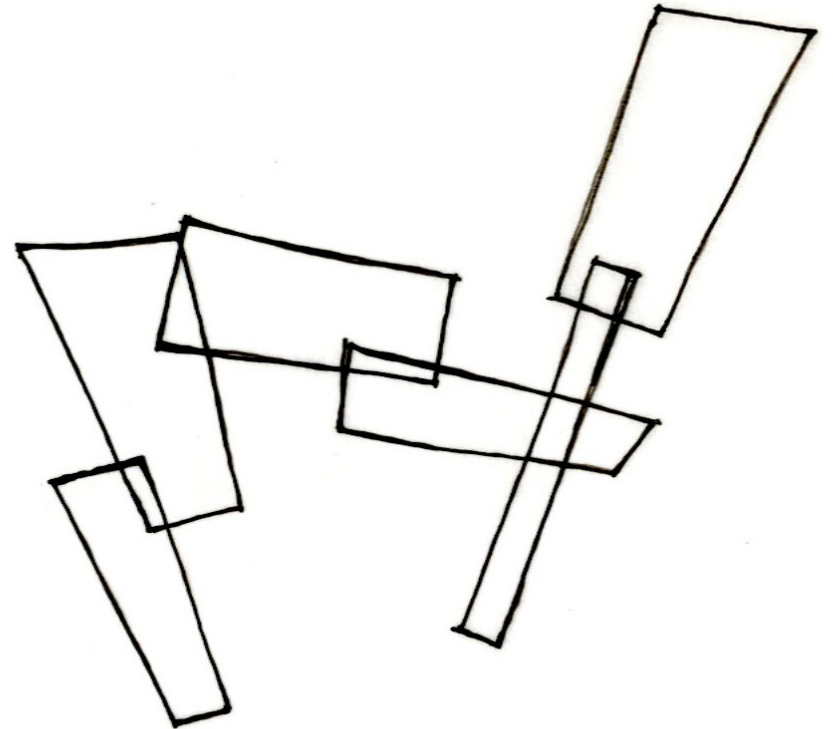


DESIGN STRATEGIES

Drawing on the principles of design and design goals, these design strategies will also inform my approach and design of the site. These principles and goals, combined with site analysis, theory and literature review, framed a set of design strategies that emerged as unique to this project. Mapping and reading the site revealed multiple meanings that I had previously overlooked and it is my intention that my design honors the details I found important while fitting into the existing urban network. In the following section, I will describe the site-specific framework that emerged from site explorations. This includes site-specific design goals and strategies that I feel are important to explore, and include blurred edges, engage topography and revealing old verses making new.

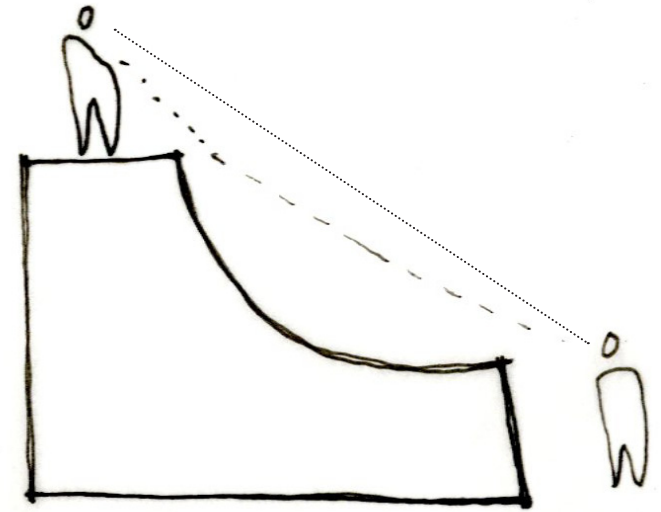
Blur Edges/Overlap Functions

Edge conditions and the challenges that lie in defining site was discussed earlier in the theory chapter but it is important to reiterate that there is no one way to engage the edge. Some urban thinkers, such as Debord, believe all edges should be dismissed, that we should essentially start over. Robert Dripps cautions such an extreme approach, arguing that the edges are connected to something and cannot just be erased. My belief is that there is a middle ground between completely erasing edges and being completely subservient to them. Along Western Lake Union, my approach to the edge conditions aligns with Kristina Hill who suggests we treat edge zones as dynamic rather than permanent fixtures in our landscape. She uses terms like stretch, shrink and re-envision, to suggest how to engage edges. I intend to especially focus on the edge where the water and land overlap.



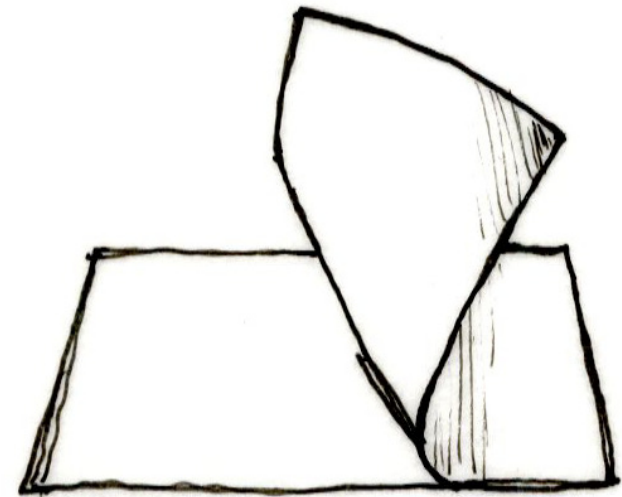
Engage Topography

Much disconnect along the western side of Lake Union results from extremely steep grades and virtually the entire west side is defined as a landslide hazard zone. These slopes can be precarious and dangerous to navigate and as a result have long been viewed as barriers to passage. While the topography presents a challenge I believe it makes the site more interesting and has the potential to inform multiple creative possibilities. Engaging the topography as a potential for connection will overcome decades of disconnect that it has caused.



Reveal + Make New

My appreciation for western Lake Union has grown the more I understood of its history and the more time I spent walking where I wanted to go rather than where I felt like I was allowed to be. My proposed network of pathways emerges directly from the existing framework of pathways and nodes; some of these are heavily used and others that are largely overlooked. I intend to reveal connections and artifacts in the landscape in order to clarify what is already there. Where I think there should be a connection or a point of interest, I intend to intervene by creating something new. In many cases the transitions between two pathways is not visible or missing altogether, in which case my intent is to clarify or establish the transition.



06 DESIGN



06 DESIGN

Now to design. I paired in depth reading of the existing site with mapping site evolution, and coupled theoretical research with precedent studies, to establish design principles, goals and finally strategies for this thesis. The design will initiate new experiences of the site through walking as the primary mode of movement. I want walking to act as a catalyst for growth that moves towards one of the possible future for this area. I do not want to layer onto the site a new language but use the existing materials and ecologies to inspire design interventions. I will reveal and build upon the narratives that I have discovered through my research. I hope to make this space more available and exciting for walking by proposing pathways that pass through four distinct landscape types that I refer to as the upper terrace, middle terrace, lower terrace and the water's edge. Each of the landscape types provided inspiration for my own design intervention by highlighting and strengthening the qualities of the existing natures while at the same time leaving room for future change.

The pathway matrix on the following pages outlines specific qualities of the path including width and vegetation density and illustrates the larger pathway framework as well as selection of smaller moments. I then illustrate each of these four landscape types: upper terrace, middle terrace, lower terrace and water's edge, their existing conditions and ecologies and the proposed design interventions.

DESIGNING THE PATHWAY NETWORK

Landslides are a tool for unifying the fragmented landscape and catalyzing relationships, as if pressing a reset button, to suggest the next steps in Western Lake Union's growth. Using landslides as a designed event will highlight how they are just as much our responsibility and in our control as the landscape we altered. Designed slides will also bring attention to the artificial and heavy handed actions on our land and celebrate the landscape, the terrain and the ecological life, as alive. Every person and every action is connected on this landscape.

Just like a landslide, the pathway network moves through different landscape types. The path will read as one. It moves through different landscape types and interfaces with many different edges, but throughout the walk, the path will feel like different parts of the same experience. The design of the pathways is inspired by existing conditions and is meant to highlight what is currently there. I use a variety of design strategies, plant density, path width, path type, path material, and view extent, to influence the experience.

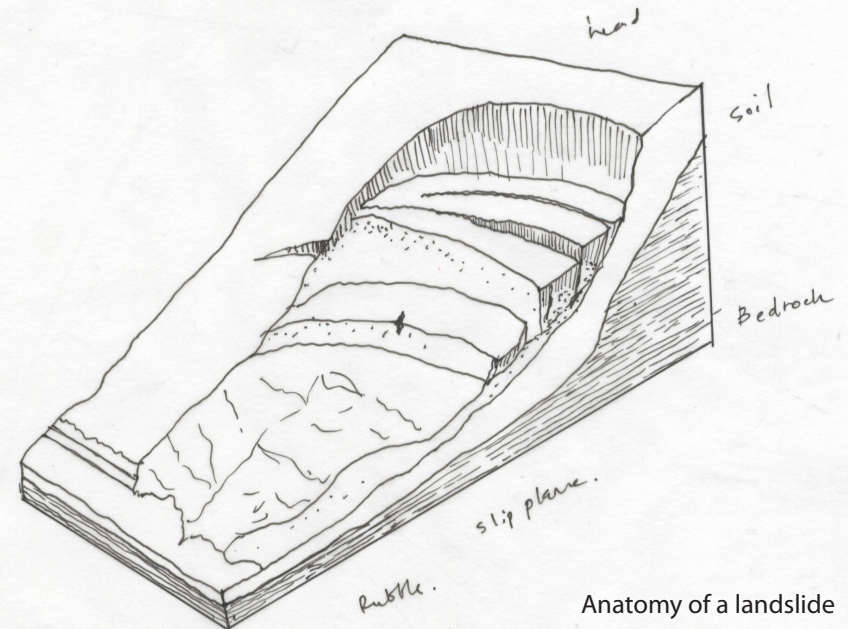
Landslides are not independent events, they occur in conjunction with other factor: geologic and climate conditions play a role but our actions on the land, the development that has occurred over space and time, are some of the largest factors causing landslides in urban areas. The Western Lake Union landscape is plagued by landslides despite our ongoing mitigation efforts. Many landslides appear permanently fixed into the hillsides, draped with swaths of plastic like large bandages on gaping wounds. Photographs from the periods of intense change on our landscape, the early 1900's, show that landslides were a result of, and threatening to, development. There are many images of land breaking down walls and demolishing built structures in this area. Landslides as a design concept emerged from various landscape models where steep slopes and undulating topography could be read as all connected despite the development that has occurred on the surface.

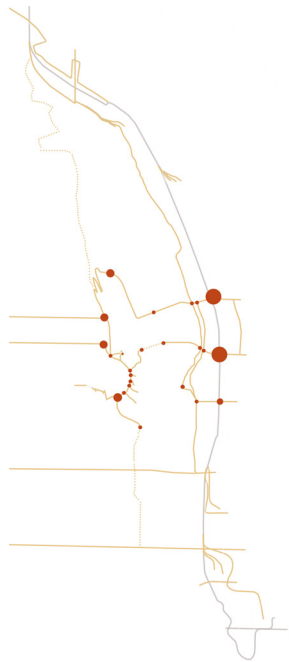
All landslides have the same basic features though no landslide is alike. At the top of the slide there is an area of stable soil called a

crown. The scarp is the slip point, where land breaks away and leaves a scar of exposed soil. All landslides eventually come to rest and at the base, debris, or rubble, is pushed out the beyond the slip plane.

It is powerful to think about a landslide plunging through different landscape types which results in debris from all of them finding the same final resting point many miles down the slope. What had been distinct landscape types are now merged into one and will transform into something completely different.

A landslide is often viewed as a catastrophic event because of the damaging effects on property. Independent of the negative effect landslides have on our developed land and our safety, a landslide is actually a positive thing for the land as it helps land achieve equilibrium. Similar to forest fires, landslides are catalytic events that energize ecological life.

