

**PIECES OF THE PRAIRIE:
INFORMING NEW ARCHITECTURE FOR
A SASKATCHEWAN CULTURAL LANDSCAPE**

by

Luke Ryalls

Submitted in partial fulfilment of the requirements
for the degree of Master of Architecture

at

Dalhousie University
Halifax, Nova Scotia
March 2014

© Copyright by Luke Ryalls, 2014

To Nicole Lavergne-Smith.

*There are crystal castles, and cities strong
There's a billion people out there, with a billion songs
But it's rusty rail spikes that have nailed me down
And the golden ocean just out my back door
Makes such a sound*

CONTENTS

Abstract.....	v
Acknowledgements.....	vi
Chapter 1: Introduction.....	1
Searching for a Prairie Architecture.....	1
Thesis Question.....	2
Chapter 2: Method.....	3
Define Fundamental Characteristics.....	3
Determine Implications.....	3
Generic Site.....	4
Site Narrative.....	5
Test The Design Process.....	6
Share What Has Been Learned.....	7
Research Precedents.....	7
Chapter 3: The Prairie.....	9
Geologic History.....	9
Human Occupation.....	11
Pre-Contact Occupation.....	11
New Arrivals.....	13
Settlement Patterns.....	16

Chapter 3: Fundamental Characteristics.....	18
The Horizon-Based Experience.....	18
Living with Exposure.....	20
Extreme Temperatures.....	22
Brought and Found Elements.....	23
Chapter 5: Design.....	25
Chapter 6: Conclusion.....	54
Bibliography.....	56

ABSTRACT

Since the major influx of settlement in the 19th century, architecture on the Saskatchewan prairie has focused on imported types and products, a condition that has contributed to the lack of a clear regional architectural identity.

This architectural thesis explores fundamental characteristics of inhabiting the prairie in order to create designs that are better adapted to its physical and cultural context. Investigations deal with the horizon-based experience, exposure, extreme temperatures, and the relationships between brought and found elements.

The architectural implications of these characteristics are tested within the context of an overarching narrative of the socioeconomic and architectural forces at work behind contemporary projects in the region: A generic town and fictitious inhabitants are created to help the designs respond to common realities and challenges facing the prairie today.

Based on these investigations, improvements are proposed for several major building types, including a house, duplex, rink, church, and school.

ACKNOWLEDGEMENTS

A very special thanks to Niall Savage for his guidance, confidence, and insight on this thesis. His ability to help me relate this work to the Big Picture throughout my research has been especially appreciated.

I would also like to acknowledge the invaluable input of my three advisors, Steve Parcell, Richard Kroeker, and Roger Mullin.

I must also acknowledge the inspiring work of the late Harris Stone, whose unique approach to exploring the architecture of the Plains has had a great influence on the tone of this work.

CHAPTER 1: INTRODUCTION

Searching for a Prairie Architecture

The Canadian prairie is the northern part of the Great Plains ecoregion that covers a huge amount of this continent. Bringing to mind concepts of sheer exposure and dizzying expansiveness, the prairie inspires a specific understanding of how we might relate to landscape. It is also a bit of a conundrum. People have struggled with what to make of it. In his book *The Wheatgrass Mechanism*, Don Gayton writes: “all of us come to the Prairie with notions of what we will do to it, and the notions work for a while. But in the end, the rail lines buckle, dust blows for a decade, and the writers move away”.¹

People have certainly tried things there. The great plains have been called one of earth’s most extensively altered biomes.² Despite this, there is one thing that remains to be fully developed: architecture.

Since the major influx of settlers in the 19th century, architecture on the Saskatchewan prairie has focused on imported typologies and products. With the railroad freshly completed, most early settlers found it easier to import their supplies than to adapt the sparse local offerings to their needs. This situation has become increasingly ingrained up to the present. The built environment on the prairies has remained, for the most part, an imported element, leaving the region wanting for a clear architectural identity.

A regional architectural identity often indicates a history of technological and cultural adaptation in a given context; an evolution or reorganization of technology to better suit the specific needs of a people in a place. The clear lack of such an architectural identity in contemporary construction on the prairies indicates that there is an opportunity for our architecture to respond more directly to the unique landscape, climate, and common human experience found there.

1 Don Gayton, *The Wheatgrass Mechanism* (Saskatoon: Fifth House, 1990), 9.

2 *Ibid.*, 25.



A lone tree on the Saskatchewan prairie.

Thesis Question

How can we define improved architecture for the Saskatchewan prairie that is founded in, responsive to, and expressive of the unique experience of inhabiting that place?

CHAPTER 2: METHOD

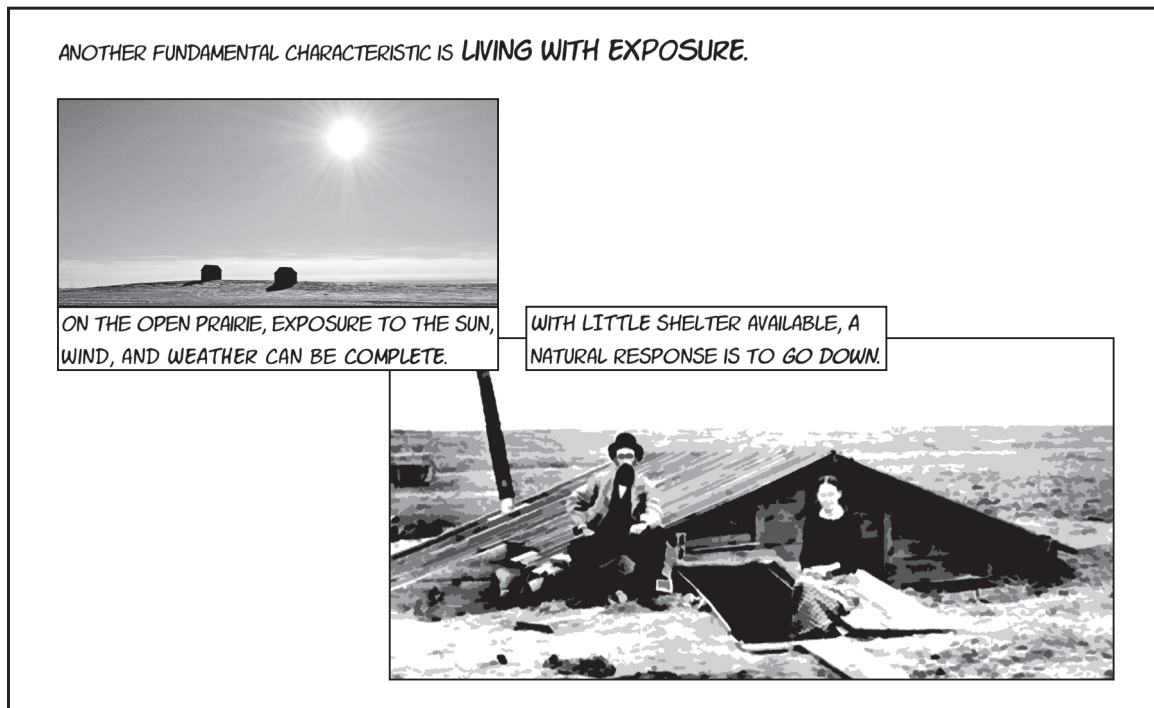
The search for a prairie architecture requires a clearly defined method by which we can inform, propose, and evaluate design responses to that place. In the course of my research, I developed a series of steps, summarized here, to help me achieve these goals.

Define Fundamental Characteristics

In the search for an improved architecture for this region, it makes sense to begin by identifying specific characteristics that come together to define the prairie experience. Each characteristic need not be exclusive to the region, but when all are combined, they form a set of conditions that make the inhabitation of that place unique.

Determine Implications

After identifying some of the things that make inhabiting the prairie unique, it is possible to form opinions about their implications in order to evaluate the way we design the built environment. The images below illustrate what form these first two steps take in this thesis:



An edited sample of the examination of fundamental characteristics in design project.

Generic Site

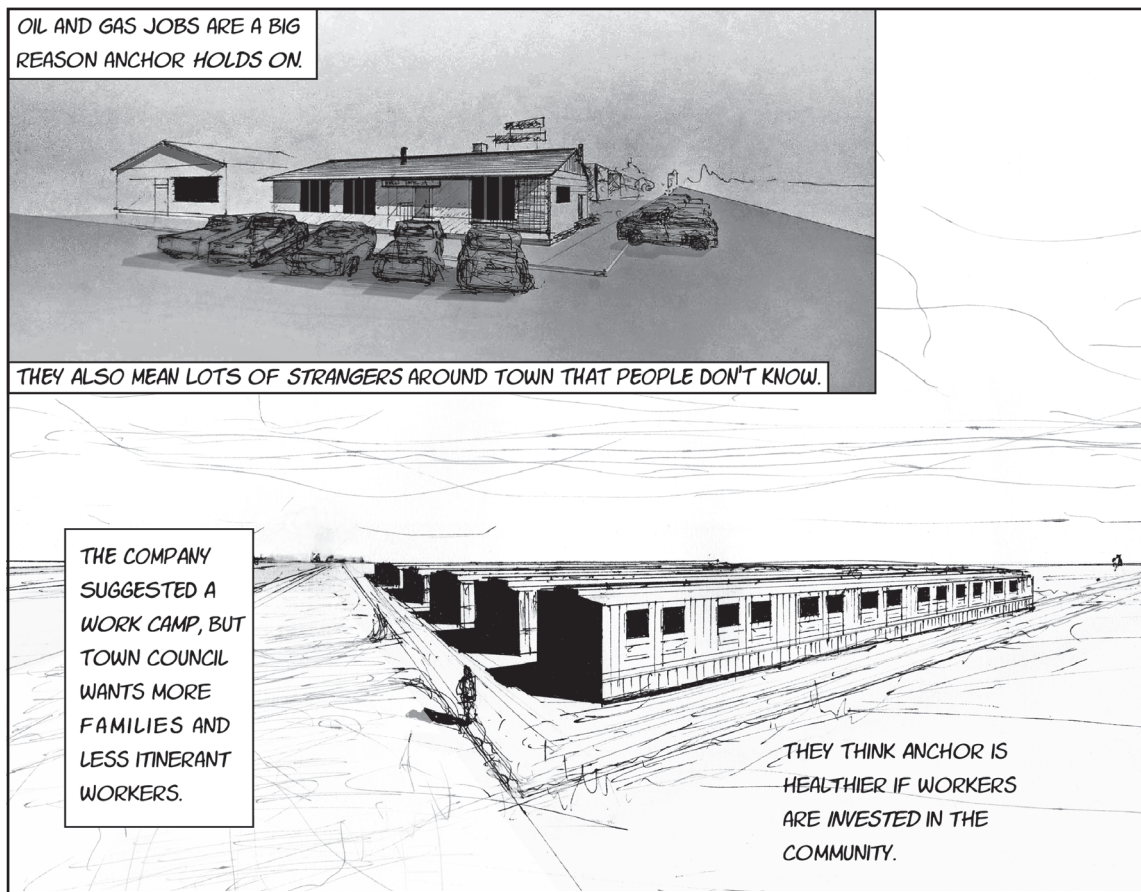
It seems important to allow this study to remain generally applicable to many places on the Saskatchewan prairie. To achieve this, I have decided to test my designs on a generic site created from an amalgamation of many towns in the province. I feel that working with the characteristics these communities have in common will help me distil architectural insight about the cultural landscape that they share. Below are images of examples of the kinds of towns I studied, and the generic site that was produced. The images show some of the physical similarities between prairie towns that helped make this process effective.



Satellite images of Saskatchewan towns, 2013; from Google, and generic site.

Site Narrative

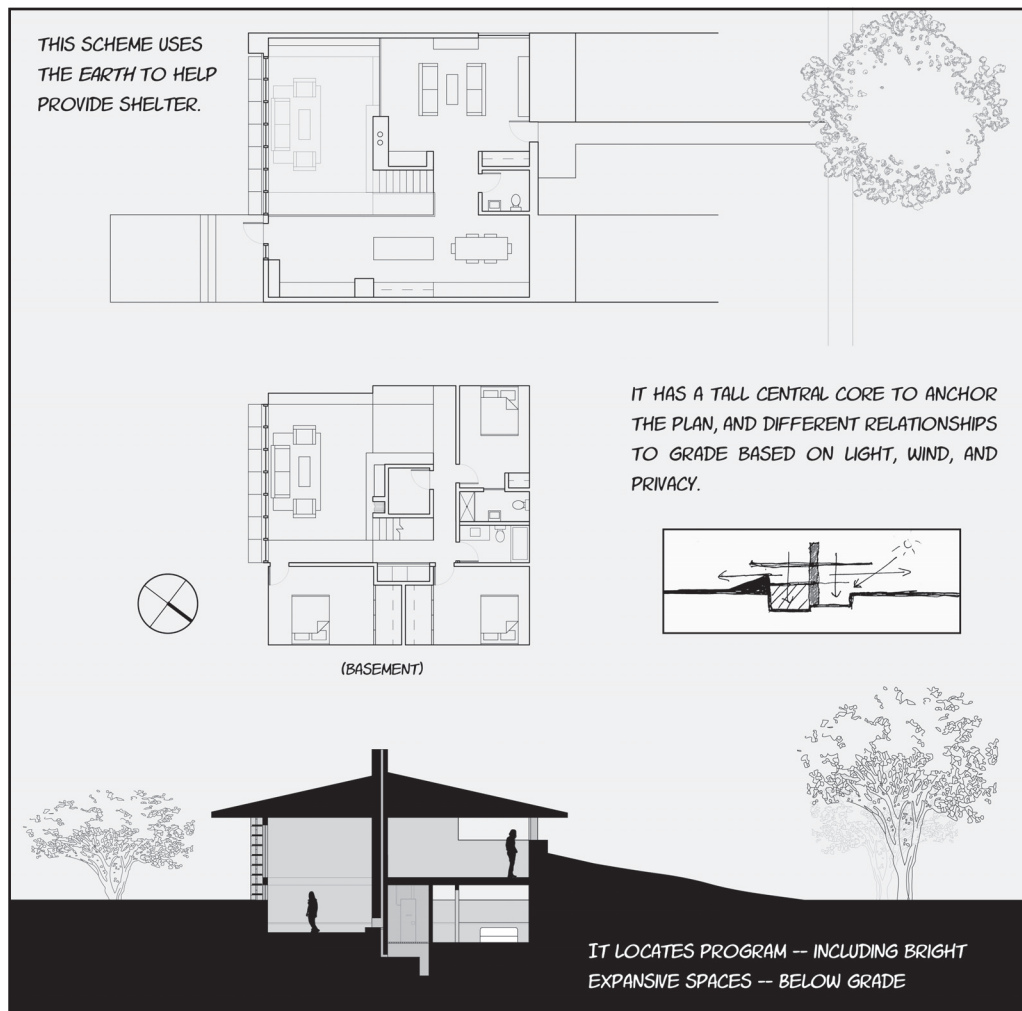
Working with a generic site can be tricky. What forces should be considered to inform the specific moves of a design? To make the project and its findings as realistic as possible, I have chosen to create and work within a narrative of the historical, socioeconomic and architectural forces behind many real prairie developments. This is not an idealized site, but a vehicle for addressing common realities and challenges found in many prairie towns today. This method makes it possible to lay out these real issues and respond to them in the context of the design process. It also makes it possible to zoom in closely to specific characters or issues in order to develop responses at much more detailed scales.



Examples of forces and their representation in the design project.

Test The Design Process

The next step is to demonstrate how architecture can work with the characteristics of the prairie to address these forces. We can do this by applying what we have learned to design a series of building schemes to be a better fit for the place and its inhabitants. By bringing program into the discussion, it is possible to work out how the implications of prairie specificity apply to a variety of building types and uses, and to express this at several different scales. What would a high school, or house, or church look like if it were highly adapted to this region? The demands of each program dictate the way that the implications of these characteristics play out in the design. Again, the images below are examples of this approach:



Examples of the design project's representation of architectural responses.

Share What Has Been Learned

As suggested by the small examples above, the product of this thesis work has been the creation of a cohesive graphic narrative explanation of my understanding of the prairies, the issues associated with designing for that landscape, and my suggestions for architectural responses. It is my hope that this format can help make my findings accessible to people of architectural and non-architectural backgrounds alike.

Research Precedents

This method places my research somewhere in the middle on a theoretical line between work conceived for abstract or fictitious sites, programs, or characters, and work focused on real-life, empirically-measured conditions.

Le Corbusier's *Ville Contemporaine* is an example of the former type, where he describes the ideal site for this idealized city plan as simply level, with a river flowing far away.³ Le Corbusier creates an idealized condition as the canvas to present his responses to address forces he felt were driving and shaping urbanization. The idealized site allowed his responses to remain abstract, and in theory, universally applicable.

John Hejduk also produced several examples of work from this abstract end of the spectrum. Though he often drew parts of his projects from real places, he also created detailed narratives surrounding fictional characters whose specific personal circumstances were integral to shaping the resulting architecture. Depending on one's point of view, these projects could be seen as the creation of fictitious places for fictitious people, or as an intricate design process, ultimately capable of producing viable architectural work.

At another place on the theoretical spectrum exist projects like Equipo Architectura's *Time Builds!: The Experimental Housing Project* where the work is focused on specific people, places, and conditions that really exist.⁴ Data is collected meticulously about sites, conditions, and circumstances "on the ground" in order to inform appropriate architectural responses. It could be argued that this empirical approach is becoming dominant in the

3 Le Corbusier, *City of Tomorrow* (Cambridge: M.I.T. Press, 1971), 161.

4 Fernando Garcia-Huidobro et al., *Time Builds!: The Experimental Housing Project* (Barcelona: Gili, 2008).

current architectural milieu, being highly congruent with both a sensitive, progressive architectural mindset, and with the lure of highly specific, customized projects.

A major difference is that the site in this project is not an idealized site, but a generalized one, not created from a blank slate, but from the amalgamation of real Saskatchewan towns. The existence of shared physical characteristics among prairie towns provides the opportunity for such a generalized site to remain relevant. To assure applicability to all large cities, Le Corbusier is only able to generalize the socioeconomic forces driving urbanization, but I can also add the influence of these shared specific physical characteristics. In theory, my findings should be not only applicable, but specific to the Saskatchewan prairie.

The addition of these shared physical characteristics moves the thesis out of a purely abstract realm, helping to provide a clutch point for the design work to engage with real conditions. This is also true of the narrative. Like some of Hejduk's work, this thesis employs an overarching narrative centred on a fictitious group of characters in order to inform architecture. These characters, the inhabitants of the town, are employed as a method of examining realistic ways that the larger forces driving contemporary prairie developments might affect specific groups and individuals, and how this could be addressed by design.

CHAPTER 3: THE PRAIRIE

Geologic History

The striking landscape of southern Saskatchewan formed as part of a larger North American physiographic region known as the Great Plains. This region, once referred to as the “Great American Desert”, consists of a vast expanse of grasslands stretching from the Rocky Mountains in the west to the Missouri River in the east, and from the Rio Grande in the south to the Canadian Shield in the north.

