

IMPACTFUL PHENOMENOLOGIES

Minnesota Marching Arts

Impactful Phenomenologies

Minnesota Marching Arts

Cover: Figure 1
TITLE OF IMAGE; location of image
(photographer, date taken)

A *Design Thesis* submitted to the Department of Architecture and Landscape
Architecture of North Dakota State University by

Matthew J. Weiss.

In partial fulfillment of the requirements for the degree of Master of Architecture.

Primary Thesis Advisor  MAY 12, 2014
Ganapathy Mahalingam, Ph. D

Thesis Committee Chair  MAY 7th, 2014
Mark Barnhouse, Post-Professional M. Arch

May, 2014
Fargo, North Dakota

“The taste of the apple...lies in the contact of the fruit with the palate, not in the fruit itself; in a similar way...poetry lies in the meeting of the poem and reader, not in the lines of symbols printed on the pages of a book. What is essential is the aesthetic act, the thrill, the almost physical emotion that comes with each reading.”

-Jorge Luis Borges, *Forward to Obra Poetica*

Quote from *Questions of Perception*, pg. 28

TABLE OF CONTENTS

1	Cover
3	Signatures
6	Table of Contents
8	Figures and Tables
12	Thesis Abstract
13	Problem Statement
14	Statement of Intent
18	Proposal
19	Narrative
24	User-Client Description
28	Major Design Elements
32	Site Information
38	Landmarks of Shoreview
40	Project Emphasis
42	Plan for Proceeding
44	Task Schedule
47	Previous Studio Experience
50	Theoretical Premise Research Results
64	Results from the Typological Research
106	Historical Context
126	Goals for Architectural Impact
130	Qualitative Site Analysis
140	Photogrid
142	Climate Data
162	Program Space Allocation
164	Interaction Net
165	Interaction Matrix
166	Project Solution
196	EASE Acoustical Tests
198	Installation Photo
199	References
200	Profile Page

FIGURES AND TABLES

COVER	Cover Photo	<i>Figure 1</i>
10	Original Drawing by Matthew Weiss	<i>Figure 2</i>
23	The 3 Drum Majors	<i>Figure 3</i>
32	Regional Map	<i>Figure 4</i>
32	Twin Cities Map	<i>Figure 5</i>
33	Shoreview Map	<i>Figure 6</i>
34	Larger Site Map	<i>Figure 7</i>
35	Drive Times Map	<i>Figure 8</i>
35	Drive Times Chart	<i>Figure 9</i>
36	Site Pictures Map	<i>Figure 10</i>
37	Site Picture 1	<i>Figure 11</i>
37	Site Picture 2	<i>Figure 12</i>
37	Site Picture 3	<i>Figure 13</i>
37	Site Picture 4	<i>Figure 14</i>
37	Site Picture 5	<i>Figure 15</i>
37	Site Picture 6	<i>Figure 16</i>
38	KSMP Tower Photo	<i>Figure 17</i>
39	Mounds View High School Photo	<i>Figure 18</i>
38	Grass Lake Wideout Photo	<i>Figure 19</i>
39	Shepherd of the Hills Photo	<i>Figure 20</i>
46	Spring Gantt Chart	<i>Figure 21</i>
48	Grass Picture	<i>Figure 22</i>
53	Cigarettes for Kids	<i>Figure 23</i>
66	Case 1 Site Plan	<i>Figure 24</i>
66	Case 1 Plan	<i>Figure 25</i>
68	Case 1 Structure	<i>Figure 26</i>
68	Case 1 Natural Light	<i>Figure 27</i>
68	Case 1 Circulation to Space	<i>Figure 28</i>
68	Case 1 Massing	<i>Figure 29</i>
68	Case 1 Geometry	<i>Figure 30</i>
68	Case 1 Hierarchy	<i>Figure 31</i>
68	Case 1 Material Module	<i>Figure 32</i>
68	Case 1 Relation	<i>Figure 33</i>
69	Case 1 Plan to Section	<i>Figure 34</i>
69	Case 1 Section Structure	<i>Figure 35</i>
69	Case 1 Section Natural Light	<i>Figure 36</i>
69	Case 1 Section Material to Ground	<i>Figure 37</i>
69	Case 1 Section Hierarchy	<i>Figure 38</i>
70	Morgan Library Expansion Interior Picture	<i>Figure 39</i>
70	Morgan Library Expansion Exterior Picture	<i>Figure 40</i>
71	Case 1 Section	<i>Figure 41</i>
72	Case 2 Site Plan	<i>Figure 42</i>

72	Case 2 Plan	<i>Figure 43</i>
74	Case 2 Structure	<i>Figure 44</i>
74	Case 2 Natural Light	<i>Figure 45</i>
74	Case 2 Circulation to Space	<i>Figure 46</i>
74	Case 2 Massing	<i>Figure 47</i>
74	Case 2 Geometry	<i>Figure 48</i>
74	Case 2 Hierarvhy	<i>Figure 49</i>
74	Case 2 Material Module	<i>Figure 50</i>
74	Case 2 Relation	<i>Figure 51</i>
75	Case 2 Plan to Section	<i>Figure 52</i>
75	Case 2 Section Structure	<i>Figure 53</i>
75	Case 2 Section Natural Light	<i>Figure 54</i>
75	Case 2 Section Material to Ground	<i>Figure 55</i>
75	Case 2 Section Hierarchy	<i>Figure 56</i>
76	Zentrum Paul Klee Exterior Picture	<i>Figure 57</i>
77	Case 2 Section	<i>Figure 58</i>
78	Case 3 Site Plan	<i>Figure 59</i>
78	Case 3 Plan	<i>Figure 60</i>
80	Case 3 Structure	<i>Figure 61</i>
80	Case 3 Natural Light	<i>Figure 62</i>
80	Case 3 Circulation to Space	<i>Figure 63</i>
80	Case 3 Massing	<i>Figure 64</i>
80	Case 3 Geometry	<i>Figure 65</i>
80	Case 3 Hierarvhy	<i>Figure 66</i>
80	Case 3 Material Module	<i>Figure 67</i>
80	Case 3 Relation	<i>Figure 68</i>
81	Case 3 Plan to Section	<i>Figure 69</i>
81	Case 3 Section Structure	<i>Figure 70</i>
81	Case 3 Section Natural Light	<i>Figure 71</i>
81	Case 3 Section Material to Ground	<i>Figure 72</i>
81	Case 3 Section Hierarchy	<i>Figure 73</i>
82	Il Girasole Exterior Picture	<i>Figure 74</i>
83	Case 3 Section	<i>Figure 75</i>
84	Case 4 Site Plan	<i>Figure 76</i>
84	Case 4 Plan	<i>Figure 77</i>
86	Case 4 Structure	<i>Figure 78</i>
86	Case 4 Natural Light	<i>Figure 79</i>
86	Case 4 Circulation to Space	<i>Figure 80</i>
86	Case 4 Massing	<i>Figure 81</i>
86	Case 4 Geometry	<i>Figure 82</i>
86	Case 4 Hierarvhy	<i>Figure 83</i>
86	Case 4 Material Module	<i>Figure 84</i>
86	Case 4 Relation	<i>Figure 85</i>
87	Case 4 Plan to Section	<i>Figure 86</i>
87	Case 4 Section Structure	<i>Figure 87</i>

