EVENTS MACHINE

Architectural Acts : Collage

Robert Arlt

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By Robert Arlt

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Primary Thesis Advisor

Thesis Committee Chair

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ABSTRACT

This thesis explores the relation between narrative and (im)material: investigating traditional means of making architectural media while testing and generating representation with film (narrative) in the pursuit of a haptic, architectural 'facilitator.' The investigation will be a hybrid typology of a wayside rest area with accomodations for tourists and travelers and also a water research facility for ecological research, training and global awareness. The architecture conceives experiences of space-time through a series of choreographed moments that reflect the context, a deep glacial history embedded in the horizon.

"Man lives and moves in what he sees, but he only sees what he wants to see. Try different types of people in the midst of any landscape. A philosopher will only vaguely see phenomena; a geologist, crystallized, confused, ruined and pulverized epochs; a soldier, opportunities and obstacles; and for a peasant it will only represent acres, and perspiration and profits but all of them will have this in common, that they will see nothing as simply a view. (Valery)"

KEY WORDS

Light
Movement
Media
Narrative
Facilitator
Choreographed

PROBLEM STATEMENT

How can architecture and its ever increasing (im)materiality faciliatate human/environment/ecological interaction?

JUSTIFICATION

The explosion of computer based visualization can be compared with the explosion in material science discoveries; the ethics or questions of appropriate use of which are difficult to ascertain with the speed of technological innovation constantly surpassing research. An ethical profession must examine the way in which it works, in this case the methodologies used to investigate the perpetual need for humanity to reshape and augment the natural landscape.

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STATEMENT OF INTENT

TYPOLOGY

The investigation of this thesis will be a hybrid typology of a tourist trap/wayside rest area with accomodations for travelors and visiting fresh water hydrologists along with a water research facility.

CLAIM

An architectural process rooted in narrative inquiries or acts recognizes events in space/time and matter/flux as integral toward facilitating human/environment/ecological interaction.

Actor:
Architectural process
Action:
Facilitate
Object:
Human/environment/ecological interaction
Manner of Action:
Acts of inquiry

PREMISES

Predominant use of digital imagery has developed through hundreds of years of innovation to satisfy a visual spectacle of consumption. Changing methodologies of our tools are changing architecture and our perception transforms beyond a trend toward de-humanized, servo-mechanisms to technology (McGrath & Gardner, 2007).

Exploratory design processes involving new tools and digital and physical (fabrication) modeling, digital animation, mapping, drawing, film and collage can push architecture towards recognizing its position beyond static object/image. These processes seek paths through traditional architectural conventions towards speculative virtual and spatial relationships.

Human relationships have radically altered through the advent of vision based technologies; transcending physical geography and thus discerped vision from touch, relocating it to a plane severed from the *human* observer and severing a kind of knowledge.

Inquiry and curiosity is integral to discovery and invention.

PROPOSAL

Standing alone, I felt the tingling in my legs from sitting too long on a granite outcrop. As I stood I noticed a wavering branch from a fallen tree, Lake Superior fusing with the horizon, the sky in a vision of summer light and the cold lake at foot, sending its continuous waves shocking my toes.

The french poet Arthur Rimbaud wrote,

> It is found again.
> What? Eternity.
> It is the sea
> Gone with the sun.
> (from 'L'Éternite', 1872)

The movement of the seascape out toward infinity, movement as duration, brief summer night vanishing, the one ultimate truth - the sun to tell the time of day. The cell phone goes off, an alarm startles me but for a past task no longer needed. Yet, with the device in hand, I can take a photograph, post it in any number of ways, look at a Google Earth map and post it it right where I'm standing and provide a nice summary for others to see, read and experience in the comfort or discomfort of wherever they happen to be at the moment, their phone or mouse in hand, eyes glued to screen. Setting the phone down, the hand brushes brushes the rock and the haptic contrast between smooth plastic phone and rough rock syncs with vision contrast between dry, rough rock and smoothed, wet rock revealing the link between hand and eye again.

The "natural" environment is so, only in the way that we humans define, maintain and/or rejuvenate it. As shapers of site and environment this suggests a stewardship role for humanity, especially for architects. Yet architects, partly through the adoption and methods of using digital tools, have increasingly discerped vision from touch through a market-demand necessity for consumption of "priviledged pose" images.

In *Cinemetrics*, McGrath & Gardner's book on rethinking architectural drawing, duration refers to continuous of space-time; emphasizing movement (matter-flux) and thus change through cinematic montage over priviledged perspectival representation. This notion is inherent in the paintings of Francis Bacon. Often setting up a perspectival setting, the subject is set in contrast; caught in movement-moment, revealing the spasm of a twitch and giving the paintings their sense of violence. The research has led to this (re)discovery of sorts and reminded me of how architecture is being restructured through motion and media.

NARRATIVE

On the same shoreline nearing sunset, I listened to the buzz of a plane approaching and wondered how different his view of the landscape was. Was his experience more detached? The plane never came within view but I listened to it fade until the lake turned a deep mercurial violet.

Predator pilots run bombing missions from the comfort of U.S. military bases with drones (pilotless) aircraft. They live and return to their family like any other working Americans but start to experience the effects of Post-Traumatic Stress Disorder like those actually in harm's way.

The example reveals the link between emotion and thinking virtually. It also shows a gap and displacement of experiencing real individuals situated in a physical geography and how we experience others more and more through the high tech eye. I refer to this interspace with the German word *der abstand*. It is a haptic dream created through the digital means that we, at some level, have not yet learned to fully grasp - the grounding horizon easily forgotten.

The need for humanity to reshape and augment the natural landscape to form new places and boundaries has moved beyond the physical to the vision-based digital realm. The past definition of community has thus been radically altered has associations with neighbors, co-workers, friends and others is moved from common interests within physical geographic domains and based increasingly in cyberspace. (Truett Anderson, 1990) It is then necessary to comprehend and utilise this complexity of everyday experience of being; to lose perspective and find duration (McGrath & Gardner, 2007).

My interest and inspiration for this thesis is derived from these reflections and stabs at striving for an understanding of fundamental aspects of our existence in this 'digital age.' An investigation in to the site's connecting networks, deep historical narratives and ecology will test how an architecture can embrace *der abstand*, and how it can inspire a reinterpretation of place. "A new arrangment brings the ability to see the site anew, unexpected and identify changing patterns altered by time that appear in places we thought we understood (Mayne, 1992)." As a part of an iterative making process, the architecture will attempt to reveal the ephemeral duration and flux of life inherent at the site to allow visitors, observers and inhabitants to anticipate the next intervention.

USER - CLIENT DESCRIPTION

THE CLIENT

Grand Marais is looking for a place to stage events that could benefit the whole community. Much discussion is centered on whether it should be built next to Lake Superior or further back inland. Combined with a global need to research and reveal possible effects of global climate change on freshwater resources, a network of water research facilities has begun around the Great Lakes with the help of Industry reclamation and Obama-Aid. The project takes this as its point of departure; an experimental ecological water research center to enhance tourism and knowledge of changing ecologies.

THE USERS

Tourists / Visitors

Researchers from the Minnesota Sea Grant, students, nearby residents

MAJOR PROJECT ELEMENTS

THRESHOLD
A blurred boundary, the demarcation of the beginning of the site/architecture and encounter.

BARRIER
Establishing a separation of physical reality and representations of it.

PATHS

SAUNA
Symbolic water rejuvenation

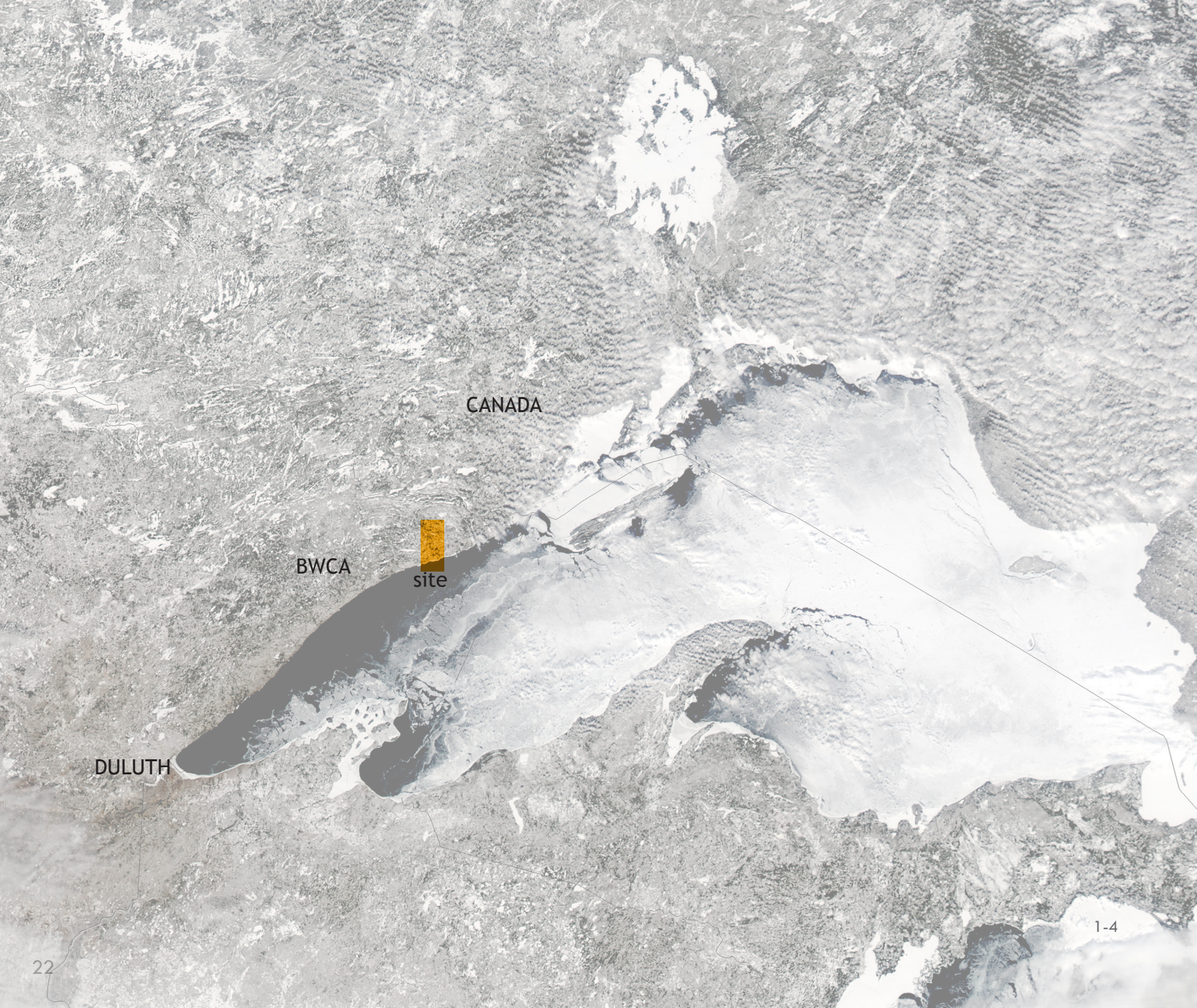
CABINS
Accomodations confronting the flux of the site.

GARDEN
Integrate ecological environment being studied into the building

OVERLOOK
A space of contemplation largely sought out and thus disrupted by tourists.

LABS
Containing computer resources for hydrologists.

VAULT
A permanent space


CANADA
BWCA
site
DULUTH
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SITE INFORMATION

MACRO

Lakes are considered constantly active ecosystems. Lake Superior is the largest freshwater lake in surface volume on earth, forming an inland freshwater sea. The lake lends itself to a very specific sense of place through micro-climates, history and culture. The shoreline offers stunning experiences of the Aurora Borealis to volatile November storms known for sinking many ships.

Another factor of site selection was to be relatively near and accesible through a variety of ways from a heavy-populated area. Minneapolis-St Paul is approximately a 5 hour drive and Duluth is 3 hours along one of the most beautiful byways in America, The Lake Superior's North Shore Scenic Drive also has 277 miles of hiking and bike trails along it, allowing visitors to access the site by hiking, automobile, biking, snow-shoeing, skiing, boat, kayak and snowmobile.

The area is rich in history and overlapping narratives from beginning settlers, the arrival of fur trappers, a strong industry in timber and the shipping of iron ore and taconite pellets that has continued with a shift toward rampant tourism. A strong Native American culture still exists in the area (Ojibwe) and the area as a whole is known for a dichotomy created by the lake's edge; on one side the dense Superior National Forest and the other, panoramic views of the horizon.

Regionally, the Boundary Waters Canoe Area Wilderness lies to the West and is arguably the most pristine and untouched landscape south of Alaska.
The closest town to the East is Hovland. The closest city to the West is Grand Marais, boasting a population of 1,306 people.

The small city is known for for exemplifying true "Minnesota" culture, having a strong arts community and vehicles from all over the country can be seen with the Sven and Ole's Pizza bumper stickers. Besides the lakeshore drive (HWY 61), regional air service flies to Duluth International Airport. The Duluth airport offers several nonstop flights, many of them with multiple daily trips, from Chicago, Detroit, Minneapolis, Las Vegas, and Orlando.

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SITE INFORMATION

MICRO

The site sits just east of the Naniboujou Lodge and Brule River near the entrance to Judge Magney State Park, known for the popular Devil's Kettle Falls and superb hiking trails. The main servicing entrance is Chessie Trail, which runs north and south off HWY 61 right after the exit for the Naniboujou Lodge. Besides the lodge and State Park service buildings, the area is comprised of primarily residential homes and cabins of various size and upkeep along Lake Superior. On the site itself, a series of dilapitated buildings made of piece-meal screwed on boards of plywood serve as a family's cabin getaway and conjure memories of the film, Deliverance.

The site also has a Thoreau like, one room cabin where site investigation was conducted in July and again in January. The site itself is intriguing as it draws a vast variety of users along an iconic road, HWY 61, in an environment that has embodied the identity of the people for thousands of years. Its prominence in the public eye and its needs for a better understanding of growth impact and climate change make the site an ideal study.

PROJECT EMPHASIS

The study's main focus will be an exploration into the history of visualization technologies and how it has changed current human relationships. Far more than a simple shift of appearances in representation or conventions, these technologies are inseparable from a radical reorganization of social practices that is changing the productive, cognitive, and desiring capacities of humanity.

The investigation will encompass 'acts' and 'obstructions' to challenge the design process with the goal to conceive experiences of space/time through a series of choreographed moments that acquire new and speculative virtual and spatial relationships. The research will look toward innovative and sensitive sources of inspiration to provide insight in how to introduce haptic environments and better methods of human/environment/ecological integration.

A PLAN FOR PROCEEDING

RESEARCH DIRECTION

Comprehensive, relevant research will be scrutinized and conducted in regards to the theoretical premise/unifying idea, project typology, historical context, site, and programmatic requirements.

DESIGN METHODOLOGY

The research for this thesis will utilize a Mixed Method Quantitative/Qualitative Approach and will employ a Concurrent Transformative Strategy to collect and interpret both quantitative and qualitative data simultaneously. A quantitative to qualitative focus will identify patterns and move from linear arrangements to feedback loops; a shift from isolated parts to contextual thinking. More specifically, research via material and structural experiments and a design process rooted in additive 'acts' will move toward a clearer formulation of typology and how the user/clients interact.

DOCUMENTATION

Documentation will be done in incremental phases throughout the entire project. Which includes, but is not limited to, photography, film, scanned images, sketches, models, collage and digital drawings. The iterative inquiries and process work will help flesh out the design and be carried on and lived through to the next 'act,' creating a palimpsest of work.

Because of this additive method the original drawings, sketches, models, films etc. will be placed in a digital format each week, if not already there, through photos or scans. Backup discs will be burned so as not to burn me later if something goes awry.

At the requested time of delivery, the findings/solutions will be presented through architectural drawings as well as physical models and a film. This and all relevant work will be compiled and sealed into the thesis book. This book will then be digitally catalogued at the NDSU Architecture Library to be referenced and used by future students.

STUDIO EXPERIENCE

SECOND YEAR
Fall Semester 2007
Instructor: Stephen Wischer
- Tea House
- Boathouse
- Twin House

Spring Semester 2008
Instructor: Mike Christenson, Malini Srivastava
- Patwan Ki-Haveli Study
- A Home for Two Families

THIRD YEAR
Fall Semester 2008
Instructor: Ron Ramsay
- Grain Elevator [adaptive re-use]
- Moorhead Public Library

Spring Semester 2009
Instructor: David Crutchfield
- Austin Performing Arts Center
- Spaceport America Hotel

FOURTH YEAR
Fall Semester 2009
Instructor: Darryl Booker
- San Francisco High Rise Studio
- KKE Design Competition

Spring Semester 2010
Instructor: Darryl Booker, Paul Gleye, Frank Kratky
- Sustainable Urban Design – Santa Domingo, DR
- Kigoma School - Marvin Windows Competition

FIFTH YEAR
Fall Semester 2010
Instructor: Cindy Urness
- MXC Central Transit Station

Spring Semester 2010
Instructor: Darryl Booker

PROGRAM

2.1 Still from Tarkovsky's Mirror

RESEARCH

INTRODUCTION

The past definition of community has been radically altered as associations with neighbors, others and co-workers is moved from common interests within physical geographic domains and based increasingly in cyberspace. (Truett-Anderson) Thus human interaction is quickly shifting from close physical proximity to a displaced non-proximity vision based realm. Jonathon Crary queries: What is the relation between the (im)materialized digital space of the present and the analogs/artifacts it is leaving behind? How is the body, including the observing body, becoming a component of new machines, economies, and apparatus?

The research that follows is an attempt to reveal a historical framework for the ideas and concepts pertinent to this thesis. The explorations can largely be framed within these categories:

- A brief history of film and image forming technologies placed within a larger social context.
- The role of the observer and performer/narrator, how this reflects revolutionary changes in the way we perceive the world through motion and media and how it can be used as exploratory methods in design.
- Current socio-ecological concern for the planet, specifically in relation to sustainable water resource issues in the Lake Superior region.

"The fact that we cannot manage to achieve more than an unstable grasp of reality doubtless gives the measure of our present alienation: we constantly drift between the object and its demystification, powerless to render its wholeness. For if we penetrate the object, we liberate it but we destroy it; and if we acknowledge its full weight, we respect it, but we restore it to a state which is still mystified. It would seem that we are condemned for some time yet always to speak excessively about reality. This is probably because ideologism and its opposite are types of behaviour that are still magical, terrorized, blinded and fascinated by the split in the social world. And yet this is what we must seek: reconciliation between reality and men, between description and explanation, between object and knowledge." (Barthes,)

When we change our tools, our concepts transform and so too our interpretations. Tools are not innocent. Space is conceived as flexible, in flux and diverse, which is the natural evolution of things as opposed to a permanent identity of place. 20th century urban space and increasingly, all space has lost its traditional identity in geographical reality. With more post-industrial destabilizing influences the old disappears to give birth to new forms: the concentration of residentialisation without residents. (Virilio)

This radical shift in human relationships with each other, their environment and hence sense of place is a driving force for this investigation. In order to elucidate these somewhat loose connections, a brief history of film and visualization technologies will allow insight into how tools and inventions shift how we see and therefore *be* in the world.

The research then begins with oriental shadow plays and the fundamental aspects of film that predate it, chronophotographic works of Etienne Jules Marey on movement and current computer driven animation. The research seeks to present an examination of historical precedents along with succinct, relevant contributions to reveal a pre-history of film, reflecting Jonathon Crary's example in The Eye of the Observer that photography as invention is actually a result of pre-existing societal acceptance and desire. This desire is then part of a larger societal expectation for reproduction ushered in through the industrial revolution: the pursuit of happiness through accumulation.

SHADOWPLAY

Historically, the shadow play originated in China during the Han Dynasty (206 BC–AD 220) and later flourished during the Song Dynasty (960–1279). The first historical example of the shadow play was presented in the form of a legend:

"A Chinese emperor had a mistress whom he loved very much. But the lady died, and the young emperor was so stricken with grief that he lost interest in life and neglected all his duties. Finally one of the greatest artists of the court created, using all his skill, a likeness of the beautiful favorite in the form of a shadow figure. He put up a silk screen, lit it from behind and with his movable figure imitated the graceful movements of the departed. He even managed to catch the intonation of her voice, accompanying it with soft music. So accomplished was this artist's performance that the emperor felt comforted (Reiniger, 2009)."

Thus through the use of a screen and projection of a shadow or 'other' through performance existing reality is transformed (the emperor's sorrow) into an artis tically rendered representation of reality. Extended

2.2 - Chinese Shadowplay

through time, the creative communication skills of the artist remain the necessary ingredient for a good production; all other aspects, such as props, lights, sound effects and screens, inevitably change in form and technology but the role of the artist as 'creative narrator' remains unfaltering (Chamoun, 2009).

MAGIC LANTERN PHANTASMAGORIA

The primary difference of how the shadowplay and magic lantern differ in their contribution to a pre-history of film is that while the shadow play and shadow puppet were accomplished through manual efforts (displaying direct movement of the creative narrator for the observer), the magic lantern accomplished its task by means of mechanical devices, instituting the role of a passive visual performer.

Deborah Folaran, in her 'Oral Narrating and Performing Traditions in the History of Modern Middle Eastern and Maghrebian Theatre and Drama', further defines the relationship between creative narrator and observer:

"Through this imagery and theatrical play, the oral narrator created a 'place', a fictional or theatrical space in which the spectator or auditor was invited to enter into a special relationship of complicity, one that implicitly acknowledged a space maintained through the faculty of the imagination …
Both oral narrator and spectator engage in dialogue and in essence co-create a 'text'. Within the Arabic--Islamic oral tradition, the spectator has characteristically been an active one, insofar as the audience has been accustomed to playing a participatory role in the reception of the poem or narration. Spectators, auditors or interlocutors are not merely passive receivers or consumers of a product (like in the 'produced' performance), but rather are active participating 'performers' themselves, with a certain bargaining power in the narrating event. (Folaran)"

This further explains the divide between the two and how the latter magic lantern as spectacle, created through mechanical means, is a forerunner of modern optical devices. By the year 1790, the Belgian artist named Robertson, born Etienne-Gaspard Robert in 1763, pioneered the 'phantasmagoria' (Figure 2.3), a magic lantern show of the eighteenth century. Images were combined with the sound effects of rattling chains, thunderclaps and lightning explosions, as well as visual effects using dry ice for a smoky atmosphere (Chamoun, 2009)

Advances in the magic lantern continually evolved into the late 19th Century largely according to

2.3 Phantasmagoria

demand, especially the glass slide. The glass slide acquired more complex attributes in order to satisfy growing expectations of the viewer; rotating slides were introduced, creating kaleidoscope effects meant to satisfy expectations of the viewer. This allowed the projectionist contol of the slide at varying speeds to create an illusion, which entertained viewers by contesting their perception of an image.

It was already at this time that an insatiable demand had been created and vision-centric experience begun. Of course earlier examples are referenced in relation to the beginning of a vision. Juhani Pallassma writes, “since its invention in Renaissance time, the perspectival understanding of space has emphasized and strengthened the architecture of vision. By its very definition, perspectival space turns us into outsiders and observers as it pushes us outside the realm of the object of focused perception, whereas simultaneous and haptic space encloses and enfolds us in its embrace, making us insiders and participants. In the retinal understanding of space we observe it, whereas haptic space constitutes a shared and lived existential condition.” (Pallasmaa, 2000)

As stated, the argument that retinal based, perspectival experience of space-time displacing our situatedness as participants may have come before. However, the image interactive experience as a pure phantasmagoria spectacle starts a consumptive desire of images; a perceptual reality outside of ‘real’ lived experience.

MOVEMENT IMAGE

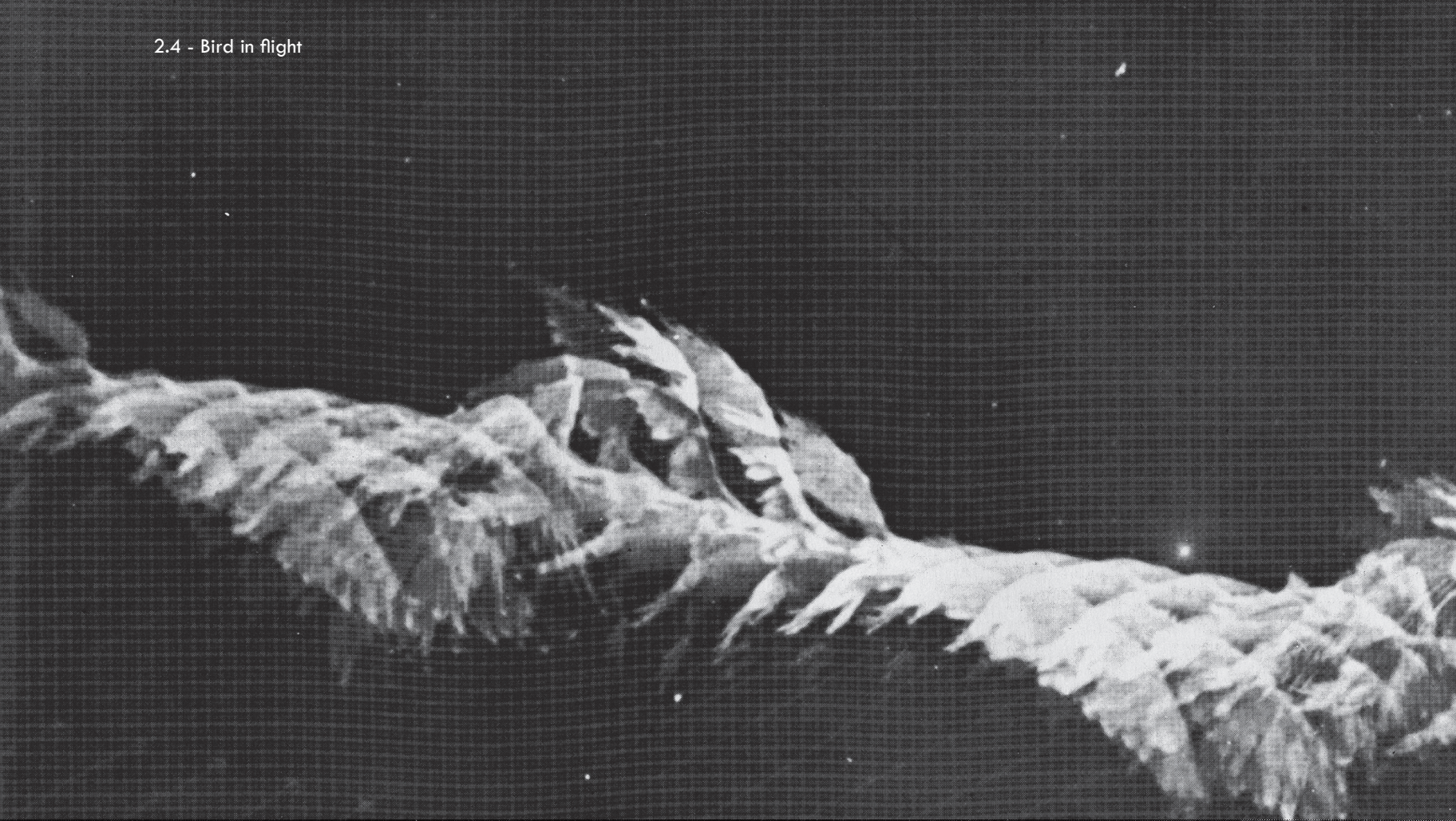
Etienne Jules Marey was successful at making visible what kept to the shadows by transposing the "hidden life forces." (Dagonet 1992) Marey relates a mechanist belief when he says, "modern engineers have created machines that can be much more legitimately compared to animated motors. These, by means of the fuel they consume, supply the force requisite to animate a series of organs, and to make them execute the most diverse operations." The question then becomes does this result in an oversimplification or positivist reduction? (Dagognet, 1992)

Marey combined the advances in the Magic Lantern and photography as an *exaptation*; giving a relevant example of how technology can be used in a process other than its intended purpose to produce something it could not otherwise through a creative narrator.

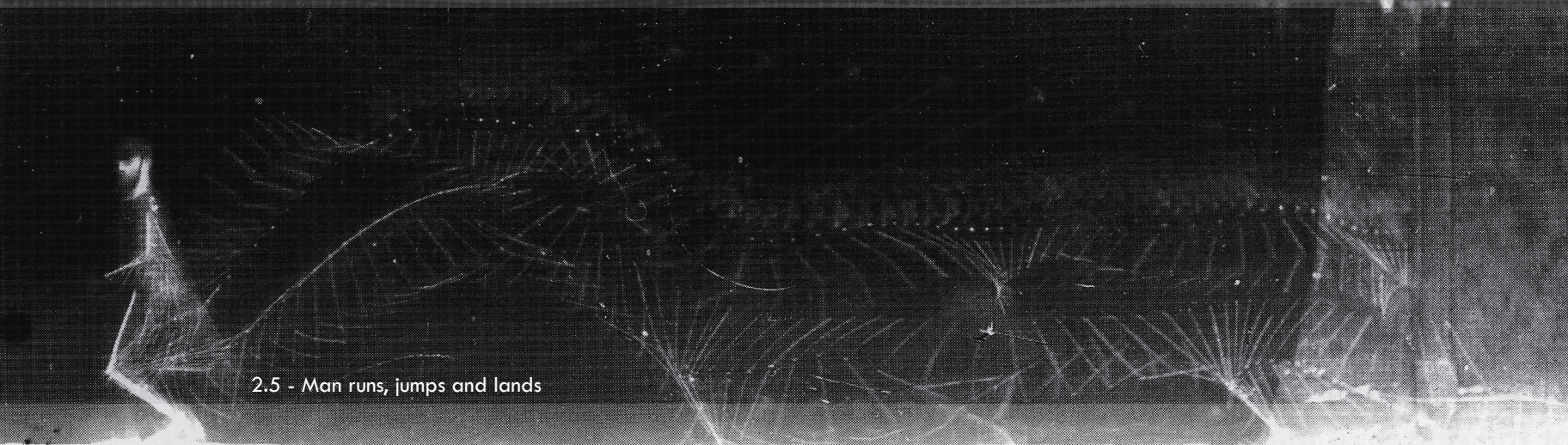
This is to say Marey co-adapted what was offered by the Phantasmagoria, developed as a way to project movement and sensation to an observer and photography, a means to try to capture a still image, to record and track down the imperceptible, fleeting, tumultuous, and flashing - creating in essence a true "movement-image." This reveals an investigation into thinking to the writings of Henri Bergson on movement-duration and a rejection of static representation of still photography with the false realism of its motionless details. (Dagonet, 1992)

Best known for his chronophotography, the movement-images are the first comprehensive study into mapping movement resulting in an ephemeral, scientific aesthetic that pointed researchers toward new understandings between the relationship of science and art. Clearly it served as a major catalyst for the advent of film and cinema, but also for the Italian Futurist art movement, by opening up whole new ways of seeing the world. Cinema develops a philosophy of the 'new' where movement, time, duration emphasized (Deleuze, 1986).

The capturing of these moments still reflects its nature in photography. Photography and its mass use then became the means by which moments are captured, recorded and interpreted.



2.4 - Bird in flight



2.5 - Man runs, jumps and lands

TOURIST EXPERIENCE

The attraction as recordable spectacle fuses well with the writings of Diller + Scofidio in Flesh: Architecture Probes. Tourism reflects dominance of sight (sightseer)domesticating space and thus vision. Home is one of tourism's most potent themes - one which is played out endlessly in a string of domesticating practices. Brochures of all kinds read, "Why leave home when you can get it all at___." The substitution of originals with facsimiles presents little anxiety for a tourist as long as the anticipated experience or "framed" site is sustained. The tourist's reluctance to take seriously the pretenses of traditional, ethical historiography permits tourism a broad latitude in its production of authenticity.

"Attractions can be understood as optical devices which frame the sight within a safe, purified visual domain while displacing the unsightly into a blind zone." (Diller Scofidio, 1996) The tourist's proof of the trip actually then resides in the snapshot and/or videotape, digital camera, phone etc. and are relegated to bits of portable evidence of having been at the site.

Roads through national parks are optically engineered to obscure industrial blight, scenic continuity of the road is only punctuated by photo opportunities defined by locations in which the sight corresponds with its expected image and thus offers itself to the affirmative camera of the tourists.

The postcard becomes the fixed reference, after which the mutable sight must model itself, which in turn puts pressure on the site to model the postcard image. The touristic construction puts into motion an exchange of references between a sight and its indispensable components: the postcard, the plaque, the marker, the brochure, the guided tour, the souvenir, the snapshot, the replica, the reenactment, etc. that must fit into a neat, consistent construct.

How then are we to approach this alleged inauthenticity of space-time experience caused by the precision of vision based references? Revealing the wide use of media today and given the extensive production of contemporary tourism, a tourist sight can be considered to be only one among its many representations, thus eliminating the "dialectics of authenticity" altogether. (Diller, Scofidio, 1996)

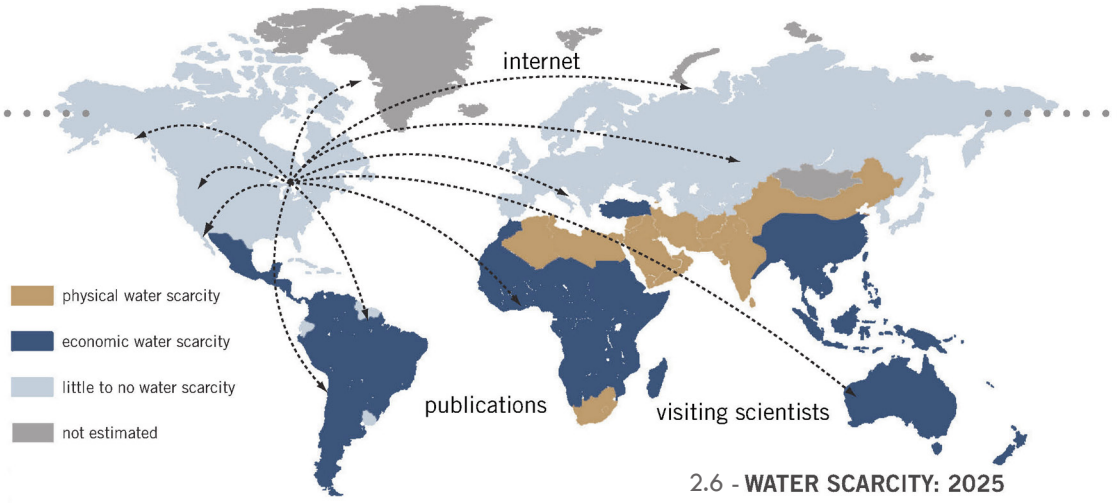
The Microsoft program Photosynth offers to "take your photos, mash them together and recreate a 3D scene out of them that anyone can view and move around in." Consequently, there is an evident discrepancy between architecture as experienced through photographs and a real lived experience, to the degree that imposing images of architecture in photographs often proves to be decisively less impressive when experienced live (Pallasmaa, 2010).

This rather new – in an evolutionary perspective - acquired precision could well have been supported by the central role of reading and pictures in our culture, as both call for a focused and fixated eye and body. It is quite evident that the visual experience of the world has gained strength at the expense of auditory, haptic, and olfactory experiences. (Pallasmaa 2010) Yet the simulated movement on screen calls to an intensification of concentration. The movement of bodies in virtual space are only so in their virtually immobility; They are dependent on the framing of the screen and the zoom in and out, pan, scroll, changing scales, yielding to the eye/mind an intense series of of rapid change severed from time.

This newly constructed space exists in an electronic ether, shifting the single artifact to an innumerable body of data transferable to others as a dynamic stored set of information. Time measured by machines is the new regulator, and the potential for instantaneous communication makes constant arrival of information more important than departure (infonography). This has led to an anxiety that what we perceive as boundaries no longer extend out of a physical demarcation, becoming a permeable membrane, site of passage and place for constant exchange.

