

SITE AS PLAYGROUND: EXPANDING THE EXPERIENCE OF PLAY

by

REBECCA MELVIN

A REPORT

submitted in partial fulfillment of the requirements for the degree

MASTER OF LANDSCAPE ARCHITECTURE

Department of Landscape Architecture  
College of Architecture, Planning and Design

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2012

Approved by:

Major Professor  
Katie Kingery-Page

## ABSTRACT

Encouraging creativity is an important part of a child's education and often not adequately supported by outdoor school environments. Contemporary playgrounds are designed in response to perceptions of liability and a limited interpretation of child development. Prefabricated plastic constructions and expanses of asphalt are poor initiators of creative expression.

This project proposes a more stimulating, artistically crafted alternative to the typical playground. Beginning with documented research of play, the project layers psychology, education and humanities to form an understanding of how formal space affects human experience. More specifically, poetry, land art, sculpture, narrative and character studies inform the design solution for a 6.4 acre site at Northview Elementary School in Manhattan, Kansas. Integrated design provides children a meaningful experience of space and direct contact with nature. This design encourages imaginative and creative play, expanding the experiential quality of a contemporary playground.

# Site as playground

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REBECCA J MELVIN

2012

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

Committee Members:

Katie Kingery-Page

Laurence Clement

Shreepad Joglekar



## abstract

Encouraging creativity is an important part of a child's education and often not adequately supported by outdoor school environments. Contemporary playgrounds are designed in response to perceptions of liability and a limited interpretation of child development. Prefabricated plastic constructions and expanses of asphalt are poor initiators of creative expression.

This project proposes a more stimulating, artistically crafted alternative to the typical playground. Beginning with documented research of play, the project layers psychology, education and humanities to form an understanding of how formal space affects human experience. More specifically, poetry, land art, sculpture, narrative and character studies inform the design solution for a 6.4 acre site at Northview Elementary School in Manhattan, Kansas. Integrated design provides children a meaningful experience of space and direct contact with nature. This design encourages imaginative and creative play, expanding the experiential quality of a contemporary playground.

*to every child who has ever been bored on a playground.*

## acknowledgements

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I would also like to thank my friends and family subject to late night telephone calls and moments of anxiety. I cannot thank my mother and father enough for the love, guidance, prayers and generosity throughout the years. Thank you for believing in me when I didn't.





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## forward

The Landscape Architecture/Regional & Community Planning graduates of 2012 are the first class to participate in a collaborative studio process leading to completion of their individual master's reports. Seven of these graduates chose to work under the topic Landscapes of Learning. The interests of the group were broad: biophilia, access to nature for children, childhood development and special needs, ecological interpretation, participatory design, public play spaces, and landform as art. The common conversation centered around big questions: How can all children have access to nature for learning through play? What creates a rich, outdoor environment for all kinds of children and young adults?

A formative experience in my understanding of landscapes for learning occurred in 2008-2010, when I helped create a learning garden at a local elementary school. One hundred eighty people built the school garden over eighteen weekends. The garden was handmade. Raised planters were built by Boy Scouts and a kind dad with a miter saw. A talented landscape contractor helped build a 14-foot long limestone bench. The Parent-Teacher Organization's unofficial 'dad of the year' made it a family affair — his siblings, mother, father, and children all returned to the garden site for many weekends of work.

Sadly, the garden existed for just 153 days. The voting public passed a bond for school renovation and the elementary school received funds for a beautiful building expansion. The garden turned out to be too difficult to stage around during construction.

The learning garden had become a talisman to me. In it, I saw a kind of landscape I had never made in a professional firm. The garden was decidedly humble and handcrafted, made of creamy Kansas limestone and native plants bought or donated and dug in a few at a time. The garden was 'quiet' aesthetically: native wildflowers and grasses, crushed stone paths, tree shade, planters with compost-rich soil. The garden was designed for diverse experiences: learning across the grades and curriculum, quiet time, and play. There was always a puddle somewhere, reflecting leaves and strands of switchgrass. During the fall it was completed, 4th graders would run to the side of the garden intern at recess to ask if they could help weed, or mulch, or rake. When the news sunk in that the garden was gone, I looked at its photographic ghost in satellite imagery. How could so many people want something, work so hard to make it happen, and yet it could not survive?

The humble learning garden had answered a creative drive for me. I had wanted to make social sculpture: to bring a socially-significant place to life beyond words and images. The garden's absence opened me to questions about landscapes of/by/for learning.

The 2012 Landscapes of Learning studio became a forum for these questions. Seven master of landscape architecture and master of regional and community planning students selected the studio as the crucible for their final year's projects. The graduate student researchers conceived of their bond as a colloquium, where each shared information freely to raise the expertise of all.

Though each student defined his or her own project, all projects engaged the community of Manhattan, Kansas (the setting for Kansas State University); and all projects questioned what we as future landscape architects and planners assume about landscapes for children. In nine months' time, a diverse set of projects took shape to address a range of questions:

If we assume access to nature to be beneficial to children, are some children denied access due to socioeconomic status and its impact upon housing choice?

*Jonathan Knight, Wichita, Kansas*

In a neighborhood with no parks, can an oversized middle school property serve a joint use for school and neighbors?

*Shuang Hao, Manhattan, Kansas / Suihua, China*

How can an elementary school in a flood plain landscape meet diverse schoolyard needs while also interpreting the hydrologic cycle for children?

*Laura Weatherholt, Tulsa, Oklahoma*

How can a schoolyard be designed to be a therapeutic environment for all children, with an emphasis on benefiting those children with autism?

*Chelsey King, St. Peters, Missouri*

How can planners and landscape architects improve community participatory design methods for determining what children need and desire in a school landscape?

*Kweku Addo-Atuah, Accra, Ghana*

Contemporary schoolyards often lack creative expression. How can humanities research serve as evidence for the design of a functional schoolyard that is also a sculptural work of art?

*Rebecca Melvin, Seattle, Washington*

In the temperate Midwest United States, interiorscapes are seldom a feature of public schools. How should an interiorscape be designed to integrate the natural and built environment within an existing high school?

*Sukaina Fakhraldeem, Kuwait*

The reports address landscapes of learning at a range of scales: from city planning to interior scale. The projects also exhibit a great variety in conceptual approach: from personal and poetic design driven by humanities knowledge to participatory design process including nearly one hundred students. What is not evident in the list of questions is the interrelationship between projects. The individual report which follows will provide a point of reference. The individual researcher's goals will be made clear, but will also be linked to a collective annotated bibliography made by the studio. Some reports refer to the work of other students, as several projects were interdependent, but each report is original work, completed by the individual author.

As a whole, the 2012 Landscapes of Learning master's reports demonstrate creative and scholarly inquiry representing a breadth of themes in contemporary discourse about experiential learning environments for children.

Assistant Professor **Katie Kingery-Page**

Major Professor to the Landscapes of Learning Students

April, 2012





**01** one

## DESCRIPTION & INTENT

## introduction

The formal characteristics of space, whether consciously recognized or not, affect a persons' mood, actions, responses, and opinions. Too often, spaces are created without enough attention to the projected human experience of space. Space can be an excellent education tool. People learn from the environments in which they spend time. Therefore, well-designed spaces can better teach people about their environment. Gardens, playgrounds, and sidewalks are all landscapes of learning. However, people do not spend time in spaces they do not enjoy. In order for design to be educationally effective, thought must be given to the formal experience of the space. Crafting space is an art. By nature, design happens from an outside perspective yet is experienced from an inside perspective. Studying how people respond to space can inform designers about how to create more effective spaces; spaces that teach, inspire and enlighten.

This project asserts the design of a playground as a sculptural work of art, while considering the conditions of the users and of the site. The design development is driven intensively by aesthetic imperative and inspired by humanities research. The document is organized into chapters; first describing the intent of the project then discussing the research behind the design, then discussing the needs of the site, then elaborating on the design process and finally concluding with a broader application of the previously defined principles.



Here is this vast, savage, howling  
Mother of ours,  
Nature lying all around,  
with such beauty, and such affection for her children,  
as the leopard;  
and yet we are so early weaned from  
her breast to society;  
to that culture which is exclusively an  
interaction of man on man...

-Henry David Thoreau

## professional motivation

While collecting ideas and beginning to delineate a rough identity of this project, before it had much definition, I was pointed toward an article that referenced Isamu Noguchi's Contoured Playground. This was not the first time I had seen Noguchi's work, but it resonated profoundly with me amidst all the thoughts in my mind regarding the issues with a child's contemporary playground. There is no denial that Noguchi's craft is a work of art. The elegant balance of space creates stunning contrasts with shade and light. The uniform, minimalist texture of the bronze cast is beautifully formed. The artist clearly felt no need to overstate his intention.

Noguchi's alternative view of the opportunities for a playground excites me. The contemporary playground is typically a somewhat random conglomeration of pieces as opposed to a cohesively designed space. However, there is no valid reason why a child's landscape cannot be well designed. Noguchi's bronze model shows that the post-modern affinity to provide children with brightly



Figure 1.01: Noguchi's Contoured Playground (Source: <http://www.noguchi.org/museum/collection/contoured-playground>)

colored pieces of plastic, although largely popular, is not the only avenue from which to address playground design. In this project, I will treat the design of a playground as a work of art holding the space to the highest standard of design while considering the needs of a child, of the school and of the site.

## personal motivation

A child's contemporary playground lacks creative expression. It is a sterile unbending environment of pre-fabricated plastics that is less than ideal for the wild adventures born from a child's imagination. Children are wondrously unbound. To a child, an abandoned grassy mound is a wild buffalo-hunting safari, an overturned log, a petri dish of scientific breakthrough, and a tree, the perfect setup for a war of the apes. Is it not better for a child to explore the breadth of imagined existence for as long as possible? In my experience, reality is less arduous where imagination has prepared a landing.



Figure 1.02: Childhood Play (by Ann Melvin)



Figure 1.03: Childhood Play (by Ann Melvin)

## dilemma

There exists no valid argument to explain why a playground cannot be both a child appropriate environment AND a well designed space. I am not the first to observe the frightful scarcity of well designed playgrounds, yet the dilemma still exists;

A child's contemporary playground lacks creative expression.

Contemporary playgrounds, such as the existing schoolyard at Northview Elementary School (Manhattan, Kansas), miss the opportunity to challenge a child to think creatively outside of the classroom.

## thesis

This project asserts the design of a playground as a sculptural work of art, while considering the conditions of the users and of the site. By layering ecological strategies and a poetic response to topography onto a playground, **this project integrates meaningful experience of space and direct contact with nature to create a more imaginative play environment.** The proposed playground design draws from study of creative play and experiential learning to engage the curiosity of a child.

## research questions

- Q01** How can the formal qualities of space be effectively employed to engage a child's propensity to learn through experience?
- Q02** How can humanities research serve as evidence for the design of a functional schoolyard that is also a sculptural work of art?

## project goals

- explore the intersection of fine arts and landscape architecture
- create a place where children can fully explore their creative potential
- artfully address stormwater management

## site

Northview Elementary School is located on Griffith Drive off of Tuttle Creek Boulevard in Manhattan, KS. The school facilities recently underwent construction, completed in 2010. As a result of construction activities, the landscaping is in need of attention. I have chosen an empty field east of the main school building as the site for this project. The site is currently unusable due to an excess of standing water and large masses of leftover soil from construction and illegal dumping.

## audiences

The people involved with the future development of Northview Elementary School are important to the progression of this project. It is necessary to present and speak about this project in a manner that engages an audience of parents, professionals, teachers, and administrators

Moreover, the role of this project is primarily to speak to a larger professional design audience. As the project is addressing the role of humanities and fine arts in landscape architecture, the visual tone of the project is heavily influenced by my perspective as a designer. The project must communicate to professionals in the design community to evoke a dialogue about the role of fine arts in contemporary landscape architecture.

Understanding that these two audiences are not entirely compatible, I aim to create visual products that speak to both designers and non-designers.

project schedule

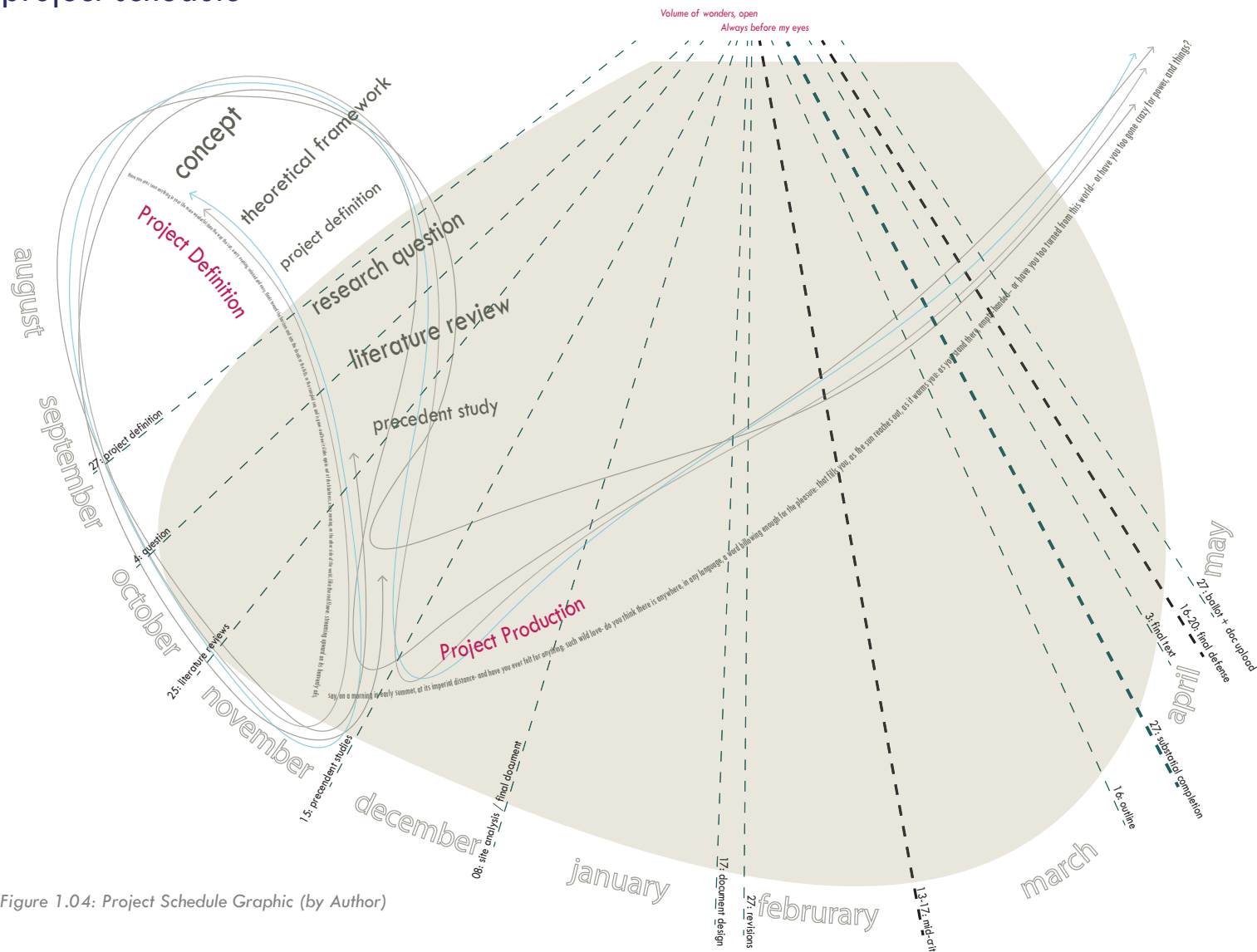


Figure 1.04: Project Schedule Graphic (by Author)



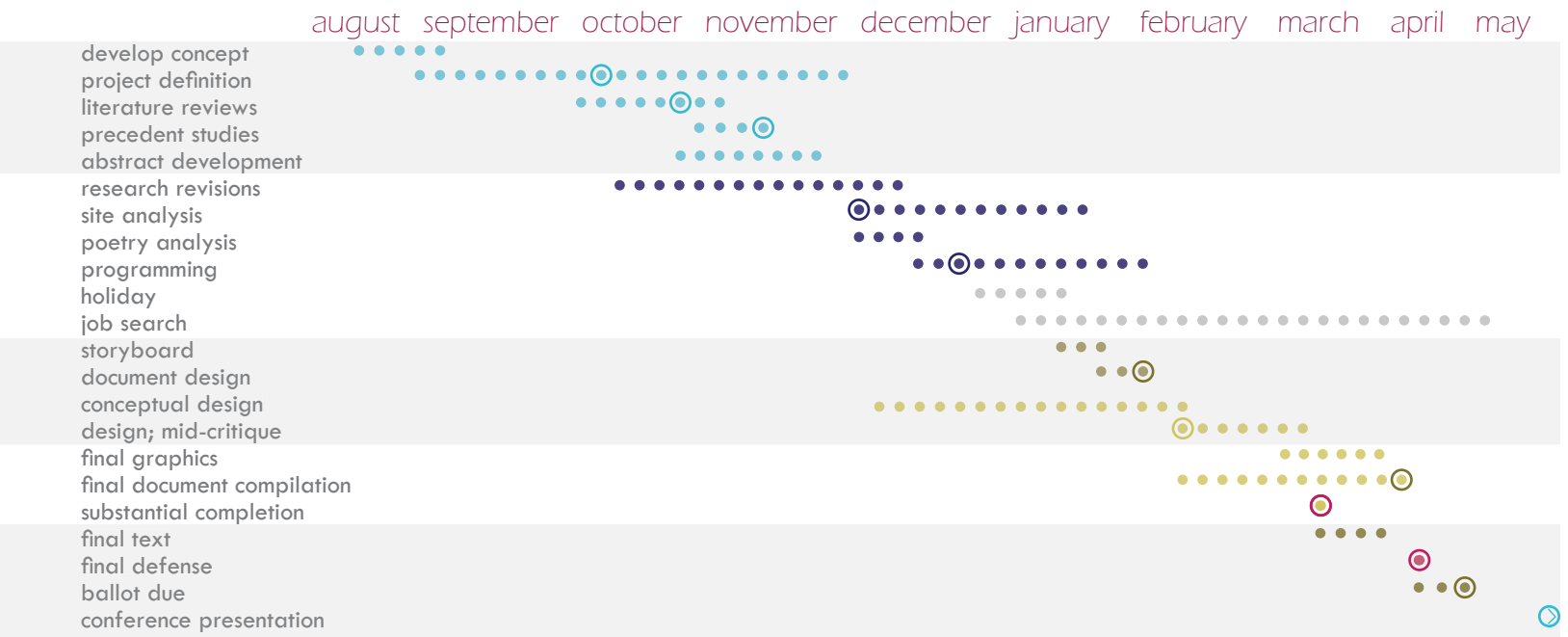


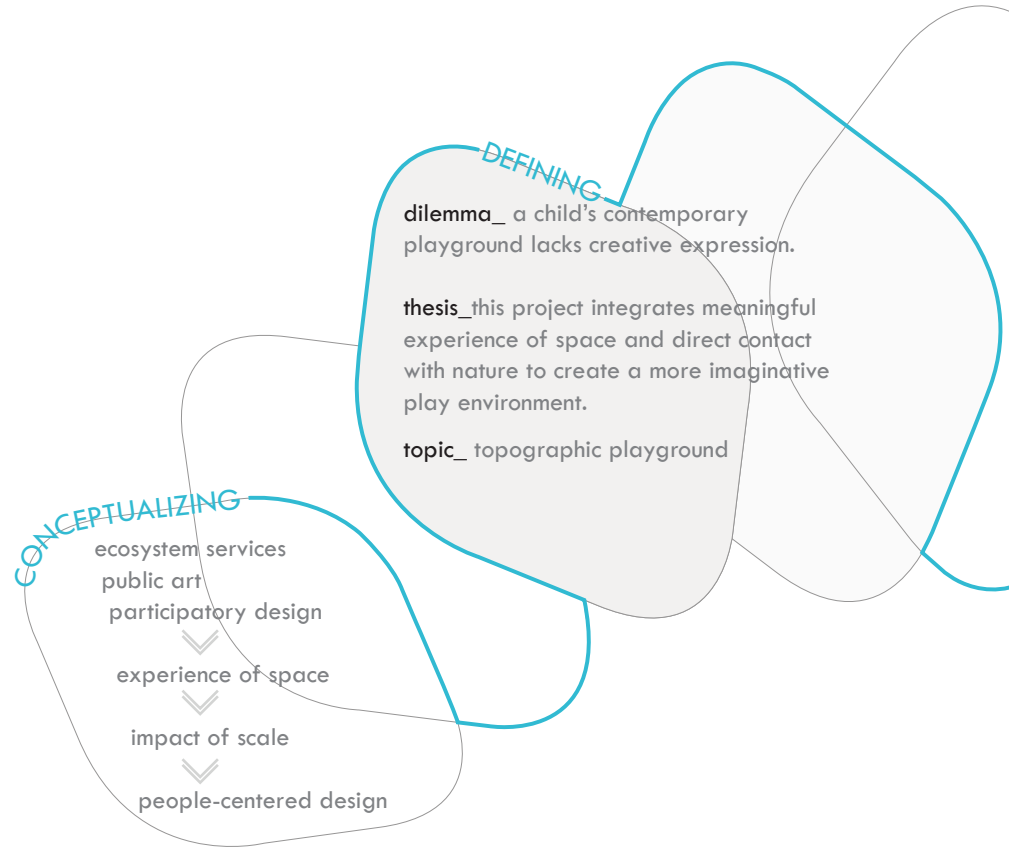
Figure 1.05: Project Schedule Chart (by Author)

## process

Developing a progressive system to guide my design process is important to ensure that the project is completed on time and in adequate detail. The process passes through 6 stages; conceptualizing, defining, researching, focusing, designing, and producing. The process is iterative, therefore, the designer continually revisits prior steps, refining and editing as new information is uncovered. The goal of following this process model is to create a well informed and appropriately conditioned design and, by the end of the production phase, to have a high quality product displaying the prior research and design.

“Design is like conversation; if you knew the outcome it wouldn’t be worth having.”

-Charles Jencks



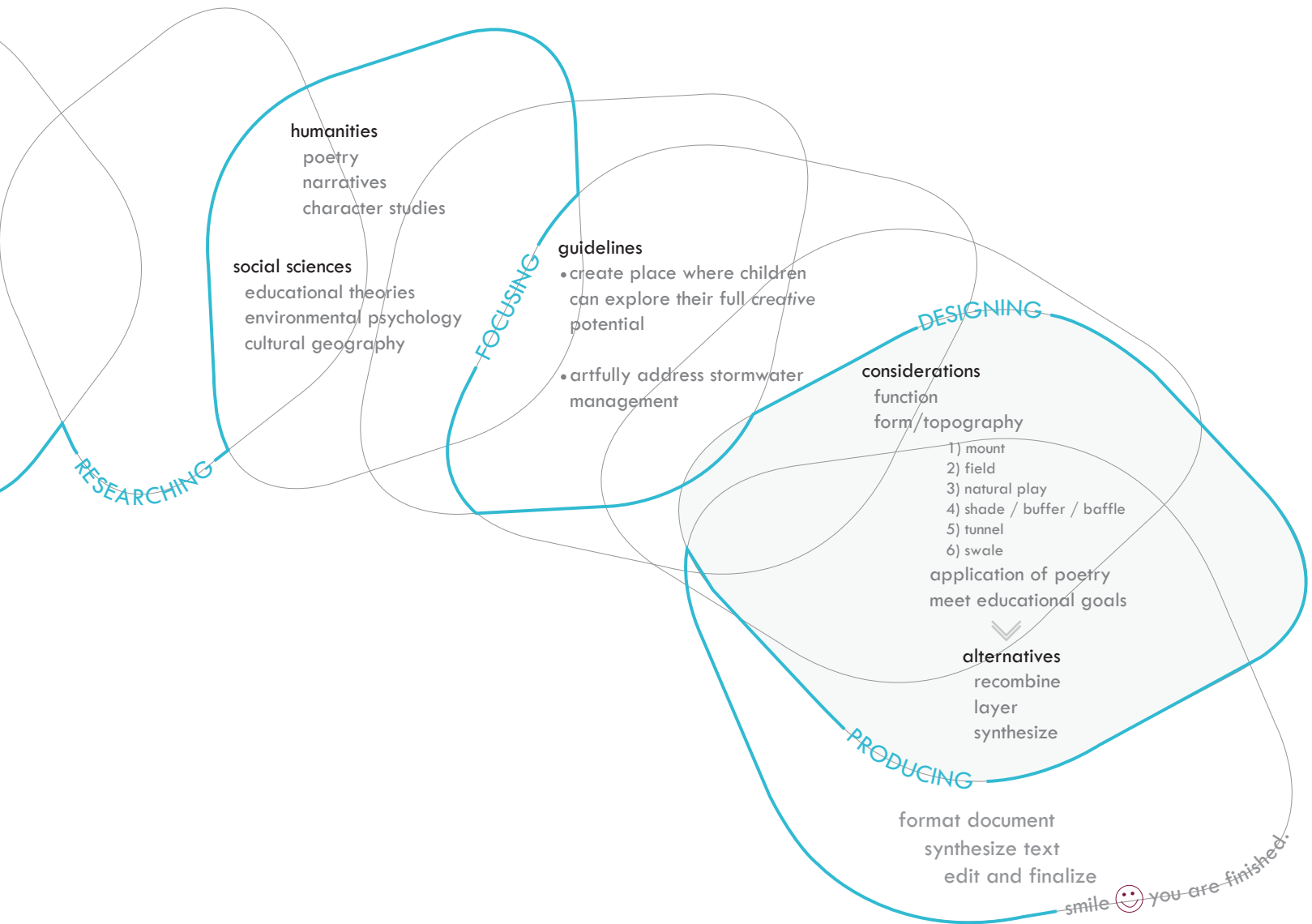


Figure 1.06: Project Process (by Author)

# evidence for design

relationship of concepts influencing  
the final design solution

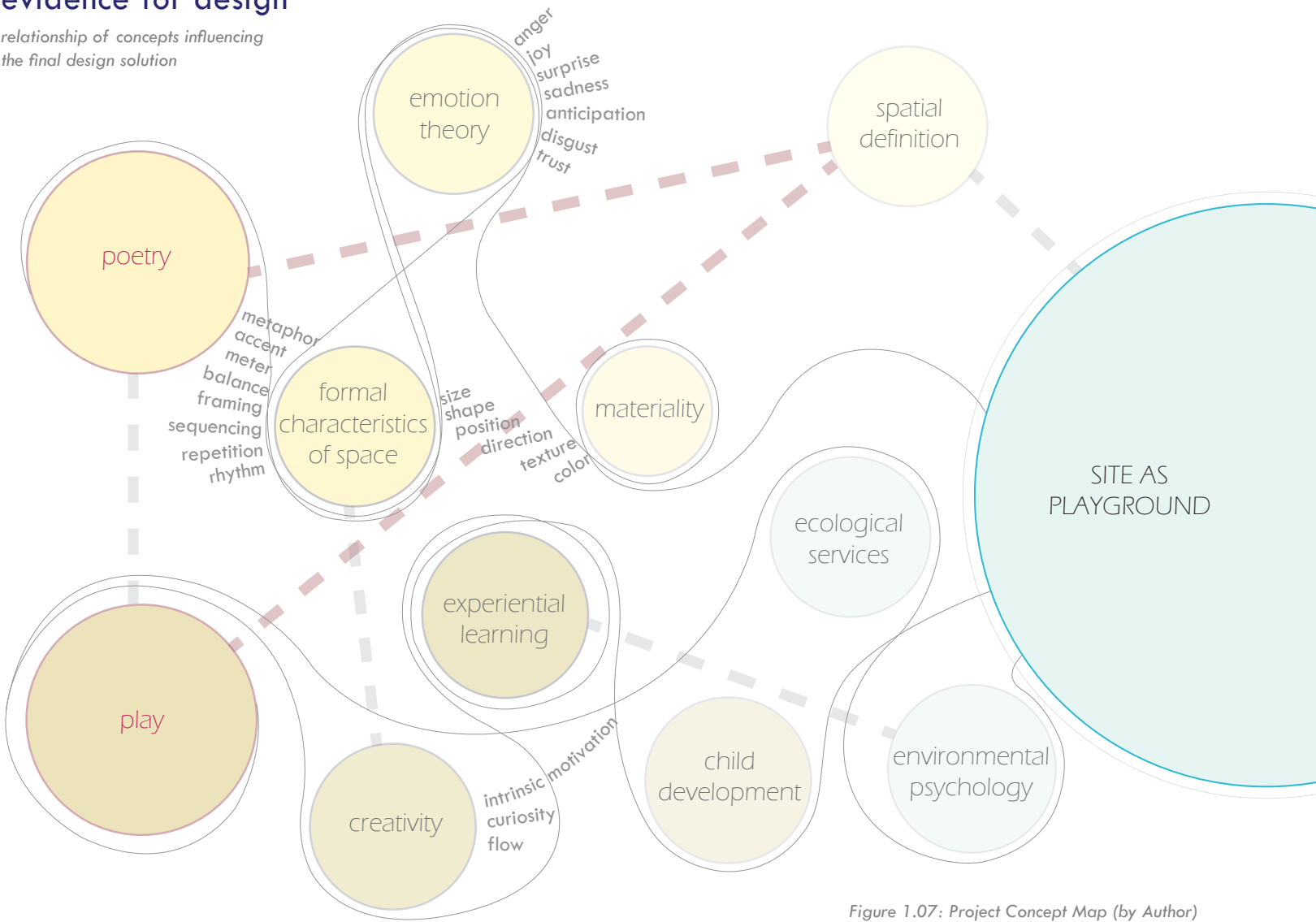



Figure 1.07: Project Concept Map (by Author)



Site as Playground resulted from layering, framing, combining and recombining a series concepts and ideas.

Every human needs to play, it is as essential to a balanced life as is sleep. “The opposite of play is not work, it is depression.” (Brown 2008). Children learn about themselves, their peers, and their environment through play. They establish a relationship with their physical environments through play. Site as Playground layered research from the concepts of creative play, experiential learning, creativity, child development, and environmental psychology to develop a well-informed knowledge base surrounding the concept of play.

Site as Playground was also an endeavor into exploring the intersection of fine arts and landscape architecture. This project looked specifically at how poetry can inform the design of an elementary school playground. Poems were analyzed emotively and connections were made between the formal characteristics of space and these emotive qualities. Looking at emotion theory, spatial hierarchy, form and materiality, a balanced and inspiring definition of spaces evolved.