87	Case 4 Section Natural Light	<i>Figure 88</i>
87	Case 4 Section Material to Ground	<i>Figure 89</i>
87	Case 4 Section Hierarchy	<i>Figure 90</i>
88	Monash University Student Housing	<i>Figure 91</i>
89	Case 4 Section	<i>Figure 92</i>
122	Qualitative Analysis 1	<i>Figure 93</i>
123	Qualitative Analysis 2	<i>Figure 94</i>
122	Qualitative Analysis 3	<i>Figure 95</i>
123	Qualitative Analysis 4	<i>Figure 96</i>
124	Qualitative Analysis 5	<i>Figure 97</i>
125	Qualitative Analysis 6	<i>Figure 98</i>
124	Qualitative Analysis 7	<i>Figure 99</i>
125	Qualitative Analysis 8	<i>Figure 100</i>
126	Qualitative Analysis 9	<i>Figure 101</i>
127	Qualitative Analysis 10	<i>Figure 102</i>
126	Qualitative Analysis 11	<i>Figure 103</i>
128	Photogrid	<i>Figure 104</i>
129	Photogrid Map	<i>Figure 105</i>
131	Climate Analysis Temp. Chart	<i>Figure 106</i>
133	Climate Analysis Precip. Chart	<i>Figure 107</i>
135	Climate Analysis Humidity Chart	<i>Figure 108</i>
137	Climate Analysis Sunny vs. Cloudy Chart	<i>Figure 109</i>
139	Climate Analysis Sun %/Day Chart	<i>Figure 110</i>
141	Climate Analysis Wind Speed/Direction Chart	<i>Figure 111</i>
143	Climate Analysis Solar Diagram	<i>Figure 112</i>
145	Climate Analysis Topography/Noise Map	<i>Figure 113</i>
147	Climate Analysis Vegetation/Wind Map	<i>Figure 114</i>
149	Climate Analysis Geology Map	<i>Figure 115</i>
150	Programmatic Space Allocation	<i>Figure 116</i>
152	Interaction Net	<i>Figure 117</i>
153	Interaction Matrix	<i>Figure 118</i>
154	Process Work 1	<i>Figure 119</i>
155	Process Work 2	<i>Figure 120</i>
157	Minnesota Marching Arts Process Sketch	<i>Figure 121</i>
158	Board Image 1	<i>Figure 122</i>
160	Board Image 2	<i>Figure 123</i>
162	Board Image 3	<i>Figure 124</i>
164	Board Image 4	<i>Figure 125</i>
166	Board Image 5	<i>Figure 126</i>
168	Board Image 6	<i>Figure 127</i>
170	Board Image 7	<i>Figure 128</i>
172	Board Image 8	<i>Figure 129</i>
174	Board Image 9	<i>Figure 130</i>
176	Board Image 10	<i>Figure 131</i>
178	Board Image 11	<i>Figure 132</i>
180	Board Image 12	<i>Figure 133</i>



- 182** Board Image 13
- 184** Board Image 14
- 186** EASE Test 1 Axon
- 186** EASE Test 1 Section
- 187** EASE Test 2 Axon
- 187** EASE Test 2 Section
- 188** Installation Photo
- 190** Profile Image

- Figure 134*
- Figure 135*
- Figure 136*
- Figure 137*
- Figure 138*
- Figure 139*
- Figure 140*
- Figure 141*

THESIS ABSTRACT

An emerging field of research in Architectural discourse, Architectural Phenomenology can be represented as the perception of space through the five senses. For some of the world's most established practitioners and researchers in the stated field, their strife to understand the connection between experience and experiential qualities is a major milestone in understanding architecture itself. This thesis aims at perpetuating the discussion, not solving a theoretical question, behind Phenomenological processes, with special interest in the brash nature of Impactful buildings. 'Impactful Phenomenologies: Minnesota Marching Arts' aims at promoting further discussion on both impactful architecture and experiential datum through the typology of a Marching Arts facility for Minnesota. The campus is located in Shoreview, MN, encompassing more than 21,000 sf of dormitory/small campus space, a performance shell incorporating roughly 6000 seats, and supporting facilities. The Minnesota Marching Arts will prove the perfect archetype for an impactfully built environment.

Key words: Impact, Architecture, Phenomenology, Experiential Data, Marching Band, Marching Arts, Performing Arts Center, Minnesota

How can Impactful Phenomenologies lead to a greater experience of space?

STATEMENT OF INTENT

THESIS TYPOLOGY

Marching Arts Facility

Direct Functions:

- Performance Shell
- Practice Spaces
- Multi-use Performance

Supporting Functions:

- Residences for all involved
- Service Space
- Office
- Minnesota Marching historical Museum
- Surrounding grounds

Theoretical Premise

Each phenomenological realm, whether it be haptic (touch) or visual, has been dulled by commercially industrial methods. The greed associated with the ‘quick and easy’ has effectively displaced the essences of true architecture: that is, the texture, detail and material honesty. When a space has been designed for the experiential human tendencies, “Sensory experience is intensified; psychological dimensions are engaged” (Holl, *Questions of Perception*: pg. 91). Through a phenomenological viewpoint, these psychological barriers can be examined to determine a truly impactful environment. By analyzing the experiential qualities of honest construction and quality design, progress can be made toward a more holistic design approach.

Claim:

An impactful space can lead to a greater sense of phenomenological processes, as the better understanding of phenomenology can similarly lend to a more impactful space. Impact and phenomenology are intertwined and inseparable.

Actors: Building Elements

Action: Phenomenological Processes

Object: That which perceives.

Premises

- 1| Architectural elements will always export data in the form of the phenomenological. All buildings and built spaces affect the person in ways that are sometimes understandable and at other times not. Quality design can be a proven attribute toward human comfort and mental health.
- 2| Each person/object perceives a space, or its separate elements, differently from the person next to him/her. This may lead to a perpetual discussion.
- 3| All architecture/actors, as with all other built works, contains a specific and unique set of materials and detail, which lend to an experiential quality that is unique to the project or built work. No space is the same, and thus the occupants can be expected to act differently in such dissimilar spaces.
- 4| Current building practices do not always adhere to the humanistic tendencies of their inhabitants. There is a striking amount of falsification in building design, that only leads to the falsification of the self.

Project Justification

There exists in the built world wonderful examples of performance space. They are the widely published, the unforgettable, the grandiose. Each branch of the fine arts, whether it be a full orchestral symphony or a woodwind quintet, has for itself developed an understanding with the architectural world, each sound quality to its own spacial arrangement. Much like the pairing of a fine wine with the night's dinner, if they don't match well, the experience will be jeopardized. As it stands, there is no such architectural idiom for a Marching Band. A century-old tradition among the academic world, the marching arts has slowly built up its repertoire to span between the human ages of junior high to after retirement, from the football field halftime show to the Drum Corps International world championship. Some of the world's greatest musicians have played alongside these groups, (such as Fleetwood Mac with USC, Ben Folds with OU, and more recently Beyonce's unforgettable embrace with the University of Michigan's Pride), and yet there remains a distinct problem: there isn't a marching arts facility to be found in the United States. Though there are free facilities (i.e. Football fields), there is a disjunction between the performer and the performance space. The two parties are not paired well, and thus each lose their true potential.

The marching arts are as much a visual experience as an aural perception. One cannot find such a combination in any other visual or fine art form. The culmination of [often times] several hundred people playing their instruments at full volume, while arraying themselves in preconceived patterns on field, leads to a

very brash and monumental feel. Yet, a marching core may also have the ability to be extremely gentle, playing in the legato style or gracefully transition from one set to another. Much like any organized instrumental ensemble, each marching band has its own style and character. There is such a wide berth, such a wide scope involved in the marching arts, and yet currently no attempts for an architectural cadence.

As it is, there is concern among the larger and more established Drum Corps International groups, such as the Minnesota Brass, for permanently designated facilities. Such emerging groups often lack not only practice fields, but residential buildings for waylaid core members, facilities for management and review, office space for advisors and other non-profit organizers, food service structure, and the like. Not in the least is there a lack of individualized performance space for such organizations (which can draw crowds of several thousands at a time). A facility for marching bands would understandably need to incorporate many spaces to efficiently succeed.

The Twin Cities metro area of Minnesota has a substantial population of younger individuals who annually participate in Marching Band, as most if not all of the school districts have a marching band. The tiers present would be [at the earliest] junior high students, high school students, collegiate bands and professional cores. All said, there are perhaps 10,000 marchers in a 50-mile radius from Minneapolis. Locating a Marching Arts Facility near the Twin Cities metro area is an easy choice for this bursting archetype.

THESIS PROPOSAL

THE NARRATIVE

Take a hike.