Once an ancient sea bottom, the Great Plains are characterized by massive thicknesses of sediment that were deposited over almost half a billion years, forming layers of limestone, sandstone, and shale, as well as minerals like the potash that makes up a large part of Saskatchewan’s present economy. Mountain building processes eventually thrust the region above sea level about 70 million years ago.⁵

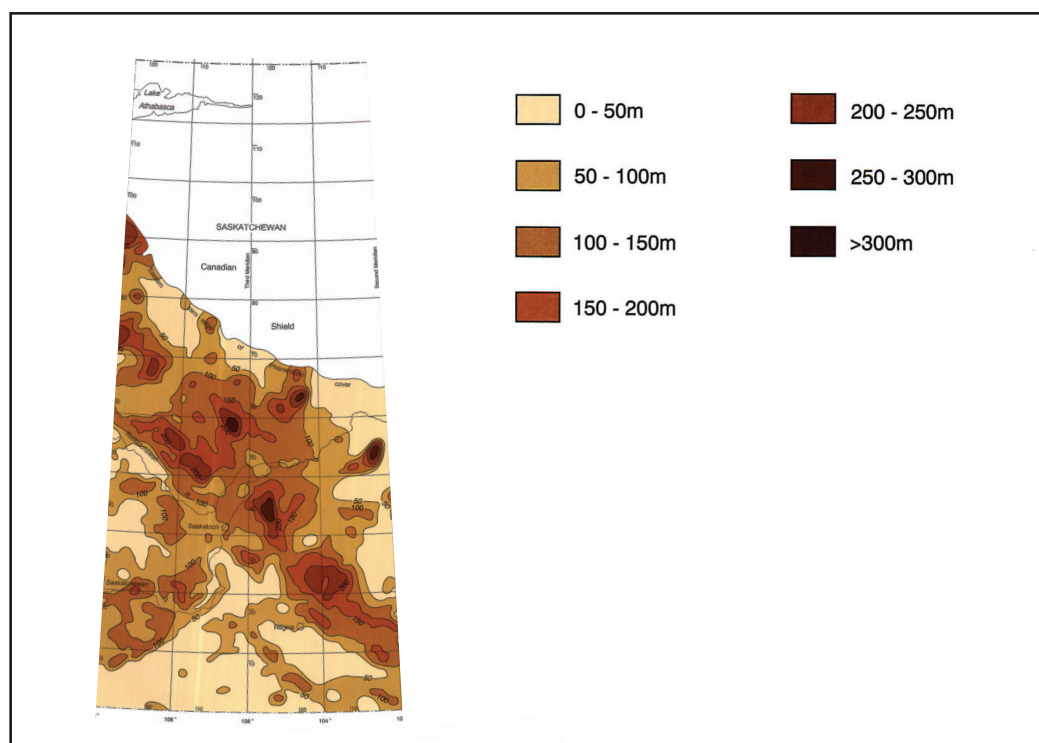


Geographical extent of the Great Plains, 2006; from Widdis, *Geography of Saskatchewan*

In the northern portion of the region, including Saskatchewan, the past two million years

5 David J. Wishart, *Encyclopedia of the Great Plains*, last modified 2011, <http://plainshumanities.unl.edu/encyclopedia/>.

were dominated by the effects of glaciation. The repeated onset and retreat of ice sheets were associated with periods of global cooling and warming, and the resulting effects of abrasion, flooding, and deposition were largely responsible for the current major landscape features.⁶ The rocky Precambrian Shield in the northern part of the province that once constituted the edge of the ancient sea was deeply eroded by the glaciers, pocked and scarred to form the thousands of lakes that exist today. The southern part of the province mainly displays the effects of glacial deposition, with sediment and rock transported from the north and deposited when the glaciers retreated (below).⁷ Meltwater from these retreats formed the large characteristic river valleys that now stretch across the province, as well as a multitude of relatively small kettle lakes and depressions.



Surface to bedrock sediment thicknesses in Saskatchewan, 2011; from Fenton et al., *Quaternary Geology of the Western Plains*

6 Janis Dale, "Glaciation", in *The Encyclopedia of Saskatchewan*, comp. Canadian Plains Research Centre, last modified 2006, http://esask.uregina.ca/entry/geography_of_saskatchewan.html.

7 Ibid.

The Laurentide Ice Sheet was the last glacier to cover Saskatchewan. At its apex 18,000 years ago, it was a kilometre thick. During this glaciation, a few areas are thought to have avoided ice cover, resulting in the unusually high elevations found around the Cypress Hills and Grasslands National Park. By 8000 years ago, the Laurentide Ice Sheet was only present in what is now the far northeast corner of Saskatchewan, and by 6000 years ago it had completely disappeared from the province.⁸

Human Occupation

Pre-Contact Occupation

As the Laurentide Ice Sheet retreated towards the northeast, the first human inhabitants of the region were beginning to move in. Archaeological evidence suggests that the first people came to North America from Asia around 12,000 years ago. They arrived in Saskatchewan very soon afterwards, following herds of Bison and Mammoth and adapting to the expanding territory created by the retreating ice.⁹

For thousands of years these people survived in the harsh and changing prairie environment, living a nomadic lifestyle that became intensely focused on following the bison. With domesticated dogs to assist them, they transported their shelters and belongings on foot across vast expanses of territory, and left behind only subtle evidence of their presence, usually in the form of stone arrangements, tools, and the bones of the animals that provided them with sustenance.¹⁰

There is little question that they were able to successfully adapt to their new environment, for their way of life appears to have remained quite similar with very gradual shifts in technology until contact with Europeans in recent centuries.¹¹

8 Dale, "Glaciation", 2006.

9 Karin Steuber and Denise Huynh, *A Teaching Guide to Saskatchewan Archaeology* (Saskatoon: SAS, 2012), 9.

10 Liz Bryan, *The Buffalo People* (Edmonton: University of Alberta Press, 1991), x.

11 *Ibid.*, x.

The early peoples of the prairie did not construct permanent settlements, but they did create structures out of stone – arrangements of field cobbles and stone cairns, many of which have endured to recall the thousands of years of their continuous presence in the area. Many of these structures are circles of cobbles called tipi rings, and like the name suggests, they are thought to have been used to weigh down the traditional dwellings before being left in place when the tipi was removed.¹²

Appearing on the plains around 4000-5000 years ago, tipis would have been transported from site to site by travois, devices made from wooden poles that carried cargo and were pulled behind the dogs.¹³ In her book *Stone by Stone*, Liz Bryan estimates that before the arrival of horses, each tipi would have weighed 185 kg and required seven or eight dogs to transport.¹⁴ The number of dogs required to move the camps from site to site helps to illustrate the large amount of food that the Plains people would have needed to maintain their lifestyle, and helps explain their need to constantly keep astride the migrating herds that they hunted.¹⁵

Clearly, the connection between these people and the prairie they inhabited was profound. The experience of moving continuously toward the horizon and of living with a constant awareness of the edges of their perception must have become inseparable from the way they understood their world and expressed their place in it.

12 Liz Bryan, *Stone By Stone* (Victoria: Heritage House, 2005), 77.

13 Ibid.

14 Ibid., 78.

15 Ibid.

New Arrivals



First house built in Regina, Saskatchewan, 1882; from Regina Public Library

In 1691, a young employee of the Hudson's Bay Company named Henry Kelsey became the first European to set eyes on the Saskatchewan prairie.¹⁶ For nearly two hundred years afterward, the fur trade constituted the major outside interest in the region. Increasing numbers of Europeans began to inhabit parts of the province, some of them mingling with First Nations populations to create what became the distinctive Métis culture. However, their focus remained mostly directed upon the lands near the rivers and forest fur trade routes to the north, and less upon the treeless prairie. Four hundred years after the arrival of Columbus, some First Nations people on the grasslands had still never met a European.¹⁷

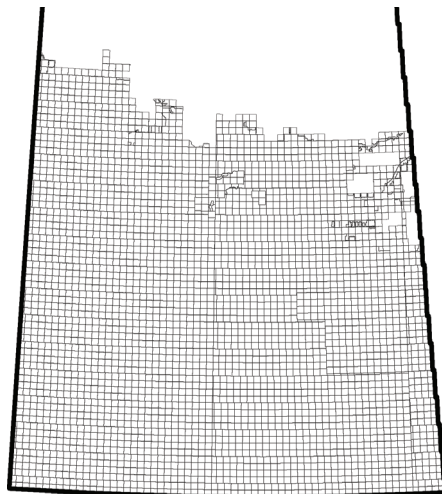
In the 1850s, a major geological survey concluded that the Canadian prairie, previously considered to be an inhospitable frozen wasteland, actually contained a fertile belt stretching from the Red River to the Rockies. This led to new ideas in Eastern Canada about the settlement of the West, and the viability of a trans-continental nation to rival the United

¹⁶ Bryan, *The Buffalo People*, x.

¹⁷ *Ibid.*, ix.

States.¹⁸ The next several decades saw a great focus on the settlement of Western Canada, and an explosion of the population there. This meant the end of a way of life for the nomadic First Nations people who had lived on this land since the retreat of the glaciers thousands of years before. By 1877, the last of the treaties were signed, and their territories were officially reduced to reserves.¹⁹ Meanwhile, the population of the freshly confederated province of Saskatchewan rose from less than 20,000 in 1880 to almost half a million thirty years later.²⁰

The national policies of the 1870s and 1880s introduced a system for providing cheap homesteads, a territorial police force, and the construction of a transcontinental railway.²¹ These policies paved the way for waves of homesteaders eager to own land and build new lives for themselves. In a quick and profoundly significant move, surveyors divided the open prairie into a grid of sections measuring one square mile, and these were further subdivided into quarters of 160 acres – the standard size of a family farm. New settlers arrived from the East by rail, then traveled to their assigned quarters to find their new homes.



Saskatchewan's township divisions below the treeline. Each township contains 36 sections of 1 square mile each. Image, 2013; from GeoSask.

18 Michael Cottrell, "History of Saskatchewan", in *The Encyclopedia of Saskatchewan*, comp. Canadian Plains Research Centre, last modified 2006, http://esask.uregina.ca/entry/geography_of_saskatchewan.html.

19 Ronald Rees, *New and Naked Land* (Saskatoon: Prairie Books, 1988), 28.

20 Cottrell, "History of Saskatchewan".

21 Ibid.

These people usually came to the prairie with no idea of what to expect. The government advertisements had done little to suggest that the prairie would be unlike anything most had ever experienced. To many, the country seemed simply vacant, more closely resembling open ocean than any land they were familiar with.²² Without landmarks to guide them, many became easily lost, and feared the storms and prairie fires from which the land offered little apparent refuge.²³

With few familiar building materials available, many homes in the first years of settlement were constructed from pieces of the same deep-rooted sod that was being plowed up to allow for the planting of new crops (illustrated below). These were eventually replaced by homes of imported materials brought in on the railway. Some homesteaders gave up, leaving their quarters and taking the train back out to more hospitable places. However, many committed themselves to their new lives, and in doing so formed a strong psychological bond to the prairie landscape that was passed on to future generations.



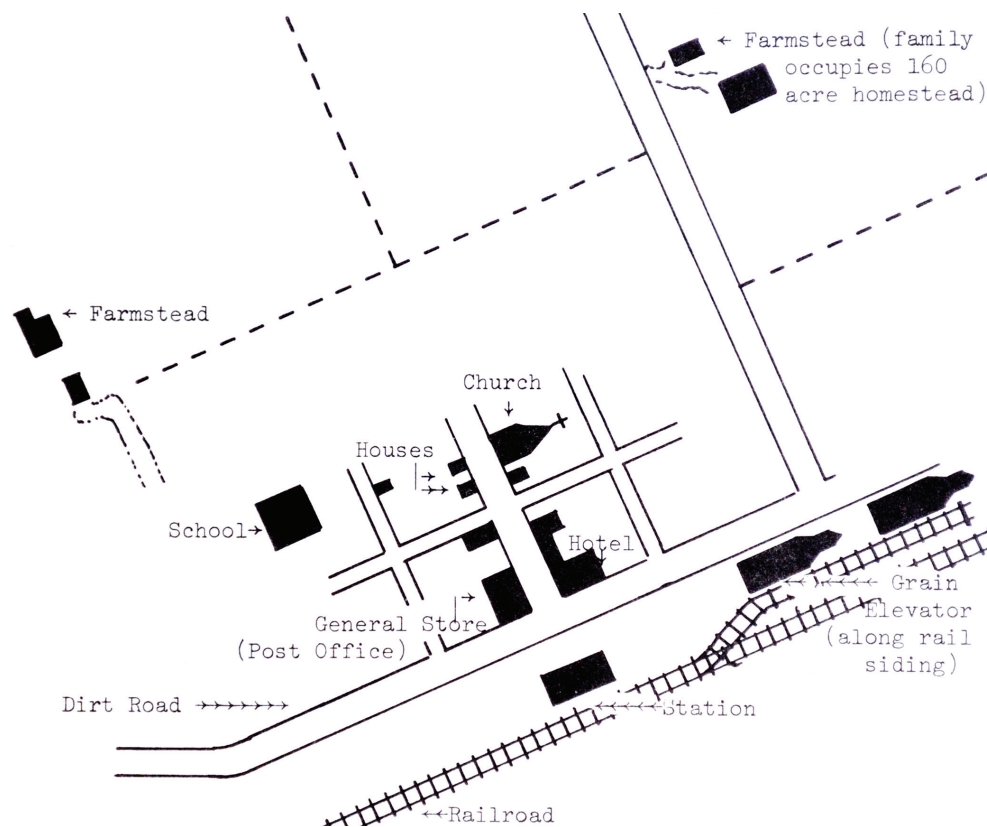
A “half-sod” house, partially sunken into the ground (rear) with a wooden addition (front).

²² Rees, *New and Naked Land*, 27.

²³ *Ibid.*, 28.

Settlement Patterns

The initial distribution of the farms and communities of the European settlers in Saskatchewan was dictated largely by access to the railway. Small, quickly-built trade centres were spaced 8-10 miles apart along the rails, and farms were scattered around the area within a day's travel. By 1910, there were 1300 of these villages on the Canadian prairie, each with grain elevators, grocery stores, grammar schools, churches, and other institutions (see image below). As C.C. Zimmerman remarks in *The Prairie Community System*, the railways eventually “permeated through all the cultivated parts of the provinces like veins in a living body”,²⁴ and they functioned in a similar way, providing the dispersed settlements with imported supplies and materials that allowed them to eventually construct a relatively familiar existence in this strange new landscape.



Common prairie town plan, 1911; from Zimmerman, *The Prairie Community System*

²⁴ C.C. Zimmerman, *The Prairie Community System* (Calgary: Agricultural Economics Research Council of Canada, 1971), 3.

These towns started out incredibly similar to one other in plan, size, and the range of services they offered, but eventually they began to differentiate. With the advent of the automobile, good roads began to be constructed, and it became easier to travel and transport goods over larger distances. Some towns grew, out-competing their neighbours and becoming hubs for the consolidation of services and amenities.²⁵ Farms grew too, with more and more factory farms replacing the existing farmsteads.

This has essentially remained true until the present, with highway transport allowing larger centres to provide the outlying areas with goods and services, while the railways are increasingly relegated to industrial use. Continued differentiation and growing urbanization has contributed to the decline of many rural communities. As early as 1971, C.C. Zimmerman recognized the unsustainable nature of the current physical and social arrangement on the prairie, predicting the onset of a new era in the region following primary settlements and the current paradigm of the factory farm:

The third commencing now may be a stabilizing period in which the various community forms created in the past turn inward in search of a more satisfactory culture somewhat better adapted to life on the Canadian prairie than the previous social form. In the first, the people got the land in their possession; in the second, prairie farming became big business; in the third, the region may be trying to organize a folk life to make the prairies more of a Canadian homeland.²⁶

Forty years later, the region still seems to await such a shift, and the realm of architecture is no exception. Architecture on the prairie maintains a reliance upon imported types and products that grew out of the great haste and expediency associated with Canada's rush to dominate this landscape. New architecture could benefit from exploring the intimate relationship between this place and its inhabitants, and designs could be actively adapted to thrive in this place in a stable way.

²⁵ Zimmerman, 13.

²⁶ Ibid., 3.

CHAPTER 4: FUNDAMENTAL CHARACTERISTICS

The Horizon-Based Experience

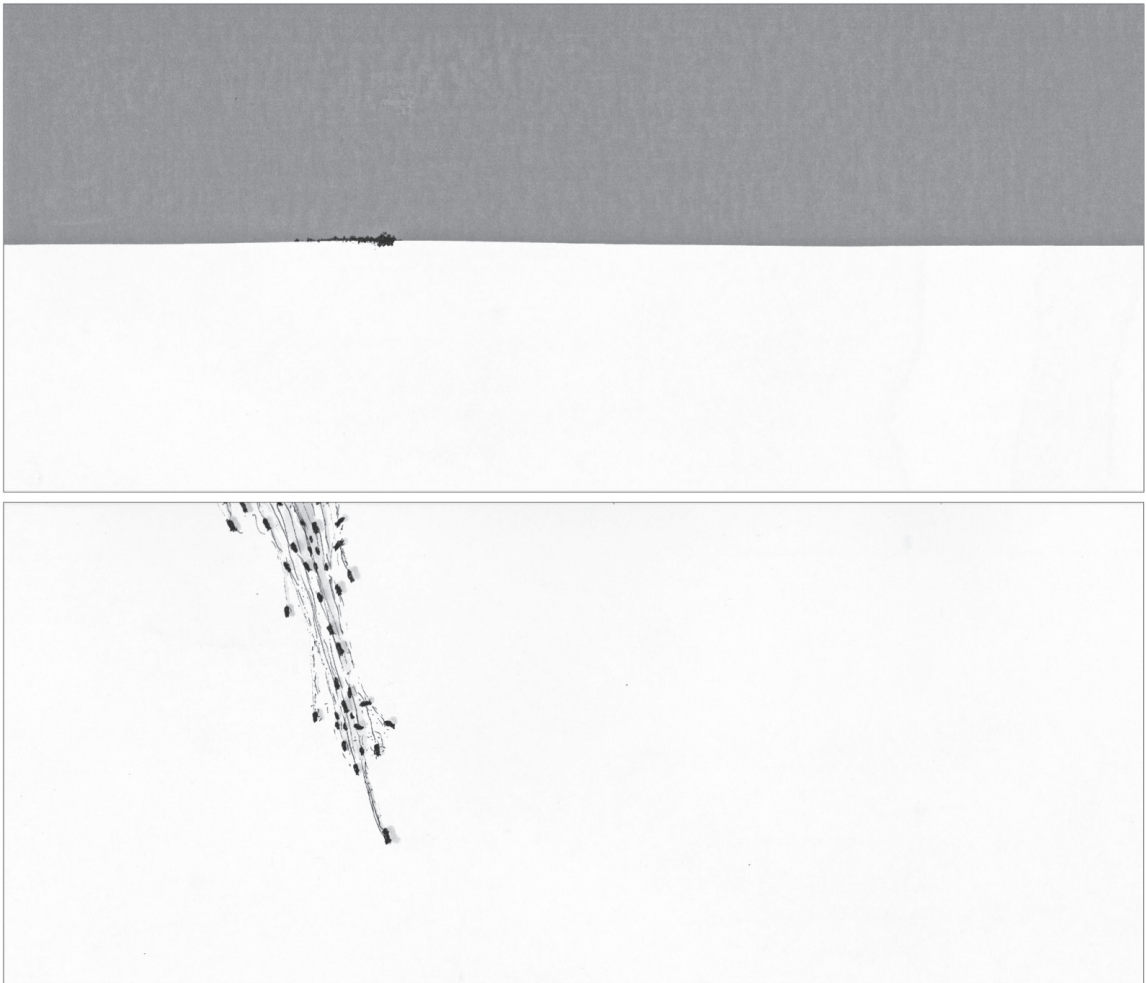
The first thing people tend to notice about the Saskatchewan prairies is their flatness. In reality, the ancient processes that shaped the region created a variety of terrain including rolling hills, glacial kettle lakes, river valleys, coulees, and more. Still, the many uninterrupted stretches of treeless country with starkly little topographic relief are difficult to ignore, and a sense of unrelenting, expansive flatness tends to dominate the perception of this landscape.

This low topography affects the way that an observer on the prairie can perceive their surroundings. An observer's station point tends to be nearly level with the horizon line, so objects in the distance are perceived as profiles that tell very little about their morphology in plan. This condition can create difficulty visually gauging distances, and contributes to a sense of scalelessness in the landscape.

Vertical objects on the horizon that are recognizable in shape and scale become important as visual tools for measuring distances and determining one's relative position. Grain elevators have often filled this role, serving as common points of reference that help orient travelers and indicate the presence of a settlement. Other examples include rows of power poles, fence lines, vegetation, and unique objects like glacial erratic boulders or other natural landforms. These objects become focal points, offering visual relief in the face of a relentless horizon line, and suggesting possible refuge.

High places are rare on the prairie, even today. The great depth of the bedrock below the prairie ground surface tends to confound the construction of tall buildings. This rarity of elevated positions on the prairie means that they carry increased significance. An elevated position allows a viewer to see further, and provides the welcome opportunity to perceive one's location and surroundings in plan.

Emphasis upon elevated points of view in the built landscape is clear: ranging from the ancient medicine wheels created by First Nations peoples on heights-of-land to the tiny artificial hills that are so common in prairie schoolyards and parks.



Bison herd in plan and perspective.