This leads to the importance of what Virilio calls "speed distance," which "obliterates the notion of physical dimension." (Virilio, 1997) The German word *der Abstand* is a better word than we have for this displacement as it WWrefers to gap, hiatus; space; great difference, disparity; interval, space of time between two events or actions, pause, intermission and the space between two periods of time. The challenge then becomes investigating and bridging this space gap, latching onto and revealing the grounded ephemeral existence of the here, now.

WATER



2.6 - **WATER SCARCITY: 2025**

Water's essential nature makes it a strategic natural resource globally. Riparian water rights have become issues of international diplomacy, in addition to domestic and regional water rights and politics. World Bank Vice President Ismail Serageldin predicted, "Many of the wars of the 20th century were about oil, but wars of the 21st century will be over water." Figure 2.6 presents a future outlook and ways knowledge from the great lakes can be disseminated throughout the world. The causes of water scarcity are many and varied; they include local scarcity, limited availability and population pressures, but also human activities of mass consumption, misuse, environmental degradation and water pollution, as well as climate change. Fresh water — now more precious than ever in our history for its extensive use in agriculture, high-tech manufacturing, and energy production — is increasingly receiving attention as a resource requiring better management and sustainable use. (Samson & Charrier, 1997)

CLIMATE CHANGE

In the heart of North America is the world's largest concentration of fresh water, the Great Lakes system. The system has been rather resilient to a myriad of human insults over the last two centuries, primarily because of the remote and relatively untouched nature of Lake Superior, the largest of the lakes, and the source of most of the Great Lakes' water. (Sinclair)

In recent years the impact of climate change has been more and more evident for those who live and/or spend time near the lake. In a recent article from the New York Times, reporter Dina Fine Maron examines research on the effects of climate change on Lake Superior. According to regional experts, as the system warms, it is poised to systematically alter life for local wildlife and the tribes that depend on it. Total ice cover on the lake has shrunk by about 20 percent over the past 37 years and though the change has made for longer, warmer summers, it's a problem because ice is crucial for keeping water from evaporating and regulating the natural cycles of the Great Lakes. (Maron, 2010)

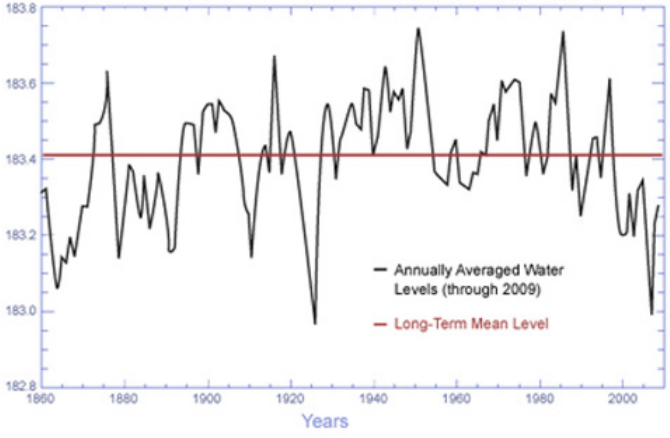
The waters in Lake Superior are on track to reach and exceed the lake's record-high temperatures of 68 degrees Fahrenheit, which occurred in 1998. While this may good news for swimmers, it also provides a better environment for invasive species such as the Sea Lamprey to feed on native trout. It will also alter the way of life for native cultures. "Will there still be wild rice? Will there still be birch bark to harvest? Will there still be a sugar bush? Right now, we certainly don't have those answers," says Nancy Schuldt, the water quality coordinator of the Fond du Lac Band of Chippewa Indians. (Maron, 2010)

In February 2010, the Obama administration introduced a five-year Great Lakes Action plan dedicated to adapting to some of these effects and restoring areas before the warming of lakes makes it too difficult. The plan, which would cost more than $2 billion to carry out, lays out five central goals it hopes to address in the coming years: restoring lost wetlands, controlling invasive species, tackling runoff pollution, addressing toxics like mercury, and promoting accountability and education efforts. (Maron, 2010)

The importance is magnified when examining that Lake Superior contains over half of the water in the Laurentian Great Lakes, a quantity that translates into three quadrillion gallons. The last century has seen people in thirstier areas of the country and even globally make various (and so far unsuccessful) attempts to claim some of this water for their own. The following are findings by Minnesota Sea Grant, which helps monitor the lake:

-Lake Superior's surface water temperature in summer has warmed twice as much as the air above it since 1980.

2.7 - **Lake Superior Water Levels in Meters (IGLD85)**



Lake Superior's ice cover is diminishing. The area covered by ice each winter is decreasing by about 0.5% per year. Ice cover in Lake Superior has decreased from 23% to 12% over the last century. (Austin & Colman)

Wind speeds over Lake Superior are increasing. Since 1985, wind speeds have increased by nearly 5% per decade, exceeding trends over land. Scientists believe the faster winds could accelerate the speed of Lake Superior's water currents, which in turn could affect the aquatic food web. (Desai, 2009)

Lake Superior's summer stratification season is longer. Spring turnover has become earlier by about 1/2 a day per year, leading to earlier summer stratification. The sun-warmed upper layer extends farther into the water column, making fall mixing later. The length of the positively stratified season has increased from 145 to 170 days over the last century. (Austin & Colman, 2008)

Climate models predict lower water levels by about 2-4 feet for Lake Superior because of increased evaporation. If the "natural" environment is only in the way that we humans maintain or rejuvenate it then a stronger stewardship role is needed.

ENGAGEMENT FOR ENVIRONMENTAL PROTECTION

An example of this stewardship is exemplified by the Canadian city of Sudbury. Acid rain from smelting of nickel poisoned around 7,000 lakes in the region. John Gunn, a freshwater ecology expert said, "The extent of the disaster was almost inconceivable – in lakes within about 20 km of the city nearly all of the fish were gone."

The use of past-tense alludes to a massive turnaround: The city's water reservoir, Lake Ramsey, was cleaned up and 9 million trees were planted over the years. At a 1992 Rio Earth Summit, Sudbury was one of 12 cities around the world to receive a special award for their community-based environmental restoration strategies.(Gunn, 2008)

More efforts are being conducted by Laurentian University. The university has a reputation for innovation in mining sciences, which has helped reduce emissions by 90 percent but also has helped in environmental research. For the past 20 years, its Cooperative Freshwater Ecology Unit (CFEU) has conducted as John Gunn states, "studies to see if the measures implemented to date have improved water quality." "Does Fauna return when acid rain disappears? Why do some lakes recover more quickly than others? What can we do to strengthen the positive change we see?" Their comprehensive approach has seen all 7,000 lakes studied by scientists and their students. (Gunn, 2008)

The CFEU and Laurentian University are also combining with funding help provided by local mining company for a new headquarters called Living With Lakes Center. This will be able to facilitate research in water research, rehabilitation and is further examined in Case Studies (pg 66).

While dedicating his life to the struggle against environmental pollution, Gunn is quick to point out that industry by itself is not an enemy. The mine managers he is familiar with are young and reflect a very different environmental consciousness - some were students at Laurentian University as well. The global need for responsible management is revealed with the increasing interest in diverting Great Lakes water to less water-rich areas of the country such as Nevada and California. Thus fostering this kind of attitude and active involvement for coastal towns and cities by developing integrated methods to help manage and better existing issues is increasingly important.

MINNESOTA SEA GRANT

Lake Superior plays a pivotal role in defining solutions to the coastal problems of the 21st Century. As the cleanest, clearest, coldest, and least urbanized of the Great Lakes, Lake Superior is both unique and a reference for the Great Lakes region. It modifies weather, develops rip currents, supports fishing and maritime industries, and has held the attention and support of the National Oceanic and Atmospheric Administration (NOAA) Sea Grant Program for over 30 years. (SEA GRANT)

Nevertheless, Lake Superior faces many of the same problems that affect other Great Lakes, inland lakes, and marine coastal areas, such as pressure from unplanned development, organic and inorganic contaminants, excess nutrients and sediments, exotic species, diminishing economic viability for small coastal communities, deteriorated water quality in estuarine areas, and pressure on fishery resources. Lake Superior can play an important role as a testing ground for scientific understanding of interdisciplinary problems and the application of science to policy and management decisions.

Minnesota Sea Grant is the only Sea Grant program focused entirely on Lake Superior. The program seeks to maintain and enhance its coastal environment and coastal economy through high-quality research, education, and outreach. Research is supported that will lead to tools and technology for responsible management and policy decisions regarding Lake Superior and inland aquatic economies and resources.

Though decisions about which research topics are most critical to pursue are typically driven by Great Lakes needs and concerns, the usefulness and relevancy of Minnesota Sea Grant research, education, and outreach typically go well beyond the Great Lakes watershed. A growing aspect of the program is encouraging, through an open forum, potential broader applications for the research as a means to outreach and connect research scientists from universities and colleges to partner with federal, state, and tribal agencies, the public, and industry to understand the complex nature of the multi-disciplinary problems facing us and to help in developing innovative solutions. (SEA GRANT)

TOURISM

Northeastern Minnesota is recognized for the unique wild and natural character of its forests, lakes and hills. Much of the land is an extension of Canadian Shield geology found in few other areas of the U.S. Outdoor recreation activities are key components of tourism in northeastern Minnesota.

Tourism in northeastern Minnesota has grown steadily in the last 2 decades. Coastal tourism has surged; in the Duluth area, tourism now has an estimated economic impact of $400 million per year while tourism in small coastal communities, like Two Harbors, Lutsen, Tofte, Grand Marais and the Gunflint Trail, has shown equally impressive growth based on lodging tax receipts. At the same time, new homes and second homes have been and continue to be built at high rates.

This growth and the attendant human activity that it adds to the region has caused concern that the natural and scenic character of the area is being lost. Although there are extensive tracts of public land in the region, they are heavily used for timber and recreation with related impacts becoming more evident.

Communities that have never faced strong development pressures, including most of those surrounding Lake Superior, cannot easily accommodate new development within the context of comprehensive planning. Piece-meal and poorly-planned development can lead to unanticipated cumulative environmental and aesthetic impacts. Many Lake Superior Basin communities are developing comprehensive plans and actively seek guidance and training in land use planning technologies.

Concerns about impacts from business (either non-tourism or tourism) and golf course development on trout streams and wetlands are voiced throughout the region. Landscape management of shorelines has been identified as a factor in maintaining water quality as well as maintaining native wildlife habitat.

Improvements are needed to comply with a *zero discharge* Lake Superior to continue to enjoy the overall high quality water. This is a critical part of the image of Lake Superior and the inland lakes in northeastern Minnesota that attracts tourists (Sea Grant). Any new architecture should respect these ideals and act as a filter to have a positive impact.

The role of spectator or observer was examined through the lens of a brief history of film to show that it has slowly developed to render the body passive and the mind distracted. The spectator has characteristically been an active one, insofar as the audience has been accustomed to playing a participatory role in the reception of the poem or narration. Technologies have certainly changed how we perceive and thus know the world, in essence mirroring William Blake's writings: "If the doors of perception were cleansed every thing would appear to man as it is, infinite. For man has closed himself up, till he sees all things thru' narrow chinks of his cavern."

The innovations to the glass slide reveal the consumptive desiring of images in the nature of the new observer, acquiring more complex attributes in order to satisfy the growing expectations of the viewer.

Marey combined the advances in the Magic Lantern and photography as an *exaptation*: giving a fantastic example of using technology through an intention other than its typical purpose by implementing himself as the creative narrator/architect role.

His movement-images are the first comprehensive study into mapping movement and are still being developed today as in the new xbox kinect system. The ephemeral realization of seeing his images for the first time puts one into an active observer - opening new ways to perceive the world and thus the self. It lodges into the psyche that life is in constant flux, here for a second and gone the next. This scientific way to use sequence in photography helped usher in entire new relationships between science and art. This then suggests a methodological model of using the paradox or bi-association to set up a conflict that can result in new integrated approaches to design.

The capturing of these moments still reflects its nature in photography. Photography and its mass use then becomes the means by which moments are captured, recorded and interpreted. Diller + Scofidio's notion of how this has led to an optical engineering of the landscape in order to obscure the heavy industrial and maintain a scenic continuity is quite relevant, as the first step in a typology such as mine is to typically talk of a escape or a return to pristine nature.

SUMMARY

Slavoj Zizek argues to escape to the pristine is the opposite of what our relationship should be with ecology. He takes the "tough love," contrarian approach: rather than narrowly focusing on any kind of return, we should live in a closer proximity to our detritus. Only then can we move beyond a fixed referential, nostalgic image of nature and fully appreciate both the natural and our human position within and not adjacent to it. This suggests the connection between the use of photography in a "natural" environment and that the image is now the fixed reference after which the mutable sight must model itself. This is to say Zizek's argument is to get past our fixed reference of what is natural to reveal what actually is.

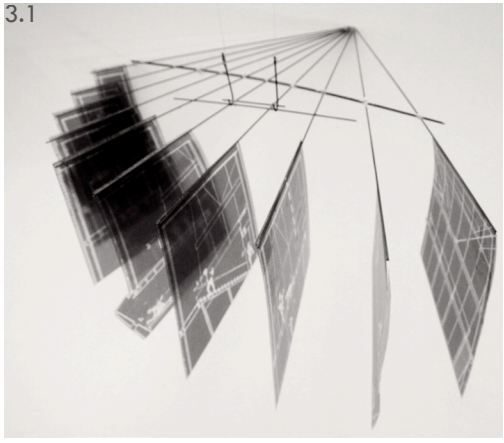
The movement of bodies in virtual space reveal their own virtual immobility; dependent on the framing of the screen and the zoom in and out, pan, scroll, changing scales. This yields to the eye/mind an intense series of rapid change severed from time. This newly constructed space exists in an electronic ether where time is measured by machines. The question left - is this just a phase?

Water's essential nature makes it a strategic natural resource globally. Riparian water rights have become issues of international diplomacy, in addition to domestic and regional water rights. Fresh water — now more precious than ever in our history for its extensive use in agriculture, high-tech manufacturing, and energy production — is increasingly receiving attention as a resource requiring better management and sustainable use. Lake Superiors warming waters could benefit from more research embedded in a more holistic sense of what is to be near the lake, thus revealing its importance.

In February 2010, the Obama administration introduced a five-year Great Lakes Action plan dedicated to adaptingWWW to some of the effects recently researched. The plan is an example of government stewardship sorely lacking for much of our nation's history. Minnesota Sea Grant is the only Sea Grant program focused entirely on Lake Superior. A facility for them could help the area in general to adapt to a new "green" economy and better use of local resources.

2.8 - Ice Formations

3.1



DISPLACING THE VIEW
SLOW HOUSE

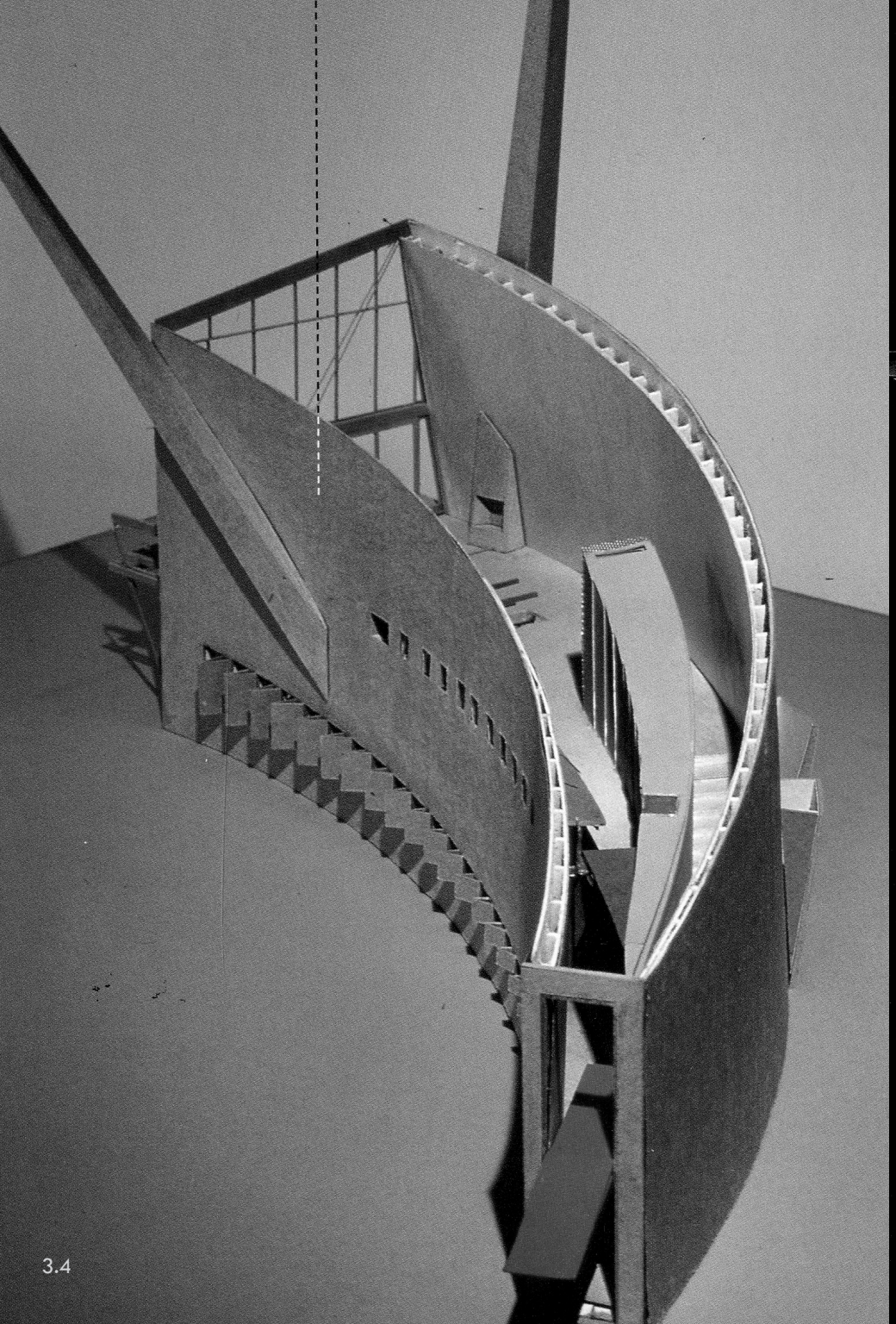
3.2

SITUATEDNESS
TROLLSTIGEN

3.3

POSITIVE IMPACT
LIVING WITH LAKES CENTER

PRECEDENT



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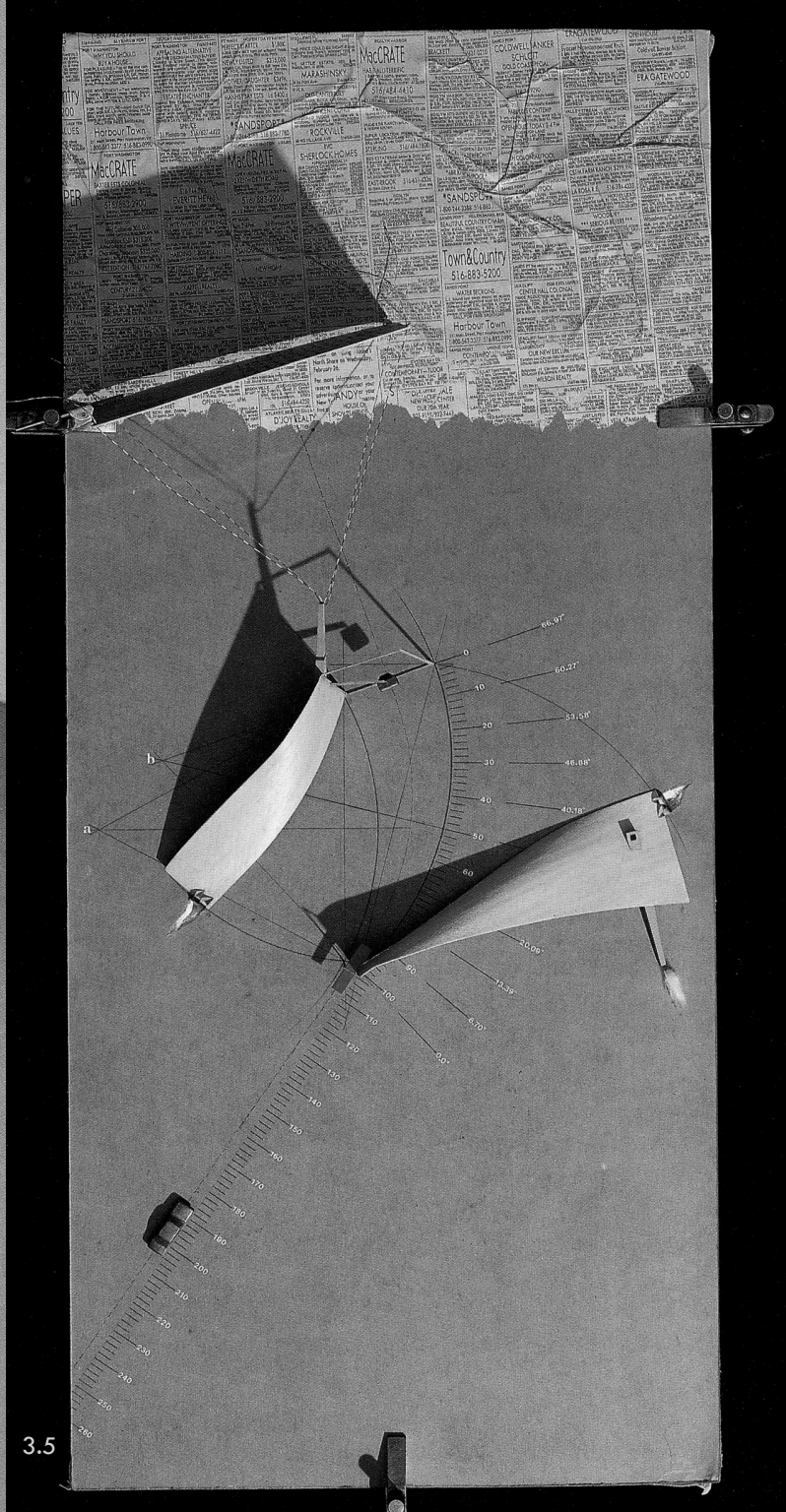
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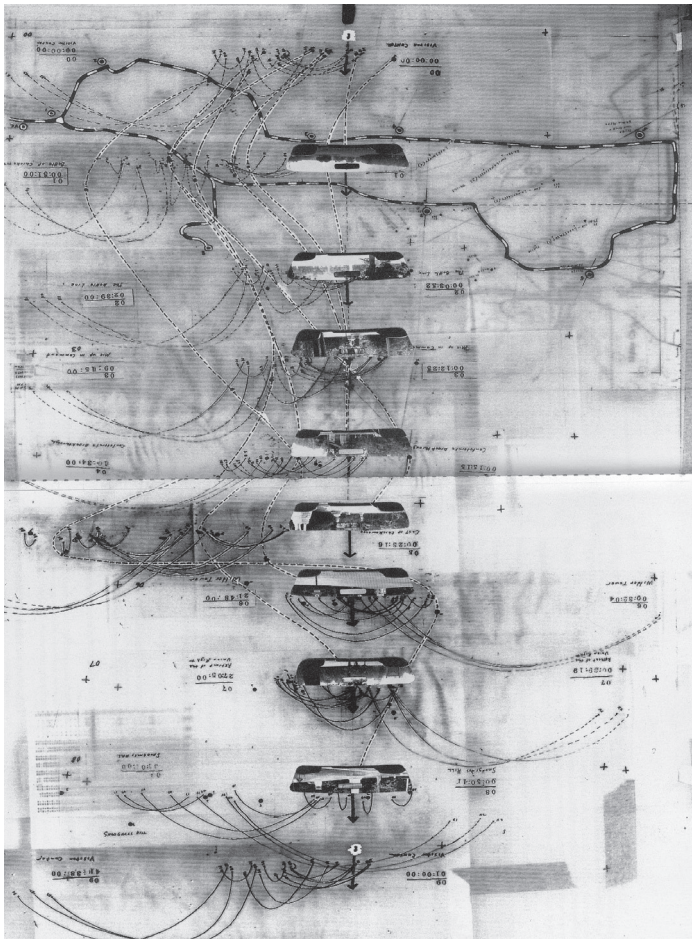
3.5

CASE STUDY I
Designer: Diller + Scofidio
Client: Koji Itakura
Function : Vacation Home
Location: Long Island, United States
Year Completed: Partially Built

SLOW HOUSE



3.6

SITES OF ANXIETY

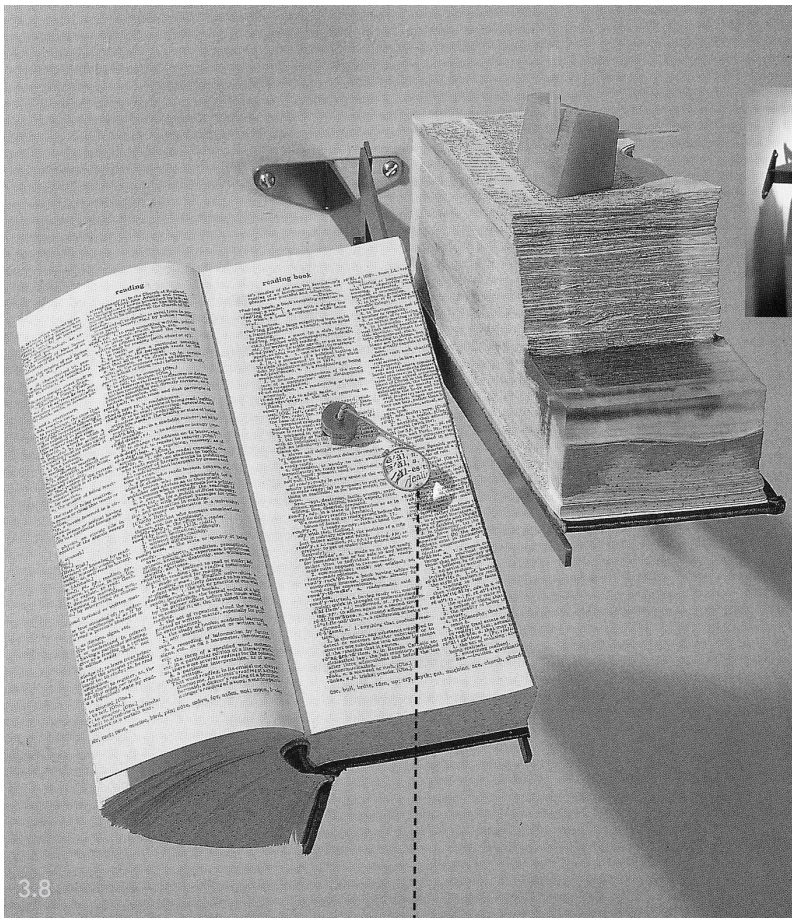
With the influx of digital culture, the nature retreat/ vacation home/artist's retreat typology cannot exist anymore as a site of escape, "exempt from the trafficking of information." (Diller + Scofidio, 1994) The project is an in depth study into how we experience architecture through motion and media with a critical eye on tourism and real estate. The firm writes, "The picture window constructs nature and domesticates it. Not unlike the tourist's snapshot, it commodifies the sight and turns it into an artifact. The view can, in effect, be displayed alongside other valuables hanging on the living room wall."

Diller + Scofidio's response to these ideas was to design a vacation home, "equipped to escape from escape, that is, to connect at a moment's notice back to sites of anxiety." Recognizing three optical frames: the car windshield (the space between city and vacation home), the television screen (media space), and the picture window (scenic space), the relationship between and among the three frames are used to organize the experience to, from, and within the home.

3.7

MODEL

Conceptual massing model on dictionary. Dictionary cut and opened with magnifying glass over the word “Real Estate”



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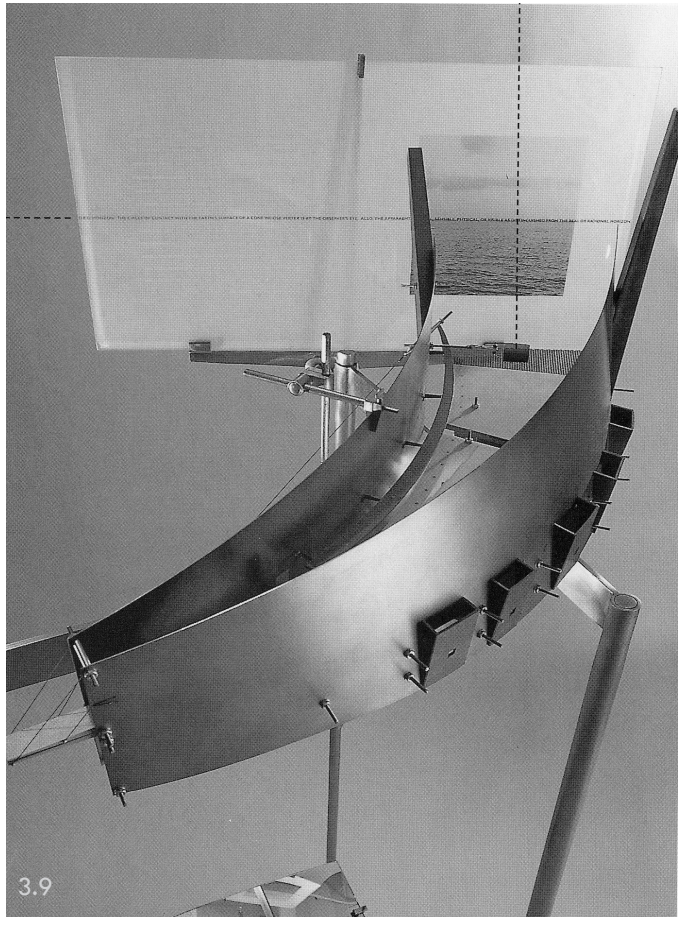


3.9

SPATIAL PROGRESSION

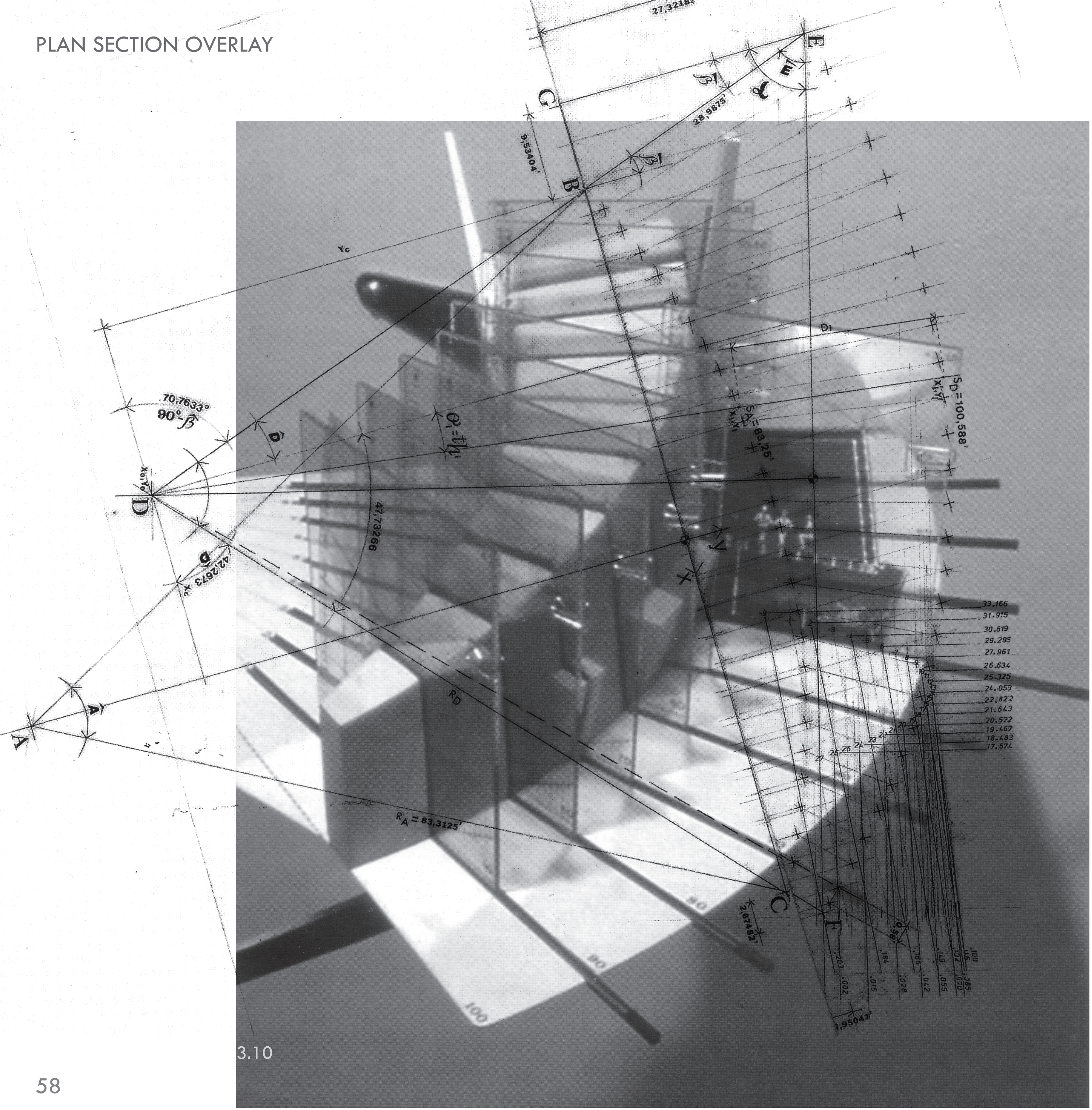
The Slow House is designed to begin at the time of departure from the city home and end at the large picture window, which is framed by a large tv screen. The "interspace" of driving to the site is rarely acknowledged in design and becomes a component in the spatial progression. The entry, or front elevation, is merely a door four feet wide and eighteen feet high, and is framed by a window in the garage from the car.

GROUND LEVEL

Upon entering, a vertical slice splits the 'road,' offering two choices. To the left are the three bedrooms and bathroom.

UPPER LEVEL

The stairs to the right ascend from the entry to the right leading to the kitchen/dining and living areas as well as the terrace, where the spatial progression from city to view ends. However, the view is set-up framed as well, displacing sight (site), creating *der abstand* by taping the view from a large column and projecting it inside, framed by the 'real view' so the users can take it home with them.



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3,95047'
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31.915
30.619
29.295
27.961
26.634
25.325
24.053
22.822
21.643
20.522
19.467
18.483
17.574

3.10

ANALYSIS

The house's unique horn-like shape is derived from an interplay of transverse sections from entrance to rear facades and plan projections of two views.

The sections are aligned with a cone of vision from the West and are framed or bracketed by the two views: the entry facade from the car's rear view mirror and the rear facade of the ocean view (Fig).

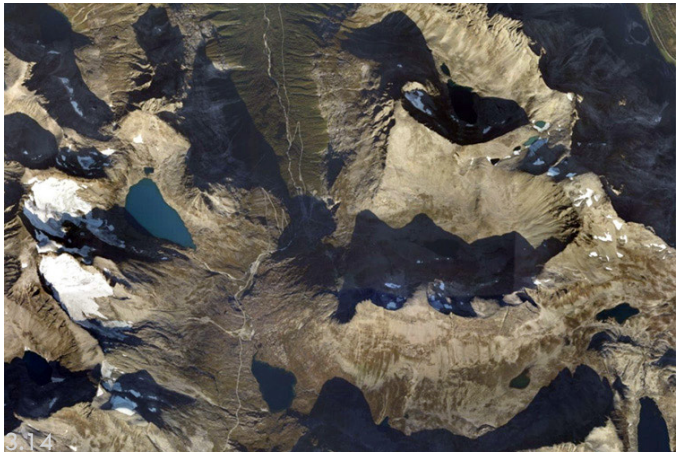
Importantly, a wide variety of media is used to convey the ideas. From collage, sections done in film (slides), to models that act as drawings and vice versa, the project reveals its rich connection with a variety of media to express its investigation into embracing the *der abstand* of architecture experience through motion and media.