In all seriousness, let us reminisce together. It is highly possible that you, the reader, have been to a state park [or nature reserve]. It is then equally possible that you have hiked on a trail in your lifetime thus far. Search your memory for one particular hike at one particular location. What do you remember? What was actually memorable?

Whether lagging behind or leading the pack, my life has been blessed with many such family trips. I have traversed dozens of locations around the United States and a few in Canada and Mexico. To be clear, we are recreational hikers only, and have never done anything extravagant or beyond a 12 mile trek. And though nature hikes have relatively little in common with architectural discourse, they can prove as a useful tool, as many of my own vivid memories lay in the quiet of the outback. What is odd of these memories is that often the most vivid details are not the picturesque. They are not the occasional ‘money shot’ nor are they the destination of which I walked toward.

While at Yosemite National Park, trekking up the 4-Mile Trail, I remember most clearly the slope of the incline, the smell of the spruces, and the sweetness of the summer air. I remember my arm hair being covered in a fine dusting of yellow pollen high up in the mountain pass, while the white pines rustled in the breeze. I remember the stark difference of trail to concrete as we reached the shelter, and the color of the red metal roof over the stone wall, half covered in wilted pine needles.

At the time, these were not memories. They were physical perceptions, manifestations of the outside world in my consciousness: experiences which directly engaged my cognition. I perceived the exposed aggregate of the walkway, as I perceived the gentle breeze against my face. The experiential data my brain created vivid images that I can still recollect today, a phenomenon called ‘memory.’

I remember these details because herein they represent the most impactful phenomena I perceived that day. These ‘impactful phenomena’ exist, or perhaps have the ability to exist, in all objects of all places in all times. We have the ability to perceive all of which that is immediately around us, if only we take the time to do so. Let us then consider another analogy.

I can safely assume that you, the reader, are within a building of some sort as you read this. If you will, look directly below you: what do you see? Touch the objects: how do they feel? Perhaps they have a smell: is it pleasant? Is it bad? Feel the air around you. You may notice the current of the air circulation, of which you immediately dismissed when entering the space as a commonality. Look above you. What materials do you see?

By taking a moment, one can analyze his/her settings using the five senses. It often takes the cognitive awareness of a person to truly “sense” something.

These senses are accurate to their user’s extent: a blind person cannot see, but may smell just fine, just as a partially deaf person cannot readily hear everything that produces sound around them, but they may have acute vision. Each user/occupant of a space will perceive spaces differently based on their own conditions of perception, attention, attitude, outlook, etc. This means that the way you feel about the room that encircles you is somewhat different from the way I would ‘feel’ if I were to switch places, and vice versa.

$$X + Y \neq X + Y$$

As with any theory-based conversation, the outcome of debate will not be an ultimate answer to the question, rather a re-clarification of terms or a heightened state of knowledge. This is common in architectural discourse and holds true in *Impactful Phenomenologies*.

Barry Edginton, author of the analysis titled “Architecture as Therapy: A Case Study in the Phenomenology of Design,” analyzes the methods used by two radical phenomenologists of the 1960’s in producing what they deem to be ‘healing space.’ In analyzing Dr. Humphrey Osmond and architect Kiyoo Izumi of Saskatchewan, the idea of Sociopetal spaces, or spaces which bring people together, he relates the phenomenological realm to spatial design:

“The Sociopetal design is related to how phenomenology understands the body in place as a knowing subject. For both, there is the consideration of the subjective world or conscious retreat of the patient, the physical world in space and place (stock of knowledge) and, finally, the interactions of the patient in the social world. Spatial experience is, then, mediated by the situated place of the lived body within a given space.”

Osmond and Izumi imagined an institutional building for schizophrenia patients that provided a healing effect, and through the use of illicit drugs such as LSD and mescaline, they explored the physical perceptions commonly felt or imagined by the patients themselves. Though a confrontational approach and by no means acceptable today, it proves the lengths that designers will go to

understand perception of space, especially when dealing with a client type they know little about.

Because we know little about the perceptions of our user/clients, the theory of architectural phenomenology is a challenging perspective on what makes quality architecture ‘tick.’ What can the properties of an chosen material exude on the user of the space?

As humans, we have grown accustomed to surrounding ourselves with items that make us feel good. We will paint the walls of our rooms to best fit our personalities and taste. We choose a carpet selection as best fitting our needs, as well as the various items we put on our shelves. Our surroundings define us, as we define them.

Consider a typical college dormitory. Each person will surround themselves with that which makes them comfortable in the space allotted them, in the way that seems most natural. A phenomenological viewpoint will analyze the ‘actions’ of the surrounding elements, and their psychological effects upon the human inhabitant. In so doing, a phenomenologist may be able to better understand the positive and negative effects of multiple different elements and spatial organizations, providing a greater understanding of the underlying truths of ‘good design.’

Though we perceive spaces differently, there are true, certain cases of poor design: that which lacks definition, that which disregards the anthropocentric, and that which denies human perception. If we as designers do not meet the concerns of the human soul, how can we possibly consider our projects ‘excitable?’ If we do not design for human perception, how can we possibly consider our projects to have impact?

The classic bad example is the modern office. Designed for economy and little else, these rectangular white cubicle-containers are in stark disregard of the needs of the occupant. They offer little in terms of the five realms of human perception (sight, smell, touch, hearing, and taste). Everything is perfected, yet nothing close to perfect. Edginton draws easy resemblance between the non-experiential, dogmatic lifestyle inherent in most institutional buildings. It has only been in recent years since the convoluted ‘60’s that strides have been made to return back to intuitive design after a few decades of dull architecture.

A truly impactful environment offers stimulation (in moderation and in taste) of the senses to connect a user to his/her domain. It connects a player to the field, an audience to their auditorium, a teacher to the classroom, a DJ to the studio, and an infant to their newly painted bedroom. A truly impactful environment will improve the sensation of ‘being’ and uplift the user into a greater sense of awareness. A truly impactful environment will promote happiness. The only

question is “how?”

I have been a member of “The Pride of North Dakota” since my freshman year at North Dakota State University. Deemed the ‘Gold Star Marching Band’ in 2004, member numbers are consistently right below 200, a fairly respectable size in all regards. The GSMB provides life to many North Dakota State sporting events. During my four years of service, I have never seen a year where our services went unappreciated. The collegiate community of NDSU loves their band, and we relish this fact with enthusiasm and service to the university we love and support.

Successfully combining both architectural school and marching band into one schedule was not an easy feat. It involved class conflict, often leaving studio early, and increasingly more late nights. It involved the disintegration of my weekends, and led to the suffer of some of my coursework. However, I could never imagine another chance at college without the support and friends I have gained through the GSMB. The experiences and leadership opportunities I have gained through the largest organization on campus have been an invaluable facet of my life.

It was only fitting that my thesis dissertation would provide some form of thanks to the organization that faithfully watched my growth from a general member in 2009 to the current Student Band President and one of three Drum Majors.

The idea of a Marching Band as an ‘impactful’ musical style is an understatement. It directly takes two of the five senses (vision and hearing) and creates a hybrid art form. On the aural side, the typical marching band ‘sound’ can be considered quite brash, often going from a pause to double fortissimo in a second’s notice. Merging what the composer deems an excitable conglomeration, the ultimate goal is to impress the audience. Otherwise stated, a well-planned Marching Band musical arrangement is the epitome of impact. On the visual side, the goal of a Marching Band is precision and unity. A [marching] core is often graded on their uniformity. Getting a few hundred members of different abilities in step and in sync is not easy, but can be very visually impressive if done well.

As it is, there are permanent practice facilities for marching bands across the nation that are readily available. However, these facilities are usually shared with other groups and may be hard to reserve at convenient times. High school students will practice as time is allowed, and on practice fields so as not to disrupt the practice schedule of their respective football teams. Practice can be challenging without a proper sound system or viewing station, and often the groups will not know where practice is the next day. College marching bands often either have their own share of the same facilities as their various teams. As a reference, the University of Minnesota practices in their TCF Bank Sta-

dium five days a week and this never changes. Not all colleges are so lucky to have reserved space. Many groups, including the GSMB, have practices as they can, and have to jump from facility to facility each day. This makes transport of larger instruments and sound systems and other necessities a hassle. Professional groups may be even worse off than high school students, as they must rent out a field from another entity altogether, and often times they must commute many miles in heavy traffic each day.