The combination of the concepts surrounding play and poetry along with a response to the need of the site were synthesized to create a theoretically sound and aesthetically stimulating design solution.

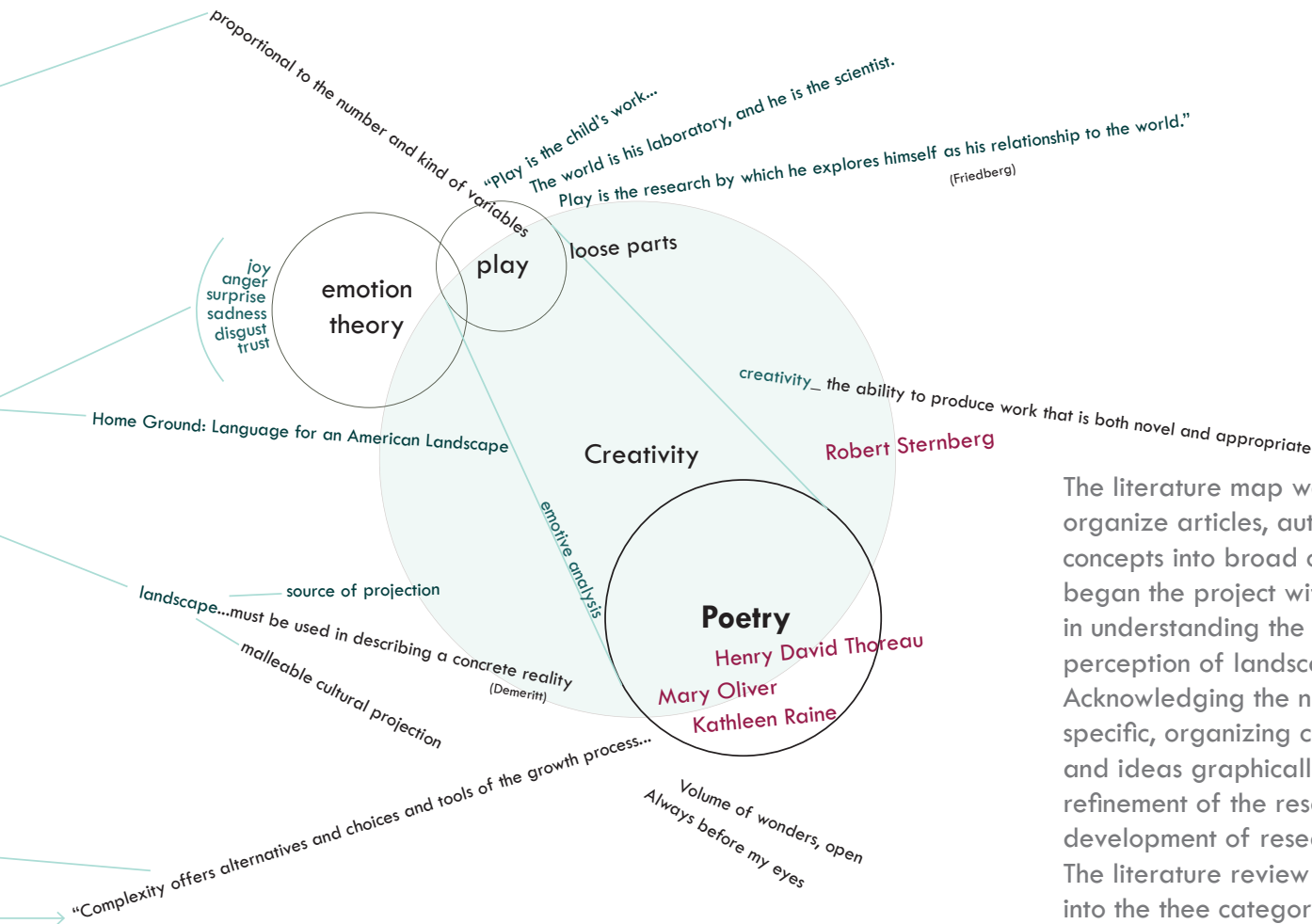


**02** two

## THEORETICAL POSITION: PLAY, LEARNING, AND FORM







The literature map was used to organize articles, authors and concepts into broad categories. I began the project with an interest in understanding the cultural perception of landscape experience. Acknowledging the need to be more specific, organizing concepts, authors and ideas graphically, led to a refinement of the research topic and development of research questions. The literature review was broken into the three categories, create play, experiential learning and form and materiality. The synthesis of literature from all three categories was then combined with the poetry analysis.

**creative play //** engaging  
in activity for recreation and  
enjoyment that also stimulates the  
enactment of original ideas

Notions of creativity, the ability to produce work that is both novel and appropriate, have a long history (Sternberg 1999, 3). In early Greece, the modern concept of creativity did not exist, rather the verb 'to make' sufficed. In fact, the poet, the man who gave new meaning to words, can perhaps be credited with the origins of the modern concept of creativity (Tatarkiewicz 1970, 15-22). After the invention of research, it was still some time before the two ideas, that of research and that of creativity were generally accepted as related concepts. Research about human nature (and the creative impulse) was eventually accepted as valid with the realization that research constitutes "a practical way of learning about and understanding the world around us" (Sternberg 1999, 17). This recognition provided the link to the rationale behind research on creativity. However, past this shift in mindset, it was many years before creativity was accepted as an idea apart from "such competing ideas as imagination, originality, genius, talent, freedom, and individuality" (Sternberg 17). Creativity is a concept unto its own, which has and continues to receive much attention from scholars.

Creative play, as I have defined it, is the act of engaging in activity for recreation and enjoyment that also stimulates the enactment of original ideas.

Play is the means by which a child discovers his relationship to the world (Freidberg 1970, 35). The act of playing should hardly be limited by the environment in which the playing occurs: the playground.

Paradoxically, creativity both requires motivation and generates motivation (Sternberg 1999, 9). For example, a child is more likely to make up a story if he is encouraged to do so by a teacher or a peer. Consequently the creative energy involved in the act of creating the story further encourages the child to continue in the vein of creativity. With this in mind, it is the role of the playground to motivate the child to creatively play within it. A playground that gives a child too much direction discounts from a child his or her ability to take initiative and act out of creative response to curiosity. The poetic notion of a child's curiosity, begs the question whether or not all people are born equally curious.

Robert Sternberg writes, in the *Handbook of Creativity*, "It may be that some people are naturally more curious about the world than others. It could be, too, that all children are curious and that whether they maintain their curiosity into adulthood depends to a large degree on the extent to which it is encouraged or

"Playgrounds that deny the child; that offer no chance of involvement, participation, or manipulation; that are devoid of choice, complexity and interaction will be empty of children—a dead ground."

-Paul Friedberg

inhibited in early life" (Sternberg 1999, 410). Supposing there is a chance that maintaining a certain level of curiosity is linked to the stimulation of curiosity during childhood, gives incentive to the designer who hopes to inspire a child creatively through design. The same incentive also brings with it cause for the question,

*How can the formal qualities of space be effectively employed to engage a child's propensity to learn through experience?*

Formalized play environments became a part of the urban American landscape around the turn of the century as a response to a “need to improve the physical fitness of children” (Herrington 1997, 150). As the country industrialized, children were kicked out of the streets and formalized urban play environments were born. However, as noted by Paul Friedberg, the street, “spontaneous, exciting and immediate,” easily wins the affections of a child as the perfect landscape in which to play (Friedberg 1970, 27). If it were not for the element of safety there would be no reason to dissuade a child from playing in the street. Of course, safety is an issue and so children are asked to keep their playing inside the boundaries of the playground. However, this preferred environment of play, the playground, does no child a favor by limiting his opportunities.

The child creates the playground; the designer only provides the superstructure (Friedberg 1970, 47). It becomes the designer’s responsibility to create a superstructure of play with adequate complexity to challenge a child’s creative response. This search for balance parallels the research of psychologist Mihaly Csikszentmihalyi who developed the theory of flow. “Flow, or the psychology of optimal experience, is a state of intrinsic motivation, of total mental and physical involvement...the best moments of flow usually occur when a person is engaged in an activity where the body and mind are stretched to their limits in a voluntary effort to accomplish something difficult and worthwhile” (Clements et al 2011, 243).

In relation to creating a playground, the designer ought to strive to create a setting in which a child is intrinsically motivated to fully explore the bounds of his imagination. “To an intelligent and lively child, experience is active searching and occasional wild extrapolations beyond the given; he is not bound by what he sees and feels in his home and local neighborhood” (Tuan 1970, 31). Therefore, it is plausible that the arrangement of space can ignite in a child the motivation to play creatively and furthermore, the most successfully designed playground will do no more and no less. Simply, the most successful playground enables creative play.

The following section contains precedent studies supporting the concept of creative play. Claude Cormier's Evergreen Gardens and Studio H's Learning Landscape both present flexible and alternative solutions to landscapes of play.



Figure 2.02: Creative Play Montage (by Author)



# Evergreen/Brick Works

Location **Toronto, Canada**

Landscape Architect **Claude Cormier + Associates**

In association with: du Toit Alsop  
Hillier, Diamond+Schmidt Architects  
Inc., E.R.A. Architects Inc.

Client **Evergreen**

Date **2006-2010**

Status **Built**

History: In 1984, after almost 100 years of operation, the Don Valley Brick Works closed. The BrickWorks operation left the city of Toronto and the Toronto and Region Conservation Authority with 19 abandoned factory buildings and surrounding lands. Until 2006 when the first phases of Evergreen Brick Works began to take form, the site was used recreationally by city-dwellers. In 2002, Evergreen began brainstorming ideas for how the site could be used more wholesomely. In 2010, Evergreen at the Brick Works opened as a center to promote greener urban living.

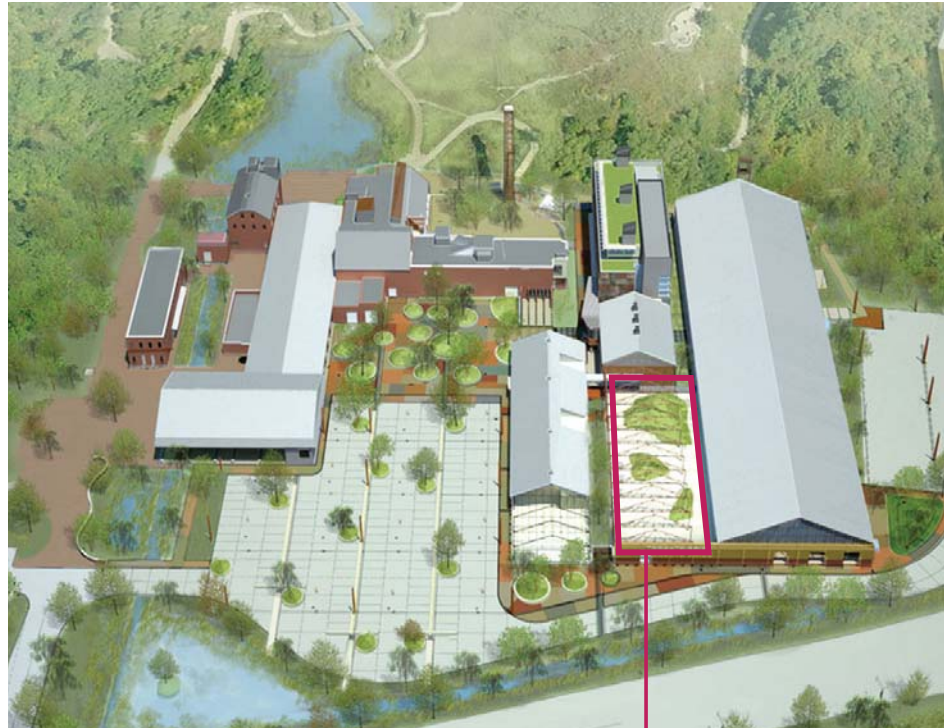


Figure 2.03: Evergreen @ the Brickworks  
(by DTAH, Source: <http://www.claudecormier.com/project/evergreen-brick-works/>)

Evergreen Gardens

## PROGRAM HIGHLIGHTS

**Evergreen Gardens** is located in Buildings 15 and 16. The building's roof cladding removed exposing much of the building and the gardens to the elements. The transformative open space serves as a garden, with large planting beds installed, and as

a seasonal skating trail. A demonstration allows children to participate in the gardening process "helping them to better understand our local ecosystems and the impact we can have on them" (Master Plan, 2006, 13).

## CLIENT

**Evergreen** “is a national charity that makes cities more livable. By deepening the connection between people and nature, and empowering Canadians to take a hands-on approach to their urban environments, Evergreen is improving the health of our cities—now and for the future” ([ebw.evergreen.ca/about/](http://ebw.evergreen.ca/about/)).

## CONCEPT

“This project is about environmental education, but more importantly about exploring our relationship with the natural world in ways that engage people and allow them to become active participants in shaping this relationship”

**Nature:** situated in central Toronto, the center aims to cultivate and activate the relationship between people and the natural environment by providing activities and educational experiences.

**Culture:** Evergreen restored a landmark of Toronto, transforming the dilapidated and unused former brick-making facility into a re-envisioned community environmental center.

Enabling the local culture by providing a facility for shows and performances, and engaging citizens in a place that can take part in, encouraging them to appreciate the culture, city, and nature the surround and permeates Toronto.

**Community:** Evergreen provides a home for local and national social networks.

“The project is as much about cultivating ideas and relationships as it is about cultivating the land...it is a place where people can come to think and imagine, eat and be entertained, experiment and practice” (4).



Figure 2.04: Evergreen Gardens through the Seasons

(Source: <http://ebw.evergreen.ca/files/EBW-Master-Plan-Update.pdf>)

## Evergreen Gardens: Spatial Analysis

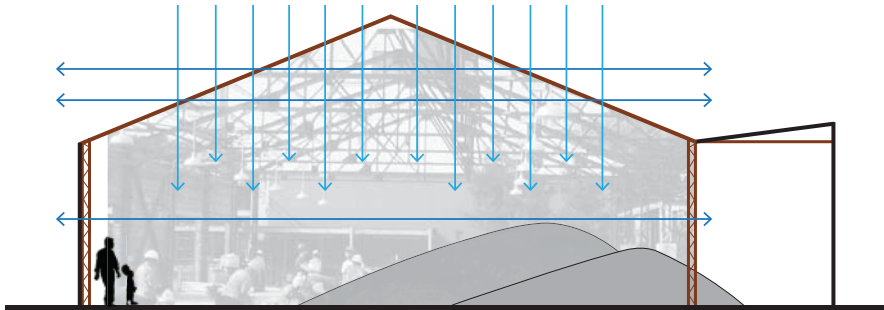


Figure 2.05: Evergreen Gardens Airflow

### ATMOSPHERE

The exposed roof support beams create a semi-enclosed space. The presence of overhead structure clearly defines the space however while allowing for free flow of air and exposure to the elements.

### VEGETATION

The exposed roof beams and the vertical support beams becomes trellis' for vegetation to grow up and around. The large mounds in the space become interactive demonstration gardens for children to experience and learn how to nurture nature.

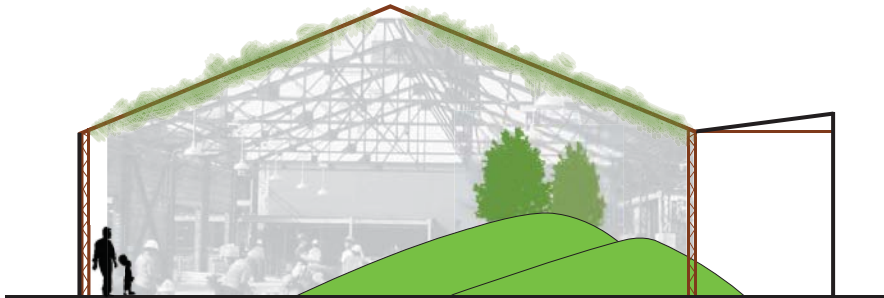


Figure 2.06: Evergreen Gardens Vegetation

### LANDFORM/FORMAL ELEMENTS

Partial enclosure of this space creates a unique situation which the designer saw as an opportunity to express enclosure through dynamic landform elements, walls, and vertical beams. The scale of the mounds creates two different environments for child and adult.

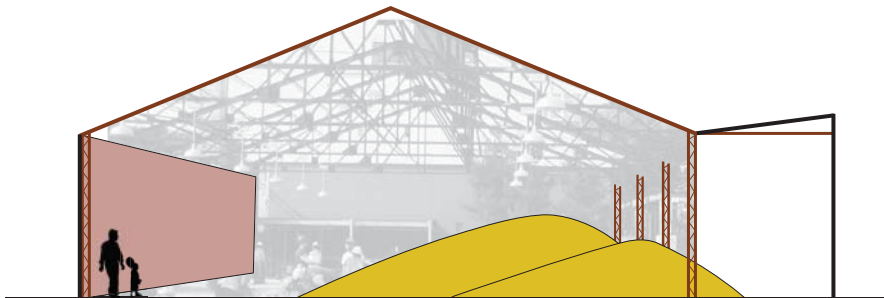


Figure 2.07: Evergreen Gardens Spatial Definition

(diagrams by Author, adapted from image by Claude Cormier, 2007, <http://ebw.evergreen.ca/files/EBW-Master-Plan-Update.pdf>)



## FINDINGS

### How is it a learning landscape/ environment?

A learning landscape encourages or inspires the process of learning through experience of space or environment. This should be achieved not through propaganda and grandiose gestures but rather the experiential quality of the place should provide the user an expanded view of his or her circumstances. By this definition, the Evergreen Gardens at the Brick Works is a learning landscape. The restored and re-envisioned space takes advantage of the rich culture of place and layers new meaning and use onto the space to inspire a stimulating experience for the user. Harnessing the seasonal changes within the space, the designers clearly considered how to make an interactive environment during all four seasons.

### Who is the audience?

This project invites a broad audience. As a public facility with a variety of functions, it is welcoming to all people, ages, and abilities.

### Does the concept effectively support learning?

“This project is about environmental education, but more importantly about exploring our relationship with the natural world in ways that engage people and allow them to become active participants in shaping this relationship” (Master Plan Update, 2007, 4). This project is a physical manifestation of the *Landscapes of Learning* theoretical framework.

## experiential learning //

Learning that occurs through the process of human interaction (with person, place, nature, or object)

Landscape architects often speak of creating a sense of place when discussing the objective of design. This phrase describes the intention of crafting a certain experience and atmosphere within a designed space. The intended experience is ultimately the compounding of feeling and thought. Experience of a place describes the sensation, perception and conception that a person undergoes in that space (Tuan 1970, 8-9). When programming, designing and detailing a site, a landscape architect considers and reconsiders the experience the user will have. The relationship between the site and the experience of the site should be treated as inseparable. Every place has a specific character that

“It may be enriching to think of a site as the structure of action that conditions our experience of any environment”

colors the element of experience.

After all, the site existed long before the designer chose to draw upon it.

Although we traditionally expect the “site” to be that place which awaits intervention, in the words of Robert

Smithson, “the site is where a piece should be but isn’t” (Hogue 2004, 55). This is a mindset that treats the site as a project within itself. In this vein of understanding, the site exists wholly, apart from the project.

If an architect were to embrace this understanding he or she must accept a responsibility to see the site as preceding the project. In this way, the project

is built within an existing system, rather than sat upon a location. A site is more than a found coordinate location. “It may be enriching to think of a site as the structure of action that conditions our experience of any environment” (Hogue 2004, 57). Conception of the site as a process allows the artist or architect to build with and into the site, understanding that the site is continually molded by environmental factors. Viewing the site as an open-ended process “proposes a design approach to intervene minimally, where needed, and in reference to what is already there. It invites the designer to recognize the potential of a site and tease out its qualities without overpowering them” (Hogue 2004, 59). Therefore the experience of a place is tied to what the site offers elementally. Understanding the value in allowing the site to speak of its own right and, designing to draw out the best parts of a place, will result in the most successful creation of a sense of place.

In this project, the objective of treating the site with such deference is to effect the crafted experience. The concrete and tangible activity of experiencing a site enables an individual to absorb information that is best learned through the being or doing. As opposed to classroom learning, experiential learning reflects the process of learning through observation and reflection on concrete experiences (Kolb 1975). A child’s relationship between himself and nature is best taught by employing an experiential model of learning. Every child should garner enough time with the environment to form a relationship between himself and the processes that happen around him. The importance of such a relationship can be inspired and encouraged by an educator but ultimately must be arrived at by the individual, therefore encouraging interaction between a child and the environment should be a valued component of school curriculum. “The core of learning is not in the information....being predigested from the outside, but in the interaction between a child and the environment” (quoted in Louv 2008, 205). This statement was made by the Finnish Ministry of Social Affairs and Health. Finland’s education system values play and experiential

learning very highly, Finnish students achieve some of the highest scores in literacy, math and science in the world. Furthermore, “an argument can be made that nature education stimulates cognitive learning and creativity, and reduces attention deficit” (Louv 2008, 138). As previously discussed, the action of playing is how a child forms his relationship with the world around him. Nature education and experiential education use this principal of play to engage a child in his environment and help him understand the agency that he has as a steward of the earth. Furthermore, it must be noted that learning is a process, the outcome of which cannot possibly be standardized. Experiential learning is no different. Every child will come to his own conclusions about his experience. It is simply the role of the designed landscape experience to engage, encourage and spur child's curiosity. After all, whether curiosity can be stimulated is debatable, what is not debatable is that it can be squelched (Sternberg 1999, 411).

The design of Lion Grove Garden, on the following page, certainly demonstrates an appreciation for the inquisitiveness of children. This garden was chosen as a precedent because of its uniquely scaled and highly sculptural rock formations and, for the interesting sequence of spaces.



## Lion Grove Garden

Location **Suzhou, China**

Designer **Monk Tianru**

Dedication **in the memory of High Monk Zhongfeng**

Date **1342**

History: Lion Grove Garden changed hands, and names, many times though the centuries. Monk Tianru and a group of zen Buddhists first created the garden in memory of High Monk Zhongfeng, and named it Lion Grove because many of the rock formations resembled lions. After Monk Tianru's passing, the garden fell into abandon until 1589, when Monk Mingxing of the Ming Dynasty raised funds to restore the garden. In the Qing Dynasty, the garden was separated into two parts. One was sold to Huang Xingzu who named it She Garden, and his son later named it Five-Pine Garden. After the Huang family lost their money, the garden again fell to ruin. It was not until 1917, when the garden was purchased by the



Figure 2.08 Lion Grove Garden (by Author)

Bei family and soon after given to government upon the establishment of the People's Republic that the garden was restored to order and given the name, Lion Grove Garden, once more. Today, the garden is a UNESCO World Heritage Site.



## TAIHU ROCKERY

Taihu Lake, part of the Yangtze River Delta and near Jiangsu, is one of five largest bodies of fresh water in China. Taihu Lake is most notable for the beautiful limestone formations called Taihu rocks or “Chinese Scholar’s Rocks,” which are mined from the lake bed and used throughout gardens across China and the rest of the world.

## CONCEPT

The strength of Chinese Gardens are their expert relationship to human scale. It is nearly impossible to walk through a Chinese Garden without feeling at ease, simply from the way spaces are organized with a beautiful appreciation of how a human body relates to space, incredible sequencing, and contrasts in materiality. This garden is designed for human experience.



Figure 2.09: Lion Grove Garden (by Author)



Figure 2.10: Lion Grove Garden Boat (by Author)



Figure 2.11: Lion Grove Garden (by Author)

## EXPERIENCE OF SPACE

Walking into Lion Grove Garden on a warm summer day in July, I was immediately struck by how many children occupied the garden. It was noisy, children clambering everywhere, scaling rocks and racing underneath, over, through, and across the formations. Groups of parents stood in the corners, casually observing the children's excitement, some joining in the activity. A group of students sat in intervals along the walkways, doing pastel drawings of the garden. The older generation paced slowly through the spaces, calm, unbent by the swirl of energy emitted from the children enjoying themselves so avidly. There are many gardens in Suzhou, and Lion Grove was the fifth that I visited. In none of the others were children so actively engaged and enthralled by the organization and formation of their environment.

## WHY?

The scale and extent of the rock formations at Lion Grove lend themselves to limitless possibilities of directions to climb, hide, and crawl.



Figure 2.12: Lion Grove Garden, Climbing Rock (by Author)



Lion Grove Park provides a child unrestrained opportunities to explore; a child's paradise. The formations are also places fairly close together, scaled perfectly for the reaches of a child.

Materiality in the garden also intrigues the user. Transitions across the rocks, from smooth well-worn areas to rough typically out of reach areas are tactile treasures, found here in abundance. Vines creep across the rocks changing the texture of the rocks' surface again. Water, lily pads, woods, paint, stones, and trees create a rich palette.

## FINDINGS

### How is it a learning landscape/ environment?

There is no right or wrong way to experience the Lion Grove Garden. There are paths and indicated flows of movement, certainly, but they beg to be disregarded. Outcropping and formation-top terraces are waiting above, only accessible if an alternative circulation is invented by the user. I doubt one could walk through the series of spaces in the exact same sequence even if he or she tried. There are entirely too many opportunities for variation to allow any monotony of human experience of space. The garden encourages the user to allow his or her curiosity to run free, exhilarated by the contrasts of implied space.

### Who is the audience?

The garden is open to the public. All ages can enjoy the space. However, a person with limited mobility would have a limited experience of this garden.

### Does the concept effectively support learning? How?

The garden encourages the user to explore and understand their personal relationship to exterior spaces . The scale of the spaces within this garden are so welcoming that one leaves feeling an entirely new sense of connection to the planet on which we live, an appreciation for the exquisite forms found in nature and the vast variety of materials that supply those forms. Therefore, the garden does support learning about the world, how we fit within it, and our inherent responsibility to respect and take care of the same nature the supports our existence.

## form and materiality //

Attaching meaning to objects and experiences is a trait inherent to human cognition. “Meaning accrues as individuals develop a field of relationships between themselves, place and activities” (Clements 2011, 242). The buildup of these relationships is what gives an experience meaning. By this understanding, a meaningful interaction with nature is one that challenges the individual’s “range of perception and cognition” (Clements 2011, 243). An individual can only evaluate and analyze that which he can perceive. Therefore, if an individual cannot perceive an element of a landscape it is unlikely that that person can be led to decipher “meaning” from that aspect of the landscape. One response to the assertion that it is important for a child to have daily meaningful contact with nature is that the playground could be designed as a natural environment. A primary concern resulting from the lack of meaningful experiences of nature in childhood is that these children will grow up without any meaningful memories of time spent outdoors and in nature and will subsequently not place high value on protecting the natural environment as they become adults (Hines 2005). Creating a playground that connects children to nature requires the landscape of play to assume a certain character of materiality and form so that the child cognitively links the playground with his or her idea of nature.

Inspiration for designed forms can originate from many sources. Easily, nature could be the only source of inspiration ever needed. While understanding the

processes and patterns in nature and using them as a source of inspiration is admirable, copying nature directly denigrates the original form. One can emulate the logic of nature and draw inspiration from its forms, but to copy it directly does a disservice to the profession and demeans the form from which it originated (Olin 1988).

In this project I am using a typology of formal space as defined by Catherine Dee in *Form and Fabric in Landscape Architecture*. Dee separates the parts of a designed landscape into seven sections; landscape fabric, spaces, paths, edges, foci, thresholds, and detail. Separating out the parts of landscape so that they can be understood elementally allows the designer to more effectively compose a whole landscape, layering and juxtaposing forms in the landscape to form an integrated and cohesive space. When successfully integrated, “In wholeness, the sum of the landscape forms and elements is greater than the parts” (Dee 2001, 20). Of particular interest

to this project are the definitions of topographic spaces, vegetated spaces and of edges. Topographic forms in a landscape have the ability to transform a person’s perspective of his or her environment. For example, elevating the user to a raised position

through the use of mounds, mounts or plateaus provide a sense of anticipation in the journey and a sense of security upon arrival. In contrast, subterranean spaces can arouse a feeling of fear and excitement. Vegetated spaces utilize vegetation to create spatial definition. The variety of texture, form and levels of enclosure that can be defined by vegetation is immense. Finally, edges, or spaces that form places of transition in the landscape, can become exciting elements of contrast. “Thinking about edges as physical and conceptual entities within landscapes provides the opportunity to be integrative, complex, rich

“Is it better to build an environment of olfactory memories of the smell of pine trees after rain or the smell of rubber baking in the sun?”

-Susan Herrington 1997, 158

and subtle in the design of spatial transitions. Edges ‘knit’ the fabric of the landscape together and connect landscape to architecture and vice versa” (Dee 2001, 115). The edge, as an element in space is commonly overlooked, most likely because it somehow exists simultaneously as mass and void. In this project I will focus more on the definition of edges than definition of pathways. The flexibility of an edge provides greater opportunity to experiment with form and texture. Path spaces, although also flexible in form and materiality, generally maintain a greater degree of definition as they are used to clarify circulation within a landscape.

The materiality of a landscape provides a multitude of opportunities to further define space. Material choice can make a space feel inviting or discouraging, transient or permanent. “Being able to touch, manipulate and interact with the landscape at an immediate scale is a very important part of landscape experience and appreciation” (Dee 2001, 190). Children especially, have a close physical relationship to their environment. When designing a landscape for children it becomes especially important to consider how materials invite touch.

The following precedent studies, Safra Bank roof terrace and Federal Courthouse Plaza were chosen for the way there formal gestures define space and a high degree of contrast in materiality.



# Safra Bank Headquarters

Location **São Paulo**

Landscape Architect **Roberto Burle Marx**

Area of rood terrace **1200m<sup>2</sup>**

Date **1983-1988**

The roof terrace is located on the eighth floor of the Safra Bank Handquarters. The forms of the ground plane come from an abstraction of selected flowers. The original project was done by Marx in 1938, however, in the inital attempt the pattern did not retain its contrast year round due to seasonal changes. In the Safra Bank terrace, Marx added mineral materials to accentuate contrast regardless of seasonal change. The material of the pathways is Portugese stone in three colors (Montero 116).