Living with Exposure

The sheer exposure of the open prairie can be extreme and relentless. First Nations people were able to partly deal with this exposure by locating their camps seasonally, and by taking advantage of the shelter of river valleys and other natural topography. The early settlements of the Métis also took advantage of less exposed terrain, and were arranged along the rivers to the north in the traditional French style. When the larger waves of settlers arrived on the open prairie, the abstract grid meant land sections were demarcated with no consideration of topography, and many settlers would have found themselves allocated parcels of land that might have otherwise been passed over for inhabitation.

The exposed prairie conditions present physical issues such as erosion, material weathering, drifting snow, windchill, and baking heat. Virtually any object on the open landscape becomes a makeshift sundial, weather vane, and potential shelter. Objects placed in the paths of the wind and sun also can create starkly delineated microclimates that suggest purposeful architectural responses.

Exposure can also produce strong psychological responses such as feelings of vulnerability, isolation, and lack of privacy, all of which imply a need for architecture to provide spaces with a sense of refuge. With little natural shelter, one natural response to the exposure on the prairie is to go down. First Nations peoples wintered in river valleys, early settlers dug half-sod dugout houses into the earth, prairie animals burrow into the soil, and wheatgrass roots run meters below the surface. The earth has long provided the natural source of refuge on this landscape, and any architecture claiming to respond to the prairie should assert an informed position to this fact.



Prairie exposure can be complete.

Extreme Temperatures

Temperatures on the Saskatchewan prairie often range by 80 degrees Celsius over the course of the year. A great amount of people's time, thought, and resources are devoted to dealing with the effects of extreme heat and cold. Extreme temperatures have strong implications for a wide range of architectural considerations, including exposed surface areas, frost lines, incorporation of thermal masses, material expansion, spatial relationships, indoor-outdoor gradients, construction techniques, and mechanical systems. Responses to these extreme conditions could theoretically have a much more perceptible impact on the prairie's built environment.

In extreme temperatures, the amount and material of a building's exposed surface area becomes very important, affecting the amount of heat gained or lost to the air around it. This characteristic can tend to encourage buildings to take on cubic proportions, where there is as little exposed surface area as possible, and all spaces can be nearer a central heat source. Building configurations that are strategic about the orientation and shelter of specific exposures can take advantage of passive heating and cooling techniques to allow more design variation without compromising efficiency.



Stubble in the prairie winter.

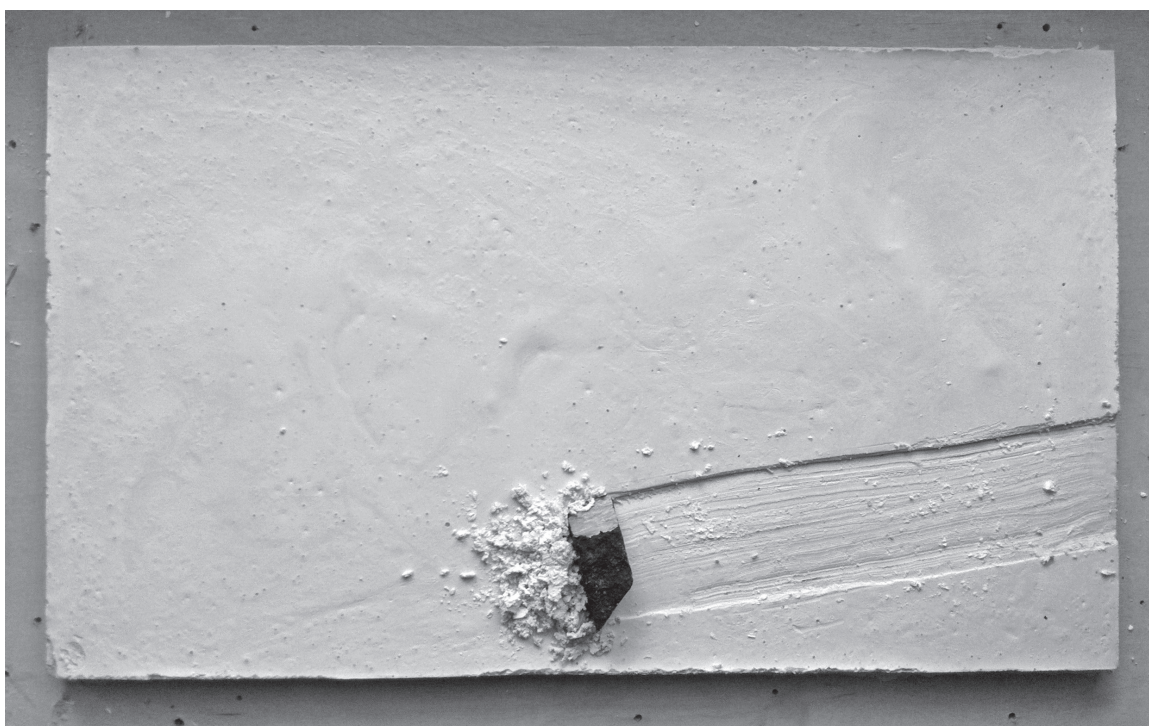
Brought and Found Elements

Perhaps the most interesting fundamental characteristic of inhabiting the prairie is the relationship between the place and those things that we bring to it. On open grassland, it can seem that the only visible elements are earth, sky, and whatever is placed between them. Humans have always brought things to the prairie, both physical, and otherwise: Our intentions, our doubts, our ideas, and our material things. What we bring engages in constant conversation with the land, the sky, and the elements that we find in place.

Even the First Nations inhabitants who lived with such a connection to this landscape brought things to the prairie. For example, the poles of the tipis they created were often made of pine trees brought from distant woods. Places like the Cypress Hills, an island of high country in the Great Plains, provided the namesake lodgepole pine trees for many poles that would be carried far from where they were cut. These precious poles, transported onto the open prairie, were combined with the skins of the once-plentiful bison that were found in situ to construct a prairie icon.

This conversation between brought and found elements necessarily endured, and since the waves of settlement of the late 1800s it has become the new language of this place, exemplified by everything from wire fences and vinyl siding to an abstract grid that changed the prairie forever.

Our awareness of this conversation allows us to make conscious choices about how we express the relationship between these brought and found elements in our designs for the built environment.



Brought and found elements, investigations.

CHAPTER 5: DESIGN

The design work that resulted from my research reveals this thesis to be a two-pronged effort. On one hand, the work presented below remains firmly rooted in my initial search for a prairie architecture that is founded in the unique characteristics and experience of inhabiting that place. On the other, the work is focused strongly on the development, testing, and presentation of the method described in chapter 2; a design and representation process to help critically identify ways architecture could be made more relevant to a particular cultural landscape.

It is my hope that this thesis might be useful to someone thinking about designing for the prairie, but also for anyone interested in how we might create, represent, and critically evaluate design ideas that are focused on a place – especially in cases where “on the ground” specificity is less appropriate. The format of the presentation is directed at both architectural and general audiences, but the primary intention is to offer to the broader architectural discourse any insight that I have gleaned by presenting an example of an iteration of this method.

The work in the following pages can be viewed as a presentation of my findings about designing for the prairie, but also as a test case to help determine my method’s capacity to generate those findings and inform design responses.



PIECES OF THE PRAIRIE

FINDING NEW ARCHITECTURE FOR A SASKATCHEWAN CULTURAL LANDSCAPE

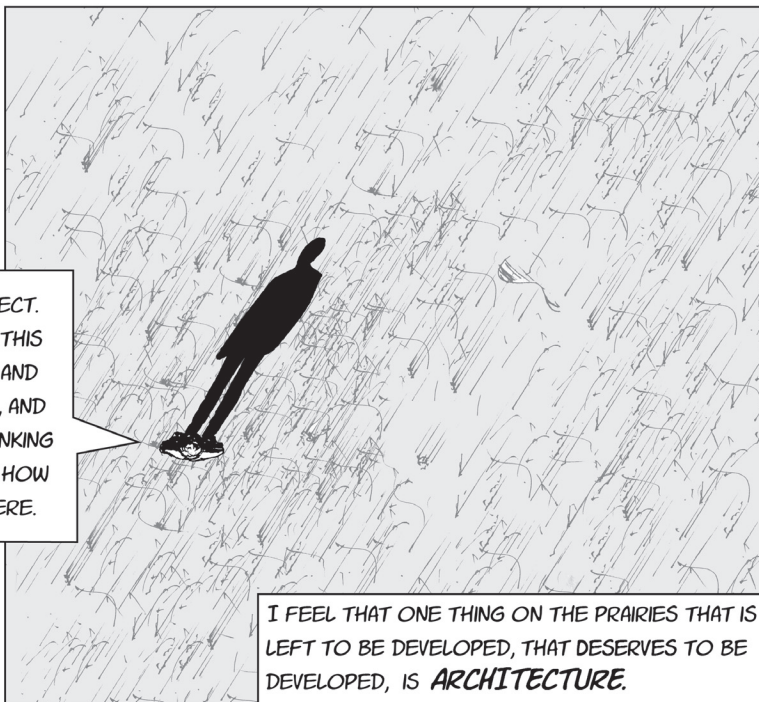
THE SASKATCHEWAN PRAIRIE ...



...THE WORDS ALONE SPARK FEELINGS OF SPACE, EXPANSIVENESS, SHEER EXPOSURE.

THE PRAIRIE IS A BIT OF A CONUNDRUM ...
PEOPLE HAVE OFTEN STRUGGLED WITH WHAT
TO MAKE OF IT.

WE HAVE CERTAINLY TRIED THINGS HERE.
A CENTURY OF AGRICULTURAL DEVELOPMENT HAS
ALTERED THE PRAIRIE BEYOND RECOGNITION.



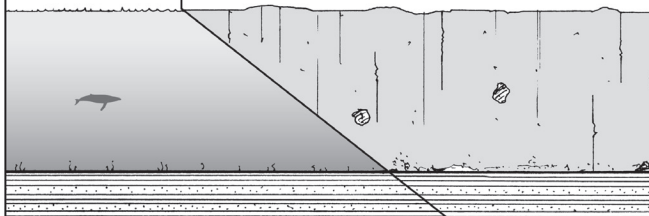
I'M AN ARCHITECT.
I GREW UP IN THIS
CHALLENGING AND
UNIQUE PLACE, AND
I'VE BEEN THINKING
A LOT ABOUT HOW
WE DESIGN HERE.

I FEEL THAT ONE THING ON THE PRAIRIES THAT IS
LEFT TO BE DEVELOPED, THAT DESERVES TO BE
DEVELOPED, IS **ARCHITECTURE**.

THE SASKATCHEWAN PRAIRIE IS PART OF A VAST GRASSLAND AREA KNOWN AS THE GREAT PLAINS.

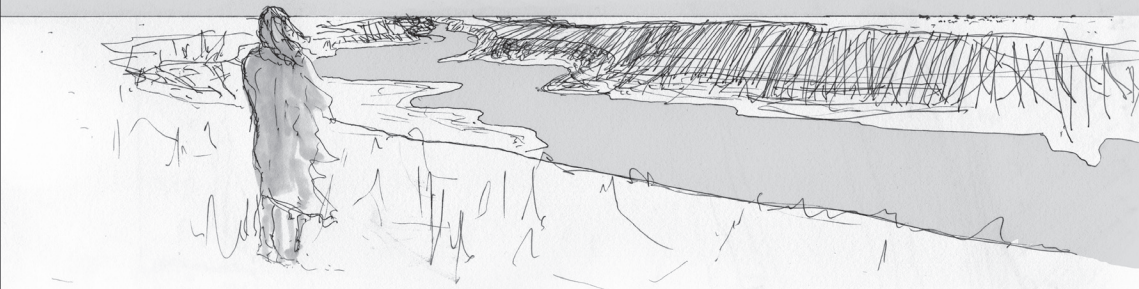


FOR THE LAST TWO MILLION YEARS, REPEATED GLACIATIONS DUMPED SEDIMENT ONTO THE PRAIRIE, AND LEFT DEEP RIVER VALLEYS BEHIND.

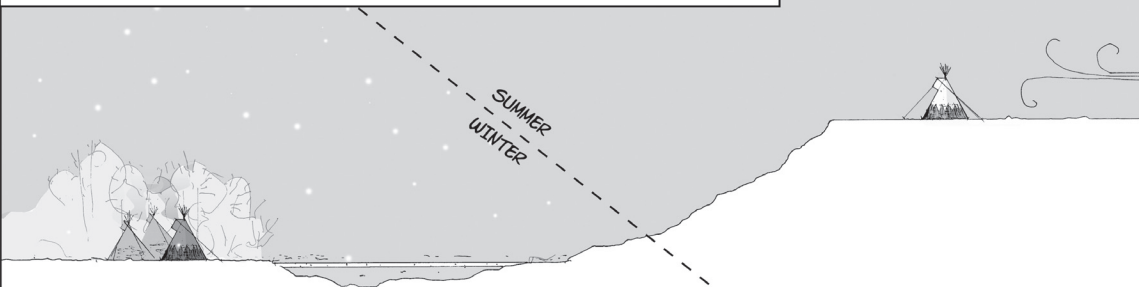


IT SPENT HALF A BILLION YEARS AT THE BOTTOM OF AN ANCIENT SEA WHICH FORMED THE BEDROCK THAT EXISTS THERE TODAY.

AS THE LAST GLACIER RETREATED, THE PRAIRIE'S FIRST PEOPLE BEGAN TO ARRIVE. THEY WERE ABLE TO ADAPT QUICKLY, BECAME FOCUSED ON THE PLENTIFUL BISON HERDS, AND THRIVED HERE FOR AT LEAST 10,000 YEARS.



TIPIS APPEARED ON THE PRAIRIE AROUND 5000 YEARS AGO. PERFECTLY SUITED TO THE NOMADIC LIFESTYLE OF THEIR INVENTORS, THEY COULD BE TRANSPORTED FROM SITE TO SITE, AND ALLOWED THE FIRST NATIONS PEOPLE TO PLACE THEIR CAMPS IN RESPONSE TO SEASONAL CONDITIONS.



THE CONNECTION BETWEEN THESE PEOPLE AND THE PRAIRIE THEY INHABITED WAS PROFOUND, AND SEEMS TO HAVE BECOME INSEPARABLE FROM THEIR WORLD VIEW AND ITS PHYSICAL EXPRESSION.

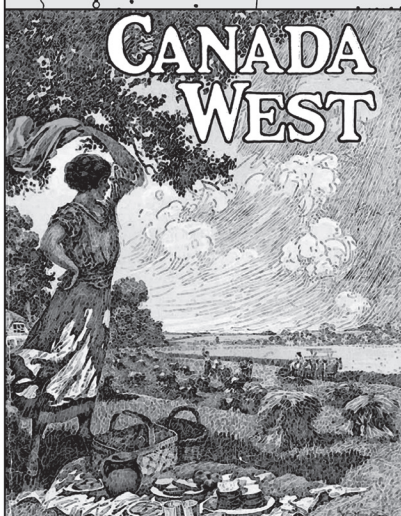
Top map, 2006; from Widdis, *The Geography of Saskatchewan*.

EVEN CENTURIES AFTER COLUMBUS ARRIVED, MANY PRAIRIE PEOPLE HAD NEVER MET A EUROPEAN. THIS CHANGED IN THE LATE 1800s, WHEN A NEW ERA OF SETTLEMENT BEGAN HERE, FUELED BY THE YOUNG CANADIAN GOVERNMENT'S PLANS FOR A TRANSCONTINENTAL NATION.

BY 1910, THE SK POPULATION HAD RISEN FROM UNDER 20,000 IN 1880 TO ALMOST HALF A MILLION --



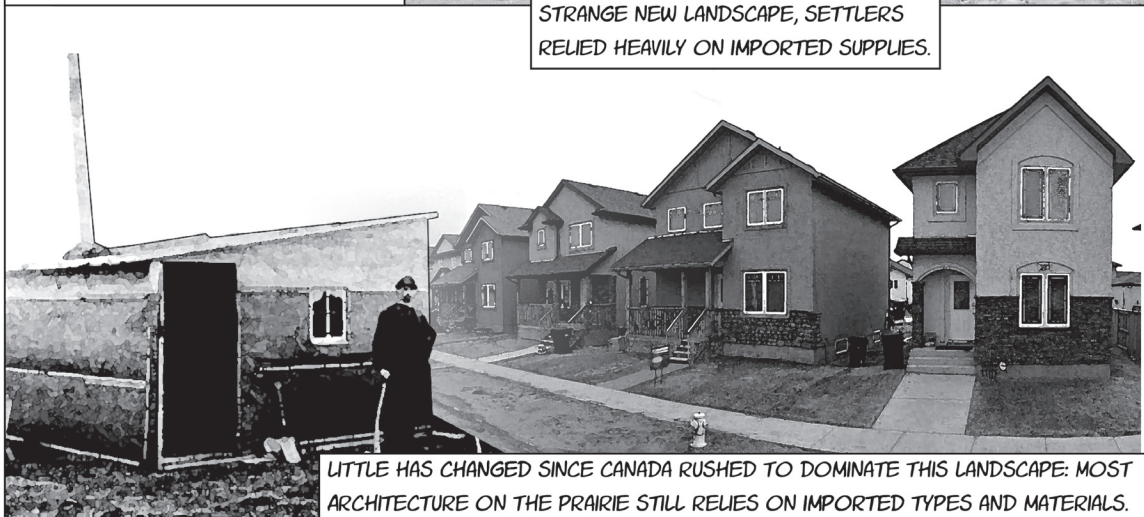
-- AND THE RAILWAY SUPPLIED 1300 NEW PRAIRIE TOWNS.



WAVES OF HOMESTEADERS CAME TO BUILD NEW LIVES, BUT FEW COULD HAVE EXPECTED THE LAND THAT THEY FOUND WHEN THEY ARRIVED.

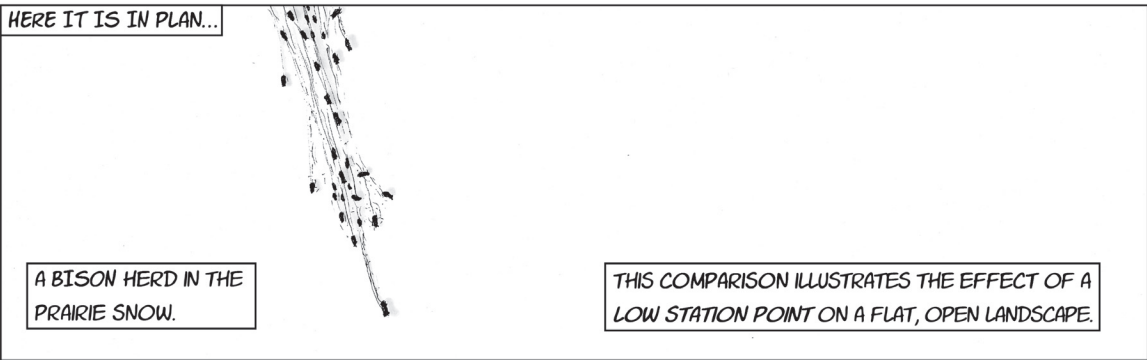
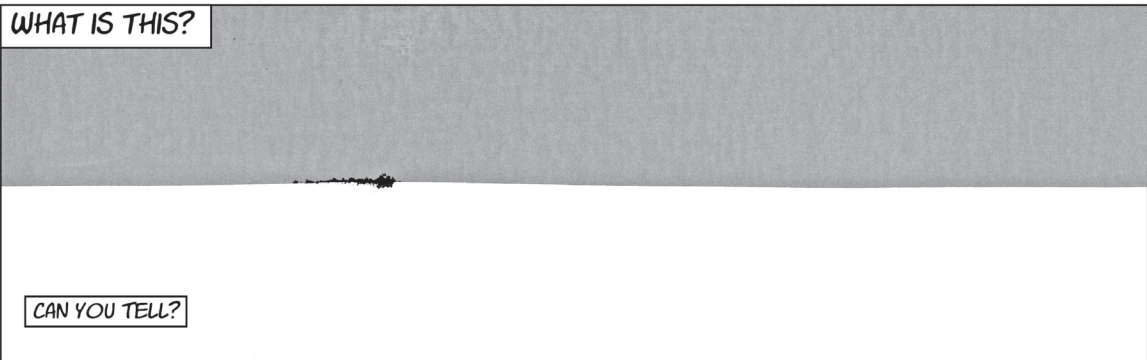


WITH SO FEW FAMILIAR MATERIALS IN A STRANGE NEW LANDSCAPE, SETTLERS RELIED HEAVILY ON IMPORTED SUPPLIES.