Flood barrier

Construction

Winter

Fjord



Images from Raulf Ramstad Archtiects

CASE STUDY II

Designer: Reilf Ramstad Architects
Client: Norwegian Public Roads Administration
Location: Romsdalen-Geiranger Fjord, Norway
Year Completed: 2010
Building area: 800 m2 (Mountain Lodge, restaurant and gallery)
950 m2 (Flood Barrier House)

TROLLSTIGEN
NATIONAL TOURIST ROUTE PROJECT

Norway recently started The National Tourist Routes as a way to spark tourism throughout the country. Eighteen beautiful stretches of road will be utilized, which traverse the best Norwegian nature has to offer. Young Norwegian architects through competition invitations have and will design structures at specially designed stops to not only facilitate the travel and experience, but also provide a new dimension at each stop through situating the contemporary architecture within the ancient landscapes.

Internationally renowned art will also be placed along the National Tourist Routes. World-renowned artist Louise Bourgeois and architect Peter Zumthor's have combined to create a monument to burned witches in Vardø to bear witness to inhumanity enacted during the 1600s.

The goal is to reveal and resonate the history as the Tourist Routes meander through ages and epochs. "In the interface between old cultural landscapes, modern art and architecture, the National Tourist Route attraction communicates new stories and traces of our times." (Venture Norway, 2010)

Trollstigen, like Lake Superior for Minnesota and the US, is one of the most popular tourist attractions in Norway. It lies within a dramatic pass that winds between deep fjords and can only be visited in spring, summer and fall due to the severe winters. With the inaccessible nature of the site, the project entails designing an entire visitor environment needed to sustain a building of its type in an extreme location. The project includes a lodge with restaurant and gallery, flood barriers, water cascades and bridges. Paths reach out and connect to platformsc dramatically jutting-out into the atmosphere for viewing the scenery.

The architects' idea was to reveal the site's deep history and cyclical nature with waters' properties as a dynamic element. Snow, running and falling water are highlighted against the setting of rock as the more static element. The project also creates a series of relations that describe and magnify the unique 'situatedness' of the site. All of these elements are molded into the landscape so that the visitor's experience of place is heightened, "a thin thread that guides visitors from one stunning overlook to another."
(World Architecture News, 2010)

3.15

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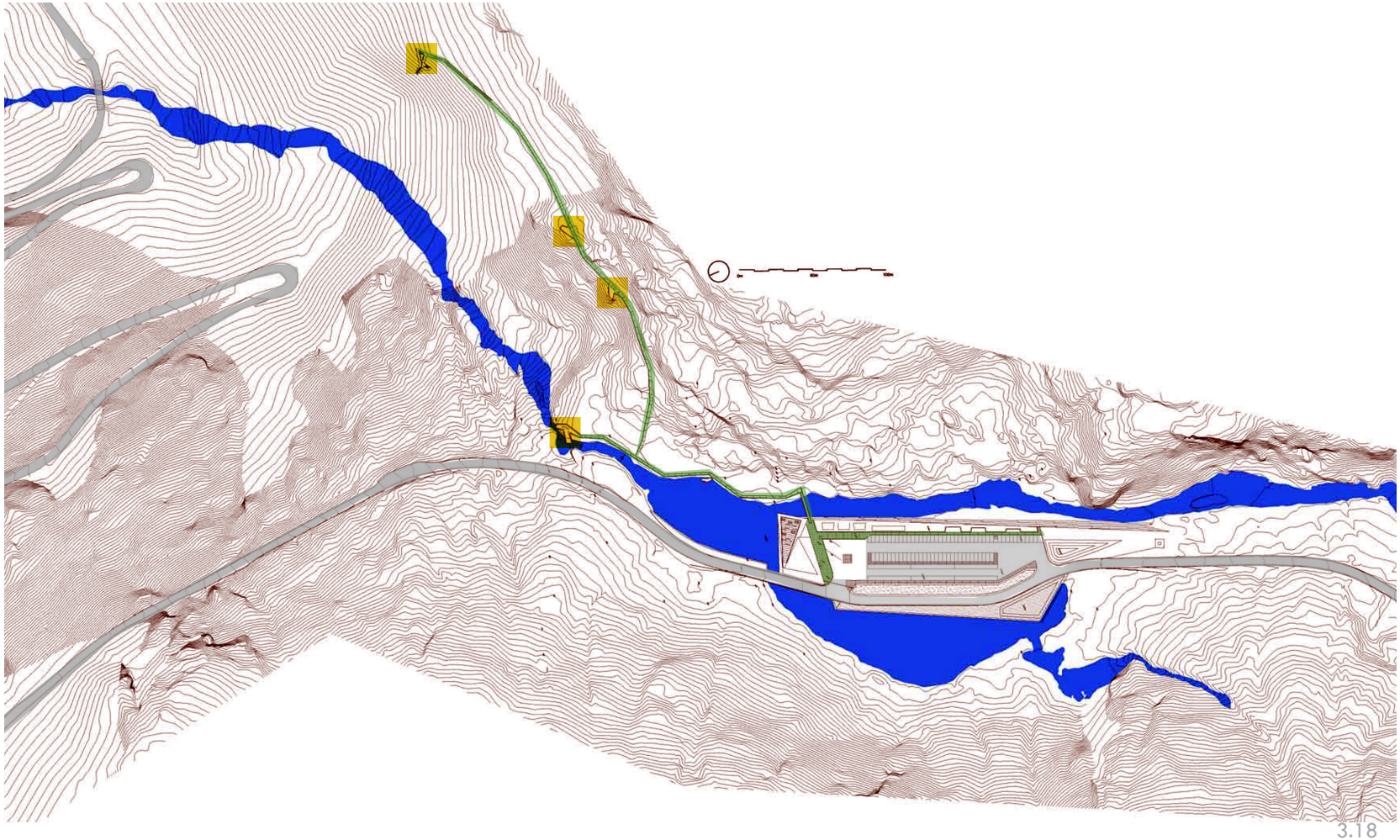

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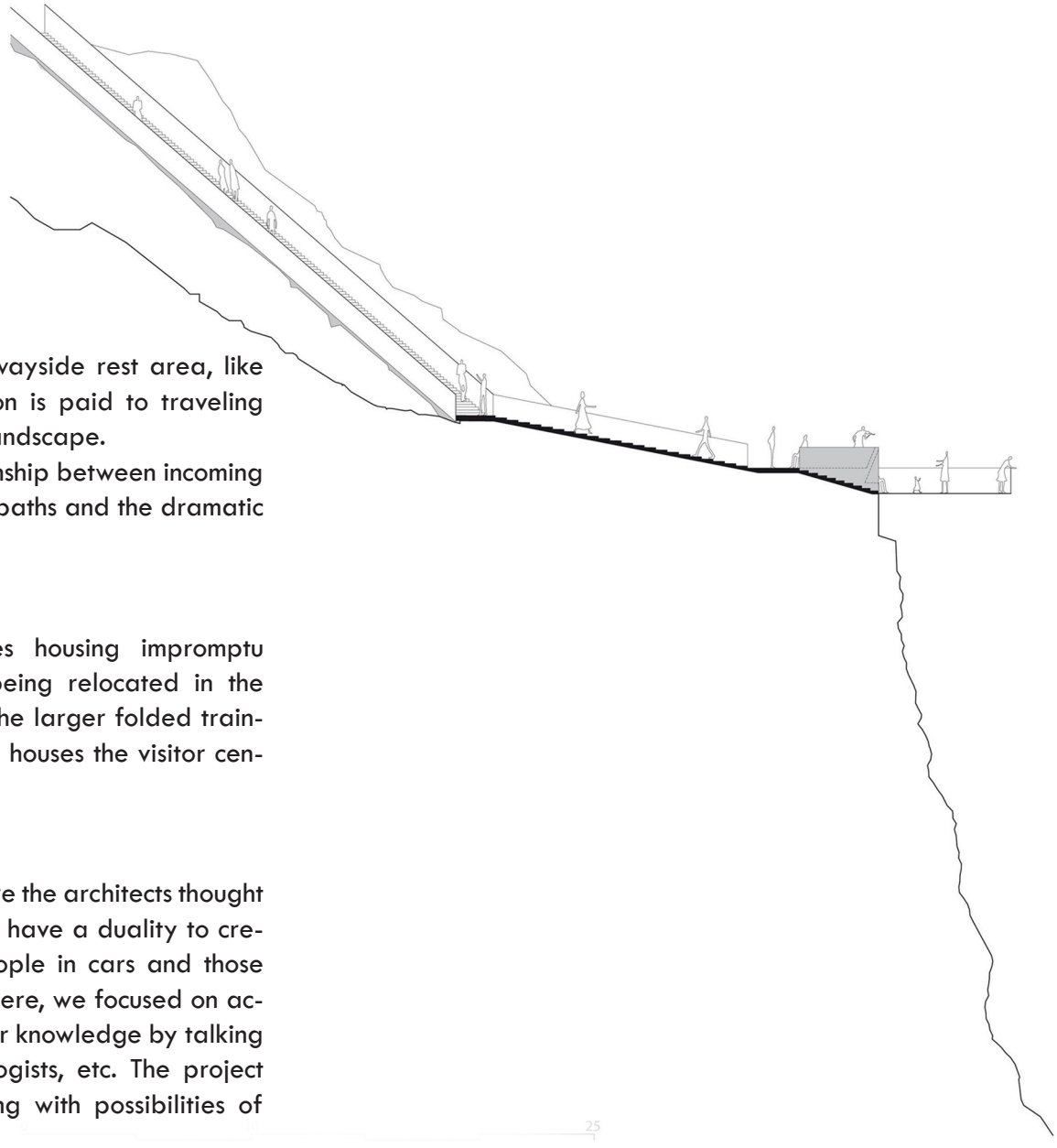


SPATIAL PROGRESSION

As a European version of a wayside rest area, like the Slow House much attention is paid to traveling and magnifying the existing landscape.
The site plan shows the relationship between incoming and outgoing roads, parking, paths and the dramatic topography.

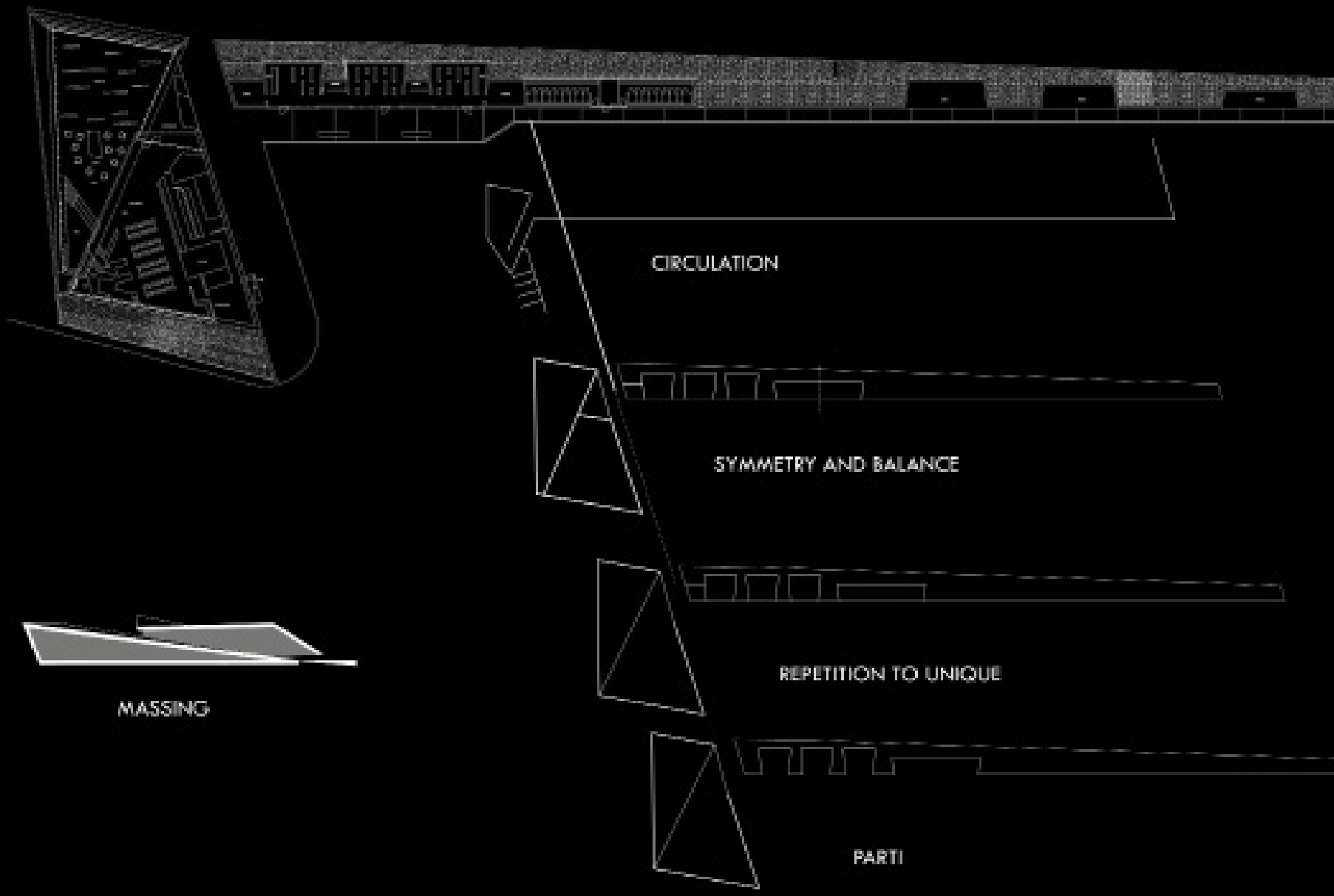
GROUND LEVEL

Existing ramshackle structures housing impromptu mountineering supplies are being relocated in the South 'wing' of the building. The larger folded traingulating structure to the North houses the visitor center, cafe and gallery.

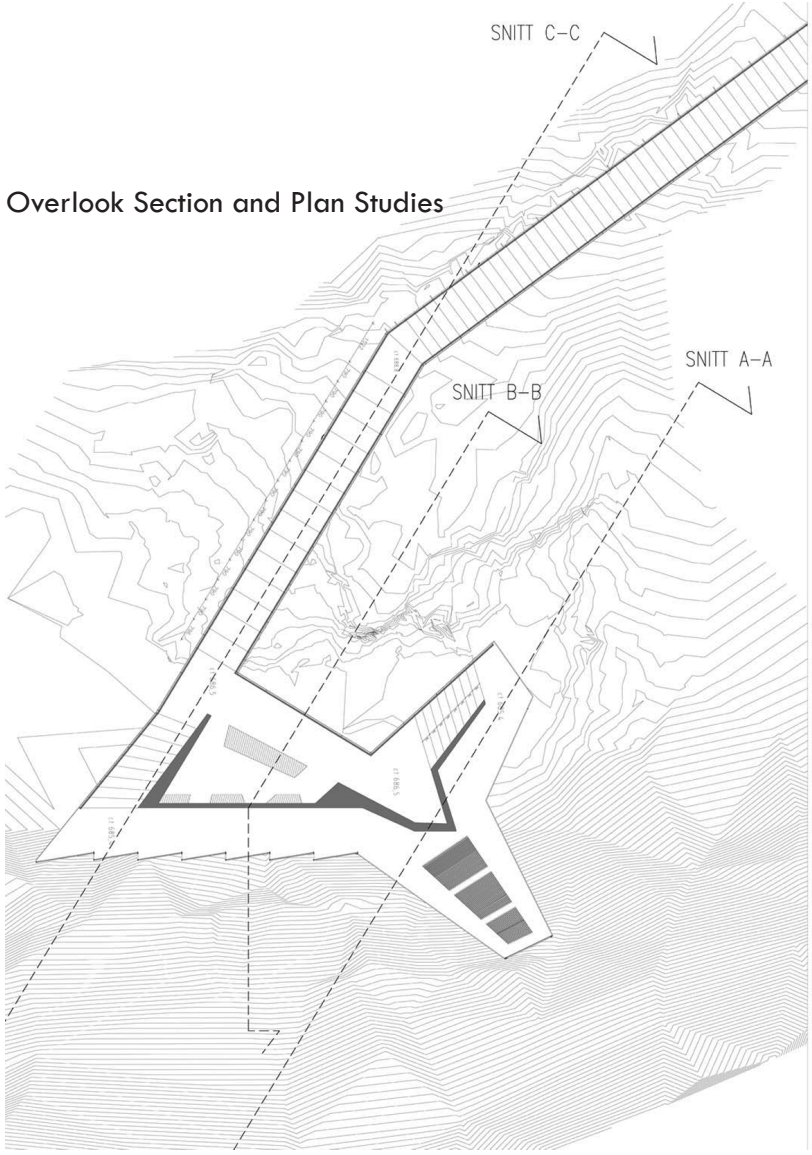
PATH CONNECTIONS

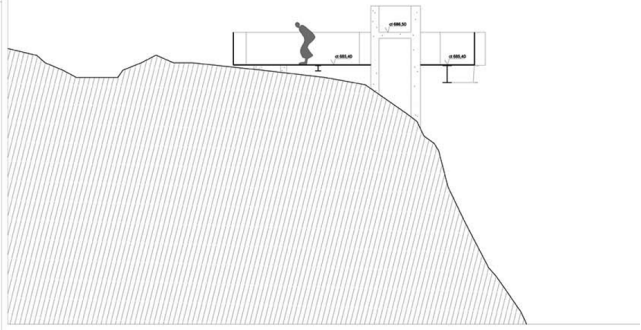
Rather than thinking architecture the architects thought landscapes, the new structures have a duality to create a distinction between people in cars and those who aren't. "Nature is brutal here, we focused on access, but started expanding our knowledge by talking with water specialists, hydrologists, etc. The project imposed new ways of working with possibilities of avalanche."

ELEVATION/SECTION TO PLAN



Overlook Section and Plan Studies





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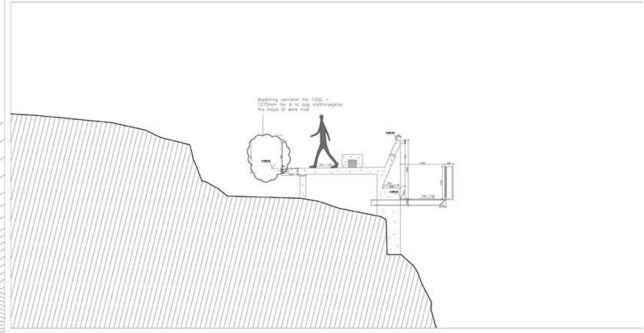

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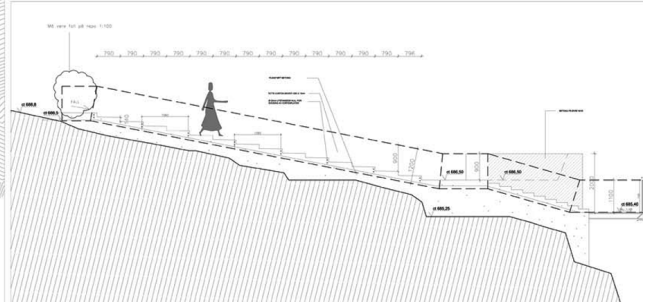

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CASE STUDY II
Designer: Perkins + Will
Client: Laurentian University
Co-op Unit
Location: Sudbury, Edmonton
Year Completed: 2011
Building area: 30,000 m2

LIVING WITH LAKES CENTER

It is clear humanity must have access to clean water if they are to live. Freshwater ecosystems are especially vulnerable to multiple environmental stressors since the advent of heavy industrialization. By the year 2025, demand for water world-wide is expected to exceed availability by more than 50%.

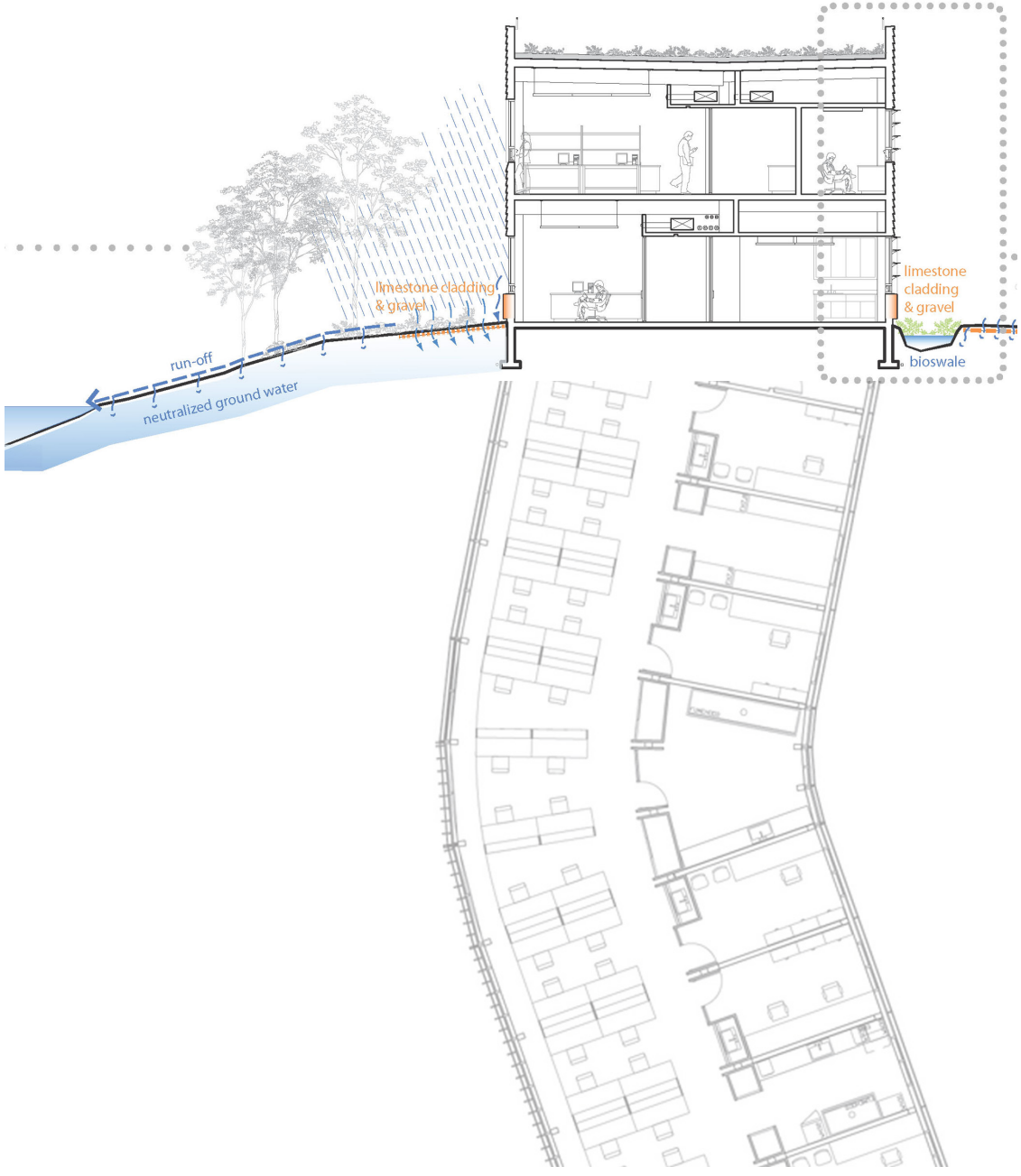
The Vale Inco Living with Lakes Center is being built at Laurentian University in Sudbury, at the heart of an industrial watershed and the centre of Canada's Boreal Ecozone with its million lakes. This research centre will become the new home for the internationally renowned group of scientists – The Cooperative Freshwater Ecology Unit (Co-op Unit).

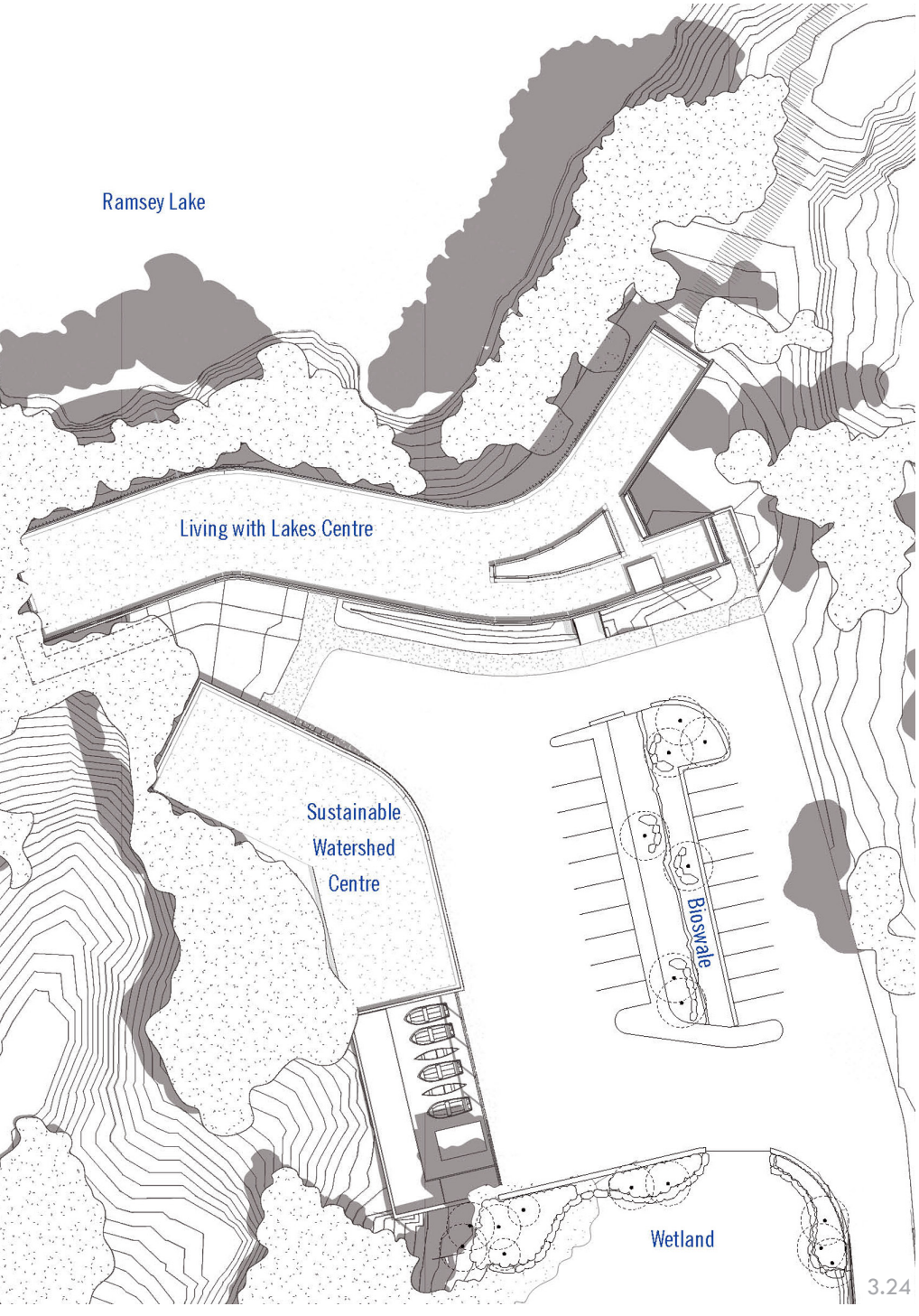
Reflecting Lake Superior's heavy industrial past, Sudbury was once notorious for the bleak environmental damage caused by a hundred years of mining and smelting. However, in recent decades Sudbury has turned this around has been celebrated for its successful land reclamation efforts, proving that, with efforts of scientists, industry, and community citizens working together, environmental restoration is attainable.

The LWL Center as an example of environmental research and sustainability can inspire the next generation of environmental scientists seeking solutions to complex environmental challenges. It could also serve to become part of a proposed network of stations to monitor the Great Lakes as an integrated whole.

Seeking LEED platinum standards, it will be a dynamic model for living sustainably within a watershed and foster a culture of international innovation and inquiry. The new research undertaken at the Living with Lakes Centre will lead to new and more effective strategies to speed the recovery process of industrially damaged ecosystems (Living with Lakes Centre, 2011).

With this in mind a wider encompassing proposed agency could oversee this global resource with links already established nationwide with Sea Grant. It would serve to link the efforts of scientists, universities and organizations', such as Michigan Clean Water Corps (MiCorps), GreatLakes Guardians, Great Lakes Clean Water Organization, in a unified, global effort.


limestone cladding & gravel
limestone cladding & gravel
run-off
neutralized ground water
bioswale



3.24

SPATIAL PROGRESSION

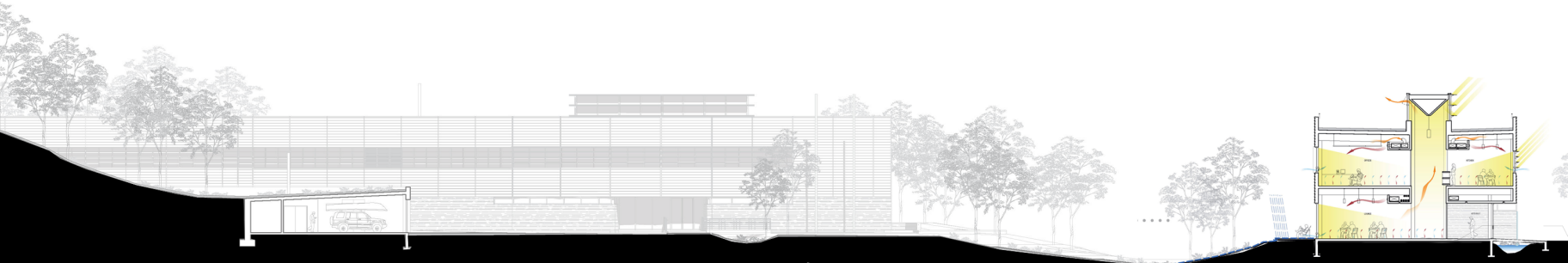
The main entry to the project is by automobile. A short driveway leads to the parking on the west side away from Lake Ramsey. Preserved wetlands and a bio-swale help collect and filter surface water. The spaces are comprised of offices, labs, storage and multi purpose lecture facilities and the sustainable watershed Center on the North edge of site that will serve as the base for field research. Together they form an integrated building/working lab.

LOWER LEVEL

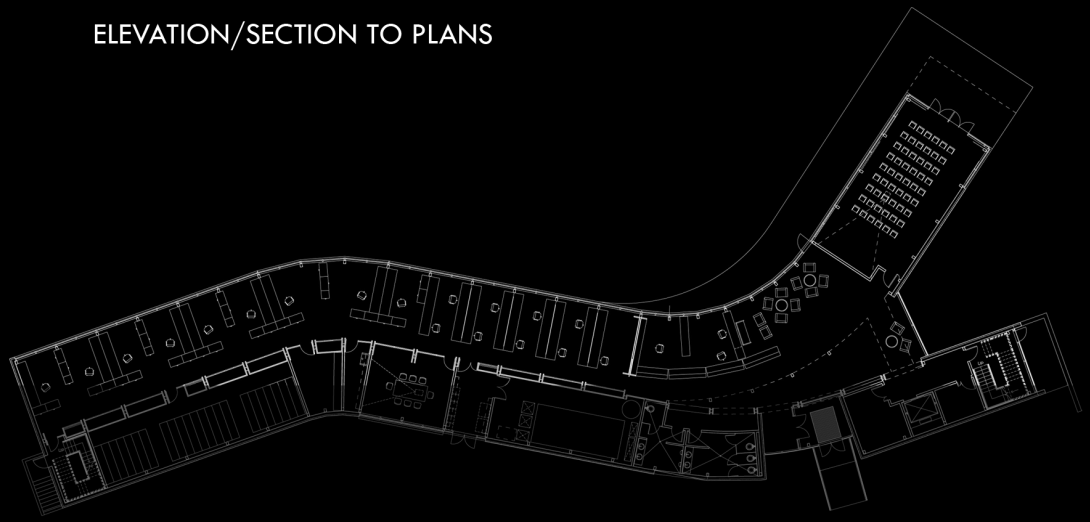
The entry is on the West adjacent to parking. Upon entering, a lounge and expansive views are offered with the community lecture room to the SE, framing views between trees of the point in the distance.

UPPER LEVEL

A long corridor runs the length of the building loosely seperating the wet labs that face the lake and offices that face west. Stairways are located on the South and North walls.



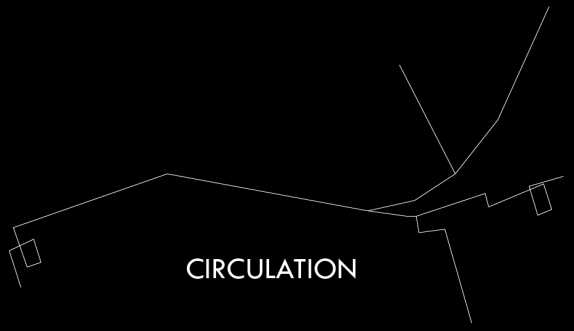
ELEVATION/SECTION TO PLANS



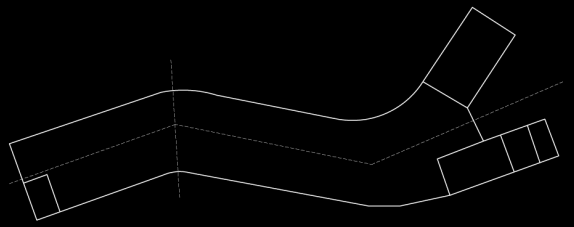
FIRST FLOOR

SECOND FLOOR

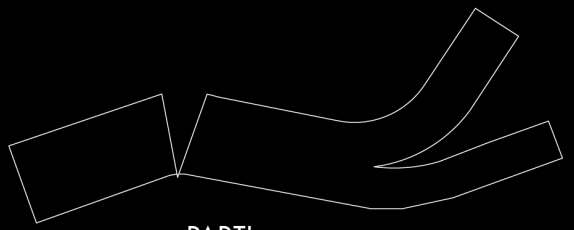
SECTION: NATURAL LIGHT



CIRCULATION



SYMMETRY AND BALANCE
PARTS TO WHOLE

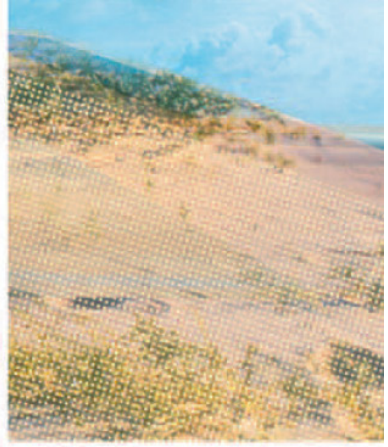


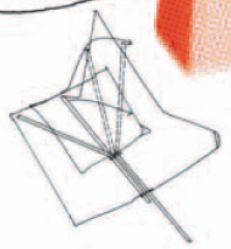
PARTI

ANALYSIS

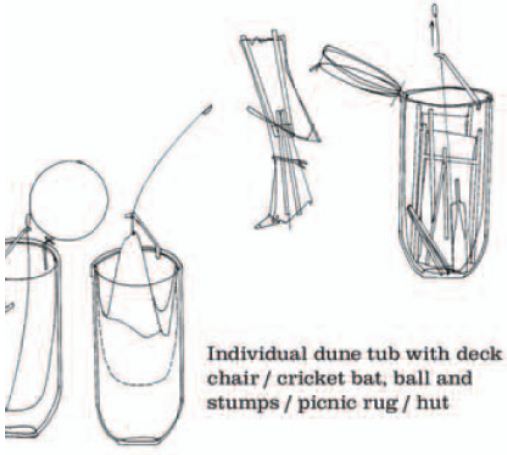
The building is a tale of two halves. The corridor splits the halves, allowing open lab space towards the lake and the more enclosed office spaces toward the road which, is buffered by existing trees.