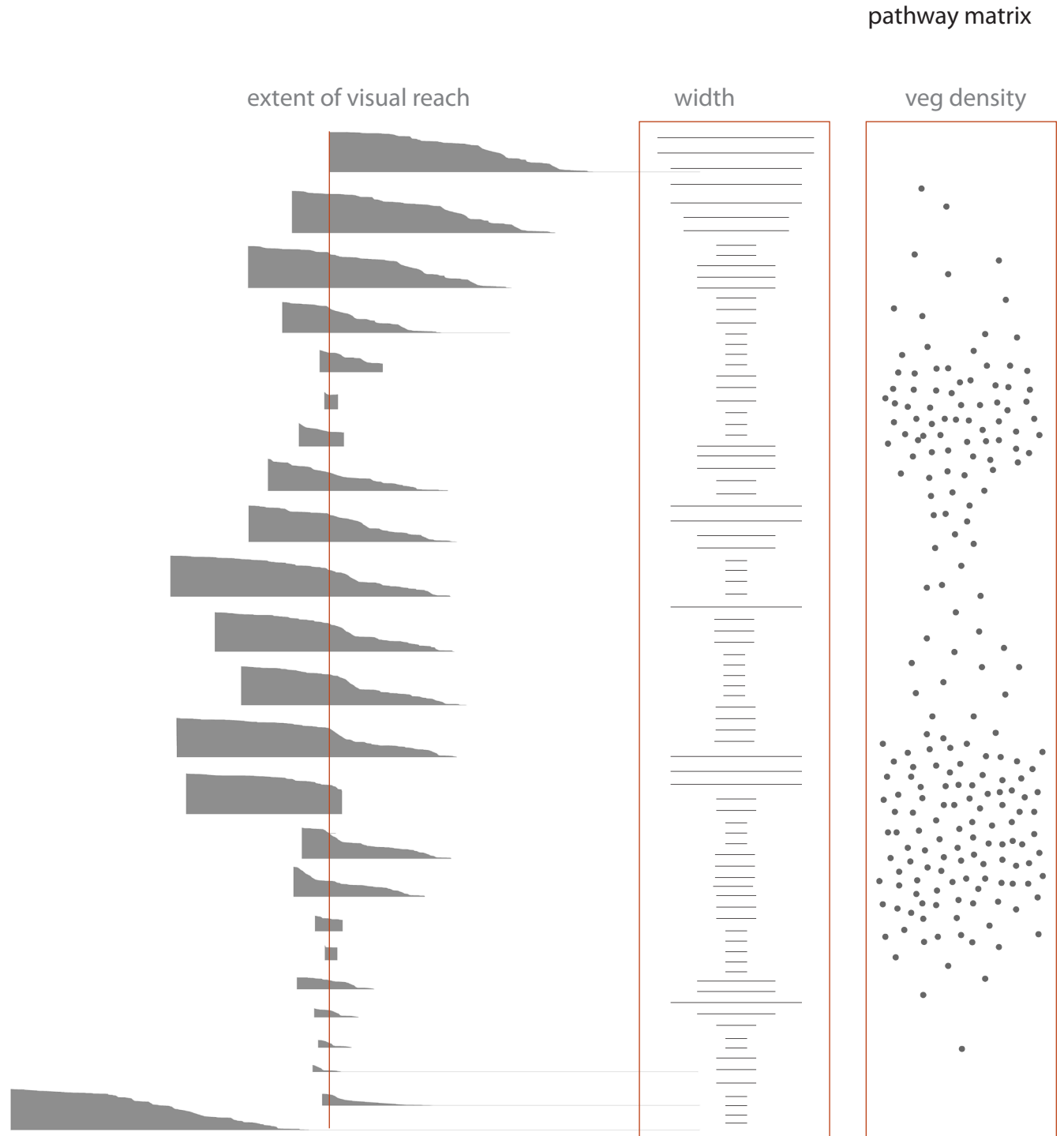




[above] Pathway network corresponding with sectional diagram to the right

At some points along the walk from the upper terrace to the water's edge you can see miles off in the distance while at other points the terrain and vegetation create a more intimate and inward experience. This sectional diagram shows the extent of your visual reach from various points along the traverse.

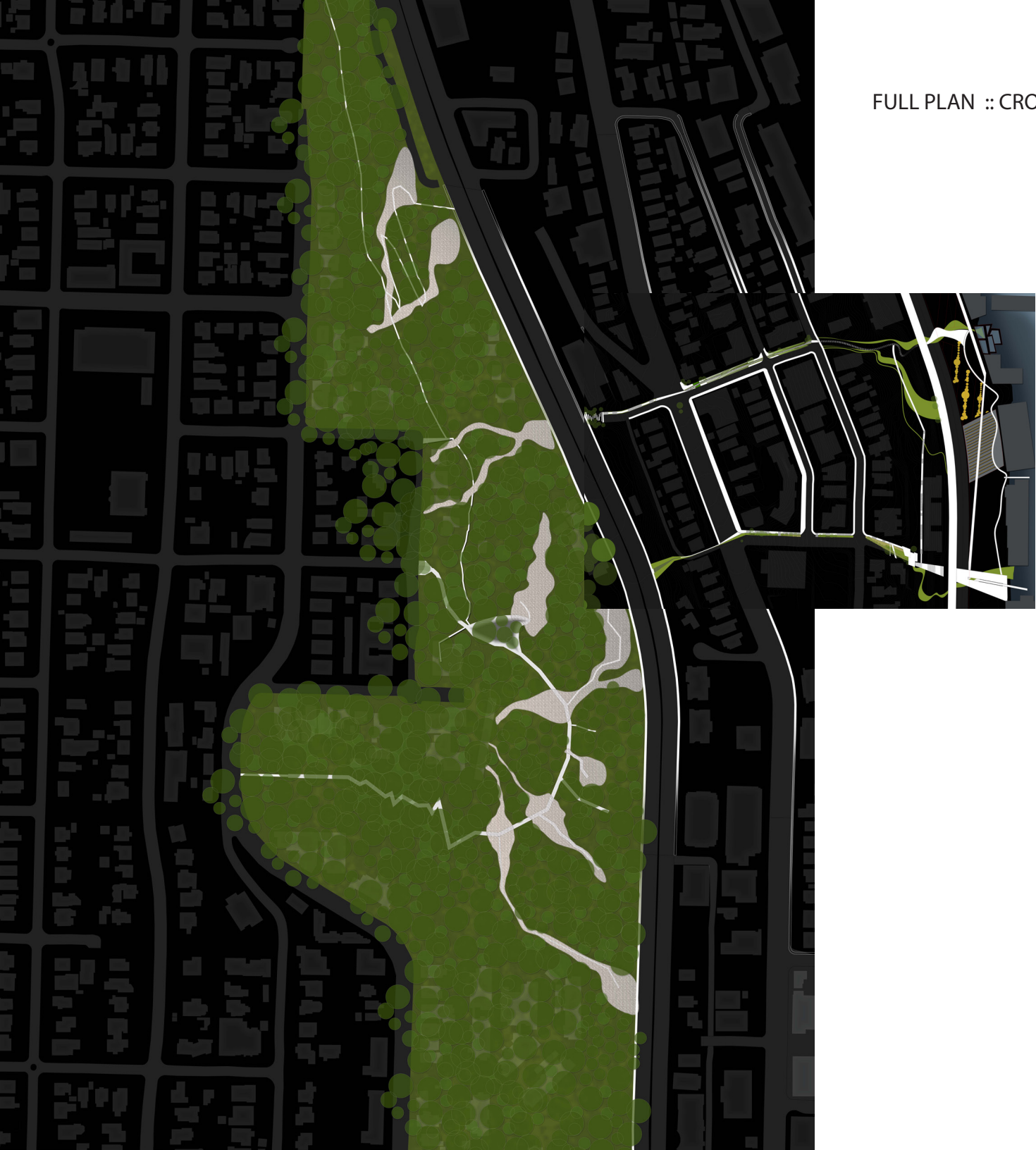
Paralleling and often reinforcing the visual perception, pathway width and vegetation density varies along the walk. Pathway width is from eight feet to two feet. Vegetation density is from 200 trees or shrubs per 100 square feet to seven trees or shrubs per 100 square feet.



DESIGNING THE GROUND

I have chosen to highlight four moments within the designed walk building the path from the aggregation of smaller moments. These moments shape the experience of the walk. The four moments represent distinct landscape types, starting from the highest point on the west side of Lake Union and moving down towards the water. I drew from existing conditions, the pathway and surroundings, as well as my historical understanding of the stories. The graphics are intentionally layered, blending existing conditions with the proposed interventions, in order to communicate the fluid nature of these moments. Room is left for future interpretations and interventions.

FULL PLAN :: CROCKETT AND NEWTON STREETS

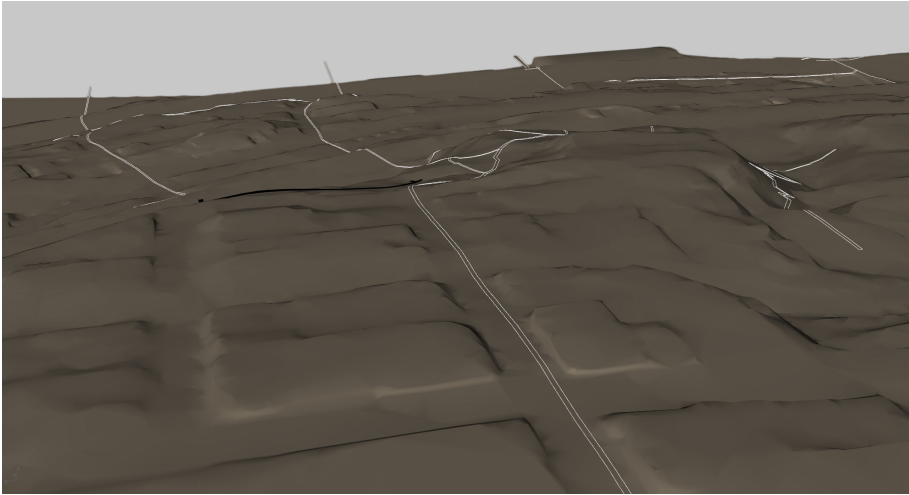


Upper Terrace – Mysterious, scarred

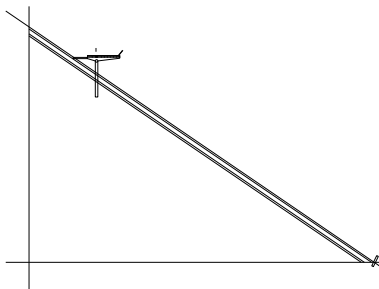
The forested landscape of the upper terrace is largely unoccupied and provides an opportunity for solitude. The pathways wind along the contours of the slope, sometimes showing you the way and sometimes leaving you to find a way. The path remains safe even when pulled very close to the edge of a steep slope. Overlook points are marked by a clearing in the vegetation and a steel cantilevered walk terminated by a glass panel.

In places with less than a 10% grade, pathways are on the ground, demarked by crushed gravel. Cantilevered pathways provide an opportunity to traverse over steeper areas.

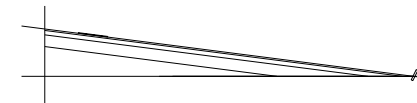
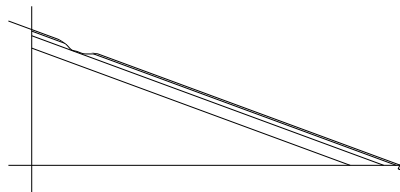
The steepest point, in between Crockett and Newton Streets, is connected by a 200' long by 4' wide steel cantilevered pathway and hovers above one of the known landslide zones. As you peer out underneath, you see the scarred land and debris further down the hill and landslides?



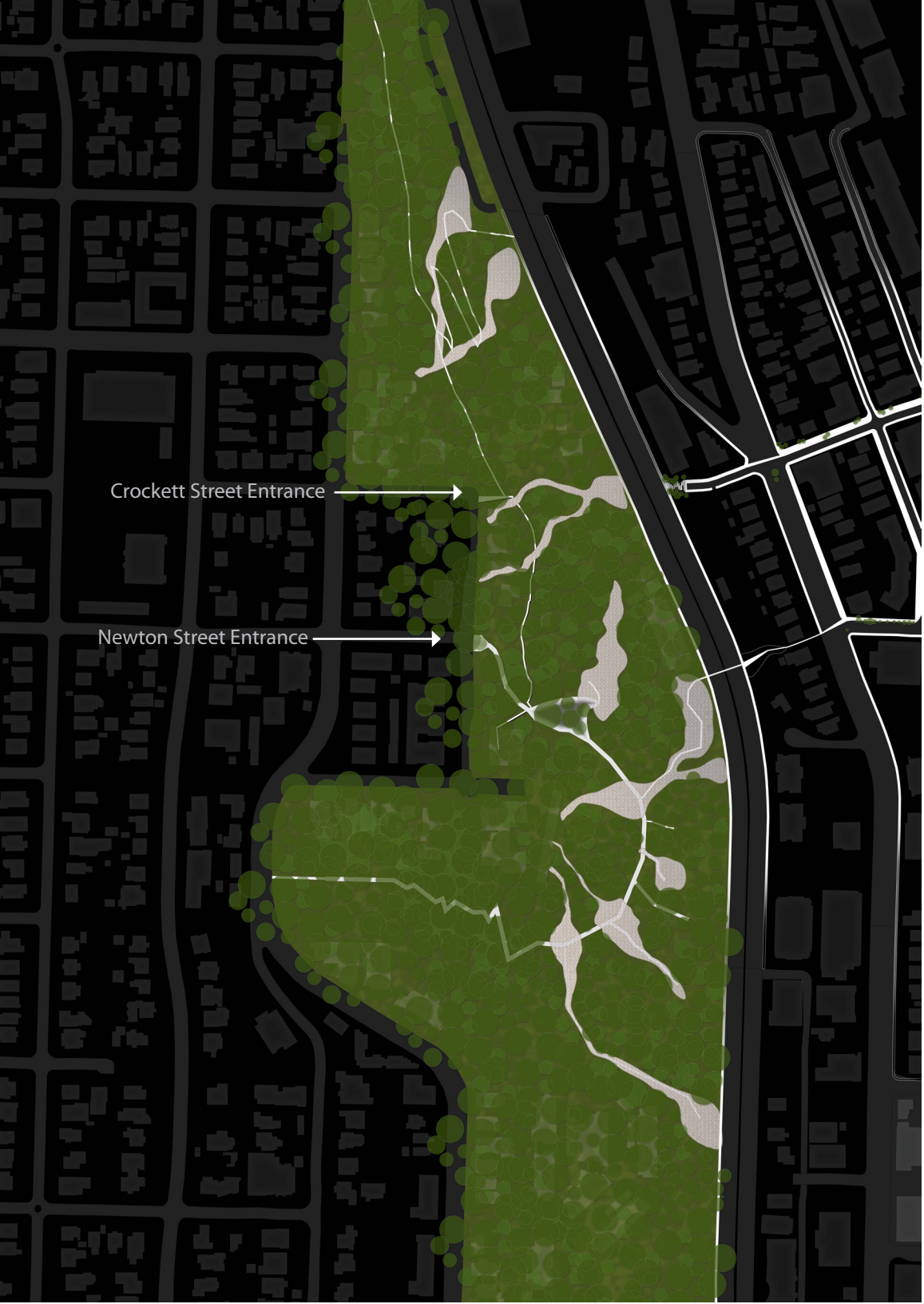
looking down at pathways from highest point on upper terrace