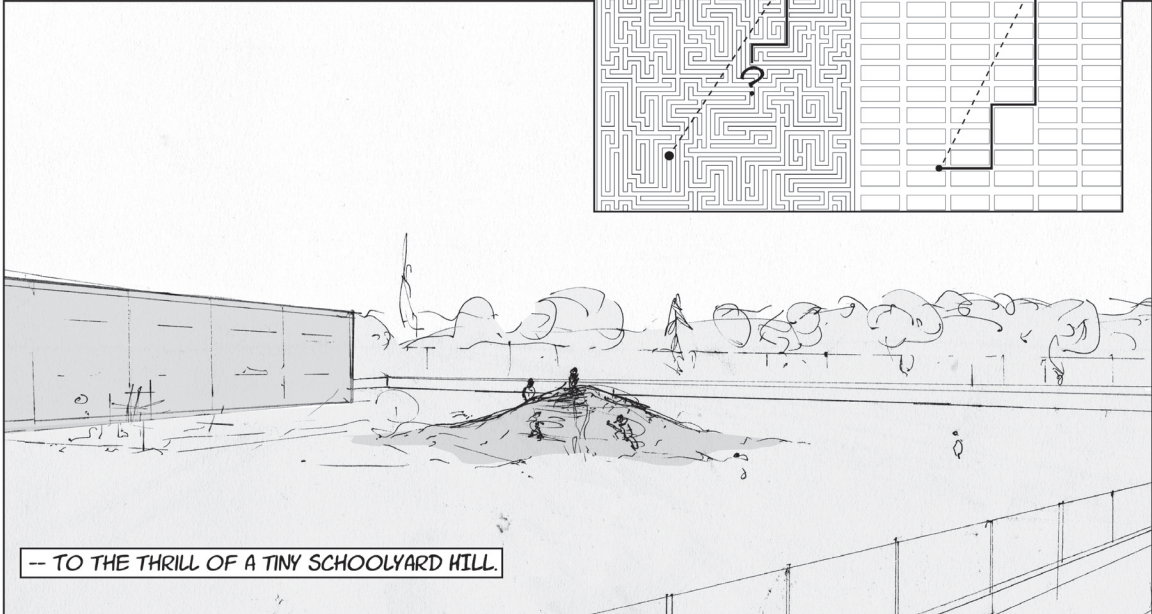
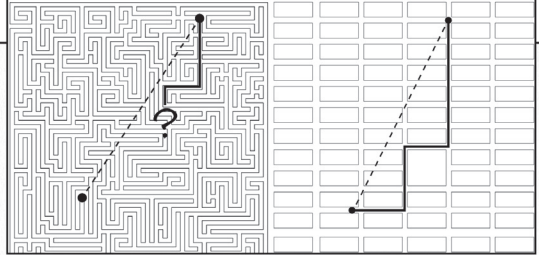
LITTLE HAS CHANGED SINCE CANADA RUSHED TO DOMINATE THIS LANDSCAPE: MOST ARCHITECTURE ON THE PRAIRIE STILL RELIES ON IMPORTED TYPES AND MATERIALS.

Top map, 1971; from Zimmerman, *The Prairie Community System*. Train image, 1904; from the Saskatoon Public Library. Canada West image, 1921; from the Glenbow Museum. Bottom left house image, 1882; from the Regina Public Library. New homes image, 2013; from Google.



THIS HORIZON-BASED EXPERIENCE IS ONE OF THE FUNDAMENTAL CHARACTERISTICS OF INHABITING THE SASKATCHEWAN PRAIRIE.

IT HAS BROAD-REACHING IMPLICATIONS, INCLUDING EVERYTHING FROM THE WAY WE DESIGN OUR CITIES --



ANOTHER FUNDAMENTAL CHARACTERISTIC IS **LIVING WITH EXPOSURE.**



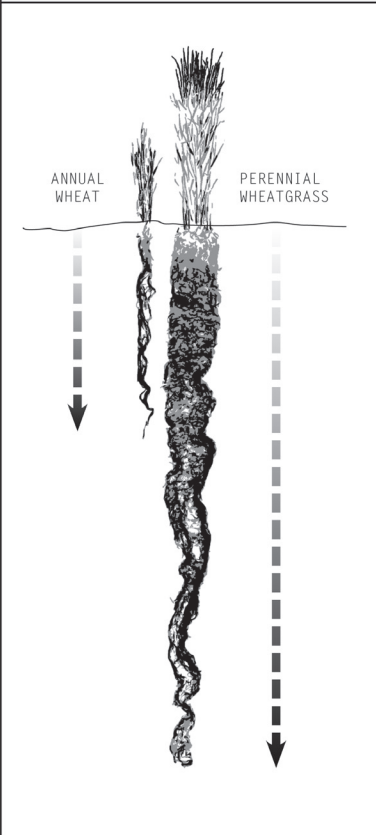
ON THE OPEN PRAIRIE, EXPOSURE TO THE SUN, WIND, AND WEATHER CAN BE COMPLETE.

I... CANT
ESCAPE
THIS SKY!



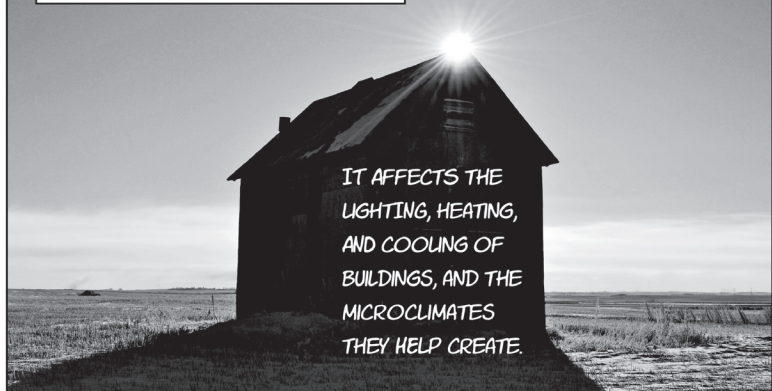
FOR SOME, IT CAN INSPIRE FEELINGS OF LONELINESS, VULNERABILITY AND ISOLATION.

WITH LITTLE SHELTER AVAILABLE, A NATURAL RESPONSE IS TO GO DOWN.



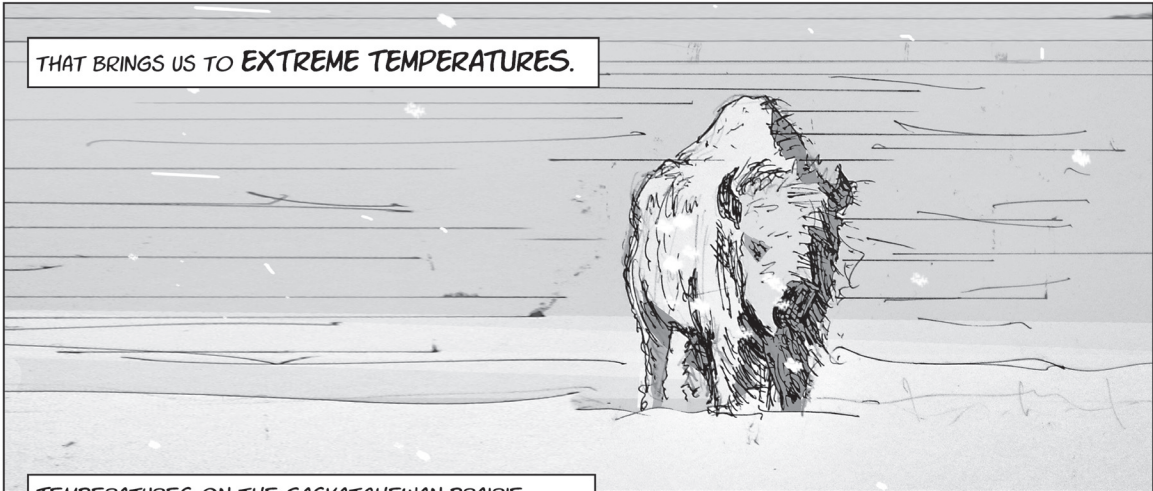
FIRST NATIONS PEOPLES MADE WINTER CAMPS IN VALLEYS, EARLY SETTLERS DUG HOUSES INTO THE EARTH, AND PRAIRIE ANIMALS FIND REFUGE UNDERGROUND.

ORIENTATION BECOMES PARAMOUNT.



IT AFFECTS THE LIGHTING, HEATING, AND COOLING OF BUILDINGS, AND THE MICROCLIMATES THEY HELP CREATE.

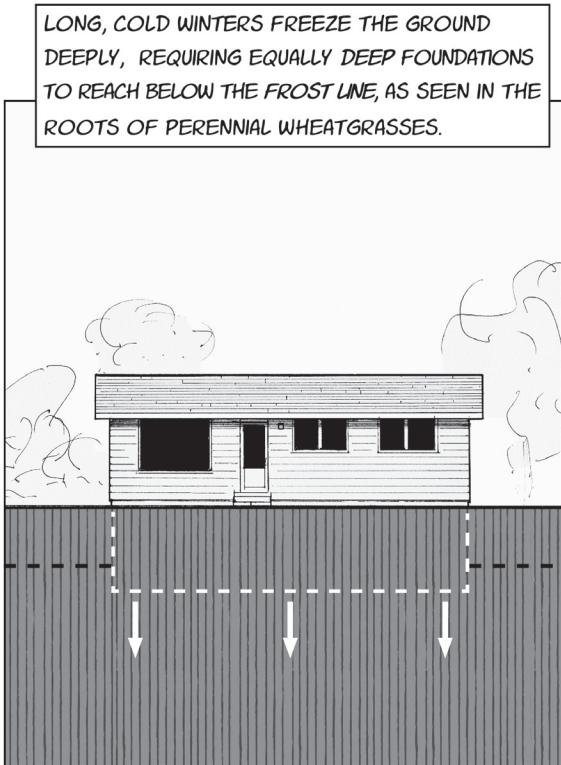
Wheatgrass image, 2014; from the Land Institute. Dugout image, ca. 1895; from Kansas Memory.



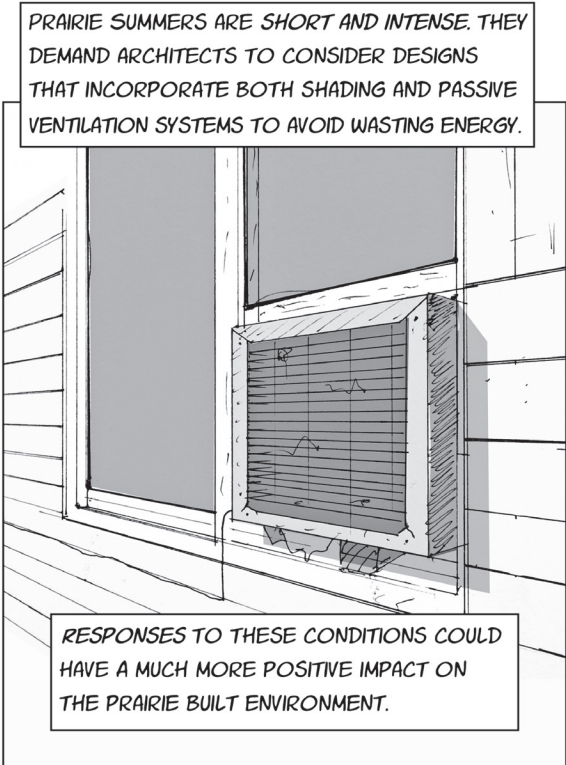
THAT BRINGS US TO **EXTREME TEMPERATURES.**

TEMPERATURES ON THE SASKATCHEWAN PRAIRIE OFTEN RANGE BY 80 °C. MUCH OF PEOPLE'S TIME, THOUGHT, AND RESOURCES ARE DEVOTED TO DEALING WITH HEAT AND COLD.

THIS HAS BROAD IMPLICATIONS FOR OVERALL BUILDING CONFIGURATIONS, AND THINGS LIKE EXPOSED SURFACE AREA, SPATIAL RELATIONSHIPS, AND CONSTRUCTION AND MECHANICAL SYSTEMS.



LONG, COLD WINTERS FREEZE THE GROUND DEEPLY, REQUIRING EQUALLY DEEP FOUNDATIONS TO REACH BELOW THE FROST LINE, AS SEEN IN THE ROOTS OF PERENNIAL WHEATGRASSES.



PRAIRIE SUMMERS ARE SHORT AND INTENSE. THEY DEMAND ARCHITECTS TO CONSIDER DESIGNS THAT INCORPORATE BOTH SHADING AND PASSIVE VENTILATION SYSTEMS TO AVOID WASTING ENERGY.

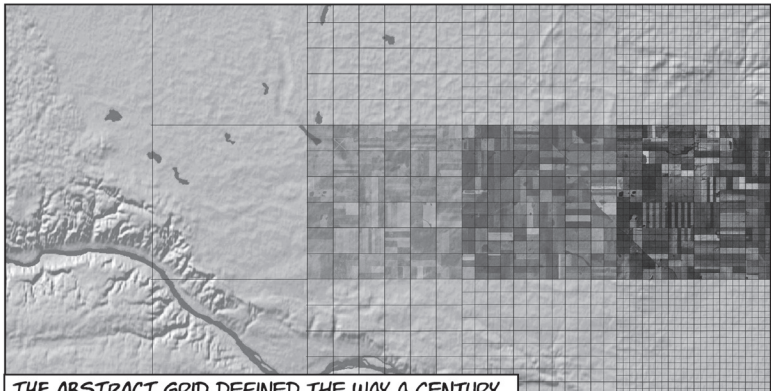
RESPONSES TO THESE CONDITIONS COULD HAVE A MUCH MORE POSITIVE IMPACT ON THE PRAIRIE BUILT ENVIRONMENT.

AND FINALLY, RELATIONSHIPS BETWEEN **BROUGHT AND FOUND**:

THE ICONIC TIPIS OF THE FIRST NATIONS COMBINED POLES BROUGHT FROM FAR AWAY FORESTS --



-- WITH THE SKINS OF THE BISON THAT ONCE DOTTED THE PRAIRIE.



THE ABSTRACT GRID DEFINED THE WAY A CENTURY OF AGRICULTURE WOULD ALTER THE LANDSCAPE . . .



. . . AND LEAVE ITS FUTURISTIC ARTIFACTS TOWERING ON THE HORIZON.

THERE IS A CONSTANT CONVERSATION ON THE PRAIRIE BETWEEN THE ELEMENTS THAT WE BRING TO IT AND THOSE WE FIND IN PLACE. OUR AWARENESS OF THIS LETS US MAKE CHOICES ABOUT HOW THESE RELATIONSHIPS ARE EXPRESSED.

Tipi image: Cree encampment, 1857; from the Canadian Encyclopedia.

WHAT IMPLICATIONS DO THESE CHARACTERISTICS
HAVE FOR EVERYDAY LIFE ON THE PRAIRIE?



TO FIND OUT, LET'S TAKE A CLOSER LOOK AT THE
CHALLENGES FACED BY ONE PRAIRIE TOWN :



WELCOME TO ANCHOR, SK.



CENTRALIZATION.

CONSOLIDATION.

ECONOMIES AND TECHNOLOGIES CHANGE, DISPERSED TOWNS DIE OFF, AND SERVICES BECOME MORE CENTRALIZED.

SOME TOWNS BECOME ANCHORS FOR THEIR SURROUNDING REGION.

POSITIVE OR NEGATIVE, THEY ARE THE REALITY ON THE SK PRAIRIE.

THEY ARE CRUCIAL FOR SUPPORTING RURAL POPULATIONS THAT WOULD OTHERWISE HAVE TO MOVE TO LARGER CENTRES.

ANCHOR COULD BE ANY ONE OF THESE TOWNS --

-- AND LIKE A LOT OF THEM, ANCHOR FACES SIGNIFICANT PRESSURE :

GROWING POPULATION DUE TO NEW INDUSTRY AND CONSOLIDATION

INCREASED LOADS ON AGING TOWN INFRASTRUCTURE

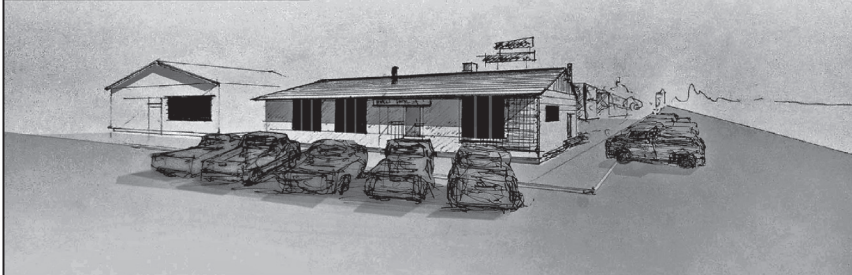
A NEED FOR BETTER PUBLIC SPACES TO HELP MAINTAIN A STRONG COMMUNITY

?

\$

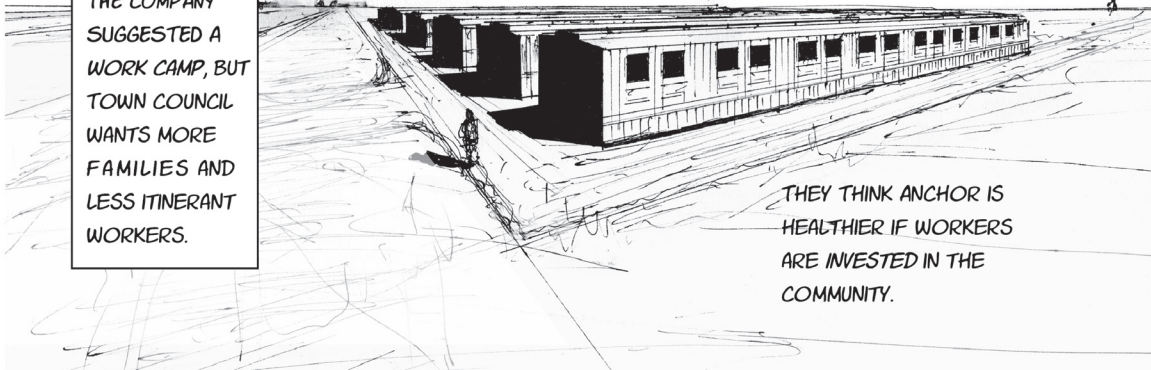
SIGNIFICANT OPERATING COSTS IN AN UNCERTAIN FUTURE.

OIL AND GAS JOBS ARE A BIG REASON ANCHOR HOLDS ON.

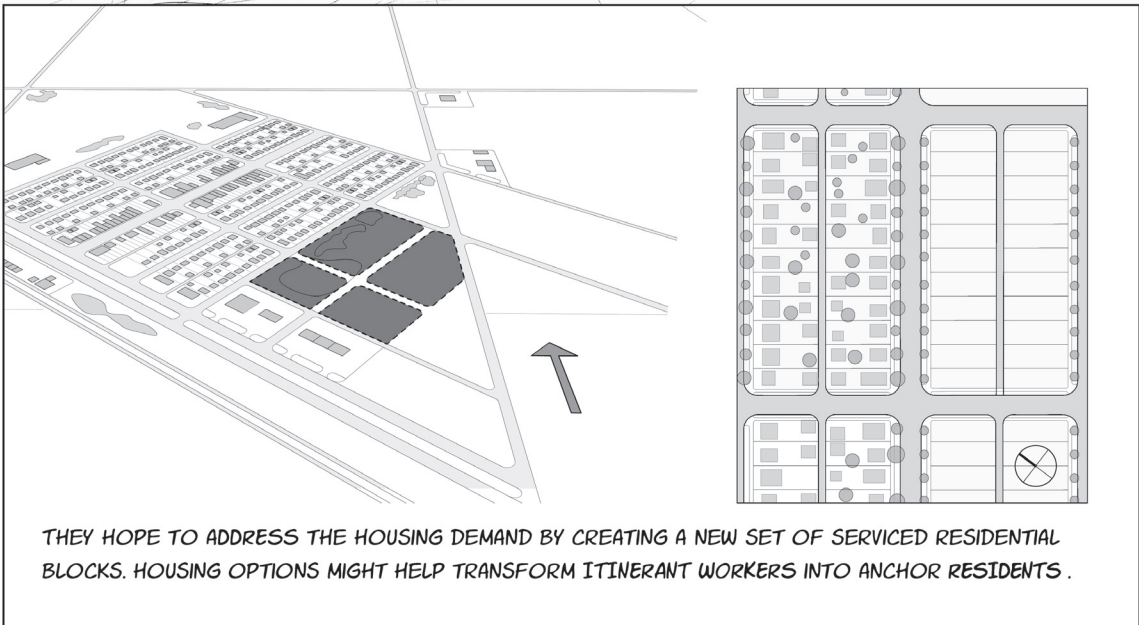


THEY ALSO MEAN LOTS OF STRANGERS AROUND TOWN THAT PEOPLE DON'T KNOW.