Figure 2.13: Safra Bank Headquarters (by Adams 1991, 63)

## Federal Courthouse Plaza

Location **Minneapolis, Minnesota**

Landscape Architect **Martha Schwartz**

Sculptor **Tom Otterness**

Date **1997**



Figure 2.14: Federal Courthouse Plaza

(By Sifei liu, Source: [http://savannastudio2010.blogspot.com/2010\\_09\\_01\\_archive.html](http://savannastudio2010.blogspot.com/2010_09_01_archive.html))



Figure 2.15: Federal Courthouse Plaza

(Source: <http://skywaymyway.com/blog/index.php/2010/05/17/drumlins-of-federal-courthouse-plaza/>).





**03** three





POWER OF LANGUAGE



## The Sun

Have you ever seen  
anything  
in your life  
more wonderful

than the way the sun,  
every evening,  
relaxed and easy,  
floats toward the horizon:

and into the clouds or the hills,  
or the rumpled sea,  
and is gone-  
and how it slides again

out of the blackness,  
every morning,  
on the other side of the world,  
like the red flower

streaming upward on its heavenly oils,  
say, on a morning in early summer,  
at its imperial distance-

and have you ever felt for anything  
such wild love-  
do you think there is anywhere, in any language,  
a word billowing enough  
for the pleasure

that fills you,  
as the sun  
reaches out,  
as it warms you

as you stand there,  
empty-handed-  
or have you too  
turned from this world-

or have you too  
gone crazy  
for power,  
and things?

-Mary Oliver

## use of metaphor in the landscape

The experiences that children have in any environment, nature included, stay with them, molding the way in which they experience spaces. To a degree, experiences of a child in nature, affect the way he or she views, appreciates and experiences nature throughout the rest of his or her life (Louv 2008). It is particularly important then, that society understands the value and urgency of maintaining and promoting meaningful experiences of nature for children.

There exists a preconceived cultural understanding of what nature is. Undoubtedly, natural systems are far more complex than what the average person understands. This understanding of nature is a highly cultural projection and often described through metaphor. The cultural understanding which we project upon and draw from the landscape affects the means by which we act upon it. “Metaphors are enframing devices that make the world knowable while always already precluding still other ways of ordering the world” (Demeritt 1994, 181). In essence, there is no perfect metaphor for the complex set or relationships that exists between humans and nature. Yet sometimes the use of metaphor is the only way of understanding at all.

In the initial phases of this project, I read a variety of poems describing human experience in nature, human understanding of Nature, and memorable childhood experiences. The human fascination with nature is one whose marvel does not fade with the passage of time. Kathleen Raine writes, while reflecting upon the world;

*Volume of wonders, open*

*Always before my eyes*

This stanza resonates powerfully with me. Human relationships are transitory—changing, ending and beginning in an always unlikely schedule. Nature persists beneath all of our human chaos, to an end that I can return again and again to a given spot upon this earth, unchanged. Humanity continues to change and so my perspective of the world develops, yet the world, although affected by time and input, remains largely the same. The harmony found in the ability to return to a spot upon the earth and find it resolute is remarkably comforting.

Ὁ βίος βραχύς,  
ἡ δὲ τέχνη μακρή,  
ὁ δὲ καιρὸς ὀξύς,  
ἡ δὲ πεῖρα σφαλερή,  
ἡ δὲ κρίσις χαλεπή.

Art is long,  
life is short,  
opportunity fleeting,  
experiment dangerous,  
judgment difficult.

-Hippocrates

The following study of Charles and Maggie Jencks' *Garden of Cosmic Speculation* shows how language, concepts and ideas can be explicitly translated into a garden design.

## Garden of Cosmic Speculation

Location **Dumfries, Scotland**

Designer **Charles Jencks**

Client **private garden, Portrack House**

Date **1995**

History: Around 1988, Charles Jencks and his wife Maggie began working on a concept for a garden on her parents' 30 acre estate in southwest Scotland. During the digging of a swimming hole on the property, piles of excavated earth were left surrounding and both Charles and Maggie saw the possibility of snaking mounds. From this inspiration they developed a concept was inspired by the emergence of contemporary philosophies and theories in cosmology, physics and biology. Before the garden was constructed, Maggie fell ill and passed away. The garden, through the many years of development, as well as a narrative of cosmology is also a personal story of death, life and renewal. Ultimately the Garden of Cosmic Speculation is a celebration of nature and a sentient experience for the senses.

What is a **garden**?

"...to celebrate nature and our delight in it"

"A garden should not only present the new world-view but also heighten our relationship to it, through the senses" (Jencks 2003, 5).

"Understanding demands a certain slowing of time— why else enter a garden?" (Jencks 2003, 6).

### CONCEPT

The Garden of Cosmic Speculation gathers its forms from those found in nature, particularly, from forms derived from cosmology, physics and biology. The idea was to create a dynamic experience for the senses, using an alternatively super-human scale "A garden of cosmic speculation is a landscape of waves twists and folds, a landscape pattern designed to relate us to nature though new metaphors presented to the senses" (Jencks 2003, 1).

### DESIGN PROCESS

The purpose behind my study of the Garden of Cosmic Speculation was to understand the design process behind the product. Jencks notes at one point that because of his training at Harvard he will forever believe that the utility of a space must have precedence over its expression. How then was he able to create such a wildly expressive series of spaces? Looking for a function, Maggie and Charles saw the garden as a "celebration of the senses" (Jencks 34). They began to view the garden in relation to each of the five senses. **"Thus, the five senses could be the initial program for an instrument whose major function, inherently, is to tie us sensually to the cosmos"** (Jencks 2003, 35). Each space or element was sketched, sculpted or modeled. He began by sketching the patterns behind each theory, law or philosophy and then modeling the form he intended to create in the landscape. Working through variations on formal patterns, Jencks eventually arrived at a solution for each of his program elements.





Figure 3.01: Illustration of Garden Plan (By Jencks 2003, 28)

## FORMS

The initial form that inspired both Charles and Maggie was that of an **snakelike mound**. Maggie was highly impressed and influenced by Chinese garden design; she had spent part of her childhood in China. The way that the Chinese use “the image of the dragon in their undulating white walls; and the way the metaphor could be implicit or explicit” inspired the Jencks’ (Jencks 2003, 32). Therefore, **dragons and undulating walls** make an appearance in the Jencks’ garden

**Ambigrammi** are words carved in stones that can be read upside down or backwards. The stones create a game board which, when played, tells a story beginning in the Renaissance period and extending to the future. “In science you are rewarded for thinking of the shortest, most simple explanation that can explain complex reality” (Jencks 2003, 48).

The Jencks’ were inspired by many variations of **waves, waveforms and twists**. In the garden these forms appear in the **snail**. Two paths wind up the hill, following the form of a double helix. “I thought of the most





Figure 3.02: *Sculptural Station along Cascade* (By Jencks 2003, 216)



Figure 3.03: *Universe Cascade Staircase* (By Jencks 2003, 196)



Figure 3.04: *Snail Landform*



Figure 3.05: *The Black Hole* (by Jencks 2003, 170)



important shape behind life, the double helix of DNA.” Jenks aimed to create “a focus toward which one could move, an axis for the various views, and a place to survey the entire garden...never design with one reference or function in mind, never—that would be a waste of money and a one-liner” (Jenks 2003, 58).

Furthmore, **soliton waves** are able to travel though each other and maintain their identity. As opposed to typical waves which, upon meeting, add or subtract from each other (Jencks 2003, 77). Much of the metalwork in the gates within the garden are composed of soliton waveforms.

Forms found in nature commonly use a **spiral** pattern of self-organization—pineapples, pinecones, roses, etc. Nature has come up with a specific angle of rotation for each of these plants that allows them the most sufficient benefits.

“Most of nature shows fractal form of self-organization rather than exact symmetry or complete disorder” (Jenks

2003, 125). For example, brainwaves and heartbeats balance order and chaos. In many instances, the universe, our earth, **gaia** “shows order growing out of chaos” (Jencks 2003, 100). This symbolism is found heavily throughout the garden.

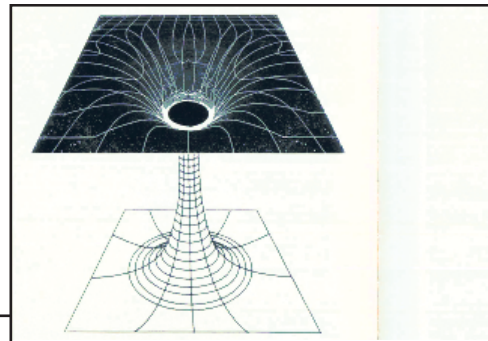
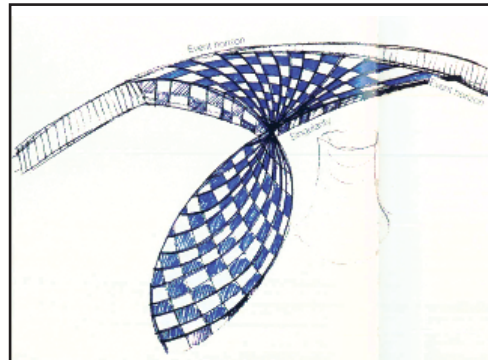


Figure 3.06: The Black Hole Preprocess Sketched  
(by Jencks 2003, 169)

A **black hole** is a rotating disc of supergravity that acts rather like a whirlpool, sucking in all light and matter in near proximity. In the landscape, the variations in the theories relating to these properties of space and matter is represented as two warped grids, shown in figures 3.05 and 3.06 “In the terrace the notion of positive cosmic evolution is coincident with the fractal aesthetic and the function of supporting table and chair legs” (Jencks 2003, 178). The rotating aluminum spirals emanating from the center of the black hole represent invisibilia. “The nourishing eater of all things, whose stream of energized particles has been seen to shoot out into space a plasma jet some ten thousand light years long” (Jencks 2003, 172). It terms of finished design Jenks strove to create something visually and mentally stimulating as well as functional. In this way, I think he was successfull. The pattern is eyecatching, striking the visitors curiosity and urging him or her to discover the meaning behind the form, rather like a living, interactive diagram.

## NARRATIVE

### UNIVERSE CASCADE

Ascending the stairs, the user experiences a narrative of the history of the universe beginning 13 billion years ago, at minute 0. The form is based loosely on Roger Penrose's model of a light cone.

Along the journey up/down the staircase there are twenty-five stations, each of which sculpturally details an important moment in the evolution of our universe.

For example, the station depicted in Figure 3.02 is a snapshot of life at 12.5 billion years, approximately 500 million years ago (Jenks 2003, 216-217). This is the time when organisms began to develop sexual reproductive function. It is also the beginning of a series of mass extinctions. There are five or six critical boundaries in time when a significant percentage of the universe's species were lost (signified in the cascading waterfall, far right). For example, between the Permian and Triassic Periods, 92 percent of species became extinct.

### ANALYSIS

The sculptural explanation of the procession of time along this staircase was spared no expense. The pieces appear incredibly well thought out and meticulously crafted. It is certainly a landscape designed to be experienced slowly.

I gather that the process behind the various designs for this series was a labored event, carefully documented and well-researched.

### FINDINGS

**How is it a learning landscape/environment?**

The Garden of Cosmic Speculation is non-traditional in the sense that it translates the concept from which it comes extremely literally. The theories and philosophies that inspired the design concept are in themselves somewhat difficult to comprehend. Translating the patterns found in these philosophies into forms within a garden enables a visitor



Figure 3.07:  
Universe Cascade  
(by Jenks 2003, 197)

to receive an entirely alternative method of explanation. The scale and arrangement of these spaces makes them difficult to analyze from images. As I have never visited this garden, I cannot be certain of the effectiveness of the intended narrative of the garden. However, from the analysis I have performed, I gather that the narrative would be different for each person and upon each visit, changing as the garden and world-views evolve, simultaneously.

#### Who is the audience?

The garden is open to the public only one day each year or upon personal request received in written form. The audience primarily is the property owner.

#### Does the concept effectively support learning? How?

Celebrating nature is about exploring, understanding and appreciating the world in which we live. Therefore, the concept behind the Garden of Cosmic Speculation supports learning, as an agenda. The forms in the garden

abstracted from models and patterns in the universe are full of actualized and latent meaning. There are many layers of meaning to be gathered from an experience in this garden. The garden is a learning tool, probably most welcomed by those with a mind that appreciates abstraction and alternative views of traditional ideas.

#### How are the lessons of this garden applicable to a children's garden?

This garden is intended to be experienced in slow procession. "Understanding demands a certain slowing of time." This principal hold true for an adult audience that has an attention span to give each space of the garden the time necessary to understand more than an initial cursory experience of space. In truth, this garden is of such careful composition that much would be missed if experienced in haste. Applying the principals of this garden, to a landscape design for children is not a direct translation. Children will not look for latent meaning in a playground, and it is not my intention to expect them to do so. However,

although the experience of this space and the one I am to design will be approached differently, the forms found in the Garden of Cosmic Speculation are inspiring to all audiences, regardless of age.

#### What findings can further my design process?

The greatest thing I gained from completing this precedent was an understanding of the design process that Charles and Maggie undertook to develop the spaces. Comparing the scientific models with which the designers began to the resulting spaces gives me insight into a method of abstracting and reinterpreting an idea into the landscape.

# Japanese American Historical Plaza

Location **Portland, Oregon**

Landscape Architect **Robert Murase**

Client **City of Portland**

Date **1990**

History: The plaza is an extension from Governor Tom McCall Waterfront Park which began in the 70's as a response to a need for more public open space in the city. The plaza serves as a memorial in remembrance of the Japanese-American internment during World War II.



Figure 3.08: Poetry Inscription  
(image by Katie Kingery-Page)

## NARRATIVE IN THE LANDSCAPE

Elements in the plaza tell the story of Japanese immigrants in the Northwest United States. Sculpture and engravings tell of the hardships and joys of immigrating, adjusting to life in a new place, and the discrimination distrust and mistreatment because of race during World War II.

Poetry is applied in this landscape in a very beautiful way. The words chosen evoke powerful emotions and tell the story of the affected Japanese-American population with sensitivity and sophistication.

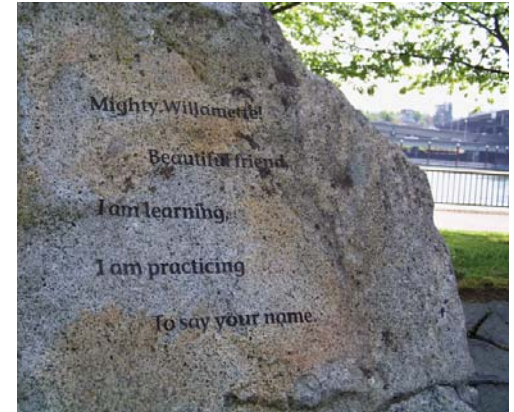


Figure 3.09: Poetry Inscription  
(image by Katie Kingery-Page)

## FINDINGS

How is it a learning landscape/environment?

This landscape tells a history, and pays respect to a group of people who were the recipient of very poor treatment during a difficult time. The landscape publicly displays that this piece of history should not be hidden but deserves to be acknowledged and memorialized.

Who is the audience?

As a public plaza, the landscape is intended for all people.



Does the concept effectively support learning? How?

When approaching this plaza, the user has options; to pass by, to pass through, or to pause within. My observation of this space tells me that most visitors take the time to pause within. Initially intrigued by the large brass sculptures, the user tries to put the pictures together and reconstruct the abstractly displayed images. Curious to understand more fully the meaning behind the image, the user

can read the engraving just beyond the brass sculptures that clearly display the emotion, trauma, pain and challenge experienced by the people memorialized here.

Furthermore, one of my project goals is to explore the relationship between fine arts and landscape. In my opinion, this landscape is a very successful incorporation of poetry into a landscape. The beautiful arrangement of words appeals to the inquisitive

nature of humans. The understated inscription stones define the space and tell a story without competing for attention.



Figure 3.10: Bronze Sculpture  
(image by Katie Kingery-Page)



Figure 3.11: Japanese American Historical Plaza  
(image by Katie Kingery-Page)

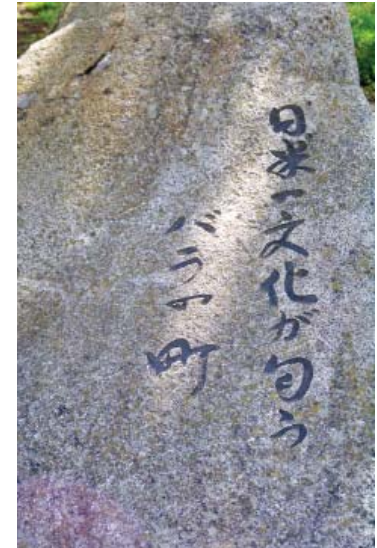


Figure 3.12: Japanese Inscription  
(image by Katie Kingery-Page)

## theory of emotion

Psychologist Robert Plutchik classified the basic human emotional responses.

anger  
fear  
sadness  
disgust  
surprise  
anticipation  
trust  
joy

Plutchik's theory explains that all further emotions result from some combination of these eight basic emotions. These emotions and the attached derivative emotions can occur in varying degrees of strength. The development of human emotions exists and has evolved as a tool for survival (Plutchik 1981).

## analysis of poetry

In order to engage the study of poetry in a more significant way, I completed an analysis of selected works, displayed in table 3.01. The poems chosen evoke a strong emotional response to spatial experience, discussed nature, childhood, or the relationship between culture and nature.

I classified the poems with a keyword or topic and selected phrases or a stanza of particular significance to the topic. Finally, an emotion (from Plutchik's emotion wheel) was attached to each selection. This analysis is not meant to demean the poetry by breaking it down. Rather the exercise of systematically deconstructing the poetry in order to categorize corresponding emotions, helped to form preliminary site programming goals.

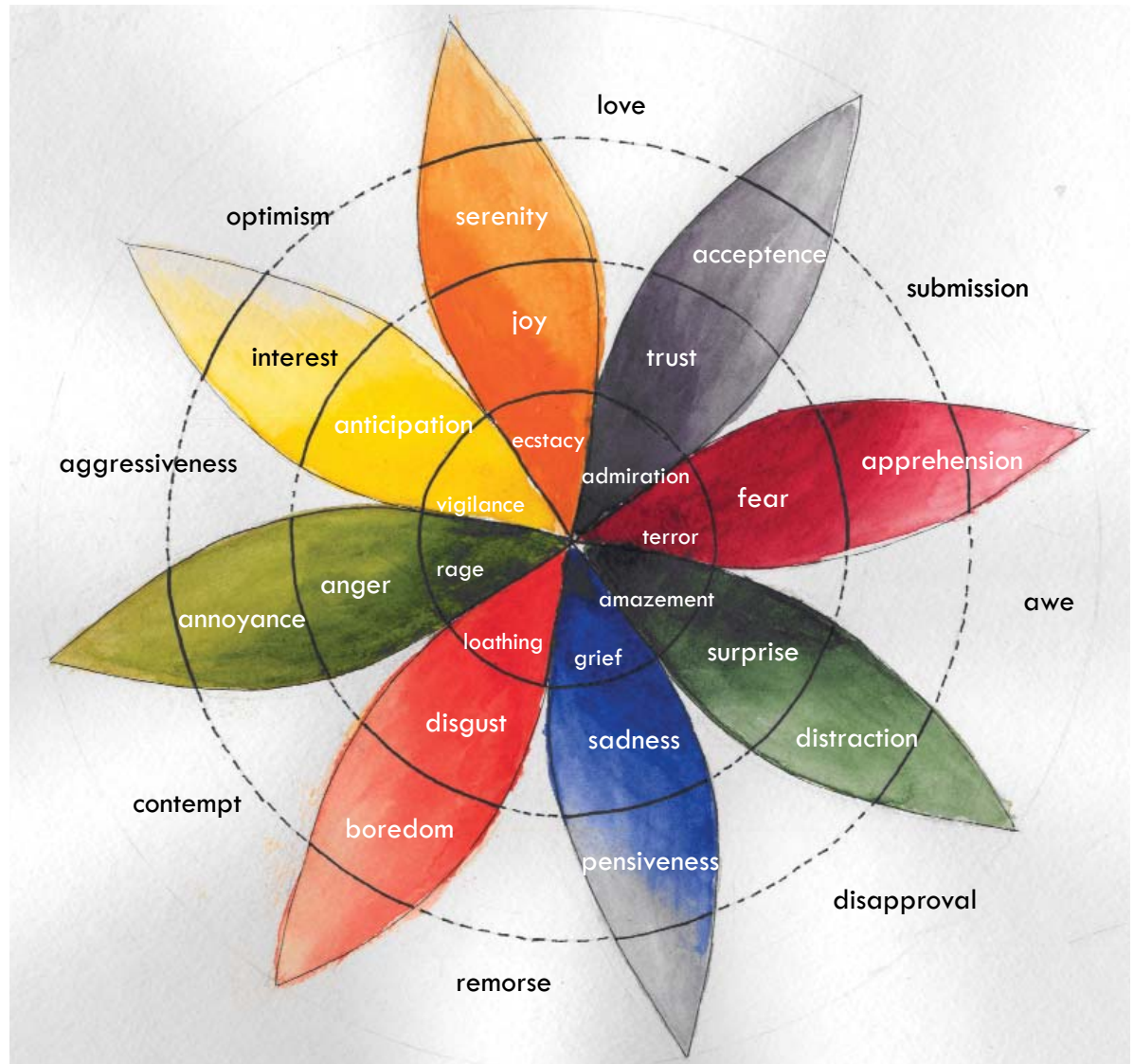


Figure 3.13: Emotion Wheel (watercolor by Author after diagram by Plutchik 1981)

## poetry informed design

The work of Charles Jencks in the Garden of Cosmic Speculation and that of Ian Hamilton Finlay at Little Sparta both used didactic and literal translations of their inspiration. Finlay's work displays words inscribed in a variety of materials throughout the garden as a sort of concrete poetry. Both of these projects have received much attention for their ability to captivate the visitor. Although I appreciate the value in these design strategies, I chose not to use any obvious application of my inspiration in the design. Part of the reason for this is the age group intended for the site. Concrete poetry gardens aim to slow down the user, enticing them to take part in each space. I have no intention of slowing down the children in Site as Playground. Rather, I hope the garden encourages them to use the space at whatever speed and in whatever sequence they please.

The study of poetry has informed my design programmatically. Elements common in poetry (metaphor, accents, meter, framing, sequencing, repetition, rhythm and balance) became very important as the spaces were programmed. Poetry has been translated into this garden through the topography and materiality of spaces. Topographic spaces (areas of flatness, mounds, hollows, plateaus, terraces, and subterranean spaces (Dee 2011)) and vegetated spaces were developed through intuition while being mindful of the lessons internalized from precedent studies, poetry analysis, site and user considerations. Paths, buffers, baffles, edges, focal areas and areas of transition were also considered programmatically as elements of poetry. For example, in the way that meter guides and regulates a poem, so a path can provide a framework in a garden.



POEM	STANZA	TOPIC	EMOTION
Hippocrates. <i>Ars longa, vita brevis</i>	Art is long. Life is short, opportunity fleeting, experiment dangerous, judgement difficult	Human Experience	
Raine, K. <i>Short Poems.</i>	..Volume of wonders, open Always before my eyes	Nature	Optimism
Raine, K. <i>Short Poems.</i>	But having reached the quiet place can say Only that did joy and pain mean less Than these green garden buds The wind stirs gently	Nature; Experience	Optimism
Raine, K. <i>Short Poems.</i>	In the high lonely hills great merciless winds fill my heart with joy?	Nature	Enthrallment
Raine, K. <i>Short Poems.</i>	sky, north winds sigh ceaseless, sorrowless -- blowing away	Nature	Joy; Contentment
Raine, K. <i>Harvest of Learning.</i>	Knowledge that is its own reward- No written page more true Than blade of grass and drop of dew	Learning	Eagerness
Raine, K. <i>Childhood Memory.</i>	But you cannot look at the sun, no-one can look at the sun, And I said, 'I can , I can it is golden and it is mine	Nature	Pride
Raine, K. <i>Nature Changes at the Speed of Life.</i>	a dandelion's evanescent sphere Created itself between yesterday and today	Nature; Lifecycle	Awe; Joy
Raine, K. <i>Soliloquies.</i>	Endlessly kind, the language of nature Too simple to be read By such as I	Nature	Awe
Frost, R. <i>A Peck of Gold.</i>	And I was one of the children told Some of the dust really was gold	Childhood	Trust; Awe

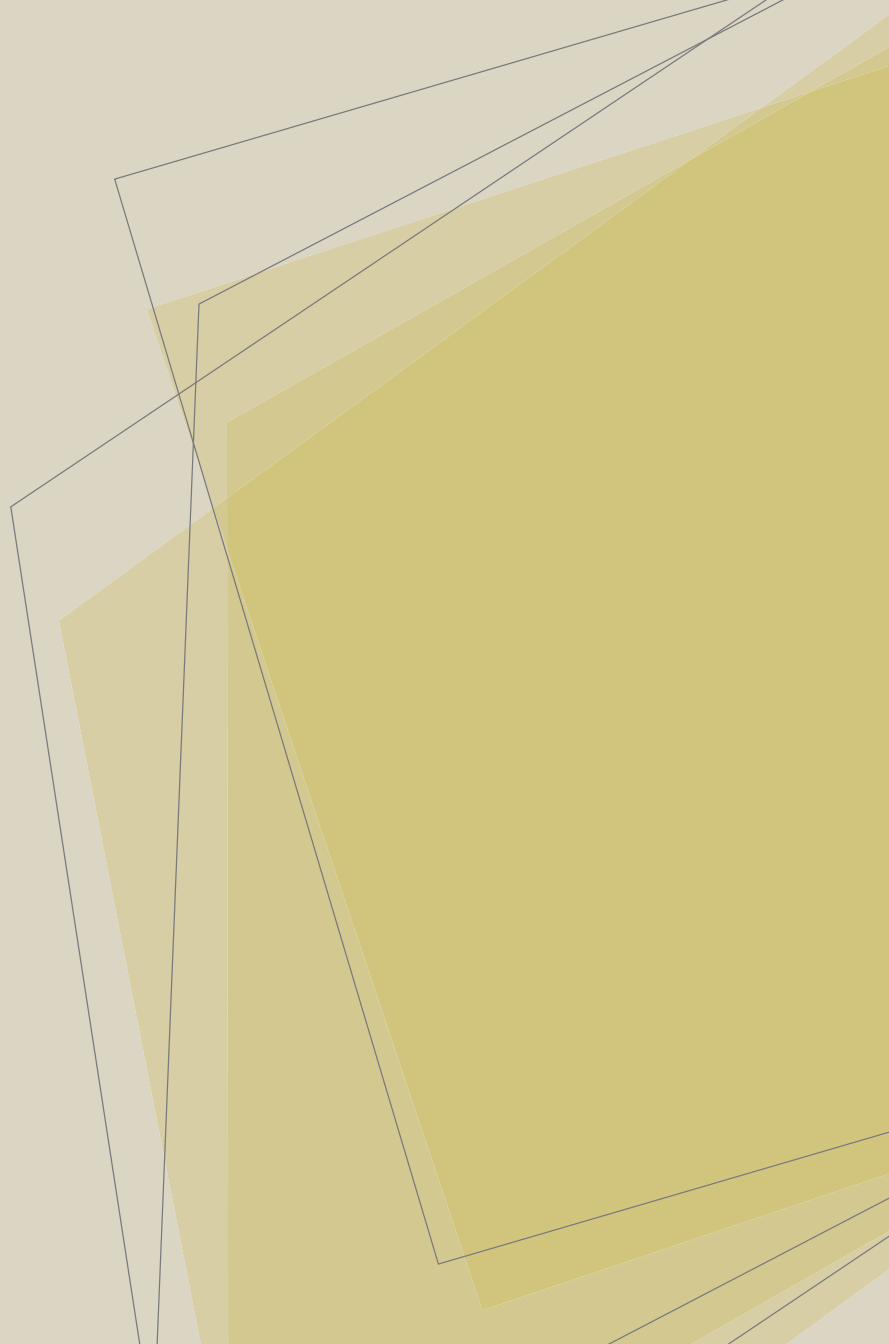
POEM	STANZA	TOPIC	EMOTION
Frost, R. <i>The Last Word of a Bluebird</i>	That her little bluebird Wanted me to bring word And do everything! And perhaps in the spring He would come back and sing	Childhood; Nature	Trust; Awe
Thoreau, H. Nature.	For I had rather be thy child And pupil in the forest wild Than be the king of men elsewhere And most sovereign slave of care	Nature	Affection
Saenz. Growing Memories.	the boy ran among the rows as if the fields were forests planted for his games. The boy knew nothing of what the earth demanded. You remember.	Childhood	Enthrallment
Snyder. The Dance.	so she entered the cave- shut it up with a rock- made the world dark	Nature	Shock; Anxiety
Snyder. The Dance.	stamp of masked dancer piercing tangled channels putting salt and gold dust into the sea	Nature	Dismay; Joy
Graham. Enter a Cloud.	gently disintegrate me. said nothing at all.	Nature	Anticipation
Roher. Childhood Stories.	they learned to turn off the gravity and we all rose into the air	Childhood	Joy; Surprise
Oliver, M. October.	so this in the world I'm not in it, It is beautiful	Nature	Awe; Sadness

POEM	STANZA	TOPIC	EMOTION
Oliver, M. <i>Lilies.</i>	they rise and fall in the wedge of the wind, and have no shelter from the tangles of the cattle What I mean is, could I forget myself, even in those feathery fields?	Nature	Surprise
Thoreau, H. <i>When the Oaks were in the Gray.</i>	When the oaks are in the gray Then farmers plant away	Nature; Human Experience	Trust
Mattawa. Rain Song.	and the woman who hated clouds watched the sky	Nature; Disconnect	Disgust; Fear
Kinnell, G. <i>The Burn.</i>	to wander across burnt land I go deep into the first forest of Douglas firs where the tips shut out the sky blind as myself on this dirt road	Nature; Human Experience	Sadness
Kinnell, G. <i>The Last River.</i>	seeking love...love without human blood in it, which I thought I had found in a Massachusetts gravel bank one spring	Placemaking; Human Experience	Love
Kinnell, G. <i>The Rainbow.</i>	making us torn more carefully to what we can touch an feel, things and creatures we know we haven't dreamed	Human Experience	Surprise; Wonder

Table 3.01: Poetry Analysis (table by Author)

The emotive analysis of poetry was layered on an initial site programming attempt (see Figure 5.04) Although emotions are highly individual can cannot be ‘created’ by a space, by considering a desired emotion while designing a space the intended atmosphere is more likely to be actualized in that space.

