North Saskatchewan Spiritual: Reconnecting with Nature in the Edmonton River Valley

by

Shane Hauser

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Contents

Abstract

A strong connection to nature, wilderness, and landscape provides the foundation onto which life is constructed. But forces of industrialization and globalization have brought us to a time in which our built environments and culture have become disconnected from the natural environment and as a result we have lost our understanding of nature as the source of everything, physical and spiritual.

This thesis explores how architecture situates us physically and spiritually in the natural world enabling us to set down roots in a place. A design method that draws on environmental tectonics, ecology, and phenomenology is used to study the genius loci as a grammar of place and develops interventions at three scales of experience from the individual to the community—chapel to church.

Acknowledgements

Talbot, thank you for you encouragement, insight, and for challenging me to push the work forward. Catherine, thank you for your advice which always opens up new worlds and ways of thinking.

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Chapter 1: Introduction

This thesis is about nature—what it is, how we relate to it, and the ways in which our understanding of it is an understanding of ourselves. The idea of being rooted in place through an understanding and reverence for nature is something that is perhaps more important today than ever before. Globalization has erased the particularities of place in our built environments and the technology of the digital age has enabled us to develop culture removed entirely from physical place. These processes can become problematic when they lead to *dislocation*, a lack of psychosocial integration (Alexander 2008). Psychosocial integration is an integral part of feeling rooted in place culturally, physically, and spiritually. Connecting to nature is one of the key components in building cultural rootedness. In this thesis we explore the way that architecture can situate us spiritually in the natural world and in place.

This thesis explores the relationship between nature, architecture, and spirituality in Edmonton, a young, Western Canadian city sitting on the edge of the prairie grasslands and the woodlands of the north. As a settler city, groups in Edmonton have not yet achieved a strong cultural rootedness. The colonial origin of the city all but destroyed local indigenous cultures and the nature of settlement and immigration means that virtually all of the culture in Edmonton has been imported. Today's largest groups of immigrants to Edmonton tend to settle in ethnic enclaves in suburban areas (CBC News 2018). These parts of the urban environment, as well as most of Edmonton, are intensely twentieth-century developments—notoriously car-centric and architecturally generic. Spiritual ties to place are
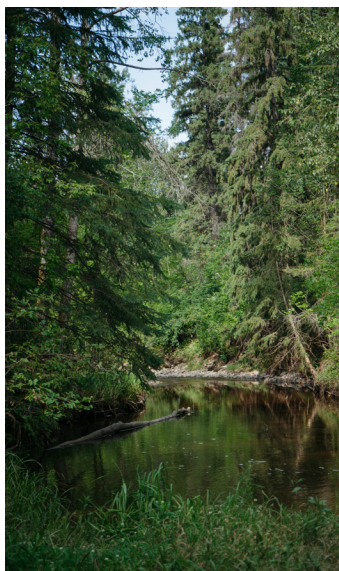
Mill Creek Ravine,
Edmonton, 2020.

Generic townhouses in an Edmonton Suburb (Boonstra 2020).

already weakened or lost in immigration and the disconnect between the urban environment and nature provides little opportunity for people to build new spiritual connections and traditions that are firmly rooted in place.

The question then is this: how can architecture situate us physically and spiritually in the natural world?

This thesis proposes a set of architectural interventions that encourage and support experiences that highlight the natural world that exists in the city. These interventions are not tied to any particular religion or form of spirituality. Rather, the architecture acts as a starting point, the gesture that magnifies the character and spirit of place, providing people with the opportunity to connect their culture and spirituality to this nature.

The architectural interventions are intended to operate on multiple scales and create connections and relationships that are embedded in place. Small interventions support the individual's connection to place through exploration and

Skogskapellet cemetery chapel by Gunnar Asplund (Ellgaard 2011)

discovery, while interventions at the group scale support the development of bonds to place through occasion and tradition.

Historically, spiritual architecture—and architecture more generally—would develop over long periods of time generated by climate and coevolving with technology and culture. As a young city, Edmonton's architecture has not yet responded to the particularities of place, a problem exacerbated by the mass production of the built environment. The Edmonton of the future will be pluralistic, and that complex tapestry of peoples will be brought together by place. As such there is an architectural imperative to the development of locally-rooted culture.

Chapter 2: Theoretical Framework

There are two parallel threads that run through this thesis. The first is the matter of nature and wilderness which is concerned with how we conceptualize the non-human world, and how this affects the way we develop the relationship between it and the built environment. The second is the matter of identity which is concerned with our conception of ourselves—individually, collectively, and in place. Both of these threads are fundamentally about a future that looks different from today and the role that architecture plays in shaping that future.

Nature and Wilderness

What is nature? This is a question worthy of its own philosophical inquiry but for the purposes of this thesis we will keep it brief. How we define nature is largely a product of our cultural and religious relationship with it. In his book, *Nature: Western Attitudes Since Ancient Times*, Peter Coates explores the range of ways in which nature has been defined: as poetry, essence, dictate, a mental and linguistic construct, an artefact, wilderness, and as personified being. What is perhaps most relevant to us today is the way in which we position ourselves and society in relation to nature. We have come to a time where our impact on the environment has been significant enough to change its very operation. Natural systems so large that they affect the entire planet and so complex that we cannot model them have been altered by us resulting in a global existential crisis that is threatening many today and will threaten many more tomorrow. The great paradox of the human relationship with nature seems to be in our

Aspen stand in Edmonton, 2020.

keenness to conquer it and its undeniable ability to conquer us. The reality is that the climate crisis is largely a product of neglect on the part of society rather than any kind of outright evil (though bad actors have unquestionably taken advantage of this neglect). We have been allowed to take from nature without knowing exactly what that means.

Looking at the history of how the West conceives nature gives us some insight as to how this has happened. In the West we are dominated by the legacy of the classic Christian idea of wilderness in which it—opposed to Eden—is a place of confusion, despair, god's wrath, and satanic temptation (Cronon 1996, 12). Here, wilderness and nature are to be feared: they are overpowering, incomprehensible, and are dangerous. It was from this conception of wilderness that early notions of the sublime emerged. This sublime was about a sense of anxiety and existential terror, a particular kind of fear that could only come from nature. Yet by the mid-nineteenth century the sublime had become "domesticated" and the terrifying wilderness had begun to shift into a place of spectacle and even leisure, a trend more present today than ever before. In a sense, the domestication of wilderness is what reduced it to a commodity—and a cheap one at that. We need only look to the advent of social media to discover a continuation of the western impulse to conquer nature reframed as the mass capture and consumption of images which deceptively act as a means of connecting with nature—a role that the medium of photography simply cannot fulfill.

The problematic nature of images and their dominance over the embodied experience is discussed at length in architectural discourse (Pallasmaa 2005). The

Picturesque

1662

Gardens of Versailles

André Le Nôtre, *Gardens of Versailles.* Versailles, France. c. 1662–1700

Romantic

1812

Snow Storm

J.M.W. Turner, *Snow Storm: Hannibal and his Army Crossing the Alps, 1812*
Oil on canvas, 57.5 x 93.5 cm

Sublime

1818

Wanderer above the Sea of Fog

Caspar David Friedrich, *Wanderer above the Sea of Fog, 1818.*
Oil on canvas, 94.8 x 74.8 cm

1850

Fort Edmonton

Paul Kane, *Fort Edm onton,* Hudson's Bay Company; Plains Cree, Assiniboine, c. 1849–56
Oil on canvas, 43 x 71 cm

1868

Among the Sierra Nevada, California

Albert Bierstadt, *Among the Sierra Nevada, California,* Rome, 1868
Oil on canvas, 183 x 305 cm

Post-Impressionsim

1917

The Jack Pine

Tom Thomsom, *The Jack Pine, 1917*
Oil on canvas, 127.9 x 139.8 cm

1938

Grand Canyon National Park

C. Don Chester Powell, *Grand Canyon National Park,* Department of the Interior, National Park Service, 1938

1939

Odds and Ends

Emily Carr, *Odds and Ends, 1939*
Oil on canvas, 67.4 x 109.5 cm

Photography

1942

The Tetons and the Snake River

Ansel Adams, *The Tetons and the Snake River, 1942*
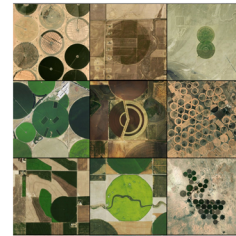Oil on canvas, 127.9 x 139.8 cm

1996

Bliss

Charles O'Rear, *Bliss, 1996*
Medium-format photography.

Aggregation

2020

Untitled

Center Pivot Sprinkler, Instagram page, 2020.

Western representations of nature throughout history.

desensualization of experience that Pallasmaa discusses has only become worse in the age of Instagram which has enabled an obsessive creation and consumption of images unlike anything to have come before it.

Wilderness aesthetics have been dominated by the sublime and beautiful since the very creation of the idea of wilderness. Indeed it is necessary to reevaluate our conception of wilderness—the idea of pristine, untouched wilderness is fundamentally patriarchal, framing wilderness as a virgin yielding to the forces of colonization (Coates 1998, 85). Such a view is rather out of touch today yet wilderness aesthetics still tend to "cast any human intervention and creation in a negative light, as 'abuse' of nature" (Saito 2007, 57). This is essentially along the same patriarchal line of thinking that places wilderness on a pedestal of purity—a view that to this day dominates conservationist attitudes. Yuriko Saito, referencing William Cronon, makes the point that we must reframe environmental aesthetics in such a way that we build appreciation for the more humble forms of wilderness that we live among in the urban world. Cronon points out that as a matter of spirituality this has great potential: "when I think of the times I myself have come closest to experiencing what I might call the sacred in nature, I often find myself remembering wild places much closer to home" (Cronon 1996, 21). But he acknowledges that building this kind of appreciation is no simple task, the conventional romantic sublime "finding the mountaintop more glorious than the plains, the ancient forest nobler than the grasslands, the mighty canyon more inspiring than the humble marsh" (Cronon 1996, 22). It may be a challenge to reframe our notions of beauty but there is surely something to be gained by turning a magnifying glass down toward our

feet to better understand the land we live on each day. The goal, then, is not to destroy the idea of wilderness but to let it "remind us of the world we did not make" and "teach profound feelings of humility and respect as we confront our fellow beings and the earth itself" (Cronon 1996, 22).

Many indigenous cultures tend to embrace this approach at a fundamental level:

> Cultures of gratitude must also be cultures of reciprocity. Each person, human or no, is bound to every other in a reciprocal relationship. Just as all beings have a duty to me, I have a duty to them. If an animal gives its life to feed me, I am in turn bound to support its life. If I receive a stream's gift of pure water, then I am responsible for returning a gift in kind. An integral part of a human's education is to know those duties and how to perform them. (Kimmerer 2013, 115)

The idea of reciprocity and harmony is foreign to the western conception of nature especially today when nature is often used as a consumable experience like going to the movies. There is perhaps no better example of this than the massive increase in unqualified adventurers expending exorbitant amounts of money to climb Mount Everest.

It's worth noting that Coates discusses the problematic nature of the trope of the so-called "ecological Indian." This characterization does conflate a multiplicity of indigenous peoples which can verge on reductive not unlike orientalist characterizations of "Asian" cultures. Nevertheless, it is undoubtedly in our best interests to pursue viewpoints that challenge our western-centric understanding of nature as it is today.

Three Spiritual Relationship Types With Nature

In thinking about how we might reconnect with nature on a spiritual level, it has been useful to organize our

spiritual relationships with nature into three categories, the existential, the romantic, and the embodied.

Perhaps, until very recent history, the most potent of these spiritual relationships with nature was the existential. Death itself is of course the ultimate natural process and alone provides us with the impetus for survival. Even as societies develop better and better ways of sustaining life— perhaps even achieving comfort—the pressure of nature never fully lets up. To achieve survival we are faced with the impending threat of the everyday natural forces of the world: weather, starvation, predators, and so on. The most powerful of nature's threats, the natural disaster, was "seen as [a] departure from nature's essential harmony" only to be restored by ritual (Tuan 1979, 70). The power of ritual as a means of responding to and understanding nature comes from its role in bringing order to life. Indeed the power of the existential threat is fundamentally in its ability to bring disorder.

The second spiritual relationship with nature is the romantic. The idea of the romantic is essentially about idealization and beauty. The romantic has strong ties to the image, both in terms of representation as demonstrated by the romantic tradition of painting, and in terms of the formation of memory images such as those discussed by Peter Zumthor (Zumthor 1999). As mentioned above, the relationship between spirituality and nature can be incredibly direct insofar as natural landforms and places take on the role of the "cathedral" (Cronon 1996, 12). Interestingly, this becomes an example of the dominance of the western Christian wilderness in our increasingly non-religious world:

> Wilderness fulfills the old romantic project of secularizing Judeo-Christian values so as to make a new cathedral not in

some petty human building but in God's own creation, Nature itself. Many environmentalists who reject traditional notions of the Godhead and who regard themselves as agnostics or even atheists nonetheless express feelings tantamount to religious awe when in the presence of wilderness—a fact that testifies to the success of the romantic project. (Cronon 1996 16)

Knowing this, it is important for us to acknowledge that while notions of the romantic can be a source of spirituality for the non-religious, its applicability is not inherently universal.

The third form of spiritual relationship with nature is the embodied. Where the romantic view of nature is about the image, the embodied is about perception. Here is where we are concerned with ideas about the body's position in the landscape as a spatial phenomenon. This positioning affects how we see nature but it also affects how we feel nature. Movement allows for a proprioceptive reading of the landscape and an understanding of space not in terms of how it looks but how it feels. This understanding gives a dimension of effort and temporality to the observed landscape. As a spiritual idea, the embodied links us to time through movement, the sensing of the seasons, and the changing of the body over the years.

These three spiritual relationships are closely linked and overlap one another but nevertheless provide a useful framework for understanding and analyzing place. A given condition will tend to evoke one more than the others which provides us with a starting point for developing architecture that highlights the character of the place.

Dislocation

The matter of connecting one's identity to place is not trivial. In *The Globalization of Addiction*, Bruce K. Alexander suggests that a number of our "addictions" in society

(referring to addiction in a broad sense to include things such as obsessive wealth seeking or television watching) are a result of *dislocation*. Dislocation occurs when a people have lost a connection to place and their society. He describes it as a lack of "psychosocial integration," which is "experienced as a sense of identity [and] experienced as a sense of oneness with nature, because members of viable societies share and reinforce a conceptualization of their society's place in the natural world" (Alexander 2008). This is significant because, as he argues, cities like Edmonton are comprised almost entirely of dislocated people. This includes indigenous peoples, who have had their way of life destroyed, as well as settlers who have immigrated from other parts of the world. A weak sense of "oneness with nature" has implications for cultural ideas of sustainability and resource consumption. The question of what it means to live sustainably is fundamentally a question about the kind and quantity of things we produce in society. Drawing from the environment in an indiscriminate way has allowed us to produce massive quantities of things and now we need to question if these things are worth their environmental cost. A society that is disconnected from nature may not see this as a problem but by connecting with nature we might develop a stronger sensitivity for the natural world and in turn become more concerned with our effects on it. Our views on nature and environmentalism are thus fundamentally questions of identity.