THE COMPANY SUGGESTED A WORK CAMP, BUT TOWN COUNCIL WANTS MORE FAMILIES AND LESS ITINERANT WORKERS.

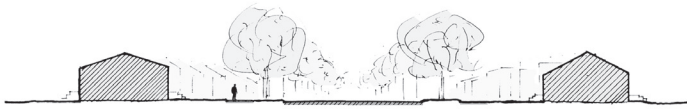


THEY THINK ANCHOR IS HEALTHIER IF WORKERS ARE INVESTED IN THE COMMUNITY.



THEY HOPE TO ADDRESS THE HOUSING DEMAND BY CREATING A NEW SET OF SERVICED RESIDENTIAL BLOCKS. HOUSING OPTIONS MIGHT HELP TRANSFORM ITINERANT WORKERS INTO ANCHOR RESIDENTS .

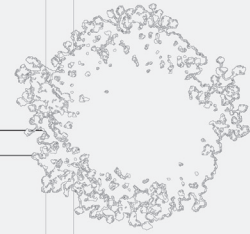
EXTENDING THE CURRENT GRID WOULD EXPOSE THE NORTHWEST AND SOUTHEAST FACES OF NEW HOUSES.



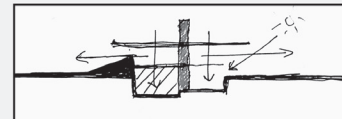
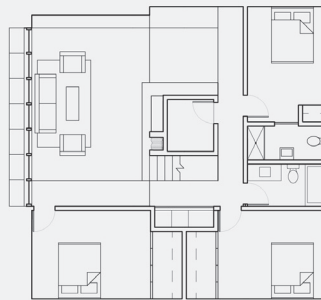
GREEN STRIPS BETWEEN THE SIDEWALKS AND THE STREETS WOULD LET THE TOWN MAINTAIN TREES IN THE NEIGHBOURHOOD, HELPING PROVIDE SHELTER.

NEW HOUSES COULD ALSO RESPOND TO EXPOSURE THE OLD-FASHIONED WAY: **GOING DOWN.**

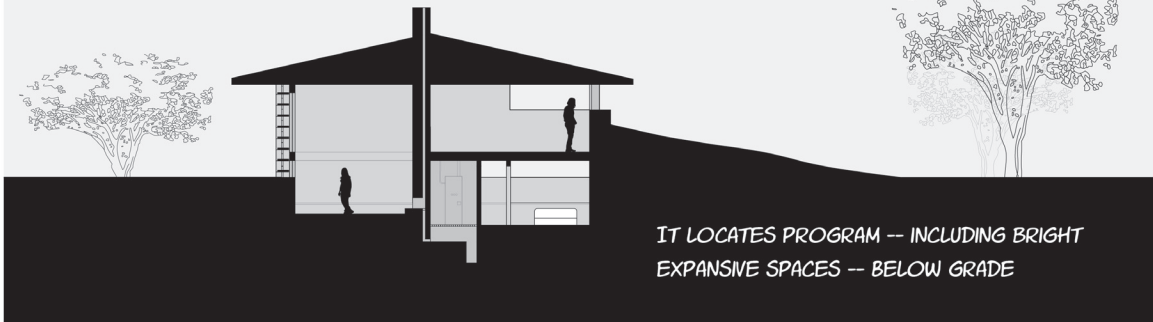
THIS SCHEME USES THE EARTH TO HELP PROVIDE SHELTER.



IT HAS A TALL CENTRAL CORE TO ANCHOR THE PLAN, AND DIFFERENT RELATIONSHIPS TO GRADE BASED ON LIGHT, WIND, AND PRIVACY.

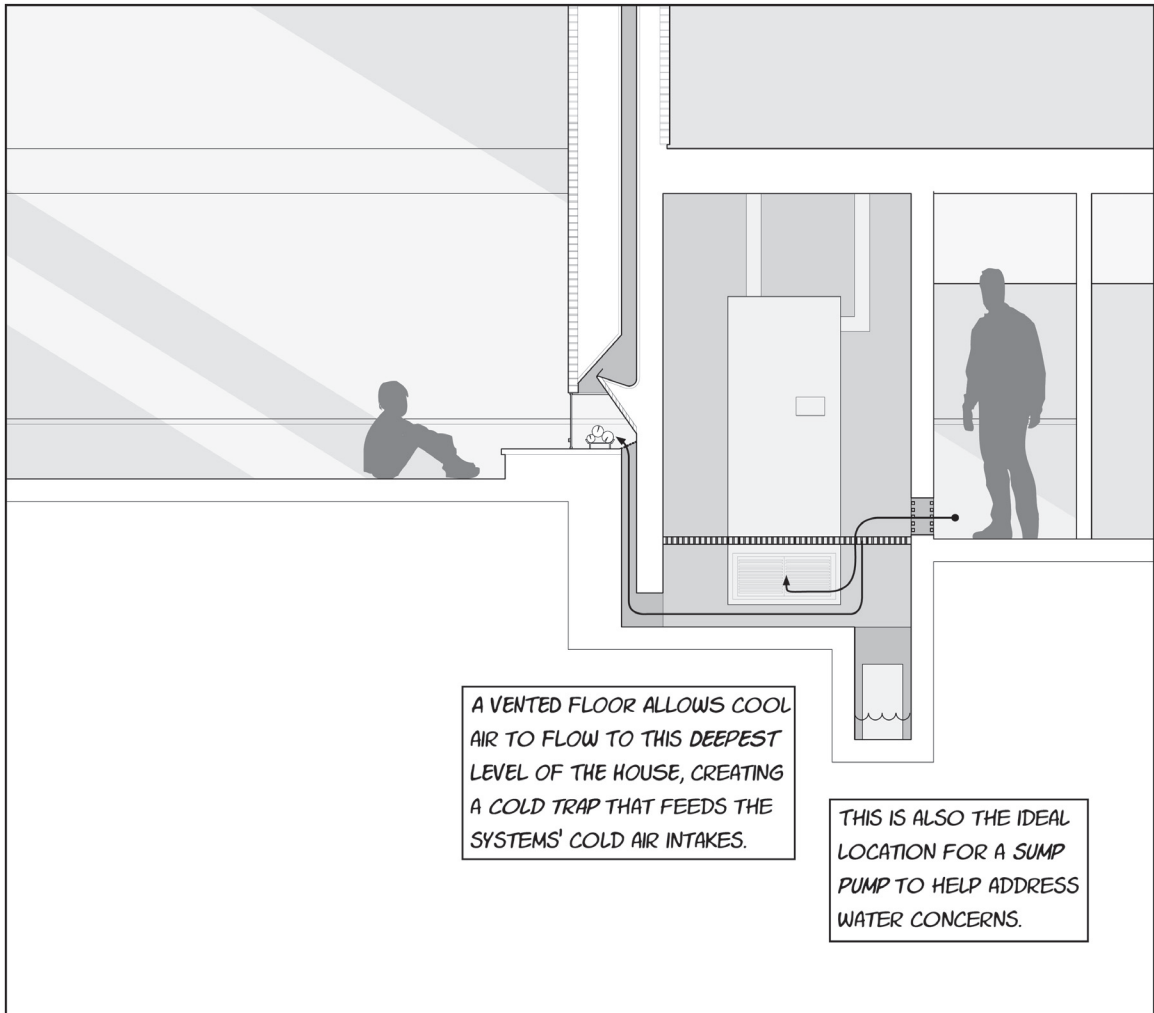


(BASEMENT)

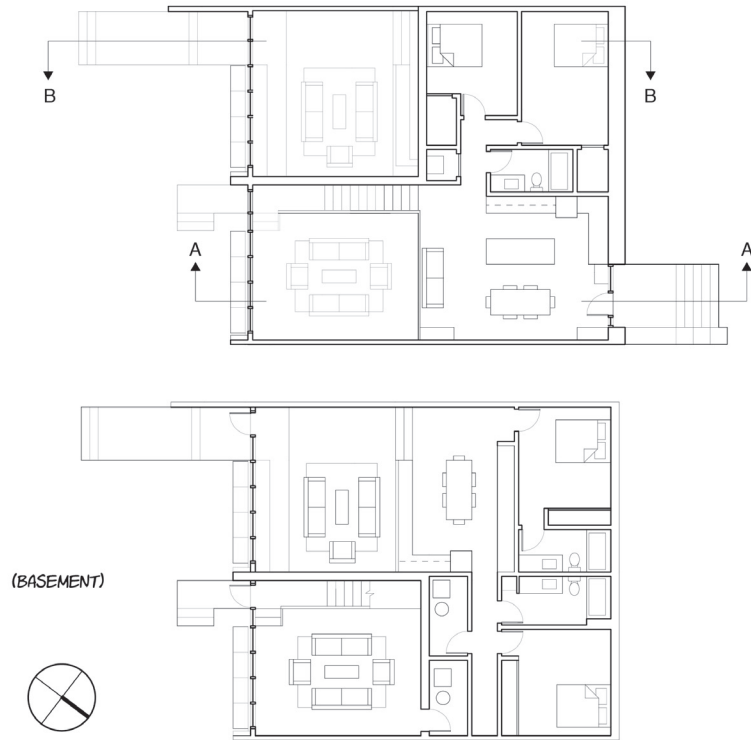


IT LOCATES PROGRAM -- INCLUDING BRIGHT EXPANSIVE SPACES -- BELOW GRADE

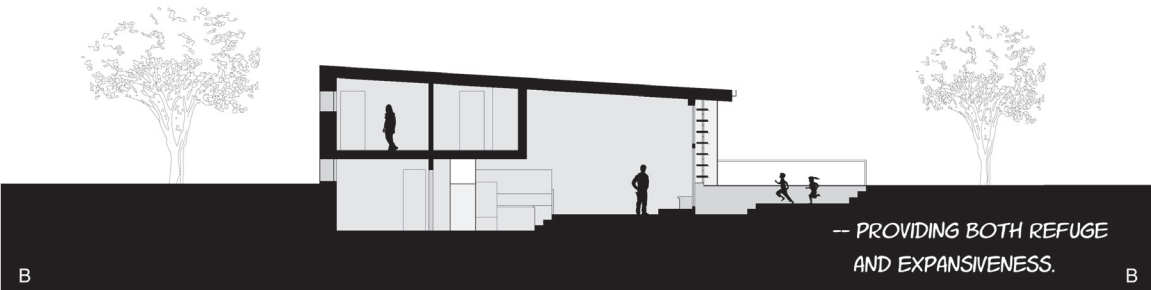
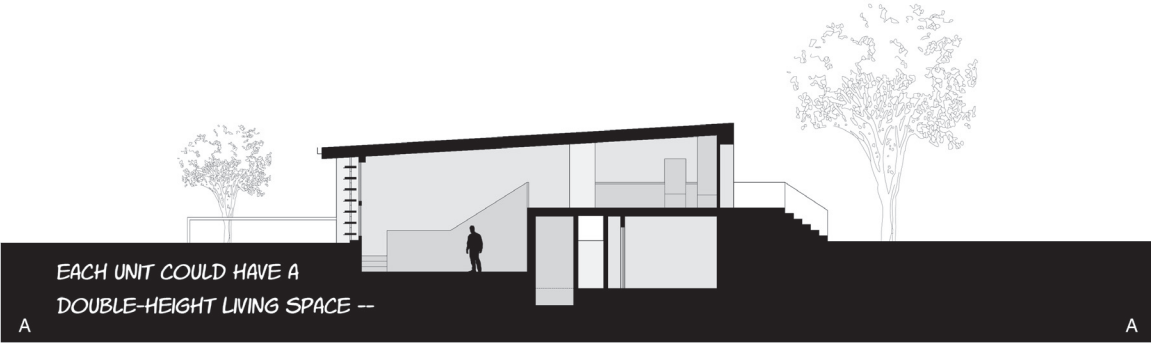
THE CORE IN THIS PLAN IS MORE THAN JUST A HEARTH, IT ALSO CONTAINS THE HOUSE'S MECHANICAL SYSTEMS.



THIS *DUPLEX* IS ANOTHER EXAMPLE OF TAKING PROGRAM BELOW GRADE, THIS TIME IN THE FORM OF A MULTI-UNIT DWELLING, ONE WAY ANCHOR MIGHT SEEK TO ADDRESS ITS NEED FOR HOUSING UNITS.

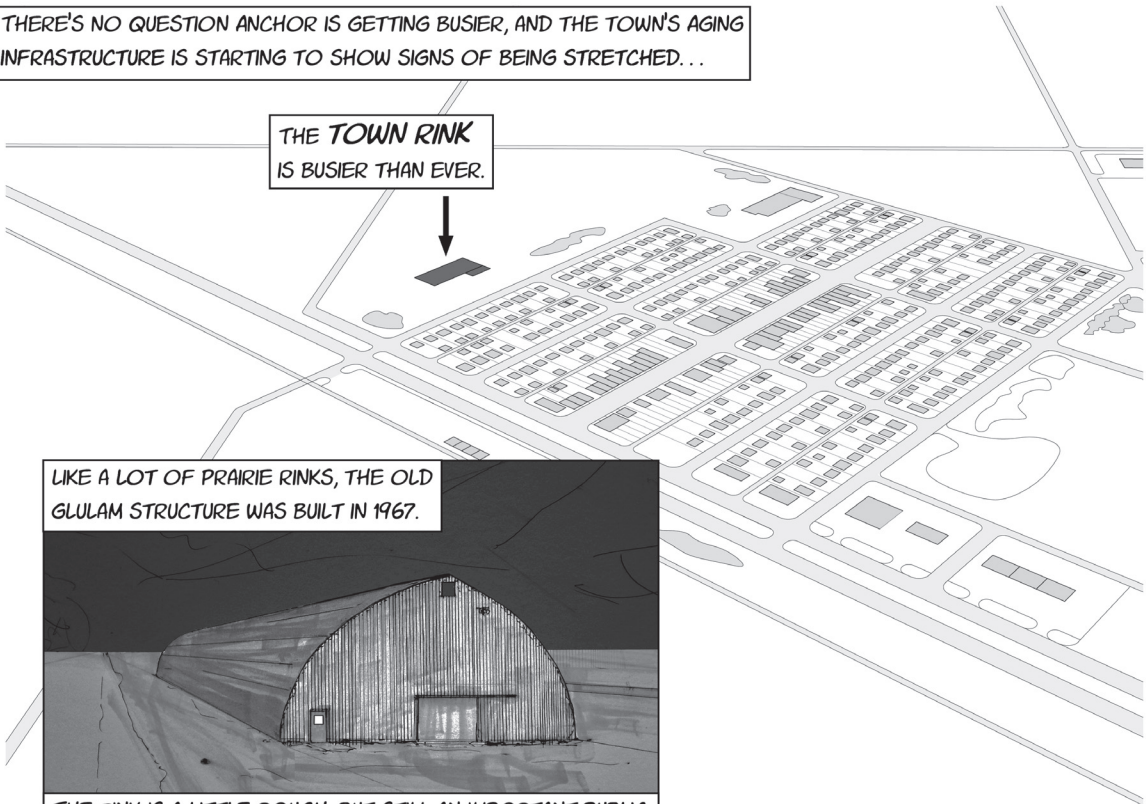


THE SCHEME IS ARRANGED TO GIVE BOTH UNITS ACCESS TO ALL FOUR FACADES.

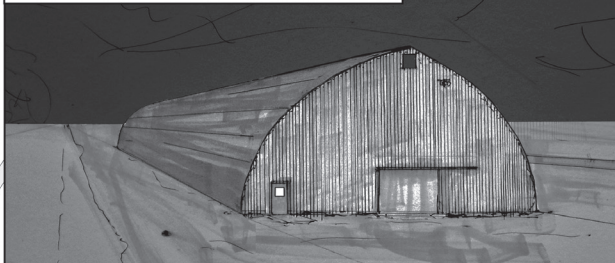


THERE'S NO QUESTION ANCHOR IS GETTING BUSIER, AND THE TOWN'S AGING INFRASTRUCTURE IS STARTING TO SHOW SIGNS OF BEING STRETCHED...

THE TOWN RINK IS BUSIER THAN EVER.

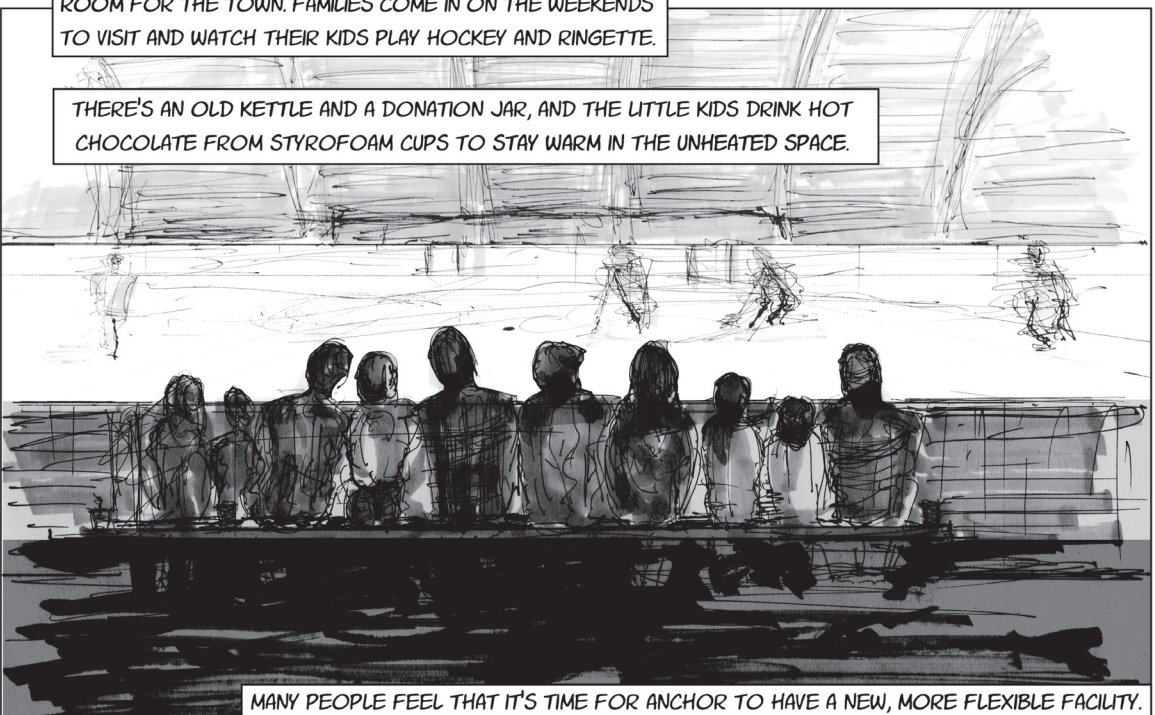


LIKE A LOT OF PRAIRIE RINKS, THE OLD GLULAM STRUCTURE WAS BUILT IN 1967.