Were these enough reasons for a true ‘Marching facility,’ one must realize that the facilities currently used by these groups are not built for *them*. These stadiums are not built for sound perception. Beyond the occasional exception, they are most typically of the ‘Bleacher’ construction type and leave much for want. These risers may be acceptable for the typical Friday night football game at your High School Alma mater, but they are not acceptable for the positive culmination of a truly phenomenal experience.

This thesis aims to extrapolate the phenomenological viewpoint into the emerging archetype of a Marching Arts Facility. If we can better understand the causes and effects of impactful design choices, the greater our designs and ultimately the usefulness and longevity of our projects. A Marching Arts Facility for Minnesota provides the perfect canvas for the architecturally phenomenal.



Figure 3
The Three Drum Majors; fargo, nd
(taken by Matthew Lunde, Sept. 7, 2013)

USER-CLIENT DESCRIPTION

The user-client description for the Minnesota Marching Arts Facility will not be simple, nor is it a holistic prescription. It is a rough mapping of the clients and users of the spaces. To accurately map the user description of the space would take testing years after construction, and would only provide an amorphous description at best.

CLIENTELE

The clientele of the designated facilities will most likely be composed of private donors. Much like many institutional or academic buildings, the different spaces may be ‘purchased’ by separate donors. The project may need government support, or support from larger institutions such as the University of Minnesota, to provide the initial capital to receive loans and begin construction.

Though not anticipated, some of the clientele may also become users. Such members may be office staff for the organization running the facility. Because of the scope of the project and the variations of client opinions, the value of a solid architectural identification will be difficult but crucial in the design phase.

The client[s] will most likely not have office hours, but will have the opportunity to use or view the spaces they own at any time they choose, within reason.

USERS

Day Campers

The facilities can be rented out as need be by individual groups (i.e. ‘Minnesota Brass’ or ‘Youth In Music’). Each group’s program will vary based on their own needs, but should never exceed the capacity of the facility. Therefore, it is important to design for growth and flexibility in terms of human services. Each group may vary from an expected 40 people to perhaps 500 people at a time, and groups should plan in advance with Facility office staff to reserve.

Day campers will range widely in demographics. Primarily, the facility can be expected to cater to younger day campers, within the ages of 14-19. There will be need for separation of groups based on gender and based on age bracket as needed. Members of a day camp will not be grouped in ways that make the user uncomfortable or prone to abuse/theft/rape etc. The facility will be expected to cater to marchers of all ages and abilities, providing proper ADA code compliance in all sectors. The needs of the day campers will be all typical human services (i.e. waste management, food services, temporary residences, recreation). All day campers will provide personal items in accordance with their program’s

rules, but all individual program rules must comply with general facility rules. Day campers can be expected to stay anywhere from three days to 4 weeks, as is necessary with their group's program.

The user staff will be responsible for all food-related needs, though support may be found via Facility office staff. The Facility will include all necessary spaces for preparation and consumption of food and drink. The user staff will also be in charge of providing any additional materials, but recreational and educational items may be rented from Facility staff. Waste management will be under the jurisdiction of the Facility staff, within reason.

Day Campers can be broken down into Day Camp Staff and Day Camp attendees. Staff should be separated from attendees in residence halls as per Facility rules.

Permanent Ensemble Groups

The facility may be partially owned by large permanent ensemble groups. Such marching cores can be considered a fundamental element to the project's program. The facility would provide a permanent practice/performance space for all members involved, and may provide residency during needed periods of the year.

Cores such as these represent an important branch of Marching Band. They are highly competitive and represent the professional league of marching, Drum Corps International. Minnesota has a couple professional marching cores, namely Minnesota Brass of St. Paul, MN, and the Govenaires of St. Peter, MN. These groups, though non-influential donors, may become permanent users if they choose to.

Their individual needs may be considered similar to the Day Campers' needs in all regards. They will share practice space with other users, but their priority is higher. Their need for temporary residence halls is undecided at this point, as they usually commute to their practice facilities.

They will share human service spaces, such as food prep and recreation, with all other groups and must equally plan accordingly with Facility staff to ensure proper usage of space.

Facility Staff

Facility staff will have completely different needs from the aforementioned groups. Each member shall receive adequate office space as deemed necessary by the architect, and will include access to private office restrooms and a staff lounge/kitchen. The office space shall provide an intuitive, functional and enjoyable workspace for all members, and will conform to the flexibility of the staff.

The office sector of the Facility will be easily accessible to all other users and hold standard office hours as decided by the Facility staff. The office should be in a central location and should not be more than a minute's easy walk to any other sector of the building, for everybody's convenience.

Facility staff will be provided with one parking lot space per estimated staff member, and their parking lot will be separated from the general lot.

Facility staff maintain priority over all other groups, within moral reason. Facility staff are expected to be a year-round Facility user when other groups may not be as prevalent. Staff numbers can be anticipated at less than 15 people, and include custodial services.

One-Time Performance Ensembles

Some of the performance facilities may be rented out for singular use. For instance, a local Jazz Ensemble may elect to hold an outdoor concert. These user groups will need a temporary performance space that suits their needs and general acoustics, and may also need an indoor atrium for after-concert festivities or socials. They may need access to the food prep area, though will be generally discouraged unless they plan on catering to a large group of people.

Two spaces will be provided: a 300-seat outdoor amphitheater (with electricity available), and a 500-seat indoor recital hall. Each space can be used by these groups as need be, and should be readily accessible from the main core of the building.

These users represent a small portion of the expected users, but a very beneficial section of the local population. They represent a draw to the Facility from areas of the community less interested in the Marching Arts. Therefore it is necessary to imply the importance of Marching Band in the musical community whenever and however they get involved with the Facility.

Public Viewers/Fanbase

When a daughter or son has a concert, it's a social norm and, dare we say a mandate, for his/her family to attend. Therefore, a crowd can be generated from only a small group of performers. If there is an estimated maximum of 500 performer/users, then there can be safely considered a necessity for at least 1500 seats in the Performance space.

Whatever the number of performer-users, the estimated fanbase population will change correspondingly. It is very hard to say at the present how many people may show up to a larger event, though one could safely say that a 5000-seat stadium may accommodate any event held by the Minnesota Marching Arts Facility.

The public will request quick and easy access to restroom facilities, sized according to maximum occupancy. They may also require a permanent concessions stand for refreshments, as Marching Band performances and competitions may last anywhere from one hour to eight. There should also be space for vendors near the performance field, as some of the public viewers may have items for sale. The field would do best if connected to the building itself, to contribute to a better management of space and building pad square footage.

The public can be considered to have first priority over all other users, as it is their business that may generate the most revenue. They also represent the largest user group, thus their opinion of the space matters most. Their spaces should be detailed in a way that draws them back to the MMAF many times again. Their comfort is crucial, though they aren't there for long.

MAJOR DESIGN ELEMENTS

Performance Space is a must, and will be the primary draw for all users to the Facility. The performance spaces must be adequately designed and in favor of a phenomenological view to enhance the essence of the space and encourage users to return. The primary performance space, or performance field, must be designed to strict standards and provide the perfect assembly space for both viewing and hearing an impactful marching concert. All materials chosen must both engage the user and allow for the proper acoustical specifics that a marching band would need. The second performance space shall be an outdoor Amphitheater, to hold musical rehearsals and/or concerts. It shall be of much smaller scale than the performance field, and considered its own entity of the project. Each of the above mentioned spaces shall be closely linked, and serviced by much of the same support spaces, such as restrooms and covered walkways. An indoor recital/concert hall shall constitute the third and final performance space, and will not be a primary performance space for marching bands, though it shall be designed to provide adequate acoustics and engage the user through intuitive material/finish choices.