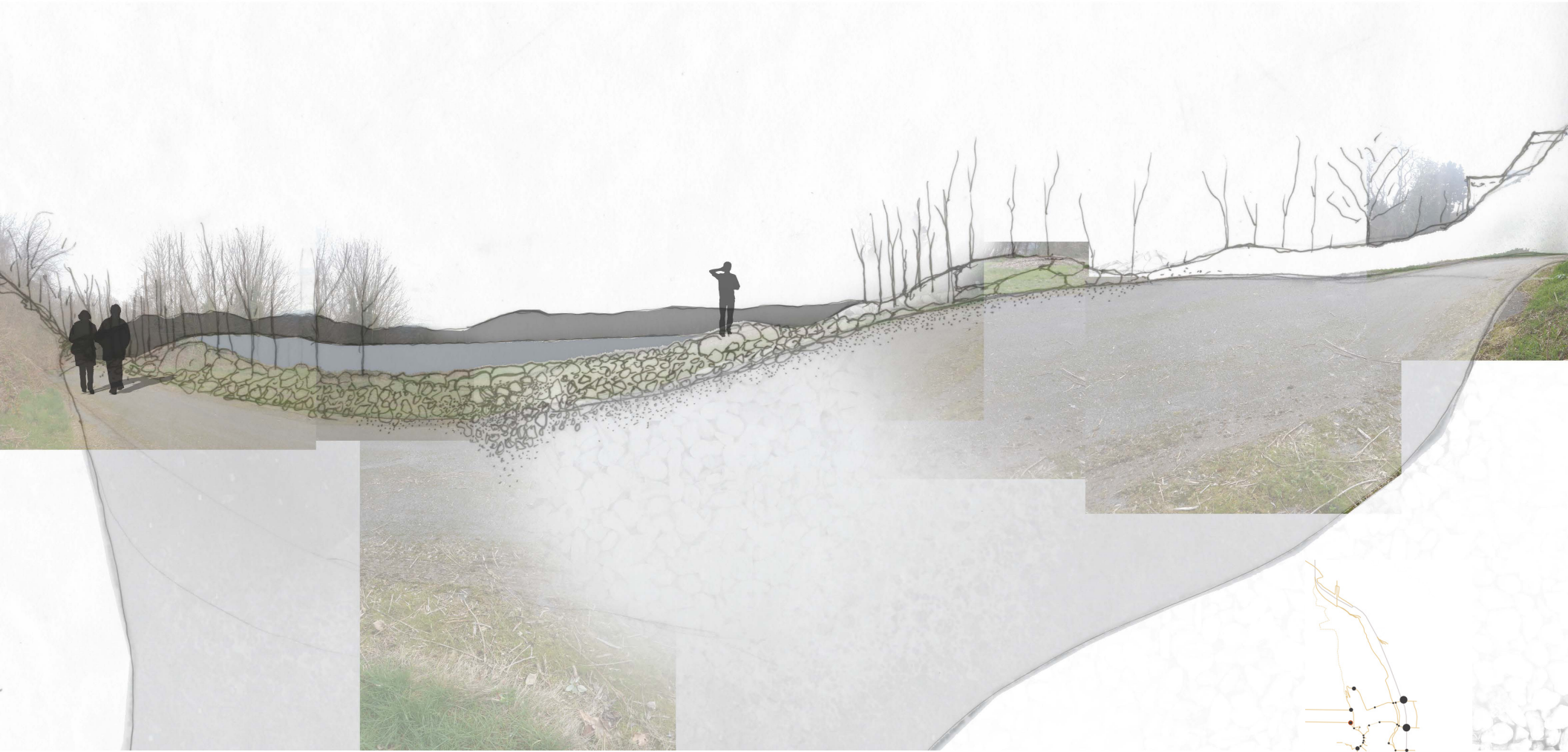


slope matrix and pathway conditions

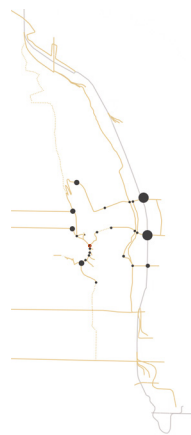
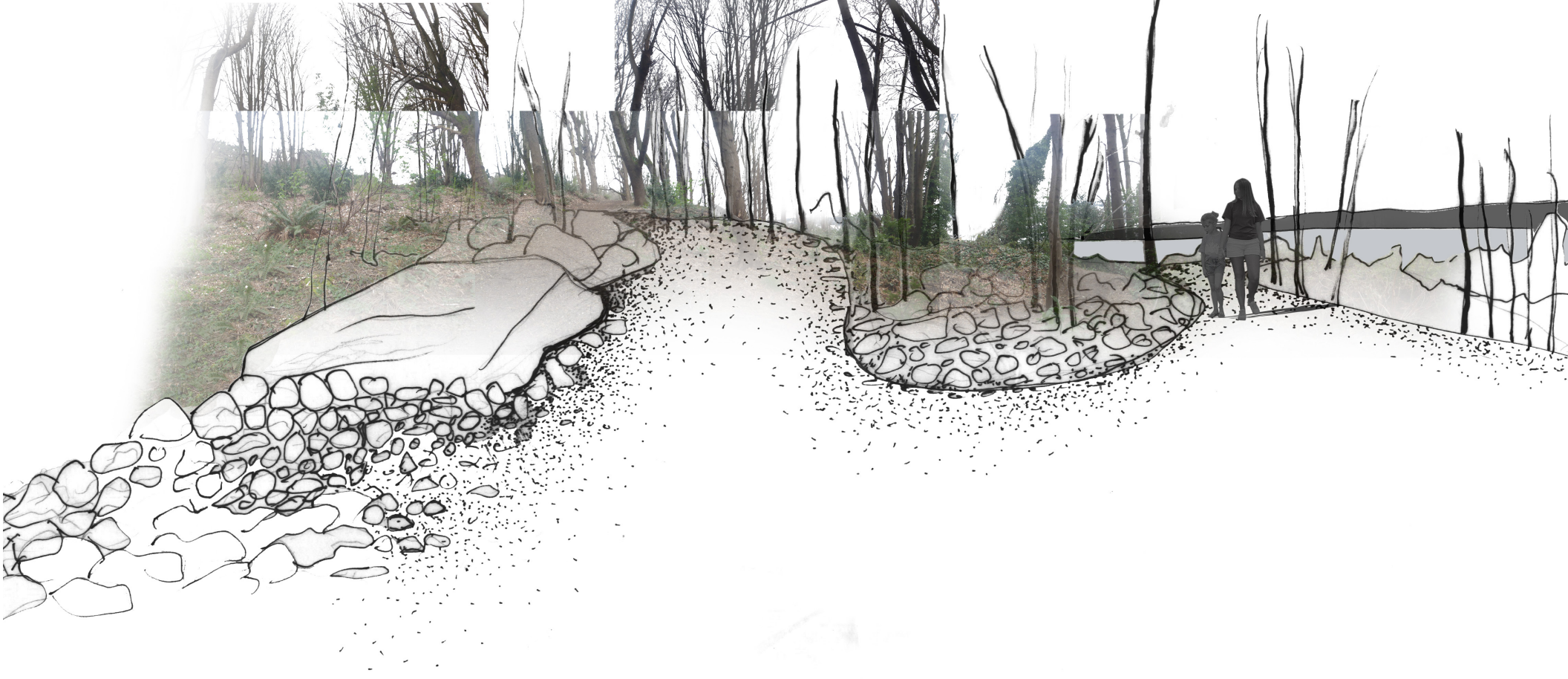


UPPER TERRACE PLAN :: CROCKETT + NEWTON STREETS

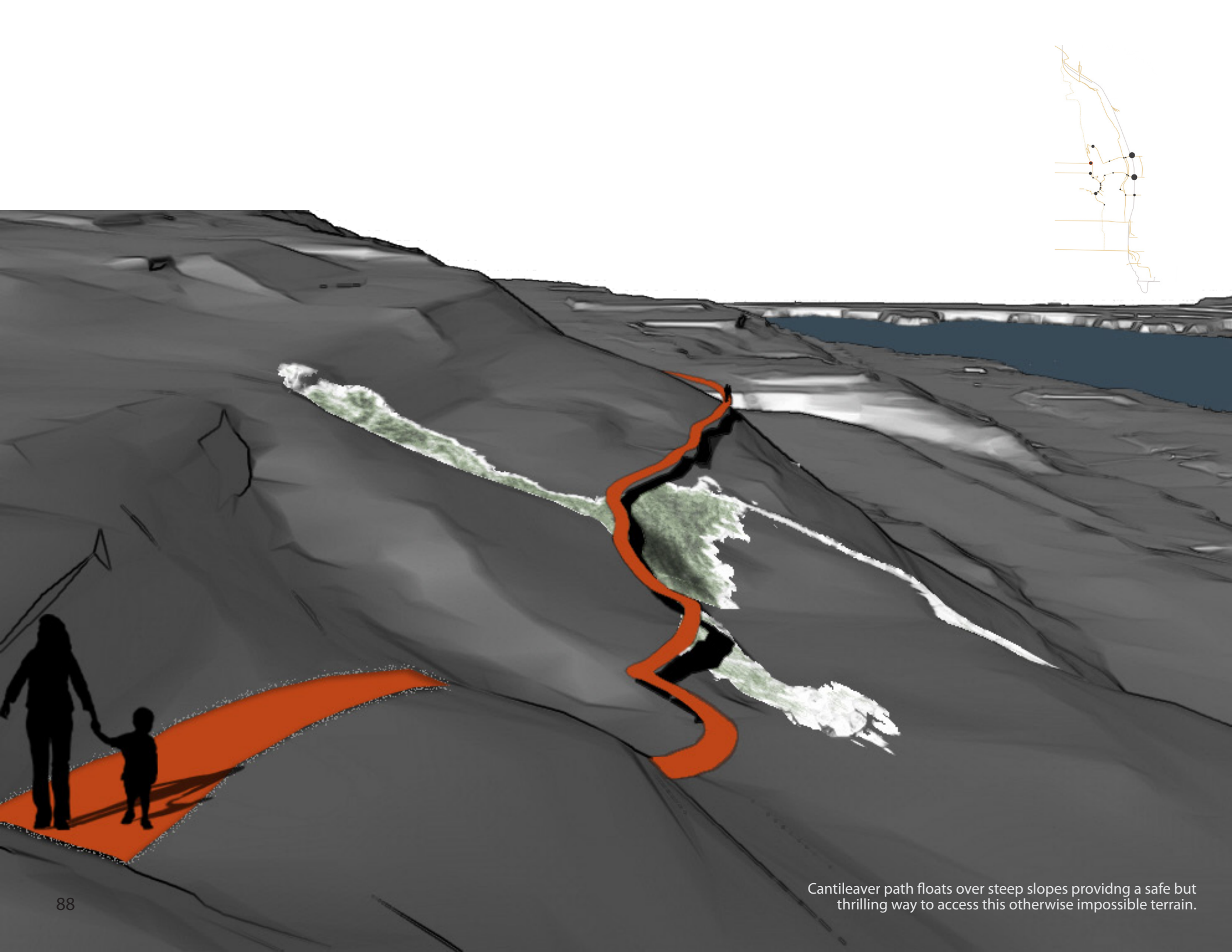




Entrance to upper slope provides expansive views



Meandering pathways in the upper terrace follow the contours of the land creating intermittent open and closed views tat



Cantileaver path floats over steep slopes providing a safe but thrilling way to access this otherwise impossible terrain.