Architectural Identity

Architectural identity is something that is developed over generations, traditionally coming out of convention, culture, and climate. The process of settlement, followed by

immigration and globalization means that 20th century cities have not yet had the time to develop distinct architectural identities. In Alberta we see can see homestead-era building culture imported from Eastern Canada (i.e. French and English) as well as a great deal of building types adapted to the location by Mennonites and Ukrainians (Ennals 1998). Looking forward, the architecture of Edmonton's future will need to reflect the diverse group of people who inhabit it. Developing an architectural identity is not about ego or nationalism but has the ability to take significant steps toward decolonization. John Patkau speaks eloquently on the significance of the subject saying, "to the extent that we have not defined our local condition we are cultural colonials of the more powerful places and cultures which have established the generalities we inhabit" (Patkau 1998). The established generalities he refers to being the 'franchised' manifestations of the late 20th century capitalism. The quick and dirty approach to building that Alberta has exemplified first in settlement and later in the oil boom era of the 70s has resulted in an architecture that is distinctly unrefined—most buildings are not just undistinguished but entirely lacking in their responsiveness to place.

Chapter 3: Edmonton

History and Ecology

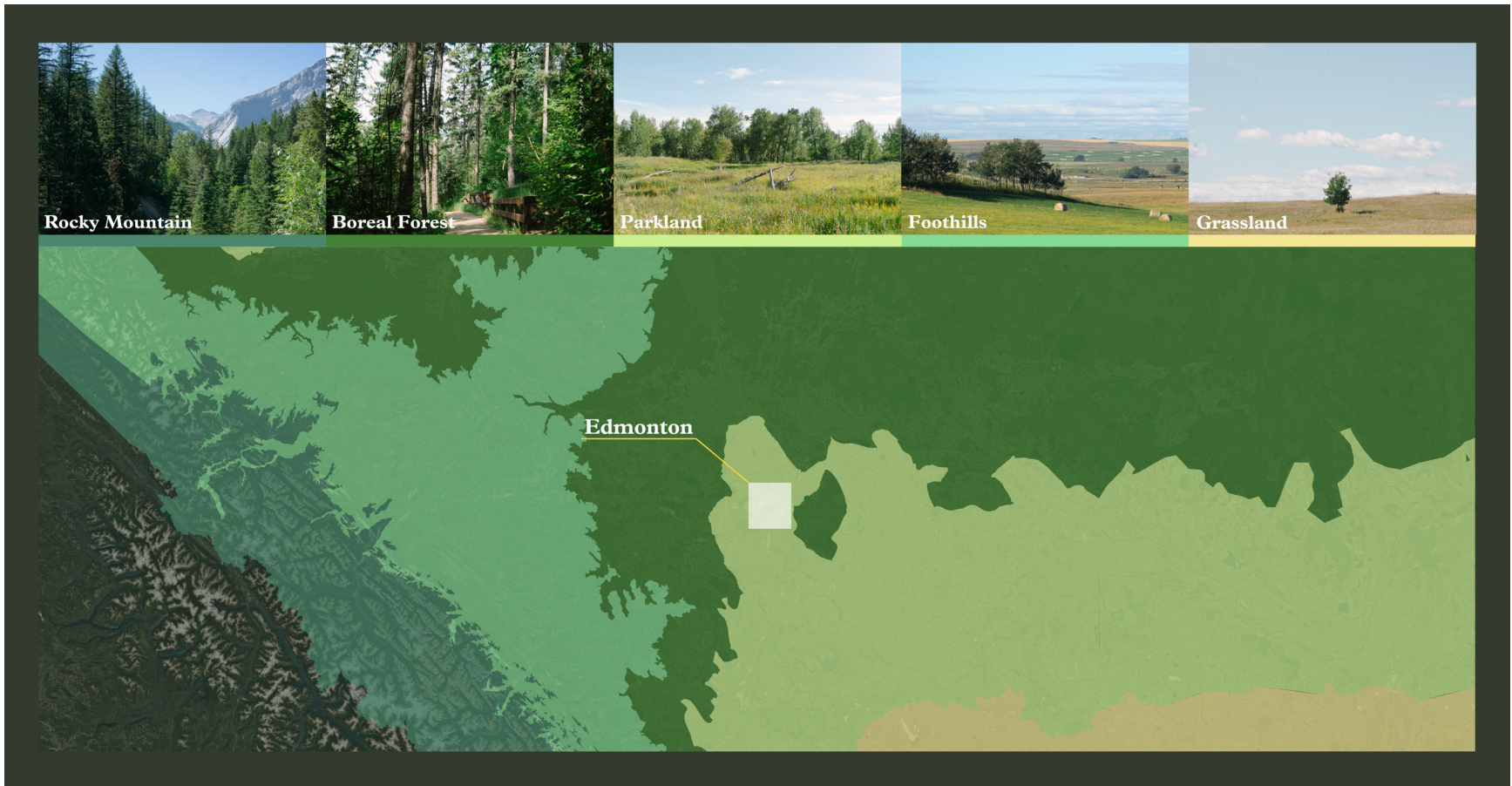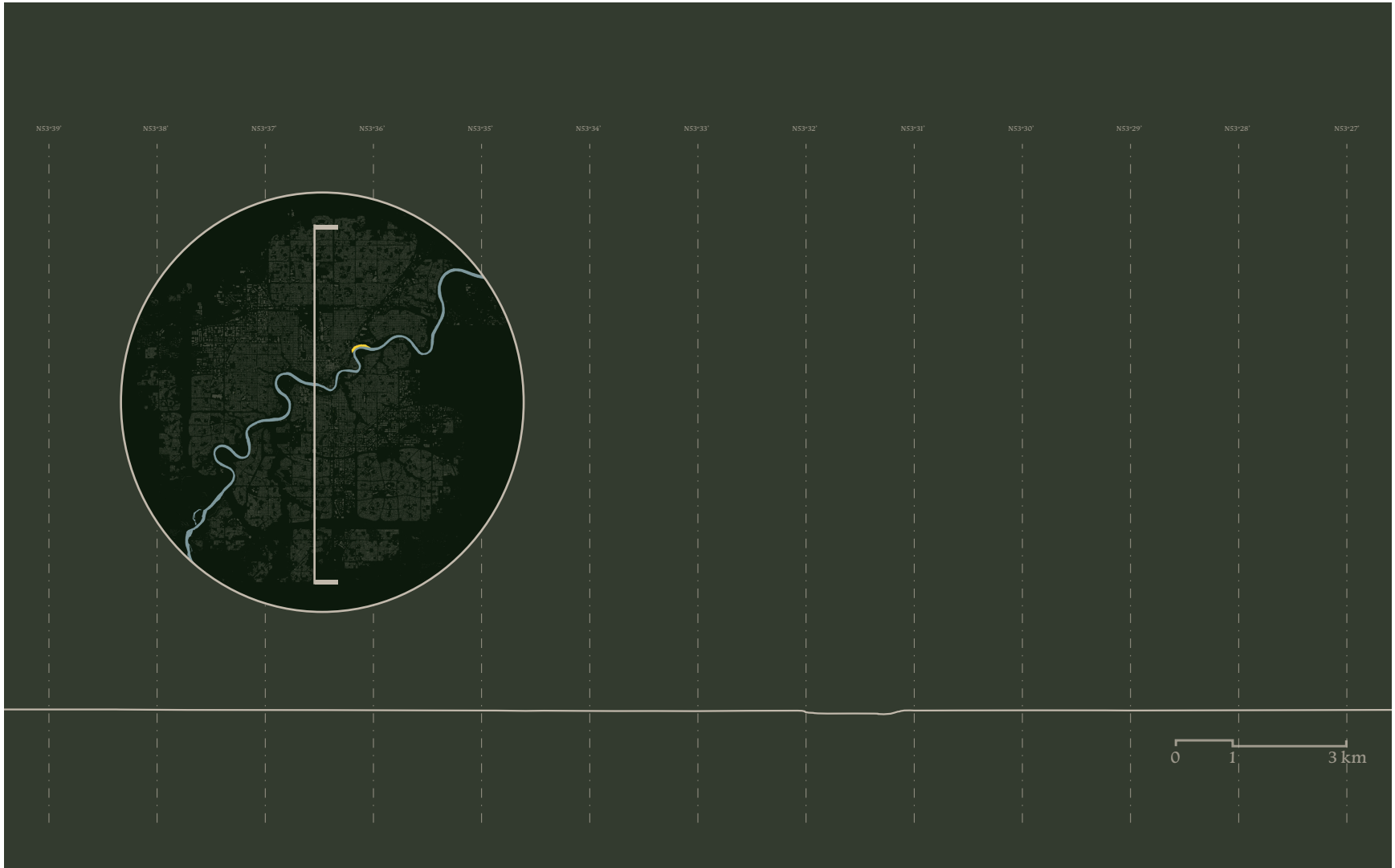Edmonton river valley with Fort Edmonton V in background (Kalman et al. 2004, 43)

Edmonton is located on the northwestern-most edge of the Great Plains in central Alberta. A key to understanding the identity of this city is in situating it topographically and ecologically. The defining landscape characteristic of Edmonton is the deep North Saskatchewan River Valley that runs through it. The impression of the river valley in the otherwise flat prairie landscape provides a contrasting spatial condition from which place can emerge—and consequently what is today Edmonton has been a gathering place for thousands of years. Ecologically, Edmonton sits in a transitional biome called the aspen parkland which mediates between the prairie fescue grasslands and the boreal and mixedwood forests of the north. This interplay between ecological zones is reflected in the interaction of different peoples as well.

Fort Edmonton (Kane c.1849)

Historically, the Edmonton region lay in an ethnic or cultural transitional zone between the Cree and Blackfoot (the Blackfoot proper, Blood, and Peigan) and their respective allies. It was also a transitional zone between the woodland cultures to the north and the plains tribes to the south, much in the same way that the aspen parkland ecotone is considered to be a transitional zone between the open grasslands and the forest. Drawing the analogy even further, these ecological zones tend to lack sharp, well-defined boundaries just as tribal territories are well known to have 'overlapped with those of neighbouring groups.' (Kalman et al. 2004, 38)

First Nations Camp at Rossdale. (Kalman et al. 2004, 75).

Rocky Mountain · Boreal Forest · Parkland · Foothills · Grassland

Edmonton

Eco-regions of Alberta

Section through Edmonton.

Aerial photograph of the North Saskatchewan River 2018.

Humans have been present in the Edmonton area for around 10,000 years, and "the valley's geological history further enhanced its attractiveness by providing flat, well-drained sites for camping and a ready supply of quartzite for making stone tools." (Kalman et al. 2004, 32) Archeological evidence suggests that the flats and the areas near the ravines tended to be popular sites for indigenous inhabitation. Indeed these conditions provided useful materials, food resources, and a degree of shelter not found on the open grasslands. As Kalman et al. note, the significance of the Edmonton region as a place of settlement stems from the nature of the river valley as the defining landscape feature of central Alberta rather than any kind of European decision making about site.

Because the parkland region contains both grasslands and forest, a number of sub-conditions appear depending on the moisture content of the soil. The driest areas are those which are essentially grassland, dominated by rough fescue and bunchgrass. Areas within the grassland that hold onto more water become the home of aspen groves which support a range of woodland plants. Wetlands are common


Photograph of an alpine-esque condition in Mill Creek Ravine, 2020.

throughout the province. Along the North Saskatchewan River and its ravines we find riparian zones which host a wide variety of plants and animals. Notably, within the river valley is the presence of white spruce which prefer north-facing banks. (Kalman et al. 2004, 32)

The parkland region only extends slightly into the United States and as such is somewhat unique to Canada's prairie provinces. The combination of rich soils and intermittent trees stands provided a highly suitable material condition for homesteading in the settlement era. (Kalman et al. 2004, 31) Prior to this, the grasslands were maintained for grazing by controlled burning of the adjacent forests carried out by the local indigenous groups.