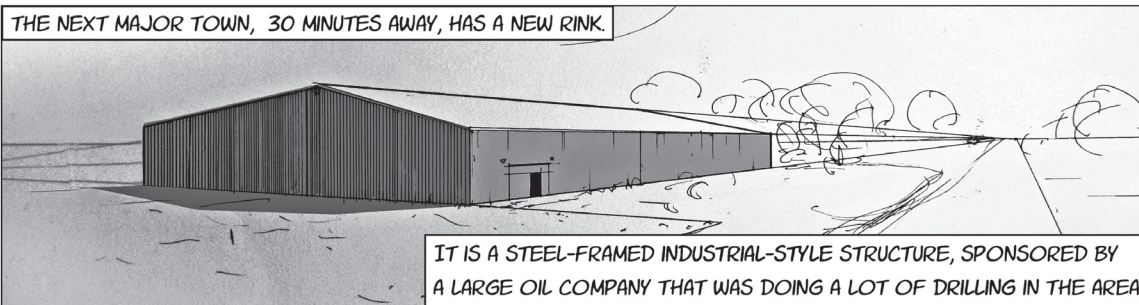


THE RINK IS A LITTLE ROUGH, BUT STILL AN IMPORTANT PUBLIC ROOM FOR THE TOWN. FAMILIES COME IN ON THE WEEKENDS TO VISIT AND WATCH THEIR KIDS PLAY HOCKEY AND RINGETTE.

THERE'S AN OLD KETTLE AND A DONATION JAR, AND THE LITTLE KIDS DRINK HOT CHOCOLATE FROM STYROFOAM CUPS TO STAY WARM IN THE UNHEATED SPACE.

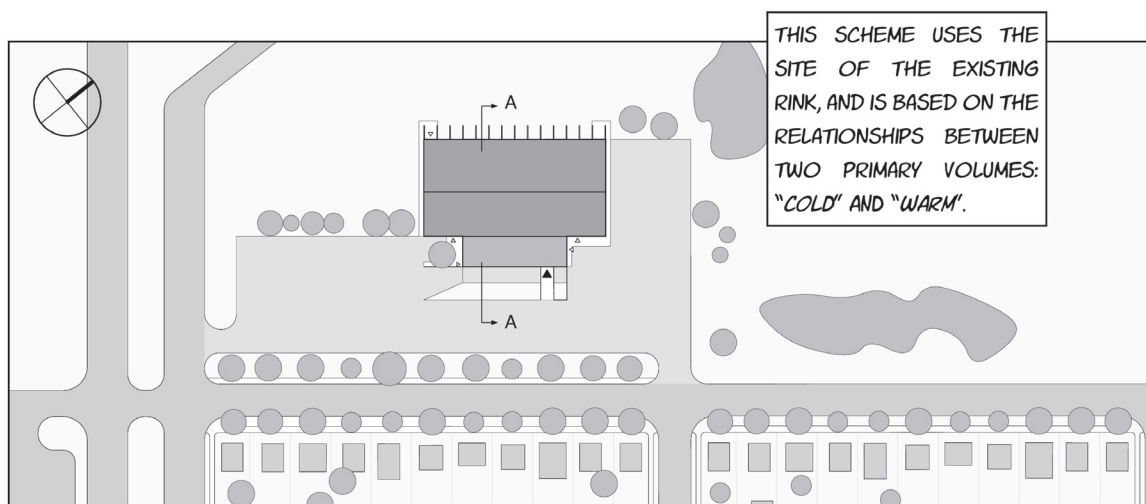


MANY PEOPLE FEEL THAT IT'S TIME FOR ANCHOR TO HAVE A NEW, MORE FLEXIBLE FACILITY.

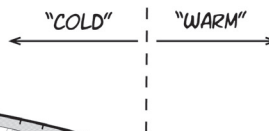


A NEW ARENA IN ANCHOR COULD BE MORE THAN A HOCKEY RINK, IT COULD BE A YEAR-ROUND RESOURCE FOR THE TOWN.

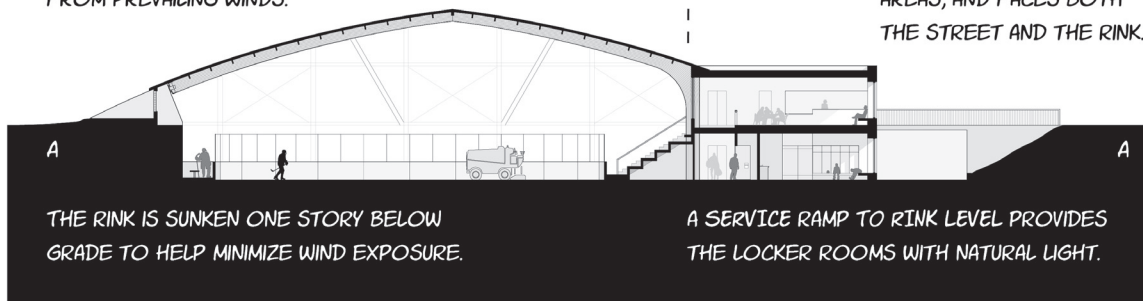
IT COULD EXPAND ON THE EXISTING RINK'S ROLE AS A GATHERING PLACE FOR THE AREA, AND HOUSE A WIDE RANGE OF EVENTS LIKE WEDDINGS, CONFERENCES, AND CONCERTS.



THE "COLD" VOLUME HOUSES THE RINK, AND SHELTERS THE "WARM" VOLUME FROM PREVAILING WINDS.



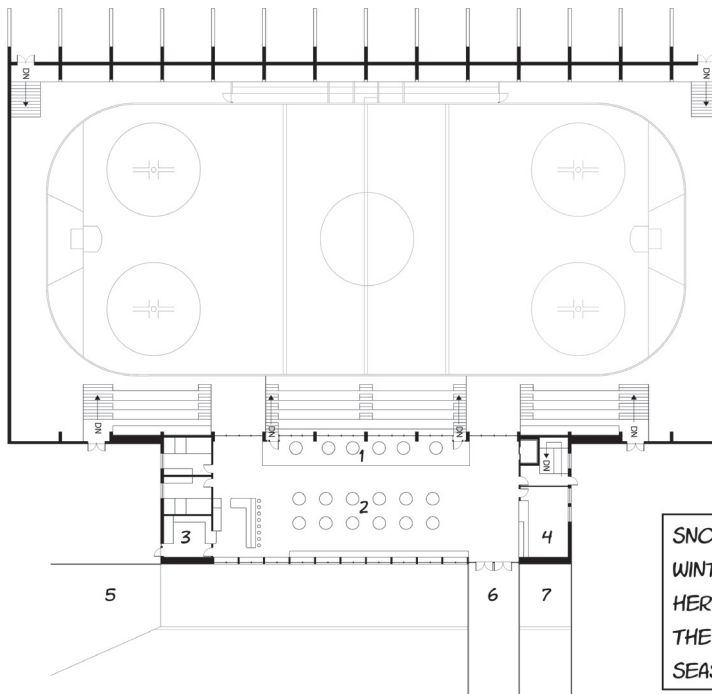
THE "WARM" VOLUME HOUSES FLEXIBLE SOCIAL AREAS, AND FACES BOTH THE STREET AND THE RINK.



THE TOP FLOOR OF THE "WARM" VOLUME CONTAINS BRIGHT, OPEN SPACES, IDEAL FOR VARIED FUNCTIONS, AS WELL AS FOR GATHERING TO WATCH THE GAME. THE BASEMENT CONTAINS BRIGHT LOCKER ROOMS AND SERVICE SPACES.

GROUND LEVEL:

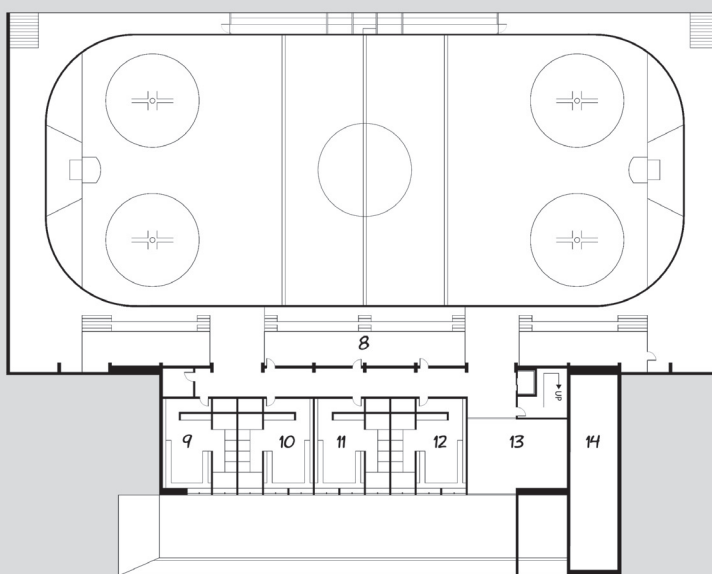
- 1. VIEWING AREA
- 2. WARM SEATING
- 3. KITCHEN/BAR
- 4. ADMINISTRATION
- 5. SERVICE RAMP
- 6. ENTRANCE BRIDGE
- 7. SNOW DUMP PIT



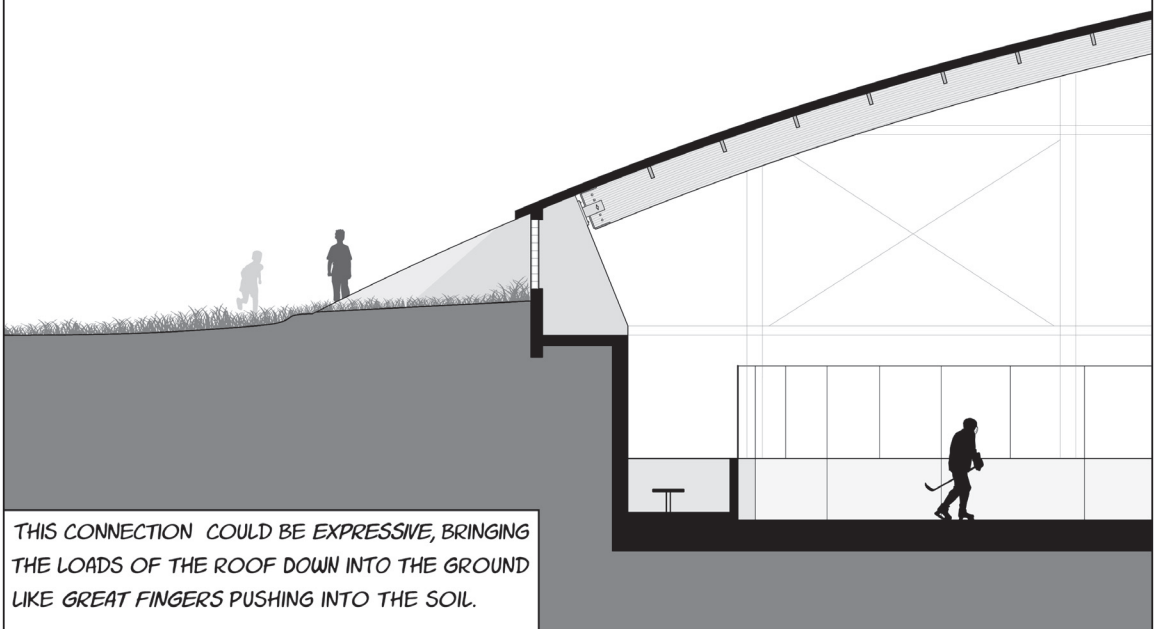
SNOW COLLECTED DURING WINTER COULD BE STORED HERE TO HELP COOL THE RINK INTO SHOULDER SEASONS.

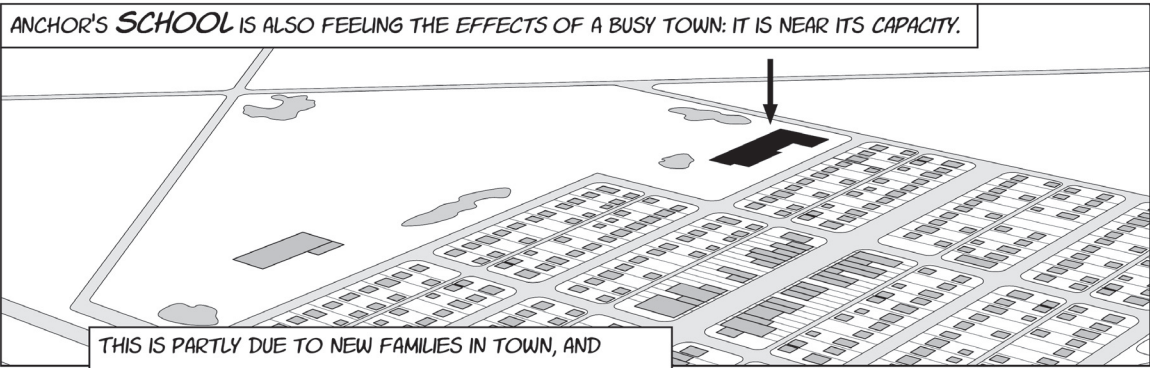
BASEMENT:

- 8. STORAGE
- 9. LOCKER ROOM
- 10. LOCKER ROOM
- 11. LOCKER ROOM
- 12. LOCKER ROOM
- 13. ZAMBONI/MECH.
- 14. SNOW STORAGE

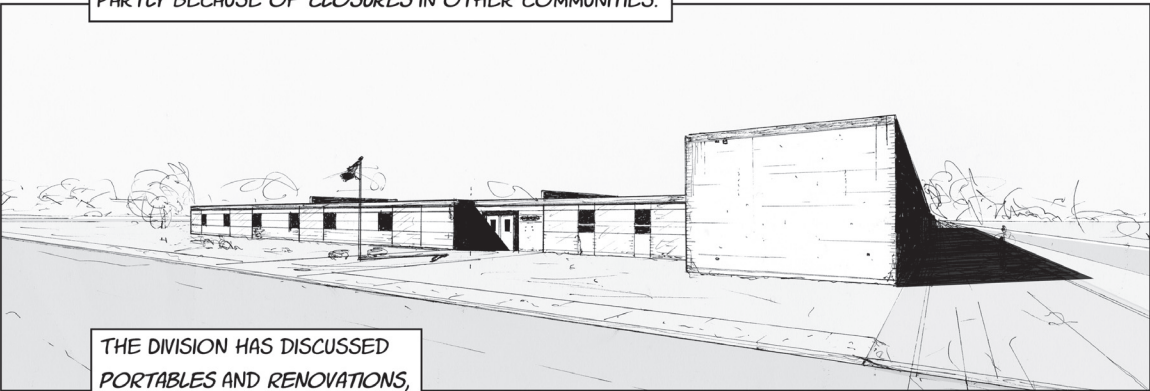


THE CONSIDERABLE THRUST OF THE GLULAM ARCHES
WOULD DEMAND SUBSTANTIAL FOUNDATIONS.



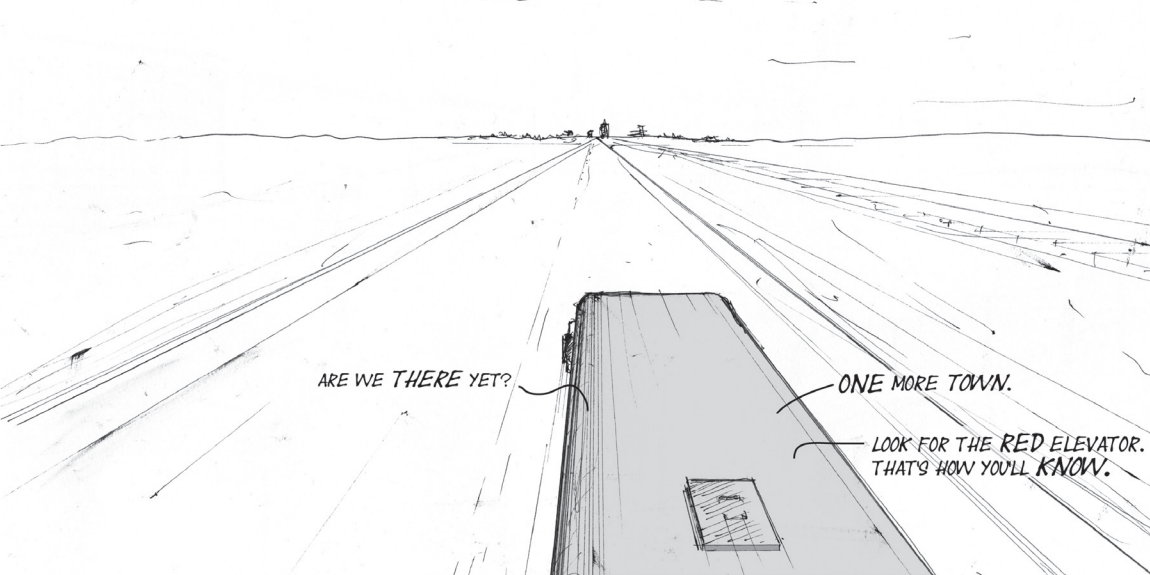


THIS IS PARTLY DUE TO NEW FAMILIES IN TOWN, AND PARTLY BECAUSE OF CLOSURES IN OTHER COMMUNITIES.



THE DIVISION HAS DISCUSSED PORTABLES AND RENOVATIONS, BUT WOULD REALLY PREFER TO HAVE A NEW BUILDING.

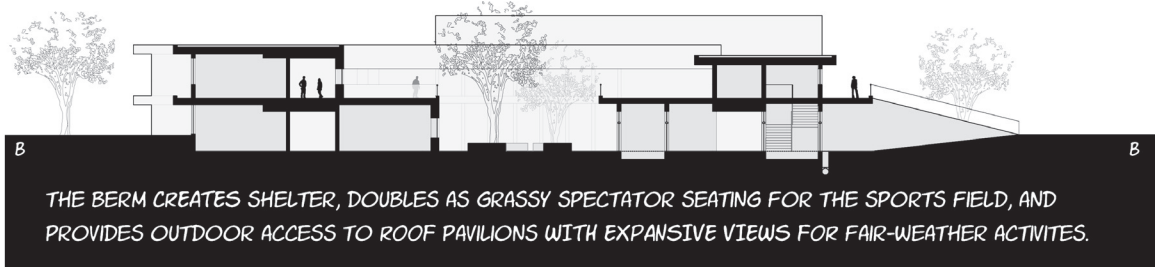
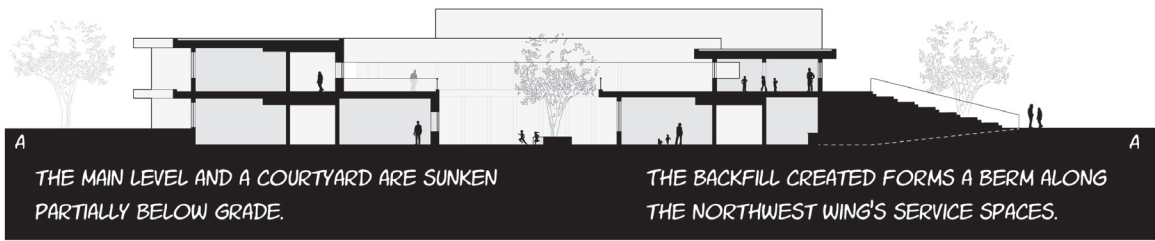
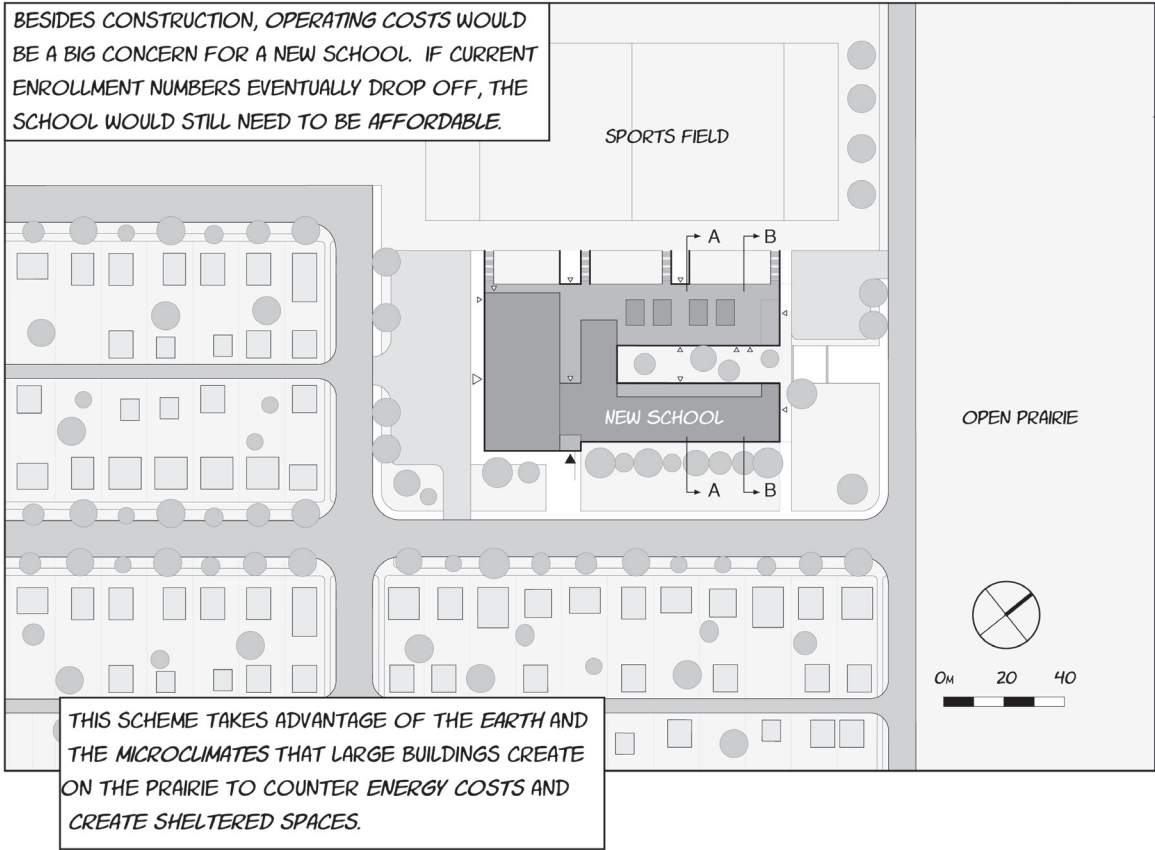
EVERY YEAR, MORE KIDS MUST TRAVEL FROM A WIDE RADIUS AROUND ANCHOR.