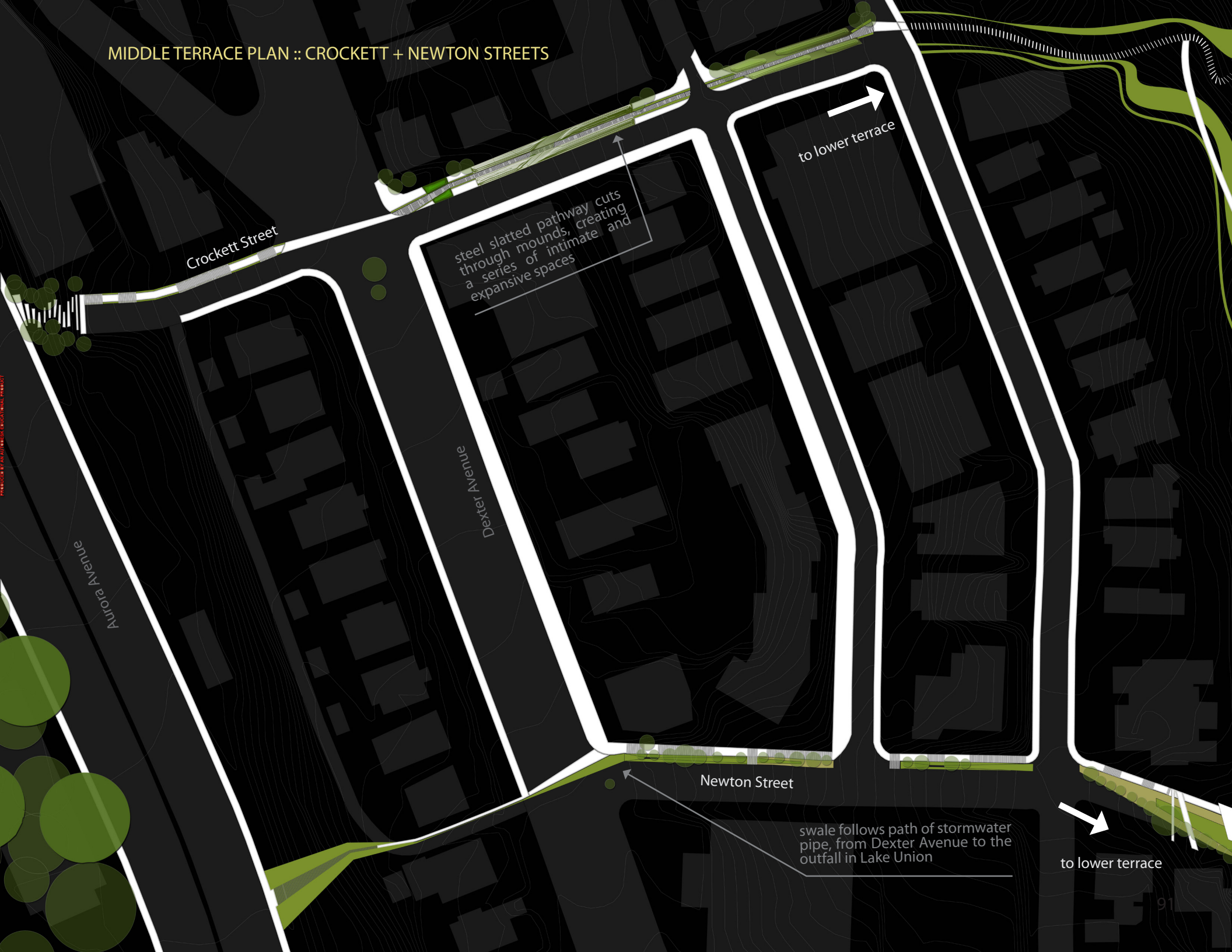
Base of a landslide path

Middle Terrace – Stable, ominous

A period of flat ground characterizes the middle terrace. Looking east you see a pathway of steel slatting pulling the view downhill. You pursue your vision. The steel slatted pathway transitions into concrete as you walk further downhill, punctuated with small square raingardens that feed into a stormwater runnel that moves east to west.

Small benches rise out of the concrete pathway, marking the first opportunity to sit. The pathway leads you onto a steel overlook bound by tall lights and you peer down at stairs leading you further east.

MIDDLE TERRACE PLAN :: CROCKETT + NEWTON STREETS



Crockett Street

steel slatted pathway cuts through mounds, creating a series of intimate and expansive spaces

to lower terrace

Dexter Avenue

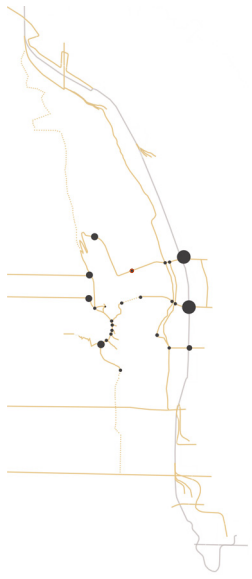
Newton Street

swale follows path of stormwater pipe, from Dexter Avenue to the outfall in Lake Union

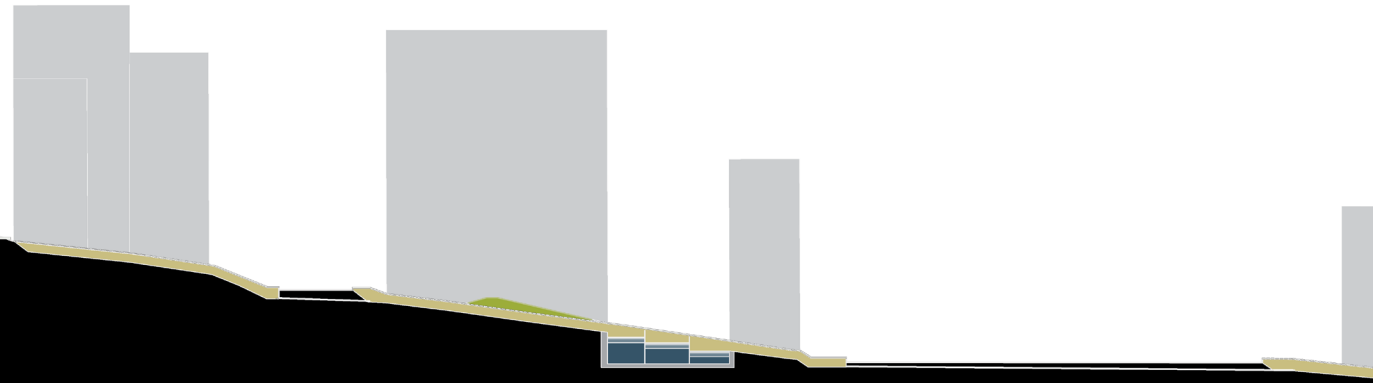
to lower terrace

Aurora Avenue

PRODUCED BY AN ADVERTISER. ILLUSTRATION PRODUCT

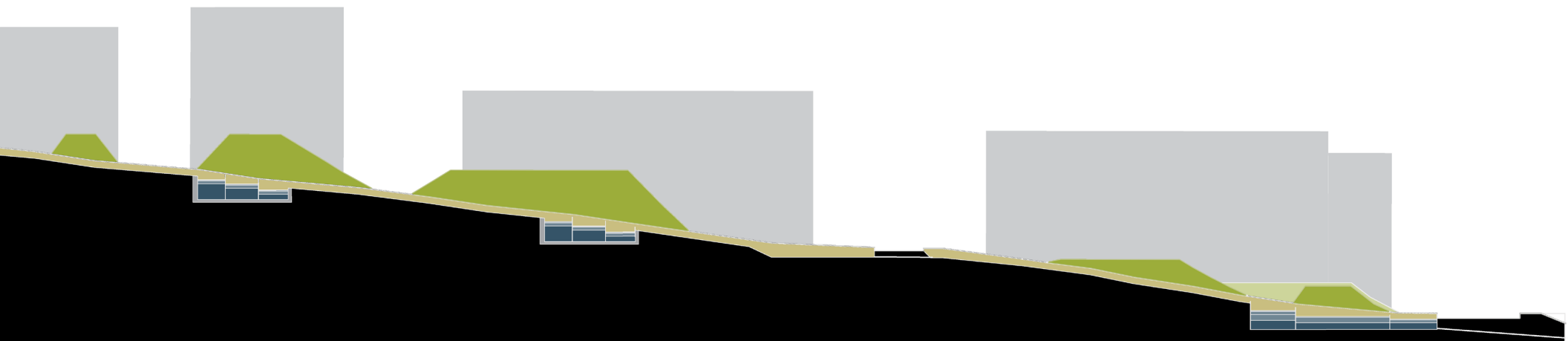


Aurora Avenue

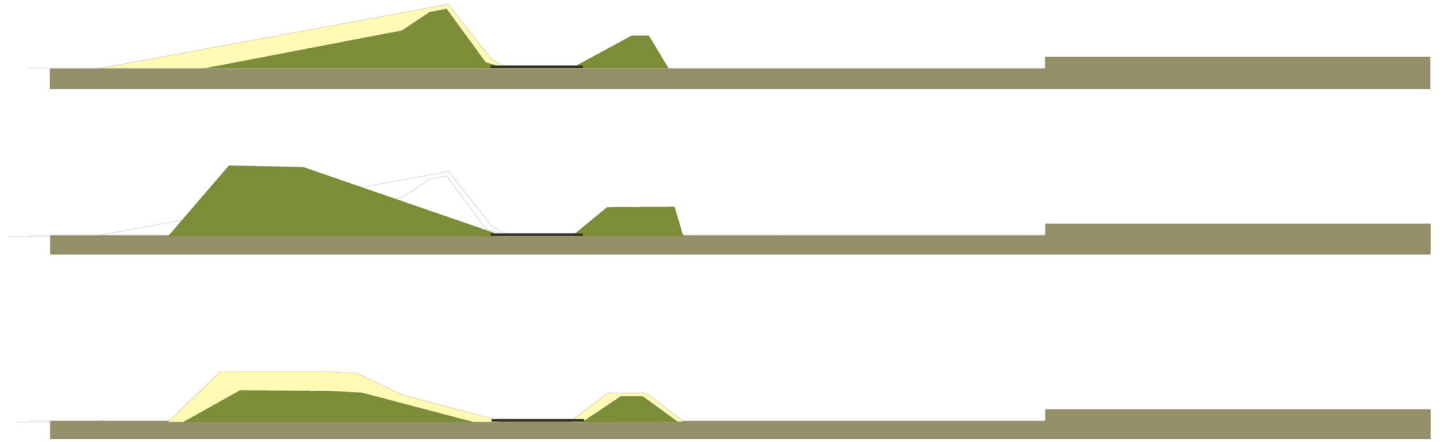
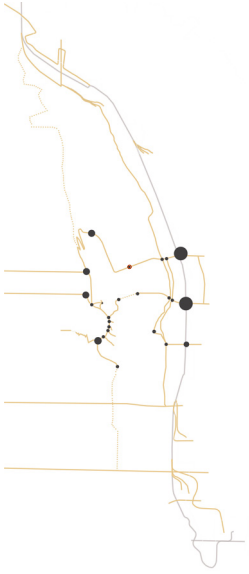


Dexter Avenue

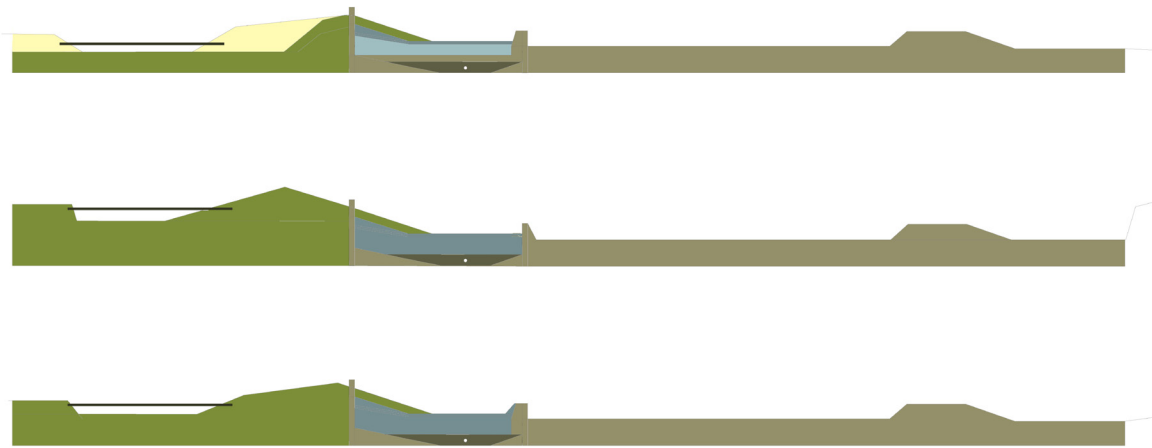
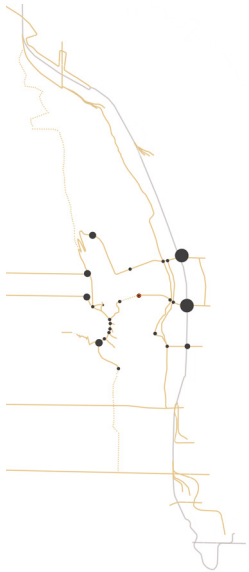
Crockett Street section, from beginning of middle terrace [Aurora Avenue] to the beginning of lower terrace