The form splits following the contours of the shoreline, opening itself wider to encompass more access light and framing views of distant smokestacks, grounding the building in the region's history while being situated in its future.

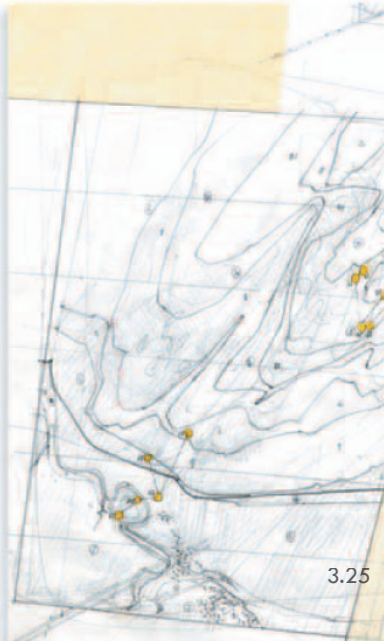




Deployable tents offer shelter from the sun. The tents are printed with thermochromic inks, which register the degree of exposure to UV rays.



Individual dune tub with deck chair / cricket bat, ball and stumps / picnic rug / hut



STUDY I
PANORAMA LANDMARKS
Designer: Smout-Allen
Client: East Anglian Development Agency
Location: England's North Norfolk Coast
Year Completed: N/A Competition
Building area: vast

AUGMENTED LANDSCAPE

Smout-Allen's work is about the physicality of site and how the processes of transformation involved in a project are exploited- the features available in the existing landscape such as geology, geography, climate and forces of nature are exploited so that the built work responds to the inherent dynamic and ephemeral nature of the environment. "The solidity of the artifacts that inhabit it as they take on a local specificity and lend to their surroundings a sense of nature illuminated." (Smout-Allen 2007)

In addition, they aim to use representational techniques to reveal the mutability of nature through a mixed media approach to examine site, behavior and events rather than representing static space.
"The creation of test sites on and in the surface of the paper allows the work to react to and describe the iterative process of design." (Smout-Allen, 2007)

Environmental technology is used in a way that fuses with the architecture, using air, water, sun, and earth to augment the performance of the building as well as the landscape. The methodology meant to enhance the relationship between ground and sky utilizes elevated positions, constructed vistas, and reflective surfaces. The architecture is amphibious, meant to inhabit both the land and sea. "Drift markers" like buoys reveal the constant motion of sea and wind; a top limb "designed to glint like white horses on the waves" while a lower limb acts as a rudder for the current. (Smout-Allen, 2007)

On land, a connected network of tubs is laid out partially submerged in the shifting dunes, revealing the flow of the sand dunes. Each tub is equipped with a deck chair, cricket bat, picnic rug, and hut for shelter. (Smout-Allen, 2007)

CONCLUSIONS

The projects chosen for research provide incite and initial references to spark my investigation. They were chosen for their perceived similarities to this thesis through their programmatic requirements that developed in no small way from addressing site (landscape), history and media in a variety of ways. They relate well in that they adopt a highly conceptual program and propose something that reflects new ways of experiencing architecture through motion and media.

The ability to reveal something about the landscape, here used pluralistically to denote both environmental and a kind of digitalscape was foremost important to help determine its use related to the statement of intent and project emphasis. Seemingly the choice of a site grounded in a narrative mythos, haptic and horizon has little to do with digital technology or cyberspace. This possible dichotomoy or paradox is intended. Qualities of paradoxes are proving to be valuable to design by recognizing ambiguity and complexity. Paradoxes are shown to parallel the process of creative thought in-so-far as creativity has been described and are a special case of the bi-association used in creative thinking. This resulting conflict helps give rise to the creation of new integrated ideas (Becher, 1980).

The Slow House project presents a lot of media to work through and examine. The revelance initially began with the excitement of having to dissect the content of drawings and models created unlike ones I had seen before. It also parallels an examination of the influx of digital culture through the notion of constructed views on a site similar to mine.

The idea that a resort or vacation/escape/retreat type program is not exempt from trafficking information and should embrace this idea presents a whole new set of issues the architecture can deal with: from the way a framed view is an act of constructing nature and thus domesticating it, to the idea that the building should be an escape from escape in order to connect back to ‘sites of anxiety.’ These notions start to speak of site, a present condition and also an addiction to a fast-paced information based society.

SUMMARY

Slow House deals with *der abstand* by acknowledging the space between driving from the city to the site (movement/flux). This elongated space of anticipation becomes a main instigator in the spatial progression. The site of anticipatoin inspires a similar study I undertake in my own site investigation. Another key aspect is the wide variety of media used to convey the ideas. From the media created, the project reveals a richness and depth rarely seen.

The focus on the brutal nature of the site for Trollstigen, while embracing and designing for possible avalanches and floods, suggests an immediate link to my site's deep history and current conditions. Using the cyclical nature of water as a dynamic element and the setting of rock as the more static element in contrast shows how to successfully use juxtapositions in a series of relations that describe and magnify the unique 'situatedness' of the site - a driving instigator for my design as well that shows a methodology of thinking landscape rather than architecture. The focus then relies on the horizon so the architecture can stake its claim into the juncture between land and sky.

Being so close to the lake itself, it is important that the Living With Lakes Center utilizes a structured layout for the necessary programmatic functions while maintaining a design that still strongly responds to site. This is done by following the contours carved by the glaciers and linking interior spaces to the lake. LWL is also provocative in the way it acts as an architectural filter to regenerate an area, improve water quality and question the concept that the most sustainable building is the unbuilt one. Like organic architecture, though different in use, environmental technology is used as in LWL Center to fuse with the architecture, using air, water, sun, and earth to augment the performance of the building as well as the landscape to enhance their relationship.

Finally, the Augmented Landscape project further emphasizes the architecture do just that, augment it. In addition, it is worth noting their aim to implement representational techniques to reveal the site as one of behavior and events as opposed to a static space. With the research on tourism behavior,WWWW this becomes an important concept to rely upon.

HISTORICAL CONTEXT

The research that follows is an attempt to reveal the layers of history perceptible at the site from a deep, geological time, to its first inhabitants, and up to recent history. The intent is to investigate the mythos of the place by studying how this deep time and experience was transferred into oral stories and myths as well as to contrast this with a more recent history of ecological negligence and renewal.

GICHIGAMI

What we now refer to as Lake Superior was first called Gichigami, meaning “big water” by the Ojibwe. Henry Wadsworth Longfellow wrote the name as “Gitche Gumee” in “The Song of Hiawatha” and Gordon Lightfoot followed suit in his song, “The Wreck of the Edmund Fitzgerald”.

GEOLOGY

FIRE ICE AND EVERYTHING NICE

About a billion years ago, a fracture in the earth running from what is now Oklahoma to Lake Superior was formed, generating volcanic activity that almost split North America. Over a period of 20 million years, lava intermittently flowed from the fracture. This geomorphic age created mountains covering the regions now known as northern Wisconsin and Minnesota, and the Laurentian mountains were formed in eastern Canada. Over time these mountains eroded, while occasional volcanic activity continued.

Molten magma below the highlands of what is now Lake Superior spewed out to its sides, causing the highlands to sink and form a mammoth rock basin that would one day hold Lake Superior. Eventually the fracture stabilized and, over time, the rock tilted down from north to south.

The region went from fire to ice with the arrival of the glaciers, which advanced and retreated several times over the next 5 million years. During the period, giant sheets of ice flowed across the land, leveling mountains and carving out massive valleys, where they encountered more resistant bedrock in the north, only the overlying layers were removed.
(Gauthier R. and Manninen C)

GLACIAL TIME

Six hundred million years ago, during the Paleozoic Era, central North America was covered by a shallow sea. This sea deposited a lot of sand, salts, and silts, which, after time, were compressed into limestone, sandstone, shale, halite, and gypsum.

The sea retreated from the Great Lakes region before the end of the Paleozoic Era. Eventually, the earth cooled, and during the Pleistocene Epoch, about 1 million years ago, the ice ages began, and glaciers advanced and retreated many times over what is now the Great Lakes region. Being over one mile thick, these glaciers flattened and carved large holes in the land. Where they encountered the softer sandstone and shale allowed the glaciers to dig out the large basins that make up the Great Lakes today.

After the last glacier began retreating around 14,000 years ago, the earth warmed considerably. The resulting *meltwater* filled the holes left by the glaciers and during this time the lakes were much larger and had different river outlets. But as the ice retreated, the St. Lawrence River Valley revealed itself as the outlet to the Atlantic Ocean, and the lake levels eventually dropped to current levels (Gauthier R. and Manninen).

DYNAMIC LAKE

Since the retreat of the glaciers, water levels continued to undergo dramatic fluctuations, some in the magnitude of hundreds of feet. These extremes were caused by changing climates, crustal rebound and natural opening and closing of outlet channels.

As a consequence of these recent fluctuations, shoreline position and environments have dramatically changed. Dunes, baymouth barriers, embayments and river mouths are continuously modified by the forces of water. Many dune formations—some hundreds of feet thick—were established during glacial periods. The tops of these dunes have been continuously sculpted by winds to form the majestic structures now visible.

Adding to an appreciation of Lake Superior is the knowledge that it is, geologically speaking, a short-lived natural feature for all of its impressive size. It reached its modern stage and elevation 2,000 years ago. Lakes are evanescent. Superior's beautiful vastness is only, as Craig Blacklock observed, "a momentary flash of silver across the face of our planet."

As one of the youngest natural features on the North American continent, the lakes remain a dynamic, evolving system. Climate change is becoming a concern as Lake Superior shows higher and higher temperatures. According to Minnesota Sea Grant, although the details of regional climate predictions are still crude and model-dependent, it seems likely that around Lake Superior people should expect:

More frequent and intense storms.
Increased climate variability and extremes.
Warmer annual temperatures.
Drier summers (reduction in soil moisture).
Warmer nights. (Minimum or 'overnight low' tem peratures have been rising faster than the maximum temperature.)
Warmer winters. (Winter temperatures have been rising about twice as fast as annual average temperatures.)
Similar winter precipitation. (But more will fall as rain.)
Lower water levels in Lake Superior. (Even for sce narios that forecast increases in precipitation, most climate models predict lower water levels for Lake Superior because of increased evaporation.)
Changes in the species composition of both terres trial and aquatic ecosystems.
Longer growing seasons.

4.2

CABIN STORY

The log cabin is a building type standard of the area and is used still today, though in a more regional nostalgia. This story exemplifies a narrative many can associate with, including myself. Some of my earliest memories are getting off the bus and having to walk our half-mile driveway home, greeted by the sound of my father and his chainsaw, wearing his black boots with the gash in them from a previous close-call chainsaw accident - smells of fresh cut pine, sap and oil.

"This February 1945 photo shows Dad's good friend, Dave Clark, standing among the Norway (red) pine from which the logs for the Fink cabin were cut. This stand was, and still is, at the east end of Leo Lake. The trees were purchased from A. V. Johnson of Grand Marais. Mr. Johnson owned the land and charged $1.25 for each of the 110 trees that were cut to produce the logs, according to a letter from him to Dad dated October 16, 1944. Dad wrote Mr. Johnson on November 1, 1944, stating that he thought they had an agreed upon price of $1.00 per log, but Dad sent a money order for $137.50 anyway. He commented that he expected Dave Clark would start cutting the trees on about Novem ber 15, 1944. (source)

(IN)HABITATION

Humans began visiting the Great Lakes basin about 7,000-10,000 years ago when the last glacier retreated. Four thousand years later, people of the Woodland Culture settled along Superior's shores. They were replaced by the Dakota, who were in turn replaced by Ojibwa tribes. By the 1500s, an estimated 60,000 to 120,000 aboriginal people lived in the area. The fertile soils, plentiful water and game supported the native people, who took to the lakes and tributaries in their birch bark canoes. In the north, they mined copper, using rocks to hammer pure chunks from the bedrock; this copper made its way by trade as far as present-day New York. The descendants of these first inhabitants were to become many current Native American Indian tribes, including the Oneida, Mohawk, Chippewa, Iroquois, Algonquin, Menominee, Ojibwa, Ottawa, Potawatomi and Winnebago.

Lake Huron was the first of the Great Lakes to be seen by Europeans and by 1622, French explorers Étienne Brulé and Grenoble were the first Europeans to see Lake Superior. Shortly after, other explorers, missionaries and fur traders, known as the "Voyageurs," arrived. Samuel de Champlain called the lake La Mer Douce, "the sweetwater sea." The first French explorers approaching the great inland sea by way of the Ottawa River and Lake Huron during the 17th century referred to their discovery as le lac superieur. Properly translated, the expression actually means "Upper Lake," that is, the lake above Lake Huron.

French fur traders followed the water routes used by the Indians, traveling the lakes in their canoes with loads of beaver and other pelts bound for east coast settlements and Europe. Some of these canoes carried crews of 6 to 12 voyageurs and loads of more than 5,000 pounds. The French established bases and later military forts, to protect the fur trade. The British followed suit, opening the way for settlement. The fur trade lasted until the early 1800s, followed by a logging campaign that stripped vast areas of virgin forests from most of the watersheds. Logging began in around 1893, which was so-named the "era of tall pine logging," clearing the forests.

Photographer Craig Blacklock notes in his book *Lake Superior Images*: "To comprehend Superior we must change our concept of what a lake is." Until the last few centuries, people relied on myth as the primary form of knowledge to help understand how they themselves fit into their surroundings (Heidegger, M. 1977). Superior's cold, clear expanse is large enough to change the region's climate, delaying its spring, moderating its summer and falls, and producing on its southern shores in winter, the largest lake effect snows on earth. (Douglas O. Linder) The stories that have brought people here and how they relate with the environment reflect Heidegger's writings on myth as the primary way we have understood our existential relation with the world.

The geological wonders still inspire a sense of this no matter how playfully it is dismissed as hoax. According to the teachings of the Chippewa (also known as the Anishinabe people), it was the sacred Megis Shell that first guided the people to the rich regions of the Great Lakes, most notably to the prized waters of Gitchi Gummi (big water), or Lake Superior.

MYTH

The Megis Shell was last seen near Madeline Island, which was a settling point for the tribal people migrating from the eastern shores of the continent. Today, the abundance of the Great Lakes to which the Megis led the Anishinabe people has been somewhat diminished, but the people and their love for Gitchi Gummi has not . The people have endured and, as one with the land and the water, will endure long into the future.

It is not often when a state park is associated with the words "unknown phenomenon." Devil's Kettle Falls, within two miles hike of the site, is one such wonder. As the Brule River approaches Lake Superior, it splits, one side dropping fifty feet below and the other disappering. There is no known outlet; it is almost as if the pothole at Devils Kettle leads to some mysterious void. Judge Magney State Park has long been the center of many geological and scientific experiments and observations that have revealed no answers. Researchers, in hopes of discovering where the pothole at Devil's Kettle leads, have dropped dyes and colored ping pong balls into this swirling. vortex, but to no avail. Everything, including the water, just disappears, to never be seen or heard from again. As foreboding as it sounds, nothing ever comes out of the Devils Kettle. Known as "The Flying Dutchman of Lake Superior", the ghost ship Bannockburn is still said to be sighted in the cold, drifting fog that frequently covers the lake. The freighter disappeared in November 1902, and no wreckage or other evidence of any disaster has ever been found. In fact, the only evidence was to the contrary. Oddly, relatives of the twenty crew members lost with the ship received telegrams telling them not to worry, that the ship was safe despite rumors of it being lost. Today, captains on other ships on Lake Superior sometimes report the swift-moving, 245-foot-long Bannockburn steam past them and disappear from view in only two or three minutes.

Today, the abundance of the Great Lakes to which the Megis led the Anishinabe people has changed but, the sites' capability to generate awe and wonder remain - a rare thing in today's time, which will endure long into the future.

4.4

4.5

4.6

INDUSTRY

Iron ore from the Vermillion Range was what led to eventual development in the area around Grand Marais. As a result of a railroad being built in the late 1800's to carry iron ore from the Range to Two Harbors, many Scandinavians from Norway and Sweden came. The 1880 census showed Cook county as having 65 residents; by 1900, there were 810.

Hans Engelsen, an immigrant from Norway, settled on an abandoned homestead near Carlton Peak in 1893. In 1896, he opened the post office with the name Tofte, named after a community in Norway. Tofte means, "seat of a boat" or in the Viking ship days, a "helmsman's seat."

At this time, timber companies were moving around the south shore of Lake Superior from Michigan to Wisconsin and on to Minnesota, cutting timber. The clearing of the old growth forests had repurcussions. Popular thought is that deer are native to the area, but in actuality caribou and moose were much more prominent. The moose in the area were not over hunted but rather driven off by the deer, which had arrived around 1908, migrating around Lake Superior and following the logging cuts up to the North Shore.

The hospitality industry began early in Cook County. C.A.A. Nelson built a wagon trail from Lutsen Resort, following the Poplar River to Brule Lake in North-Central Minnesota. He hauled guests and supplies to moose camps at Brule for a moose hunt. For $300 he guaranteed the guests a moose. Five shots however, were all they were allowed, after which the guide would shoot the moose. This was the case from the early 1890's to the time of World War I, when moose hunting was closed. Moose hunting again closed because the population had died off because deer carry parasites that infect the moose.

As the wagon/sled road was built up the shore, travel increased. Fishing, logging, farming and tourism became the major industries. Through the 1940's fish caught early in the morning were iced and picked up by trucks traveling down the shore to Duluth to be put on a train at 11 p.m and arrive at the Chicago fish market the next morning. Fishing has declined in years since due to the sea lamprey invasion in the 1950's, Though the lake has slowly started to recover and still offers commercial fishing.

4.7

"Our most fundamental relation to the gigantic is articulated in our relation to landscape, our immediate and lived relation to nature as it "surrounds" us... We move through the landscape; it does not move through us. This relation to the landscape is expressed most often through an abstract projection of the body upon the natural world. Consequently, both the miniature and the gigantic may be described through metaphors of containment-the miniature as contained, the gigantic as the container" (Stewart, 1984)

FOUR SEASONS

WINTER offers views of the huge ice formations along the shoreline. If your timing is right, and you have the right room with a view, you may be lucky enough to witness one of the fierce November storms which have sunk so many ships.

SPRING brings the excitement of the end of the long freeze and the return of life to the ecosystem. Frozen streams become dancing springs. Flowers grow everywhere: through the tiniest cracks in boulders, in the shade, in the sun, in moss. Wildflowers. Migratory birds return. Bears leave their hibernations. Fish run and so does maple syrup.

SUMMER brings the hordes of tourists, with RVs, camping supplies, canoes, boats and eager faces. A canoe trip through the Boundary Waters is a memory of a lifetime.

AUTUMN softens the blow of the oncoming winter. The North Shore, in addition to its many pines, has many maple, oak, birch and other deciduous trees whose leaves are painted a pallet of bright colors in the fall. The North Shore is one of the most beautiful areas in Minnesota or anywhere in autumn. The weather section of the Minneapolis Star Tribune usually follows the “color line” of the leaves as their change moves southward.

GOALS

ACADEMIC

An Insightful Premise is the catalyst for the thesis project. My hope is to present a multitude of pertinent ideas to architecture that I have researched thoroughly. This is to be seen in lieu of providing problems to be solved as I remain skeptical that architecture has the autonomy to solve complex socio-economic environmental through the course of designing a building.

PROFESSIONAL

It is my goal to have an interactive and well prepared oral presentation/installation. Computer skills are a must today, but as the research indicates, I hope to use these skills in ways I have not thought before and ways software is not immediately suggested.

PERSONAL

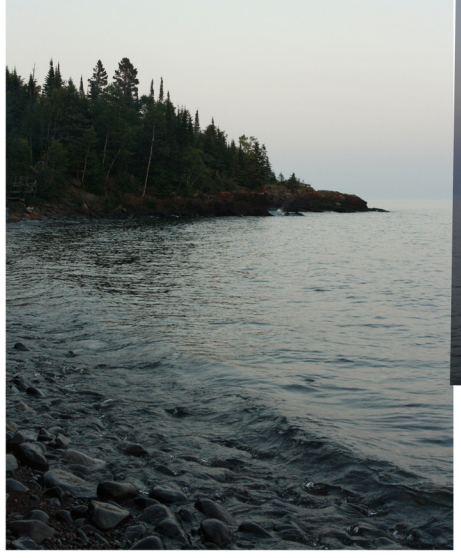
I feel at this time the most important personal goal is to design a building that truly reflects the present. I have so far tried to define what that is through a variety of research pertaining to the intent statement. I hope to answer my own questions: should architecture truly be about helping people? That is to say of course it should be, leaving the more important question: to what end?

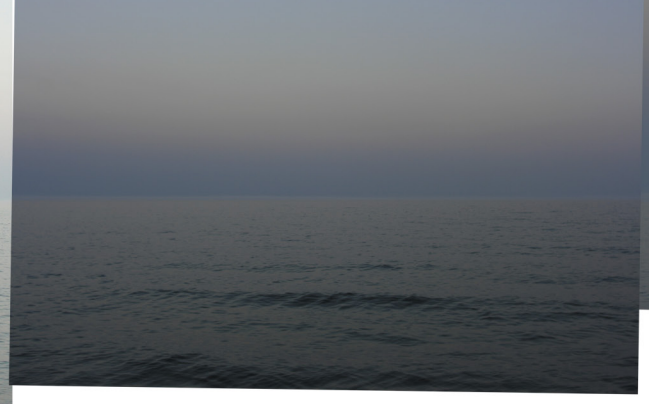
Through the intense investigation, I hope to discover and implement new strategies of conceiving new, though in response to an argument of, "everything has been done," then at least to me, virtual and spatial relationships. It should be a place that all may have access to and enjoy, but a place all may not want to visit and some possibly to condemn.

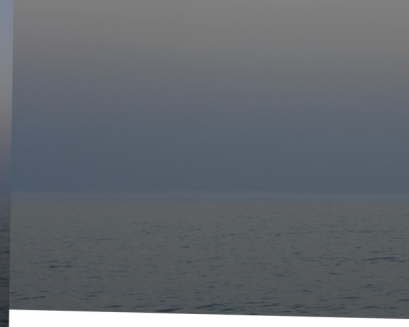
Essentially this refers to my ability to produce a project to challenge people and a project I am proud of. As my rather elongated, paying-tuition academic career status draws to an end, I intend to embrace the freedom and produce a design uninhibited by readily perceived limitations of construction and the economy,WW but to acknowledge the importance of place.

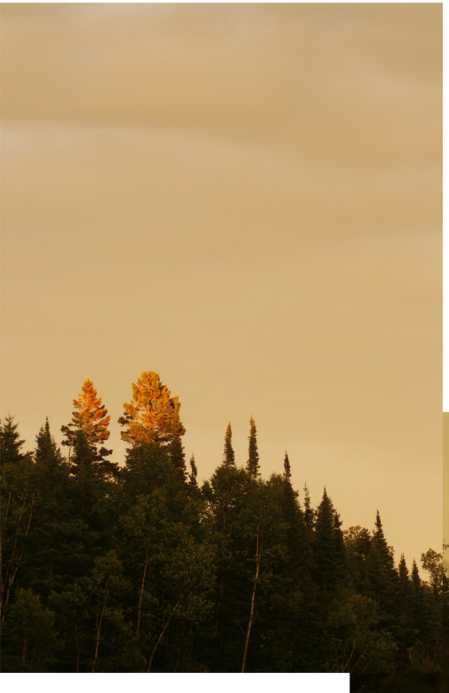
SITE ANALYSIS

HORIZON



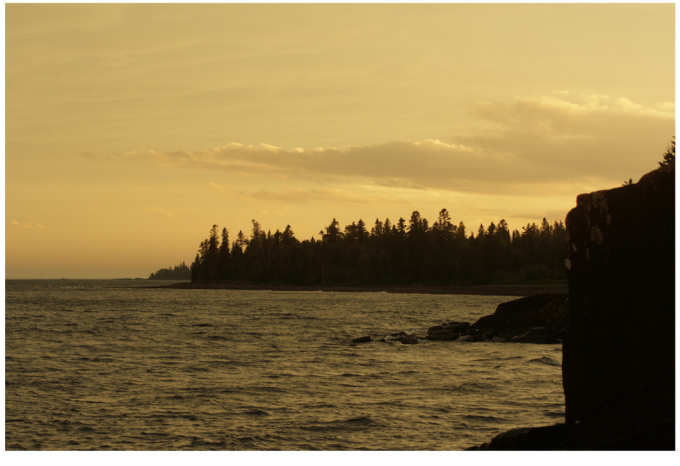






We move through the landscape; it does not move through us. This relation to th

he landscape is expressed most often through an abstract projection of the body upon the natural world.



Man on earth under sky. View West from site.

NARRATIVE

Taking Mitchell Schwarzer's approach in *Zoomscape*, the site can be seen through the lenses of motion and media. As in most tourist attractions the site can be described as first encountered through excitement and expectation garnered through images and oral or written stories. These are typically used to reinforce the visitor's desire for leaving the site of anxiety i.e. "big city" to escape to nature - a peace and calm the site and shore of Lake Superior are known for. The vastness of the lake is experienced through motion. In the car the view through the windshield opens up on the crest of a hill overlooking Duluth and its large industrial structures along the shore.

From Duluth, the drive up the north shore through arguably the most pristine land in the U.S. South of Alaska to the site takes about three hours, depending on how often you stop. The car weaves through a landscape dotted with glimpses of the lake, glacial spits, rock outcroppings, headlands and bays, and peninsulas reaching out to shimmering islands that pass by. Carved tunnels and winding roads take you past unique shops, lighthouses, and massive iron ore structures which have all helped shape a desireable regional psyche to experience.

Turning off to the physical site on a low maintenance trails transforms the experience. Through a canopy of trees, the trail leads to what appears at first an abandoned, ad-hoc structure inspiring awful memories straight from the film, *Deliverance*. Further on, vehicle access ends at the second structure, a small one-room, Thoreau-like cabin where site investigations were conducted. Exiting the vehicle is the first time to experience the dynamic slowness the site offers. Under the heavy canopy of trees, one can hear the onslaught of the waves never ceasing, insiting a desire to be closer to the vastness one has been teased by through the glimpses in the car.

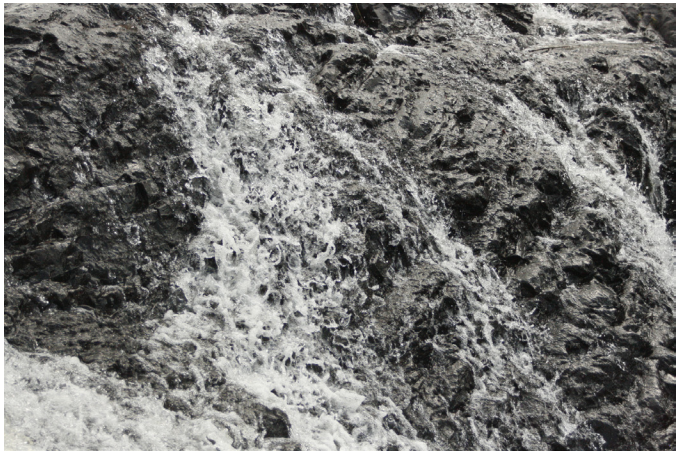
Its initial sense to the visitor is dreamlike, as the nostrils pick up the scent of pine while the tops of trees can be seen and notice the site appears devoid of human inhabitance with its sense of enclosure in the tree canopy. The walk to the shore is first where the exposure of ancient rock outcroppings are stumbled upon and through the clusters of trees the release to the full horizon. In areas the rocks rise and cut through the forest landscape. They bleed orange and red hues, the iron filled stone which looks like a bloody scab washing into the lake only more beautifly expressed with time.

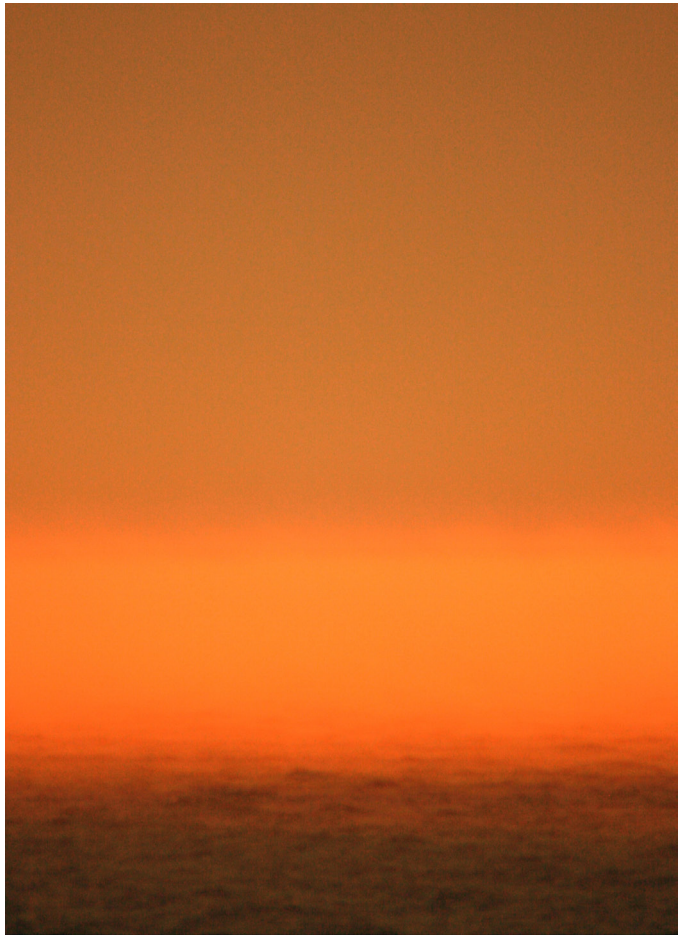
The rocks quietly remind us that life is a process projected through time and space, a process that flows. The views at the site captivate the visitor through the atmospheric changes of light and water experienced through the differing topography carved by the glaciers long ago and filtered through trees clinging in the shallow soils. The central focus of the site are the boundaries between fully open and enclosed, horizon and sloping topography interrupted by the rock outcroppings and the opening or closing experience from moving between.

The water is constantly changing. Waves change direction and height and the color reflecting from the sky can change the effected presence of the site. The often deep blue of the vast lake can quickly turn to green, even orange tones and at dusk, black. During winter ice can cover everything and encase the rock edges. As the lake is often warmer than the air, it can be seen in all stages as ice, water, and vapor.

Though the trees offer protection from winds, they are also quite vulnerable due to the shallow coastal soils. The main distress can be seen by the many downed trees, revealing the inherent struggle exposed to the coastal storms. Through many walks in the site wildlife seen included squirrels, birds and

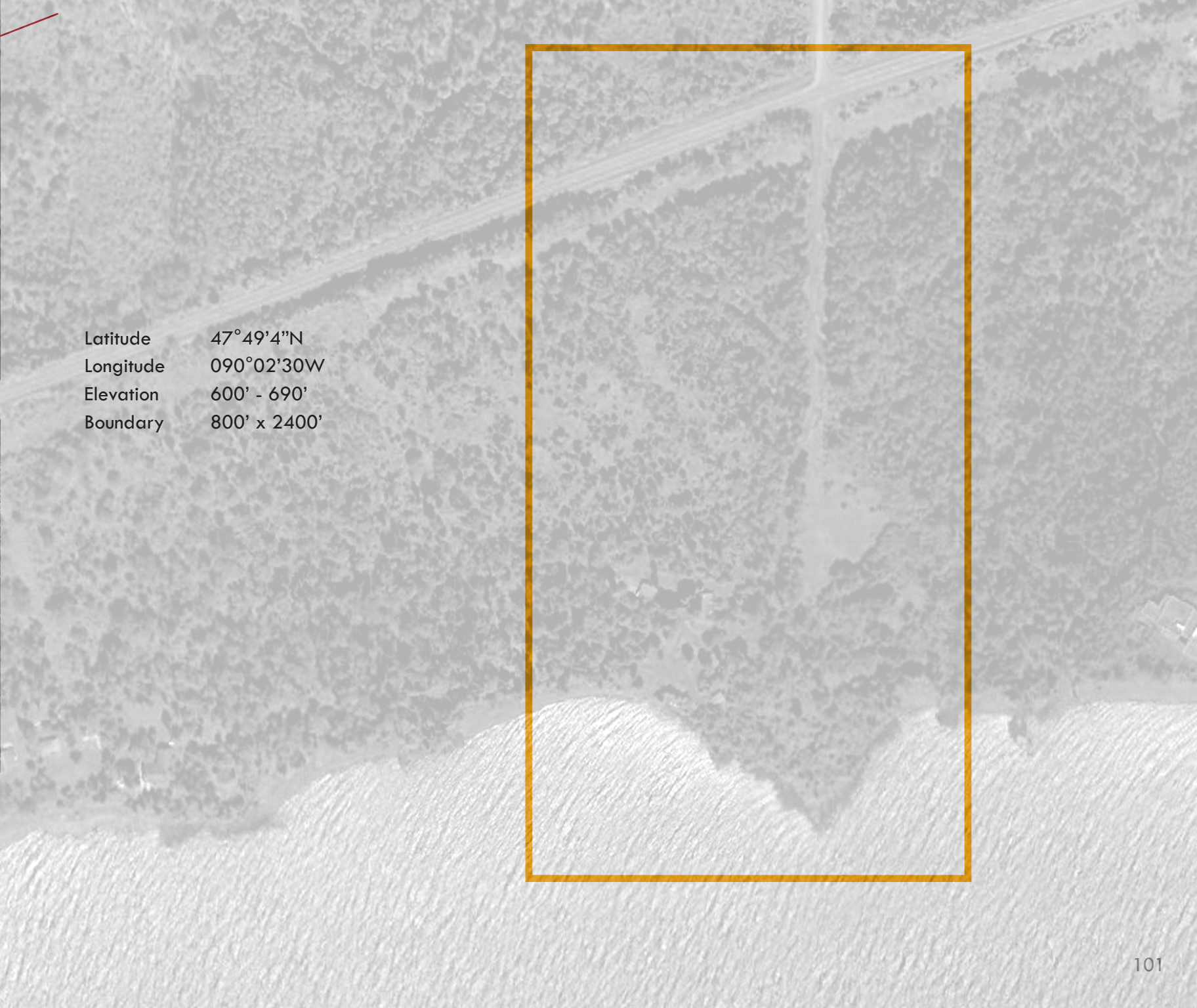
TEXTURE
MATERIAL
COLOR



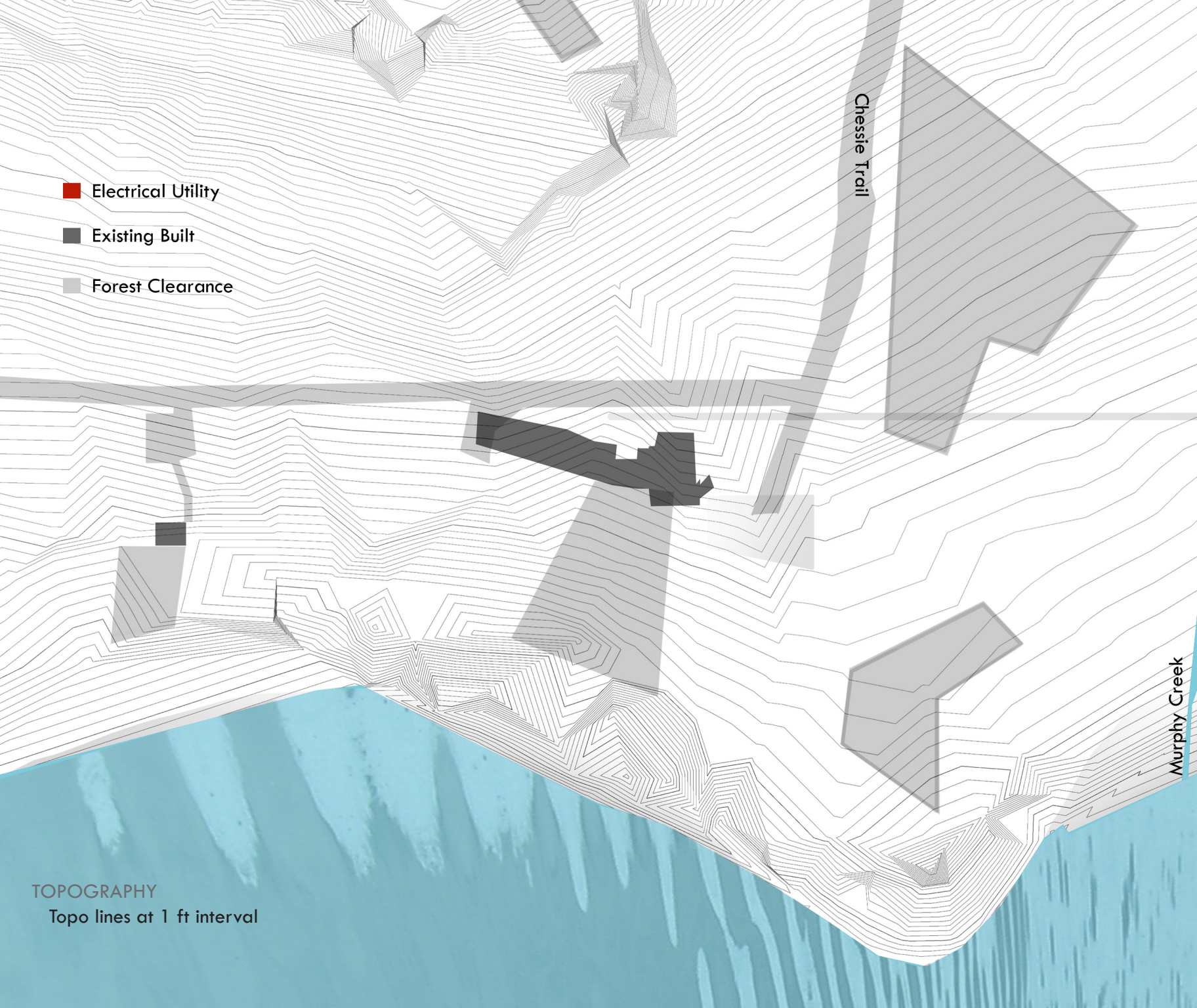








Latitude	47°49’4”N
Longitude	090°02’30W
Elevation	600’ - 690’
Boundary	800’ x 2400’



TOPOGRAPHY

Topo lines at 1 ft interval

SLOPE/DRAINAGE

The site has a significant difference in topography, especially from the shores to the raised area where the tree growth occurs. Lake Superior lies at an altitude of 600 feet, while the rest of the site ascends to about 700 feet at HWY 61. The main line of drainage comes from the North, collecting in lakes and being distributed to Murphy Creek to the East and the Brule River to the West.