River Valley Sub-Conditions

The depth of the North Saskatchewan River valley and the terraced nature of its formation give rise to a number of interesting spatial conditions. In this thesis we explore three river valley sub-conditions: the cliff edge at the top of the river bank; the flats, which are the lowest of the four river
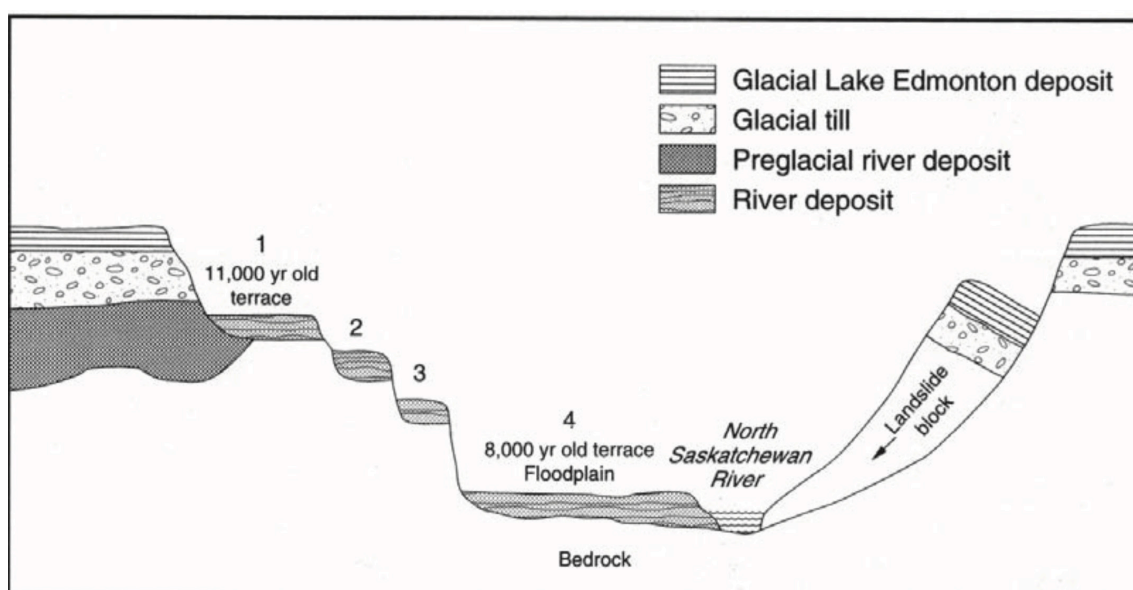
Stratigraphic section through the river valley. (Kalman et al. 2004, 26)
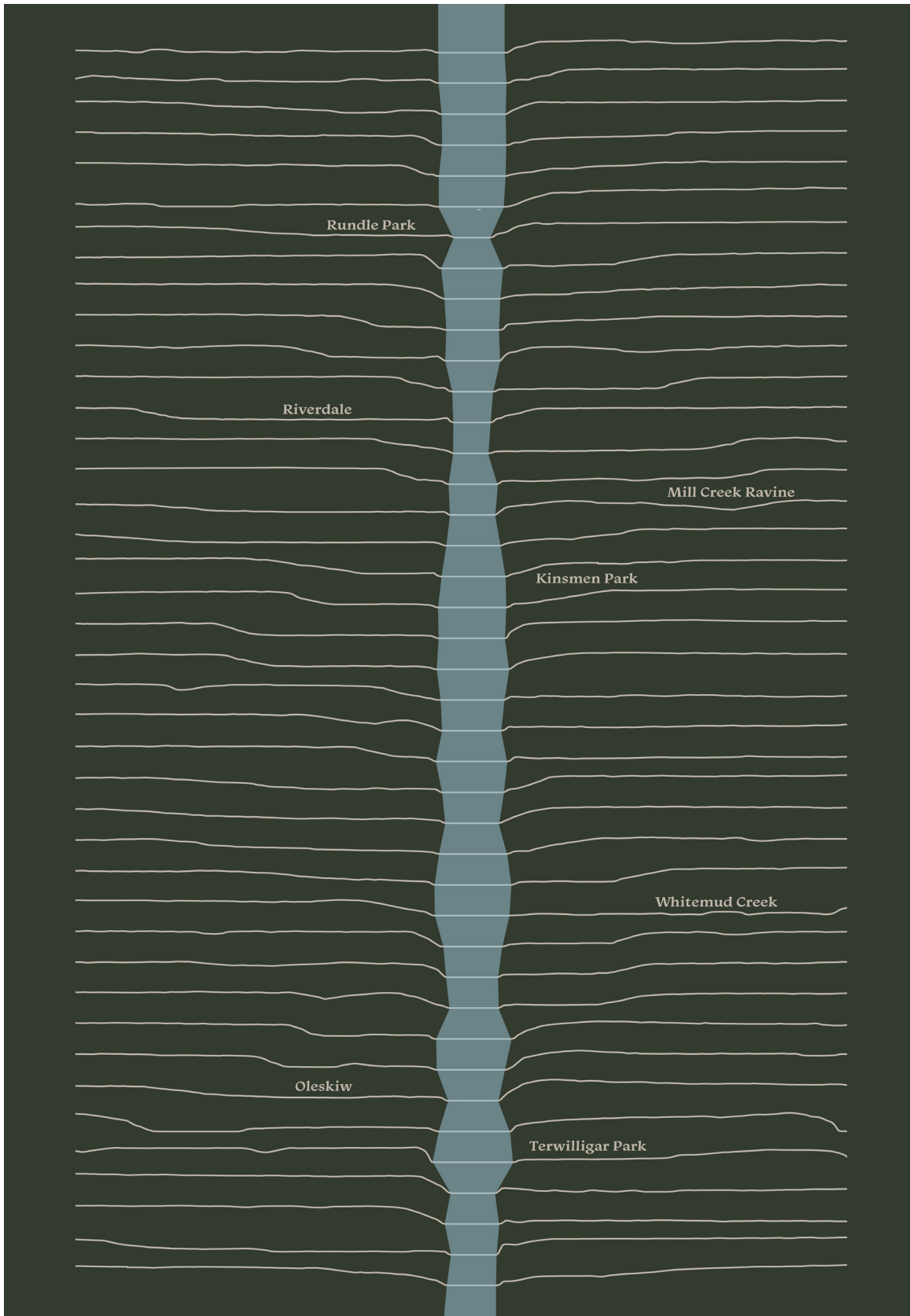
River valley profiles from southwest (bottom) to northeast (top).

View from Kinnaird Park, 2020.

Oleskiw Park, 2019.

Mill Creek Ravine, 2020.

valley terrace levels; and the ravines which run into the river valley. Each of these conditions gives the viewer a different relationship to the horizon: at the top of bank, the viewer is above the horizon; in the flats the viewer is below and surrounded by the horizon; and in the ravines, the viewer is in search of the horizon.

The banks of the river valley present a variety of conditions. Some banks slope from the top of the valley all the way to the river, a roughly 60 metre change in elevation. In other areas, the winding of the river over thousands of years has created a terraced riverbank. There are four terrace levels in total, the lowest of which is the floodplain that we are referring to as the flats. Some of these areas are developed while others are parks or essentially undeveloped. The Rossdale Flats have been a gathering place for indigenous groups for hundreds of years and were the location of the first Fort Edmonton (Kalman et al. 2004). The fort was later moved to higher ground but the Rossdale Flats continued to be used for river access. A major flood in 1915 had catastrophic effects on developments in the flats. Notably, what is today Hawrelak Park and Mayfair Golf Course was slated for development before the developer ran out of funds in 1913. The flood appears to have discouraged development in the flats and today most flats are parks or golf courses. The lack of development in the flats can be read as an urban response to the existential threat of flooding.

The river bank itself provides a wide range of conditions. The top of bank is notable because it provides expansive and romantic views of the city as it is organized around the river valley. The river bank can also be traversed up and

River Valley Conditions

Ravine — Cliff — River Valley Flats

Ravines in Edmonton
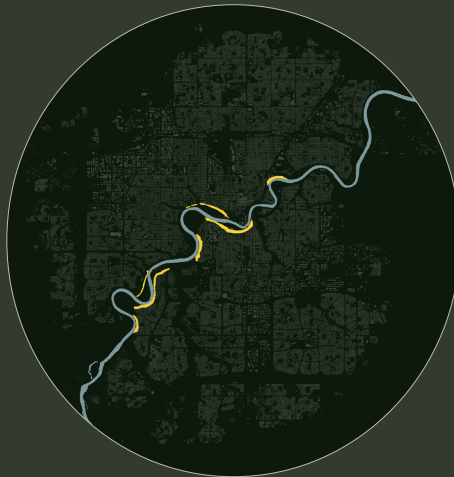
Significant **cliff edges** in Edmonton

River valley **flats** in Edmonton

Three river valley conditions of study.

Photograph of houses falling into river valley. (UBC Geograd 2008)

Mennonite semlin. (Habib Munmun 2009)

down either by paths or stairs while in some locations the bank is eroded.

There are a number of ravines in Edmonton. Many of these were previously used for coal mining or industry and a few have been developed into roads. Today, most are lightly managed park areas that have a sense of being somewhat natural despite their history. The ravines are interesting because they are a sort of microcosm of the larger river valley with a similar riparian ecosystem but with some key spatial and ecological differences due to their scale.

Architecture in Edmonton

When western settlers came to the area in the 19th century, they brought with them building traditions that required adaptation to the climate and availability of resources. With no indigenous precedent for permanent buildings, settlers relied on other westerners to adapt building technologies. The Mennonites, for example, had traditionally used brick but were forced to build using lumber. Depending on their proximity to other settlers, they either adopted dovetail/saddle-notching or pièce sur pièce techniques (Ennals 1998, 175). They successfully rendered their folk

Hotel Macdonald during the 1915 flood (Peel's Prairie Provinces 1915).

architecture into this new context. So too did Ukrainians from the Galician and Bukovnya areas. The vastness of the prairie meant that these early groups settled in relative isolation. Their buildings took on hybrid characteristics but the development of these styles ended somewhat abruptly around the 1920s with the proliferation of pattern book styles. (Ennals 1998 185). Thus the Canadian prairie never developed a cohesive architecture of its own. The effects of this can be seen today in monotonous suburban developments and poorly-conceived infills which often appear to be produced due to necessity, in a quick and dirty fashion not unlike the sod-house. However, while the sod-house draws—quite literally—from its landscape, much of Canadian contemporary architecture is rather placeless and so the question is raised: what is a northern, Canadian architecture of the prairie?

> "So much post-war Prairie architecture is—to put it politely—undistinguished" (Whiteson [Hemingway] 1983, 68)

Edmonton is not exactly known for its great works of architecture. Early settlers were focused on just living, and the oil boom that began in the 1950s led to a massive amount of building done by inexperienced architects. As a result, the city today does not have a strongly defined architectural identity. However looking for precedent here is not entirely futile.

Yoyogi National Stadium by Kenzo Tange. (Barras 2008)

One project relevant to this thesis is the Peter Hemingway Pool (formerly known as Coronation Pool). The roof of the pool is a steel tensile structure referencing Kenzo Tange that supports a timber substructure. The curve of the roof over the pool and the mounded up earth around the sides of the building give it an image not unlike a tent. In a way it follows

Peter Hemingway Pool. (WinterE229 2008)

Frank Lloyd Wright's view of organic architecture suggesting that it is not necessarily about making the building look like part of the landscape but seeming as though it has grown out of it. Indeed the Hemingway Pool is visually striking but it is not about this image. Its beauty comes from the way it rises out of the landscape, mountainous in form yet light and transparent. Peter Hemingway wrote that the hostility and monotony of the prairie demanded potent architectural forms, something that he clearly put into practice with the Coronation Pool as well as the Muttart Conservatory.

The matter of expressing the character and diversity of this place, with respect to both culture and environment, is a prescient task that must be taken on by the field of architecture. Migration in recent years has shifted the demographics of Edmonton. In 2006, 72% of the population was of European descent and by 2016 that number had

decreased to 57% with large increases in the populations of South Asian, Black, Filipino, and Arab groups. (Statistics Canada 2006, 2019) Alberta as a whole is projected to shift from being 70% of European descent in 2016 to 57% in 2036. (Statistics Canada 2017) An architecture of the place must support the evolving Canadian identity.
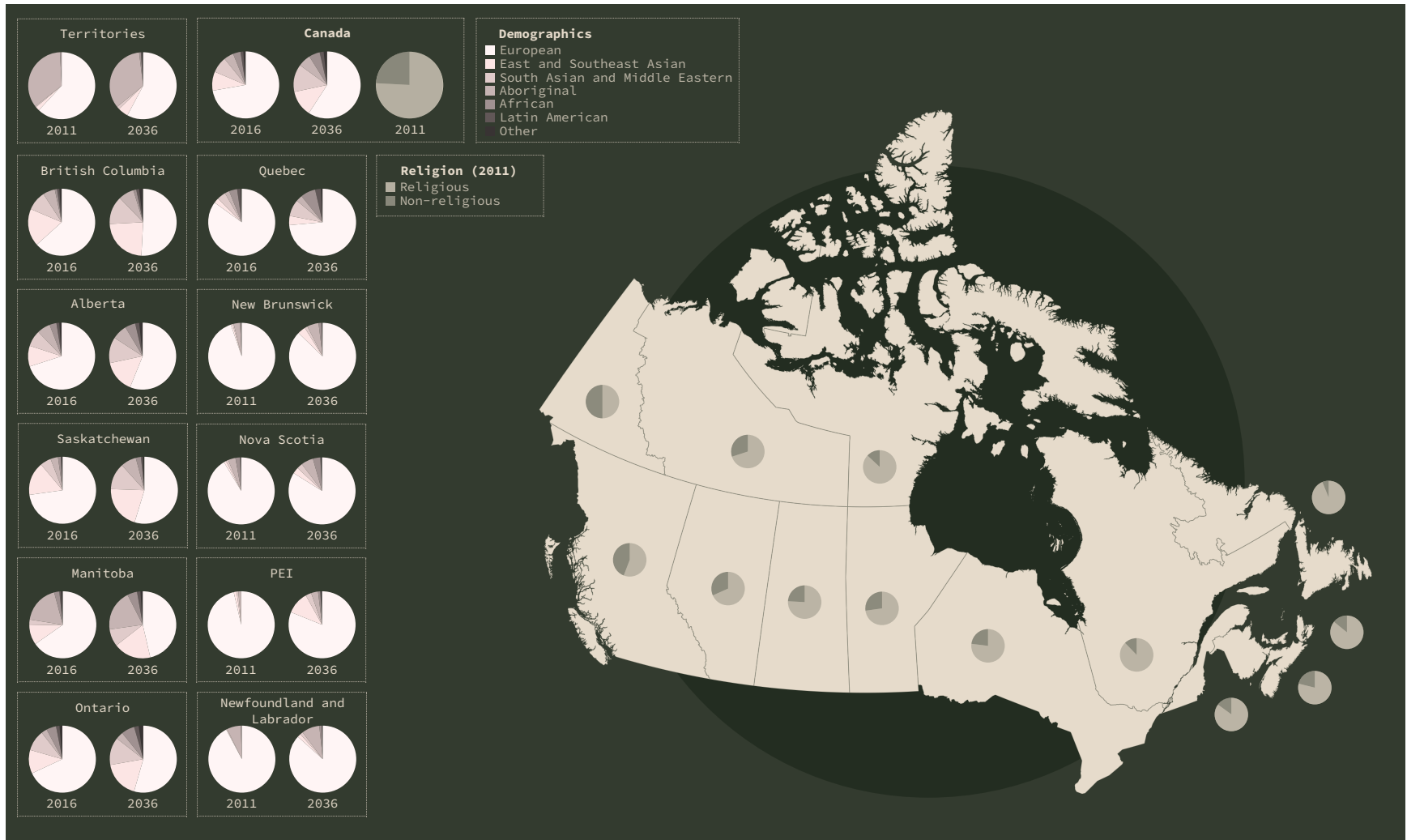
Ethnicity and religion in Canada.

Chapter 4: Methodology

Genius Loci

This first step in creating an architecture that is of the place is to understand the place as it is today. What is place? According to Saskia De Wit, the contemporary discourse on place "tends to refer to personal knowledge and sensitivities, past experiences—in other words, to relational concepts on the personal history of the individual with the place" (De Wit 2014, 603). This way of thinking about place is aligned with the idea of the *genius loci* or the spirit of the place. Genius loci was brought into architectural discourse by Christian Norberg-Schulz through his book, *Genius Loci: Towards a Phenomenology of Architecture*. Channeling philosopher Martin Heidegger, Norberg-Schulz constructs a genius loci that is "a core concept for the human well-

Collage of view from Kinnaird Park using a spatial/perceptual approach to analysis.

Collage using an elemental approach to discover the genius loci of Mill Creek Ravine.
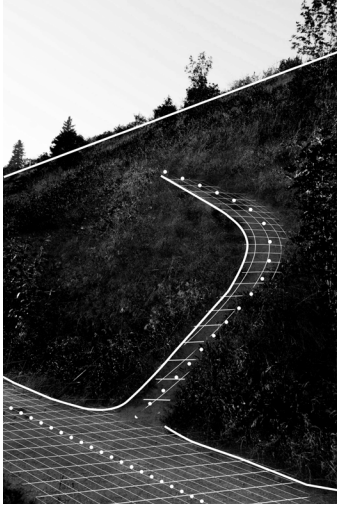
Photo overlay following De Wit's method of isolating environmental elements that shape spatial perception.

being, related to the human need to both orient oneself in space and to identify with the surroundings" (De Wit 2018). The genius loci is drawn from place and it is place. Our spiritual interaction with a place is rooted in a connection or an understanding of the place's genius loci.