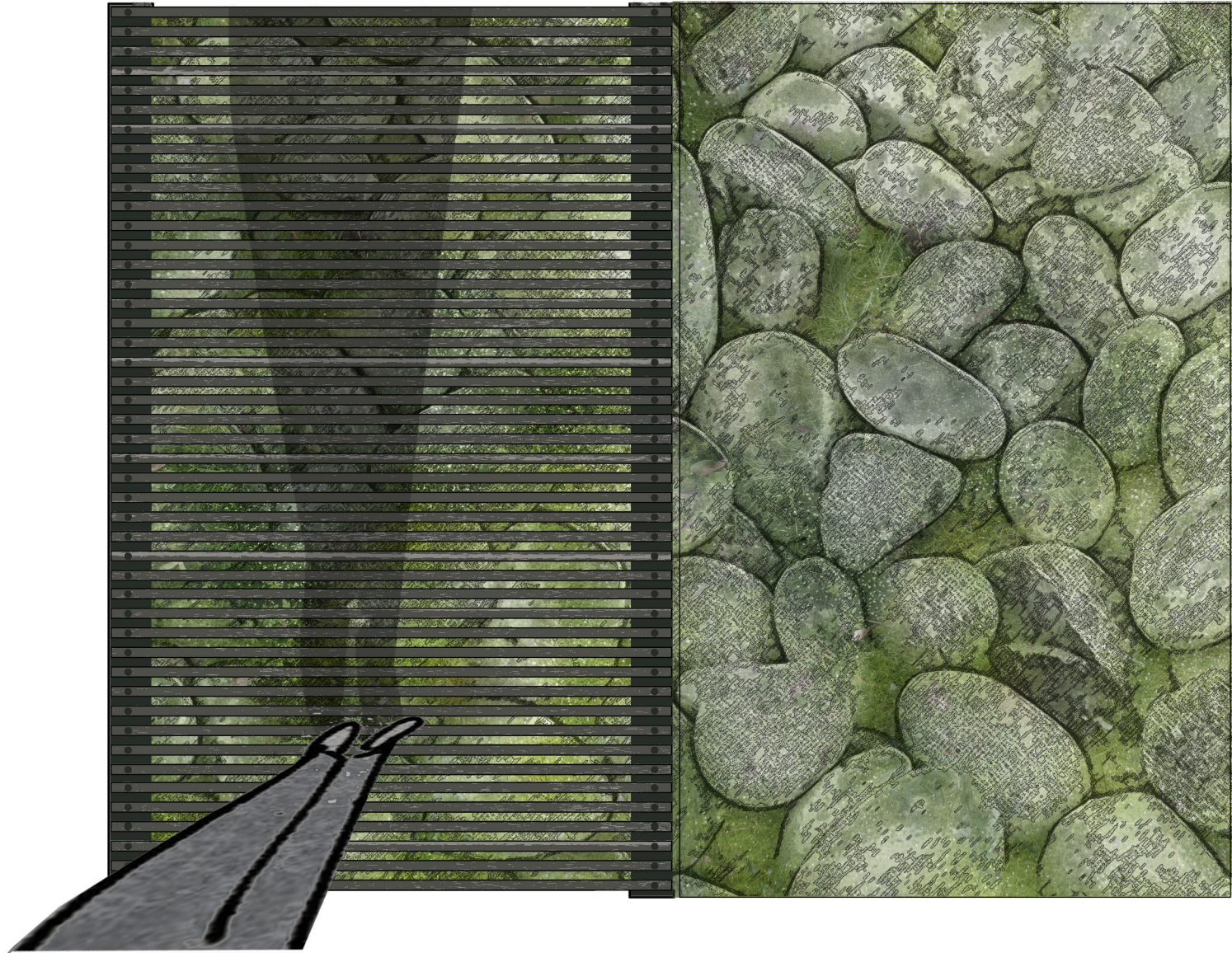


Crockett Street Sections, moving west to east

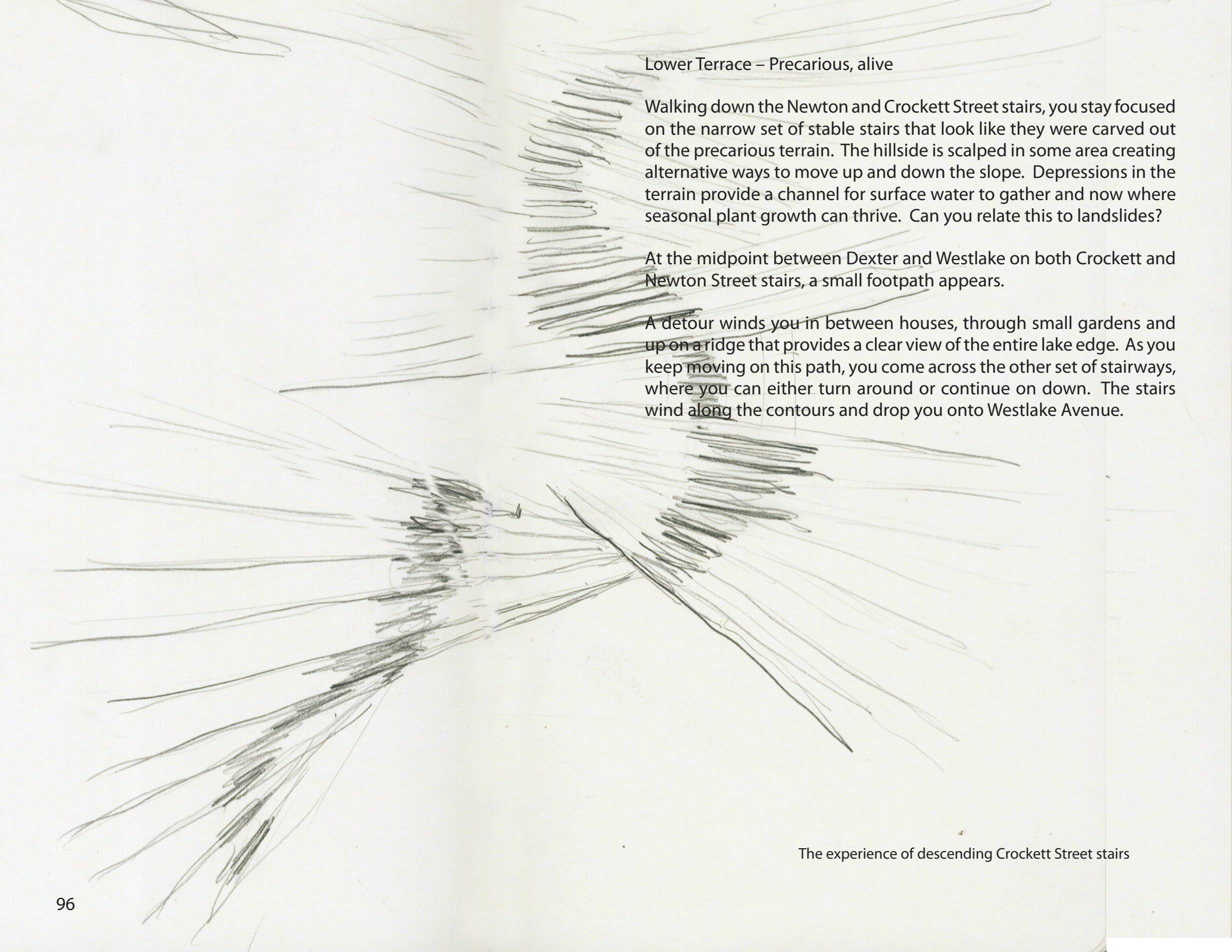


Newton Street Sections, moving west to east





steel slatted pathway over rocky swale



Lower Terrace – Precarious, alive

Walking down the Newton and Crockett Street stairs, you stay focused on the narrow set of stable stairs that look like they were carved out of the precarious terrain. The hillside is scalped in some area creating alternative ways to move up and down the slope. Depressions in the terrain provide a channel for surface water to gather and now where seasonal plant growth can thrive. Can you relate this to landslides?

At the midpoint between Dexter and Westlake on both Crockett and Newton Street stairs, a small footpath appears.

A detour winds you in between houses, through small gardens and up on a ridge that provides a clear view of the entire lake edge. As you keep moving on this path, you come across the other set of stairways, where you can either turn around or continue on down. The stairs wind along the contours and drop you onto Westlake Avenue.