04 four





## SITE ANALYSIS

northview elementary school  
east field



*Figure 4.01: Panorama of Existing Conditions  
(by Author)*



## site

Northview Elementary School is located on Griffith Drive off of Tuttle Creek Boulevard in Manhattan, Kansas. The school facilities recently underwent construction, completed in 2010. As a result of construction activities, the landscape is in need of attention. I chose an empty field east of the main school building as the site for this project. I was attracted to this site because of the large volumes of soil left over from construction activities. Although these volumes currently disrupt the site's function as a schoolyard, I saw these volumes as creating great opportunity for experimenting with topographic forms and expanding the possibilities of a contemporary schoolyard.

## significant issues

Prior to disruption from construction, the approximately 280,000 sq ft. field was used for soccer fields. The redesign of the site takes into consideration the need for an open field as part of the school's landscape.

The greatest obstacle presented by this site is the lack of drainage. Currently the site cannot be used as a school facility in any capacity because it is significantly wet much of the time, as seen in figure 4.01 taken in December 2011. It is important that the school administration understand that the stormwater issue must be addressed in order to sustain a usable landscape.

Secondly, the site is not used for school activities because it was the unfortunate recipient of illegal soil dumping from local developers. Until this soil is removed or redistributed and capped, the site cannot be used by the school children.





*Figure 4.02: Existing Site Condition, looking west toward the school building  
(image by Jonathan Knight)*

site context

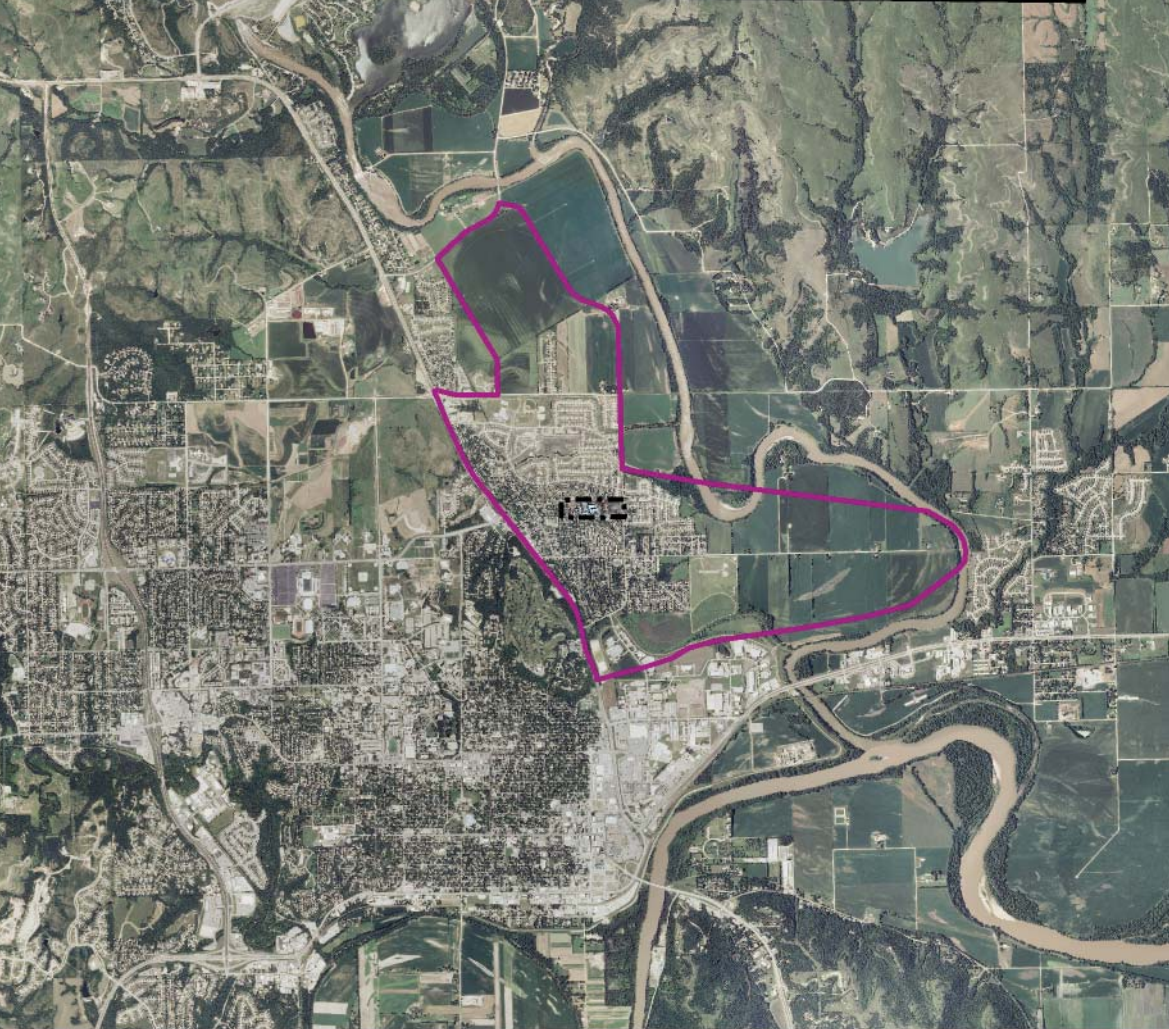


Figure 4.03: Context Map  
Scale: 1:75,000

- site boundary
- Northview Elementary school service area





Figure 4.04: Context Map  
Scale: 1:3,500

# watershed context

The location of the site within suburban Manhattan means that most of the water originating higher in the watershed that would affect the site, is managed through local infrastructure. The main consideration for water management is precipitation that lands directly on site rather than water transferred from up stream.

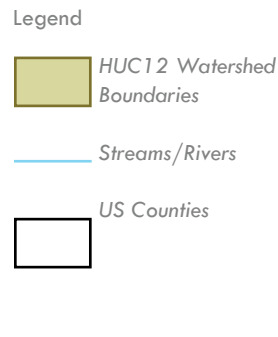
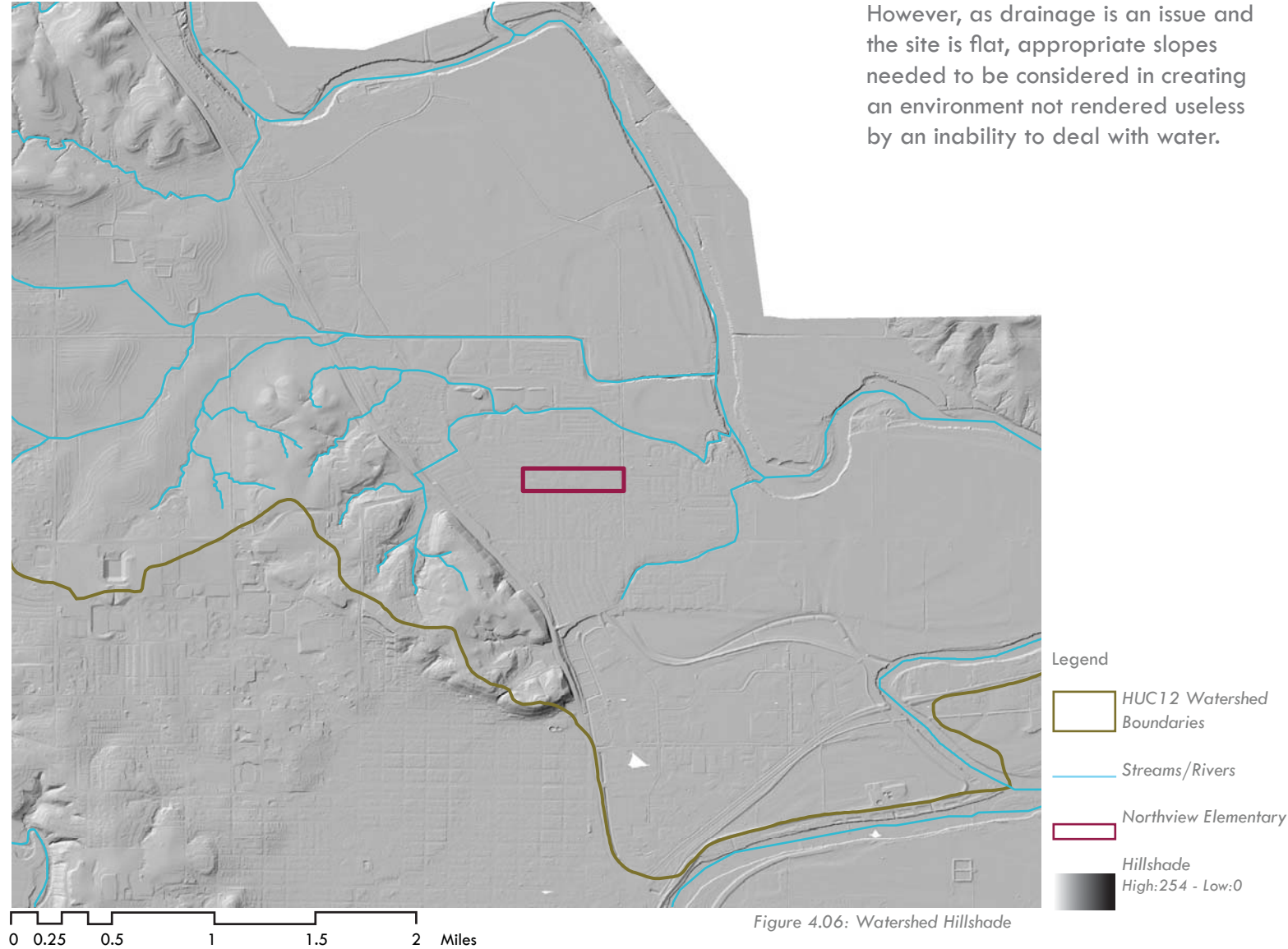


Figure 4.05: Watershed Context

However, as drainage is an issue and the site is flat, appropriate slopes needed to be considered in creating an environment not rendered useless by an inability to deal with water.





## considerations for drainage

Movement of water through the watershed is not a primary contributor to the volume of water that ends up on site. Understanding the volume and frequency of rain events is of greater significance to managing water and run-off concerns.

Manhattan averages 4.33 inches of rain per month in the summer (April-September) and 1.65 inches of rain per month in the winter (October-March). June has the highest average precipitation at 5.70 inches, and January is the driest month with only 0.63 inches on average.

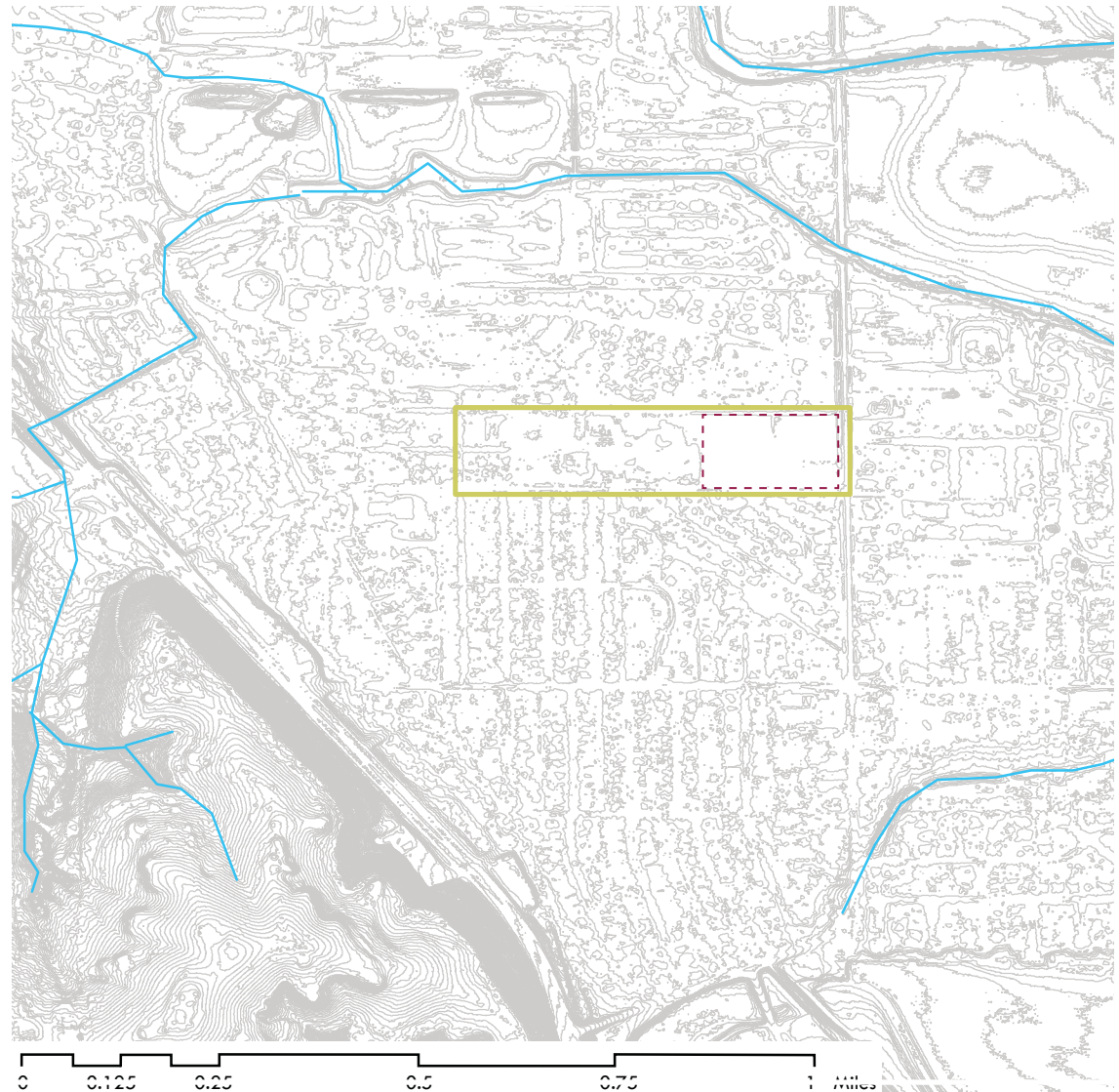


Figure 4.07: Existing Topography

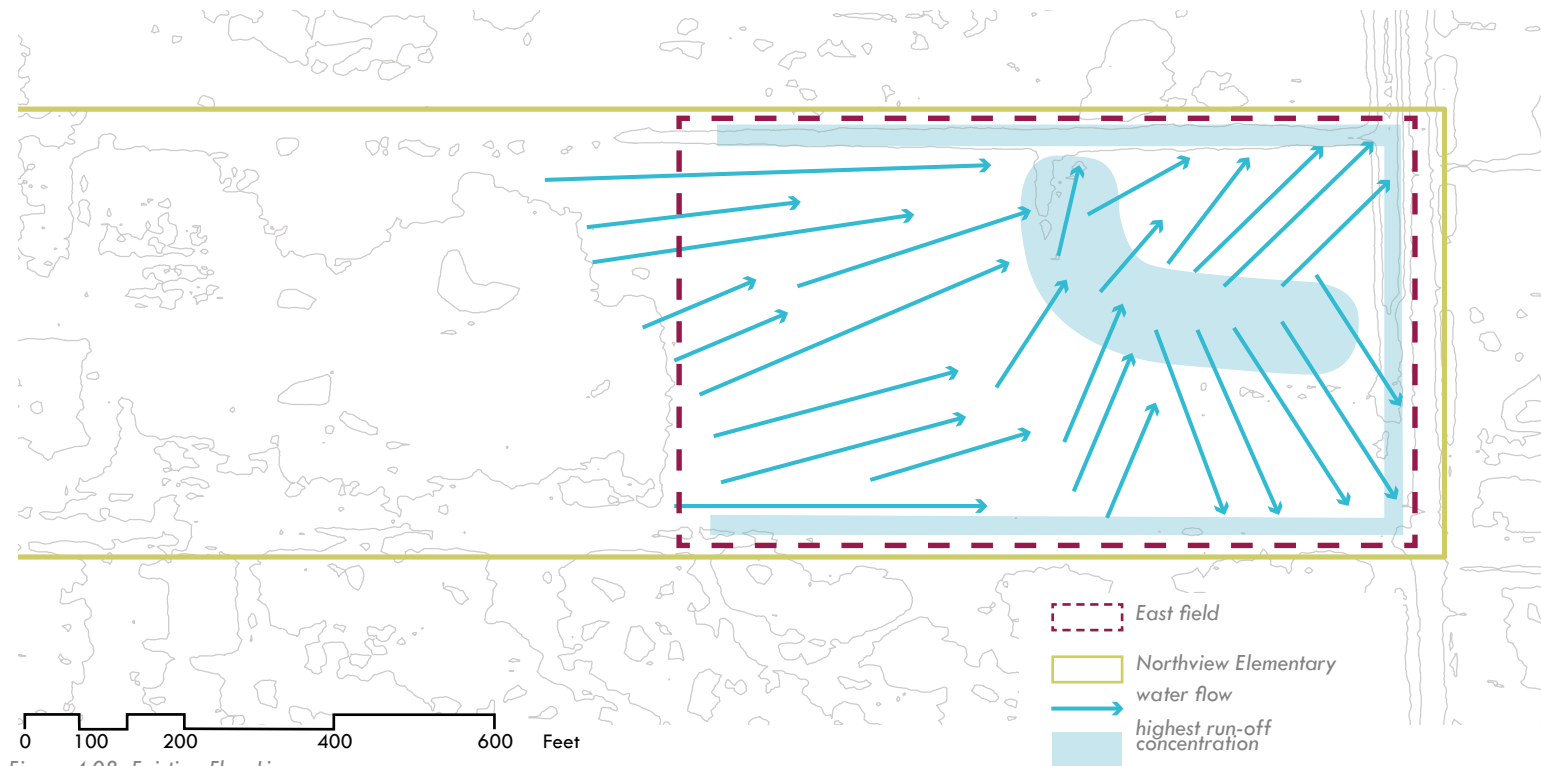


Figure 4.08: Existing Flow Lines

The surface area of the east field is approximately 280,000 sq ft. Currently the area is entirely pervious. Through the addition of impervious surfaces (pathways, shelters, etc) the run-off coefficient will increase. Natural water flow on site (prior to the addition of the mounds of soil) is generally west to east, with most of

the water collecting at the curbs and along the eastern most edge of the site. The high clay content of the soil negatively affects the ability of water on site to drain quickly. In order to create a usable facility, one solution is to include a retention area. The ratio of tributary area to bioretention cell size is 0.05556. Therefore, a retention

area compatible with a 1 inch rain event would need to be 15,555 sq ft.

Due to the reliability requirement of a playground, solutions to the issue of water movement are considered aggressively. The design solution must be able to clear an average rain event as efficiently as possible.

## relationship between site and neighborhood

Creating a desirable destination at Northview Elementary School gives reason to examine current trail connections throughout the neighborhood. Currently, most of the side streets have side walks and there are some isolated pedestrian trails. However, in the current situations it is difficult to walk to the local park or connect to the nearby Linear Trail. With relatively few additions all these local amenities, including the new schoolyard garden at Northview, could be connected by public trails.

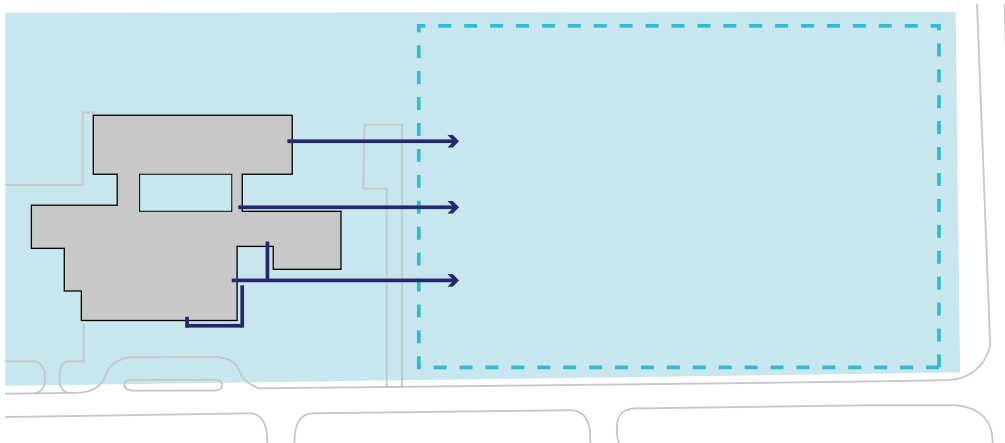


Figure 4.09: Connections to School Building (by Author)





Figure 4.10: Trail Connections Map  
(by Author)

- proposed pathway
- - existing pathway
- - Linear Trail

1000 ft N

Perhaps the most significant existing site condition for the designer to understand is the soil. Currently, there are large area of standing water on site and poor drainage off site, leaving the space largely unusable. Additionally, the soil on site contains a high amount of clay. Characteristically, the soil tends to swell and maintain a lot of water, becoming slippery and difficult to manage after a storm event.



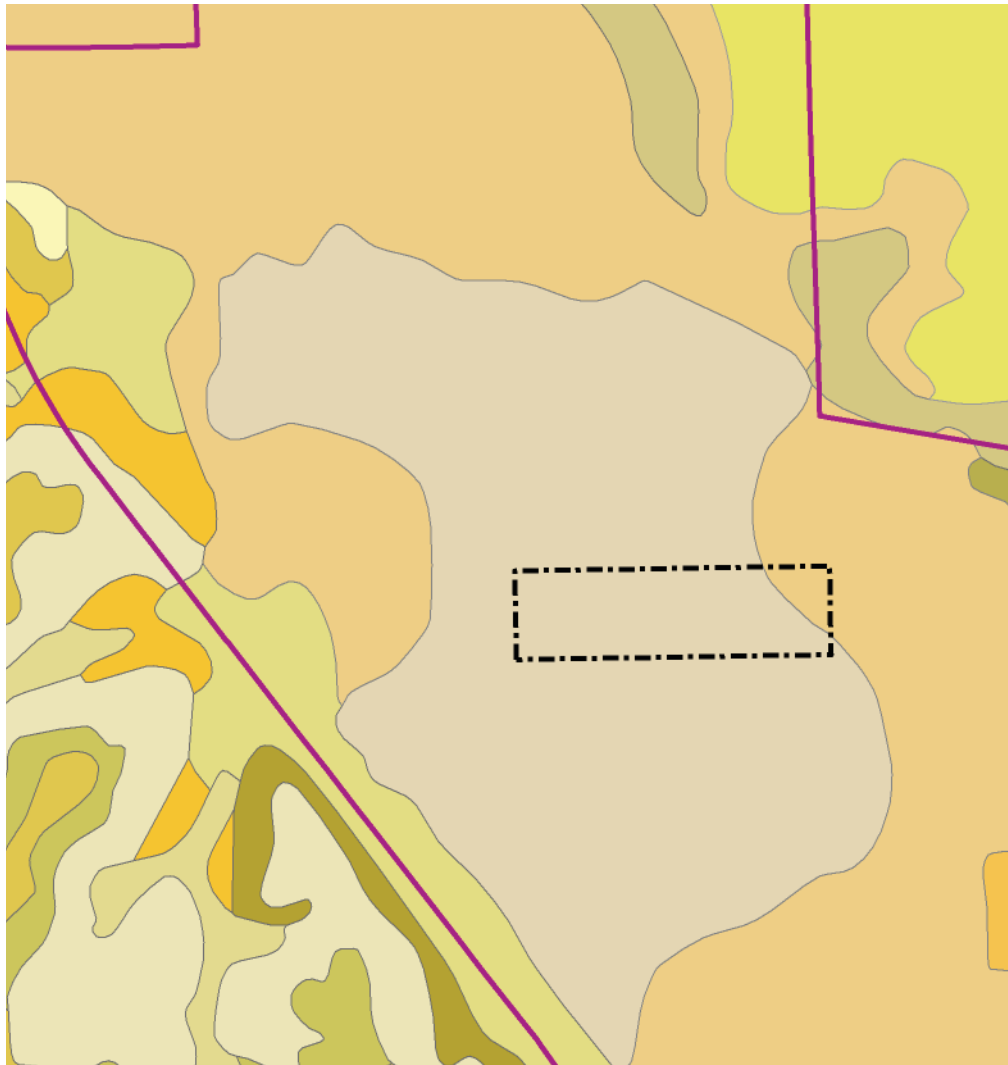
Figure 4.11: Existing Site Conditions (image by Jonathan Knight)




Figure 4.12: Existing Site Conditions (image by Jonathan Knight)




Figure 4.13: Existing Site Conditions (image by Jonathan Knight)



## soils

 Sutphen silty clay,  
occasionally flooded;  
Somewhat poorly drained;  
CLAY LOWLAND  
(PE26-30)

 Chase silty clay loam,  
rarely flooded;  
Somewhat poorly drained;  
LOAMY LOWLAND  
(PE30-36)

 site boundary

Figure 4.14: Soil Arrangement  
Scale: 1:15,000

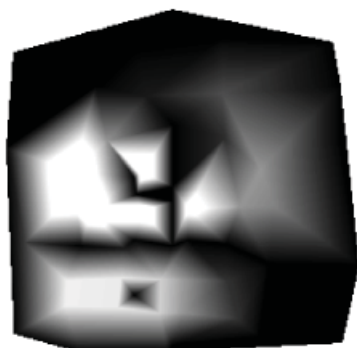
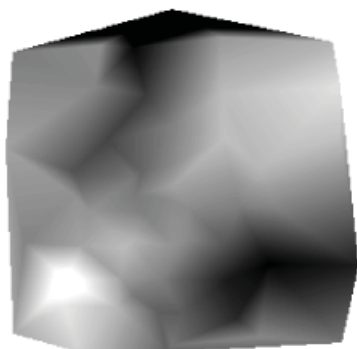
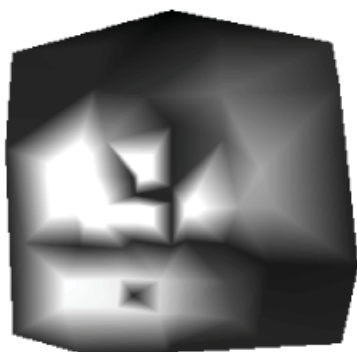


Figure 4.15: Existing Hillshade Diagrams

0 40 80 160 240 320  
Feet

## existing soil volume

The site was inventoried through manual survey techniques. The data gathered on site was manipulated for the purposes of understanding how much soil exists currently on site. As a result of recent construction and additional illegal dumping, there exists no accurate record of the amount of soil remaining on site. Comparing the site surface before soil dumping with the current surface after dumping provides an approximate soil quantity.