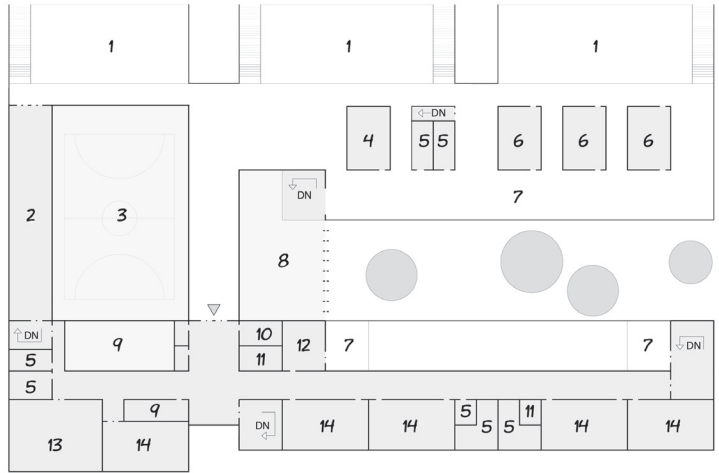
ARE WE THERE YET?

ONE MORE TOWN.

LOOK FOR THE RED ELEVATOR. THAT'S HOW YOU'LL KNOW.



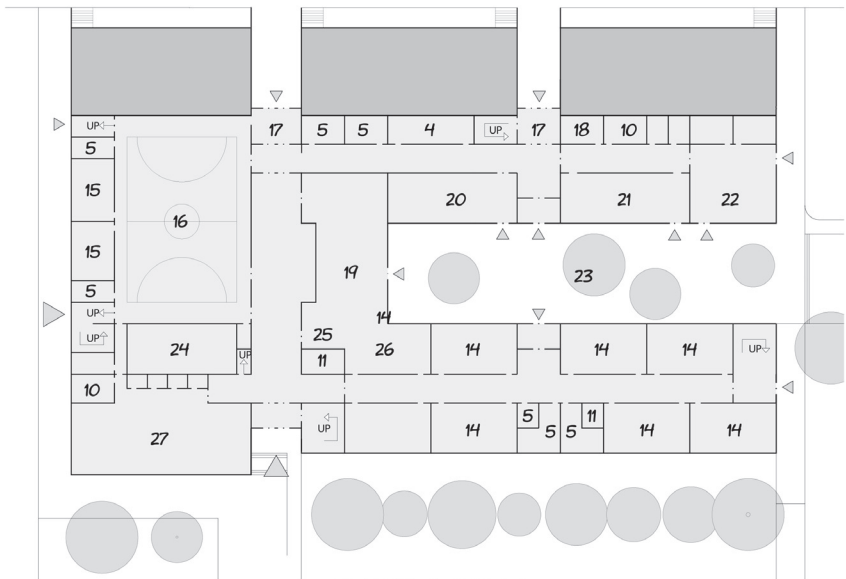
MANY PARENTS DRIVE TO ANCHOR TO BRING THEIR KIDS TO SCHOOL. A NEW BUILDING COULD BE A HUB, PROVIDING A WIDER VARIETY OF SERVICES FOR THESE PEOPLE TO ACCESS.



- UPPER LEVEL:
- 1. BERM/SEATING
 - 2. BLEACHERS
 - 3. GYM (BELOW)
 - 4. MECHANICAL
 - 5. WASHROOMS
 - 6. ROOF PAVILIONS
 - 7. ROOF DECK
 - 8. LIBRARY (BELOW)
 - 9. STAGE (BELOW)
 - 10. STORAGE
 - 11. ELEVATOR
 - 12. LOUNGE
 - 13. MUSIC
 - 14. CLASSROOMS

UPPER LEVEL: GRADES 8-12

THIS SCHEME INCLUDES A DAYCARE WITH INDEPENDENT ACCESS, AND A LIBRARY THAT CAN BE OPENED TO THE PUBLIC VIA THE COURTYARD.



- MAIN LEVEL:
- 15. CHANGE ROOMS
 - 16. GYMNASIUM
 - 17. MUDROOM
 - 18. DAYCARE KITCHEN
 - 19. LIBRARY
 - 20. CAFETERIA
 - 21. KINDERGARTEN
 - 22. DAYCARE
 - 23. COURT
 - 24. STAGE/STORAGE
 - 25. LIBRARY CIRC.
 - 26. COMPUTER
 - 27. OFFICES

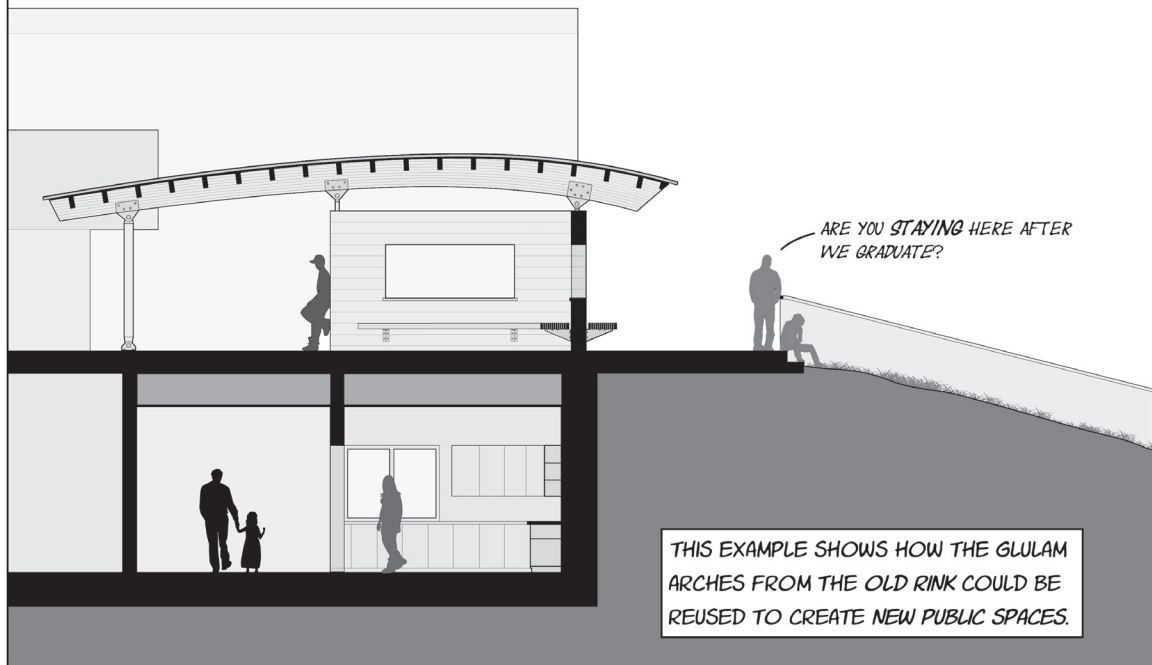


MAIN LEVEL: GRADES K-7

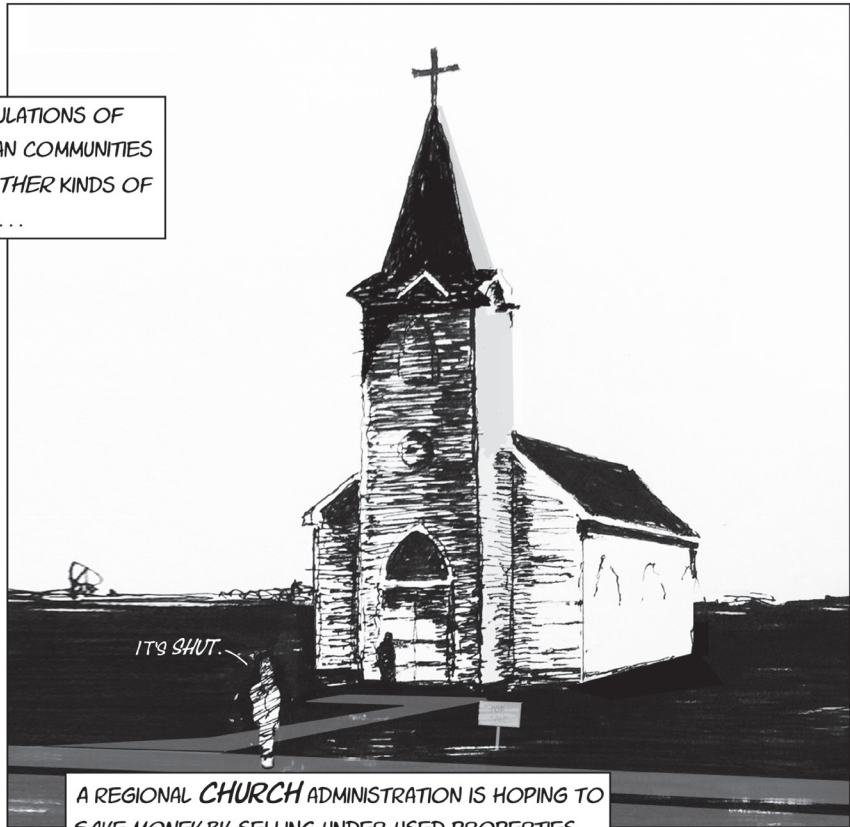
GROUPS OF SPACES CAN BE ISOLATED TO SUPPORT MANY KINDS OF FUNCTIONS AND EVENTS.

THE SCHEME'S ROOF PAVILIONS COULD RANGE IN THEIR PERMEABILITY: FROM A FULL ENVELOPE CONTAINING WASHROOMS, STAIRS, OR MECHANICAL --

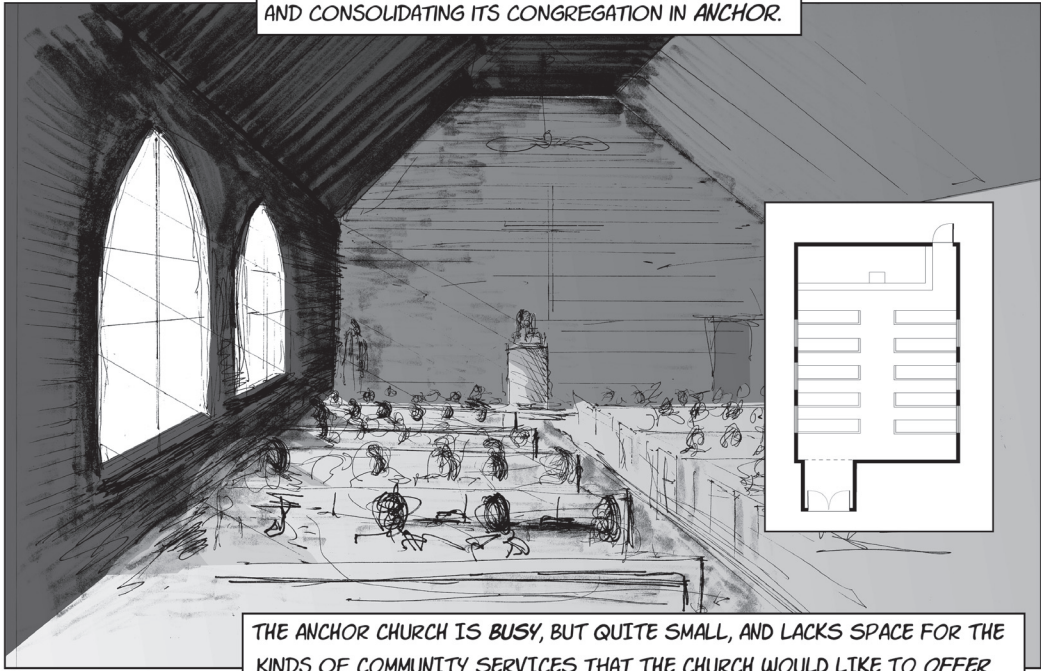
-- TO OPEN-AIR STRUCTURES FOR SUPPORTING OUTDOOR LEARNING AND VARIOUS EVENTS IN THE FIELD.



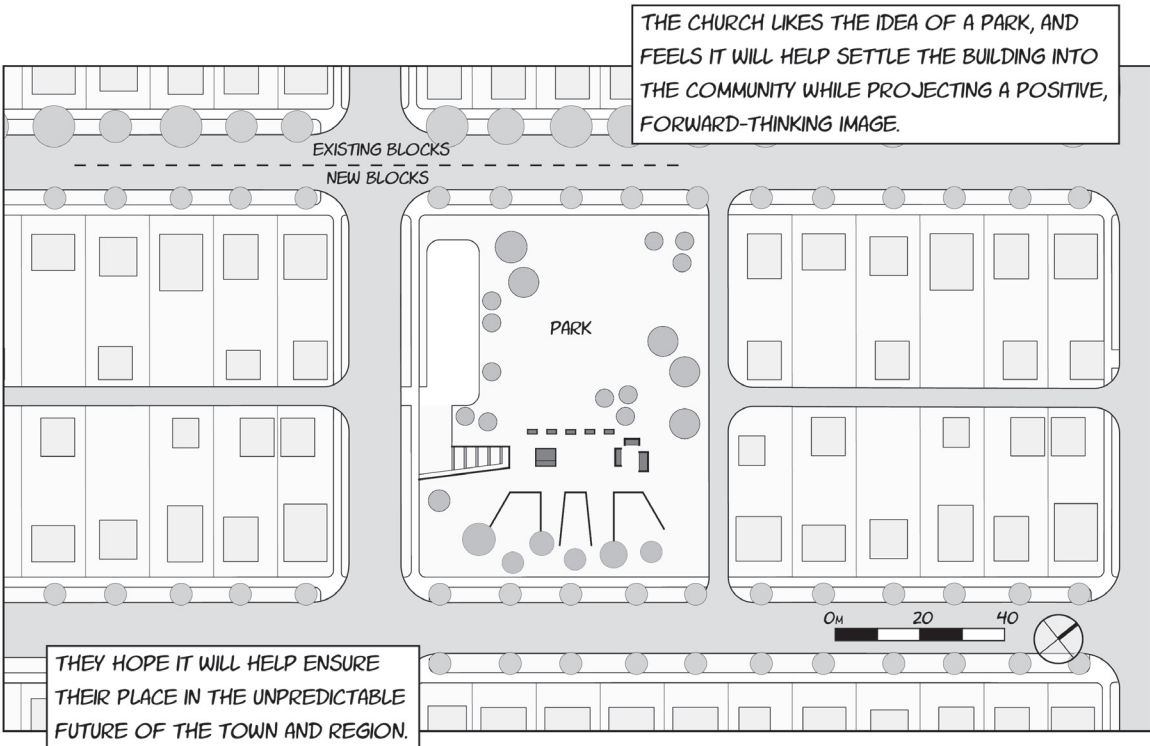
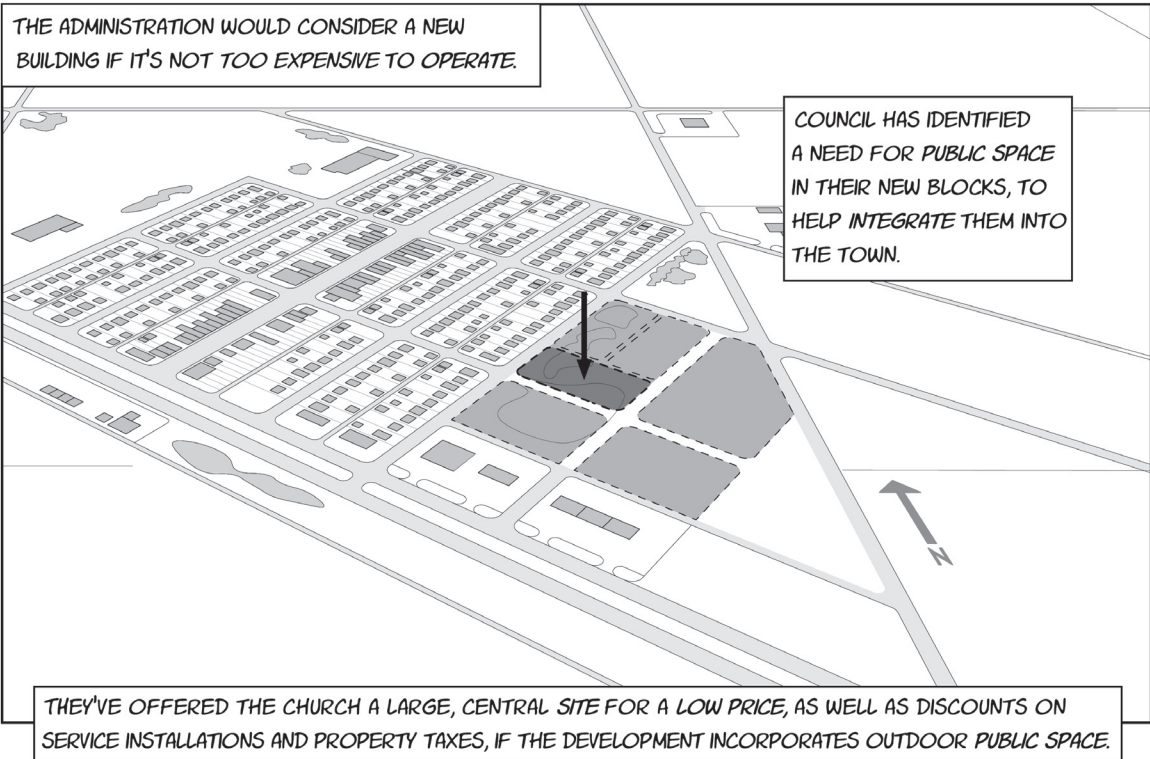
THE DECLINING POPULATIONS OF RURAL SASKATCHEWAN COMMUNITIES ARE RESULTING IN OTHER KINDS OF CLOSURES AS WELL . . .



A REGIONAL **CHURCH** ADMINISTRATION IS HOPING TO SAVE MONEY BY SELLING UNDER-USED PROPERTIES AND CONSOLIDATING ITS CONGREGATION IN **ANCHOR**.



THE **ANCHOR** CHURCH IS BUSY, BUT QUITE SMALL, AND LACKS SPACE FOR THE KINDS OF COMMUNITY SERVICES THAT THE CHURCH WOULD LIKE TO OFFER.