The experience of descending Crockett Street stairs

LOWER TERRACE PLAN :: CROCKETT + NEWTON STREETS



LOWER TERRACE PLAN :: CROCKETT STREET



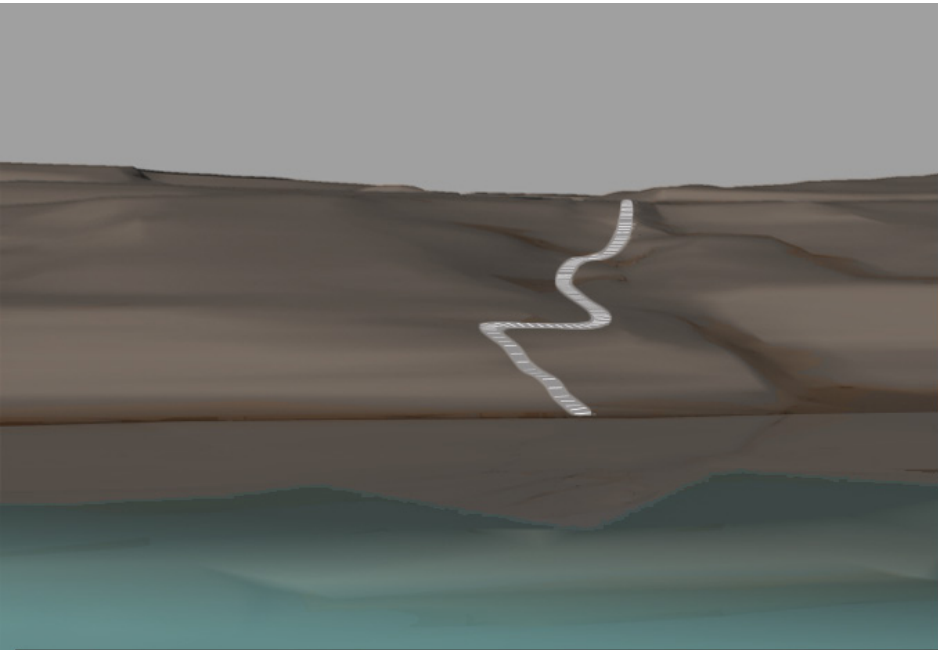
wide and meandering
cross over Westlake

Crockett Street

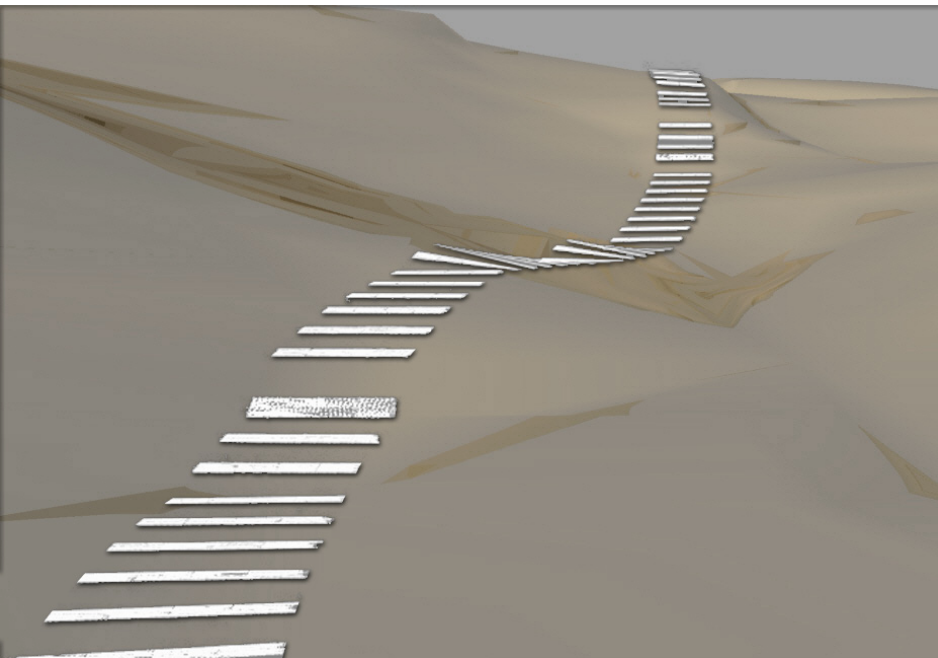
Westlake Avenue

to Newton Street



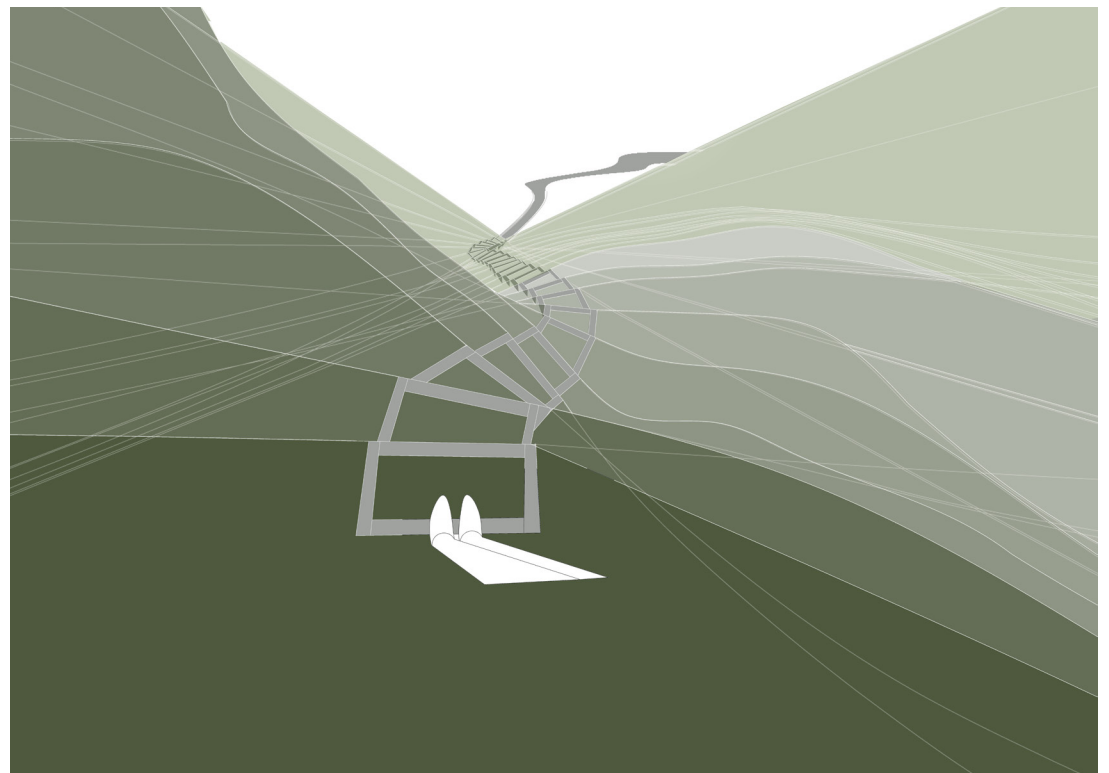
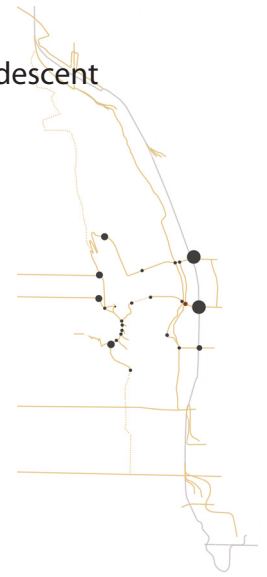


view east from the water



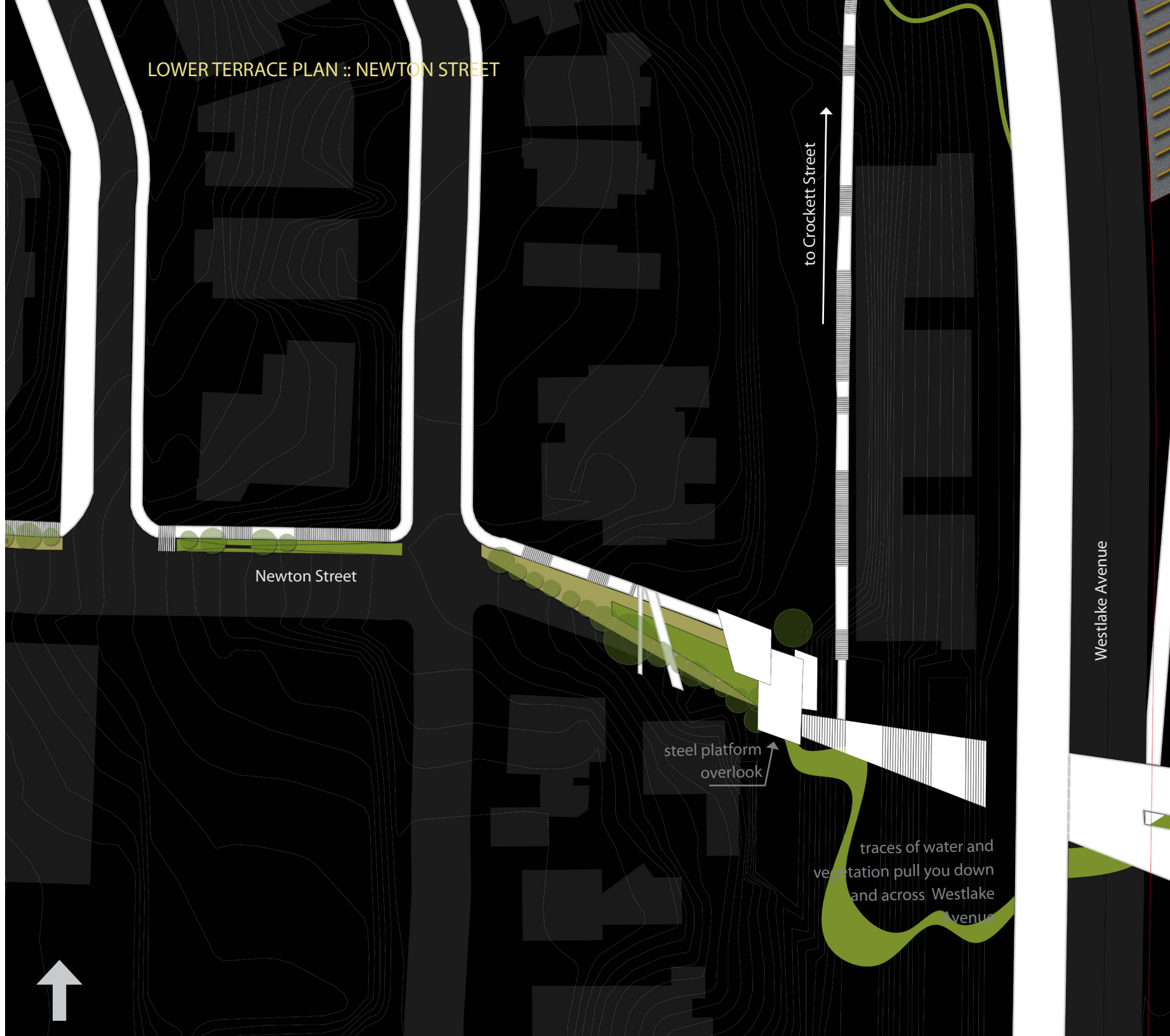
where wood slats meet the earth

Explorations of Crockett Street descent



Looking down at descent

LOWER TERRACE PLAN :: NEWTON STREET



Newton Street

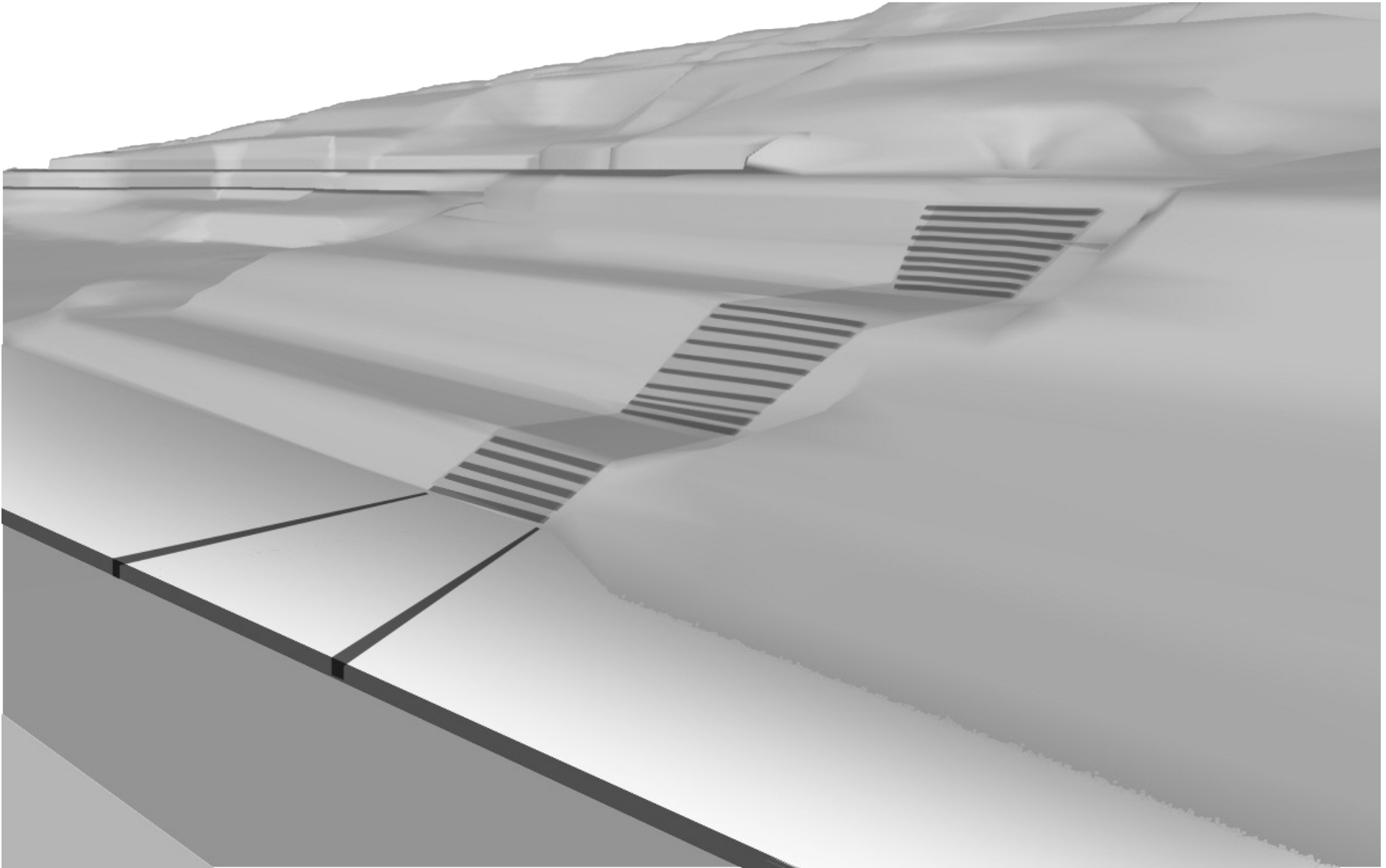
to Crockett Street

Westlake Avenue

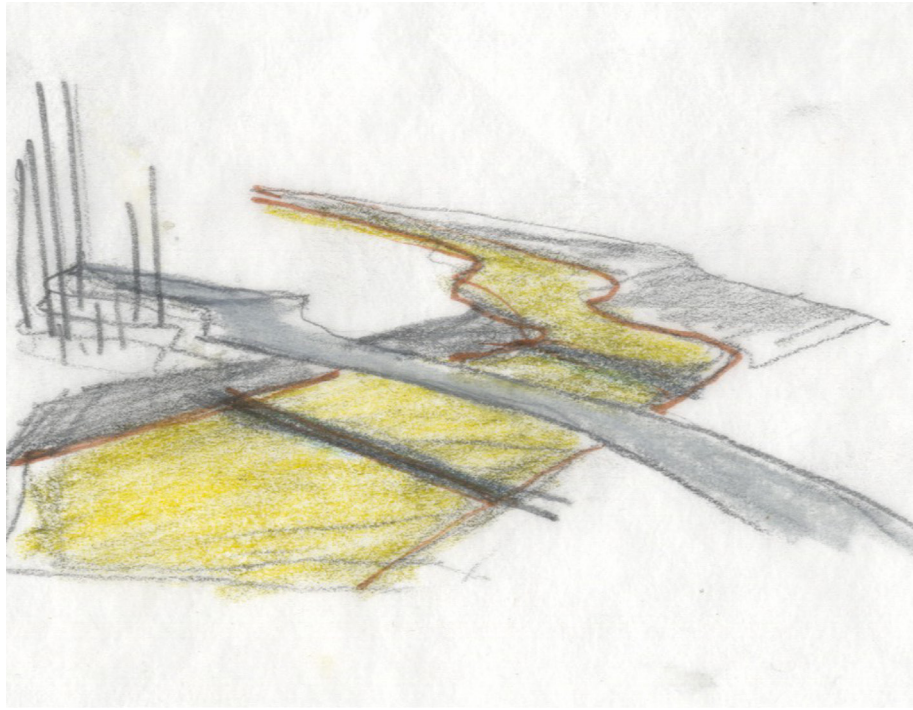
steel platform overlook

traces of water and
vegetation pull you down
and across Westlake
Avenue





Newton Street stairway descent

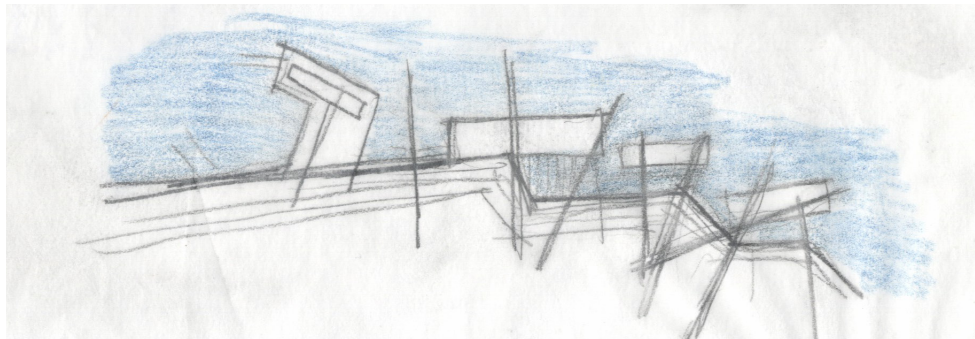


Lake Edge - Confluence

From the Crockett and Newton Street Ends you can now touch the water. This design peels back the fences and raised sidewalks to enable experience of the point where water meets the land.