De Wit takes the position that the highly subjective interpretation of genius loci does not quite set us up with a useful way of analyzing place. The subjective genius loci, what she describes as "sense of place" is about personal history and place as "collections of stories" (De Wit 2018, 45). To be a useful tool for architects, a genius loci that is the "personality of the location" draws from the inherent qualities of the physical landscape which can be analyzed. It is from this notion of genius loci that we construct our own analysis in this thesis. Extracting the character of the place is not a simple task but in her papers, "Metropolitan Gardens – Gardens in the Interstices of the Metropolitan Tissue" and "Sensory Landscape Experience: Stepping
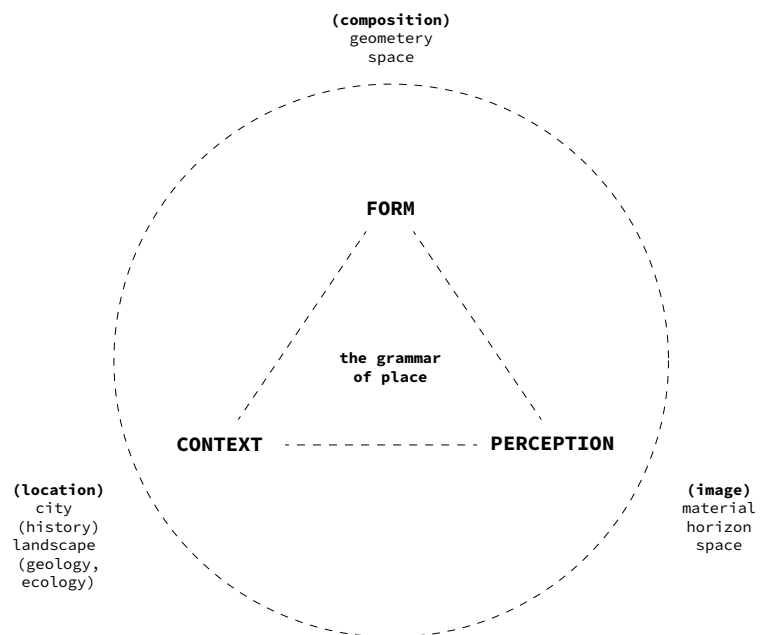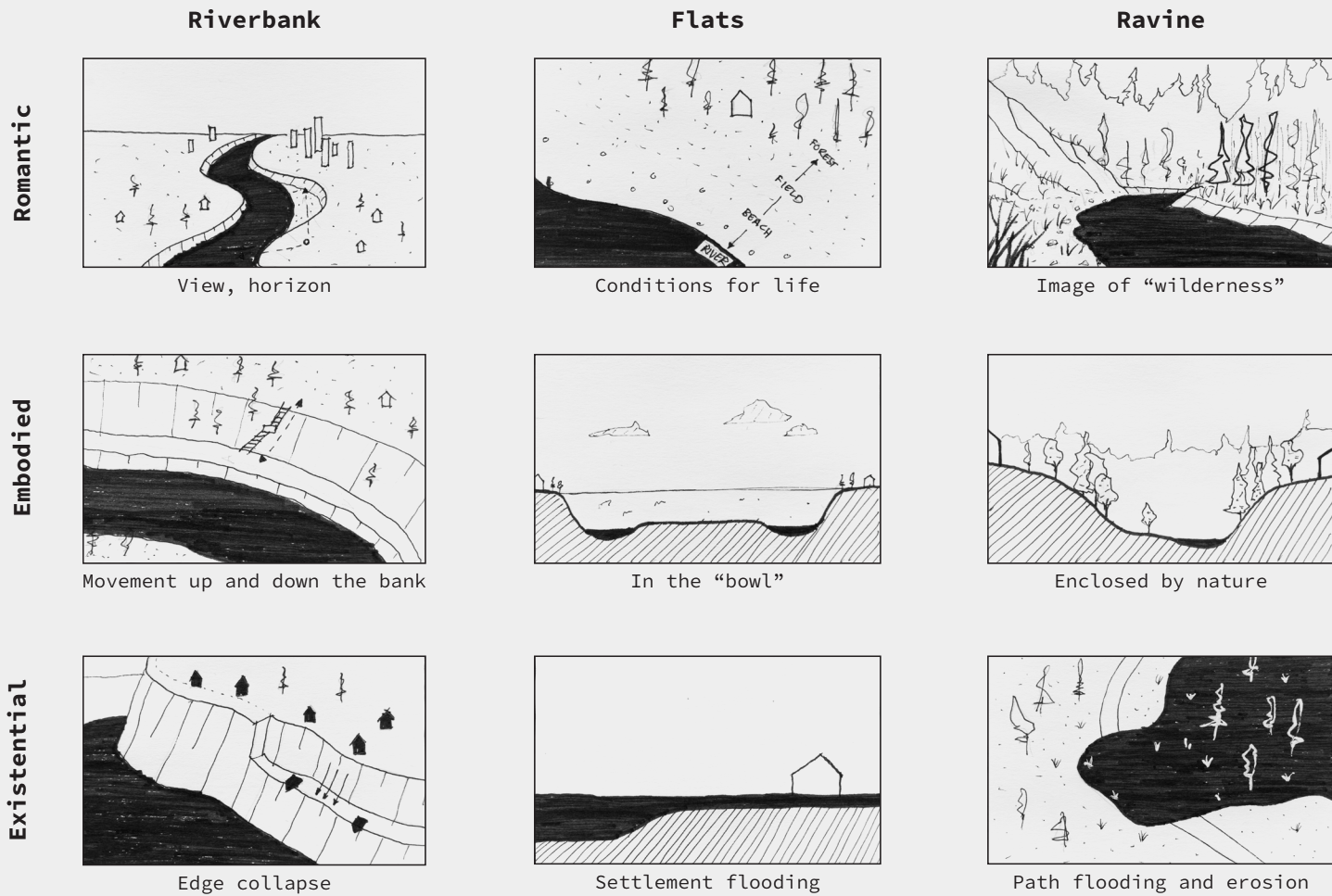

De Wit's genius loci.

outside the Visual Landscape of the Motorway in the Garden of Birds" De Wit puts her method into practice, providing us with precedent for this way of working.

Phenomenology

The power of genius loci is in how it allows us to connect the place to our own spirits and bodies. By learning about or experiencing a place's fundamental character we create a link between it and ourselves, a link that is by and large missing from the mass-produced architecture of products that we see today. Phenomenology is an idea about perception, the senses, and the spirit. Phenomenological design is about activating the spirit and the body by evoking the genius loci through architecture. This goes far beyond what might be considered to be architecture's fundamental role in providing shelter and attempts to key into something sensuous and subtle.

Yi-Fu Tuan remarks on the human experience asking, "what is the survival value of sensitivity to the chemical oils wafted by flowers? No clear biological purpose is served by this sensitivity. It would seem that our nose, no less than our eyes, seeks to enlarge and comprehend the world" (Tuan 1979, 11). Tuan is revealing something that we all understand deeply but perhaps only subconsciously: that the beauty and emotion of the human experience cannot be understood in terms of what is useful. In a world that is obsessed with productivity—a world that has become increasingly digital—we are at risk of moving ever further from that beauty. Juhani Pallasmaa writes: "beyond architecture, our culture at large seems to drift towards a distancing, a kind of chilling, de-sensualization and de-eroticization of the human relation to reality" (Holl, Pallasmaa, and Pérez

	Riverbank	Flats	Ravine
Romantic	View, horizon	Conditions for life	Image of "wilderness"
Embodied	Movement up and down the bank	In the "bowl"	Enclosed by nature
Existential	Edge collapse	Settlement flooding	Path flooding and erosion

Diagramming the site conditions against the three types of spiritual relationships with nature
as a way of connecting the physical and non-physical.

Gómez 2006, 29). Thus in the task of connecting people with nature and place, a phenomenological approach to architecture is not useful, it is essential.

Environmental Tectonics and Detailing

> It is as much about place-making and the passage of time as it is about space and form. Light, water, wind, and weathering, these are the agents by which it is consummated. Inasmuch as its continuity transcends mortality, building provides the basis for life and culture. In this sense, it is neither high art nor high technology. To the extent that it defies time, it is anachronistic by definition. (Frampton and Cava 1995, 27)

In *Studies in Tectonic Culture*, Kenneth Frampton introduces the idea of tectonics defining it as the poetry of construction. This notion is not simply about construction and structure but about the intangible quality that a structure has, conveys, or evokes. Tectonics is the intersection of technology and aesthetics, where human ingenuity meets human sensitivity—the humanity that gives architecture its real power. In their paper "Tectonic perspectives for urban ambiance? Towards a tectonic approach to urban design" Christiansen an co-authors state that "tectonics captures the sensuous and emotional experience registered within the observer from his or her surroundings" (Christiansen, Laursen, and Hvejsel 2017, 16). Thus we may think of architecture as a conduit through which place is experienced and its expression, or tectonics, being the element that makes it a powerful conduit or a weak one.

It is from here we can begin to understand how architecture can situate us spiritually in the natural world. Architectural tectonics are the mechanism through which nature and humanity come together. This aligns closely with the idea of organic architecture as practiced by Frank Lloyd Wright whereby the parts of the building are related to one another

as are the parts of a plant—the architecture "conceived not as the building alone but in terms of its relationships to its surroundings" (Mostafavi and Leatherbarrow 1993, 107). This conception of architecture is inherently more sensitive to nature thus embodying the idea of reciprocity that Kimmerer suggests is key to becoming indigenous to place.

> Never is one's past not present, nor is the individual's past ever cut off from the tradition of one's culture and the time of the natural world. […] Events in the past—at least our feelings, thoughts, tastes, and so on about them—"mark" the memory […] What remains from the past is a trace or impression of an event, not the thing itself as it existed when present. Likewise, mnemic experience in architecture is not of the present but of the past. (Mostafavi and Leatherbarrow 1993, 112)

David Leatherbarrow and Mohsen Mostafavi's *On Weathering* discusses the notion that a building has a temporal structure not unlike that of a human. In order for an architecture to root an individual and a culture in place it must consider temporality—an issue that can be addressed through tectonic expression. The materials and construction of a building are factors in its longevity. We have faced modernism's ageless materials for some time now and there seems to be a movement back to materials that have the ability to show their age—texture and patina are expressions that we can understand in human terms and over time. As stated above, the detail is a mechanism through which nature and humanity come together and provide fertile ground for memory.

The material approach to design in this thesis will lean heavily toward natural materials. The obvious reason for this is that the sensuous nature of materials such as wood and stone is similar in their raw form and in their form as

building materials. This is in no way an uncommon approach in architecture. The natural aging of these materials is consistently celebrated for its way of showing the traces of time. However in the discussion of how these materials show the traces of human activity over time, there tends to be a line drawn between what might be considered wear and tear and that which may be considered vandalism.

The position of this thesis is that mark making—including but not limited to drawing, painting, carving, and other modification—is a basic human activity that should not be necessarily be discouraged in the name of keeping a public object such as a building in a particular state. The designation of a building's correct or ideal state as the moment when construction is completed is inherently problematic from both an environmental and social

Traces of human activity include modifying the environment, installing art, and mark making.

perspective. Such a position suggests that a building is "best" when it is new and from that time forward depreciates. This way of thinking overvalues newness which can lead to the hasty destruction of anything not seen as pristine. This is not a hypothetical problem in a city like Edmonton that has destroyed many of its historic buildings. Socially, it is important to recognize that most buildings have little cultural value the moment they are constructed but develop value over time as users engage with them. Mark making can be a part of this engagement and the traces of activity and use should be celebrated.

Strategy

The thesis is broken into six interventions on three sites throughout the city. Each site corresponds to one of the river valley condition types: the ravine, the cliff edge, and the river valley flat.

Each intervention is intended to respond to and highlight the character of the condition in which it is situated. The nature of the responses uses one or more of the following techniques. One technique is to respond to place by representing it. This typically involves the abstraction of something from the environment as a way of generating an architectural move or element. This approach is image dependent. The second technique is to use an architectural element as a way of measuring something in nature. This approach is process dependent. The third technique is to use architecture to affect perception. This approach is phenomenological.
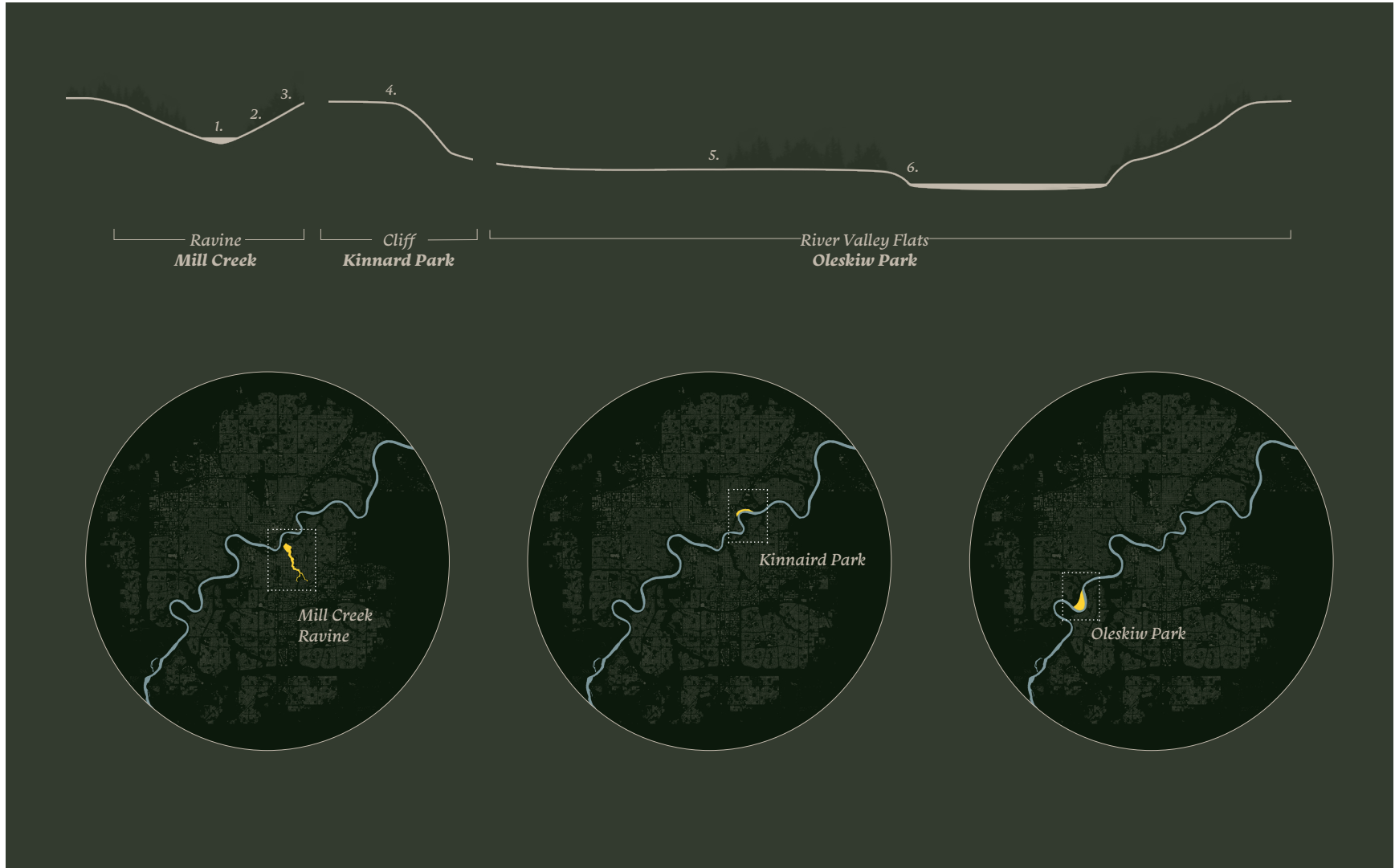
By using one or more of these techniques, the interventions defamiliarize, reframe, or reference the condition in such a way that the aesthetic experience is enhanced. This allows

architecture to play a role in supporting the user's discovery and understanding of the environment.