AN EARTH-SHELTERED BUILDING COULD BE IDEAL FOR THIS ARRANGEMENT --



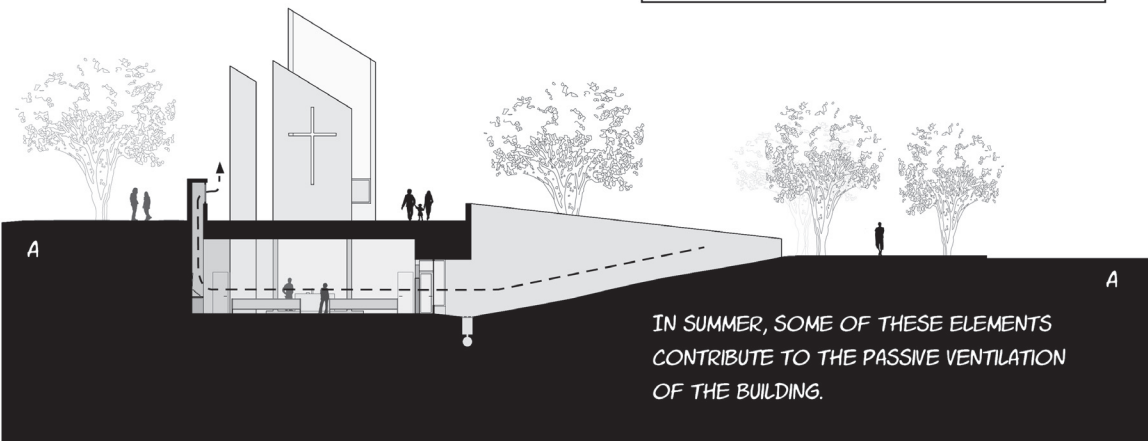
-- INTEGRATING PUBLIC AND PRIVATE SPACE, COUNTERING ENERGY COSTS, AND ANCHORING THE BUILDING IN THE COMMUNITY.

THIS SCHEME USES LONG CUTS IN THE EARTH ALONG THE SOUTHERN FACE FOR STRATEGIC DAYLIGHTING, VENTILATION, AND HEAT.

COMPRESSION CHANGES WITH LIGHT AND PROGRAM, MOVING FROM A TALL, BRIGHT LOBBY TO A LOWER, DIMLY LIT NAVE, AND FORWARD TO THE SANCTUARY, WHOSE LIGHT WELLS BURST UP THROUGH THE EARTH AND LET LIGHT SPILL DOWN.

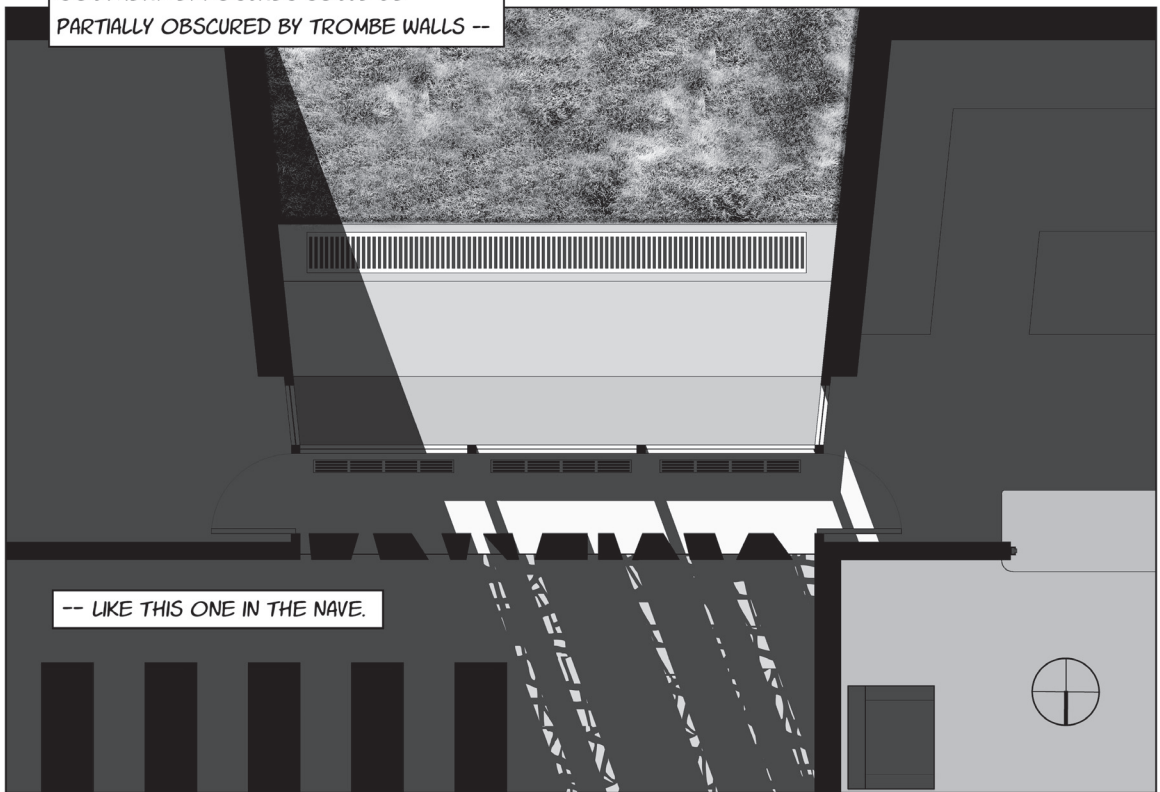


THE TALL LIGHT WELLS BECOME SCULPTURAL ELEMENTS IN THE PARK, HIGHLIGHTING THEIR SIGNIFICANCE AND INCREASING THE VISIBILITY OF THE CHURCH IN THE NEIGHBOURHOOD.



IN SUMMER, SOME OF THESE ELEMENTS CONTRIBUTE TO THE PASSIVE VENTILATION OF THE BUILDING.

SOUTHERN EXPOSURES COULD BE PARTIALLY OBSCURED BY TROMBE WALLS --



-- LIKE THIS ONE IN THE NAVE.

LOCATED WITHIN THE ENVELOPE, THEY WOULD RADIATE HEAT, AND FEATURE OPENINGS WITH STAINED GLASS PANELS TO DIFFUSE DYNAMIC LIGHT THROUGH THE SPACE, AND...

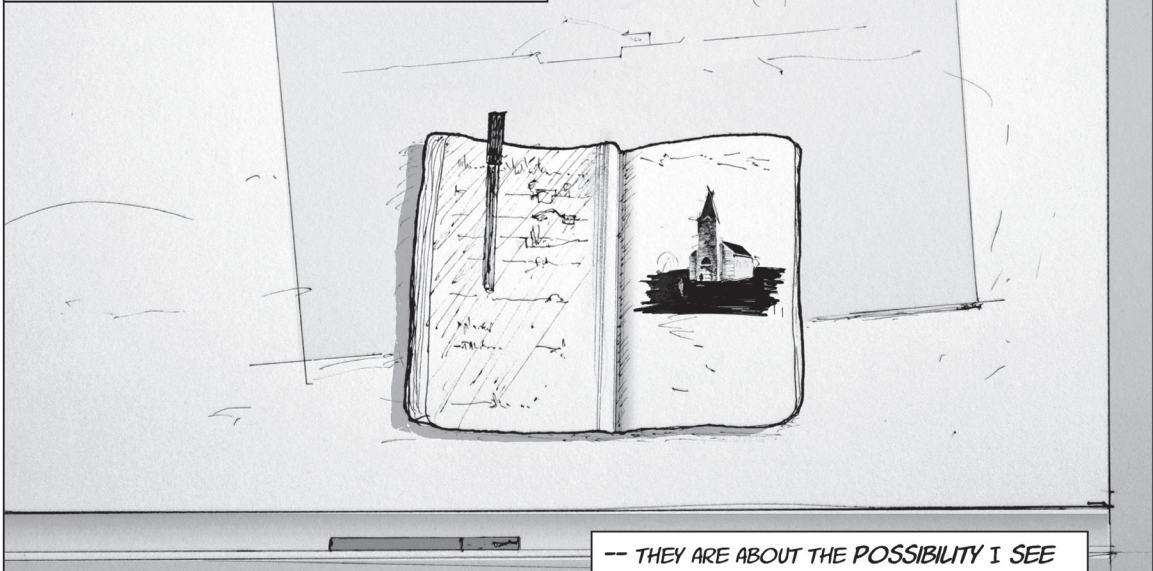
... AND...

... OKAY.

THESE ARE JUST A FEW WAYS THAT THE FUNDAMENTAL CHARACTERISTICS WE DISCUSSED CAN INFORM THE WAY WE DESIGN FOR THE PRAIRIE.

DO YOU SEE?

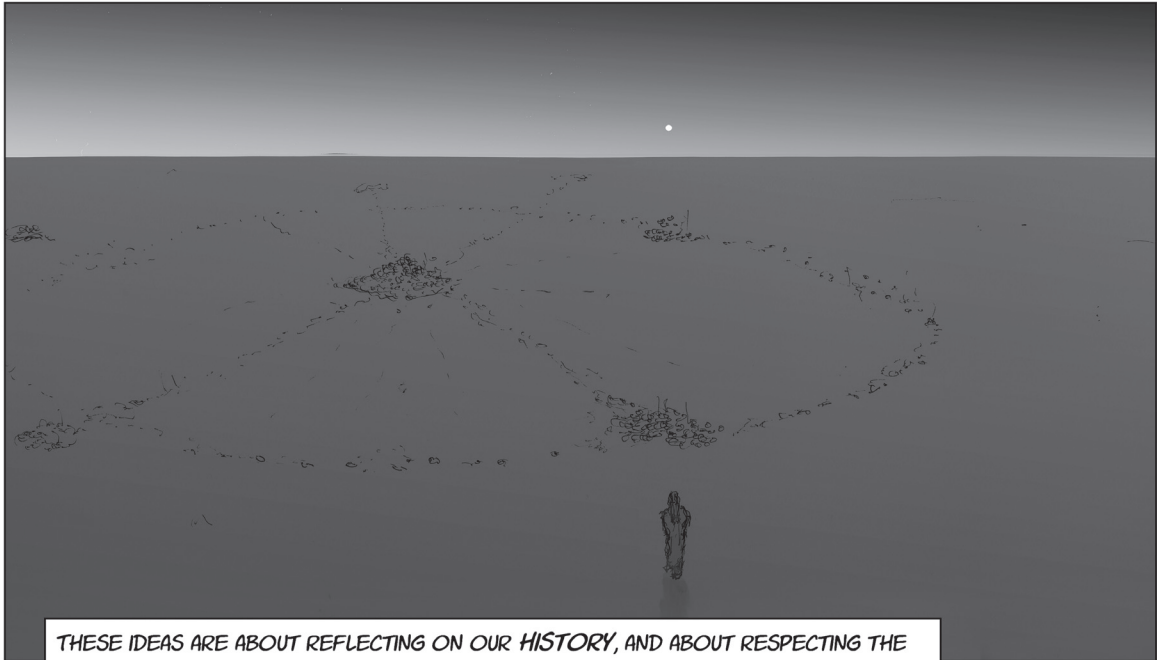
THESE *IDEAS* I'VE SHOWN YOU ARE ABOUT MORE THAN A FEW PROJECTS FOR A *MADE-UP TOWN* --



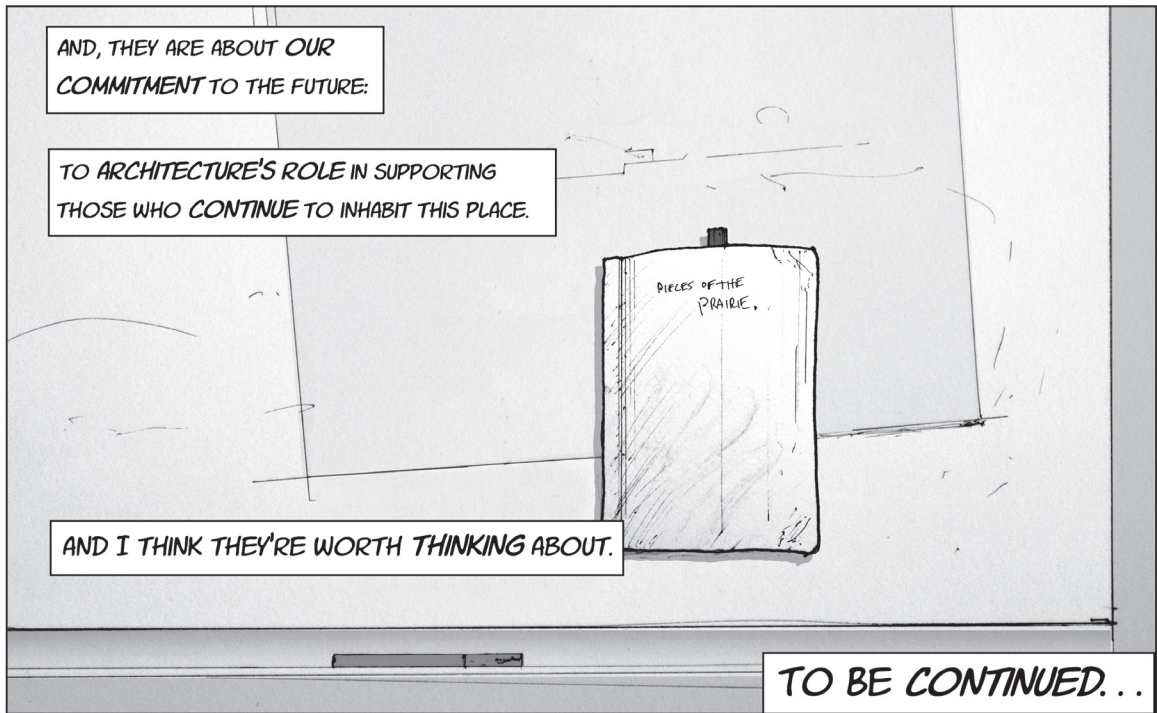
-- THEY ARE ABOUT THE *POSSIBILITY* I SEE WHEN I LOOK AROUND MY HOME PROVINCE.

THEY ARE ABOUT FINDING *OUR PLACE* IN THIS *LANDSCAPE*; ABOUT SEEKING A NEW *ARCHITECTURAL SPIRIT* ON THE PRAIRIE, FOCUSED ON *ENGAGING* WITH THE *UNIQUENESS* THAT IS HERE.





THESE IDEAS ARE ABOUT REFLECTING ON OUR *HISTORY*, AND ABOUT RESPECTING THE LANDSCAPE THAT OUR PREDECESSORS *FOUND*, CAME TO *LOVE*, AND *COMMITTED TO*.



AND, THEY ARE ABOUT *OUR COMMITMENT TO THE FUTURE*:

TO ARCHITECTURE'S ROLE IN SUPPORTING THOSE WHO CONTINUE TO INHABIT THIS PLACE.

AND I THINK THEY'RE WORTH *THINKING ABOUT*.

TO BE CONTINUED...

CHAPTER 6: CONCLUSION

In this thesis, I set out to address a prevailing sense of placelessness conveyed in many contemporary developments on the Saskatchewan prairie. I hoped to achieve this by searching for ways that the built environment could feel more connected and respond more directly to the unique landscape, climate, and common human experience found there. In the process of this search, it became clear that a major part of the work must also be about the development of a method for generating, applying, and evaluating my findings on the subject.

I feel that the work was successful in a number of respects. First, this thesis taught me to develop, test, and demonstrate a critical design process. I was able to identify characteristics that, in my opinion, are fundamental to inhabiting the prairie, analyze them to inform a critical position about the nature of architecture there, and develop a design language that was a direct response to these considerations. The resulting designs represent just one of a multitude of possible approaches to responding to this same set of characteristics, but I believe they do so in a clear way that is consistently based on my critical position. I hope this work might be useful to others who are interested in developing their own critical approach to design.

Second, the approach of using a generic site, populated with a narrative of realistic inhabitants and socioeconomic forces, was helpful in generating design ideas that could be relevant to many places on the prairie. It is easier to design for specific clients, sites, and conditions, and the notion of creating designs relevant to a whole region was a major question in this thesis. As we have seen, this goal placed my work in a grey area in the architectural discourse between the empirical and the abstract, and raised questions about the most useful way to situate the designs. The approach I chose allowed the work to take on a specificity and level of resolution that seemed unlikely at the outset, while retaining a useful level of relevance to the wider region. This approach could have been pushed even further in its focus on specific characters and forces, helping to drive the designs to a higher level of resolution, and to dig deeper into their relationship to the prairie condition. I look forward to exploring this process further in future work, and finding out how it might help inform future designs.

Finally, some of these design ideas might endure, and some may not, but this thesis has helped me – a native of Saskatchewan – come to new realizations and develop opinions about architecture on the prairie that I can carry forward into practice. I view this work as the first exchange in a long architectural conversation with this place, and I hope to use the insight this thesis has provided me with to inform my continued efforts to build a stronger connection between the people and the places they inhabit on the Saskatchewan prairie.

BIBLIOGRAPHY

- Bryan, Liz. *The Buffalo People*. Edmonton: University of Alberta Press, 1991.
- Bryan, Liz. *Stone By Stone*. Victoria: Heritage House, 2005.
- Canadian Encyclopedia. Photograph of Cree Encampment, 1857. <http://www.thecanadianencyclopedia.ca>.
- Cottrell, Michael. "History of Saskatchewan." In *The Encyclopedia of Saskatchewan*, compiled by the Canadian Plains Research Centre, University of Regina, last modified 2006. http://esask.uregina.ca/entry/history_of_saskatchewan.html.
- Dale, Janis. "Glaciation." In *The Encyclopedia of Saskatchewan*, compiled by the Canadian Plains Research Centre, University of Regina, last modified 2006. <http://esask.uregina.ca/entry/glaciation.html>.
- Fenton, M.M., B.T. Schreiner, E. Nielsen and J.G. Pawlowicz. "Quaternary Geology of the Western Plains." In *Geological Atlas of the Western Canada Sedimentary Basin*, compiled by G.D. Mossop, and I. Shetsen. Canadian Society of Petroleum Geologists and Alberta Research Council, last modified September 11, 2012. http://www.ags.gov.ab.ca/publications/wcsb_atlas/atlas.html.
- Garcia-Huidobro, Fernando, Diego Torres Torriti, and Nicolas Tugas. *Time Builds!: The Experimental Housing Project*. Barcelona: Gili, 2008.
- Gayton, Don. *The Wheatgrass Mechanism: Science and Imagination in the Western Canadian Landscape*. Saskatoon: Fifth House Publishers, 1990.
- Glenbow Museum. Cover of Canada West Pamphlet, 1921. Image number 971-2-C212c-1921. Accessed March 24, 2014. <http://www.glenbow.org>.
- Google. Satellite Images of Saskatchewan Towns. 2013. <http://maps.google.ca>.
- Kansas Memory. Photograph of Potter's Dugout, ca.1895. <http://www.kansasmemory.org/item/216856>.
- Land Institute. Photograph of Perennial Wheatgrass and Annual Wheat Roots. 2014. <http://www.landinstitute.org/pages/PressRoomimages/Hi%20Res%20wheat-wheatgrass.jpg>.
- Le Corbusier. *City of Tomorrow*. Cambridge: M.I.T. Press, 1971.
- Rees, Ronald. *New and Naked Land*. Saskatoon: Prairie Books, 1988.
- Regina Public Library. Photograph of First House in Regina, Saskatchewan, 1882. <http://www.reginalibrary.ca/content/infoservices/archives/photogallery3.shtml>.

- Saskatoon Public Library. Photograph of CNR Station in Saskatoon, 1904. <http://spldatabase.saskatoonlibrary.ca/>.
- Steuber, Karin, and Denise Huynh. *A Teaching Guide to Saskatchewan Archaeology*. Saskatoon: Saskatchewan Archaeological Society, 2012.
- Widdis, Randy. "Geography of Saskatchewan." In *The Encyclopedia of Saskatchewan*, compiled by the Canadian Plains Research Centre, University of Regina, last modified 2006. http://esask.uregina.ca/entry/geography_of_saskatchewan.html.
- Wishart, David, ed. *Encyclopedia of the Great Plains*. Last modified 2011. <http://plainshumanities.unl.edu/encyclopedia/>.
- Zimmerman, C.C. *The Prairie Community System*. Calgary: Agricultural Economics Research Council of Canada, 1971.