Just like the end of a landslide, the rubble has fallen to the lowest point. Along the Crockett Street End, there are mounds of rocks of all sizes, plummeting into the water. One large boulder, situated right in the path that connects from the Crockett Street Stairs, is preventing you from getting to the water. As you get closer to the boulder you see that a pathway punches right through the rock, taking a slice out, and invites to walk through the slice removed from the boulder and to the water.

You walk on the landslide rubble and see pieces of the landscape from the upper terrace. You also see the other end of the stormwater outfall; during wet seasons you can see water from Dexter Avenue drain into Lake Union and during dry seasons, you might wonder why there is a pipe coming out of the shoreline, as there is no indication that it serves a function.



WATER'S EDGE PLAN :: CROCKETT + NEWTON STREETS

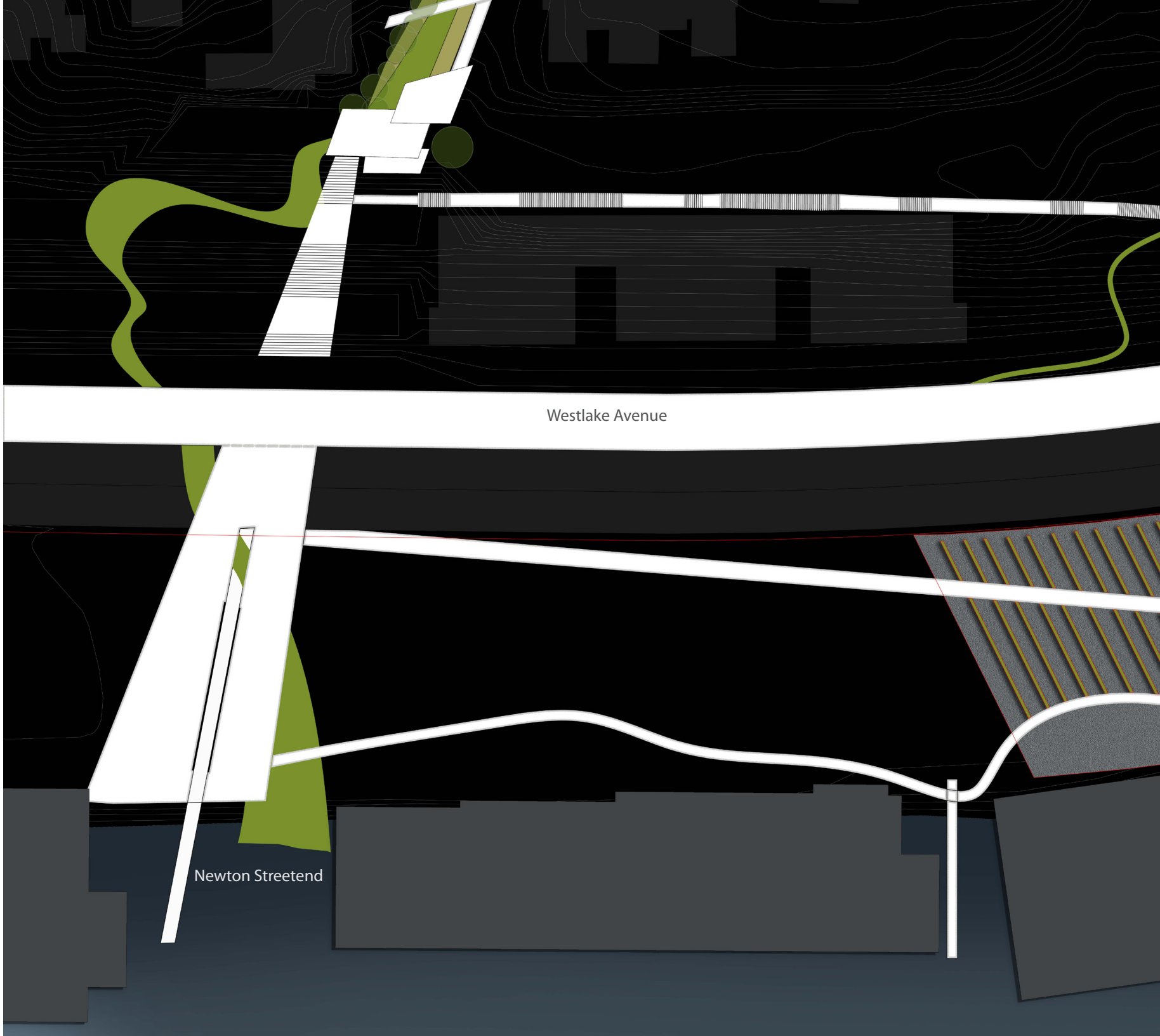
The Crockett Street End provides a different experience of the lake edge. A path, connecting direction from the Crockett Street stairs, crosses Westlake Avenue and the parking lot, and directs your view out over the water by means of a cantilevered walkway that you might choose to experience by walking out. The narrow walkway hovers just slightly over the water so you feel like you are walking on the lakes surface.

You can walk straight out, past the buildings and shipyards, and look out across the lake or back up the hillside to upper terrace where you began this journey.

The area between Crockett and Newton Street Ends is partially designed to provide a catalyst for further interpretation and intervention. There is a narrow winding on land path that runs perpendicular to Crockett and Newton Streets, connecting the two. At points along the path there are small moments provided for pause; large rocks spilling over from the Crockett Street landslide, a crack garden where sections of parking lot were removed and filled with plants, and painted pavement reminiscent of parking lot lines or railroad tracks.

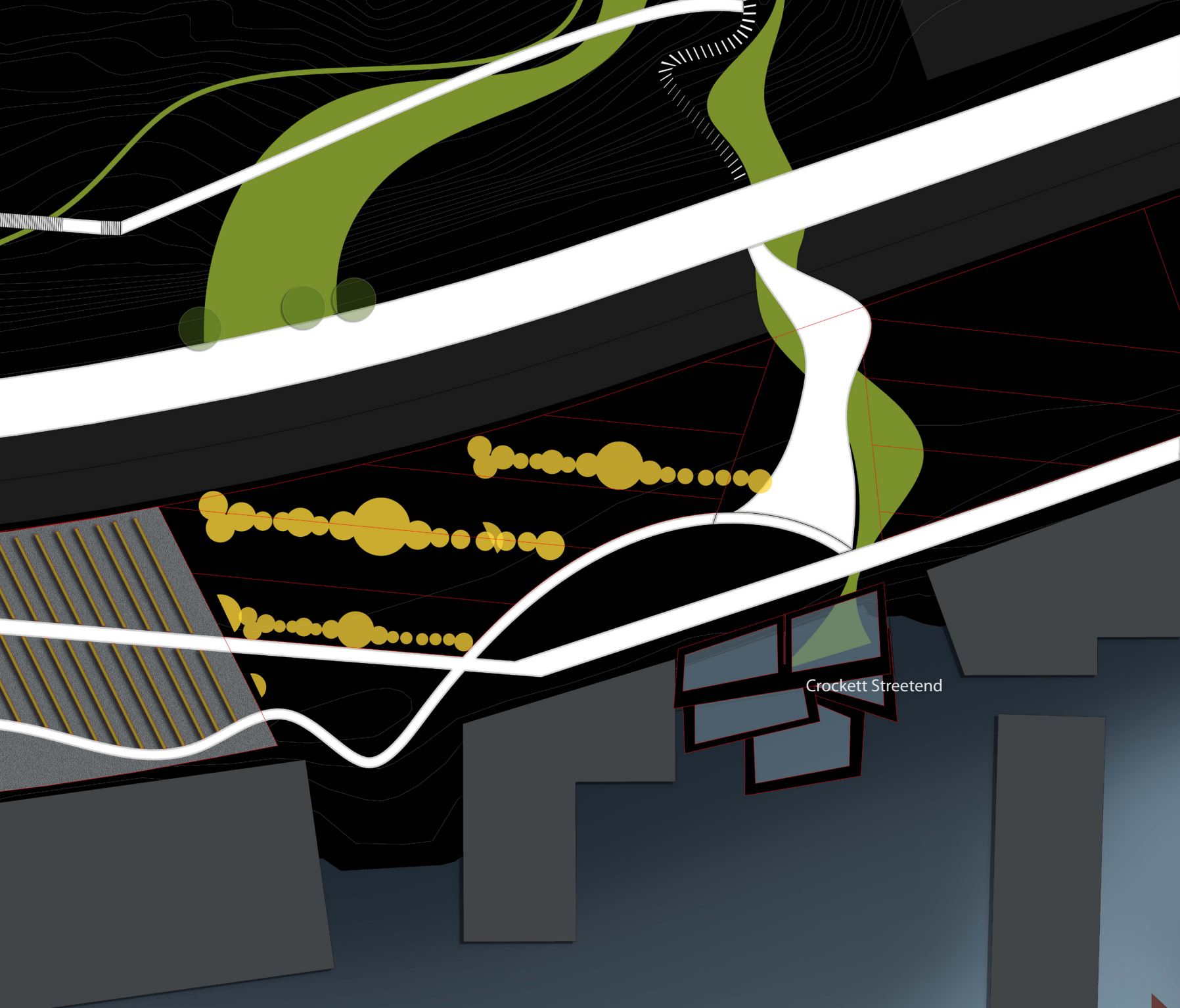
The design removes one layer from this edge by deconstructing parts of the parking lot. A design goal is that unfinished is okay and to that end, the design leaves some of the space open. Amidst the busy surroundings, a large swath of unclaimed land can be more striking than anything put on it. The deconstruction of the parking lot shows what a large space this is and what an incredible opportunity this affords for future intervention. Perhaps businesses can use the Crockett-Newton Street section for markets on the weekends, or the city can end a family run around Lake Union.