The matrix on the following page outlines the six design interventions. The architectural response is generated by the genius loci (distilled into a single word), a key perceptual descriptor, and a characteristic plant and animal.

	1. Bridge	2. Pond Pavilion	3. Birdwatch	4. Horizon Pavilion	5. Gathering Hall	6. River Stones
Genius Loci	movement	stillness	floating	erosion	transition	flow
Perception	contrast	hiding/revealing	vertical layering	prospect	datum	movement
Flora	lodgepole pine	bulrush	trembling aspen	rough fescue	rye	white spruce
Fauna	beaver	white-tailed deer	nightjar	merlin	wood bison	mountain whitefish
Scale	👤	👤	👤	👤👤	👤👤👤👤	👤👤👤👤
Architectural Response	dynamic	delicate/filtering	tectonic	temporal	passage	permanence

Matrix of interventions.

Ravine
Mill Creek

Cliff
Kinnard Park

River Valley Flats
Oleskiw Park

*Mill Creek
Ravine*

Kinnaird Park

Oleskiw Park

Site and intervention locations in the city.

Chapter 5: Design

Site 1: Mill Creek Ravine

Mill Creek Ravine is a naturalized area surrounded by a number of post-war era neighbourhoods. Historically the ravine hosted coal mining, shanty towns, and a meat packing plant. Today its primary use is for recreation including dog walking, cycling, running and so on. Pathways and bridges in the ravine are maintained but are subject to flooding when the creek water level is high.

sky peeks through but no horizon

water creates a moment open to the sky, relief from the enclosure of the forest.

overhead foliage creates 'tunnel' condition

strong sense of enclosure deep in the ravine

paths are mounded dirt

Mill Creek Ravine's characteristic enclosure is inverted where the creek cuts through the forest. The adjecency of these condition creates contrasting lighting and spatial conditions.
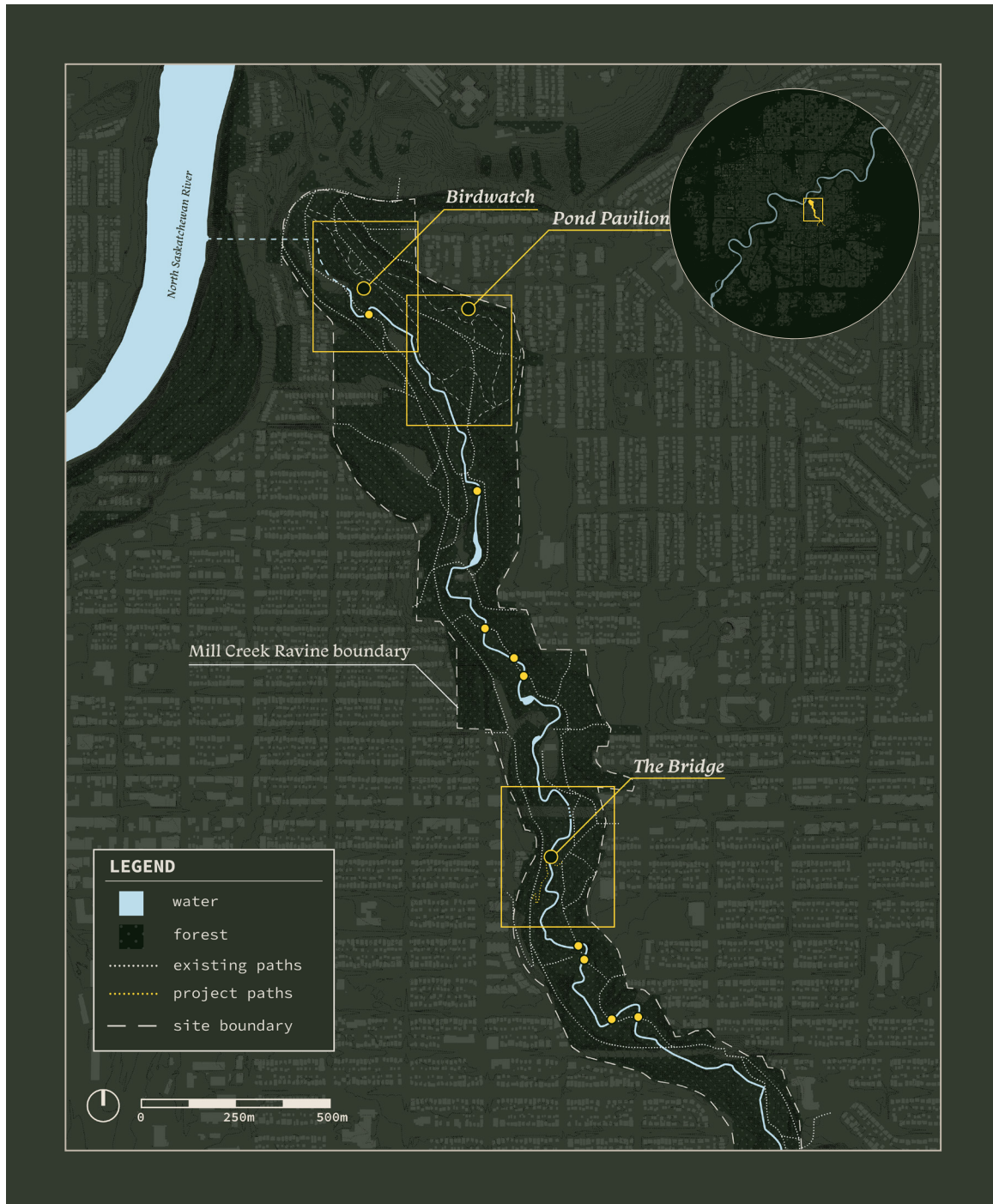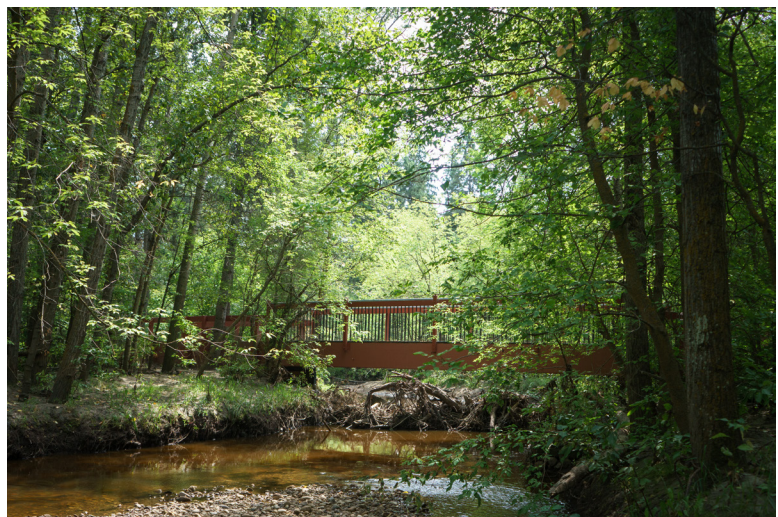
Mill Creek site map with intervention locations.

Though there are numerous paths that wind through the ravine, it is large enough that there are many moments and natural elements that can be easily overlooked. This thesis uses this as an opportunity to explore three different ways of designing interventions that allow people to connect with nature. The Bridge references or represents the image of nature, the Pond Pavilion reveals a hidden natural element, and the Birdwatch positions the body in what is usually an uninhabitable negative space in the forest. Each of these approaches has a symbiotic relationship with the program of each intervention and each approach can be thought of as a template to be applied to future projects.

The Bridge

Footbridges are common throughout the ravine. The existing bridges are functional and unassuming. The approach of this thesis is that all interventions should serve to connect people with nature by helping them experience a new perspective, highlighting an environmental element or process, or connecting an activity or ritual to a natural environment. The bridge has an obvious function—to

The standard type of footbridge found throughout Mill Creek Ravine.

The Bridge

LEGEND
water
forest
existing paths
new paths
single track
site boundary

0   25m   50m   75m
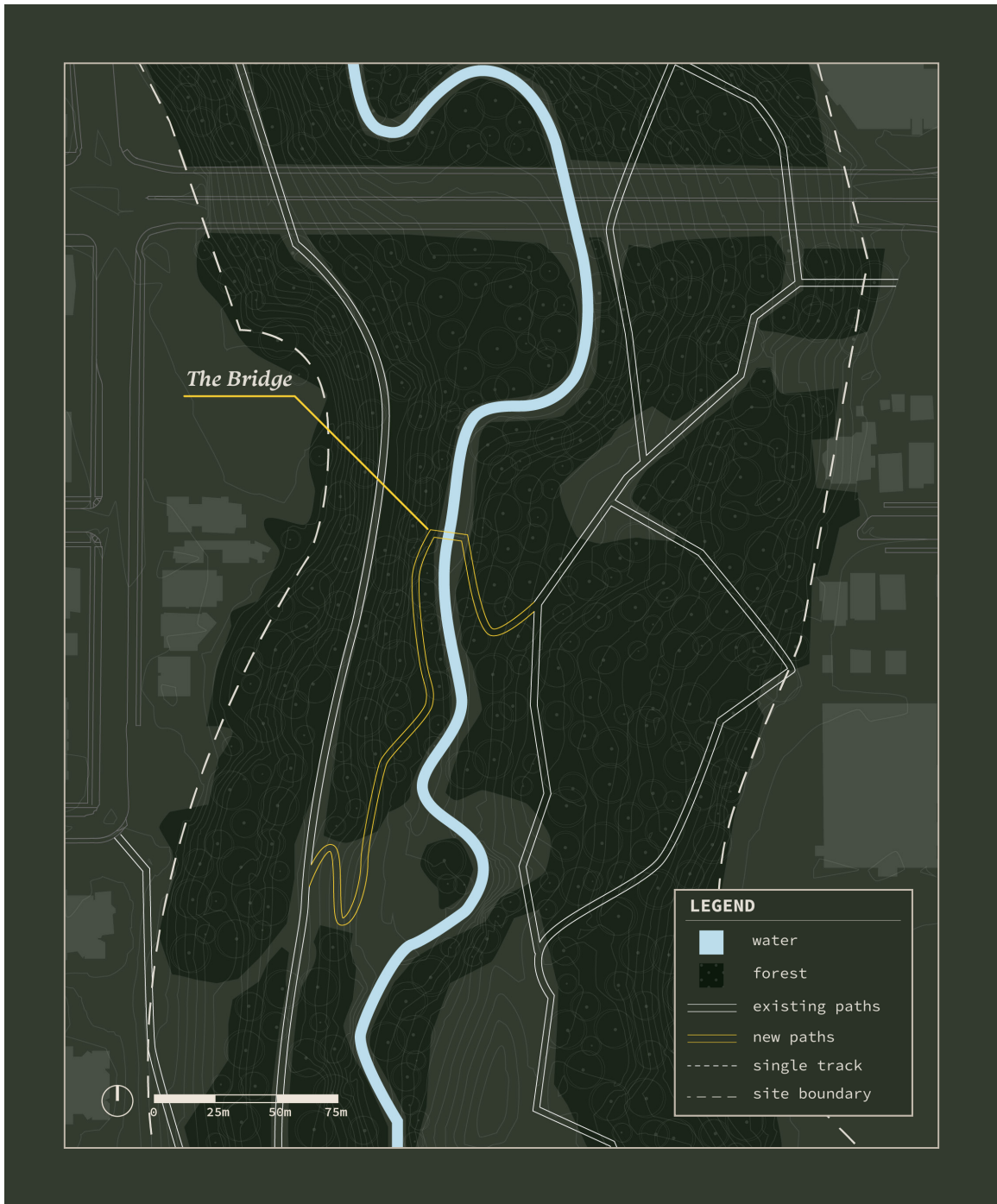
Site plan for The Bridge.

cross a body of water. Because there are many bridges in the ravine, the perspective offered by a new bridge is not particularly novel. Thus the Bridge is a project with a simple and subtle mandate to highlight the character of ravine and does so through a representational approach.

The distillation of the site's character—the genius loci—is movement. The flowing creek, and the sound of the aspen leaves rustling in even the slightest breeze, and the trees cantilevering out over the water as if frozen in free-fall all contribute to the idea of movement. The programmatic character of a bridge moving people is an obvious compliment.

The initial gesture of the Bridge was generated from the context.
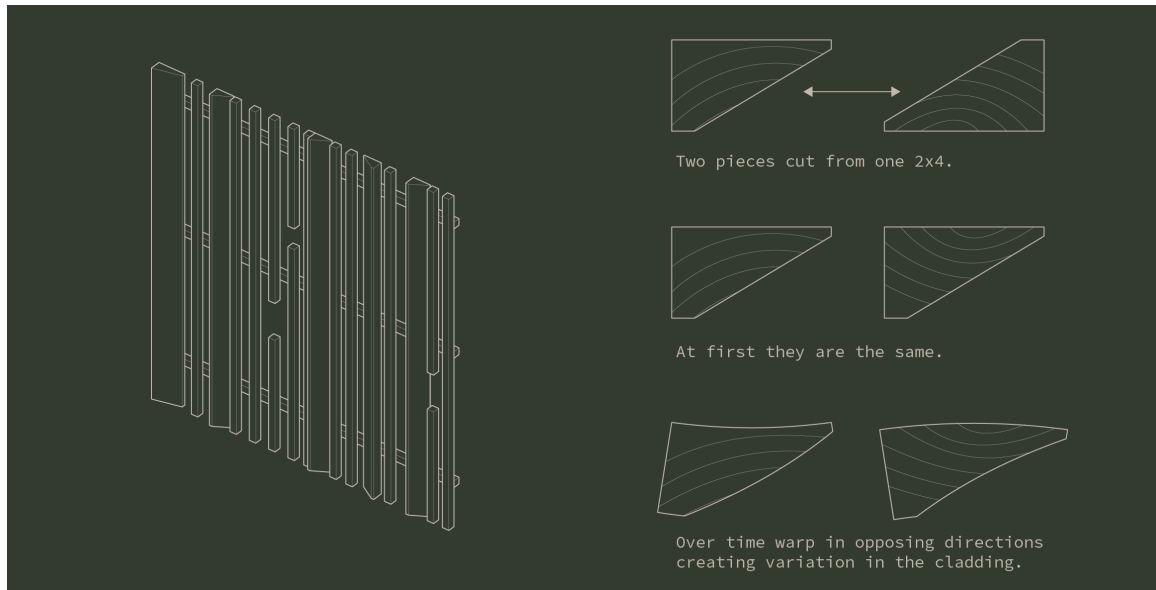
Bridge cladding module that changes with weathering.