Two methods were used to calculate the soil quantity. First a TIN surface was created using data gathered on site and sections were taken through selected critical elevations. Using algebra, an approximate volume was calculated. Second, both surfaces were brought into ArcGIS for further analysis. Using software, the volume between initial and existing surfaces was calculated again.

$$\text{Volume} = 26,685 \text{ yd}^3$$

surface pre-construction  
(2006)

Legend

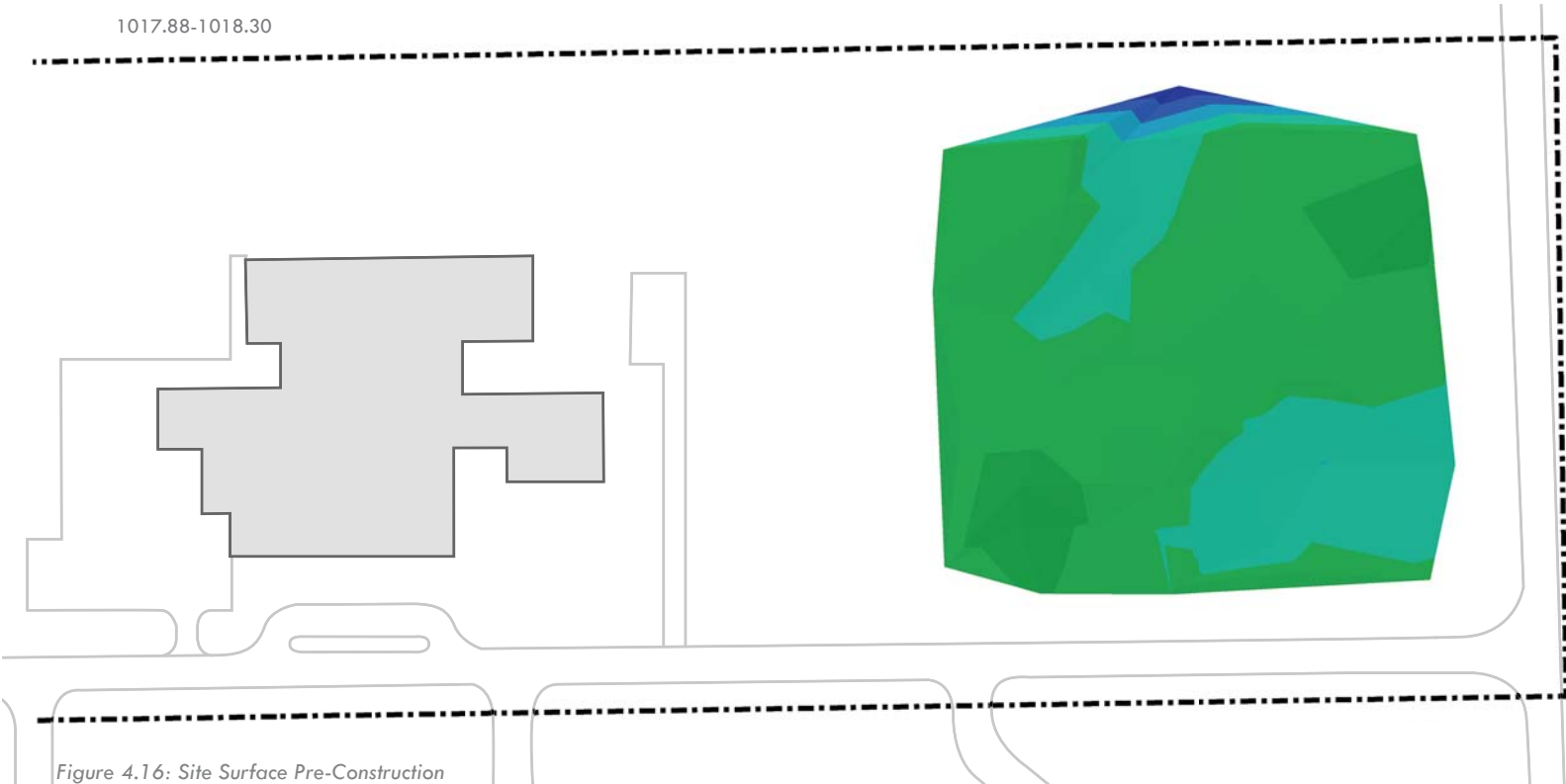


Figure 4.16: Site Surface Pre-Construction

## existing surface

### Legend

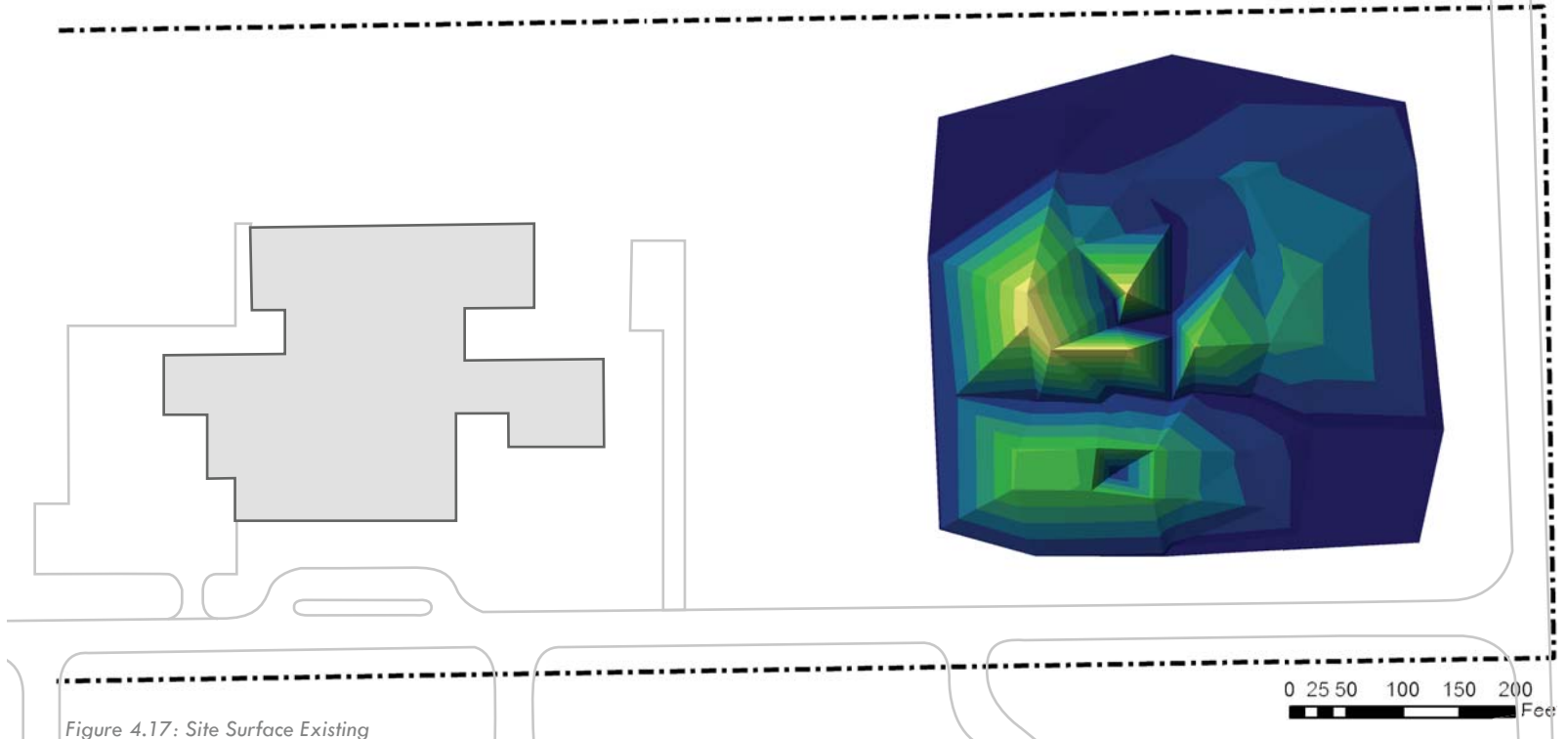
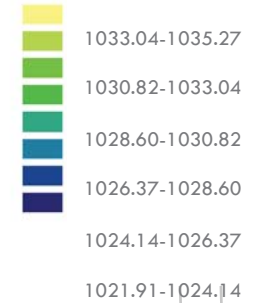


Figure 4.17: Site Surface Existing

existing surface & sections

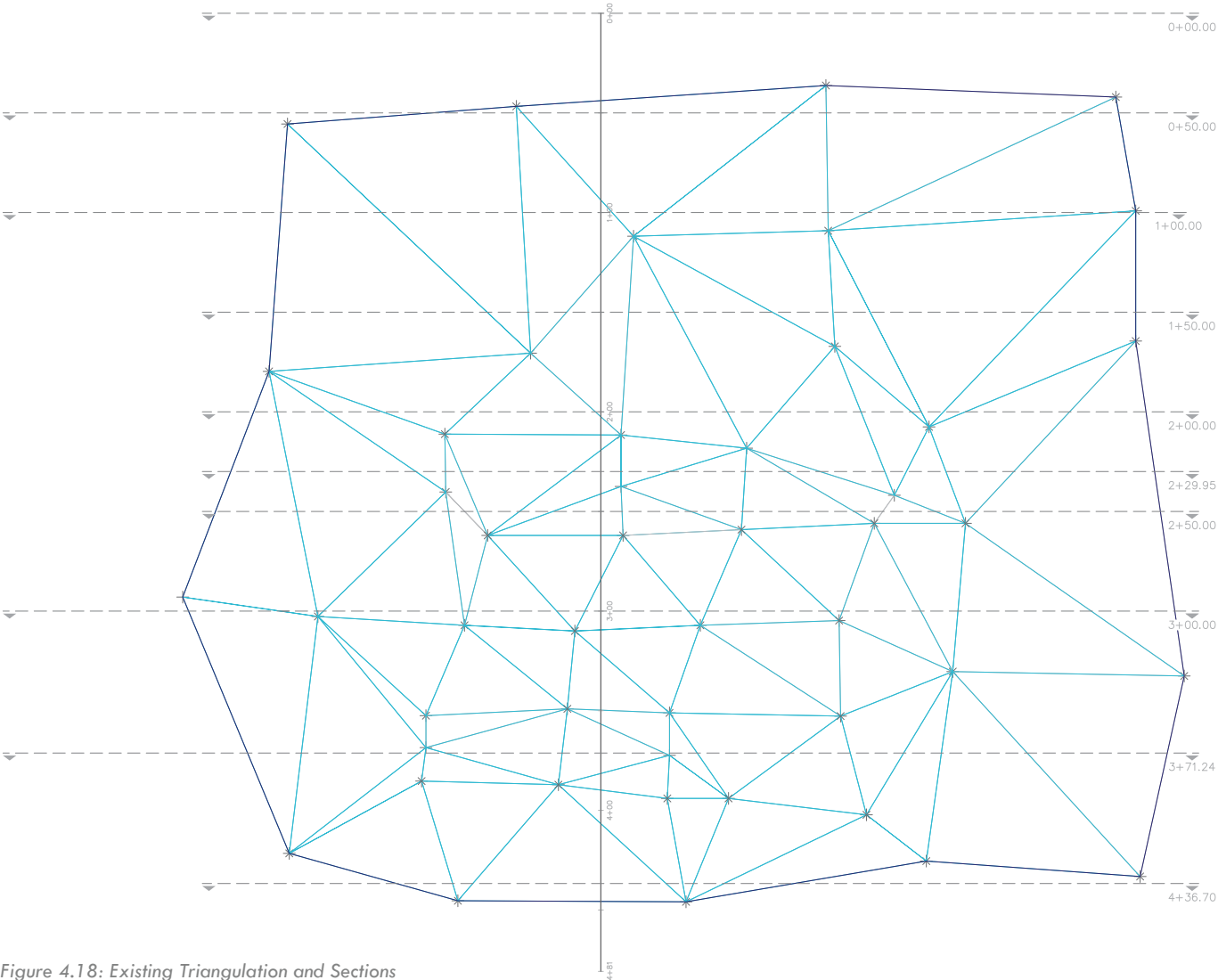


Figure 4.18: Existing Triangulation and Sections



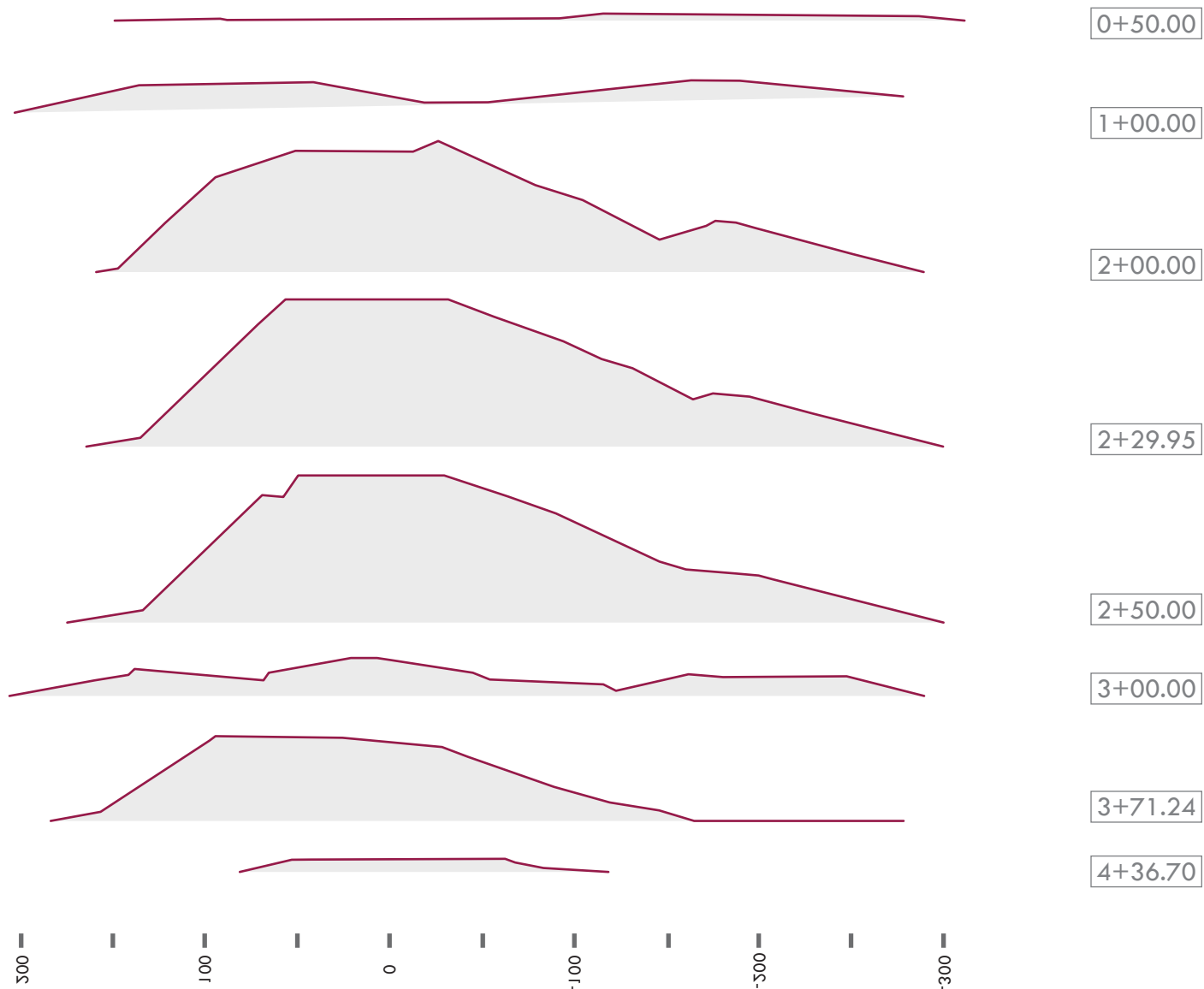


Figure 4.19: Existing Section Cutlines

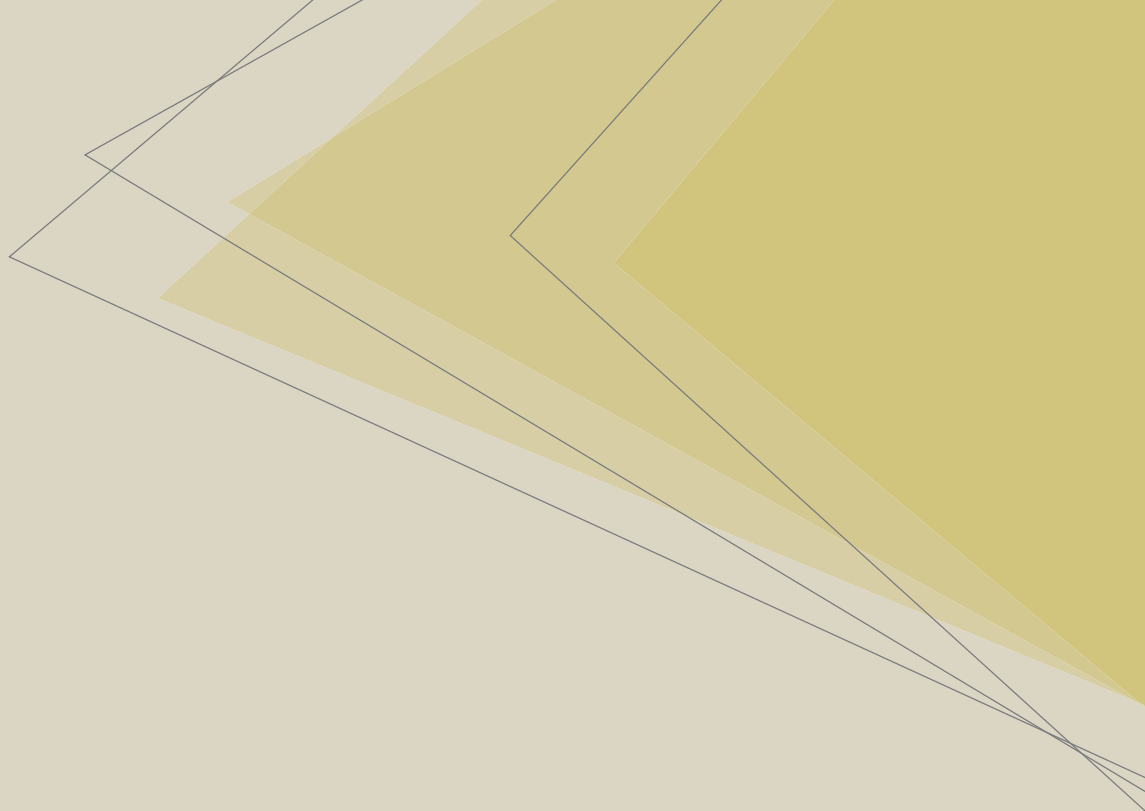


## synthesis of site information

The existing site at Northview Elementary School provides exciting potential for design. The goals for the site were to create a self-attracting topographically varied and exciting space that re-uses as much of the existing soil as possible, in order to foster a dynamic space that stimulates and encourages creativity.

The current arrangement of soil mounds on the east field must be reconfigured to address and solve drainage issues. The existing unused volumes of soil can become an asset to future site design rather than being removed entirely. Moving soil is a costly procedure and therefore, finding solutions to the soil volumes on site would benefit many interested parties.

Other site issues including predominant winds, views, sightlines, trail connections, and adjacent roads all need to be taken into consideration during site design. Connections to the Ecological Master Plan, pedestrian connections throughout the local neighborhood and trail connections to Northeast Community Park and Linear Park Trail should also be accommodated in the design solution



**05** five



DESIGN EVOLUTION

## inspiration

A very big rock sits along the side of an alleyway in Seattle, WA near to the house in which I grew up. When my family would take a walk to the local shops we went past the very big rock. Very big is not a scientific measurement, of course, but when I was a child I could scarcely imagine a single rock being any larger. I imagined that the rock had been stuck in that hill since pre-historic times. I dreamt of the dinosaurs roaming across Seattle, before it was Seattle, and that they had seen the same rock. I decided to myself that the rock was so big, that there was simply no way to dislodge it from the ground and therefore the people who lived in the house next to the rock had no choice but to leave the rock in their side yard. At least, this is what I believed.

Walking down the alleyway was one of my favorite trips to make as a child. As my brother and I reached the crest of the hill before “the rock” we would yell and run down the other side, both trying to be the first to reach

the rock. Then we would scramble up the sides of the rock, hopelessly sliding off the smooth surface. We pushed and shoved, as brothers and sisters do, until someone got on top of the rock, winning the race.

As you may have expected, “the rock” is not really that big. These days, whenever I drive past it, I smile to myself impressed that I ever considered this ordinary object to be such a treasure. This behavior is characteristic of a child; to hold little façade in front of his or her emotion and to be bluntly enthusiastic about what truly excites them. When I reflect on my childhood experiences of playing, the activities that immediately come to mind are the hours I spent digging a hole to China, scouring a field for a four-leaf clover, climbing over the cemetery wall and racing my brother to “the rock.” My strongest memories of play involve situations where I was in control of the plotline, so to speak. Running around the neighborhood with my friends, nobody confined us to a particular activity, we created our own rules and our

own characters. One of the great joys of childhood is the delight that comes from playing pretend. I believe that a playground should be able to be the backdrop for any child’s fantasy, no matter how farfetched. The playground should be a suggestion, a kit of parts, able to be rearranged and reinvented by the imagination of a child, where the sum of the parts is greater than the whole. In this way the experience of the site is not limited to an intended circulation or correct interpretation. Rather the designer considered the effects of scale and materiality to create the landscape behind any fairytale.



Figure 5.01: The Big Rock (by Author)



Figure 5.02: 35th Ave (by Author)

## programmatic guidelines

The driving principle behind the schoolyard garden is to create a place where children can explore their creative potential more fully.

Furthermore, the following principles were considered in developing the program for the schoolyard garden

*The garden should establish an atmosphere conducive to learning and teaching.*

*The garden should challenge a child to make his or her own decisions, to imagine, to dream and play creatively.*

*The garden must artfully address stormwater management.*

A retention area 1.5' deep that can treat 1" of water on a site of 280,000 sq ft, needs to be approximately 15,500 sq ft. This

means that 5.56% of the site should be programmed for stormwater retention.

Prior to construction the east field at Northview Elementary was used for sports fields. Although currently in disrepair, a future goal expressed by the principal is to again have a sports field in this location. Creating a space that is both a beautiful work of art and also useful to the education programs at Northview is important to the designer. Taking into consideration the need for a sports field at the school, one junior high sized soccer field (165 x 300) on site would leave approximately 230,500 sq. ft. remaining for the learning landscape.

*The garden incorporates a great lawn large enough to be used as a soccer field.*



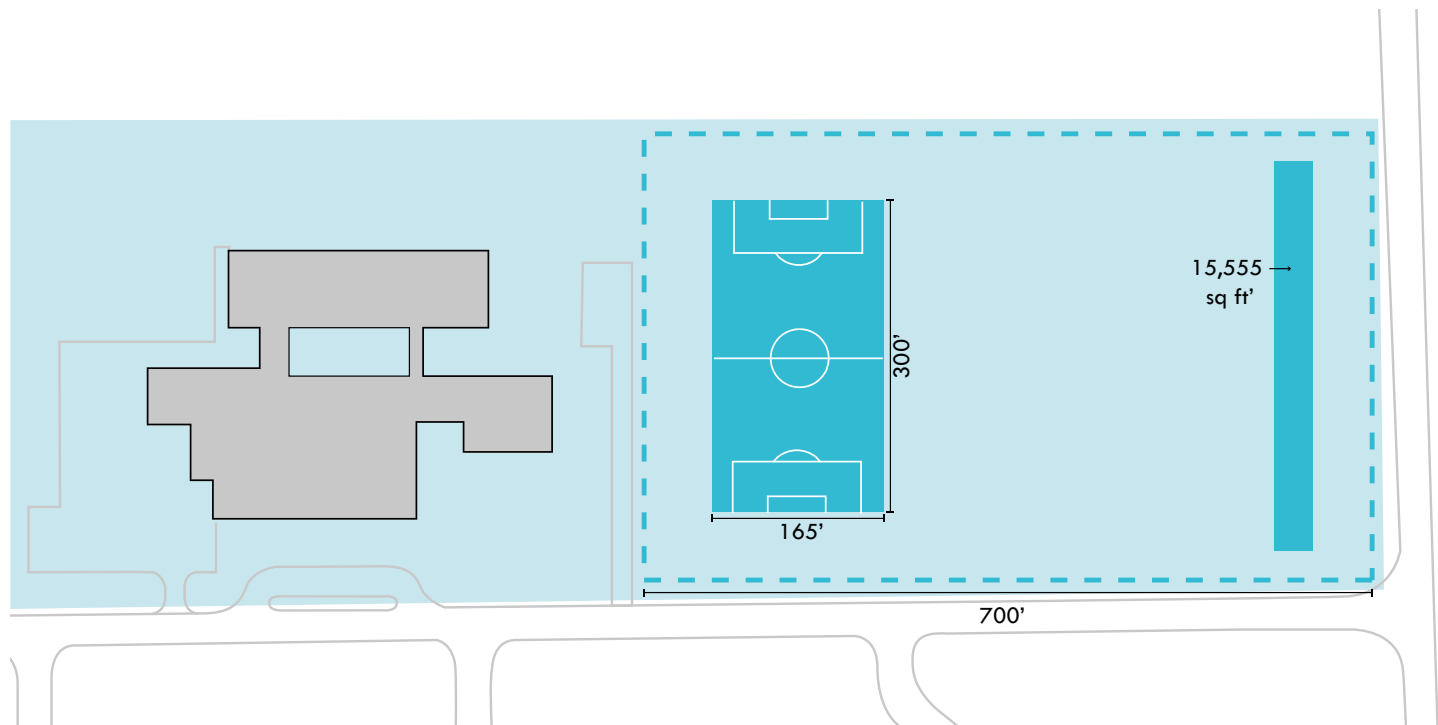


Figure 5.03: Program Considerations (by Author)

## emotion spaces

Drawing from the power and expressiveness of poetry, I distilled a selected body of works down to a set of emotions (See Table 3.01, pg 75). These emotions, evoked from distinct human experiences, informed me as to the variety and complexity of the relationship between humans, culture and nature.

The program diagram, seen at right, lists a set of feelings (first column) that are the result of different combinations of emotions (second column). These emotions are layered over a set of actions anticipated to occur on the site. Together the actions and emotions are given potential placement on one of four potential site organizations.

Initial site programming by “placing” actions on the site helped to give identity to distinct program needs. Form, orientation, organization and scale of programmed areas was informed by considering the emotion spaces.

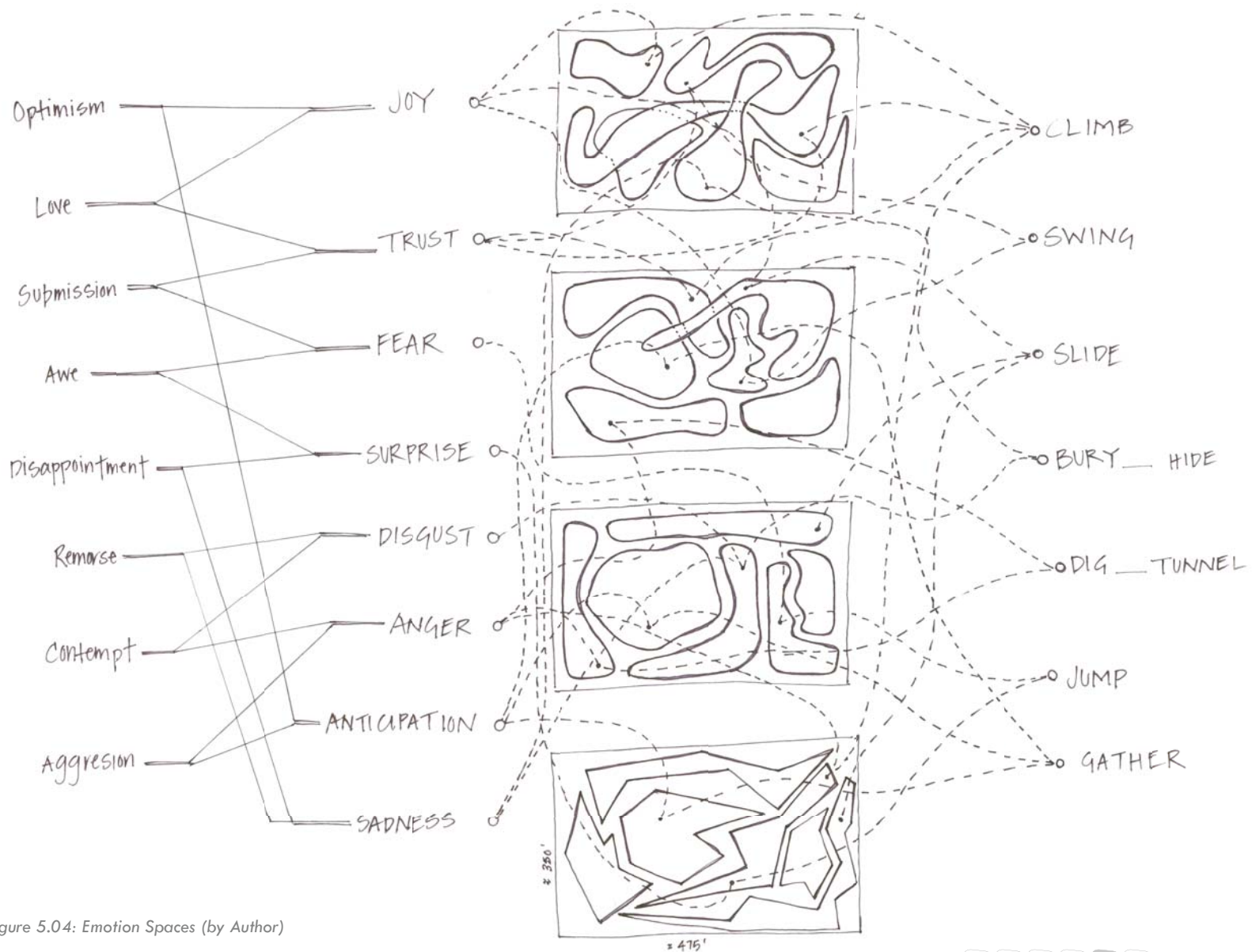


Figure 5.04: Emotion Spaces (by Author)



## clay process models

I chose to use clay as a preferred medium for the exploration of topographic forms because of its pliable and yielding nature. I enjoy the process of working with my hands. Especially in a project so highly tied to the examination of the range of formal space, working in 3D space from the beginning of the design process challenges the designer not to overlook crucial considerations.

I began molding without a specific end in mind. Rather, drawing from the typology of formal space outlined by Catherine Dee in *Form and Fabric in Landscape Architecture*. I experimented with the types of space to be implemented in the design. In terms of materiality, initially, I had thought of only considering materials that could be found in nature. However, through the development of the first few models, I came to understand that select use of man-made

materials could create beautiful and complementary contrasts against the broad strokes of natural material (grasses, gravel, wood, rock, etc.). Although the models are absent of material representation. I was still considering the materiality throughout the design development.

*Figure 5.05: Clay Model Plan Views (by Author)*



Figure 5.06: Clay Process Models (by Author)





Figure 5.07: Plan View, Model 4 (by Author)



After initial diagrammatic attempts at modeling the garden. I discovered a need to consider the site at a more detailed and accurate scale. I enlarged the area of clay to a 20 scale model, roughly 24"x 35" in actual size. Enlarging the model forced me to realize issues related to scale, particularly considering the range of age groups to be using the garden primarily.

Figure 5.08: Clay Model 4 (by Author)

## analysis of form and space

In order to create better design, I first reflected on the successes and failures of the initial attempts. Model four, see figure 5.09, allowed me to surmount a critical shift in my design process. A framework for the final design began to take shape at this point in the process.

Analyzing these form explorations in terms of size, shape, position and direction reveals the areas of balance and imbalance. Even with a grid, modeling by intuition and impulse, results in main elements arranged by the rule of thirds. These elements, as individual entities, are well-proportioned to one another. They are not however, evenly balanced. The open field (top third) acts as the negative space in the design. Rather than framing the negative space and allowing it to support the positive space (areas of significant topographic change), this model allows it to bleed off of the composition. A stronger proposal would draw from the notion of mass and void, allowing the negatives to reinforce the positives, and vice versa.



Figure 5.09: Rule of Thirds (by Author)

The south and east thirds are anchored by the undulating form of the swales, acting as a framing device. This form could become stronger by allowing transitions in materiality to create interest, band increasing connections through the site. Considering enclosure of view corridors in terms of gradation, the orientation of forms in this model are positioned with consideration of desired and undesired views and adjacencies. This model fails to address spaces in terms of

surveillance capability or user zones within the site. Overall, this design could be refined and made more cohesive by considering the figure-ground relationships in the composition.





Figure 5.10: Developing Site Plan (by Author)

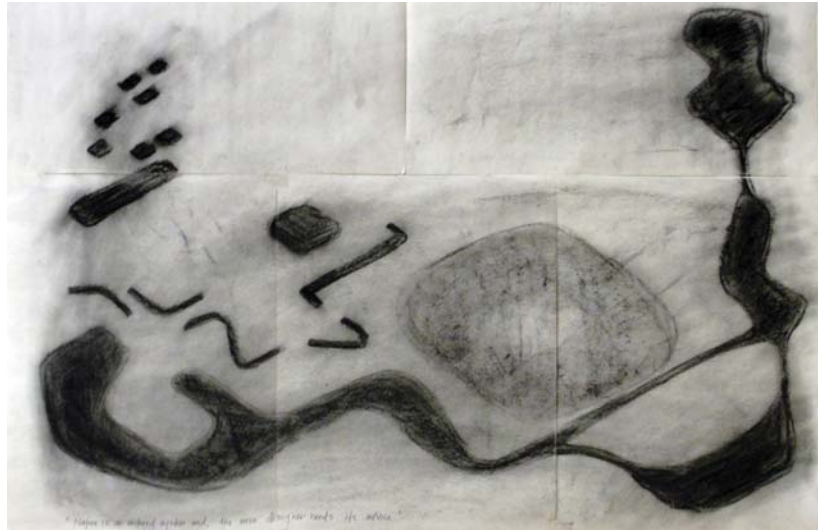


Figure 5.11: Charcoal Organizational/Value Sketch (by Author)

## development of spatial organization

The exercise of working through the initial phases of design in model form allowed me greater perception of spatial definition than if I had worked only on paper. In a project highly driven by experimentation of topographic forms, designing in 3-D form is especially critical. Figure 5.09 was drawn as a result of model four. After developing the fourth model, I began to categorize the types of space needed in the design, in order to facilitate certain activities for certain age groups. An organizational sketch of the final design, see figure 5.12, is used to divide the site between the five design elements used in the design. Categorizing and then organizing the design by use of elements allowed a structured experimentation of spatial use. The final design shows the most balanced arrangement of the defined elements.