The Brule River, beginning at Brule Lake in North Central Minnesota, runs West to East and empties into Lake Superior to the West of the site yet well within walking distanct. To the East, the altitude slowly rises toward accessed by a two lane paved road from the East. The land rises
much quicker to the North to a trail that stretches from Judge Magney State Park well beyond.

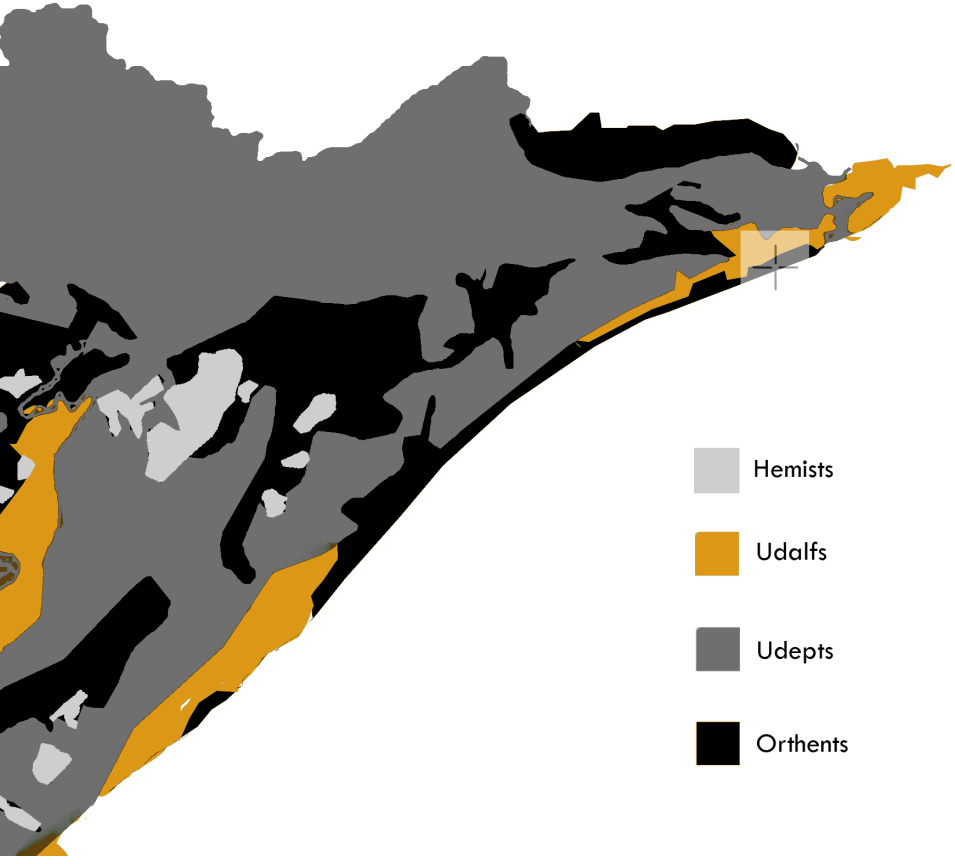
PLANT COVER

The site is mostly dominated by deciduous and coniferous trees as well as rock outcroppings and grasses.

SHORELINE

The most common type of shoreline in the Great Lakes region is the sand/rock beach, which is found along much of the length of the site though mixed with larger boulders that hove broken off. Sand is deposited on beaches when the waves from the lake move it up from the lake bottom to the shoreline; the sandy shorelines are ever changing. *Littoral transport* carries sedimentary material both parallel to the shore (longshore transport) and perpendicular to the shore (on-offshore transport). The wind can also transport sand through dredging of lake bottoms to add to a beach to increase its size or to replace eroded beach sand.

As the land and water are constantly meeting one another, many forms of life inhabit a beach, such as algae and other microfauna. Beaches are rich feeding grounds for migratory shorebirds. Beaches also collect driftwood and other debris that a variety of beetles, spiders, and shorebirds like to feed upon. Sandbars, and spits often protect marshes and other wetlands from excessive wave and wind action. Beaches are of course a great place to swim, if you can stand frigid temperatures.



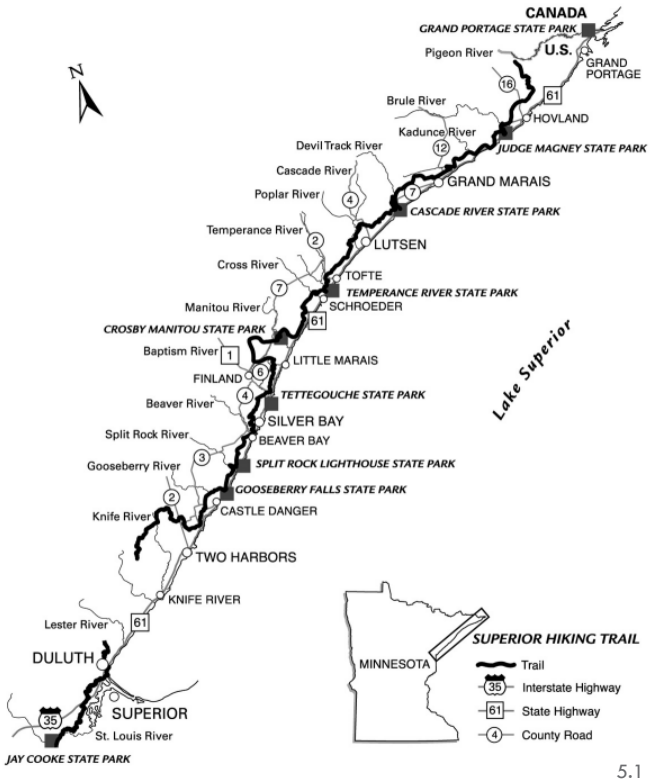
SOILS

The the site has two major soils, Udalfs and Orthents. Udalfs are soils of the forests where some of the largest white and red pine were found on these soils. Where not cleared for cultivation, they support and are now covered by large aspen forests.

Along the shore, Orthents are shallow or poorly developed soils due to erosion constanlyt exposing bedrock. These are the true or common entisols. Any trees, if present, are usually pine. These soils and associated vegetation are picturesque reminders of wilderness. Orthents are also scattered in other areas of the state, especially the west-central and southwest, where glacial deposits have steep slopes and the material is not easily weathered.

Adjacent to the site to the North are the *Udepts,* soils of mixed conifer-deciduous forest. These soils primarily occur under forest vegetation. The parent material of these soils is primarily glacial till/bedrock. Forests mainly of aspen now cover where the old growth red and white pine have long since been harvested (Anderson, 2001).

105



5.1

FEATURES

The site boundaries are approximately 800 feet west to east by 2,400 feet north to south though much of this on the South is the lake itself. The sites border to the east is Murphy Creek, to the South Lake Superior and to the north HWY 61.

The Brule River, beginning at Brule Lake in North Central Minnesota, runs West to East and empties into Lake Superior to the West of the site. Well within walking distance the river connects to the Superior Hiking Trail at Judge Magney State Park. The trail is connected to a 277-mile footpath following the rocky ridgeline above Lake Superior. (Superior Hiking Trail). Chessie Trail connects the site to HWY 61, creating a N-S axis from the lake to the HWY.

PLANT COVER

The site is dominated by deciduous and coniferous trees amongst rock outcroppings. Wild raspberries and blueberries are delicious. A grass clearing off Chessie Trail (in black above) suggests an initial place for possible building site.

CITY CONNECTIONS

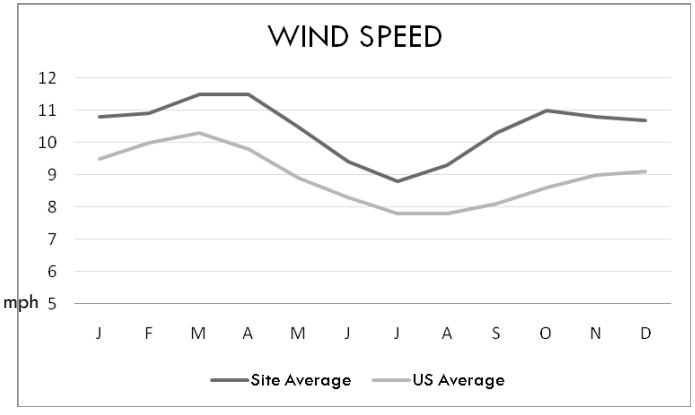
Grand Marais is fifteen miles West of the site and is the closest city offering services and goods such as gas, groceries etc. Hosting a population of 1,306, the village, as they prefer it to be called, is well known for its arts and fishing community. Smells of fresh fish and chips can be satisfied with a fresh catch of the day.

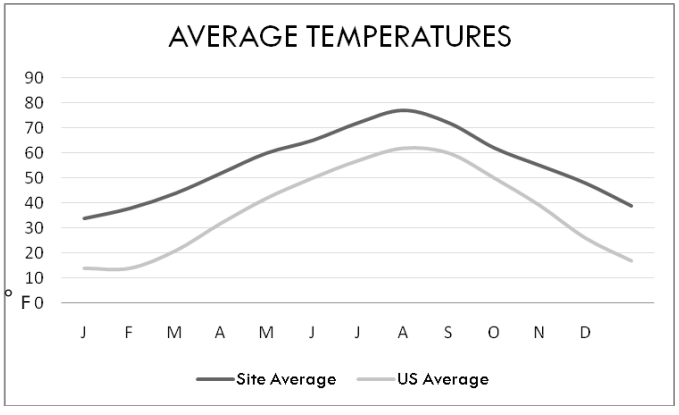
Air quality in Grand Marais, MN is 98 on a scale to 100 (higher is better). This is based on ozone alert days and number of pollutants in the air, as reported by the EPA.

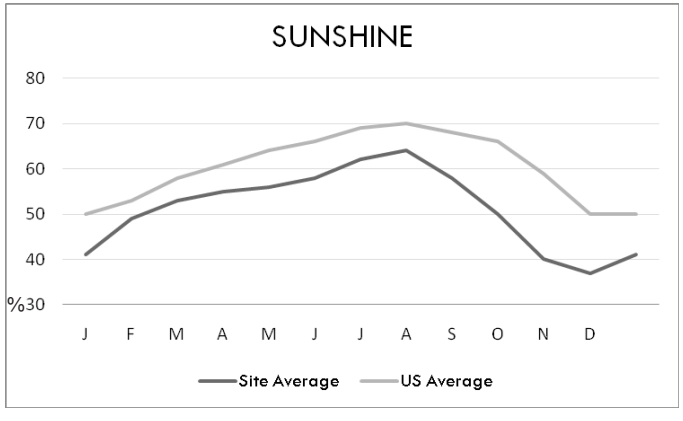
Water quality in Grand Marais, MN is 88 on a scale to 100 (higher is better). The EPA has a complex method of measuring watershed quality using 15 indicators.

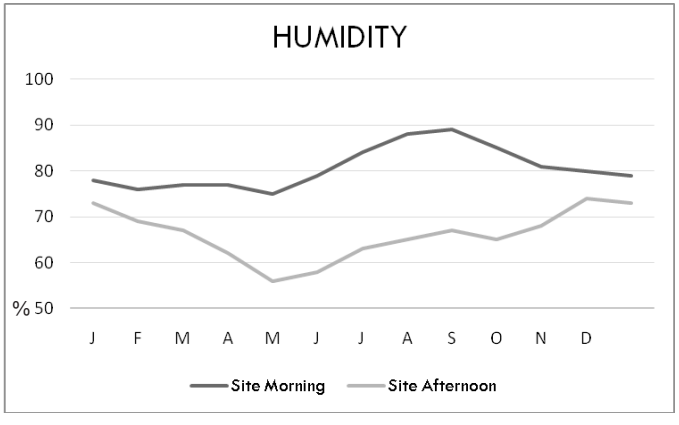
Superfund index is 99 on a scale to 100 (higher is better). This is upon the number and impact of EPA Superfund pollution sites in the county, including spending on the cleanup efforts.

Grand Marais, MN		United States
Rainfall (in.)	25.6	36.5
Snowfall (in.)	50.7	25
Precipitation Days	102	100
Sunny Days	182	205
Avg. July High	70	86.5
Avg. Jan. Low	4.7	20.5
Comfort Index (higher=better)	74	44

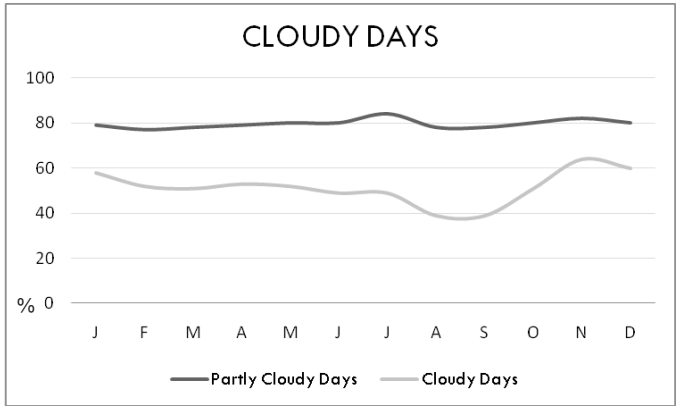

WIND SPEED
12
11
10
9
8
7
6
mph 5
J F M A M J J A S O N D
Site Average
US Average

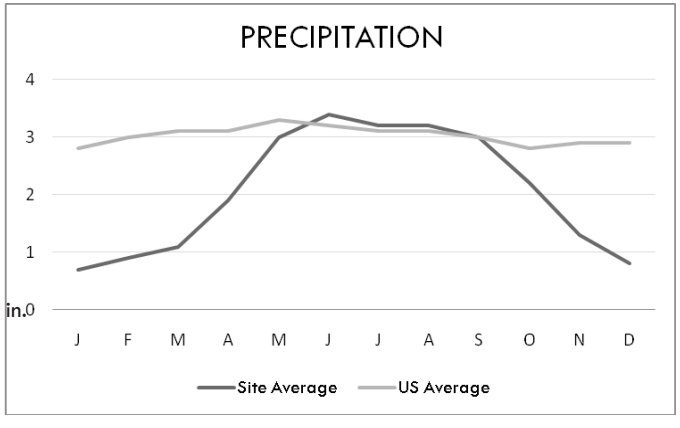

AVERAGE TEMPERATURES
90
80
70
60
50
40
30
20
10
° F 0
J F M A M J J A S O N D
Site Average
US Average

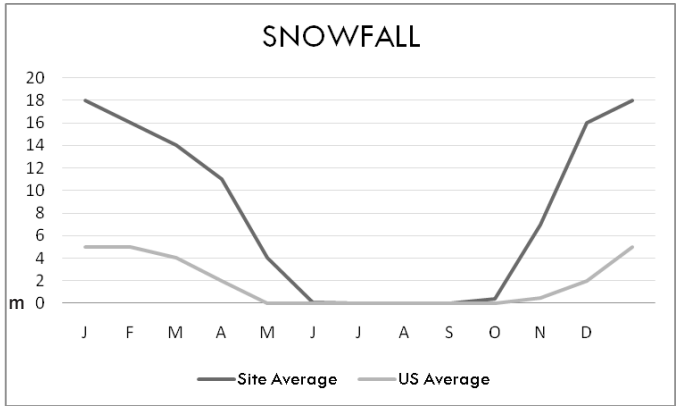

SUNSHINE
80
70
60
50
40
%30
J F M A M J J A S O N D
Site Average
US Average


HUMIDITY
100
90
80
70
60
% 50
J F M A M J J A S O N D
Site Morning
Site Afternoon

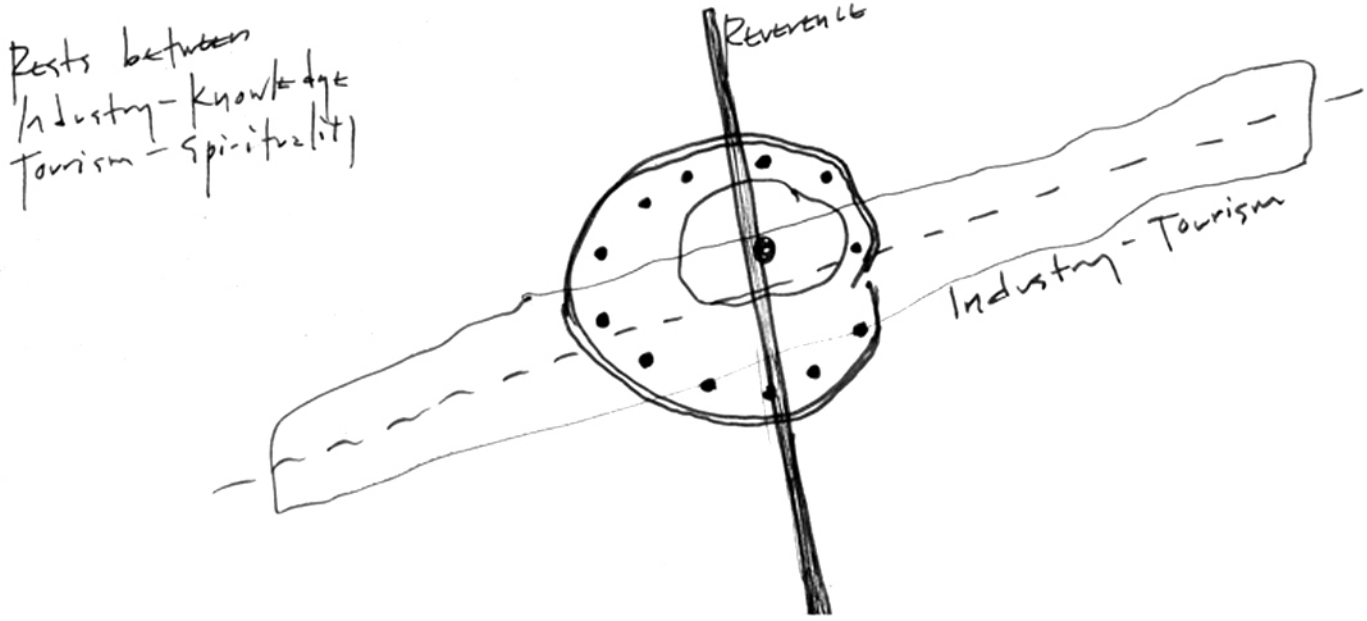
CLIMATE DATA







THEORIES


Rests between
Industry - Knowledge
Tourism - Spirituality
Reverence
Industry - Tourism

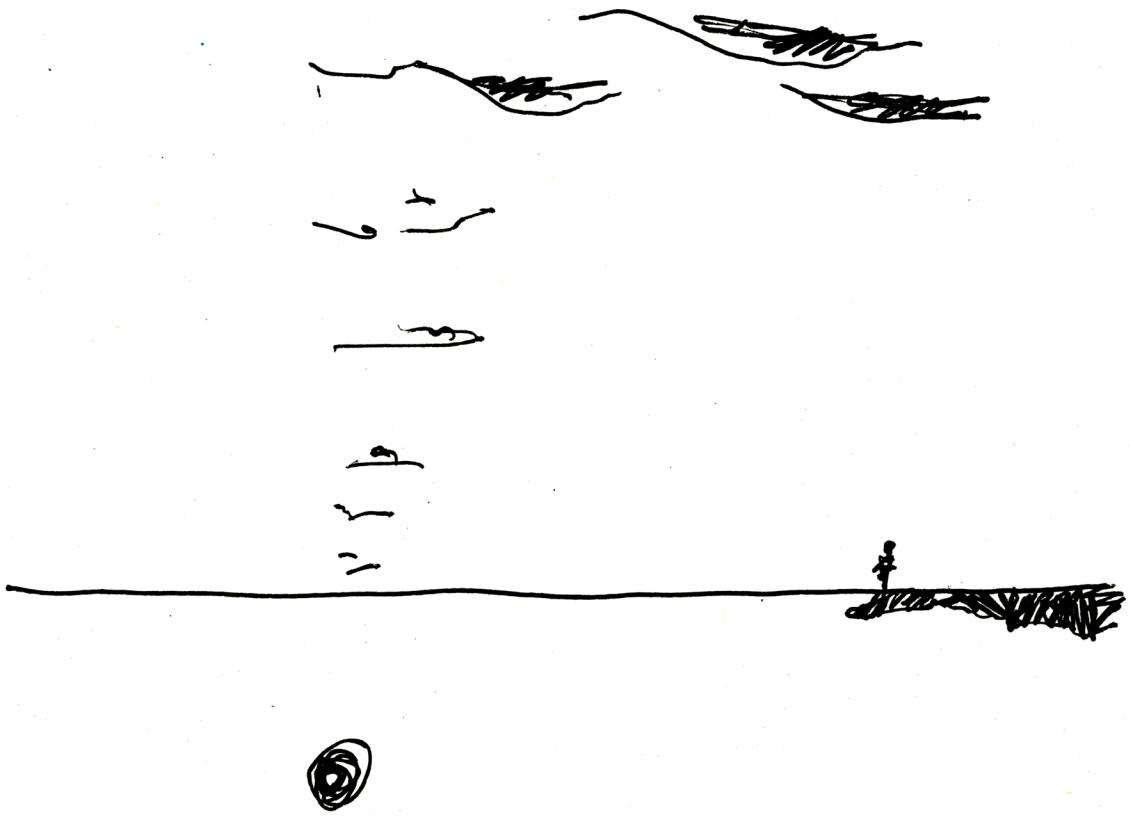
PLACE

Place is largely thought of in terms of a particular location, most often geographical associated with human habitation: I have lost my place. This alludes to interaction, meaning construction and thus particular roles, situations or circumstances: Put yourself in my place. Human beings interactively create and ritualize meaning at particular places and specific points in time. (Mol, 1983) But to be in a place is also to take up space-time, connotating a perceivable history.

Specific to my site on the shores of Lake Superior, the layers of history from a deep geological-glacial time, first inhabitants and to recent changes are interwoven. It offers potential for a chronological understanding of place-events-time and the mythos of the place by studying how this deep time and experience was transferred into oral stories and myths. This experience provides the context for understanding a place through meaning, space-time and interaction within these realms.

Yet what happens if place loses its identity in geographical reality? Internet communication technologies or ICTs enable a new kind of place that allows people to create associations of like minded others across the organizational and ideological boundaries that have traditionally defined and policed the limits of identity construction and human association. (Coco, 2002)

This newly constructed space exists in electronic ether. Instantaneous communication extends itself out of a physical demarcation and becomes a permeable membrane, a site of passage, a place for constant exchange. The German word der Abstand is a better word than we have. It refers to gap, hiatus; space; great difference, disparity; interval, space of time between two events or actions, pause, intermission and the space between two periods of time.
In cyberspace, people may alter identities through different names, personas and physical features from those they possess in real and learn what it is like to be responded to as that persona at a distance severed from bodily interaction. Yet the same could be said of the pen pals system where people communicated only by letters. (Coco, 2002) The difference is that ICTs enable interaction to reach multiple readers at once and in a public realm. As our places and how we define them change through the means in which we interact and the variety of others we can interact with, so also will our understanding of our changing roles situated in the local, physical place and the global, interface place. The challenge then becomes acknowledging and bridging this place gap, latching onto and revealing the grounded ephemeral existence of the here and now in the midst of a place of informational interaction.



PURPOSE

I first became interested in human perception, communication and dissemination while enrolled in Architectural Theory as a second year architecture student. While standing firm in the belief of a haptic understanding of direct, "unmediated" experience, the writings of Beatriz Colomina and Walter Benjamin made me aware of how new vision-based technologies have changed the way we see and thus construct and interpret place. It was within this mixture I discovered the joy in dichotomy and paradox.

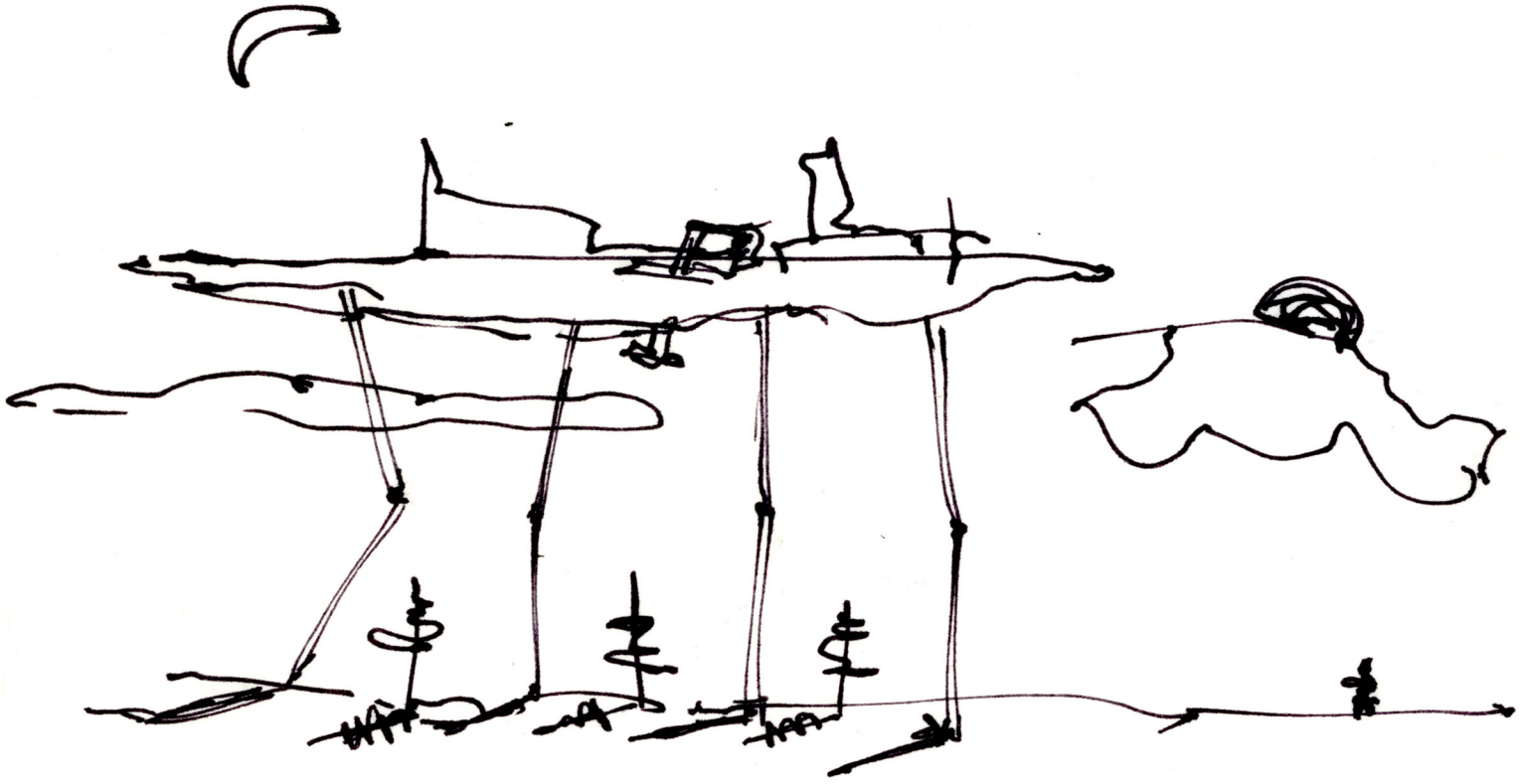
As a double major working on my Fine Arts degree the course helped solidify an appreciation for interdisciplinary thought and investigation. As an example I investigated a site specific event that helps to define a place, the flood in Fargo, with a large-scale, multimedia installation comprising of a boat as vessel and camera, pin-hole photography and video documentation. Frequent questions arose as to whether and/or how media could poetically transplant a site.

While I pursued how a place is constructed through media coverage of an event I discovered I am most interested in questions concerning how communication and interaction with neighbors, co-workers, friends and enemies are increasingly severed from within physical geographic domains and based increasingly through cyberspace and technological means.

A good friend, an active member in the military, informed me of predator pilots. These pilots run bombing missions from the comfort of U.S. military bases with drone (pilotless) aircraft from thousands of miles away. The pilots sit in simulated aircraft to best ensure they know the missions are real. They go to work and return to their family like any other Americans so how can they be experiencing Post-Traumatic Stress Disorder?

Some pilots have expressed a certain amount of guilt and inability to cope with the results of "fighting" and returning the same day to family. In essence at the end of the film the pilots cannot say like a young teenager at a horror film, "it was just a movie." This reveals the link between emotion and thinking virtually. It also reflects the strange condition we find ourselves in - a haptic dream; our physical bodies exist in physical space-time while our minds can envision, inhabit and interact in a constructed virtual place with physical consequences.

My purpose is then to investigate and bridge this haptic dream through an architecture that reflects its life in a "real" place and constructed one; to engage acts/obstructions with the goal of conceiving experiences of space-time through a series of choreographed moments that acquire speculative virtual and spatial relationships.



ETHOS

"cogito, ergo sum"

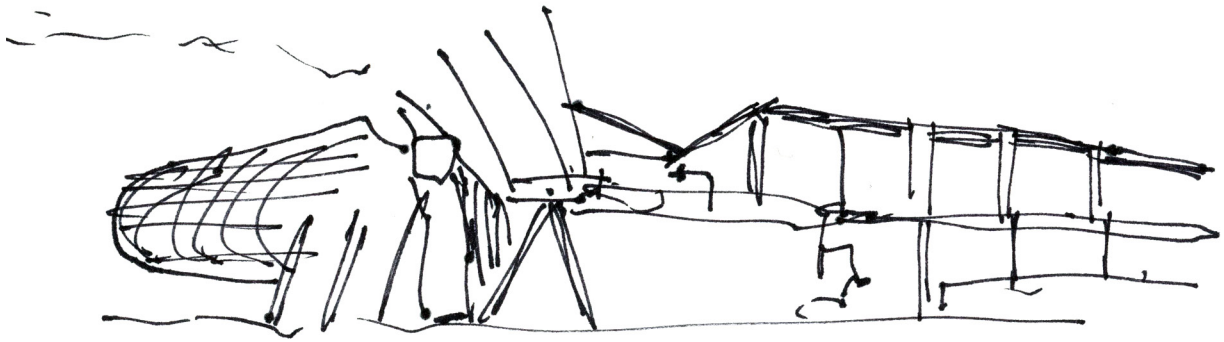
"I think, therefore I am" is well known as Descartes' center of philosophy. The moment Descartes thought he could doubt everything but this simple certainty, he frames man as primarily a being that thinks. Distinguishing the mind defined by its ability to think from the physical body, which does not think, leads to man being defined primarily as nonphysical. As nonphysical souls, we have free will in the sense that freedom of the human being is the freedom to act upon and manipulate objects through action and behaviors that are not themselves caused by physical matter. This distinction can be traced through the roots of a technological outlook leading to our current, evolving "one machine," the global internet machine (Kelly, 2010).

Heidegger wants to rethink the concept of human being and truth through an attempted return to the pre-Socratic Greek experience of ethos which ponders and sustains the abode, or dwelling place, of human beings in their deepest essence. Ethos for him is rooted in the essential ground of Being, a source from which truth emerges and our "dwelling," understood temporally as a way of Being. Ethos then can be understood, on one hand, in terms of our stance and conduct in the presence of the moment of action and on the other hand, in terms of our more enduring way of Being that is brought about temporally in and through the unfolding of human experience.
For me this is well understood through a brief writing in Italo Calvino's, Invisible Cities:

CITIES & EYES

After a seven days' march through woodland, the traveler directed toward Baucis cannot see the city and yet he has arrived. The slender stilts that rise from the ground at a great distance from one another and are lost above the clouds support the city. You climb them with ladders. On the ground the inhabitants rarely show themselves: having already everything they need up there, they prefer not to come down. Nothing of the city touches the earth except those long flamingo legs on which it rests and, when the days are sunny, a pierced, angular shadow that falls on the foliage.