Key words: Performance Field with Stadium Seating
Outdoor Amphitheater
Indoor Recital Hall
Materiality
Acoustics
Impact

Living Space represents a unique opportunity for the program to truly shine. As with any facility that caters to groups of people staying over long periods of time, the project shall provide temporary residences (i.e. Dormitories) for the various users. The spaces shall comply to all ADA code restrictions, and provide for a safe and nurturing environment for extended stay. As a typical marching band can vary anywhere from 60 members to upwards of 450, this project shall cater to providing living space for 500 transient users at a time. To complicate the order, the spaces shall be broken up in a way that allows segregation by gender and by age. This shall allow for a safer experience while at the Facility, which can be considered the ultimate goal of any Day Camp's facility layout. The spaces should attempt a vertical building structure that is integrated into the rest of the building. The project will NOT call for separate cabins, nor will it facilitate a few hundred camping lots. The residences will be part of the mixed-use structure, and allow for easy walking distance to any core space in the program.

Key words: Temporary Residences to accommodate 500 players
Safety
Segregation
Vertical Structure
Impact

Service Space, though commonly overlooked in any building, shall be of utmost concern when designing the Minnesota Marching Arts Facility, and perhaps will offer the best phenomenal impact. Memories will be made within the service spaces at this location. All service space can perhaps be bracketed into multiple different facets. Service spaces shall be considered to include all circulation spaces and routes, vestibules, any atria that exist within the mixed-use shell, and designated space for custodial services and HVAC systems. These amorphous spaces will constitute a large portion of the square footage, and should be designed with the intent to impress: designed to impact.

Key words: Circulation
 Building Systems Integration
 Impact

Office Space will be required for permanent Facility staff, as well as any other business/NPO entities that may want to incorporate themselves into the program. The office wing of the design should have a sub-central location within the building footprint, and provide easy access to all areas of the building. Office space must be accompanied with necessary supporting service spaces such as office lounges and restrooms as deemed necessary, and due to the flexibility of clientele, should incorporate eventual growth into the design. All spaces should be designed for comfort and productivity, to be intuitive and perceptively interesting.

Key words: Flexibility
 Location
 Comfort
 Impact

Recreation Space can be misplaced in a typical program from time to time. This facility's recreation space shall incorporate mostly an outdoor strategy. Recreation space should be located close to residence halls, and near other central spaces such as the cafeteria, to provide easy access to all members during down time. Outdoor spaces shall include, but are not limited to: a small disc golf course, space for recreational sports, and/or a patio with fire pit. The inclusion of recreational space is to signify the importance of the playfulness of the human spirit, particularly that of younger individuals who need such activities to keep their minds engaged during long stays. The recreation spaces should not overshadow the other sectors of the program, but their importance is noted.

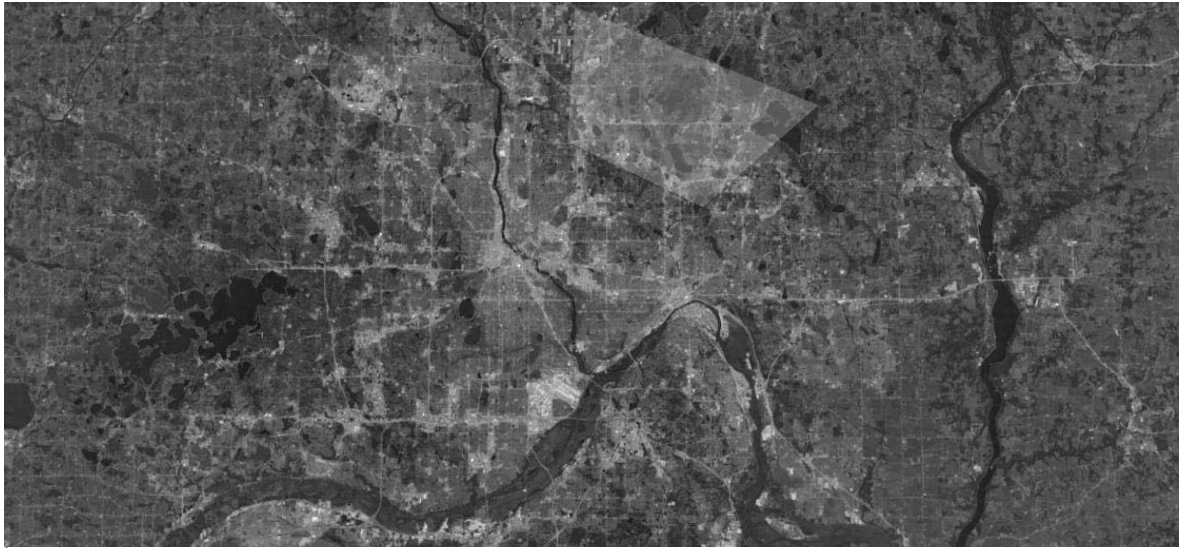
Key words: Playfulness
 Natural
 Impactful

Practice Space is a must for any large ensemble to succeed. To hold regular practices without a designated, permanent facility is a living nightmare to those in charge, and puts unwanted stress on the shoulders of those that need to make the decisions. As the marching arts have a very strict set of spatial parameters to meet in terms of practice space, this will not be a difficult task to prescribe a solution. The program is to call for two permanent practice fields. These fields will be in the exact geometry of the Performance Field, though they will be constructed of simpler means for the purpose of both limited capitol and environmental preservation. The fields will be supported with basic amenities to include access to potable water and basic restrooms. The fields will require a viewing station of some sort, to be determined at a later date, for instructing purposes. There is no need for seating/bleachers at these spaces, as there is no intended audience beyond each band's staff and conductors. There should be an attempt at a sound barrier between fields.

Key words: economical
 easy walking distance
 access to services
 environmental constraints
 impact

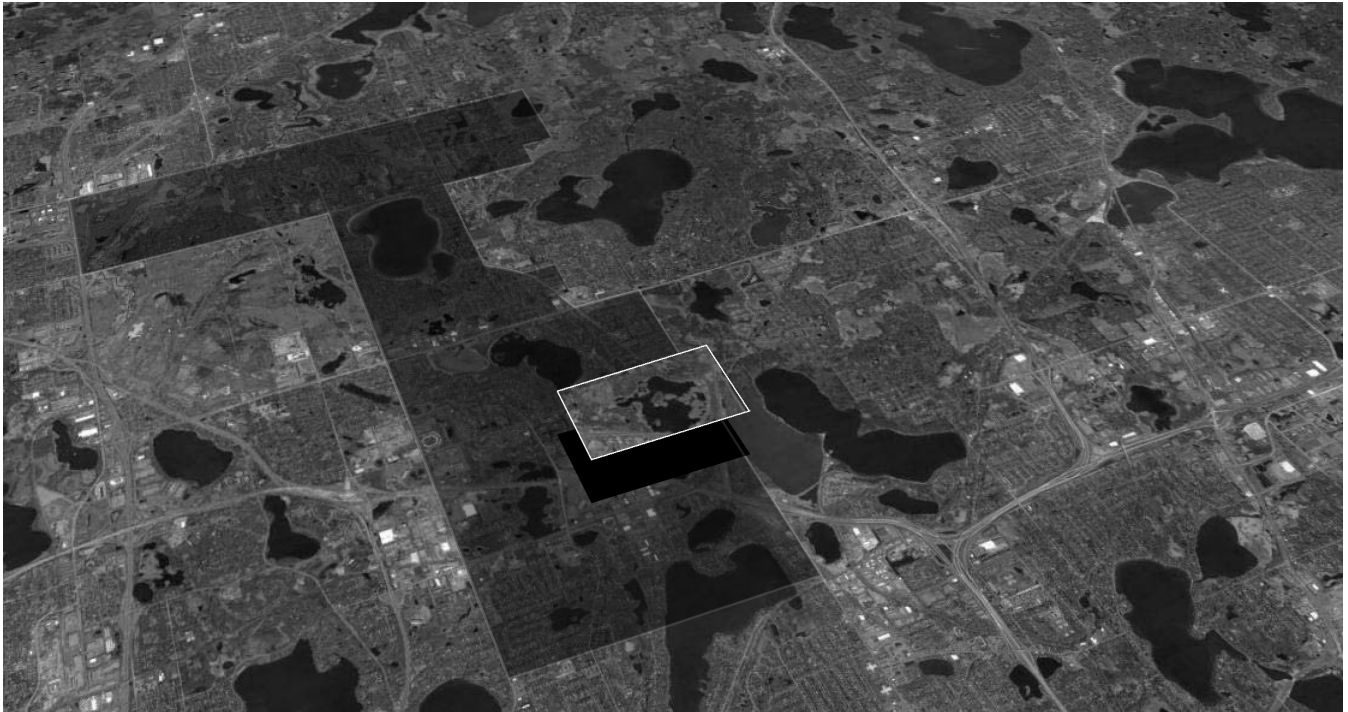
Human Space cannot be forsaken in a program such as this, with a large group of people staying for an extended period of time. As noted previously, there is a calling for both a food preparatory space, as well as a larger central space to serve as a cafeteria during eating hours. The kitchen should be of adequate size and able to cater to larger numbers. The cafeteria should have linkage to outdoor patio space. And with a need for consuming material, there will always be a need for the removal of material waste. This space will be intuitively designed to include convenient stations for waste management, and will provide restroom facilities in all sections of the building and in all needed quantities. Emphasis will be placed on less water wasted with smarter technologies and better systems management. Often times, the most surprisingly well-designed spaces come from this facet of the building, and when there's surprise there is ultimately perception. Where there is perception, there may be a chance for impact.