## elements of the landscape fabric

buffer

mound

play structure

swale

field

### shade/buffer

Crafting an enjoyable experience is contingent on creating a comfortable human environment. Foremost to creating a human environment is creating an atmosphere that feels safe. Safety is enhanced by using vegetation to create buffers and baffles along critical edges, such as site boundaries. Buffering controls sight lines. Furthermore, considering shade and tree canopy also contributes to the comfort of the environment. Creating areas of protection from the elements makes the site more livable.

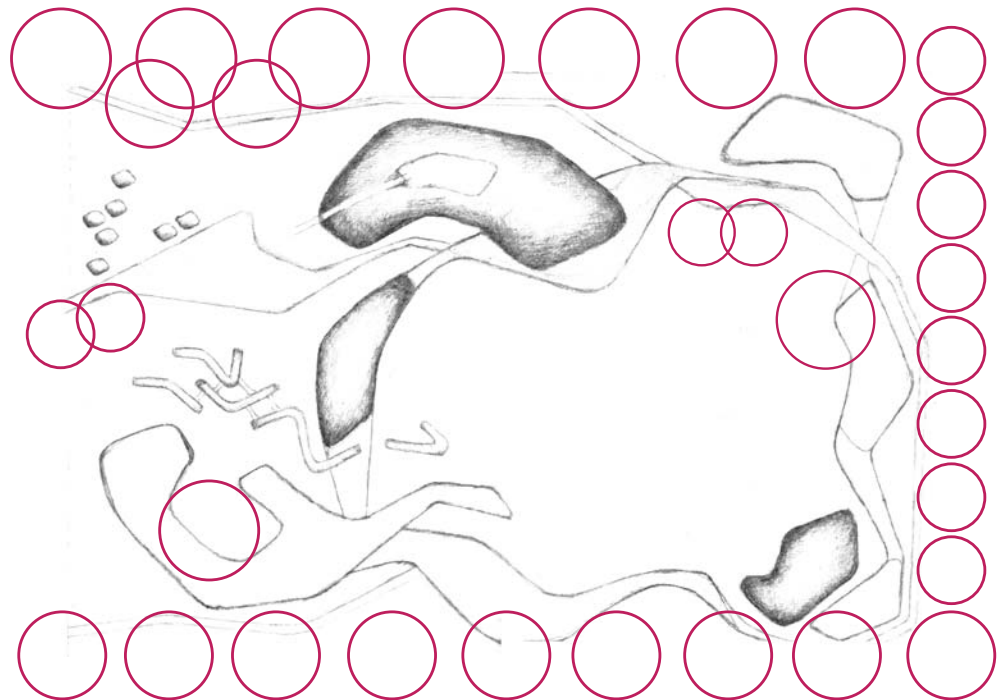


Figure 5.12: Design Elements Graphite Sketch; Shade  
(by Author)



Figure 5.13: Design Elements Graphite Sketch; Mound (by Author)



Figure 5.14: Design Elements Graphite Sketch; Play Structure (by Author)

## mound

The “look out.” Changing a person’s perspective of a landscape gives him or her a fresh view of an ordinary situation. A focal point at the school yard garden is a large mound sitting on the north central section of the site. Climbing to the top gives the children at Northview an alternative perspective of their everyday landscape.

## play structure

Engaging the users in activities facilitated by natural play structures. These elements are not highly programmed, rather simple structures that allow the child to determine the function.

## tunnel

Subterranean experiences give the user an altered perspective of space, as a limiter. Allowing the child to explore contrasts in his or her relationship to the scale of site elements again provides an alternate perspective of an everyday landscape.

## swale

Connecting the user, physically and visually, to the natural processes that function on the site provides the him or her the gratification of understanding the site processes.

## field

A vast expanse. The field provides an open area for recreational activities, organized games, etc. In terms of spatial definition, the field balances the presense of the mounds and swales, acting as negative space in the composition.

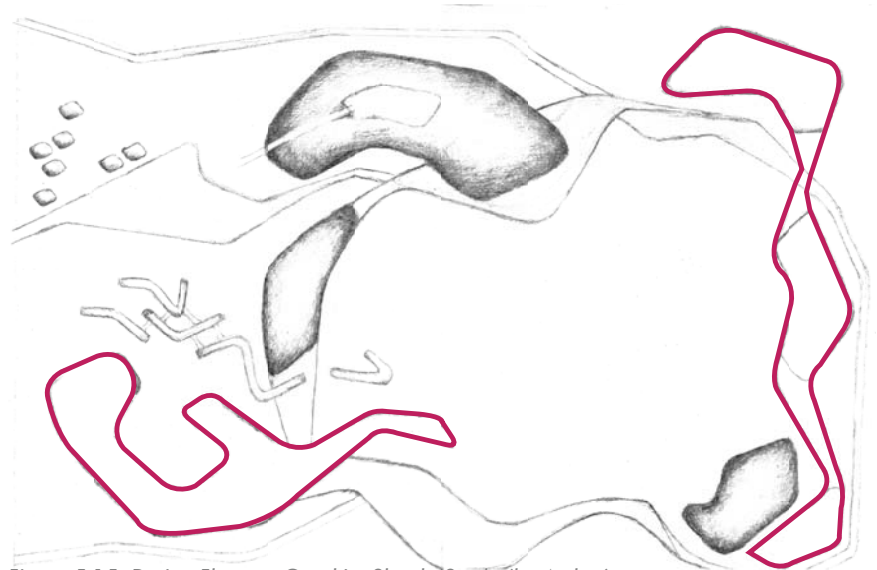


Figure 5.15: Design Elements Graphite Sketch; Swale (by Author)

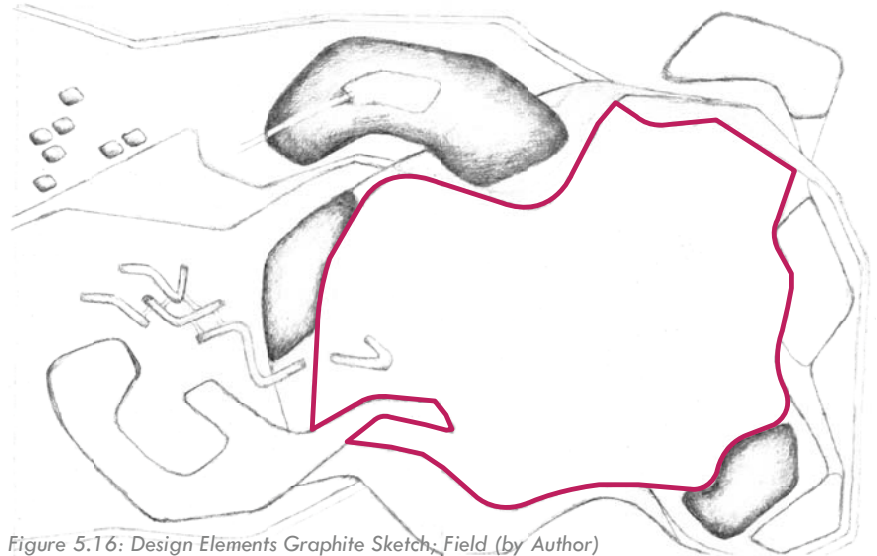


Figure 5.16: Design Elements Graphite Sketch; Field (by Author)

## analysis of form and space

Why is this space unified?

Considering arrangement of programmatic spaces in terms of elements found in poetry, the final design responds to the notions of creating balance, repetition, meter, sequence, and accents within the composed space. Figure 5.17 illustrates the repetition of forms in Site as Playground. For example, the three mounds echo each other in formal gesture and orientation. Similar to the way that rhymes create association in a poem, the mounds respond in formal quality, unifying the site.

Variation in relationships between path and space throughout the site create intrigue for the user. Figure 5.18 illustrates and categorizes the types of paths and path-space relationships within Site as Playground. Directly outside the site boundary, a sidewalk (built path) wraps along the south and east edges of the site. Falling under the canopy of proposed trees this space becomes a vegetated edge. Primary circulation

happens along the edge of the site enabling a pass by space relationship. Pass through space relationships occur in the swales (water paths) and across the swale and the central mound (topographic path). Finally, a topographic path that winds up and across the main mound creates the third type of path-space relationship, terminating in the space at the bottom of the slide.

Elements of the landscape fabric (see Figures 5.12, 5.13, 5.14, 5.15, 5.16) create unity through figure-ground relationships. A concern of previous design attempts was balancing negative and positive space and framing the composition. In the final solution, Site as Playground addresses these concerns by reorganizing the elements in a balanced and aesthetically pleasing arrangement.



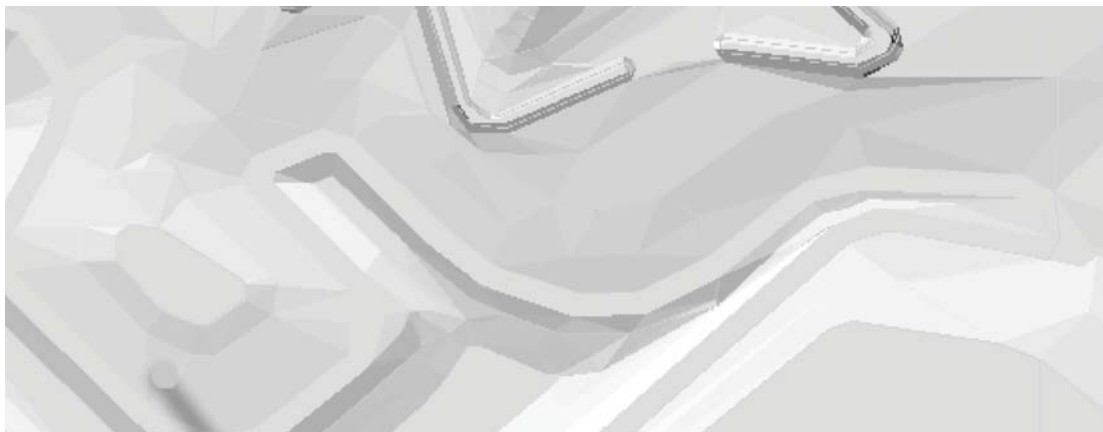
Figure 5.17: Repetition of Forms (by Author)



Figure 5.18: Path to Space Relationships  
(by Author, after Ching 2007 and Dee 2001)

- water path; ecological corridor  
pass through space
- topographic path  
pass through space; terminate in a space
- topographic path  
pass by space
- built path; vegetated edge  
pass by space









## DESIGN SOLUTION

## design concept

This project integrates meaningful experience of space and direct contact with nature to create a more imaginative play environment. Eliminating stock play apparatus encourages the designer to think about the space compositionally and design a landscape in which children are compelled to create their own story. Treating topographic forms with poetic sensitivity, considering rhythm, repetition, balance and flow throughout the definition of spaces, in order to create a well-designed place.

People, children included, learn definitively through experience (Kolb, 1975). The experience suggested through this project provides a child the opportunity to create and destroy, climb and slither, uncover and bury. This design encourages imagination, creativity and curiosity, expanding the experiential quality of a contemporary playground.

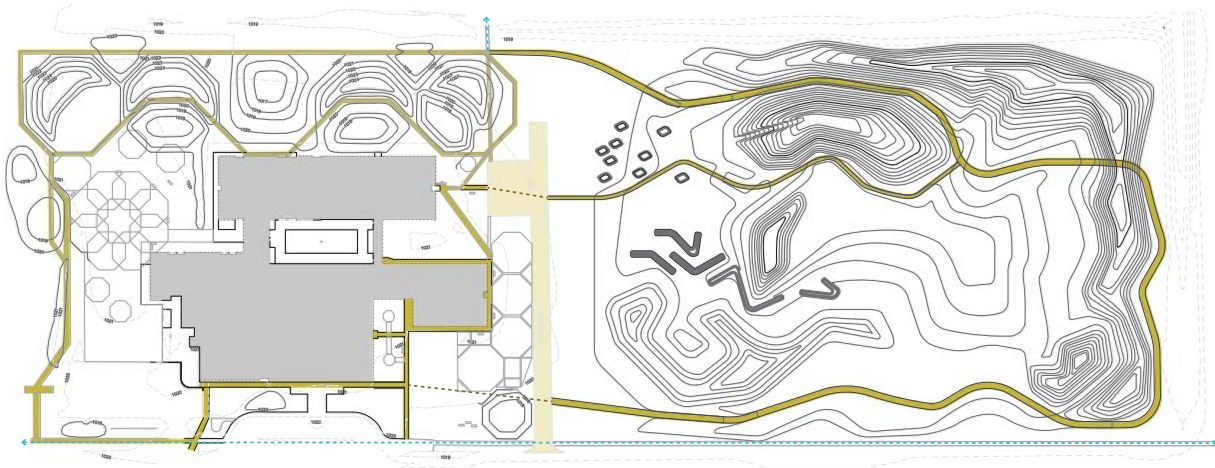


Figure 5.19: Connection to Ecological Master Plan (by Author and Laura Weatherholt)



Figure 5.20: Site Plan (by Author)





Figure 5.21:  
Summer Isometric  
(by Author)



summer isometric





Figure 5.22:  
Winter Isometric  
(by Author)



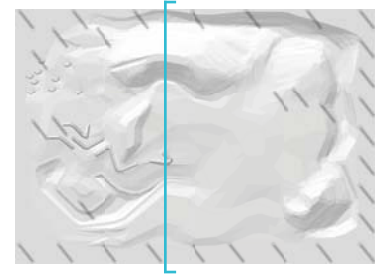
winter isometric



section looking east  
cutting through high-point of northern mound



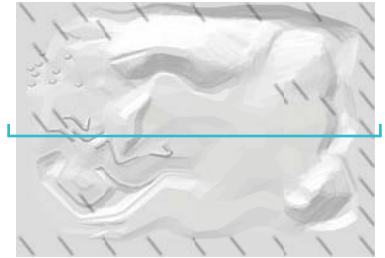
Figure 5.23: Section looking east (by Author)



section looking north  
cutting through main playing field



Figure 5.24: Section looking north (by Author)





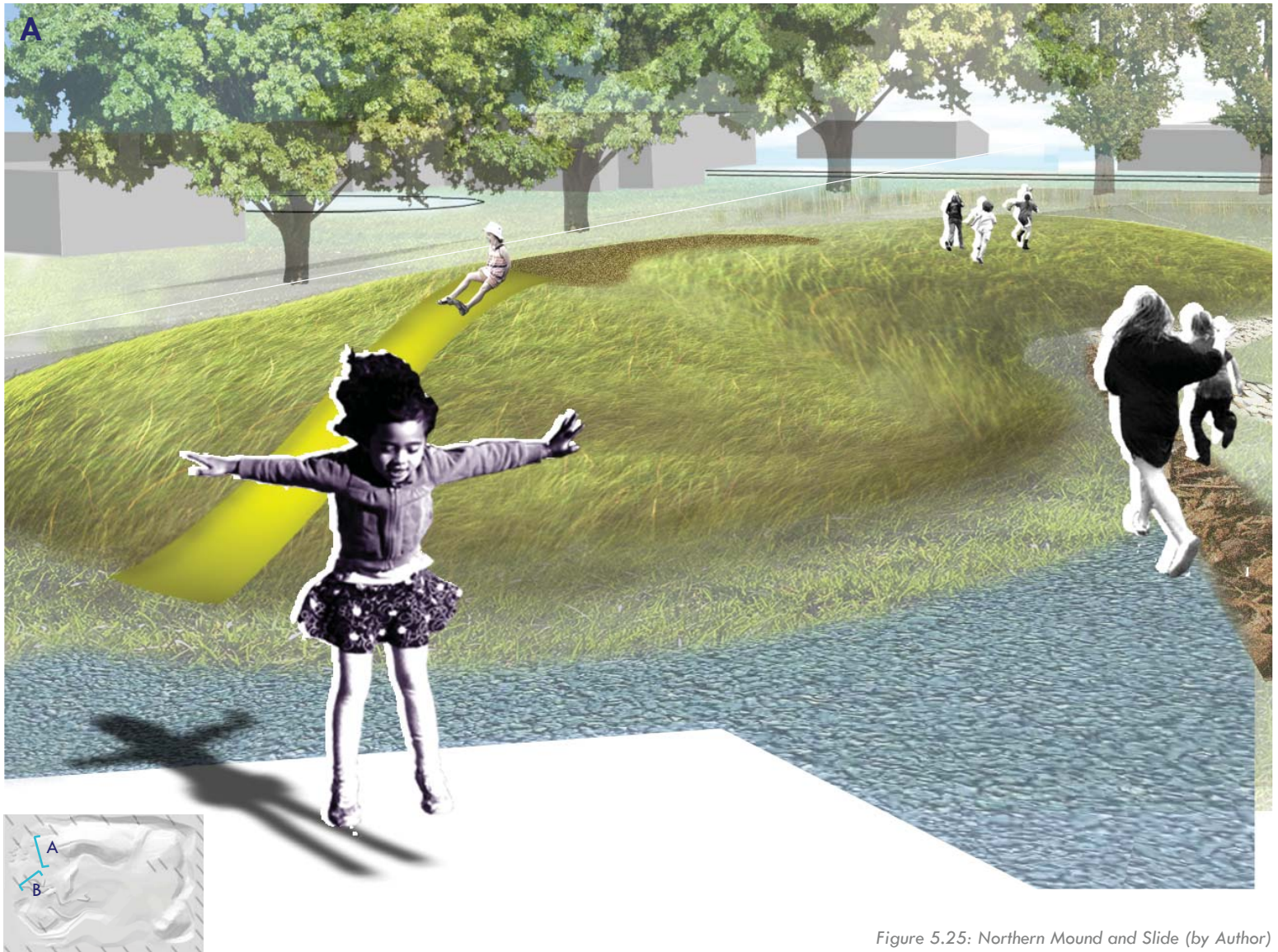


Figure 5.25: Northern Mound and Slide (by Author)





Figure 5.26: Tunnels and Snake Mounds (by Author)



## circulation

The circulation patterns programmed for the site are developed with an understanding that they will most certainly be disregarded. Therefore, the circulation through the garden is a suggested progression through a sequence of spaces. There is no correct order through which the garden should be experienced. The pink circulation line in figure 5.24 represents an accessible trail that all student can use easily. The brown dashed lines represent challenge trails, not necessarily accessible to all students.

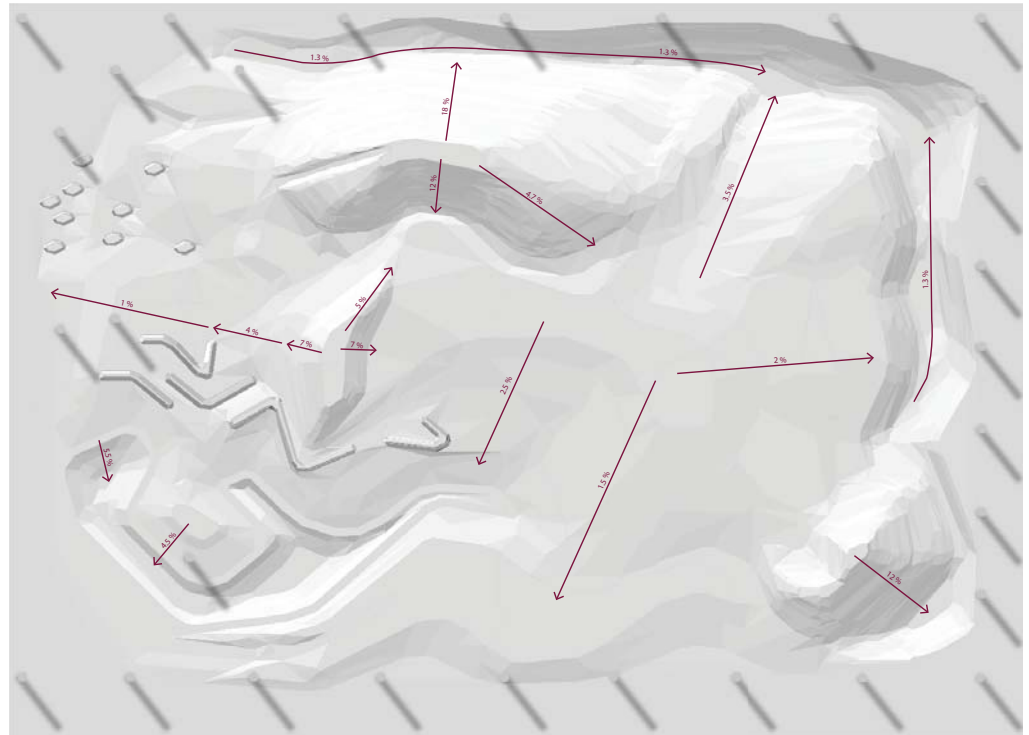


Figure 5.27: Site Slopes (by Author)

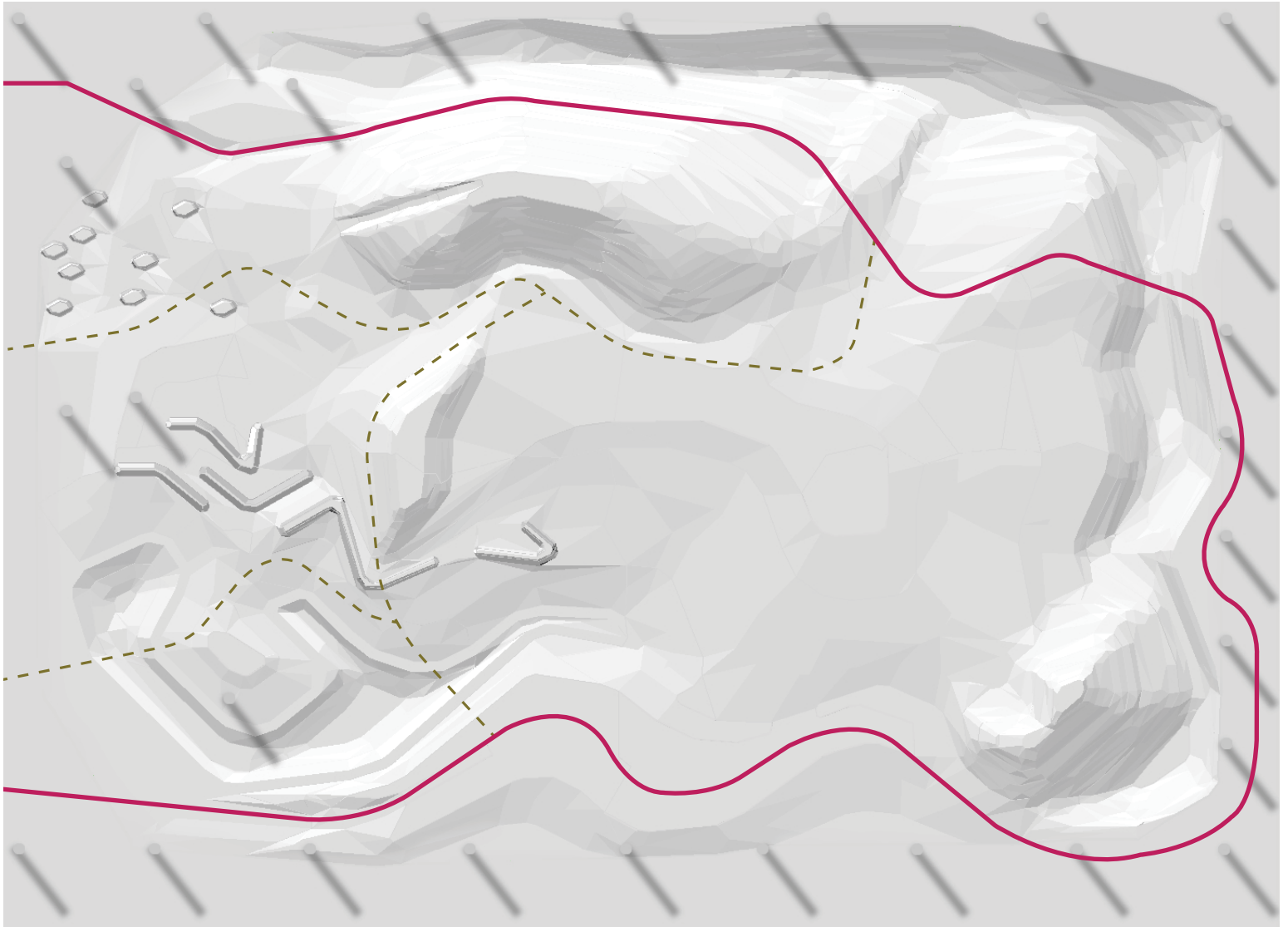
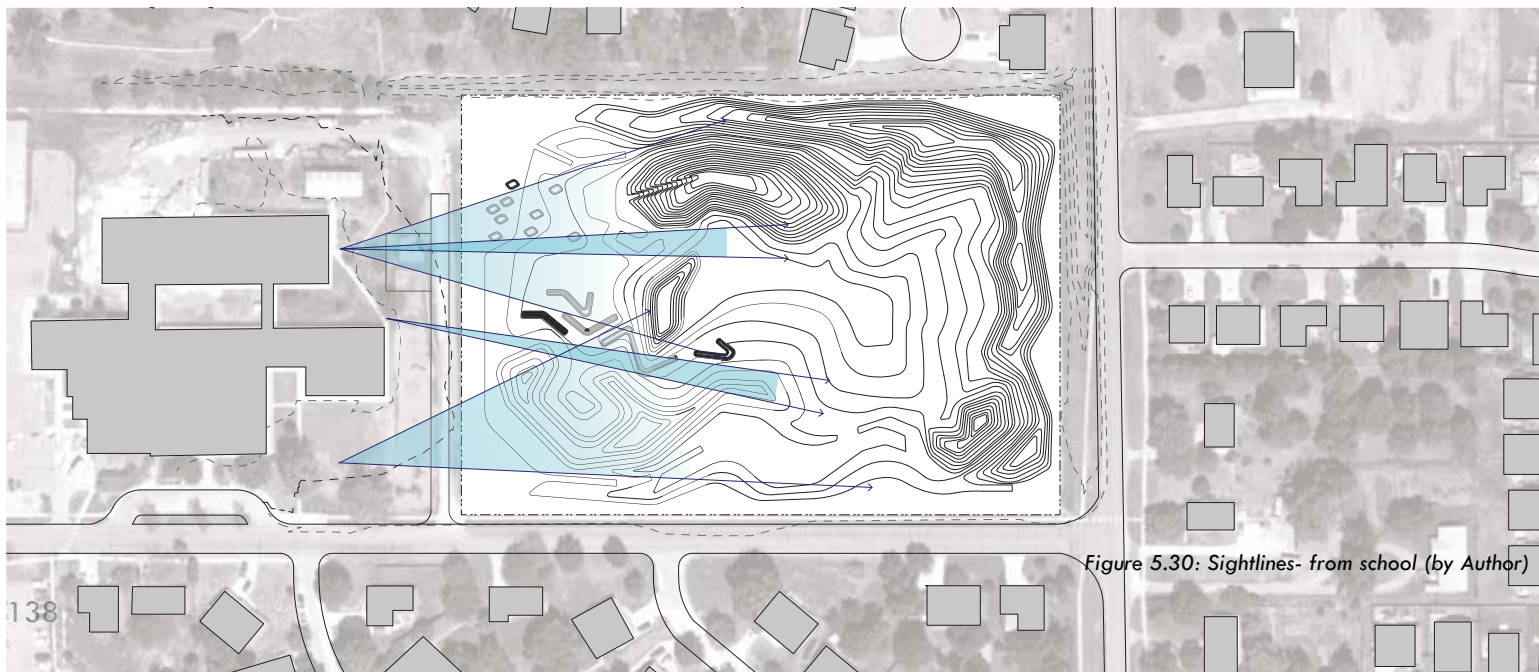
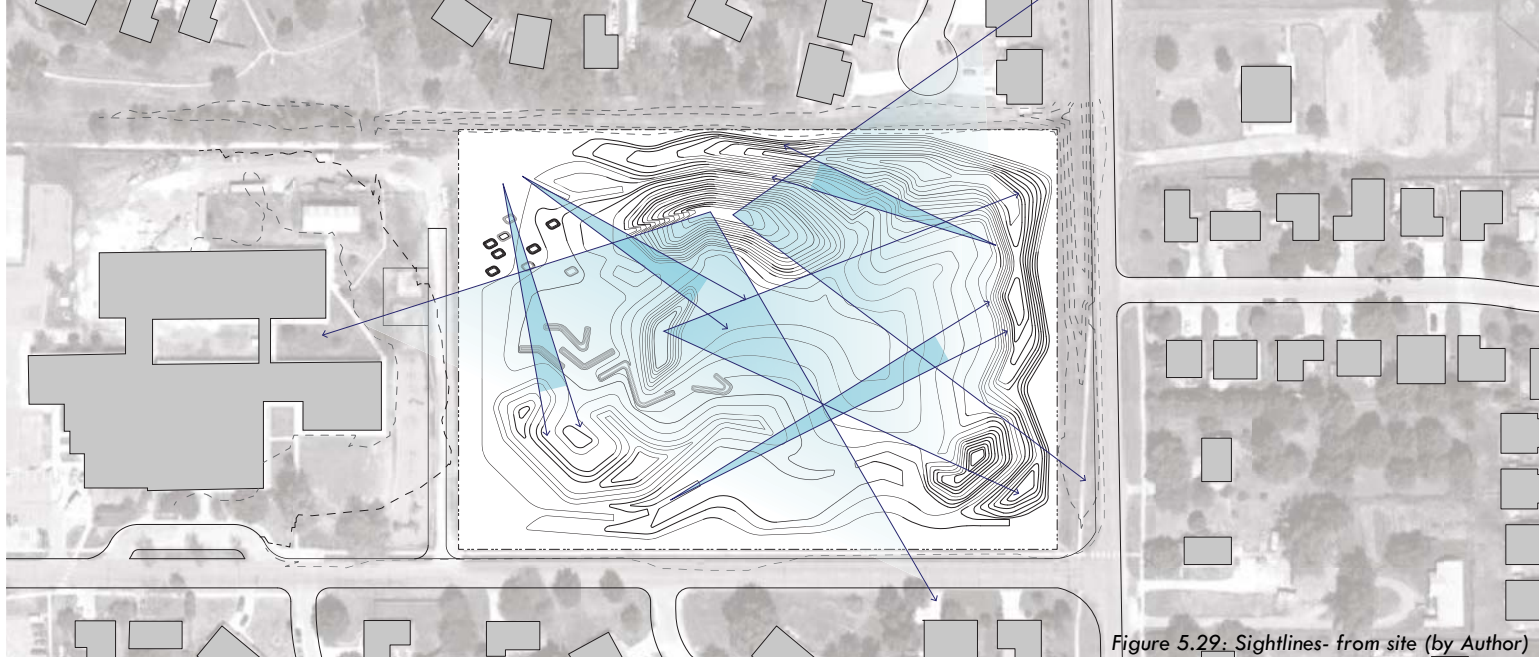


Figure 5.28: Site Circulation (by Author)



## sightlines

Safety through natural surveillance is encouraged by the degree of visibility into and throughout the site. The diagrams pictured to the left and below depict the organization of sightlines out from the site, into the site from the school, and into the site from the neighborhood. The garden serves

as both a schoolyard and a public park. It is important the community members feel comfortable allowing their children to go play on the site. From most areas in the neighborhood immediately surrounding the site there will be good visibility into the site. The areas directly north of the main mound would likely not have direct visibility because the mound and tree

canopy blocks sightlines. In order to create a manageable scope of surveillance by a teacher or parent, the site is designed to be divisible between the east third the west two-thirds. This organization allows the person in charge to use site features to set a reasonable limit on the play area, depending on the age group using the site.