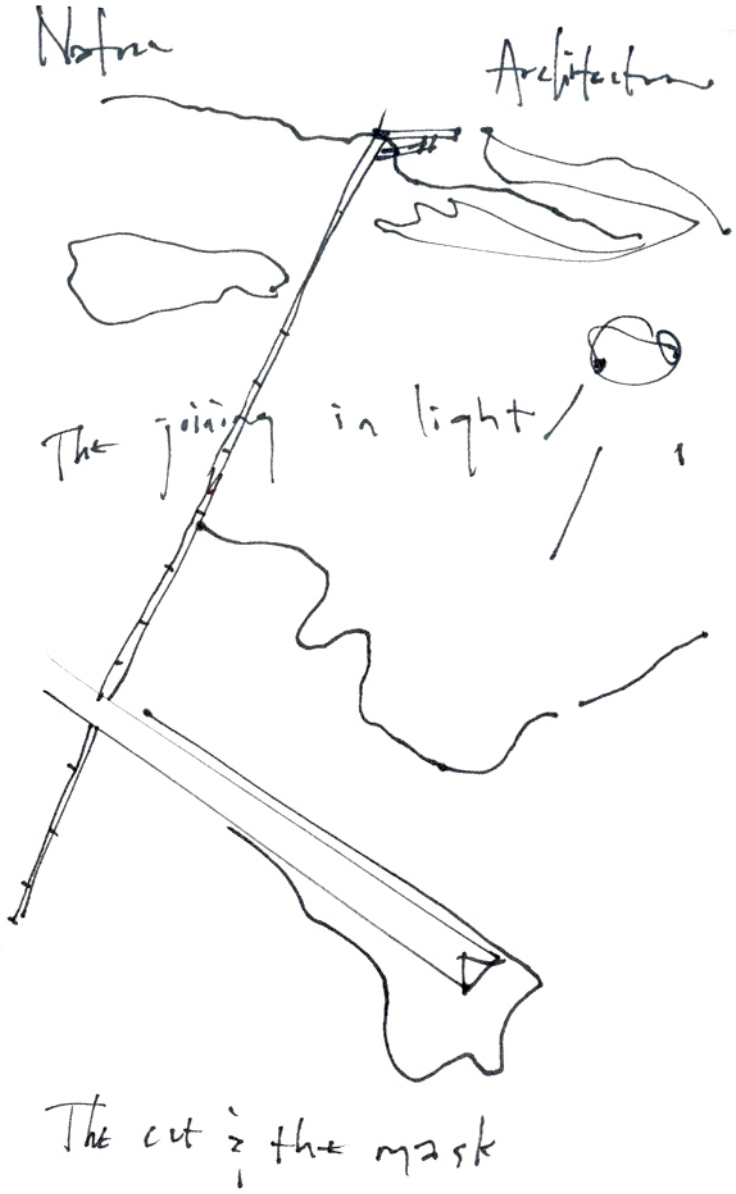
There are three hypotheses about the inhabitants of Baucis: that they hate the earth; that they respect it so much they avoid all contact; that they love it as it was before they existed and with spyglasses and telescopes aimed downward they never tire of examining it, leaf by leaf, stone by stone, ant by ant, contemplating with fascination their own absence.



SPACE & FORM

The term virtual mirrors the life of the term sustainability. With the widespread cultural and academic use their meaning becomes cloudy and becomes a marketable buzzword. The history of architecture as a means of creating space or better put forming it addresses mainly two forms of architecture: the physically built, and the proposed wish deemed as paper architecture. Yet architecture also exists in paintings, films, video games which can be seen as architectural projects that were designed and intended from their outset to reside nowhere else but within a pictorial image. This then leads to defining a theory of virtuality in terms of the actual space that is perceived through visual media, suggesting an extension of the historical image experience of creating illusion.

As stated previously, a place is to take up space-time and gain inherent qualities, connotating an event and encounter of perceivable history. Until recently notions of space have remained largely Cartesian for architects. In Reiser + Umemoto's book, Atlas of Novel Tectonics they define this shift in the belief of the removal of the fixed background of ordinates and coordinates in favor of a notion of space and matter as being one. Because this change in belief or a concept then changes the way architecture is thought and designed it changes the way it becomes material (constructed). While obviously acknowledging the link between space and form they offer that architectural notions of space and form must go beyond the container and contained and exist as a dynamic exchange between the life of matter and the matter of our lives. A determining reason in my site choice resides is in this statement – to illustrate the flux of the site and the layered durations of constant yet changing waves crashing against rocks, trees growing and crashing to the earth in a storm, pursuing an "Architecture like the sea, it falls into an intermediate category between matter and events. It is a modulator."


Nature
Architecture
The joining in light
The cut : the mask

ETHICS

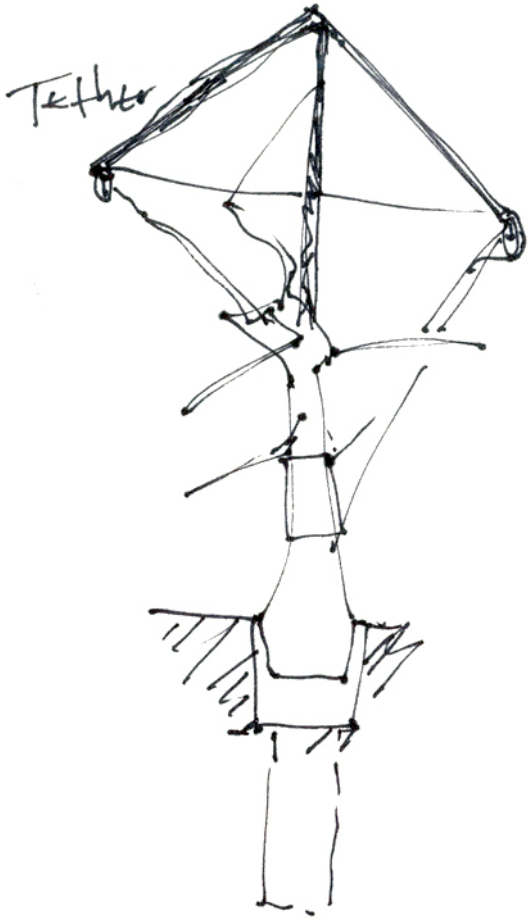
Much of the research pertaining to the theoretical premise demonstrates that our desire for replicable, wide-based consumption is in part due to widespread, replicable representations and the insatiable desire for illusion. Western societies at the moment are enjoying the highest standard of living ever know to human kind. At the same time we are informed of many of the results of our culture of consumerism. Therein lays a great paradox: We actively forget the real realities of consumerist based society to be able to enjoy the excess we have created around us. This is exemplified in architecture with the veil of ubiquitous, photorealistic imagery published by architects for architects – creating what I sometimes refer to as *archilust*.

Architecture and more generally, all the built environment has a large impact on people and the planet particularly because the built environment produces substantial emissions. Architects around the world are aware of this and the issue of sustainable architecture is widely discussed. Yet ethical issues associated with architecture are largely bypassed in the name of slick, marketable imagery which is also employed for "sustainable" buildings. There is of course a history embedded with this as architecture, "has long been viewed as a branch of aesthetics rather than ethics. If anything, ethics has been thought of as applying to architects and not to architecture, to the actions of professionals, not the traits of buildings (Fisher, 2008)." In essence the argument is for more of a performative architecture that goes beyond the ethical ways in which to obtain and manage a job and reflects decisions based in ethical integrity. Personally, the ethical dimension is wrapped up in the quest to find innovative and speculative ways for human-environmental-ecological interaction in a digital or information based society; architecture that can perform -

Instead of superfluous form, make everything count; Instead of the quantity of things, focus on their qualities; Instead of throwing away, reuse or recycle; Instead of ignoring sources, source everything; Instead of consuming things, treat them as sacred; Instead of wanting more, seek doing with less; Instead of cutting us off from nature, connect us to it; Instead of reducing the diversity of a site, improve it; Instead of creating objects to possess, build community; Instead of single-use things, make them multi-functional; Instead of believing abstractions, attend to what is real. (Fisher, 2008)

1-3

Fisher, T. 2008. Architectural design and ethics. Else-

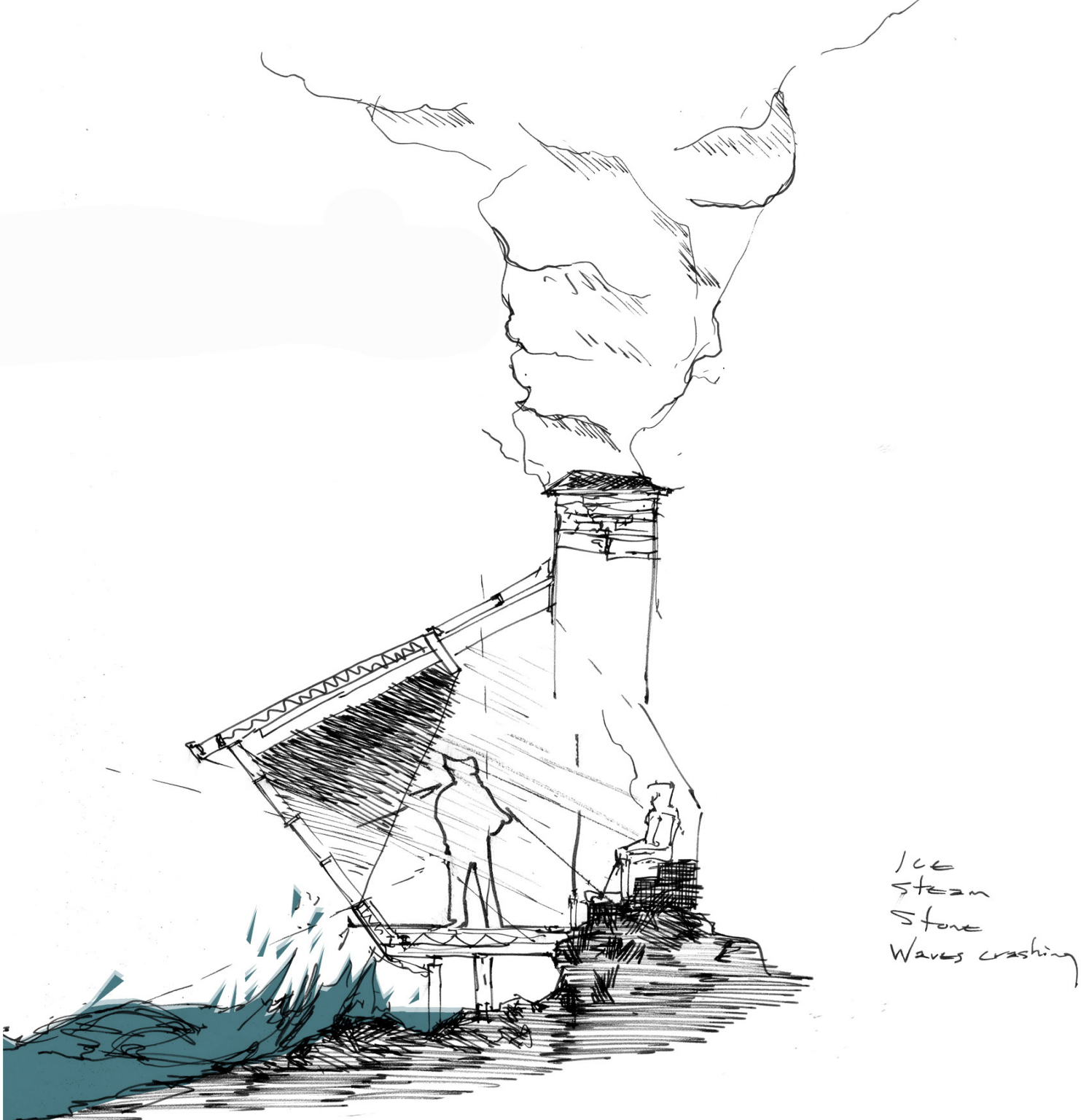

Tether

TECTONICS & CRAFT

Architecture has been the art of organizing material or at least directing it through drawings and models and thus the act of establishing the material order of a cultural order (Bermudez & Hermanson, 1996). The tectonic, a way of talking about the built environment whereby its use, experience, and structure is linked to its materialization and the rationale of its construction has been inherently linked with the act of architecture. As Steven Holl notes, "the material, detail and structure of a building is an absolute condition. Architecture's potential is to deliver authentic meanings in what we see, touch and smell; the tectonic is ultimately central to what we feel."

However, as the information age has become further entrenched, architecture as material order and expression for the cultural have moved largely to print and have become increasingly virtualized. Indeed much of our interaction with surroundings is increasingly relying upon a passive body as contemporary life depends on the absence of the body or, better said, in substituting its presence by means of nformation (i.e., non-material) technology (Bermudez & Hermanson, 1996). The information age accelerates the displacement of the material and the real. Thus tectonics understood through craft, assembly, attachment, presence and detail lose their importance to image, fluidity, and surface. Is architecture then from materialization to visualization? As architects, are the things we create not inherently about visualization?

Within this movement is also one of a strengthening an architecture of presence through a tradition of shaping light and material through craft and a haptic sensibility. This architecture seeks to make visible the process of tectonics that emanate in part from emergent digital fabrication technologies that allow the crafting of architectural components to give shape, scale, texture and warmth to architectural space. An interest in ornamentation then ensues. In short we cannot shut down our corporeal instincts and desire; seeking instead, perhaps in lieu of an intolerable, sensory deprived digital environment, a highly material, sensory-rich environment where tectonic and craft play an essential role.


Ice
Steam
Stone
Waves crashing

REGENERATIVE DESIGN

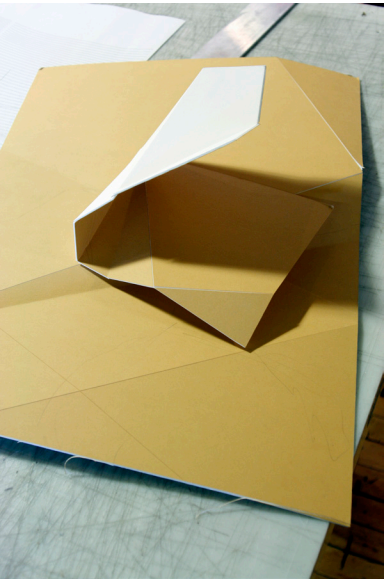
A fundamental reexamination of our material and consumption flow is being questioned with the advent of regenerative design. The term connotates nothing new as architect William McDonough has worked with it and in its inherent methodology of mimicking or learning from nature, quite ancient. Our waste is created in an industrial linear model of consumption and sustainability has largely led gone about doing 'less harm' by being even more efficient with material and energy use. For architects this is akin to designing buildings that are more efficient while avoiding larger ethical questions of is it necessary or how effective will it be?

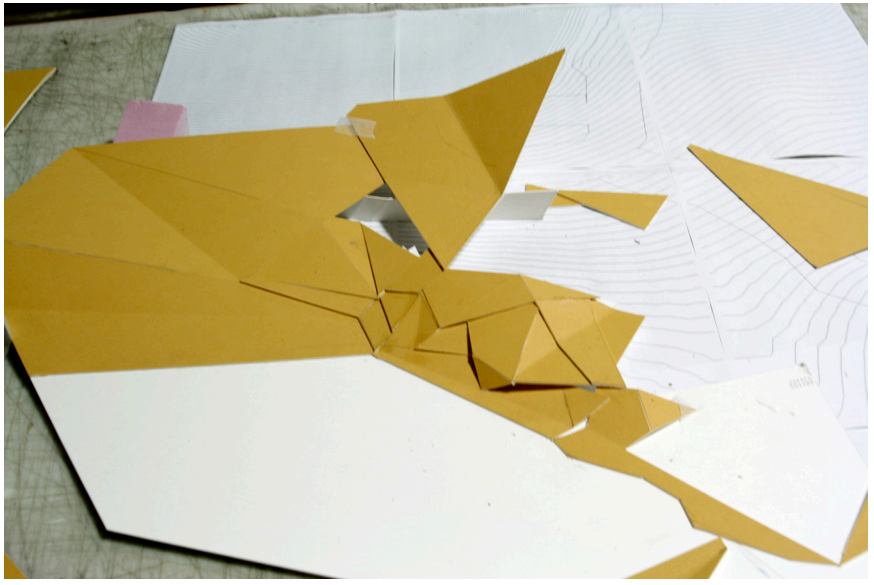
Essentially then regenerative design seeks to question the ends of efficiency by examining the roots i.e. changing consumption patterns of waste and downcycling toward a closed loop system able to keep itself in balance as natural systems do through constant exchange and renewal. These aims are driven from the idea that, as stated, current processes are harmful/unnatural and "are now breaching the capacity of Earth to absorb." Yet in a grander scheme of things how is anything humans create, as nature, "unnatural?" We are not outside the world but of it. The idea that the Earth is at its breaking point is simply ridiculous. If it is at all, it is only so in the context of our own survival.

As George Carlin perhaps said best when discussing the history of Earth vs. species and human kind, "It is not the Earth who is f*****, WE ARE!"
Regenerative design then looks more towards transforming the way we are to be in the world through six main principles:

Effectiveness as end goal
Close loop system
Integrate human and natural
Symbiosis between different elements
Multiple pathways to the same goal
Within renewal capacity

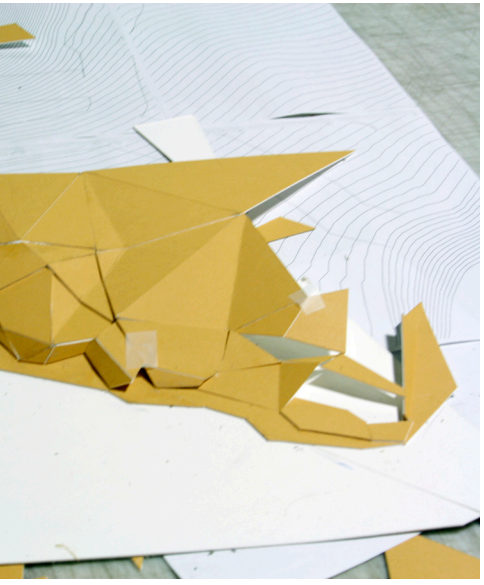
Reflecting on how regenerative design seeks to operate has revealed connections with this thesis. It began with research pertaining to the consumption of images and thus products - in this case architecture and how we are to design. The ethos of the place has a pristine beauty, both in its perceived naturalness and industrial scars. Through a process of discovery, acts and collage an inherent questioning of linear design process led to a symbiosis of elements, leading to the idea to reuse industrial structures now being demolished - closing a loop through upcycling. The site's many processes on display (events) are revealed and augmented to power the architecture, allowing visitors to speculate on the future while experiencing the present.

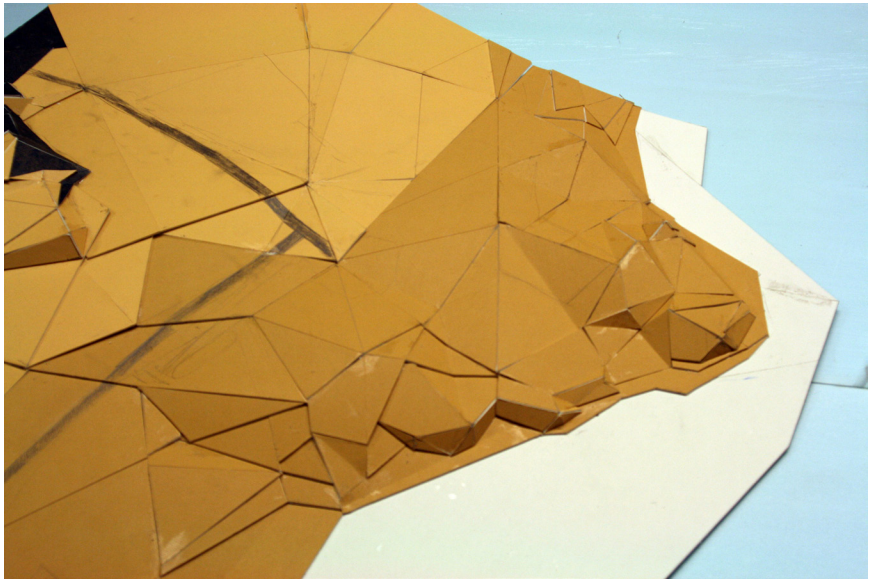




PROCESS

A series of acts and investigations.



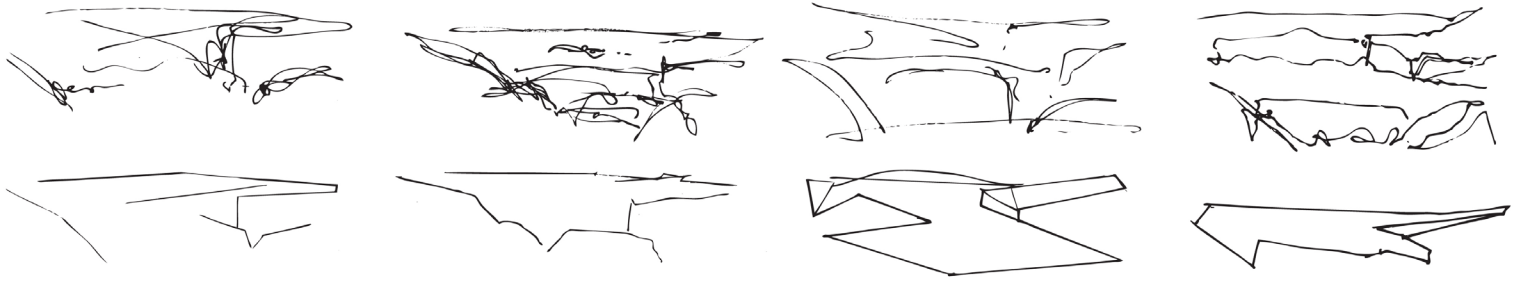


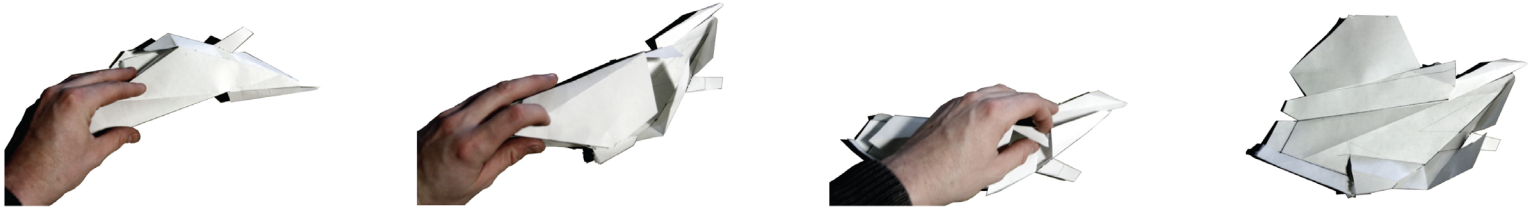
ACT:1

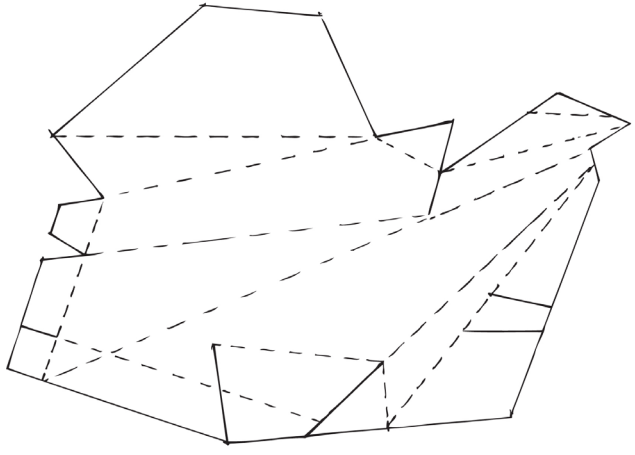
Study of body movement augmented by site
1. Film visitor walking up rocky hill with snow
2. Trace cinematic frames
3. Create a chronophotograph by aligning tracings in one drawing
4. Build a model from chronophotograph

ACT:2

Study of dynamic/static boundary condition
1. Draw the space between waves and rock in three second durations
2. Trace drawings using a straightedge
3. Create a folded paper model from traced drawing
4. Unflold model to create sewing pattern
5. Cast model from formwork created by sewing pattern





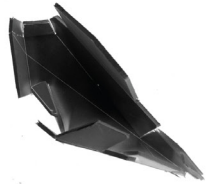


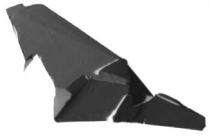
paper

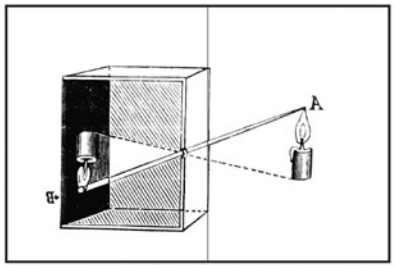
folding formwork

formwork

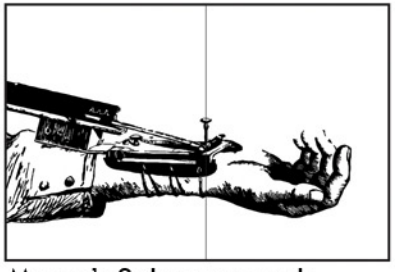
plaster object

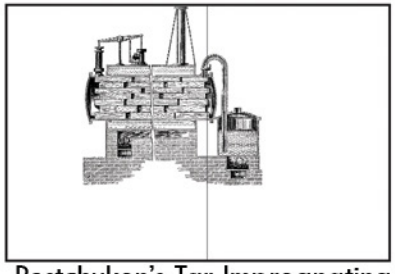






Fizyka's 1910 Camera Obscura

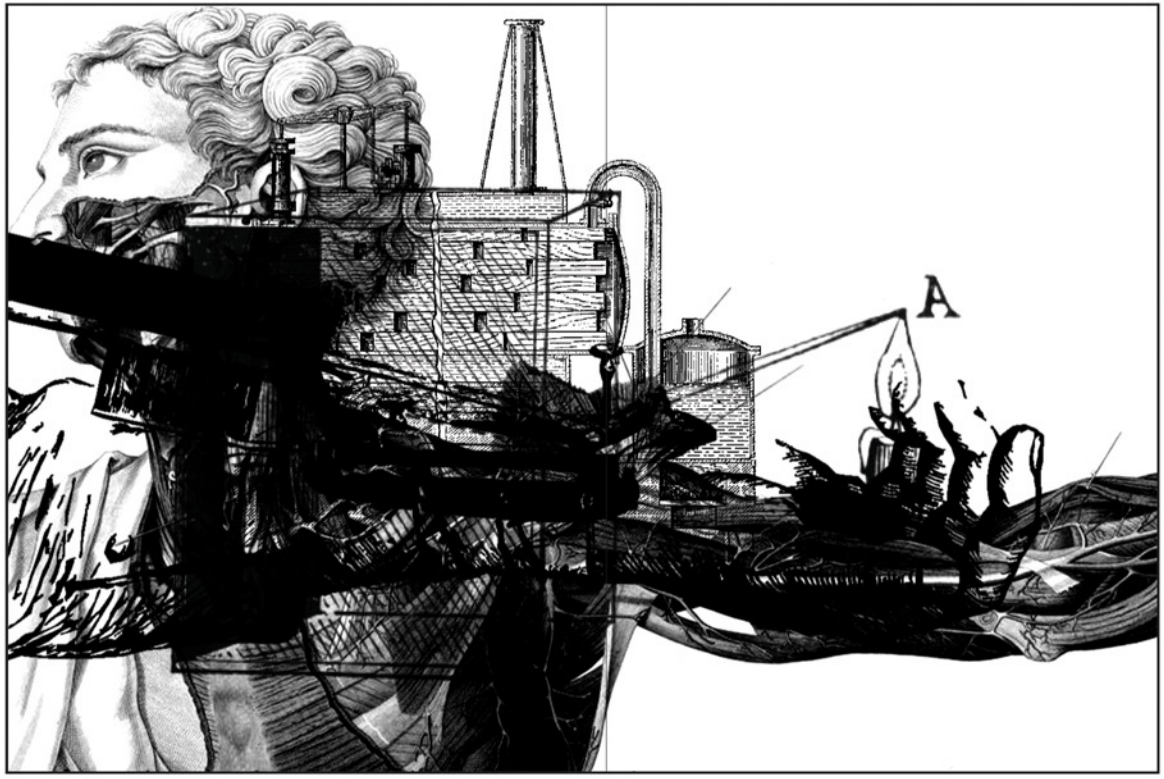

Marey's Sphygmograph


Postchuken's Tar Impregnating wood machine


Skin

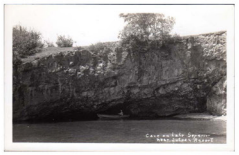
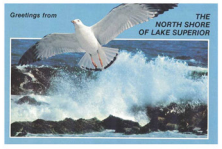
IDEOGRAM

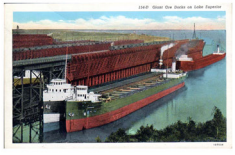
A parti idea generated by the overlay of a history of tools used to see, examine, record and trace.

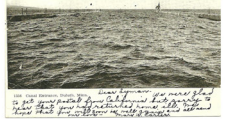


POSTCARD INVESTIGATION

This series looks at how the site has been framed through photography and cards that can then be mailed to those not at the site. Together they further emphasize the dualistic qualities of the site: one of a pristine beauty with the horizon and one with large scale industrial structures situated and offering its own beauty.



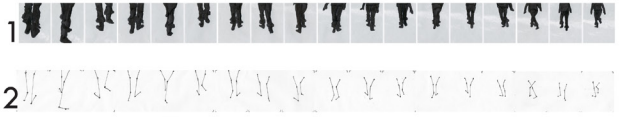



EVENTS MACHINE

Act I

Study of body movement augmented by site

1. Film visitor walking up rocky hill with snow
2. Trace cinematic frames
3. Create a chronophotograph by aligning tracings in one drawing
4. Build a model from chronophetograph

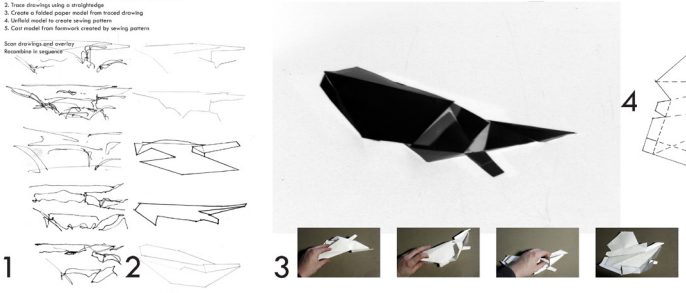


Act II

Study of dynamic/static boundary condition

1. Draw the space between water and rock in three second durations
2. Trace drawings using a straightedge
3. Create a folded paper model from traced drawing
4. Unfield model to create sewing pattern
5. Cast model from formwork created by sewing patterns

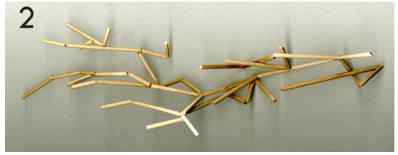
Scan drawings and overlay
Recombine in sequence

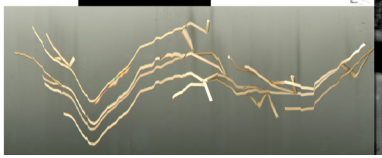


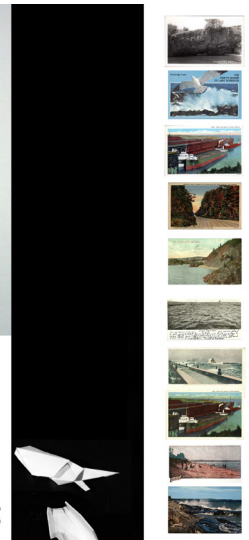
Act III

Dynamic/Static overlay

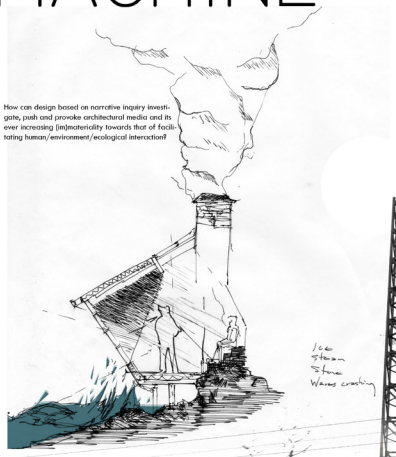
1. Integrate models from Acts I & II
2. Movement drawings with single light source



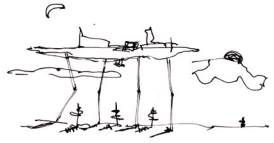




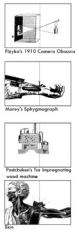
How can design based on narrative inquiry investigate, push and provoke architectural media and its ever increasing (im)materiality towards that of facilitating human/environment/ecological interaction?

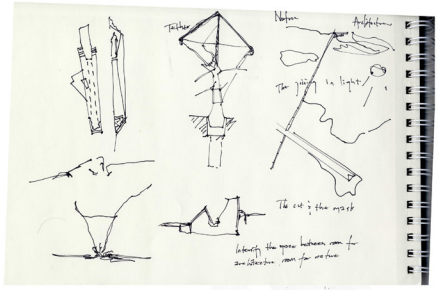


MIDTERM BOARD



Ideogram





THRESHOLD
A blurred boundary, the demarcation of the beginning of the site/architecture and encounter.

BARRIER
Establishing a separation of physical reality and representations of it.

PATHS

WORKSHOP
Haptic Environment

SAUNA
Symbolic water rejuvenation

GARDEN
Integrate ecological environment being studied into the building

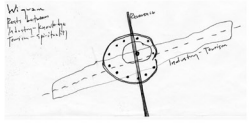
OVERLOOK
A space of contemplation largely sought out and thus disrupted by tourists.

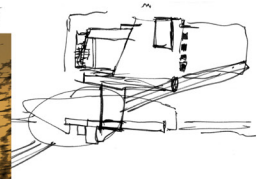
VAULT
A permanent space

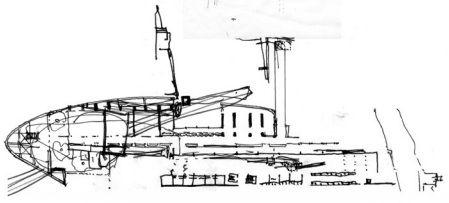
Things to Do in the Belly of the Whale
by Dan Albergotti

Measure the walls. Count the ribs. Notch the long days.
Look up for blue sky through the spout. Make small fires
with the broken hulls of fishing boats. Practice smoke signals.
Call old friends, and listen for echoes of distant voices.
Organize your calendar. Dream of the beach. Look each way
for the dim glow of light. Work on your reports. Review
each of your life's ten million choices. Endure moments
of self-loathing. Find the evidence of those before you.
Destroy it. Try to be very quiet, and listen for the sound
of gears and moving water. Listen for the sound of your heart.
Be thankful that you are here, swallowed with all hope,
where you can rest and wait. Be nostalgic. Think of all
the things you did and could have done. Remember
treading water in the center of the still night sea, your toes
pointing again and again down, down into the black depths.