Key words: food prep/cafeteria
 waste removal
 convenience of location
 impact



SITE INFORMATION: MACRO TO MICRO





The region of Upper Midwest America encapsulates the area between North Dakota to Michigan, and includes the northern section of Iowa. What makes this region so special may not be the accent. It may not be our politeness, nor our economic wisdom. It might not even be the safety of living or the favorable conditions for success. It also isn't our down-to-earth mentality. It surely isn't the beautifully carved environment, our clean watersheds or the fields of yellow and green. It can be considered all of these elements and more, that make the Upper Midwest what it is. What is the Upper Midwest? It is 'Comfort.'

Minnesota is most commonly known for its 10,000 lakes. If a Texan were to be asked to describe Minnesota, he/she would most likely describe thousands of little lakes encircled with pines. What an outsider may not know is that Minnesota encompasses three primary biospheres: the deep pine forests of the Northeast corner, the flat plains of the Southeast corner, and the deciduous hybrid that lies in between. Minnesota has a steady economy, is highly educated, has a wonderfully happy population, and many other things to be proud of. We are the 'Blue-Platers,' the 'Lake People' and the 'Rich Kids.'

Left: Figure 4

Regional Map; Google Earth

Upper Left: Figure 5

Twin Cities Map; Google Earth

Above: Figure 6

Shoreview Map; Google Earth



Minneapolis-St. Paul, referred to as the Twin Cities, is a vast urban area, encompassed by a few rings of suburban areas. Roughly half of Minnesota's population lies within 25 miles of the Twin Cities. Its initial historical draw was based on manufacturing, with its proximity to the Minnesota and Mississippi Rivers, but it has now made its renown as a cultural hub, filled with high literacy rates and one of the largest theater markets in the nation.

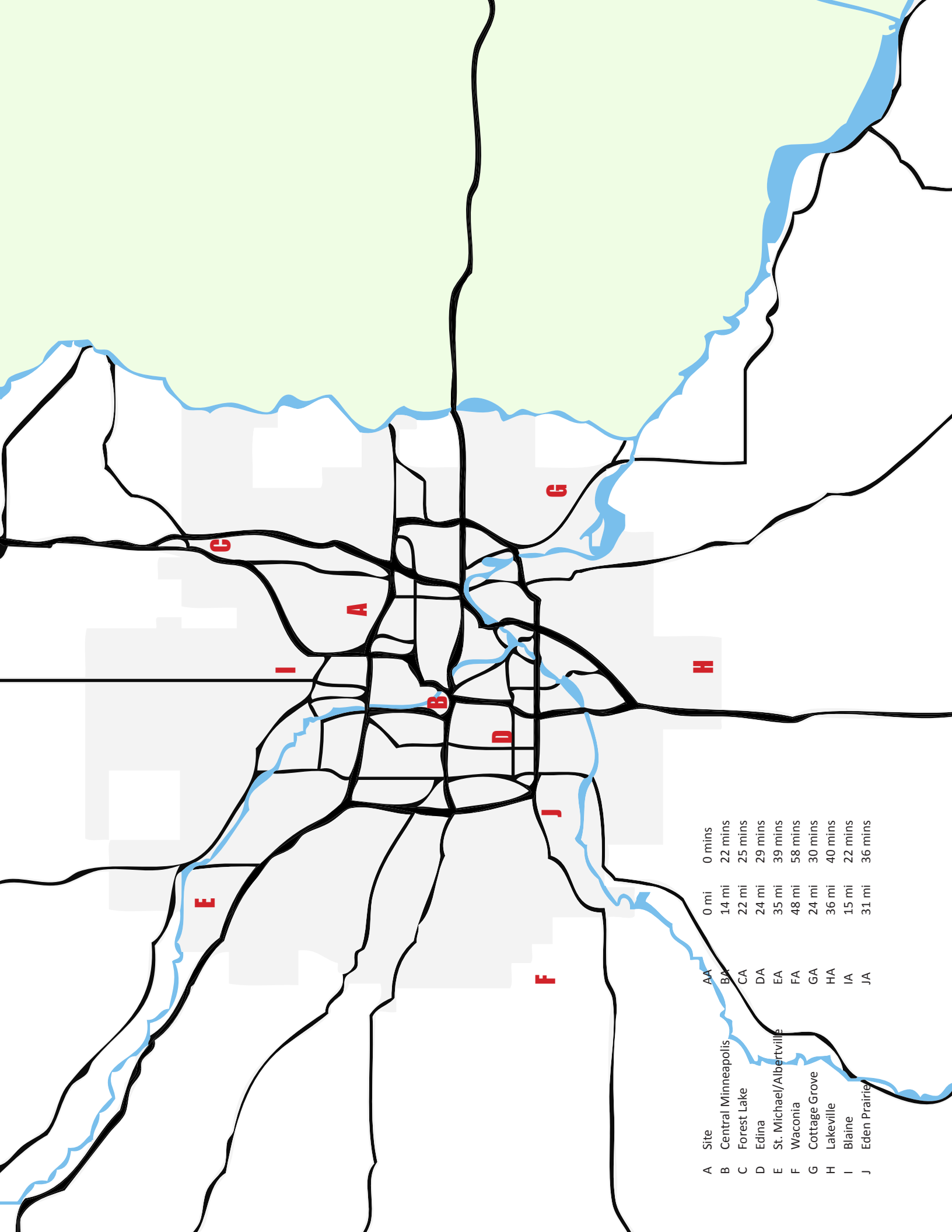
Shoreview, MN, is one of the more natural suburbs of the Twin Cities Metro Area, providing all three biospheres. As illustrated in *Figure 6*, it has an oddly sprawling layout and encompasses more lakes than is typical in the area (roughly 20). As stated by the Shoreview Government online website, "Shoreview is a distinctive and vibrant community recognized nationally as one of the most desirable places to live, work, and do business." With normal driving conditions, it is a simple 20 minutes from Minneapolis' city center, and within 40 minutes' driving time from any other suburb of the Twin Cities.

As such, there is no doubt that this mid-sized city of 25,043 residents can accommodate any project with its natural draw and proximity to the greater metro area. *Figure 9* shows relative driving times, from the local High Schools of various cities to the selected site. Drive times and distances were calculated using the online website 'Google Maps.'