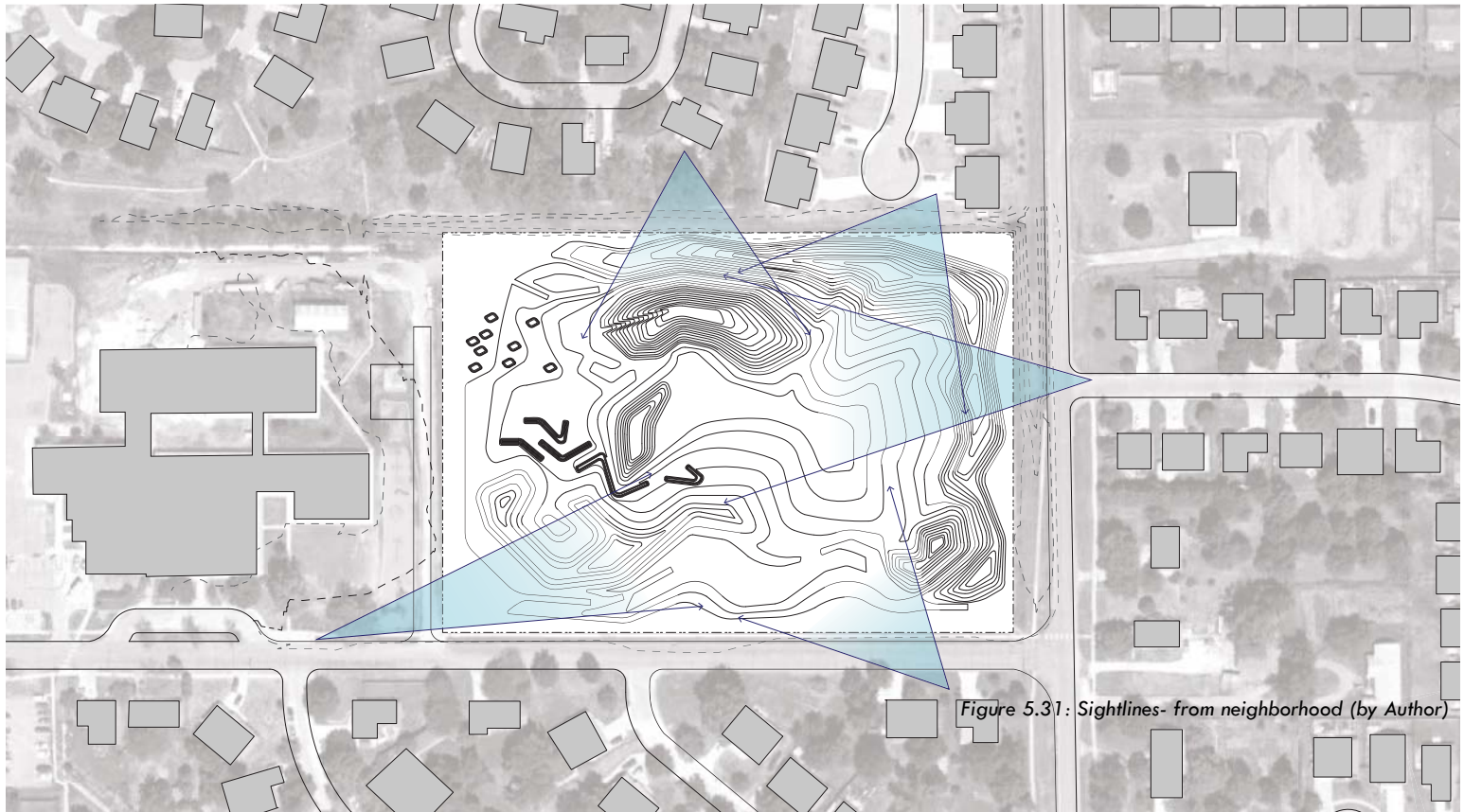


Figure 5.31: Sightlines- from neighborhood (by Author)



## materiality plan



Figure 5.32: Materiality Plan (By Author)



Figure 5.33: White Cobbles (60-100mm)



Figure 5.34: Powdercoated Metal



Figure 5.35: Recycled Rubber Mat



Figure 5.36: Wood Chips



Figure 5.37: Gravel

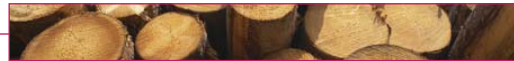


Figure 5.38: Tree Stumps

## materiality

Site as Playground embodies the theory of loose parts. Materials were chosen that allow a child to use the pieces in many combinations. The child is allowed total freedom to expand upon his or her natural creativity. “In any environment, both the degree of inventiveness and creativity and the possibility of discovery, are directly proportional to the number and kind of variables in it” (Nicholson 1972, 6). The loose parts in Site as Playground include pebbles, rocks, grasses, leaves, plant debris, soil, wood chips, sticks and water (see Figure 5.37).



[illegible]

142

## plant palette

	PLANT	TYPE	PLACEMENT	CHARACTERISTICS
1	 <b>Blue Grama</b> <i>Bouteloua gracilis</i>	perennial grass	mounds	6"- 14", fine-leaved, blue-green seed head
2	 <b>Buffalo Grass</b> <i>Buchloe dactyloides</i>	perennial grass	fields	3"- 6" sod, fine texture, green to blue green in color, yellow to golden-brown when dormant
3	 <b>Plains Coreopsis</b> <i>Coreopsis tinctoria</i>	herbaceous annual	swale	12"- 24", slender structure, pinnately compound leaf, abundant yellow flowers
4	 <b>Little Bluestem</b> <i>Schizachyrium scoparium</i>	perennial grass	swale	18"- 24", fine texture, dense, clumping, ornamental blue-green stems, turning red in autumn
5	 <b>Switchgrass</b> <i>Panicum virgatum</i>	perennial grass	swale	36"- 72", fine texture, loose, green leaf purple-reddish seed head, turning yellow in autumn
6	 <b>Winecup</b> <i>Callirhoe involucrata</i>	herbaceous perennial	swale, site edge	8" -12", spreading to 3', chalice-shaped deep pick flowers
7	 <b>Zigzag Iris</b> <i>Iris brevicaulis</i>	herbaceous perennial	swale, site edge	12"- 24", glossy dark green leaves, blue lavender or white flowers
8	 <b>Star of Bethlehem</b> <i>Ornithogalum umbellatum</i>	herbaceous perennial	south site edge, and throughout	6"- 9", waxy textured, white flowers
9	 <b>Fox Sedge</b> <i>Carex vulpinoidea</i>	perennial grass	swale, field	12"- 24", finely textured, bristly heads
10	 <b>Softstem Bulrush</b> <i>Schoenoplectus tabernaemontana</i>	perennial grass	swale	36"- 72", soft stems, light green leaves orange-brown scaled nutlets in drooping clusters
11	 <b>Redbud</b> <i>Cercis canadensis</i>	tree	throughout site	15'-30', short trunk, rounded crown, ornamental pink blossoms in spring
12	 <b>Shumard Oak</b> <i>Quercus shumardii</i>	tree	south edge	50'-90', pyramidal, opens with maturity, thick smooth grayish bark, scarlet leaves in autumn
13	 <b>Columnar Hornbeam</b> <i>Carpinus betulus 'Fastigiata'</i>	tree	east edge	35'-40', columnar to pyramidal, dark green foliage
14	 <b>American Sentry Linden</b> <i>Tilia americana 'McKSentry'</i>	tree	north edge	60'-80', conical to rounded with age, fragrant blooms in spring and summer

Table 5.01 Plant Palette

earthwork sections

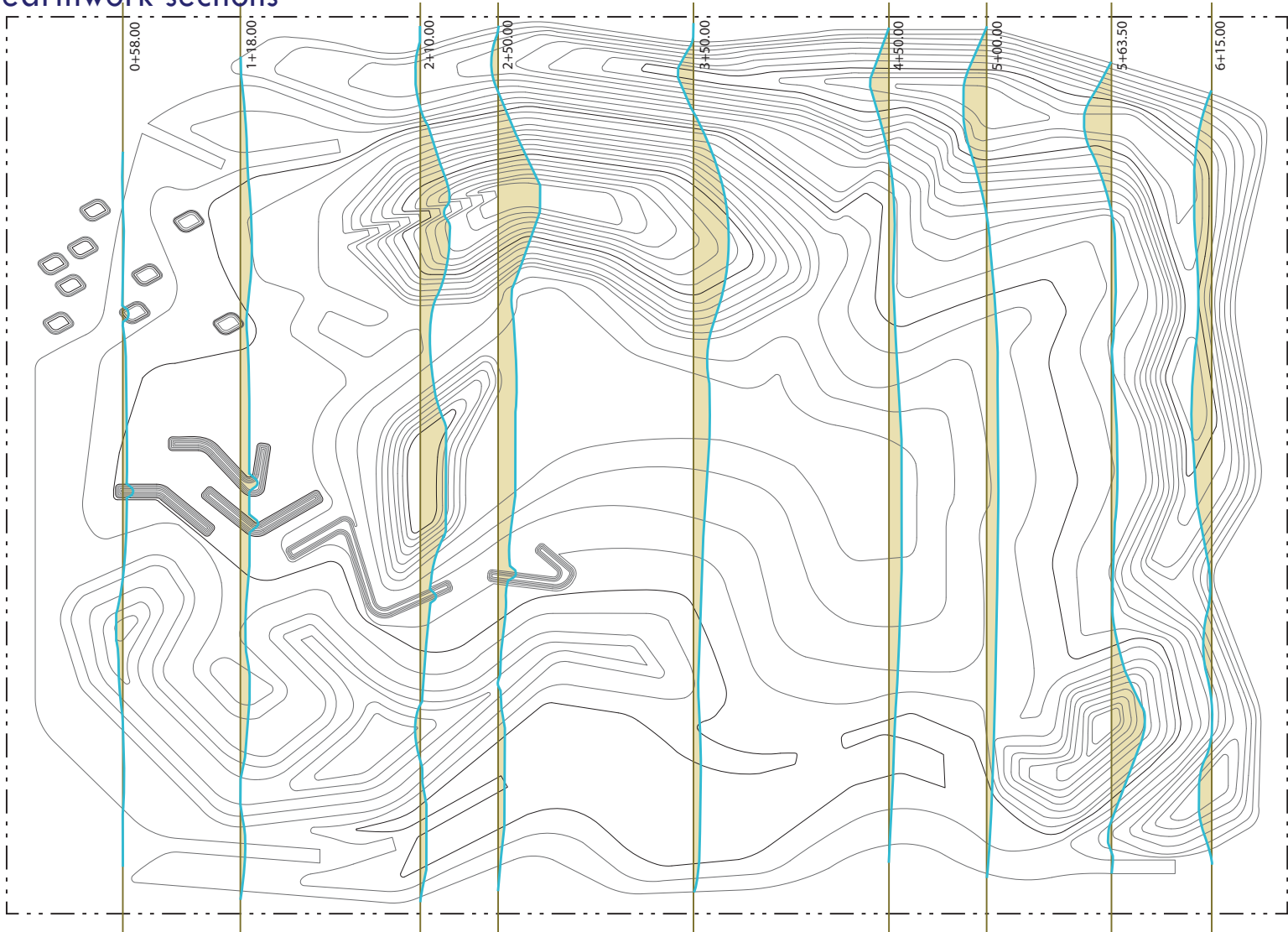


Figure 5.40: Earthwork Sections- North/South (by Author)



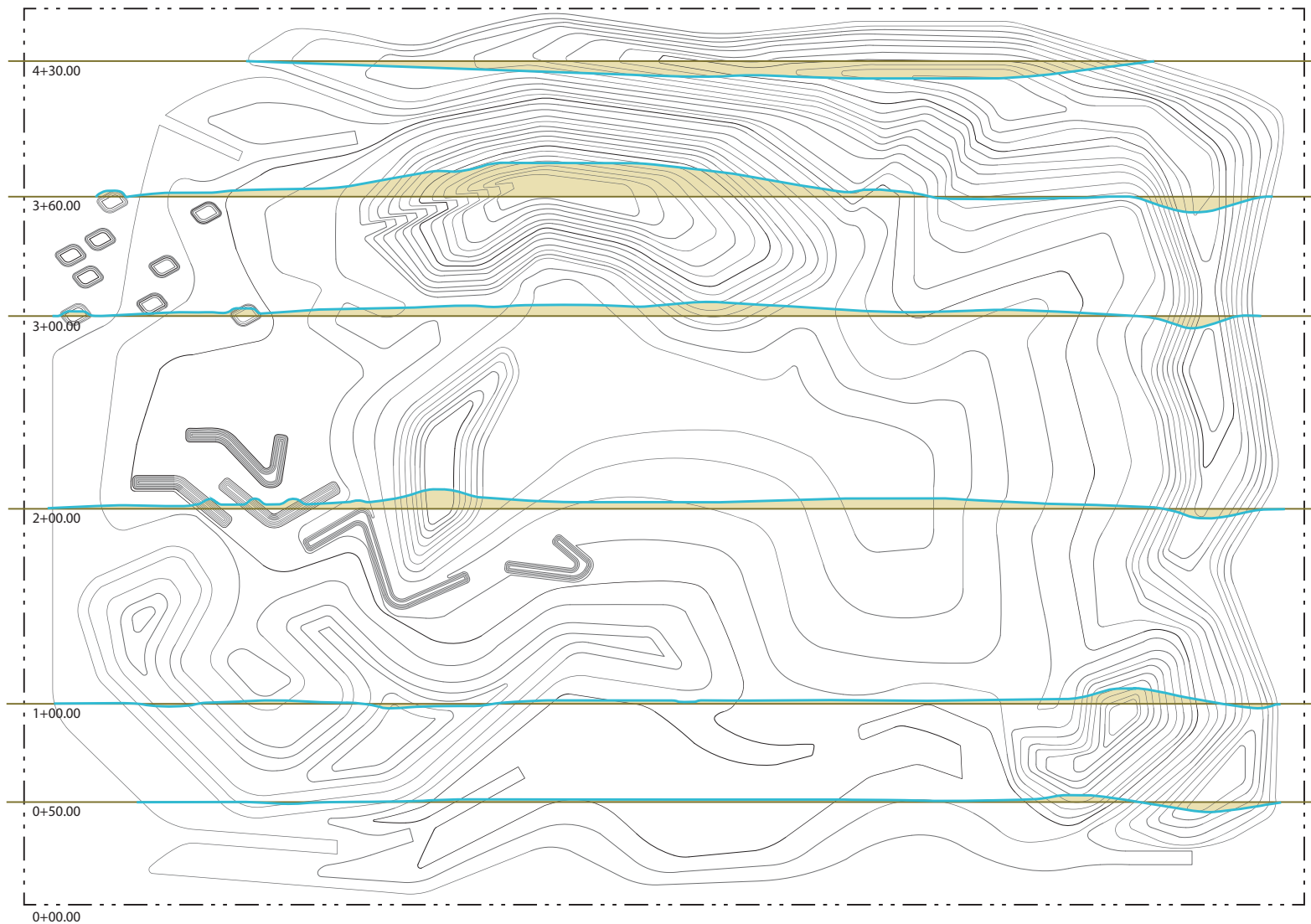
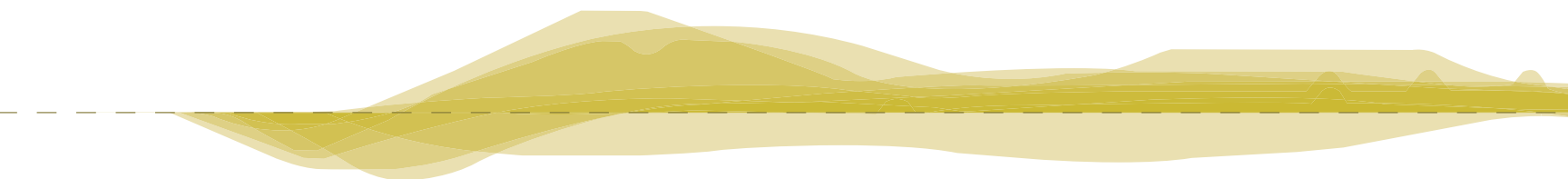


Figure 5.41: Earthwork Sections- West/East (by Author)

## earthwork section overlay



*Figure 5.42: Section Overlay- cutting east to west (by Author)*



*Figure 5.43: Section Overlay- cutting north to south (by Author)*

## calculations

During site analysis proceedings prior to design, a volume of  $26,685 \text{ yd}^3$  was determined as the amount of excess soil existing at Northview's east field currently.

Keeping this volume in mind, constructing the designed surface would require  $14,801 \text{ yd}^3$  of fill or 55% of available soil. The designed surface has a net volume of  $10,083 \text{ yd}^3$



## community connections

A series of disconnected pedestrian trails surround Northview Elementary School. Investing in the schoolyard design of Northview Elementary can become a catalyst for other neighborhood improvements. Northeast Community Park, southeast of Northview Elementary (see Figure 5.40), is currently not a pedestrian friendly destination. A sidewalk extends all but four blocks to the entrance of the park. This section of sidewalk should be completed. North of Northview there exist several pedestrian trails, these trails should connect into the trails that pass through the school site, increasing walkability to the school.

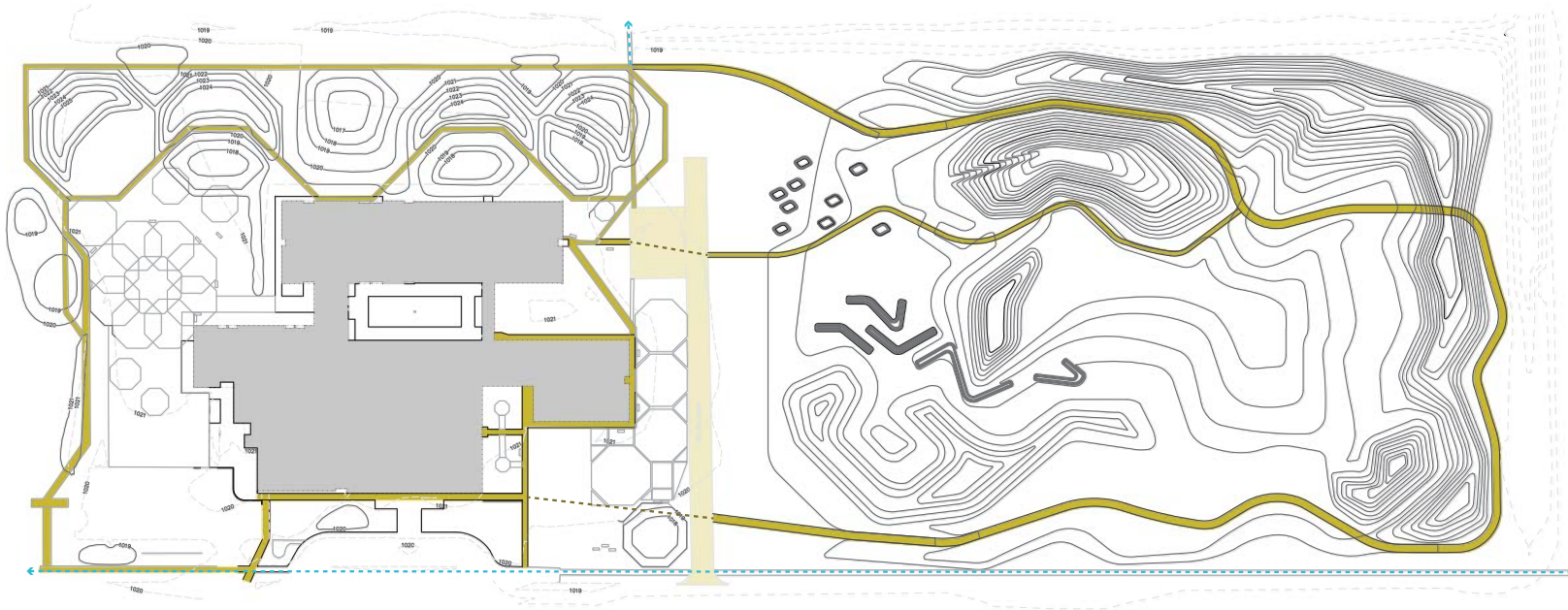
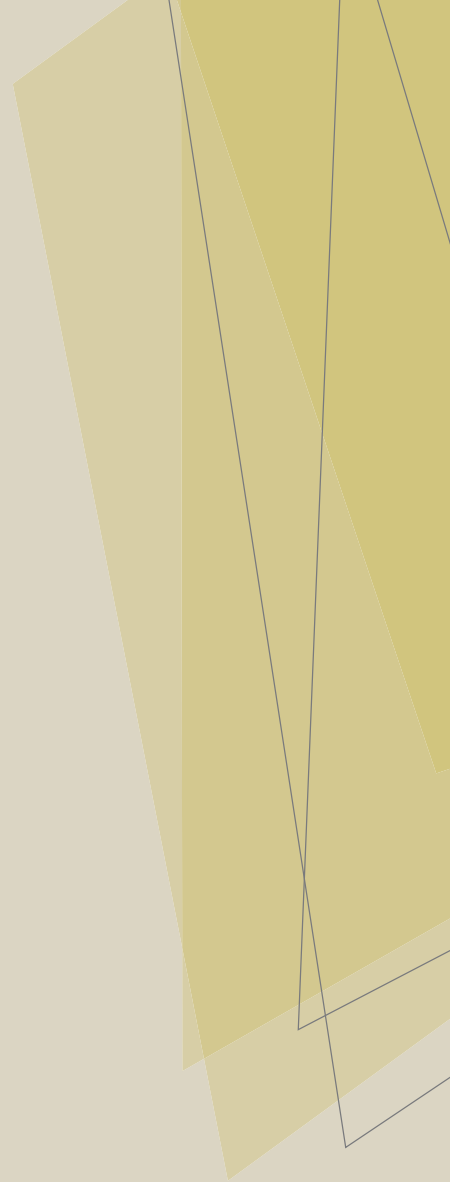




Figure 5.45: Community Connections (by Author)





REFLECTION

## reflection

There are many factors that affect the experience that one could have in a landscape. Difficult weather can make an experience more or less enjoyable, the company one holds, which may result in entertaining or dreary conversation, a preconceived cultural conception of what a landscape should or should not be. All these factors present obstacles that a designer cannot and should not attain to control. Rather the designer holds herself at the contingency of the users' expectation which, depending on the degree of flexibility and preconception, may or may not be satisfied. This is something beyond her control. Striving to create a place that satisfies a human without understanding the human is a silly ambition. With this admission, the designer must become a researcher in order to understand the audience. Landscape architects create human environments. They must first however, ascertain an understanding of the needs of both the humans and the environment that they intend to improve, as separate entities. In this project, I designed a landscape for children, a landscape of learning. A learning landscape encourages or inspires the process of learning through experience of space or environment. This should be achieved not through propaganda and grandiose gestures but rather the experiential quality of the place should provide the user an expanded view of his or her circumstances.

The central objective of this project was to create a landscape of learning where children can fully explore their creative potential, that could artfully address stormwater management and become an expression of artistic significance to the community. I began by looking into documented studies of how children play and how children relate to and draw from their physical environment. Exploring the concepts of creative play and experiential learning guided the project. There is significant documentation supporting the value of play in child development, both cognitively and socially (Brown 2009, 92) (Kolb 1975). When describing play, Stuart Brown says, "if its purpose is more important than the act of doing it, it's probably not play." He goes on to say,

“The opposite of play is not work, it’s depression.” (Brown 2008). With this in mind it is important to remember that playing is not the same as being idle. In fact, quite the opposite is true. Play involves engaging the mind and body in an activity, for the sake of the activity. Therefore, a residual objective of this project was to create a place which has the capacity to encourage play, creativity and curiosity.

I went to the site on a brisk day in early December to survey the existing soil volumes. I did not expect a Saturday morning to be a popular time at the uninhabitable mud pile that currently occupies the east field of Northview Elementary School. However, I did not account for the opportunity of play that a child might see when looking at a ten foot pile of muddy clay soil. Three young boys were playing on one of the nearest mounds. A chair had been placed in the mud on top of the mound and the children had made a game of trying to all sit on the chair at the same time. This scenario is a prime example of Paul Freidberg’s concept of interplay. “Interplay between the object and the child makes his total world—play. He exploits the vitality of his environment and draws upon his imagination to create his world.” (Friedberg 1970, 25). This sort of interplay is exactly what I anticipate to occur in the Site as Playground. Through the exercise of classifying the spaces by emotion, function and activity, I programmed a sequence of spaces that provide the child or user with infinite interplay opportunities. In a design project that has yet to be embodied, it can be difficult to attest to the successes or failures of an idea. I envision the site to be a refinement of what exists there today. I was initially inspired by the topography that exists currently and I hope for the essence of what exists to remain. After all, the site exists as a whole system prior to and apart from the designer’s intention to sit something upon it. A site is more than a found coordinate location (Demeritt 2004, 57). My vision for Site as Playground



is a rich sensory experience, an experiment in the artistry of landform and a landscape of unlimited opportunities. This project asserts the design of a playground as a sculptural work of art, while considering the conditions of the users and of the site. The garden encouraged an integrated outlook on design, expanding the experiential quality of a contemporary playground.

## limitations

This study was most significantly limited by the restraints of available time and the inability to coordinate ideally with outside studies. The *Iterative Participatory Process* also completed at Northview Elementary School provided very interesting and valuable findings related to the needs and desires of the students and stakeholders at Northview related to the development of a new playground. Had this study been completed before I had to finalize design decisions, I may have changed my organizational and programmatic strategy as a result of the findings of this study. Looking to the future, I would revise the set of design elements determined in Site as Playground after considering the *Iterative Participatory Process*.

Furthermore, if this project were to continue I would be critical of my plant and material palette. If time allowed I would take a more detailed look at the most appropriate plant selections for Site as Playground in Manhattan, Kansas.

Overall, I am pleased with the outcome of this endeavor to assert a playground as a sculptural work of art. My personal goals to explore the design process and explore the intersection of fine arts and landscape architecture were satisfied. In the words of Charles Jencks, “design is like conversation; if you knew the outcome it wouldn’t be worth having” (Jencks). I take from this process a body of knowledge surrounding child development, the history of creativity, experiential learning, emotion theory and my personal experiences of success and failure throughout the design process that I had no way to anticipate acquiring.

## In Childhood

In childhood Christy and I played in the dumpster across the street from Pickett & Sons Construction. When we found bricks, it was best.

Bricks were most useful. We drug them to our empty backyard and stacked them in the shape of a room. For months we collected bricks, one on top another. When the walls reached as high as my younger sister's head, we laid down.

Hiding in the middle of our room, we watched the cycle of the sun, gazed at the stars, clutched hands and felt at home.

By Sarah A. Chavez



Figure 6.01: Creative Play Montage (by Author)







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**a**

appendix



## GLOSSARY

## A

### **aesthetic**

concerned with beauty or the appreciation of beauty (NOAD)

## B

### **Biophilia**

the innate tendency to focus on life and life-like processes (LOL).

## C

### **concept art**

that which defies the 'object-relatedness' of traditional art (Weilacher 1996).

### **creative play**

engaging in activity for recreation and enjoyment that also stimulates the enactment of original ideas (NOAD, Melvin).

### **cultural geography**

1. the study of cultural products and norms and their variations across and relations to spaces and places (Jordan-Bychkov).
2. A historical perspective of how people affect their environment and vice versa. (LOL).

## D

### **design metrics**

standards that measure quality, pre-determined characteristics of design (LOL).

## E

### **ecological design**

design with regard for natural processes (LOL).

### **experiential learning**

Learning that occurs through the process of interacting (with person, place, nature, object, etc.) (LOL).

### **environmental psychology**

how your physical environments affects cognitive processes and emotions (LOL).

### **environmental stewardship**

responding to a responsibility to respect and protect the environment (LOL).

## L

### **Land art**

Communication between man and the

environment manifested as design in the landscape (Weilacher 1996).

### **Landform**

a natural or man-made feature on the earth's surface (NOAD, Melvin).

### **Landscape**

1. "The aesthetic quality of the wider countryside" (Jackson 1984).
2. A picture; or a painting depicting a view of the wider countryside
3. All the physical features of an area of countryside or land (NOAD).

### **Landscape of Learning**

A landscape (3) that provides a setting for experiential learning. The experiential quality of the place should provide the user an expanded view of his or her circumstances. (Melvin).