"Things to Do in the Belly of the Whale" by Dan Albergotti from The Boatloads.© BOA Editions, Ltd., 2008

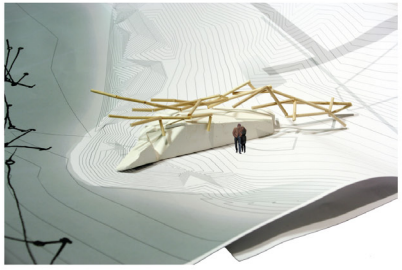


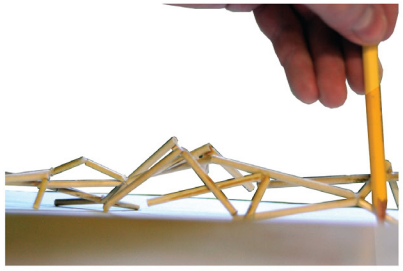


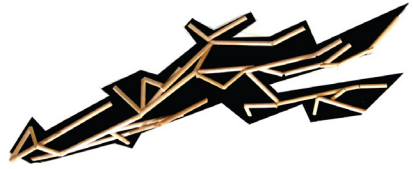


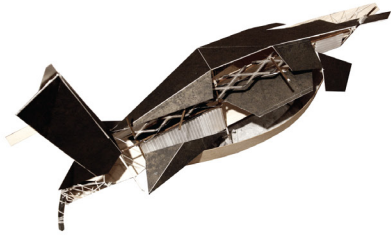
ACT: 3

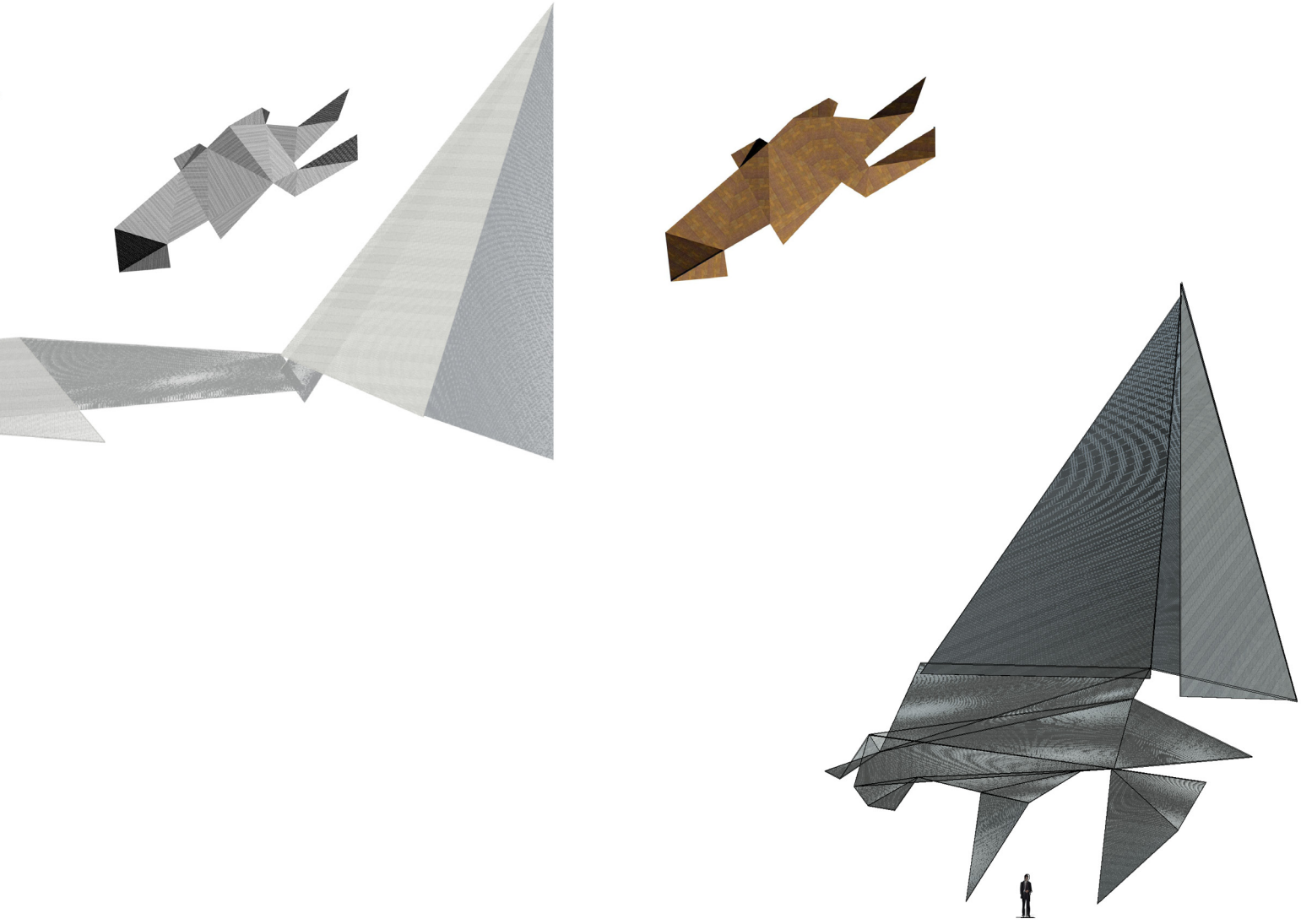
Scale and combine models from acts 1 & 2
1. Scale objects from 1:1 to 1"=30' on site map
2. Trace the edge condition of act 1 model
2. Collage folded roof condition on conceptual model
4. Translate into digital roof condition

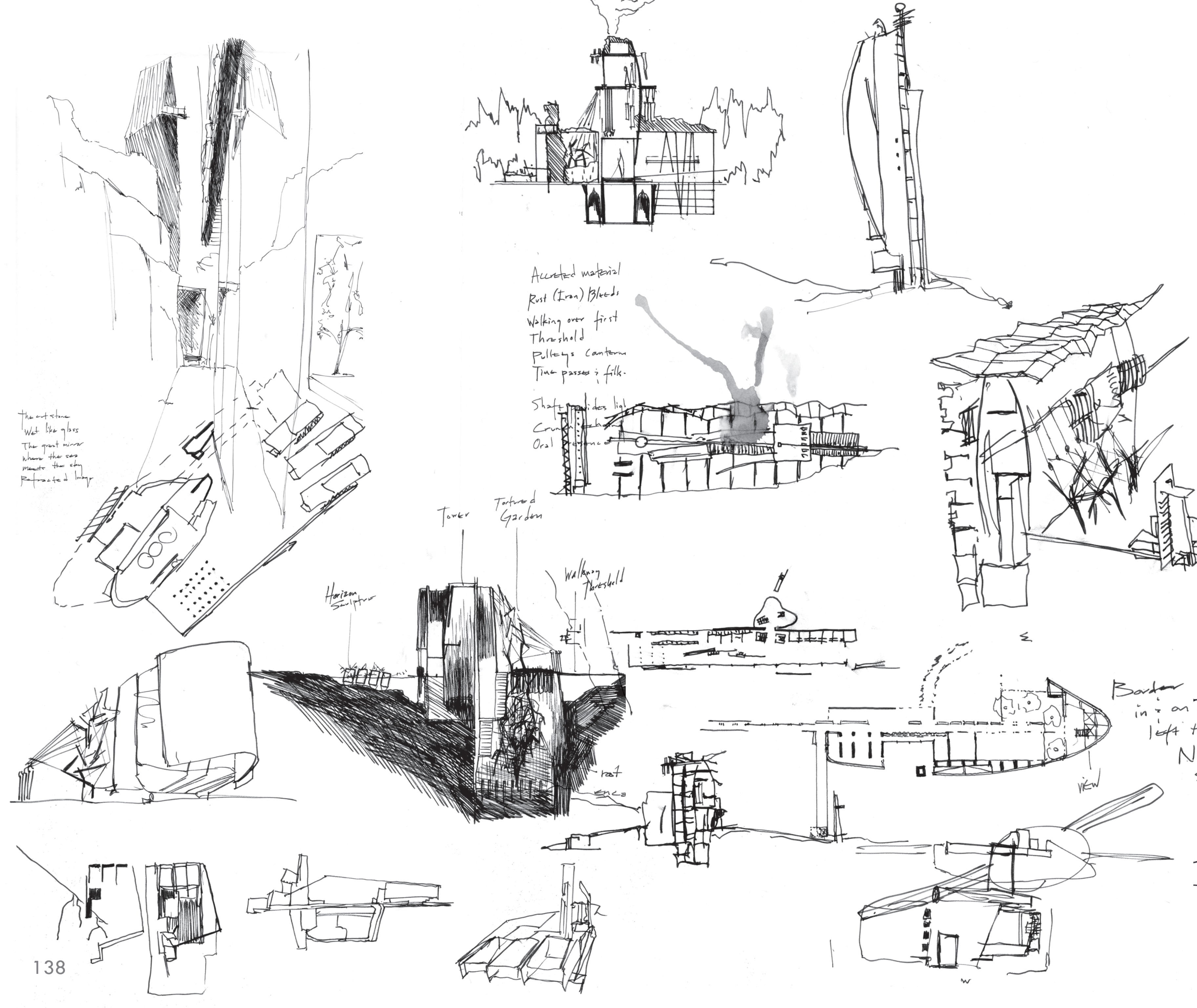


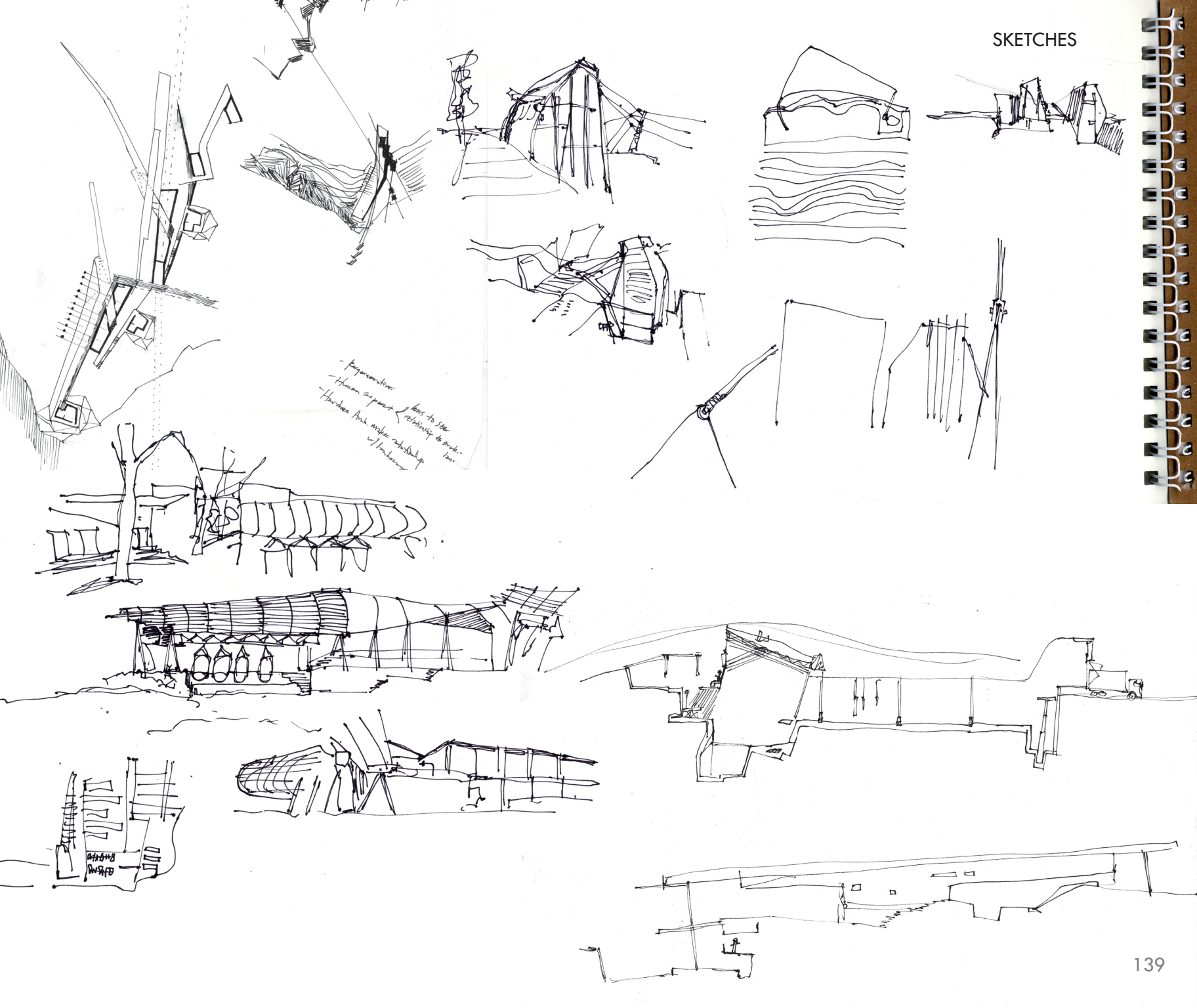


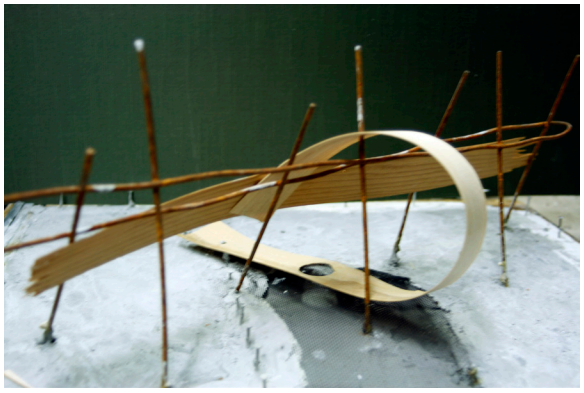


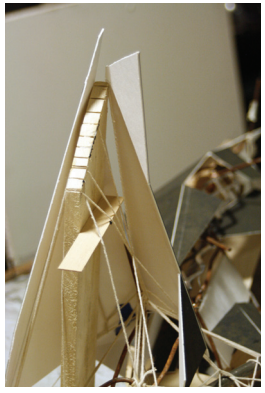


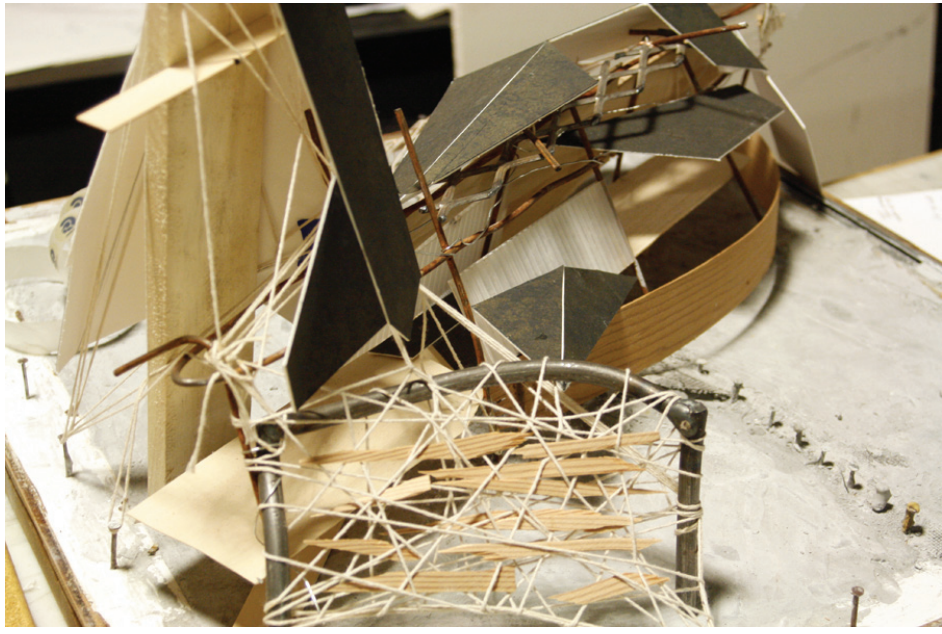



The cut stone
Wet like glass
The great mirror
where the sea
meets the sky
Refracted Image
Accreted material
Rust (Iron) Bleeds
Walking over first
Threshold
Time passes
Oral
Tower
Tortured Garden
Horizon Sculpture
Walkway Threshold
roof
view
Border



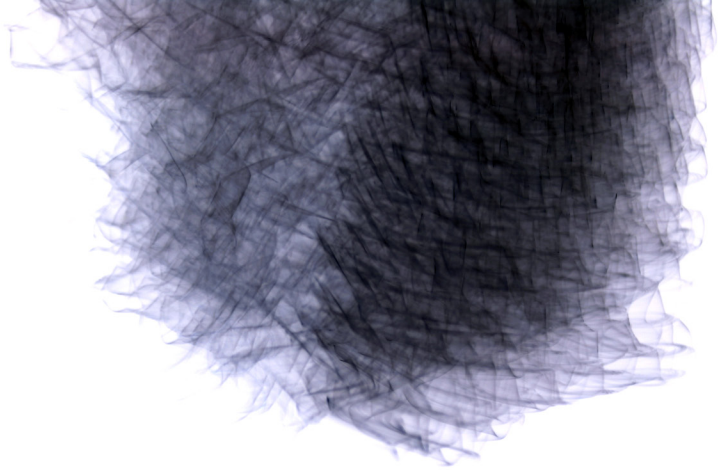






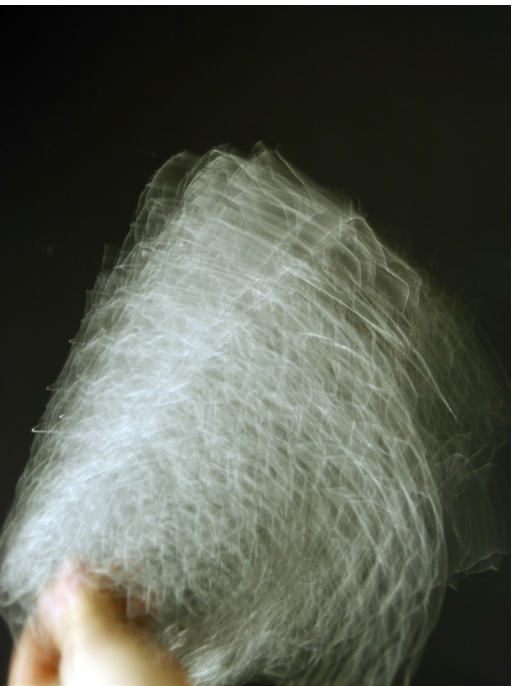
HORIZON SCULPTURE

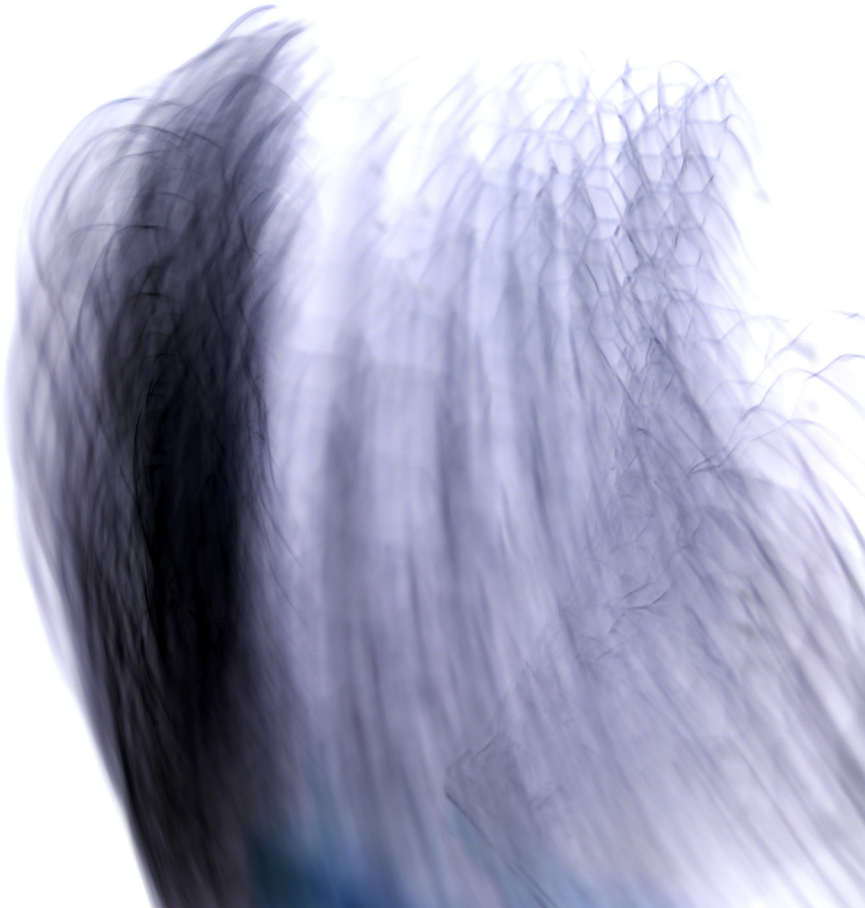
The horizon is occupied by a series of bobbing metalic buoys that exaggerate the twinkling reflections of the sun and moon in the vast lake. Attached below the surface are magnetic linear generators that supply power from the almost constant source of wave motion.

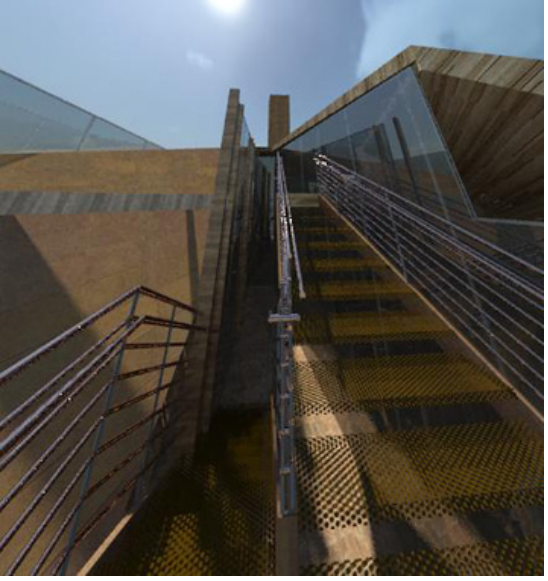


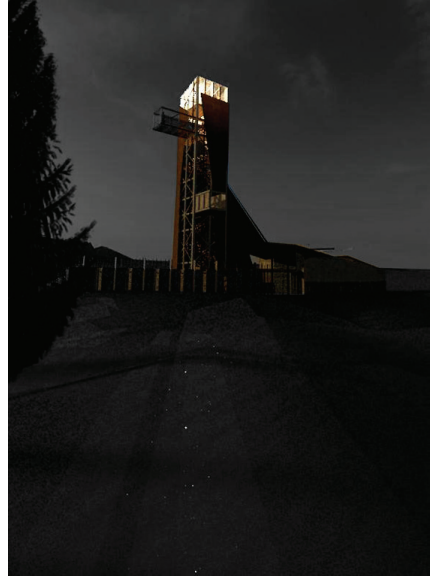
METAL AND LIGHT DRAWINGS

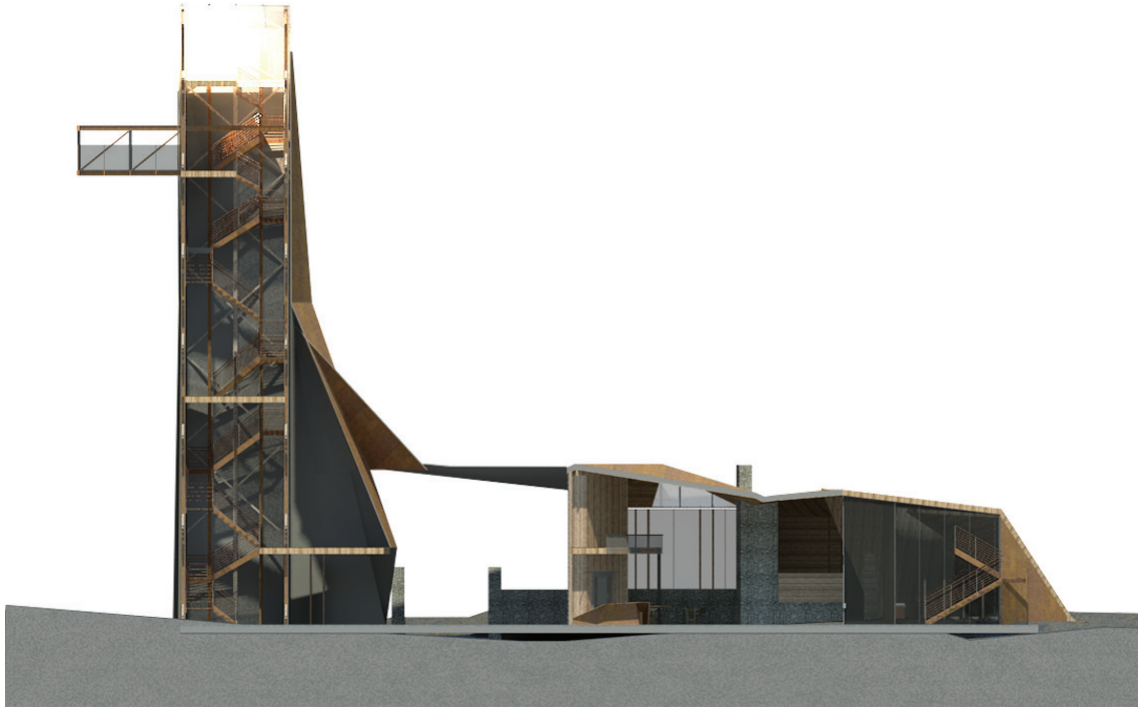
The experience of flux through sun and moon light reflections on the lake provoked the idea to inhabit the horizon. Movement drawings done with shifting chicken wire mimic the reflections, offering the idea for metallic sculptures to incorporate this mimesis while its movement captures energy.

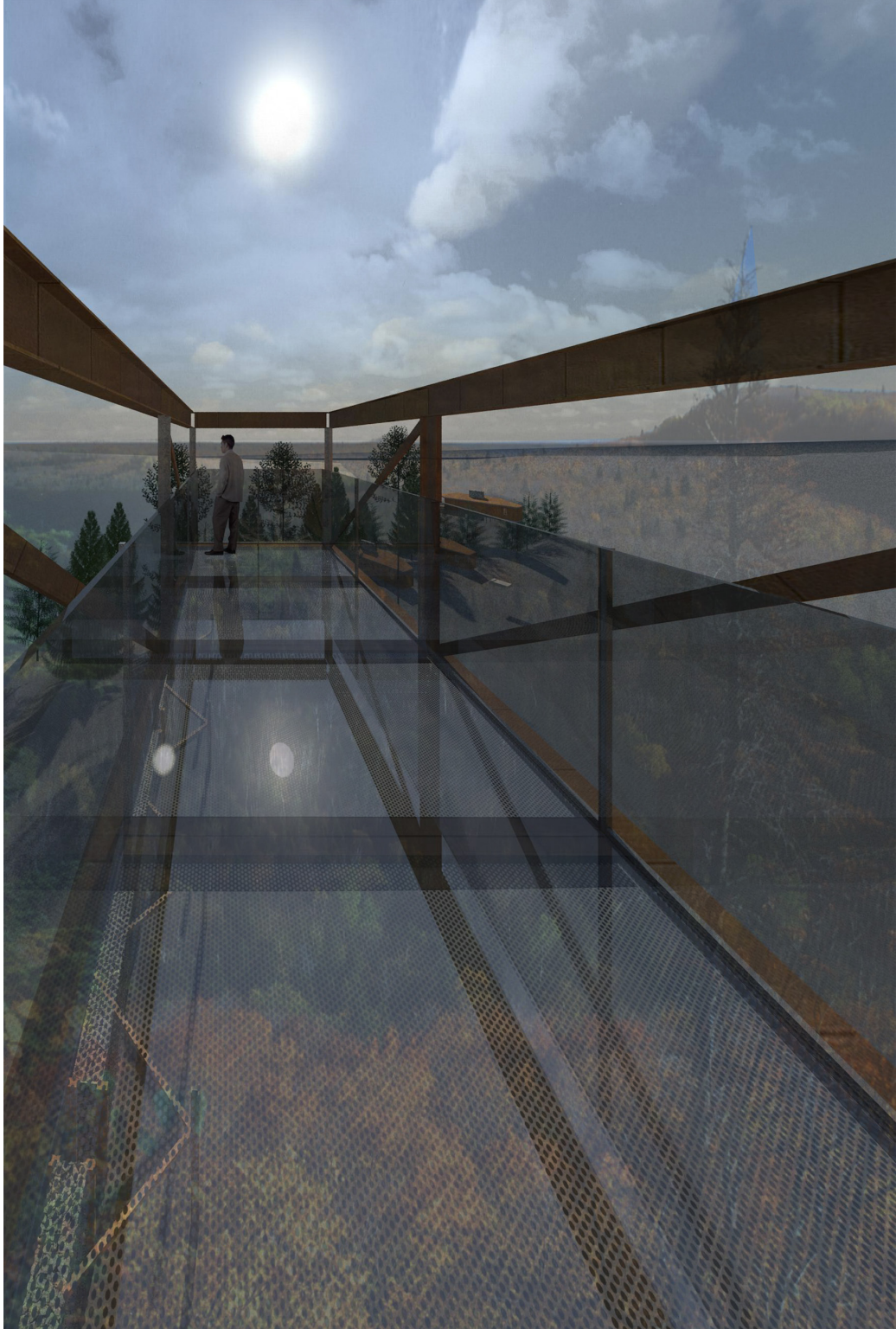


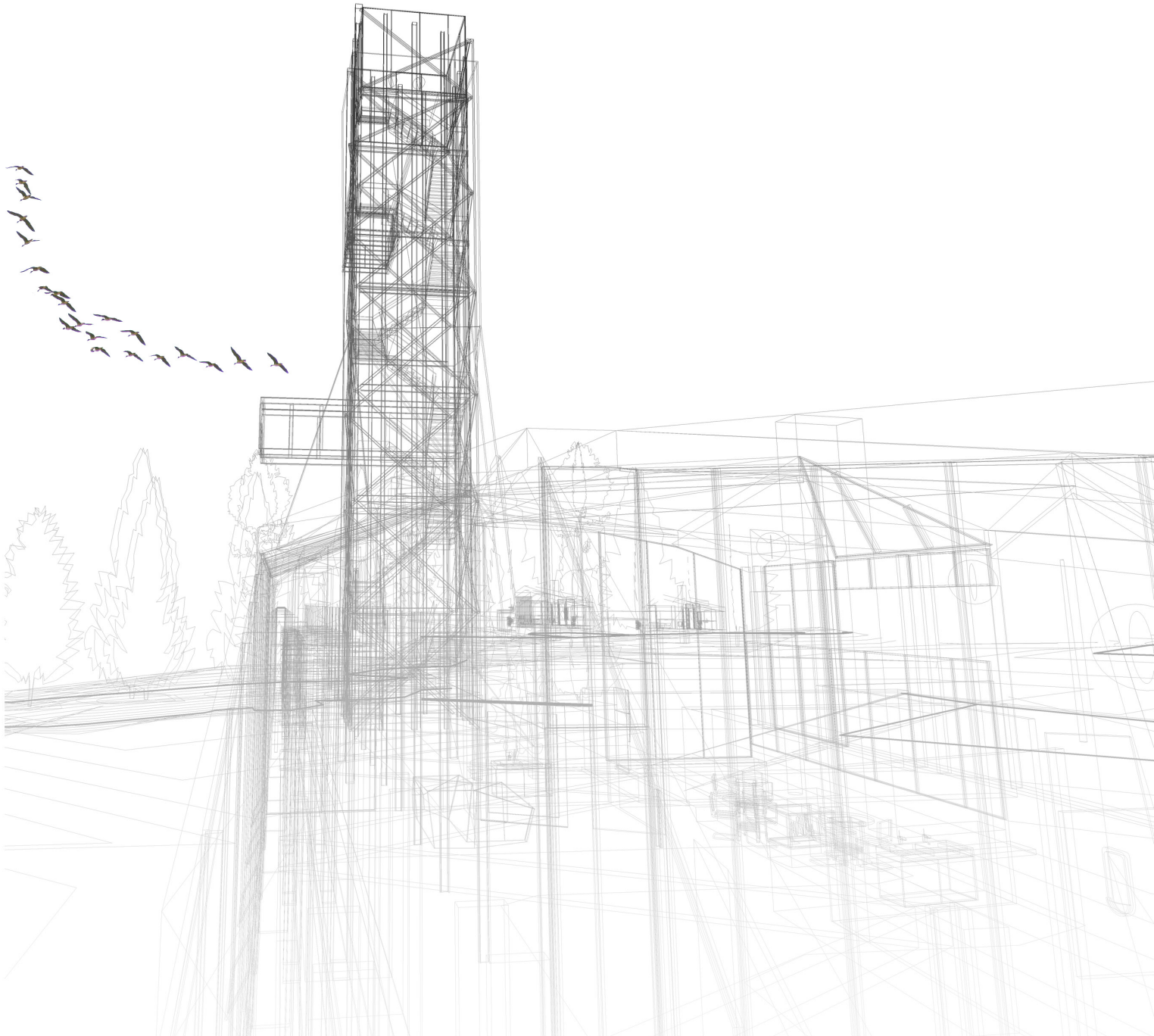












EVENTS MACHINE

Architectural Acts + Collage

What we do depends on who we are; but it is necessary to add also that we are, to a certain extent, what we do, and that we are creating ouselves continually.
-Henri Bergson

If how and/or what we see is a result in part to our acts then it is also linked to the methods and tools we use and have inherited. Thus the tourist's snapshot commodifies sight and turns it into an artifact consisting of an assemblage of bits. With the influx of an (im)material digital culture, a nature retreat/visitor center typology cannot exist solely as a site of escape from sites of anxiety.

Through a series of acts and collage Events Machine explores a non-linear, narrative methodology. Dualities of physical/digital and technological/cultural layers of architecture conceive experiences for participants through a series of choreographed moments that reflect the context of a landscape embedded in a horizon of continuous changing phenomena, cycles and scales. The proposal is seen to rise out of a landscape and sit gently upon it on a stretch of Lake Superior coastline north of Grand Marais, MN.

Environmental technology is used in a way that fuses with the architecture, using water, sun and stone to augment the performance of the building with the landscape, creating room for nature and room for architecture. A reinterpretation of ecological, technological and human interaction ensues through exploring and combining cyclical processes apparent in the qualities of the landscape with artificial events to reveal the ephemeral duration of life and allow visitors, observers and inhabitants to anticipate the next event.

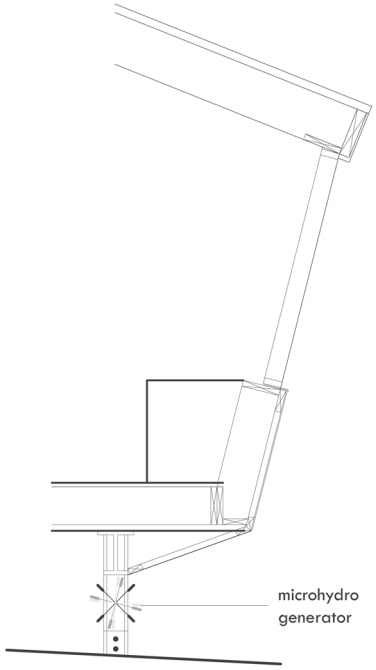
The abundant freshwater is constantly changing. Waves change direction and height and the color reflecting from the sky can change the presence of the site. The often deep blue of the vast lake can quickly turn to green, even orange tones and at dusk, black. During winter ice blankets and softens rock edges. As the lake is often warmer than the air, it can be seen in all stages as ice, water, and vapor.


HWY 61
micro hydro plant
bioswale
visitors center
tower
cabins
sauna
horizon sculpture

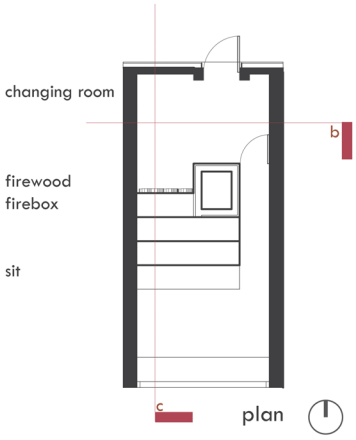
SAUNA

1"= 16'

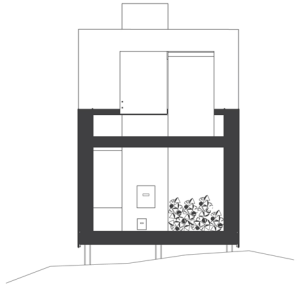
Culminates the horizontal journey toward the sun fusing with the horizon. Sited at the southernmost peak of the site and therefore most exposed, the ritual of purification is a local tradition passed down from scandinavian ancestors. At times the small structure is encapsulated in ice and being hit by waves, allowing the possibility to experience ice, steam and fluid water simultaneously. At other times it is cut off from access due to violent storms, emphasizing the ephemeral flux and silence of nature.