The Bridge is inspired by the deadfall that is commonly found throughout the ravine. Because the ravine is only lightly maintained, unproblematic deadfall is simply left alone and these groups of sticks, branches, logs, and entire trees are a character in the ravine.

The gesture of the Bridge's primary structural elements evokes two trees leaning against one another. This is a symbolic or image-based representation of the condition. The cladding is designed to reference the messiness of the deadfall and the irregularity of light passing through the forest foliage. This is a visual metaphor. The Bridge's deck is supported by steel cables allowing it to flex under load, a reference to the embodied sensation of the archetypal experience of using a fallen log to cross a river. This is an embodied metaphor. Together, these elements make up a bridge that tells a story about the movement that is characteristic to this location.

The Bridge plan and section.

The Bridge as seen on approach, crossing, and from across the creek.
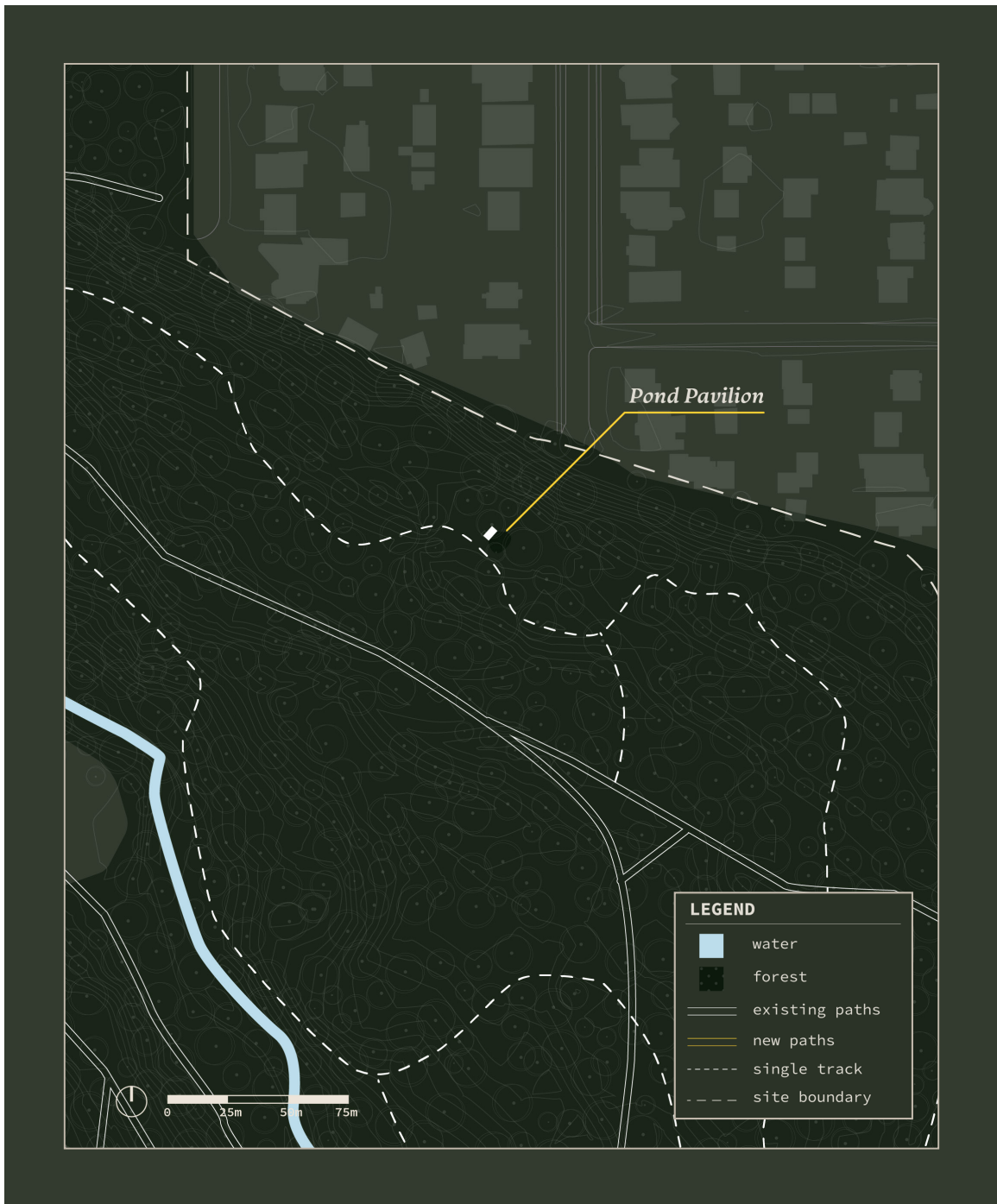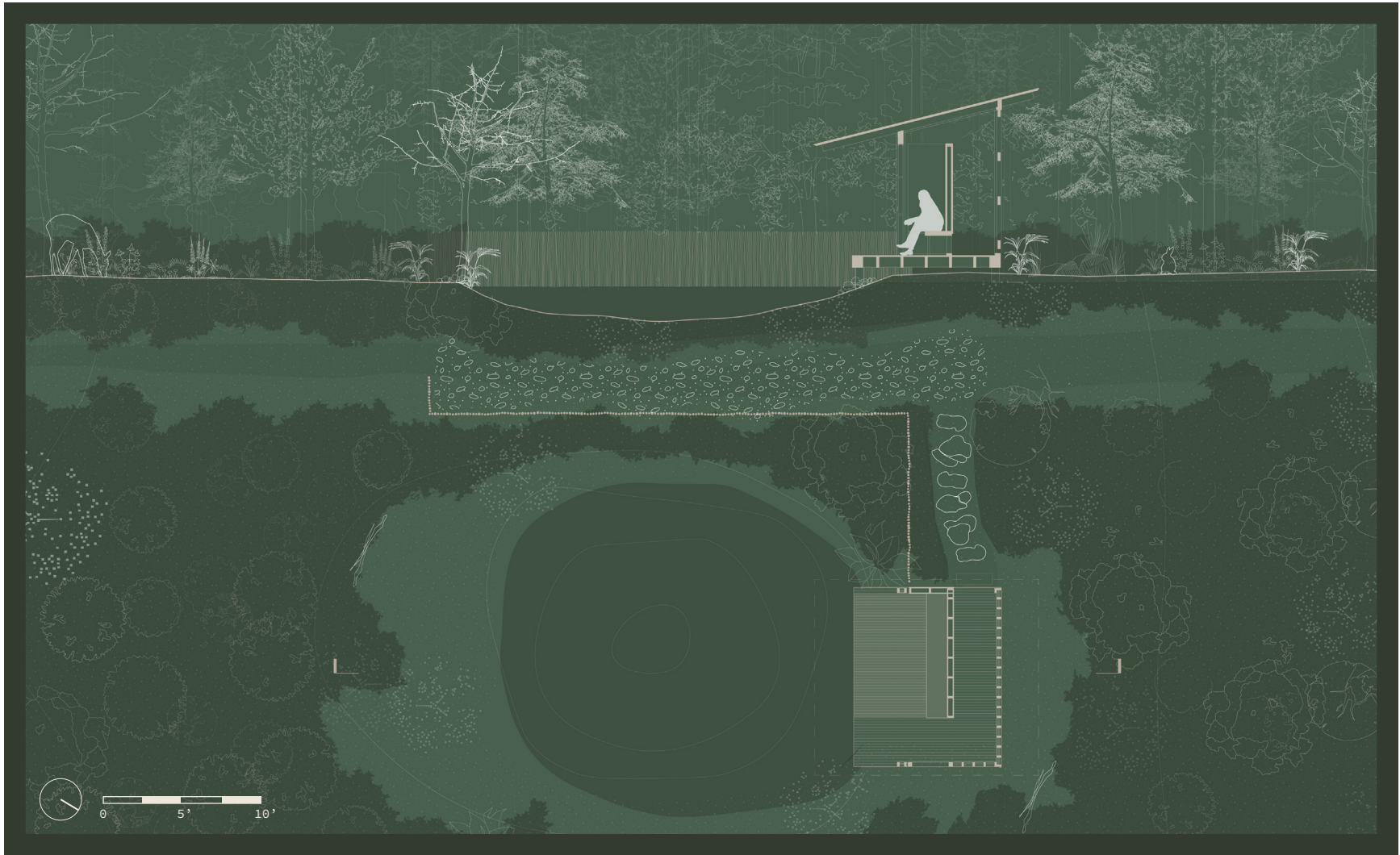
The Pond Pavilion site plan.

Pond Pavilion

The Pond Pavilion is a project whose primary purpose is support the discovery of the otherwise overlooked ponds that can be found throughout the ravine. These small ponds are typically surrounded by thick brush making them quite hidden even when they are adjacent to paths. In the spirit of helping people discover the natural world around them, the pond pavilion is intended to develop a moment of curiosity and reward exploration with the "discovery" of the pond.

The dense forest and seclusion of the pond stands in contrast to the movement of the creek. The genius loci of this site is stillness. The pavilion draws on the idea of stillness programmatically, creating a moment of pause adjacent to the movement of the path.

The intervention begins with a knee-height screen along the path next to the pond. The path surface changes from

The pond is next to an informal, but built up path.

Early sketch of the pavilion using collage and digital painting taking from the colours and textures of the site.

Pond Pavilion plan and section. Dense foliage and brush keeps the pond and the pavilion hidden from the adjacent path. The change in path texture and appearance of a screen encourage people to investigate the area.

Entering the Pond Pavilion.

an informal, single-track dirt path, to gravel for the length of the screen. These elements provide a hint of the existence of the pavilion and encourage exploration.

Turning off the path and passing through the thick brush, the ground changes a second time to stone blocks which lead up to the pavilion. The building catches the visitor in a tight entry and with another turn the pavilion opens up and the pond is revealed. The journey between the path and the water is short but the restriction of views, the act of turning, and the shifting sense of enclosure make the user feel as though they are moving from one world to another.
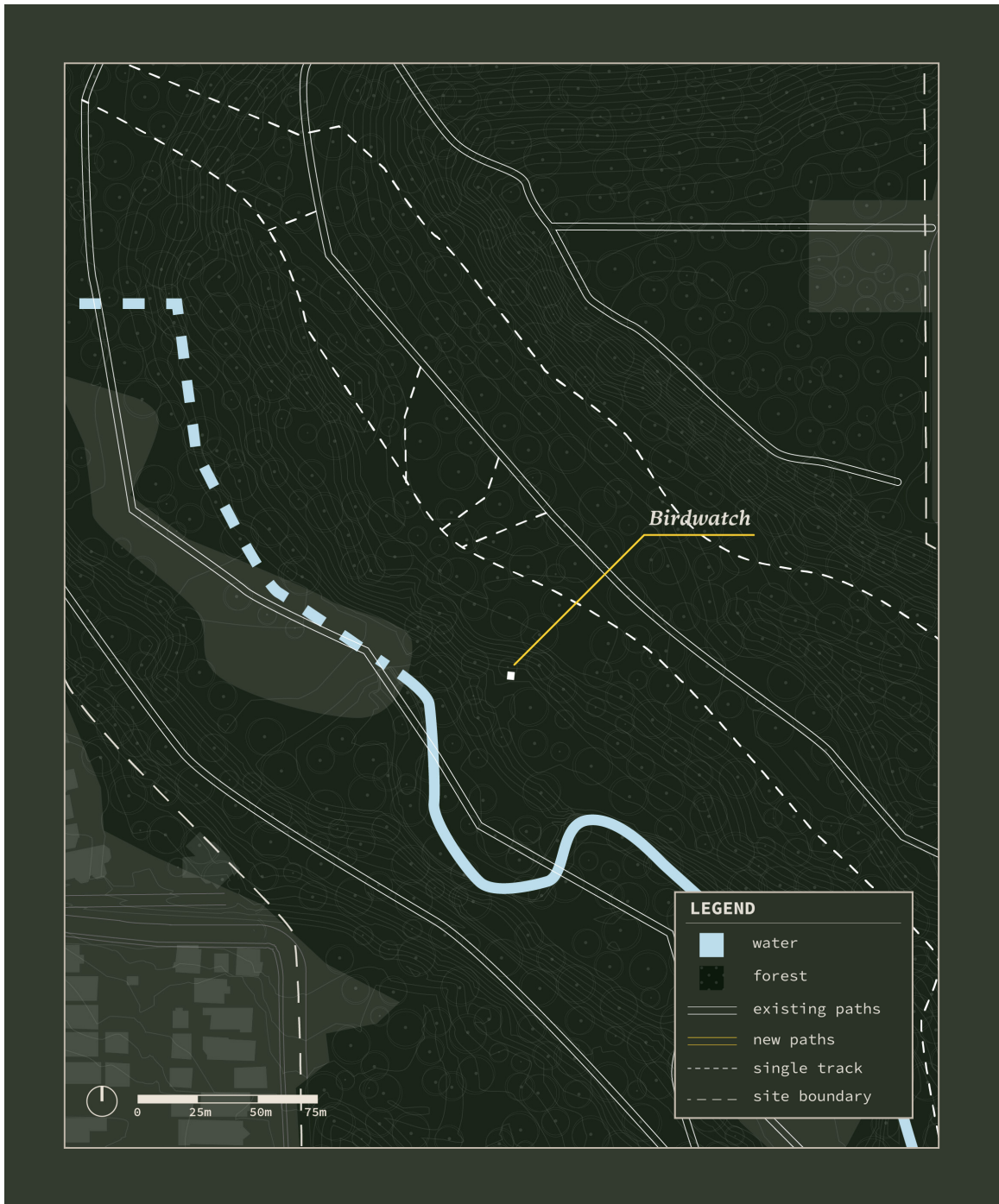
The roof of the pavilion slopes down toward the pond, orienting the view toward the water and giving the pavilion a gesture of humility. The roof cantilevers, opening up the corners of the pavilion and creating a moment with the pond

Sitting at the pond. The open corners of the pavilion bring the environment in creating an immersive moment with the pond.

and its environment that is immersive rather than pictorial. The wall along the entry of the pond is designed to create a pattern of dark and light that is found repeatedly through the aspen forest. This wall admits light and also provides shear resistance. The structure is made of lumber that can be carried to site by hand and the foundation of the pavilion is stone.

The seating component of the pond pavilion is wrapped in plywood. The plywood plays a role in restricting views during the entry sequence but also provides a surface onto which users may carve, write, or draw. This is a process that is not always welcomed and may even be seen as vandalism but as discussed above, the position of this thesis is to welcome and even encourage this kind of activity.