## M

### **material**

"malleable means" (Weilacher 1996).

## N

### **narrative**

A spoken, written, or experienced account of connected events; a story (NOAD)

**natural material**

material found in existence in nature;  
trees, shrubs, ground cover, stones, water,  
etc. (Melvin).

**nature**

a "scientific" understanding of nature;  
preferencing quantitative conceptions  
(Melvin).

**Nature**

The qualitative conceptions by which  
humanity is drawn to the understanding  
"as based on a moral philosophy which  
accepts heterogeneity, values diversity,  
permits sensuousness, respects differences  
and is able to come to terms with  
discontinuity" (Weilacher 1996, 10).

**P****performance**

An action, task, or operation, seen  
in terms of how successfully it was  
performed (NOAD)

**productive**

*Achieving or producing a significant  
amount or result (NOAD).*

**S****school environment**

*Educational landscapes, educational facility  
(LOL).*

**scale**

*relative size or extent of an object or  
space to be contextually appropriate  
(Melvin).*

**V****vernacular**

*domestic and functional concerns,  
pertaining especially to architecture  
(NOAD).*

**W****watershed**

*"A watershed is the area of land where all  
of the water that is under it or drains off  
of it goes into the same place" (EPA).*

**b**

appendix



## PRECEDENT STUDY



# STUDIO H

## Learning Landscape

Location **Bertie County, North Carolina**

Landscape Architect **Project H Design**

Client **Bertie County School System**

Date **2009**

Status **Built**

History: Project H Design is a non-profit organization that operates out of Bertie County, North Carolina. Bertie County is one of many rural communities in the United States suffering from poverty and brain-drain leaving the community uninvigorated with little prospect. Emily Pilloton and Matthew Miller, of Project H, were brought in by the head of the school system in Bertie to help in the renewal of the school system. Pilloton and Miller now call Bertie Country home and have made it their mission to inspire the youth and the local community through design as an education tool.



Figure B.01: Learning Landscape



Figure B.02: Learning Landscape

(by Emily Pilloton, Source: <http://blog.ted.com/2010/11/08/teaching-design-for-change-emily-pilloton-on-ted-com/>)

## CONCEPT

### Project H Design

1. Design through action
2. Design with, not for.
3. Design systems, not stuff.
4. Document, share, and measure.
5. Start locally, and scale globally.
6. Build.

(by Emily Pilloten, Source: <http://blog.ted.com/2010/11/08/teaching-design-for-change-emily-pilloten-on-ted-com/>)

## DESIGN FOR EDUCATION

The Learning Landscape is a grid of tires that can be used as an interactive exterior learning environment, a tool to teach math in a nontraditional setting. For example, one game played on the court is “match me”. The teacher writes a number on each of the tires in chalk. After dividing the students into two teams, one student from each team competes at a time. She asks a math question such as “5x4 equals?” and they run to find the tire with the number 20 and sit on that tire. The team with the most players sitting on tires wins. This type of game encourages children to learn

multiplication (or whatever the game is designed to test) in a much more active way than a classroom setting.

## DESIGN AS EDUCATION

Project H Design has become a permanent support of the redevelopment of Bertie County. In 2010 they began a new project in the high school. Working with the principal they designed a year-long shop class curriculum that challenges students to develop and idea, test it, build it and then install in within the community. This type of shop class teaches students the elements of design, and helps them understand, through active participation and experimentation, how design can be used to build up their local community in meaningful, tangible ways.

## REDESIGNING EDUCATION

“Creating the conditions under which change is possible...and creating the incentive to want to make change.” This part of Project H’s vision aims to build up hope and excitement within the community. “The project asks the

school system how it might become a catalyst for a more connected community” (Pilloten, TED, 2010).

## FINDINGS

How is it a learning landscape/environment?

A learning landscape encourages or inspires the process of learning through experience of space or environment. This should be achieved not through propaganda and grandiose gestures but rather the experiential quality of the place should provide the user an expanded view of his or her circumstances. By this definition and by its title, the Learning Landscape in Bertie County is an environment and a landscape which stimulates and promotes learning.

Who is the audience?

Primarily, the public school system of Bertie County, North Carolina. However, Project H aims to make change throughout the Bertie County Community and across the globe.



appendix

## LITERATURE REVIEW

## The Experimental Playground :: Hattie Coppard

Coppard, H. (2004). The experimental playground daubeney primary school, hackney london. *Green Places*, (5), 34-36.

Keywords: *experimental; elementary school; public art; design process*

Summary: Hackney Primary School in Hackney Wick, London took on a project to re-envision and re-inspire their playground through a one-week experimental laboratory. They patterned ground surfaces, covered and re-textured existing structures, experimented with light, re-positioned and situated playground elements, so forth and so on. The teachers, students and parent volunteers worked alongside each other on the weeklong project. "The lessons learned from this project have been immense, revealing how much of what we adults see in a playground is not the same as what the children do" (35). Through the process "we have become more convinced that the starting point for design should be through experience and this has shaped our work for the future" (36), said Lucy McMenemy, coordinator of the Hackney Wick Public Art Programme.

Main Point: True experience and validated research should precede impetus for design, rather than projected or assumed experience. This participatory charette demonstrates that one cannot necessarily predetermine how a child might choose to interact with or experience a space, therefore involving children in the design process can be helpful.

## Form and Fabric In Landscape Architecture: A Visual Introduction :: Catherine Dee

Dee, Catherine. 2001. *Form and farbric in landscape architecture: A visual introduction*. Oxon: Spon Press.

Keywords: *topography; landform*

Summary: “The intention is to encourage designers to make connections between experience and design”(2). The book is divided into seven morphological sections to be incorporated into the design process. The sections are as follows; landscape fabric, spaces, paths, edges, foci, thresholds, and detail.

“Responsiveness... to people, to nature and to place.” p14

“Landscape design can be seen as a process of adding other layers of form and meaning that integrate or juxtapose to older layer and meanings” (15).

When successfully integrated, “In wholeness, the sum of the landscape forms and elements is greater than the parts” (20).

Understanding the user group is critical to design of any space. “Public spaces need to function for many different uses and users” (36).

Topographic Spaces (p54-61)

Flatness and degree of intervention: used for purposes of utility

Cut and fill: maintain balance for economic feasibility

Bowls and hollows

Mounds and mounts: “there is pleasure and security in occupying a raised position”(58).

Plateaus: “enables a journey of anticipation”

Terraces: used as a linking device between architecture and the landscape

Subterranean spaces: “places of both fear and attraction...urban threat or spiritual significance.”

Vegetation spaces (62-68)

Plants can be used as structural element to define space and for environmental reasons to encourage biodiversity.

Paths (81-114): “linking forms that create networks of circulation in the landscape” (82)

Factors that affect the quality of the kinetic experience of landscape along and



through a path include sequencing, and points of arrival and departure. Spaces are strategically places to promote variety in the experience.

Site organization is often largely determined by path orientation and form (90). Path spaces are defined by degree of enclosure and situation within the landscape. Deen divides path spaces into four categories;

[Topographic Paths / Built Paths / Vegetated Paths / Water Paths]

Edges (115-143)

“Edges are interlocking forms or places of transition that enclose and separate different spaces. Thinking about edges as physical and conceptual entities within landscapes provides the opportunity to be integrative, complex, rich and subtle in the design of spatial transitions. Edges ‘knit’ the fabric of the landscape together and connect landscape to architecture and vice versa” (115).

Notoriously under-appreciated in design; “This neglect may be due in part to binary thinking that categorizes mass and space as opposites and negates the possibility of designing hybrid spaces that are neither mass nor space but are both simultaneously” (117).

Topographic Edges(128): Spurred edges, stacked edges, banks, ridges, ditches, steps as edges, cliffs and chasms.

Foci (144-168)

Focus: “a form or centralized group of forms (often vertical) that contrast(s) with the surrounding landscape; a form that marks a place of spiritual, cultural or social significance attracting people and becoming a destination or gathering point” (145).

“As we get close to landscape elements they create different impressions, and our appreciation of them changes. Being able to touch, manipulate and interact with the landscape at an immediate scale is a very important part of landscape experience and appreciation. ...Children have a particularly close physical relationship with landscape surfaces and elements, not only because they are closer to the ground but because they learn about environments by touching and tasting” (190).

Main Point: Dee presents a detailed framework (in text and images) for organizing and understanding landscape spaces and elements, in part and as a whole. The definitions and descriptions provided, particularly in respect to topographic spaces, edges and thresholds, will be critical to my exploration of landforms.

## The Nature of Metaphors in Cultural Geography and Environmental History :: David Demeritt

Demeritt, David. "The Nature of Metaphors in Cultural Geography and Environmental History." *Progress in Human Geography*. 18. no 2(1994): 163-185

Keywords: *metaphor; cultural geography; environmental history; landscape*

Summary: Demeritt discusses the metaphor of landscape as text, which can be read by all humans. He dismisses this metaphor as a naïve and simplistic view of landscape. "Science is too important to be left to just the scientists, just as nature is too important to be left to just the scientists, just as nature is too important to be left to the landscape, the metaphor of landscape as text hamstringing human geographers trying to challenge the hegemony of science on familiar conceptual terrain" (170). Demeritt discusses other metaphors relating landscape to a cultural understanding of the cosmos, concluding that, "Landscape becomes interesting only in so far and as much as it frames the social and provides a passive stage for an exclusively cultural drama" (170).

Through discussion of metaphors, Demeritt repeatedly points out a tendency of authors to ignore the agency of nonhumans (171). Any landscape as a system, is far more complex perhaps than any of these metaphors can accurately imply. "They make landscapes malleable cultural projections, whose shape and meaning are determined ultimately by the linguistic and social contexts associated with them...as real things existing wholly prior to and independent of cultural ways of knowing them" (164). And so the relationship between cultural geography and environmental history is entirely viable and results in an important and necessary discussion. Demeritt draws from a text by Richard White, who says, "Social change clearly has environmental consequences,

but environmental change, in turn, also affects societies. The process is reciprocal” (165). Perhaps, the cultural understanding which we project upon and draw from the landscape affects the means by which we act upon it.

Summarizing a more ecologically based portion of the article, Demeritt makes an interesting point regarding the current relationship of humans with nature: that we must stop viewing and concluding that our contemporary privileged relationship with nature is a loss. It is a reality- that is unlikely to change. Therefore, we must respond to the human-nature relationship as it currently stands rather than propose a violent return to primitive ways (174).

“Human knowledge of nature comes to us already socially constructed in powerful and productive ways” (177).

Main Point:

- The relationship between nature and culture
  - ...can one exist without relationship to the other? Can nature simply ‘be’? or is our social construct of nature always projected upon it?
- “The recovery of nature as autonomous actor and the insistence that nature exists independently from cultural ways of knowing, makes it difficult to talk about how what passes for nature is determined in particular contexts” (179).
- “I argue that landscape metaphors of cultural production focus attention front and centre on the ways in which landscapes are constructed and their meanings fixed through social processes” (179).
- “Metaphors are enframing devices that make the world knowable while always already precluding still other ways of ordering the world” (181).

## The Received View of Play and the Subculture of Infants ::

Susan Herrington

Herrington, Susan. 1997. The Received View of Play and the Subculture of Infants. *Landscape Journal* 16 (2) (Fall): 149-60.

Keywords: *children; infant; play; perspective; natural material;*

Summary: Herrington addresses several questions in her article. Namely, “What do outdoor play apparatuses really offer children, particularly young children who are increasingly placed in corporate, commercial and institutional settings?” (149). Such a question must be broken down before it can be answered comprehensively. First, Herrington examines how the current, rather disconnected, playground model came to represent outdoor play. She writes, “there is the assumption that play takes place upon the land with play structures placed onto the land” (150). Formalized play environments became a part of the urban American landscape around the turn of the century as a response to a “need to improve the physical fitness of children” (150). No American wants to be perceived as soft, therefore, as the country industrialized, children were kicked out of the streets and formalized urban play environments were born.

Research suggests that toddlers and infants are society’s most neglected age group. Children of this age group learn significantly through tactile experience. Play equipment manufacturers promote their products as facilitating tactile play. “Rather than depending on equipment to give play its constitution, landscape architects need to collaborate with early childhood specialists so that landscapes for children can express and support the many facets of human development” (151).

The Infant Garden at UC Davis is essentially a carefully designed laboratory where the researchers observed infants. Rather than creating a child’s play space based on what either a teacher or designer thinks a child needs or desires, the Infant Garden was developed by gathering empirical data through observation in combination with

“the fundamental theories of early social-emotional and sensorimotor development” and translating this data into landscape forms, textures and images (153). The interactions of nine infants in the garden were observed and recorded by a selection of researchers for defined intervals across a period of time. Findings suggest that vegetation in the landscape provide the infants more than aesthetic value, rather, “the leaves, twigs, flowers, and pine cones seem to become a part of the infants’ play experience, exploration, and their world” (157). In concluding, Herrington poses a provoking comment, “by studying the landscapes of play we can begin to understand what our culture is; in re-thinking these landscapes we can entertain what culture could be” (158). Perhaps our culture deserves to be at least slightly discredited because of the values that we project upon our children even as they are infants. Herrington asks, “Is it better to build an environment of olfactory memories of the smell of pine trees after rain or the smell of rubber baking in the sun? (158)

Main Point: This article provides a remarkable precedent for the value of interaction with natural materials on early-childhood development.

## Go Out and Play: On Robin Moore’s playgrounds, nature is the attraction :: Susan Hines

Hines, Susan, and Robin Moore. 2005. Go Out and Play: On Robin Moore’s playgrounds, nature is the attraction interview. *Landscape Architecture* 95 (3) (Mar.): 128,134,136.

Keywords: *playground; experiential learning*

Summary: Robin Moore has dedicated his career as a landscape architect to asserting the importance of providing children with daily meaningful interactions with nature. He believes that the standard playground formula of asphalt blacktop and turf field does not suffice as a landscape for experiencing nature. Moore also believes that all assertions must be substantiated by research. Therefore, he has pored significant time into researching children’s experiences of playgrounds. Moore has spent countless

hours observing playground interactions between children and between children and the environment. Time and again he found that children are most engaged in playground environments that allow for exploration and open-ended play sequences. When responding to observation of a particular undeveloped play area, he says, “the site was surrounded by this overgrown wasteland, and the kids would go off there and explore, bringing back all sorts of creatures they discovered. What the community viewed as an eyesore, the kids used as an additional resource” (130). Moore has also found that, more often than not, children engaged in adventure playgrounds are quicker to work together and more likely to engage with children of other age groups. It became evident to Moore that taking children off of asphalt playgrounds gave way to more constructive play (130).

Ultimately, a primary concern that stems from children not receiving adequate play environments, is that these children will grow up without any meaningful memories of time spent outdoors and in nature and will subsequently not place high value of protecting the natural environment as they become adults. Of further concern, is that children take important developmental lessons from time in nature. Distilling the play environment down to one that only allows for a certain formula of play does not allow children the sensory and experiential experience of nature that they need and desire to stimulate and challenge them.

Main Point: The modern playground is not an acceptable environment for children. Playgrounds should nourish adventure, encourage companionship and allow for endless possible play sequences. An asphalt blacktop and turf field cannot provide this environment for a child.

## The Site as Project: Lessons from Land Art and Conceptual Art :: Martin Hogue

Hogue, M. (2004). The site as project: Lessons from land art and conceptual art. *Journal of Architecture*, 57(3), 54-61.

Keywords: *land art; landscape; conceptual art; site*



Summary: As architects we must broaden the notion of site amongst professionals. We should come to an understanding that site and project are inextricably linked, one 'exposing' the other. Hogue's article looks to land and conceptual art projects and their understood relationship between site and project. As a result, the article discussed "the role that imagination, location, and time play in constructing the site" (54).

"Although we traditionally expect the "site" to be that place which awaits intervention, for Smithson "the site is where a piece should be but isn't" (55). This is a mindset that treats the site as a project within itself. In this vein of understanding, the site exists wholly, apart from the project. If an architect were to embrace this understandings/ he must accept a responsibility to see the site as preceding the project. In this way, the project is built within an existing system, rather than sat upon a location. A site is more than a found coordinate location. "It may be enriching to think of a site as the structure of action that conditions our experience of any environment" (57).

Through analysis and description of several land art and conceptual art projects, Hogue demonstrates how the site can become the project. Conception of the site as a process allows the artist or architect to build with and into the site, understanding that the site is continually molded by environmental factors. Viewing the site as an open-ended process "proposes a design approach to intervene minimally, where needed, and in reference to what is already there. It invites the designer to recognize the potential of a site and tease out its qualities without overpowering them" (59).

Main Point: Hogue synthesizes and simplifies the interests and agendas of oftentimes-incongruous professions, and delivers a message for all. The article successfully applies a principal understanding of land artists- the reciprocal relationship between site and project- to the architectural understanding of site as the location upon which project is placed. A common understanding of site and project softens the boundary between land artist and architect allowing both the benefit from dialogue and shared passions.

## The Word Itself :: J.B. Jackson

Jackson, J. B. (1984). *The word itself. Discovering the vernacular landscape* (pp. 3-8). New Haven: Yale University Press.

Keywords: *landscape; vernacular;*

Summary: Contemporarily, “landscape is used for suggesting the esthetic quality of the wider countryside.” The word originated as a term used by artists to describe a picture of a view. Over time, the word has been used to describe a much broader range of situations. For this reason, one should be intentional with the way he or she uses the word.

Jackson writes, “we always need a word or phrase to indicate a kind of environment or setting which can give vividness to a thought or event or relationship; a background placing it in the world” (4). It is important to bring the reader context and definition to the situation being described. Jackson says firmly however, that the word landscape should never be used to describe a notion that is not concrete; it cannot be used to describe an imaginary reality (5).

Landscape, being a compound word, can be broken down into two words; land and scape. Both of these words, particularly the former, have many derivations in meaning, both as result of culture and situation. Therefore, the intended meaning of the word landscape is ambiguous in nature.

Main Point: The purpose of this article is not to propose a new definition for the word or provide alternate words that better express the principal. Rather, Jackson intends to provide some perspective as to the use of the word and its origins.

## Last Child in the Woods :: Richard Louv

Louv, R. (2006). *Last Child in the Woods: Saving Our Children from Nature-deficit Disorder*. Chapel Hill, NC: Algonquin of Chapel Hill.

Keywords: biophilia, hypothesis, experiential learning, nature, evolution, mental health

Last Child in the Woods is the seminal work on the subject “nature-deficit disorder” coined in this book. The book is compiled from personal interviews by the author and a large number of academic studies. It is a compilation of research from many disciplines including education, psychology, biology, sociology, and design disciplines. It is an aggregation of separate bodies of literature into one term—“nature-deficit disorder”. He lays and explains the work and gives his reasons behind why he believes such a “disorder” exists.

Nature-deficit disorder is the alleged trend that children spend less time outdoors resulting in a wide range of behavioral and health problems like ADD, ADHD, obesity, poor performance in school, anti-social behavior, and depression. Louv cites parental fears, restricted access to natural areas, and the “lure of the screen” as reasons for nature-deficit disorder (preference towards movies, TV, and computers for recreation time).

Louv spends much of the book explaining exactly what nature offers children: emotional well-being, spiritual sense of perspective, observation skills, cognitive abilities, creativity, healthy risk taking, observation skills, balanced sense of humility, stress management, increased attention, lowered depression. Nature primarily involves all of the senses. Louv contrasts it with television and computers which are mainly dual-sensory, appealing only to the eyes and ears.

Nature-deficit disorder is not a clinical diagnosis and is not recognized by any medical manuals for mental disorders.

Last Child in the Woods may be the most important book for Landscapes of Learning. It is an aggregation of a large body of social science research. It cites (informally) a broad and extensive set of literature relating to experiential learning, learning styles, examples of school programs and after-school programs, psychology, design initiatives, biology research, preference studies, etc. etc. It is full of personal and professional opinions on the topic.

## Form, Meaning, and Expression in Landscape Architecture ::

Laurie Olin

Olin, L, (1988). Form, meaning, and expression in landscape architecture. *Landscape Journal*, 7(2), 149-168.

Keywords: *Meaning, Scale, Expression, Rhetoric, Experience, Abstraction, Nature, Materiality, Materials, Medium, Imagery, Experimentation*

Summary: In this article Olin presents a critique of the current position of landscape architecture (written in 1988). He is critical of landscapes that clearly draw inspiration in form and materiality from sources other than nature, specifically art and literature. It is his belief that the impact of work that draws inspiration from such places will be short-lived. He discusses the successes and failures of abstraction and experimentation. He writes at length about form, materiality and meaning in contemporary and historical landscapes. Olin refers directly, to Andre Le Notre, Lancelot Brown and Olmsted. He critiques the work of the three previously mentioned as well as Calvert Vaux, John Muir, Martha Schwartz, Peter Walker, SWA (work by George Harvgreaves, Jim Reeves and Man Mock), Richard Haag, Lawrence Halprin and others.

Main Point: Nature need be the only inspiration for a landscape architect however, nature is not meant to be copied directly. One can emulate the logic of nature and draw inspiration from its forms but to copy it directly does a disservice to the profession and demeans the form from which it originated.

## Performing on the landscape versus doing landscape: Preambulatory practice, sight and the sense of belonging :: Kenneth R. Olwig

Olwig, K. (2008). Performing on the landscape versus doing landscape: Preambulatory practice, sight and the sense of belonging. In T. Ingold, & J. L. Vergunst(Eds.), *Anthropological studies of creativity and perception; variation:Anthropological studies of creativity and perception.* (pp. 81-91). Aldershot, England Burlington, VT: Ashgate.

### Summary:

what is space?

landscape of space v. landscape of earth, fields, pastures, country and ground

Olwig cites two ways of seeing; binocular vision and monocular perspective. Binocular vision encompasses the idea of “movement an knowledge gained from a coordinated use of the senses in carrying out various tasks,” generating a sense of belonging within the landscape and a place of action and of living. Monocular perspective involves a view of spaces from a fixed and distant point, away from the body, engendering a sense of ownership as if looking over a staged performance (81).

A difference exists between the way landscapes are viewed as places of belonging and ownership. “These two very different modes of perception create the basis for contrasting senses of belonging in regard to the land, and hence of what it means to say that Scotland is the land of the Scots, or Jutland is the land of the Jutes. One can belong to the land of the land can belong to you” (84). In the same way, a man who walks the same path every day begins, over time, to feel a connection and attachment to the land over which he travels. In the majority of modern societal systems, landscape has become a commodity that can be purchased and traded the same as any other good. In this mindset landscape become almost synonymous with scenery(88). Historically the words, landscape and scenery represent two different

ideas. Landscape, referred to the real space in which people lived and worked, whereas, scenery was a sensory pleasing artistic representation of a space (83). Today, the two words have grown closer in meaning. For instance, the way in which we think about land a good to be bought and sold renders it part of a scenic ideal.

Main Point: Throughout history, landscape has been viewed, thought, and written about from many different perspectives. The author should be careful in the assumed operation that s/he attaches to the word landscape.

## The Cultural Landscape :: Christopher L. Salter

Salter, C. L. (1971). *The Cultural Landscape*. Belmont: Calif., Duxbury Press.

Keywords: *cultural geography*

Summary: Salter divides his book into four sections; the Mobility of Man, Husbandry of the Earth, The Organization of Space, and The Contemporary Cultural Landscape.

### The Mobility of Man

Salter discusses what has motivated people to move around, and explore the globe, through out history in our present time. He also looks at consequences and benefits of a globalizing society.

“Perhaps the most stunning characteristic of myth-stimulated migration, however, is the inertia which it has overcome in prompting man to move-an act which for most of man’s history has been discouraged by tradition.” (Salter 2)

avenues of movement are of interest, but the dominant concern is the reshaping the area of adoption (Salter 3)

“..but the pleasing idea of revisiting his original connections, soon made his eyes sparkle with joy” (Cook 12)



“clearly, all migrations introduce anomalies into the goal area” (Twain 20)

“this is art, and art is long, as the poet says” (Twain 22)

“Very well, Bright Improvement has arrived, you see, with her civilization and her Waterbury, and her umbrella, and her third-quality profanity, and her humanizing-not destroying machinery, and her hundred-and-eighty-death-rate and everything is going along just as handsome!” (Twain 23)

“...has had a few years of schooling, if his imagination has been excited by newspapers and the radio, if he feels a need to break from his traditional ways, if he wants to be modern, there is only one place he can go- the city. And he will go there even if it does not make economic sense to do so.” (Meisler 37)

#### Husbandry of The Earth

The effect on the earth of the man's increasing mobility is far-reaching. Across the globe the ways by which men act as stewards, farm the land, abuse, learn from, and rely upon the land is molded by increasing technology and transfer of knowledge.

“...to call attention to examples of man's cultural choice transcending the determinants of the physical landscape” (Salter 65)

“When there were several bands of musicians, it sounded as if all the village was a vast bellows, and all the building expanded and collapsed alternately with a din. But sometimes it was a really noble and inspiring strain that reached these woods, and the trumpet that sings of fame, and I felt as if I could spit a Mexican with a good relish, -for why should we always stand for trifles?-- and looked round for a woodchuck or a skunk to exercise my chivalry upon. These martial strains seemed as far away as Palestine, and reminded me of a march of crusaders in the horizon, with a slight tantivy and tremulous motion of the elm tops which overhang the village. This was one of the great days; though the sky had from my clearing only the same everlasting great look that it wears daily, and I saw no difference in it.” (Thoreau 69)

“Ancient poetry and mythology suggest, at least, that husbandry was once a sacred art; it is pursued with irreverent haste and heedlessness by us, our object being to

have large farms and large crops merely. We have no festival, nor procession, nor ceremony, nor Thanksgiving, by which the farmer expresses a sense of the sacredness of his calling, or is reminded of its sacred origin. It is the premium and the feast which tempt him. He sacrifices not to Ceres and the Terrestrial Jove, but to the infernal Plutus rather. By avarice and selfishness, and a groveling habit, from which none of us is free, of regarding the soil as property chiefly, the landscape is deformed, husbandry is degraded with us and the farmer leads the meanest of lives. He knows Nature but as a robber. Cato says that the profits of agriculture are particularly pious or just ( ) and...." (Thoreau 71)

### The Organization of Space

The driving factors which cause man to make a mark upon the earth and first, productivity, and second, a need to feel ownership. In this way, man has a fundamental need to organize the landscape according to his own devices. How we choose to view the landscape, be it architecturally, socially, subjectively, or regionally drives our means of organization upon the landscape.

"The whole town seemed to be frying in oil. There was a stifling smell of hot oil everywhere. The steam-engines shone with it, the dresses of the Hands were soiled with it, the mills throughout their many stories oozed and tricked it. The atmosphere of those Fairy palaces was the breath of the simoon; and their inhabitants, wasting with heat, toiled languidly in the desert. But no temperature made the melancholy mad elephants more mad or more sane." (Dickens 217)

### The Contemporary Cultural Landscape

In this section Salter raises some questions regarding the future as the cultural landscape continues to be modified and projected upon. Modifications of the earth continue to grow in scale and magnitude. The significance of these changes affects the entirety of the human race, whether acknowledged and accepted, or not.

"The whole art of townscape is built on a fundamental principal-which can be a political and philosophical principal too- of the "is-ness" of parts: that each city has its own specific character and that to give visible form and identity, this character must be

expressed in shape and patter.” (Nairn 225)

“townscape relies on two things: relationship and identity” (Nairn 226)

“the complete fragmentation of the whole manmade environment in this way is not a liberation of life, but an explosion...” (Nairn 227).

Main Point: Humans have been projecting their cultural values upon the physical landscape and allowing those values to manifest in physical form through organization and modification of the landscape for centuries.

## Between Landscape Architecture and Land Art :: Udo Weilacher

Weilacher, U. (1996). Between Landscape Architecture and Land Art. Basel; Boston: Birkhäuser.

Summary: Some contemporary landscape architecture has allowed esthetic quality abandoned in favor of functional, sociological and ecological considerations (9).

“accompanying loss of aesthetic force and stimulus to society”

Poetry in Nature Unredeemed\_ Ian Hamilton Finlay

Finlay was always taken by the notion of concrete poetry. After moving to a remote part of Scotland and without knowing anything about gardening, he gradually began to realize his poetry through gardening.

“...before any first cut of the spade the attempt must always be made to understand landscape without any gardening intervention”(91).

The Antidote to Virtual Reality\_ Sven-Ingvar Andersson

“A garden should be such that it can be experienced over and over again, just as it’s possible to see a Shakespeare play or look at a good painting more than once and discover new aspects each time” (163).

“I have a reputation for having introduced poetry to garden art. This is a reputation

I am quite happy with. Sensitivity is the distinguishing character of poetry, and this applies to landscape architecture and garden art as well. This aspect, always important, has become even more important today due to the fact that daily life is increasingly ruled by substitute contacts...Garden art and landscape architecture are the antidote to virtual reality" (170).

#### Hyperrealistic Shock Therapy\_ Adrian Geuze

In the landscape plan for Oosterschelde Weir, Geuze covered a 2.5 hec area in a pattern from black and white empty mussels shells. The result is "...a clear indication of the artificial nature of the intervention; it is in sharp contrast to the soft line of the coast and unequivocally rejects the imitation of nature which was originally called for... Geuze's main concern is increasing people's sensitivity to their everyday environment... by employing and exaggerating the potential of the everyday, sometimes even of the vulgar" (230).

hyperrealistic shock therapy\_ "things are shown in a bluntly realistic way, as a scenario of emptiness"(231).

"I would like to make contemporary landscape accessible again to the people who live in it. I don't want to continue to create new illusions which strengthen the misconception that our landscape is ruined, that our society is bad...if we continue to make simple and powerful interventions in the landscape not for the sake of enjoyment and design but for the sake of having it work, we will undoubtedly be in a position to continue development of this landscape in the future" (236).

"If there is a purpose to my work, it's to promote optimism with regard to the landscape, to put people back in contact with their own environment" (238).

Main Point: Weilacher's book provides a series of case studies and interviews with a selection of landscape architects and land artists. This source allows the reader to become familiar with a number of precedents rather quickly. Weilacher is able to demonstrate the shared notions of the individuals he chooses by placing them in proximity.



For a more complete and extended annotated bibliography from the Landscapes of Learning Master's Studio follow the link below to the K-State Research Exchange, Landscapes of Learning Collection.

<https://krex.k-state.edu/dspace/handle/2097/13625>