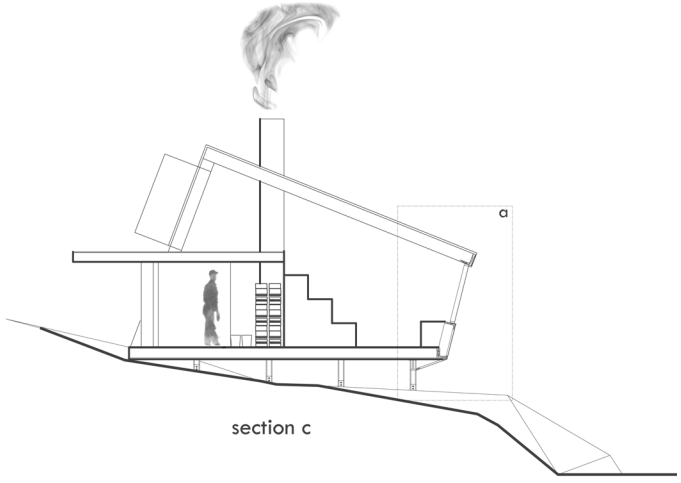
detail a
how structure meets nature



plan



section b



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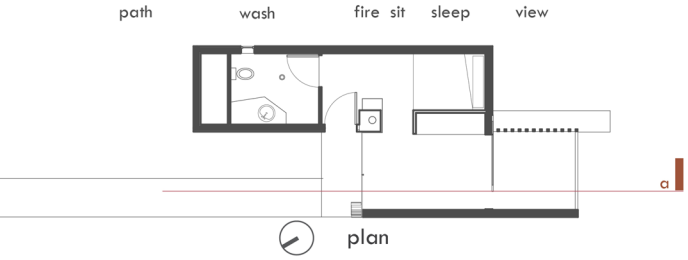
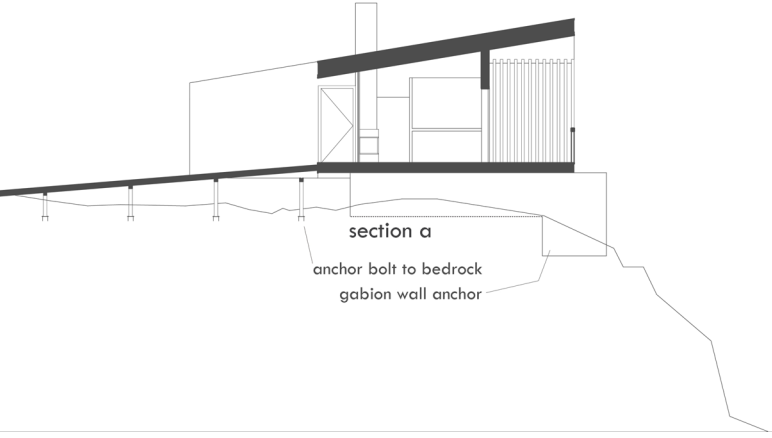


plan

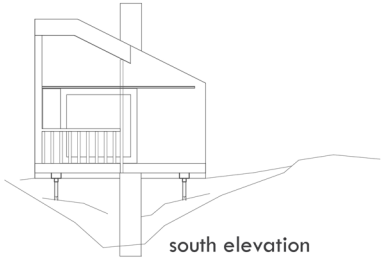
CABINS

1"=16'

Sited over rock outcroppings, the cabins offer a place for scientists, students, visitors etc. to come for periods of time and encounter the events of the landscape for longer durations. A large sliding door opens to the horizon framed through trees and can be closed when late autumn storms and their accompanying huge waves brew.



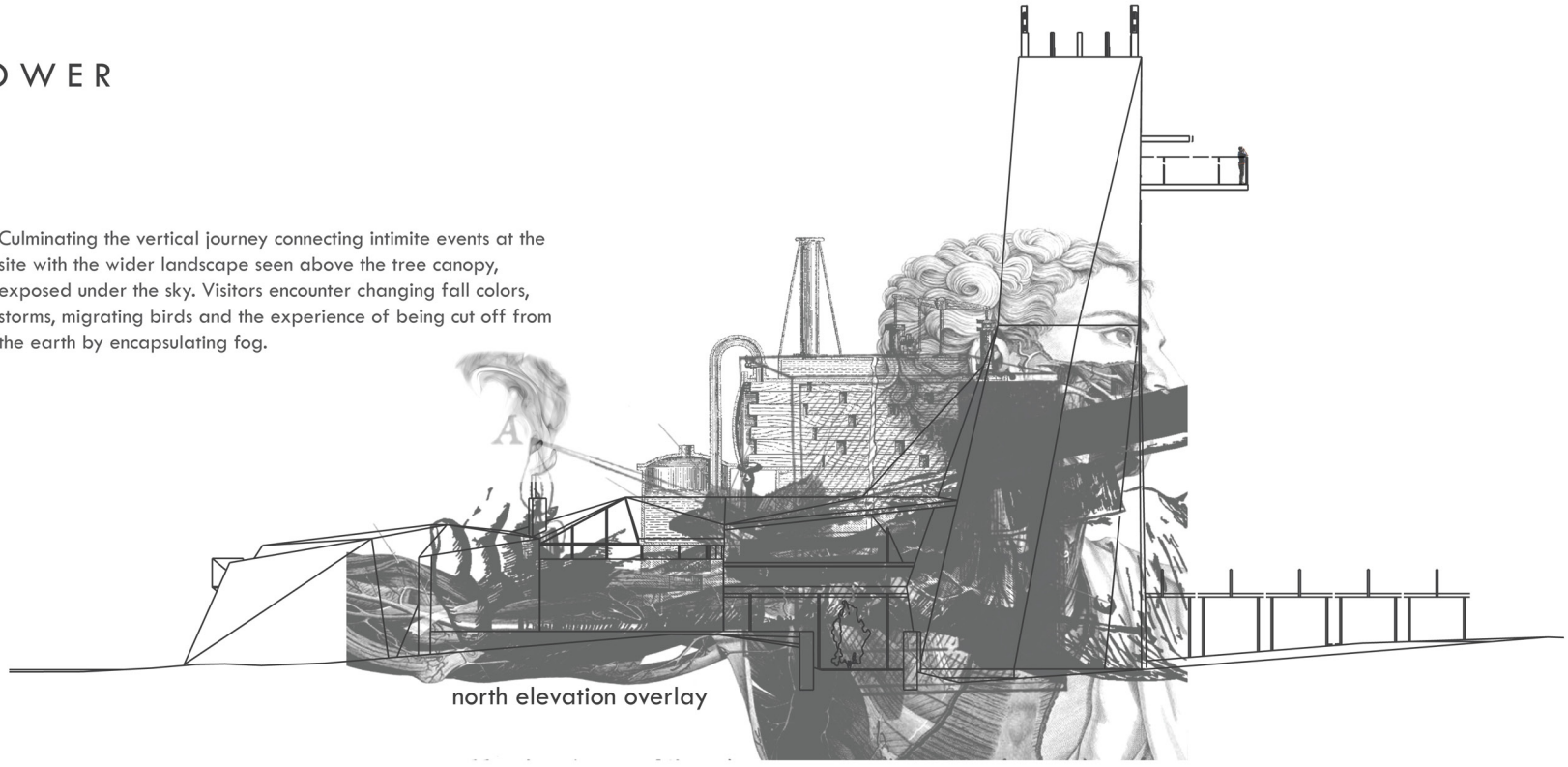
section a



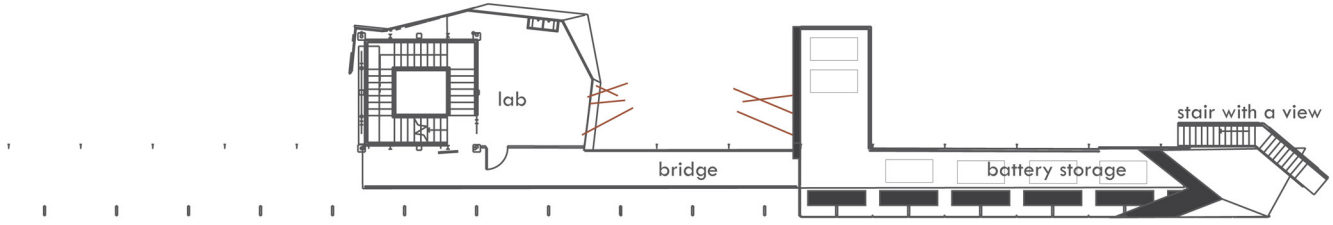
south elevation

TOWER

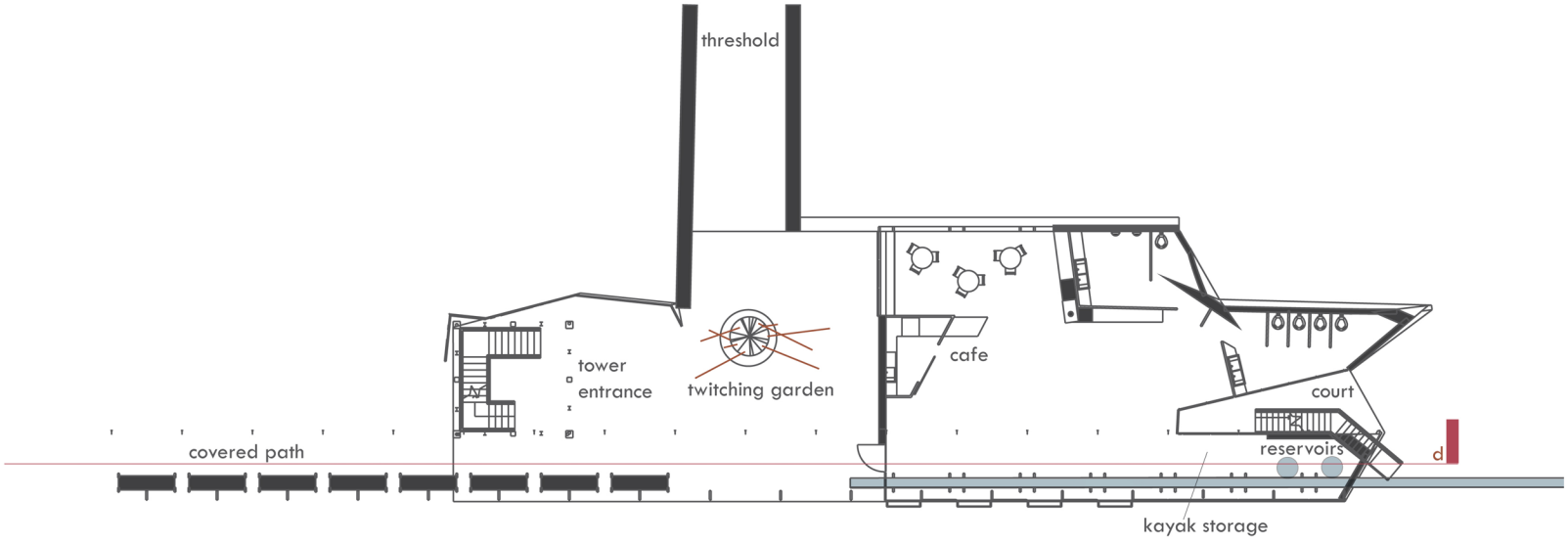
Culminating the vertical journey connecting intimite events at the site with the wider landscape seen above the tree canopy, exposed under the sky. Visitors encounter changing fall colors, storms, migrating birds and the experience of being cut off from the earth by encapsulating fog.



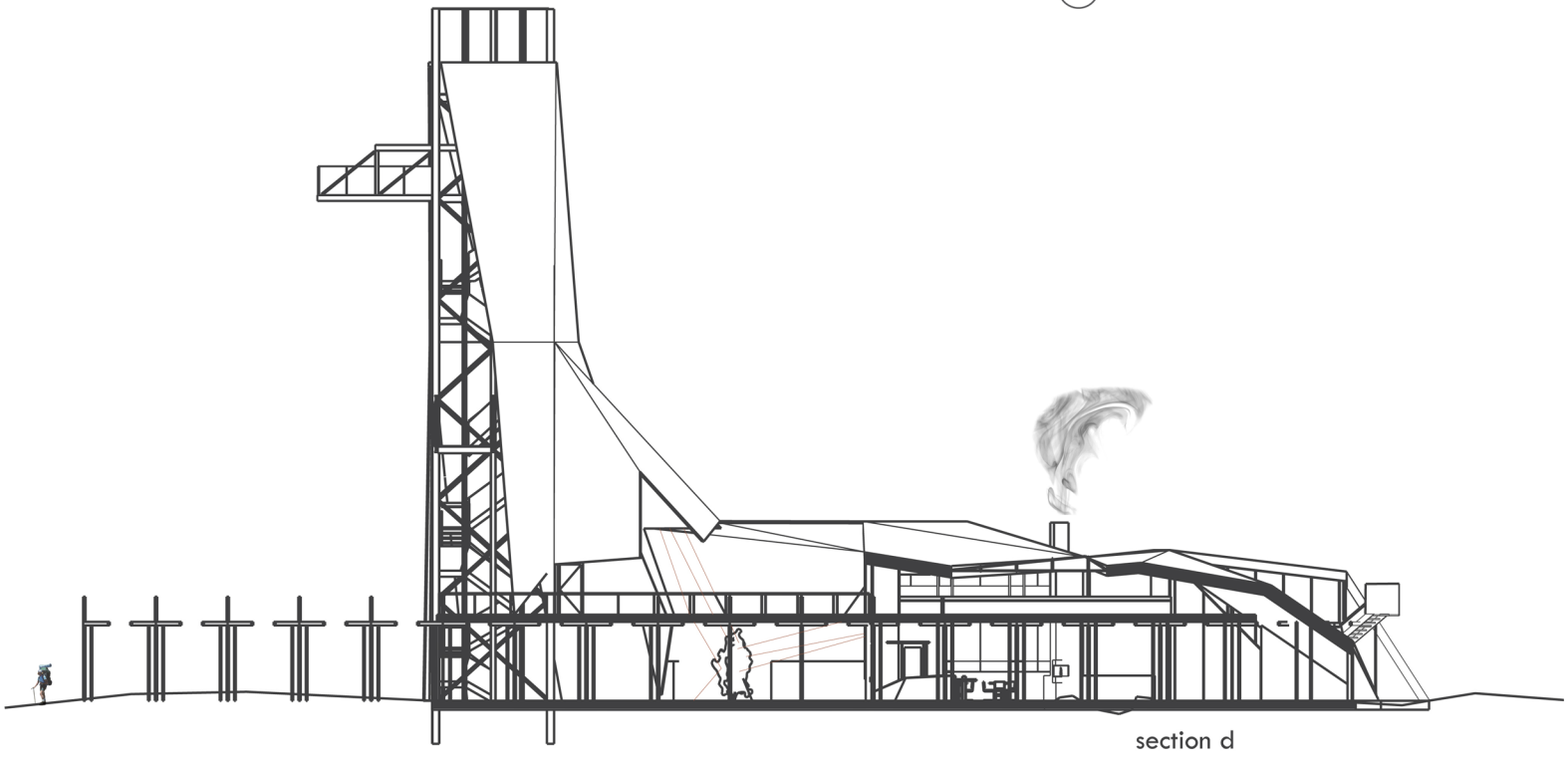
north elevation overlay



level 2 plan



main level plan



section d

skin

observatory level

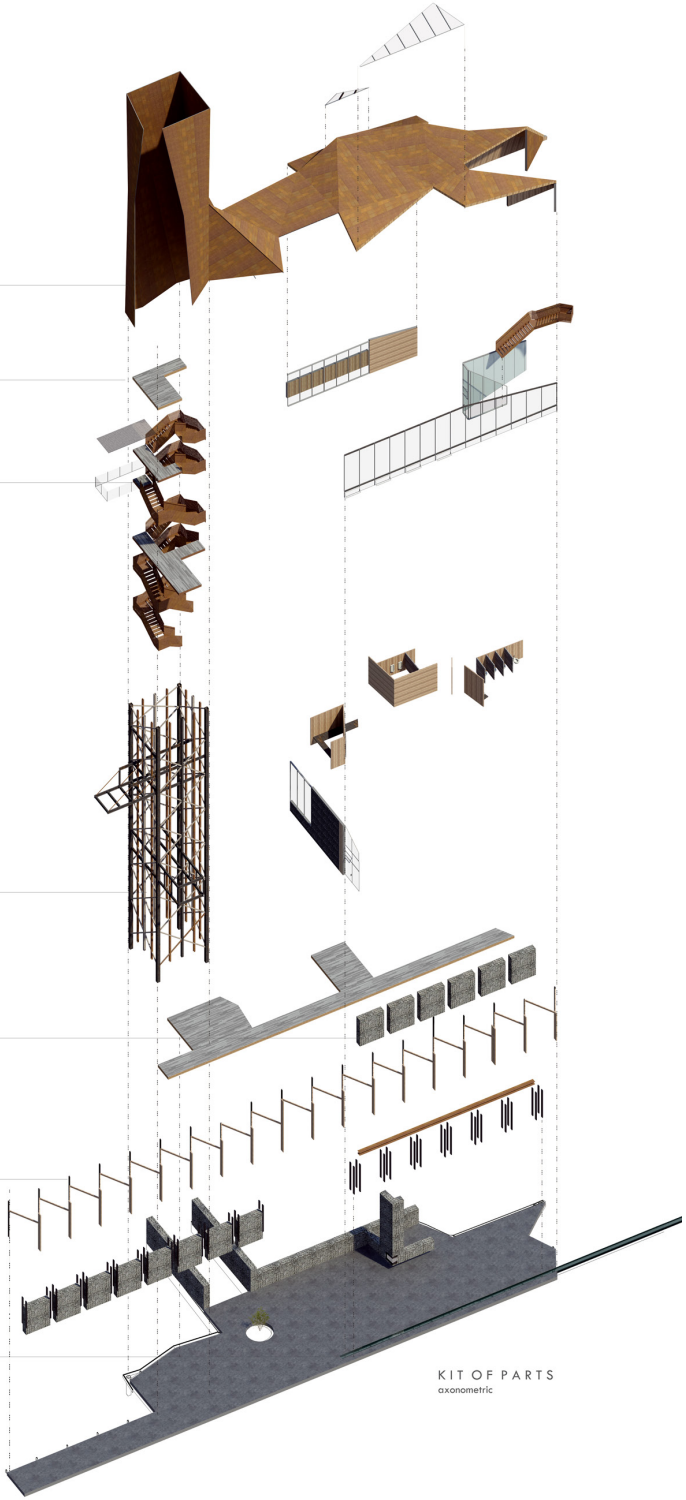
lookout level

repurposed structure
Ashland, WI ore dock

gabion trombe walls

repurposed train track

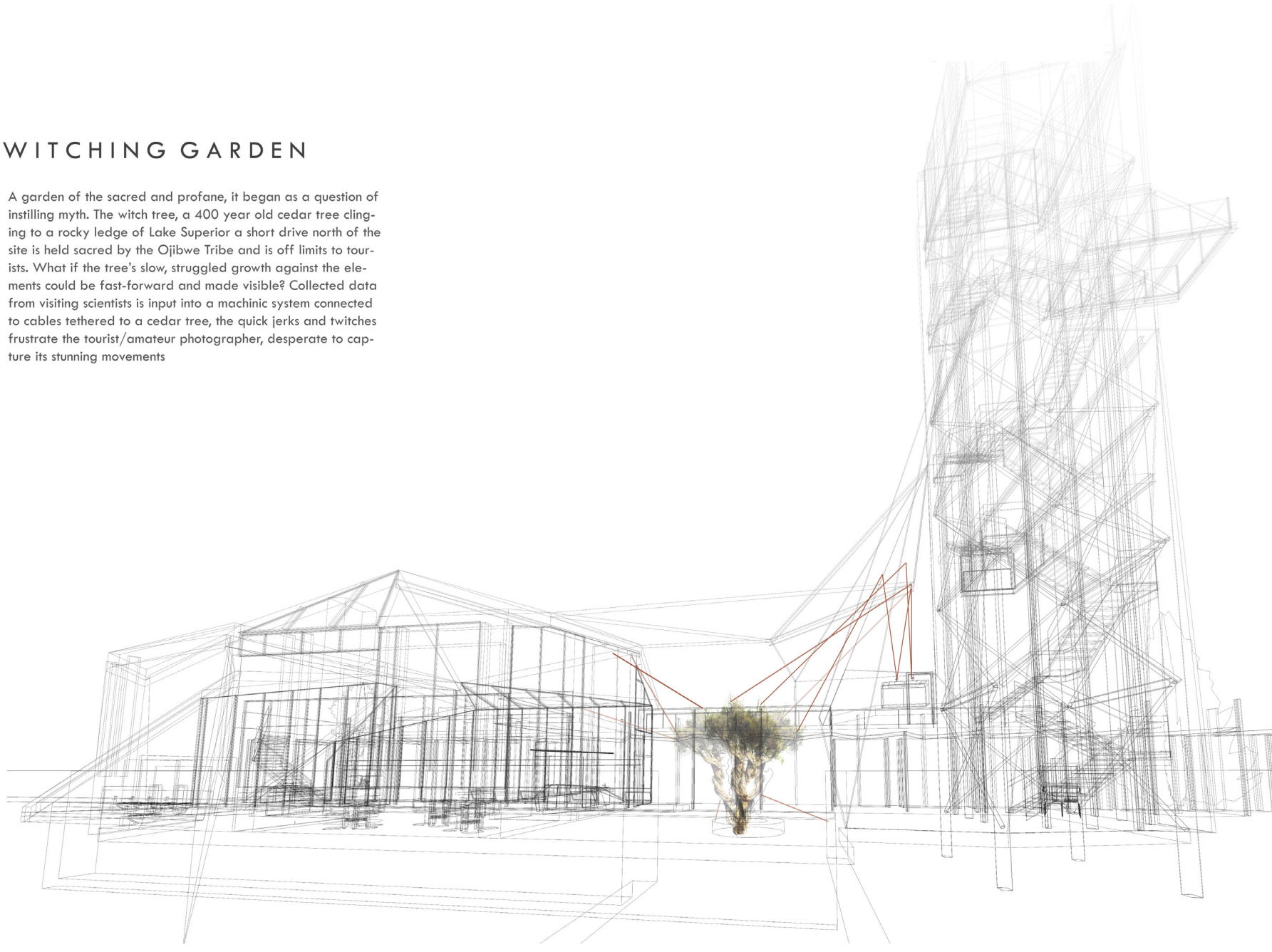
water trough

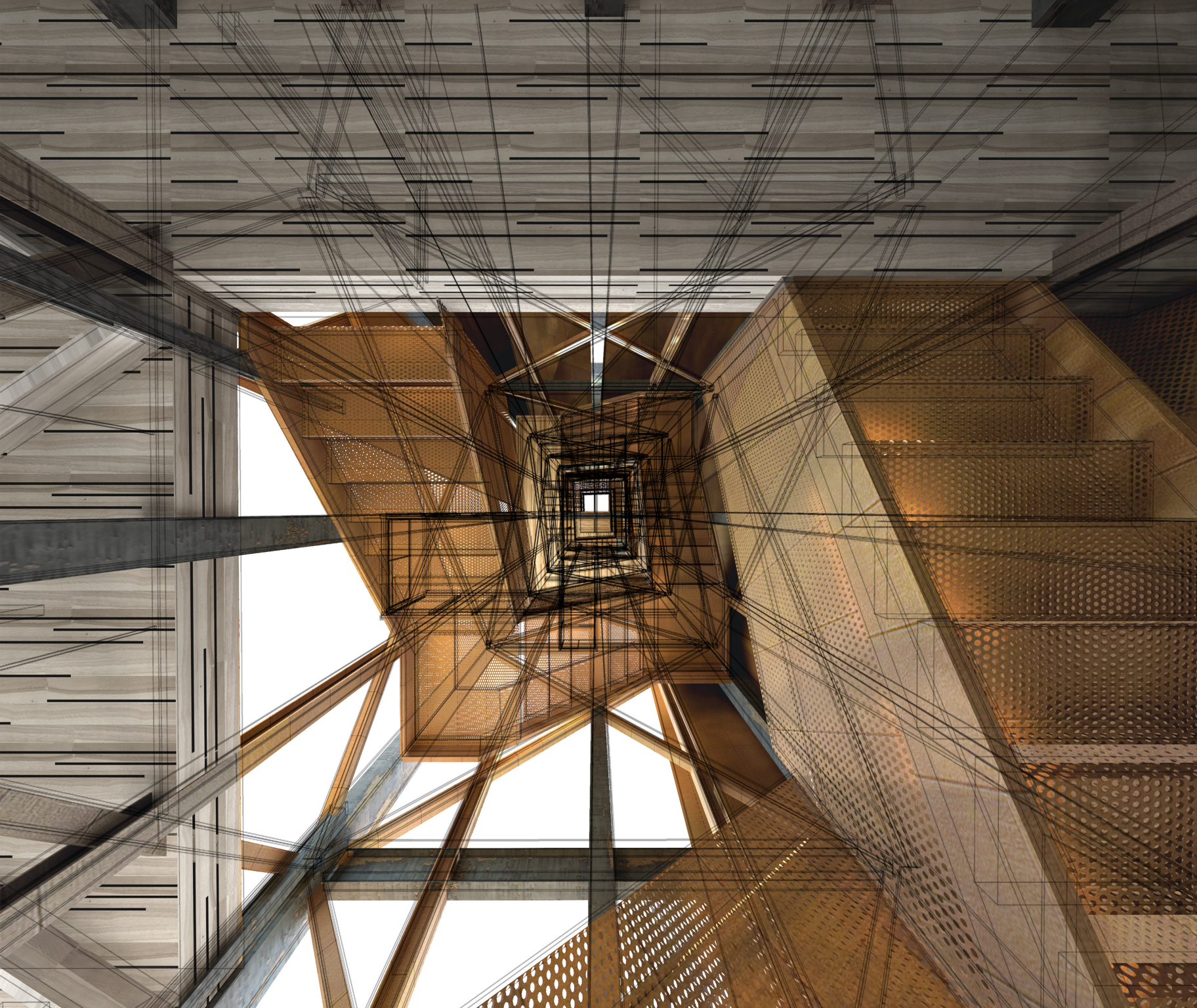


KIT OF PARTS
axonometric

TWITCHING GARDEN

A garden of the sacred and profane, it began as a question of instilling myth. The witch tree, a 400 year old cedar tree clinging to a rocky ledge of Lake Superior a short drive north of the site is held sacred by the Ojibwe Tribe and is off limits to tourists. What if the tree's slow, struggled growth against the elements could be fast-forward and made visible? Collected data from visiting scientists is input into a machinic system connected to cables tethered to a cedar tree, the quick jerks and twitches frustrate the tourist/amateur photographer, desperate to capture its stunning movements

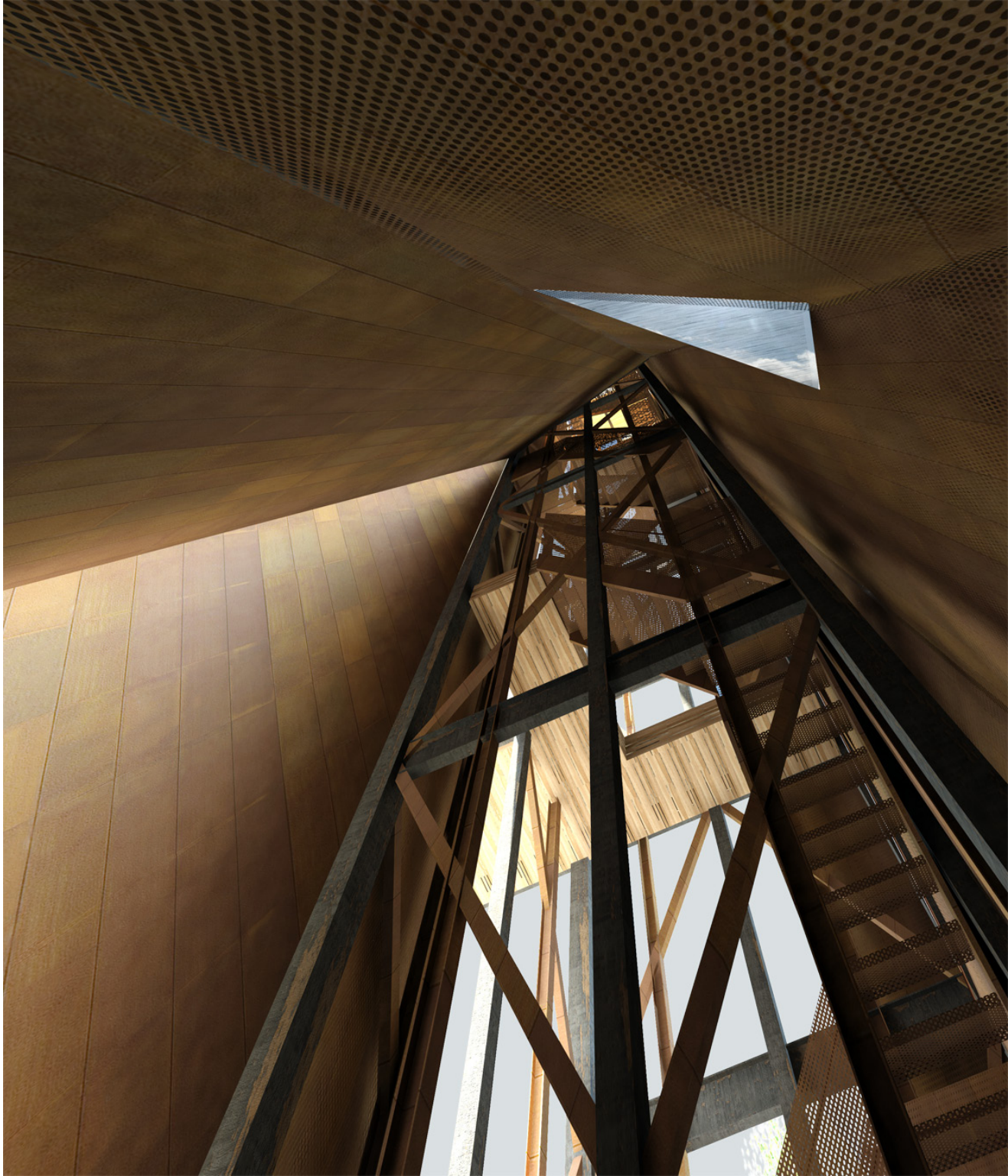




L A B O R A T O R Y - The lab is used as a base for exploration, collection and examination of data from the observatory at the top of the tower and freshwater sources below. Situated under the lifted skirt of the folded, rusting steel surfaces above, the space is like being in the belly of a steel ore ship - flipped vertically.

Measure the walls. Count the ribs. Notch the long days.
Look up for blue sky through the spout. Make small fires
with the broken hulls of fishing boats. Practice smoke signals.
Call old friends, and listen for echoes of distant voices.
Organize your calendar. Dream of the beach. Look each way
for the dim glow of light. Work on your reports. Review
each of your life's ten million choices. Endure moments
of self-loathing. Find the evidence of those before you.
Destroy it. Try to be very quiet, and listen for the sound
of gears and moving water. Listen for the sound of your heart.
Be thankful that you are here, swallowed with all hope,
where you can rest and wait. Be nostalgic. Think of all
the things you did and could have done. Remember
treading water in the center of the still night sea, your toes
pointing again and again down, down into the black depths.

Dan Albergotti, *Things to Do in the Belly of the Whale*

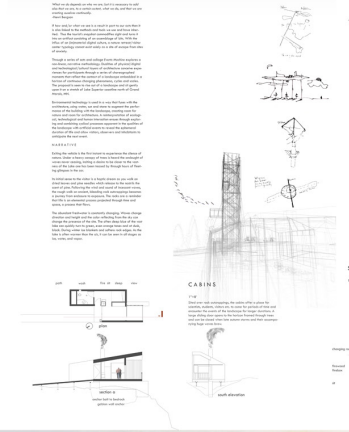


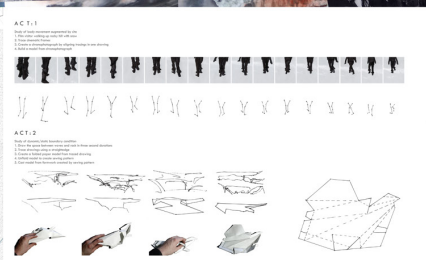

bleeding wall

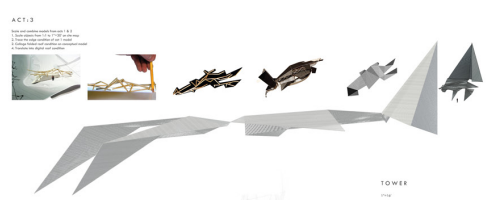

HORIZON SCULPTURE
The horizon is occupied by a series of bobbing metalic buoys that exaggerate the twinkling reflections of the sun and moon in the vast lake. Attached below the surface are magnetic linear generators that supply power from the almost constant source of wave motion.

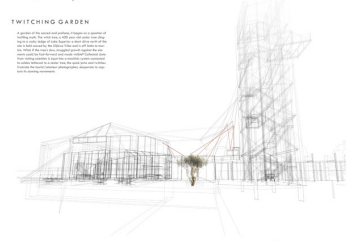
eVENTS MACHINE

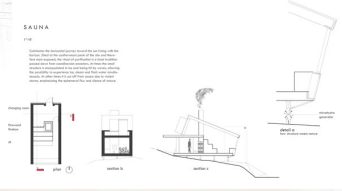
ARCHITECTURAL ACTS & COLLAGE

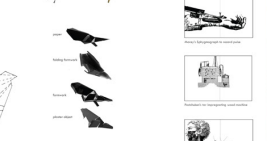


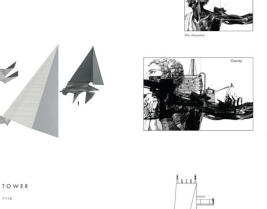


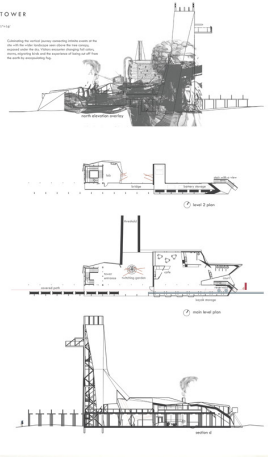


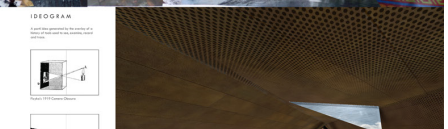


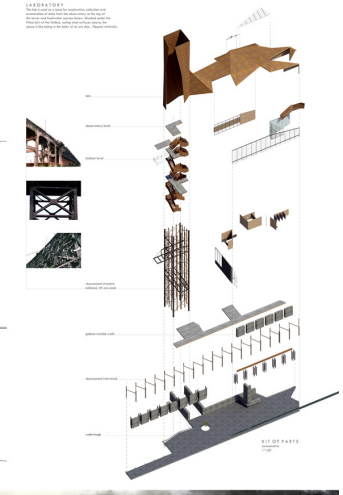










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Robert Arlt
724 8th ST N #2
605-214-2625
robu02@hotmail.com
Hastings, MN

tribe.