Birdwatch

LEGEND
- water
- forest
- existing paths
- new paths
- single track
- site boundary

0   25m   50m   75m

Site plan for the Birdwatch.

Birdwatch

The Birdwatch is about putting the body in a physical space where humans don't usually go. From this we find a new perspective and learn something new about our neighbours.

This intervention is located near the top of the ravine where the tree canopy opens up to the sky. The steep ravine edge drops off quickly placing the human at the same level as the forest understory, the zone between the canopy and the forest floor. This zone can thought of as a kind of negative space in the forest—there is little foliage here and so the space is defined by the foliage above and below.

Forest understory.

The Birdwatch allows human visitors to inhabit a part of the forest that is typically only seen from a distance. By inhabiting this space we gain a new perspective.

The Birdwatch is accessed by a bridge that enables the user to walk directly out into the air from grade. The bridge first takes the visitor out toward the view before turning toward the birdwatch. This movement allows the visitor to see the Birdwatch from straight on where its slatted walls give the building a light and transparent appearance and from and angle where the structure appears solid. This dynamic is a reference to the seasonally changing opacity of the forest. As visitors walk across the bridge, the ground falls away quickly and the user is high in the air once they reach the pavilion. The two levels of the building reinforce the datums of the upper and lower foliage. The lower level encloses the visitor directing views outward and framing nature while the mezzanine level brings the user above the walls of the birdwatch to be immersed in the environment open to the forest canopy and the sky.

Like the pond pavilion, the birdwatch is intended to show the marks of inhabitation and human activity.

Early photo collage sketches exploring texture and materiality.

Birdwatch plan and section. Visitors start at grade in the forest floor and walk straight out into the forest understory.

The first level of the Birdwatch frames a view of the forest understory while the upper level immerses the visitor in it.

Approach to the Birdwatch.

Birdwatch experience.

Site 2: Kinnaird Park

Kinnaird Park is peninsula of land with a deep ravine to its north and the river valley to its south. This park appears as a left over space in the urban fabric. This site is defined by the view of the city and the eroding cliff edge of the river valley. The image of the city in the landscape is a romantic and historic one—the culmination of decades of settlement. The existential threat of erosion is a future concern. Thus the Horizon Pavilion is about time.

Cliff edge at Kinnaird Park with the North Saskatchewan River and downtown Edmonton in the background.
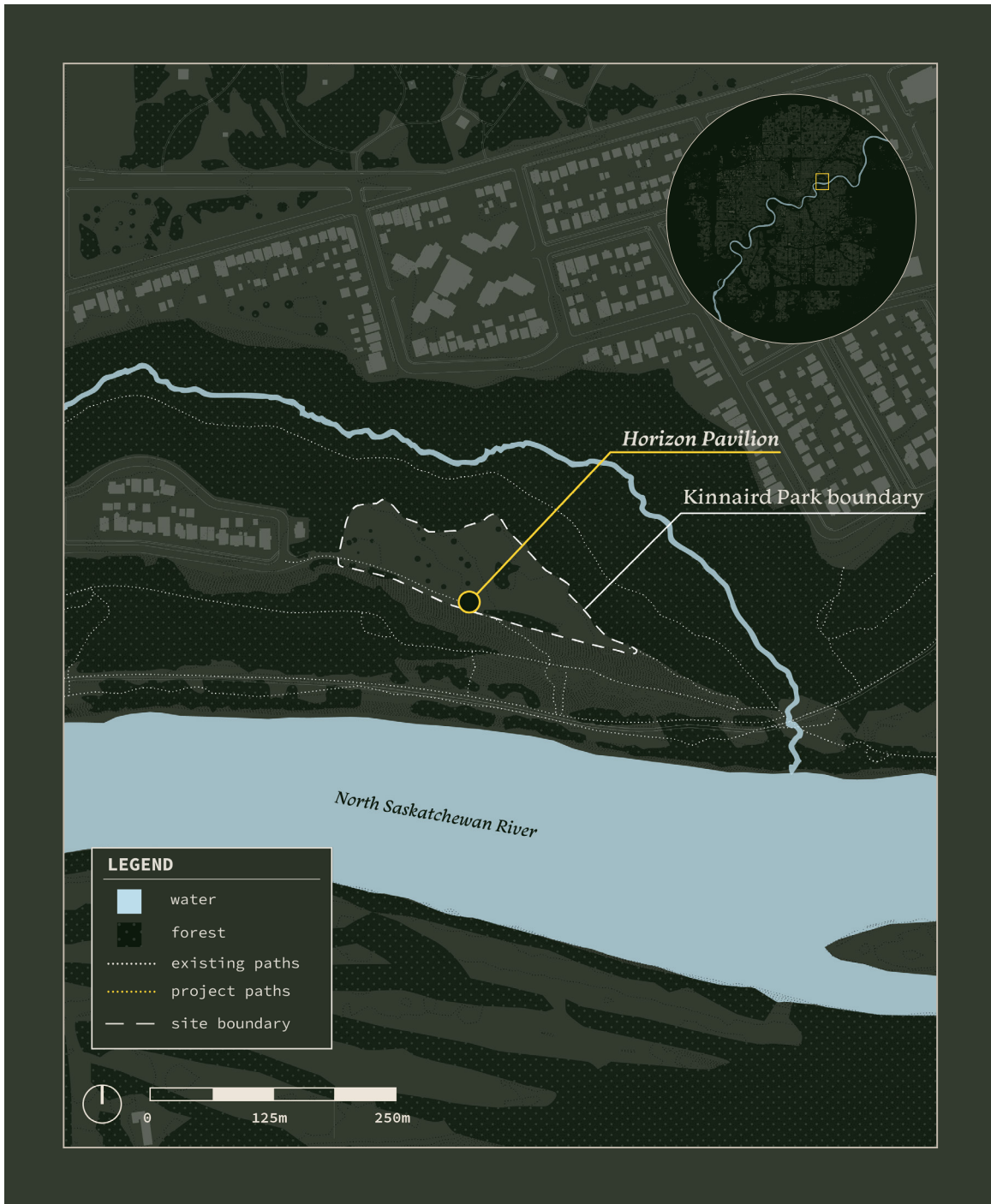
Kinnaird Park site map with Horizon Pavilion location.
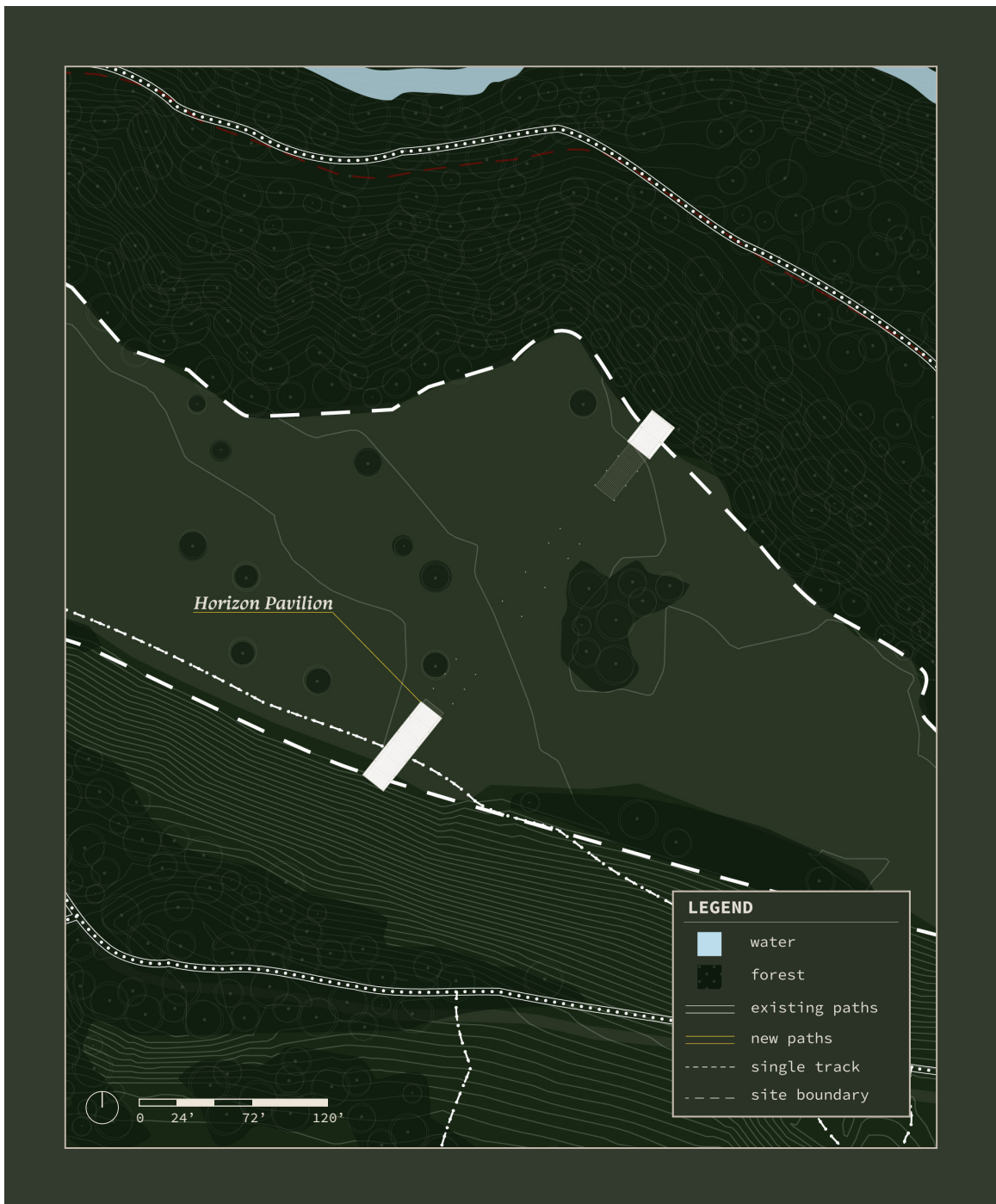
Horizon Pavilion site plan.

Horizon Pavilion

The previous interventions connect people to nature using techniques related to representation and/or perception. The Horizon Pavilion operates differently, concerned with time, it uses architecture to reveal human and natural processes.

The Horizon Pavilion is about history. It draws a line from the forested ravine to the romantic view of the city acknowledging the forest as the part of nature that supported the settlement and development of this city.

The pavilion is also about the future. It sits at the edge of the cliff, overhanging just slightly and as the cliff edge erodes over time—on the order of decades— the pavilion becomes a marker, measuring the change in the land.

The pavilion is also about the present, leaving traces of human activity on the scale of a day. Sliding walls can be moved to open views or to shade inhabitants from the sun or wind. This architectural element records the activity of a day but it also plays a role in giving this place a moment in the future. The interactivity of the building is a powerful tool for creating memory. This is not simply because this kind of interactivity with a building is rare but it is also because moving the walls is a process enacted as an embodied response to an environmental condition thus linking place, environment, and perception.

The Horizon Pavilion is intended to address the human relationship with nature and the landscape at the physical scale of the city and temporal scale of history. It does not demand that we understand these scales—they tend to be incomprehensible—but it gives us hints about how they work.