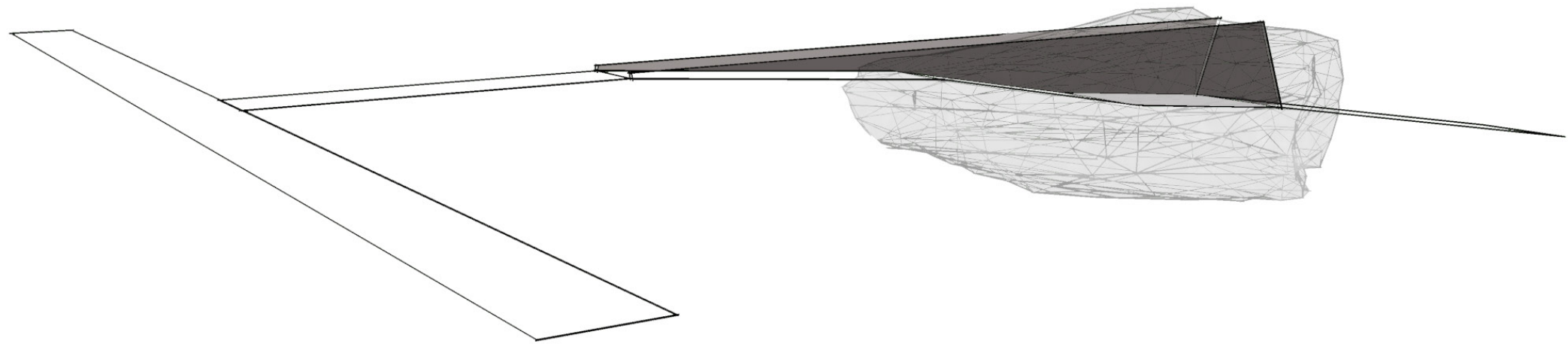


Westlake Avenue

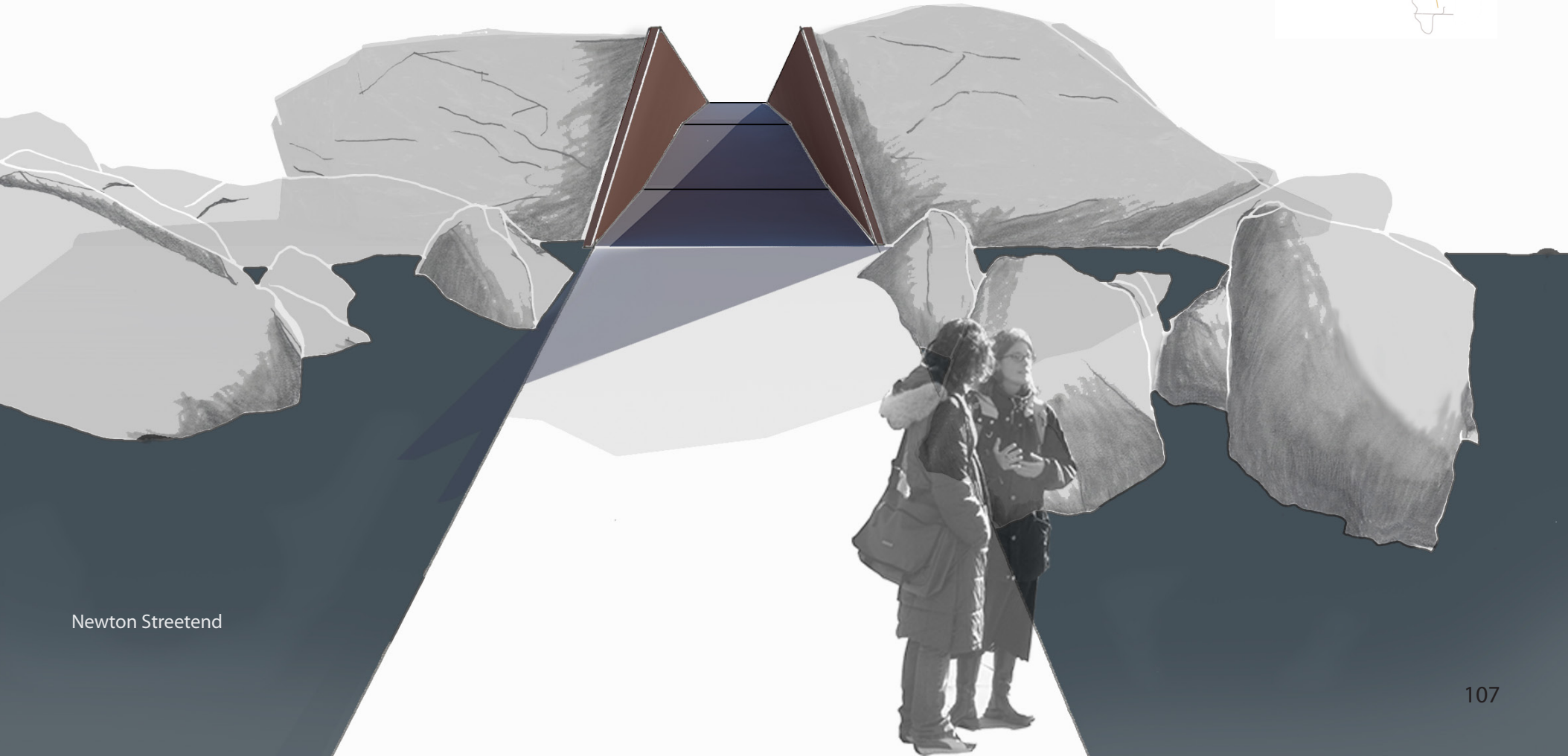
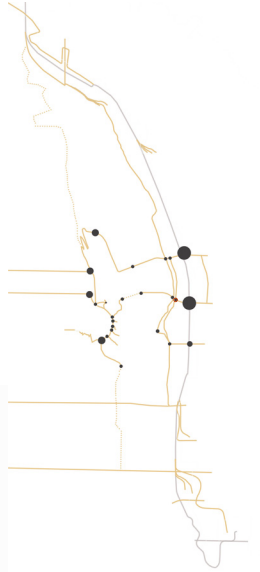
Newton Streetend



Crockett Streetend



Newton Street progression from lower terrace, across Westlake Avenue, to the to water



Newton Streetend



lake union

traverse

07 REFLECTION

This project explored the many meanings of place and the way we have defined sites and edges, especially the water's edge. The water's edge is larger than the single line we have drawn to delineate land and water; the entire water basin extends far beyond Westlake Avenue and it is only through incredible feats of engineering that we have created a landscape that leads us to believe otherwise. The water's edge cannot be understood from just walking along Westlake and the stories that have shaped this landscape cannot be told from just one point on the southern end of the lake. This design reveals as a series of pathways that grown from the multiple stories and existing conditions of this landscape. The paths initiate the possibilities for walking as a mode of exploration and engagement with this space.

I chose this site because I wanted to practice designing within a dense urban environment. I believe the landscape architecture and urban planning profession will be faced with making much out of little space and thus will need to challenge edges and layer functions in space. The profession will need to skillfully deconstruct parts of our existing built environment and construct something new in order to make room for future uses while celebrating the ecological and cultural peculiarities. In the future, space likely be increasingly more complex and contested so I wanted to practice careful deconstruction and construction in order to orchestrate a narrative of this landscape how I see it.

I chose to design for walking because the linear nature of pathways mirrors those of edges borders of sites, roads and water bodies. Walking is a program well suited for challenging our edges while fitting into the very form they have created and therefore respecting existing uses. Pathways can stitch together fragmented spaces while still allowing room for growth and imagination. Pathways for walking are effective for facilitating movement over a large area while enabling appreciation of small transient moments. Not every inch of our urban landscape needs to be activated and walking pathways provide an opportunity to interact with more of the landscape without requiring development or programming.

DESIGN

As described in the theory section, I believe walking to be a powerful tool for learning a landscape. Western Lake Union needs more exposure to be seen and learned and walking is perhaps the most effective mode of movement for this area that is bounded and sectioned off by roadways and steep topography. Walkers in this area are more nimble than cars or cyclists as they can traverse up and down the terrain and pass into spaces that elude maps and infrastructure. My design principles emerged from much of the literature related to strollology and derive and the intersection between space and walking. As described in section 04, these design principles are as follows.

- Challenge edge conditions
- Movement + Pause
- Control + Choice
- Unfinished is Okay

Challenging edge conditions was the design principle that framed the entire process, it was the thread that ran through the research and

design, and it was the goal that I had the most trouble with. In an area so laden with edges, it was difficult to decide which ones mattered and which ones did not. Additionally, the more time I spent on the site the more I fell in love with everything about it and did not want to change anything. I initially hoped that a series of minimal interventions could achieve a network of pathways. I found however that Lake Union is better suited for overt design moves in order to compete with the dense and busy surroundings. A series of small interventions is perhaps more appropriate for trails in a less developed area while fewer but larger moves for this particular site.

Initially I felt that the design concept of a landslide was too bold. As I pushed the concept however I found it provided a strong framework for design but enough flexibility to respond to the complexities of the site. Additionally, I learned towards the end of the process that a landslide is in fact the land achieving equilibrium. A landslide might be destructive at the particular time and place of its occurrence it is ultimately healthy and necessary. To this end, landslides are much like ebbing tides and seasons, a process that we should embrace.

Reflecting on the final design, it was successful in enacting goals of movement and pause, control and choice, much to the delight of the strollologists and Situationists among us. The design is a strong enough framework to anchor the pathway network but loose enough to evolve over time. I did not intend to tell a story from start to finish but to reveal parts of a narrative that I found compelling and to this end the design is successful.

PATHWAY VS. SITE

I grappled with what to design. Designing a quality pathway that provided opportunity for movement and pause, control and choice, two of my design principles, while also responding to the ecological and cultural context were too large of tasks and I would likely lose the smaller moments in the end. However, a focus on just sites would mean losing the connections, the very essence of a pathway. I found that this conundrum was much like designing pathways in real life or any space that must meet multiple demands over a large area. A successful design will seamlessly plug into the existing landscape which is often varied considering that many pathways move through multiple landscapes. I ended up designing a combination of the pathway and individual sites, an approach that was challenging but rewarding as I was able to shift scales from the earth under my feet to a neighborhood scale. I had to read the many layers of the landscape while considering the larger spatial and temporal scales.

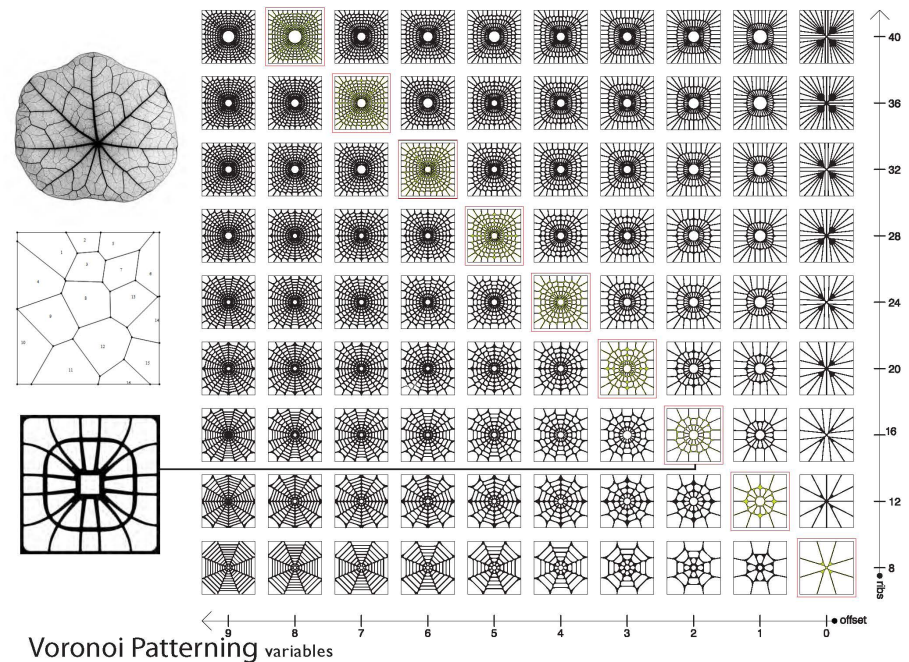
I do not feel that I have succeeded in visually communicating my design intentions. Just as I struggled with what to design, I was unsure of how to communicate my design interventions over a long linear space. I developed the pathway matrix to show the entire pathway in one place but I feel that this graphic can and should be more dynamic.

ONWARD

While design is a powerful tool for transforming a space, I believe that an expanded knowledge of policy and development tools available will generate more effective planning and design strategies. This project was in essence an exercise of connectivity planning which can be challenging when synthesizing multiple goals that are not only dissimilar but also contradictory. Often policies that address a larger metropolitan region are not localized enough to address site details. Many disciplines, landscape architecture and urban planning among them, will need to explore methodologies and explore solutions to enact change.

Developing policy tools that consider multiple scales would be my next step for this particular project. Diagrammatically, I have found the linkage between small and large policy tools that is needed: every mark is intentional and informs another; when aggregated, it is clear that each mark plays a role in making the more complex diagram complete.

Each line is made with an understanding of the ultimate composition. As the diagrams increase in complexity, there is also increased opportunity for richness but so does the coordination required between marks. In moving forward, new planning tools are needed to create finer grained networks for movement, ones that resist the stringent quality of professional categories. Currently the many borders, edges and barriers dictate where we can, but mostly cannot go. In order to challenge these barriers to movement, we might employ a layered approach to defining site and ascribing meaning to it. Additionally, increased density will require spaces of movement serve multiple functions. Reimagining the regulatory treatment of spaces of mobility will facilitate an enhanced spatial reimagination.



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... although much of the waste was diverted to Elliot Bay by 1910, several storm sewer outfalls continued to dump effluent directly into Lake Union until the late 1930's.

Klinge, p81

Lefebvre, 1991

The lake provided one leg of the transport of coal and logs, a primary activity and central to the economy. The discovery of coal near Issaquah fueled interest in Lake Union but the transport from Lake Washington barges and wagons over portage bay to lake union and then overland to Elliot bay, Seattle was difficult.

The Seattle Coal and Transportation Company simplified the problem in 1872 by building a narrow-gauge railroad -- Seattle's first -- from the south shore of Lake Union to present-day Pike Street.

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Klinge, p89

Klinge, p96

1891 14.9 miles; 1900 60.45 miles; 1908 212.32 miles; 1924 628.63 miles; 1930 802.10 miles; 1940 863.15 miles; 1950 988.09 miles; 1956 1059.59 miles

Klinge, p90

by late 1914, dredges and steam shovels were slinging dirt and mud along almost every major river and lake in urban Puget Sound. In the span of almost five years, engineers rerouted the plumbing of an entire drainage basin. It was as if someone pulled a plug and a giant sink emptied. When corps contractors completed the Montlake Cut and the locks at Ballard in the summer of 1916, Lake Washington poured into Lake Union, dropping the water level around the lake by almost ten feet in three months. With the new Lake Washington Ship Canal, sloughs along the Sammamish River on the eastern shore dried up and marshes emerged from open water in Union Bay, near the Montlake Cut. As the waters receded, houseboats and businesses on Lake Washington and Lake Union found their sewer outfalls dumping onto exposed mudflats [Klinge 71-71].'

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