Above: *Figure 7*
Larger Site Map; Google Earth

Right: *Figure 8*
Drive Times Map; Google Earth

Right: *Figure 9*
Drive Times Chart



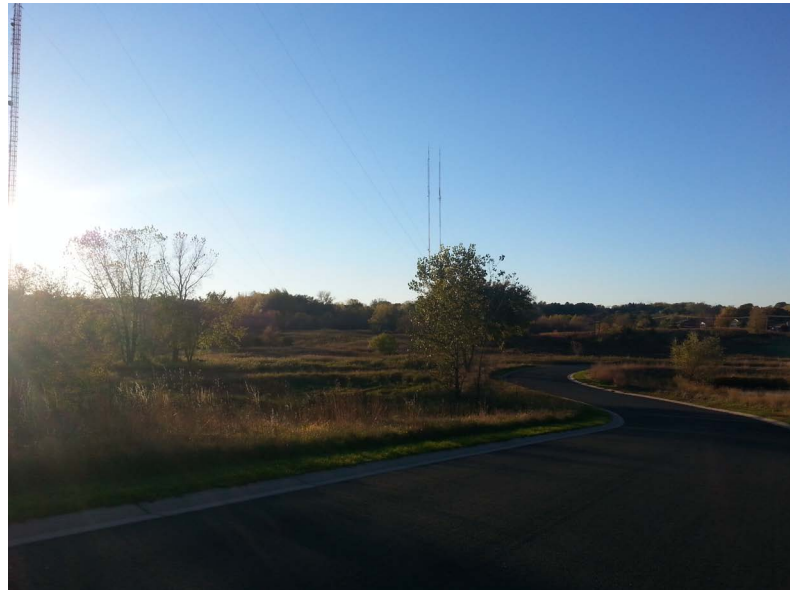
Site	AA	0 mi	0 mins
B Central Minneapolis	BA	14 mi	22 mins
C Forest Lake	CA	22 mi	25 mins
D Edina	DA	24 mi	29 mins
E St. Michael/Albertville	EA	35 mi	39 mins
F Waconia	FA	48 mi	58 mins
G Cottage Grove	GA	24 mi	30 mins
H Lakeville	HA	36 mi	40 mins
I Blaine	IA	15 mi	22 mins
J Eden Prairie	JA	31 mi	36 mins

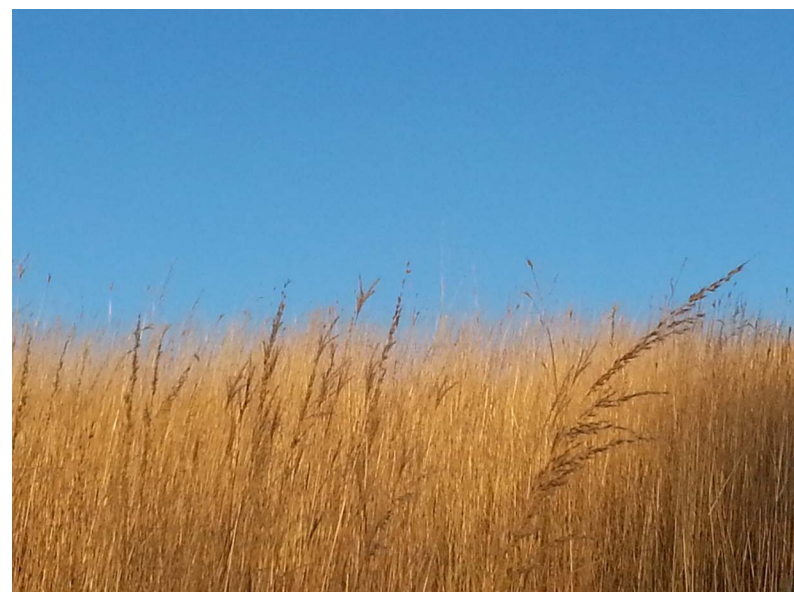
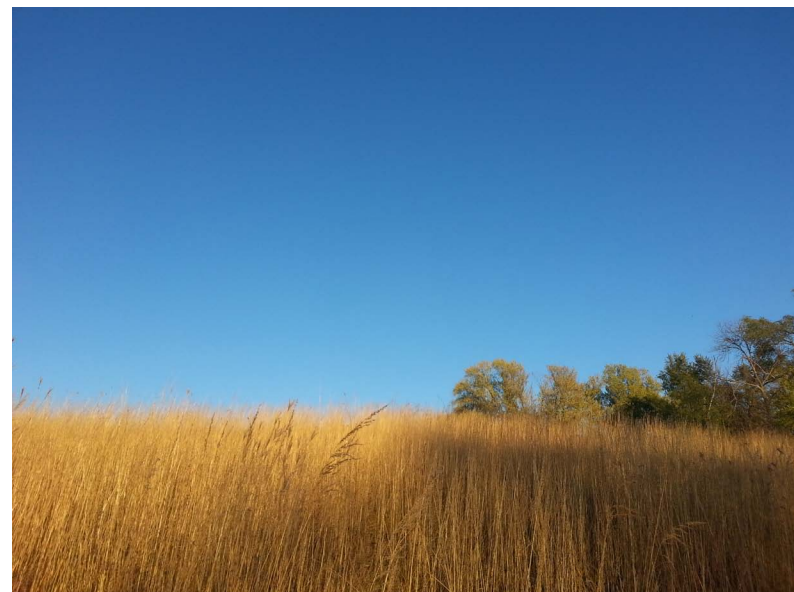
The main site requirements placed down for this program are as follows:

- Close proximity to Twin Cities metro area
- Near a body of water
- Access to existing public utilities
- Medium/Large Acreage
- Relative Privacy
- Illustrates the natural beauty of Minnesota
- Elevation change > 20 feet

Finding an empty site that meets the above criteria is nigh impossible. Water frontage is a rarity in any suburban/urban area. Any glimpse of natural beauty is generally already taken. The phenomenal is hard to claim.

However, the aforementioned site in Shoreview, MN, is a perfect example of an anomaly.



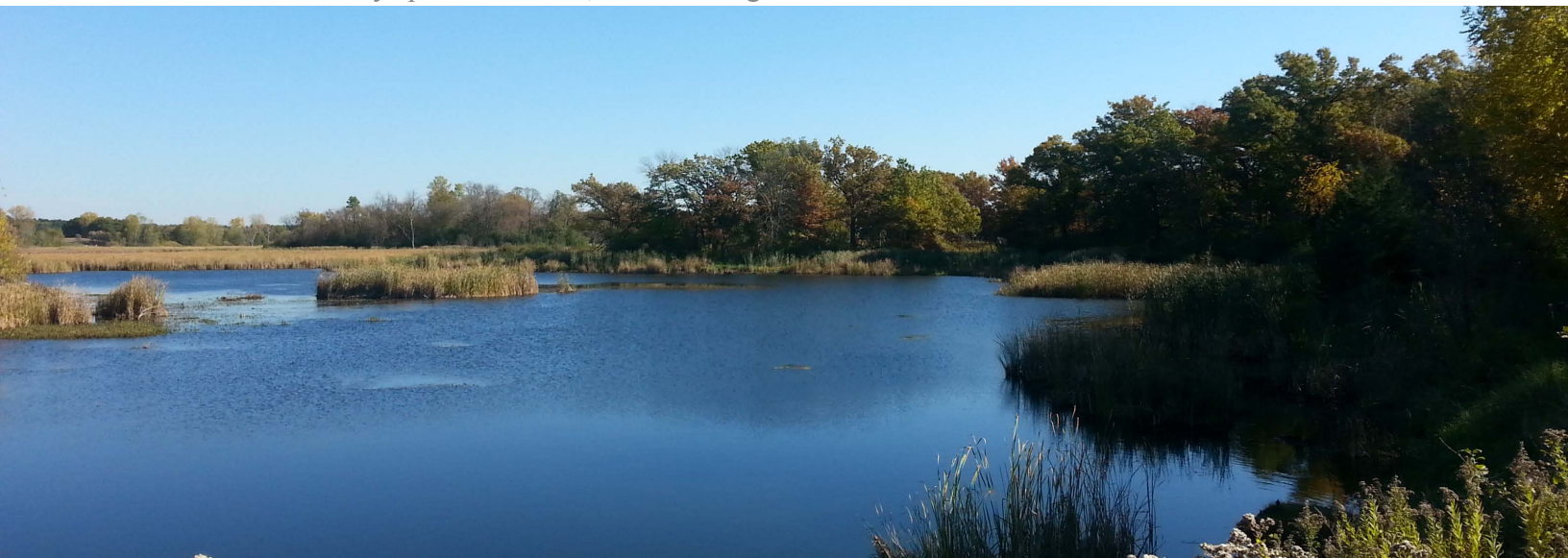


Above: Figures 10, 11, 12, 13, 14, 15
Site Pictures 1, 2, 3, 4, 5, 6; Taken by Matthew Weiss on Oct. 8, 2013