Horizon Pavilion plan and section.
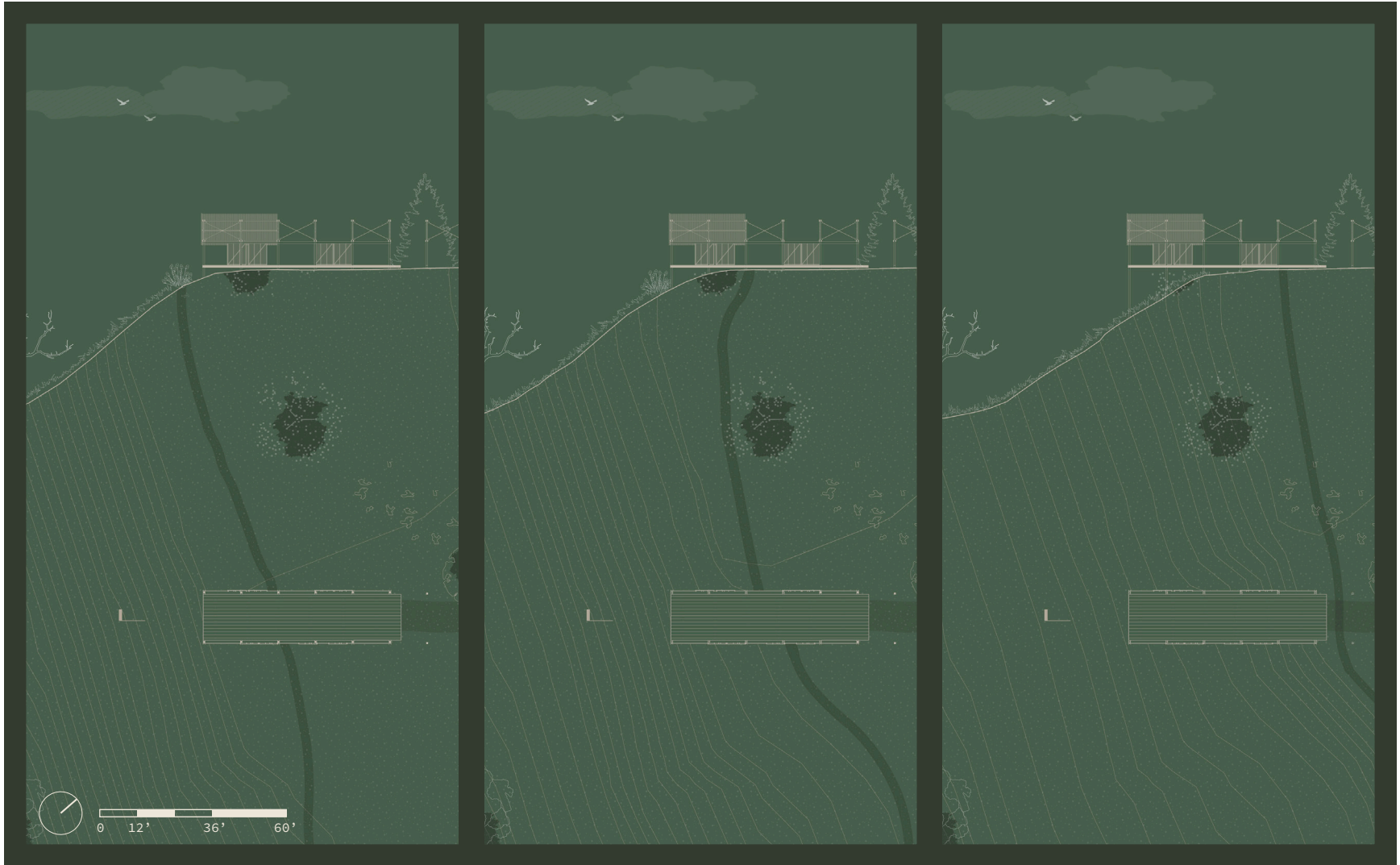
Pavilion structure measures ground erosion.
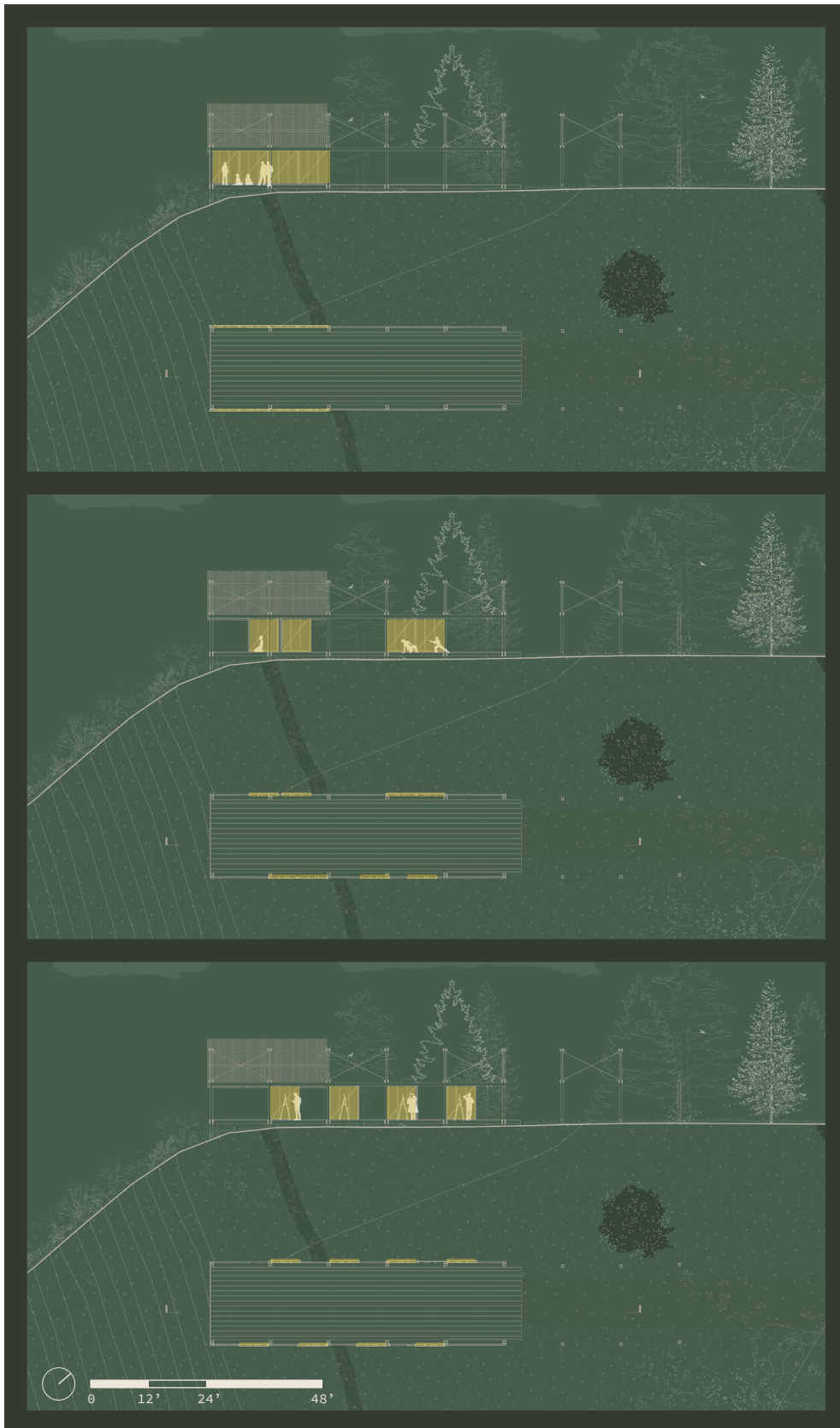
Sliding walls leave traces of human activity throughout the day.

View of the city from the pavilion.

The Horizon Pavilion seen from the west with the oil refinery in the background.

Oleskiw Park site map with intervention locations.

Site 3: Oleskiw Park

Oleskiw Park is a flats area in the river valley that has historically been used for trade, hunting, and most recently farming. Today it is a naturalized area used primarily for recreation. The two projects on this site have a mandate to connect with something larger than the self. In the case of the Gathering Hall, there is a connection to the landscape of the city and one's community. In the case of the River Stones, there is a connection to the landscape and nature that is beyond the local perception.

Gathering Hall

The Gathering Hall draws on the river valley flats as a traditional place of trade and gathering for its program. It is located in a large field next to a forest that runs along the North Saskatchewan River.

The site is defined by the datum lines of the field, the top of the forest, and the cliff across the river.

Oleskiw Park is not accessible by car and so most visitors will travel to the hall from Terwillegar Park to the south. From there they will pass through a small forested area before crossing the river and the field to get to the hall. This procession to the site is unusual especially in the car-dominated cities of North America but it is one of the reasons the site was selected for this intervention. As a way of connecting with the local landscape, this procession demands that visitors experience the width of the river and the expanse of the field at the human scale—an experience that is rare for many people in the city. This movement does not only give the visitor an embodied understanding of the scale of the river valley and the Oleskiw Park field, it gives them an understanding of the scale of the city as a whole. As the Gathering Hall is used for cultural rituals such as weddings, funerals, and baptisms, the procession to the building becomes a part of those activities thus linking the ritual to the landscape.

Photograph of Oleskiw Park showing the expansive field.

The Gathering Hall draws on the site's many conditions and acts as a transition between the world of the field and the world of the forest. The plan and section reinforce this idea. The southern entry to the building draws visitors in with a wall extending out into the field from under the large gabled roof. From the covered entry, visitors enter the lobby where they are welcomed with a view of the outdoor courtyard. In the courtyard, the building turns away from the field and to the forest, using the tree line as its forth wall. The slatted roof of the courtyard connects visually to the trees and softens the harsh summer sun. The hall uses the tree line to define two of its walls, bringing in reflected light the from the side and controlled light from above. The space is comfortable and enclosed, shelter from the journey across the exposed field.

Formally the Gathering Hall works in two ways. From the south, the gabled form is strong, standing in contrast to the landscape. When seen from the west, the Hall's linearity plays off the dominant horizontality of the site while the massing of the rammed concrete volumes references the rhythm of the exposed earth of the surrounding cliffs. The use of rammed concrete is applied in massing but its texture also relates closely to the striations in the earth.

Ultimately, the hall's cultural power is dependent on what people bring to it. What the Gathering Hall does is demands an engagement with the landscape of Edmonton in a way that is unique among comparable cultural buildings. The long procession to the hall may seem inconvenient, even arduous under the hot summer sun or against the cold winter wind, but it is exactly this which gives it the power to make us slow down and think about where we are and what we are doing.

Relationship between the Gathering Hall and the River Stones.

C Hall Section

B Courtyard Section

A Entry Section

| 0 | 12' | 24' | 36' |

The sectional experience brings visitors in from the field, uses the forest a forth wall to the courtyard, and uses the forest as two wall in the hall.

Entry 1.
Mechanical 2.
Washrooms 3.
Ablution Room 4.
Break Out Room 5.
Courtyard 6.
Storage 7.
Kitchen 8.
Gathering Hall 9.

0   12'   24'   36'

Gathering Hall floor plan.

Approach to the Gathering Hall from the south and view of the hall from the west across the field.

Gathering Hall interior view.

River Stones

Like the other interventions in this thesis, the River Stones connect us to our local condition. However it also has aspirations of helping us build a connection to the nature that is beyond our perception.

River Stones is a composition of limestone blocks set into the edge of the North Saskatchewan River. The blocks use a representational metaphor, drawing inspiration from the ice that forms on the river's surface, and they also operate as a measuring device. Blocks are set at varying heights, revealing themselves when the water level is low and hiding when the water is high. This fluctuation of the water level can be experienced locally but it is dependent on the Saskatchewan Glacier approximately 300 kilometres away. There are not many areas in the city to engage with the river and as such, it is all too easy for one to go about their life without noticing the changing water level. The River Stones


Ice on the North Saskatchewan River.

provide the opportunity to connect with the water and its glacial source.

The intervention is close to the Gathering Hall and it may be used for related community activities such as baptisms, scattering ashes, or other rituals. Its proximity to the existing trail network means that it may be used in a quotidian fashion as a place to fish, swim, or stop for a break during a walk. In either case, repeated visits provide the user with a new understanding of the rhythm of the river.

Sketch of the River Stones.

High water level

Medium water level

Low water level

0   12'   24'   36'
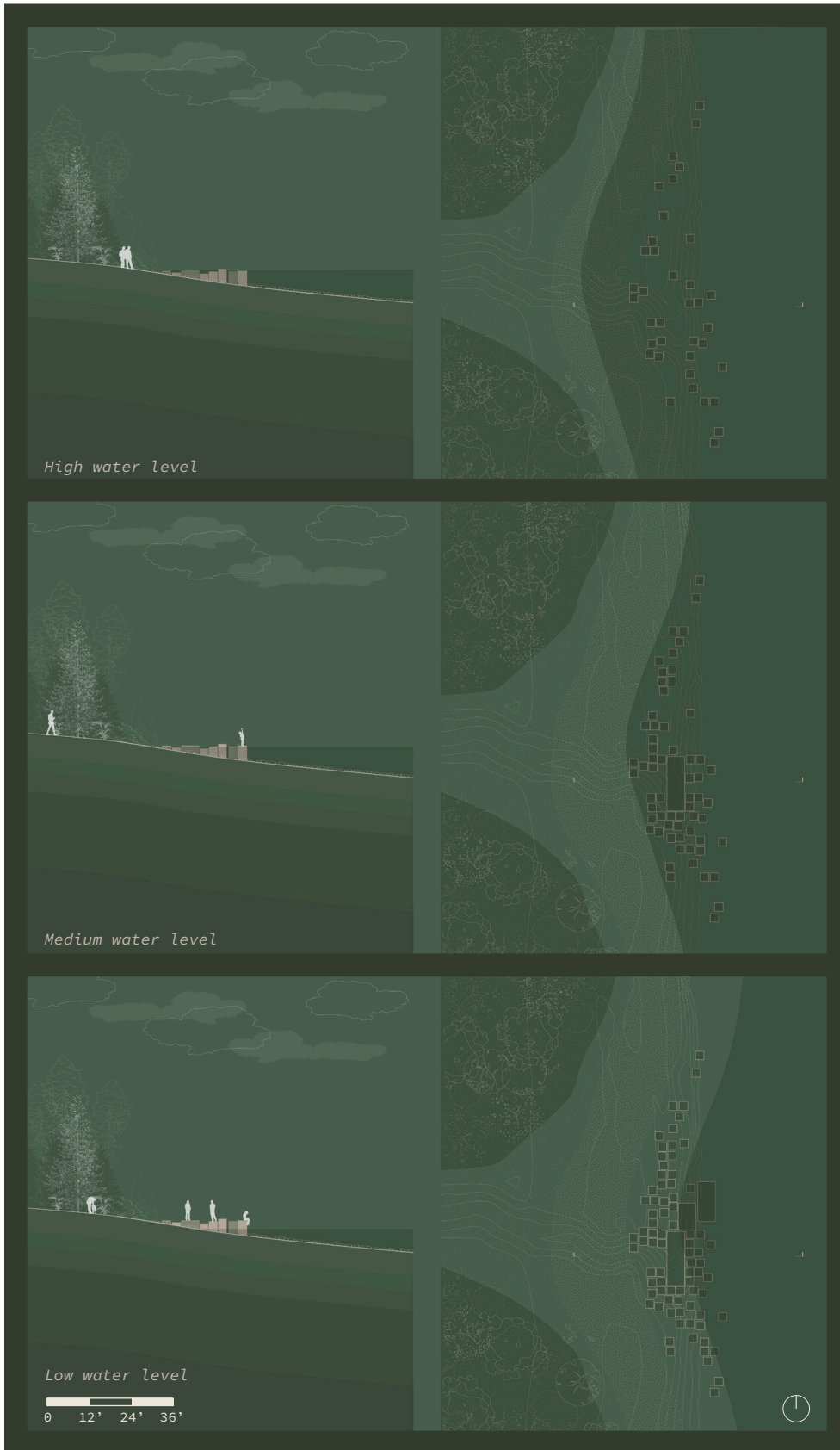
Plan and section of the River Stones.

Ice fishing and hiking at the River Stones.

Chapter 6: Conclusion

This thesis began by exploring ways in which architectural interventions could connect people in Edmonton with the nature and wilderness that they live alongside in the urban environment. The goal is to understand if and how architecture can help develop strong spiritual relationships with nature as a way of building an appreciation or reverence for it.

The six interventions in this thesis demonstrate ways to engage with nature through individual exploration and discovery, by considering the city as the culmination of human actions, and by connecting with something greater than the self—community and landscape.

The design process used here demonstrates a set of strategies with the potential to combat the placelessness of our mass-produced architecture. The genius loci provides the touchstone, a guiding principal to refer to throughout the process while the material design follows strategies of representation or metaphor, measurement, or altering perception. Each of these strategies has enough depth to be worth a dedicated study of its own.

Reflecting on the design process, there is much to be gained from the exploration of a wider range of media. The study of environmental textures and material lends itself well to expressive arts such as sketching and painting, while the study of material properties demands engagement with the real thing. On-site audio recording was used early in the process and while the act of field recording makes one acutely aware of their aural condition, the effects of this exercise on the design process are mostly implicit.

Working with methods and media that encourage more understanding and less recording is generally a good idea. In any case, the goal is to use whatever mode of working as a way of internalizing the character of the place so that the decisions made in the design process are responsive.

The spiritual component of this inquiry is partially outside the scope of this thesis. First, it is difficult to speculate on the spiritual effects of architecture solely through representation, a limitation of design theory that is only really solved in practice. While there are countless examples of incredible spiritual architecture, their representation tends to be limited to evoking the sublime rather than any sense of spirituality. The approach to design in this thesis was to avoid sublime architecture with the intention that the architecture is always working in service of the experience with nature. Images of nature can be sublime but the spiritual experience is embodied.

Secondly, it is important to acknowledge that spirituality is something to be developed over time. Ritual or the ritualistic engagement with a particular place is a way to develop a connection that becomes spiritual. Such a process may take years to develop and the true test of a spiritual architecture is whether or not it facilitates this.

The exploration in this thesis is a material matter that has been carried out abstractly. The irony of using primarily conventional digital methods to explore ways of connecting with nature is not lost on this author. As practitioners and academics, we have some degree of responsibility to attempt to continually link architectural theory and practice to the embodied experience. Ultimately, whether the successful creation of place and a commensurate connection to nature

has been developed can only be determined in person and as such the next logical step in this line of inquiry is to put ideas into practice and build.

In the case of our modern human condition, connecting with nature is really about *re*-connecting with nature— remembering that which we have forgotten, finding that which we have lost.

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