LANDMARKS OF SHOREVIEW



Above: KMS Tower of Shoreview, owned by KMS and built in 1971. Broadcasts FM and Television frequencies. In 2001 a painter died from falling part-way down the 1466' structure. KMS Tower is located directly West of the intended site (most likely chosen for its high elevation point), and offers an easy cardinal reference for anybody who knows its relation. Below: View adjacent from site, taken from Interstate 694, illustrating what many refer to as 'Grass Lake,' though it is officially unregistered with the Department of Natural Resources as a lake. It is a refreshing glimpse of nature on an urban interstate, and is home to many species of birds, insects and grasses.





Above: Mounds View High School, located in Shoreview, MN and four miles away from the site. As stated by the City of Shoreview website, “The Mounds View School District is consistently rated as one of the best districts in the metropolitan area and its two high schools were rated in the top 10% of schools in the nation by Newsweek magazine.” Below: The Shepherd of the Hills Lutheran Church. Also located directly west of the site, it is the only non-residential structure near the site, and appears to be constructed of quality material. Its name implies medium elevation change in the area, as is certainly true.



Above, left to right, top to bottom: Figures 16, 17, 18, 19
KSMP Tower Photo; Mounds View High School Photo; Grass Lake Wideout Photo; Shepherd of the Hills Photo; Taken by Matthew Weiss on Oct. 8, 2013

PROJECT EMPHASIS

This thesis foremost emphasizes the importance of human perception in response to a built environment. All spaces, when designed well, have an innate ability to *impart* joy upon a viewer. It is this writer's opinion that a phenomenological perspective may be useful in analyzing this connection between site and perception, or rather between site and mood. The thesis operates with the understanding that a human's mood may be largely influenced by his/her eternal physical perceptions. Ultimately, the project aims at promoting future dissertation about the importance of the phenomenal in the design field.

Secondly, the thesis aims to promote the awareness of Marching Band in Minnesota by providing initial discussion toward the opening of a permanent facility for this blossoming, yet traditional, art form. It will analyze the distinct style and needs of a marching band to provide a conforming set of spaces. But beyond this it will incorporate the principles of phenomenology to design an impactful and memorable space for an equally impactful art form.

PLAN FOR PROCEEDING

RESEARCH DIRECTION

The research to follow is organized in a way that grapples between five primary facets of this design methodology: The Theoretical Premise/Unifying Idea, Project Typology, Historical Context, Site Analysis, and Programmatic Requirements. All research conducted is done so with the intent of providing a firm footing for the design of the Minnesota Marching Arts Facility, and to provide reason to believe that such a typology can be constructed under the present parameters.

DESIGN METHODOLOGY

The research will be compiled following the principles of the ‘mixed method approach,’ which includes both qualitative and quantitative data collected and analyzed simultaneously. This shall be done using a ‘concurrent transformative strategy,’ which shall allow for multiple paths of data collection toward a holistic culmination. Qualitative data collection shall consist of case studies, interviews, and any research based on phenomenology. Quantitative data collection shall consist of statistics of the local region and Twin Cities demographics as pertaining to the program.

DOCUMENTATION

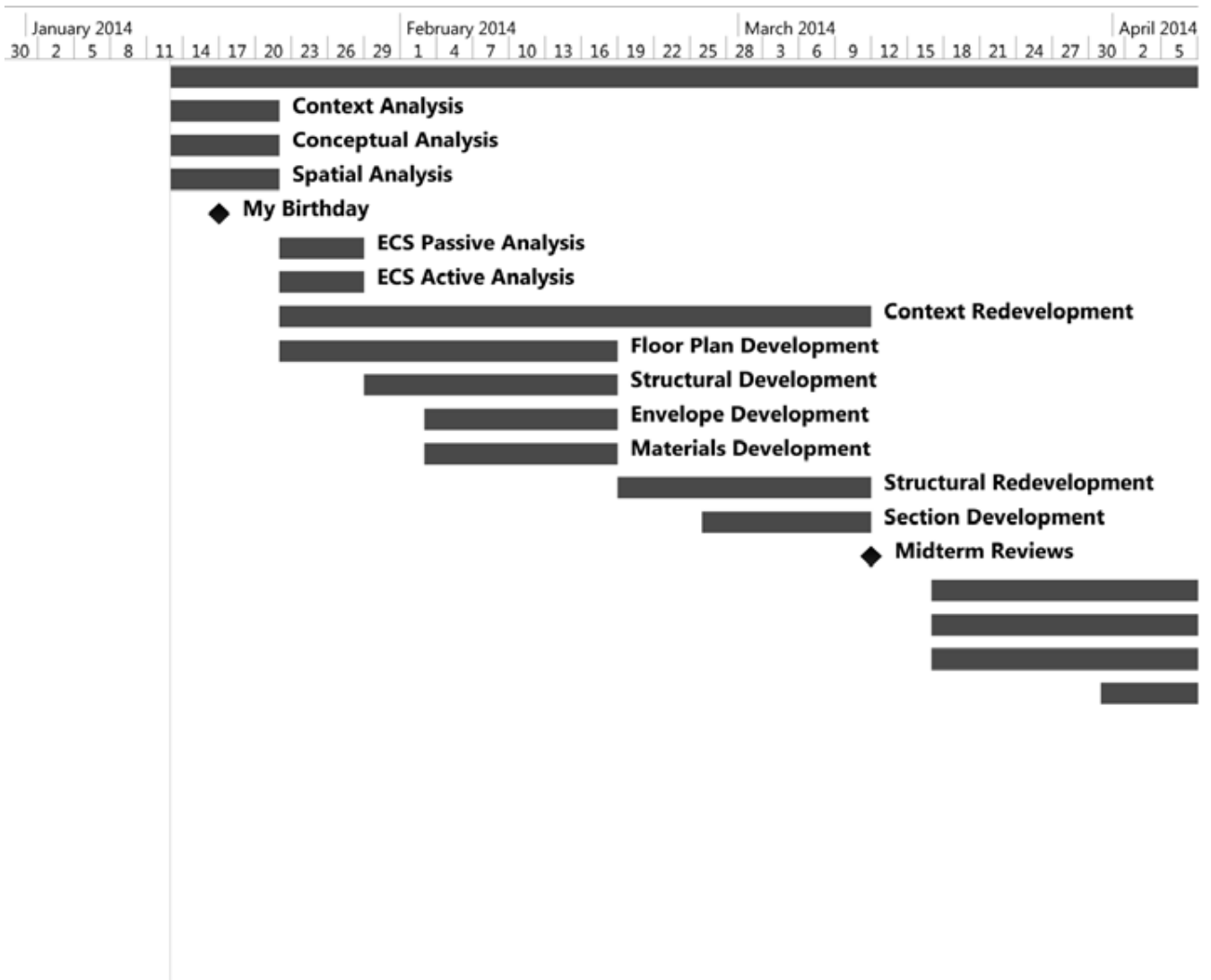
This thesis shall provide documentation to preserve both the ultimate design and the design process in a linear manner, through the use of:

- 1 Writings
- 2 Digital Screenshots
- 3 Hand Sketching
- 4 Model Photographs
- 5 Scans
- 6 Digital Models

All items shall be ready for presentation by the dates given by the Thesis Committee staff, and conform to the preset rubric. This Thesis book will be made available digitally in the North Dakota State University online Architectural Thesis Repository, available to all scholars.

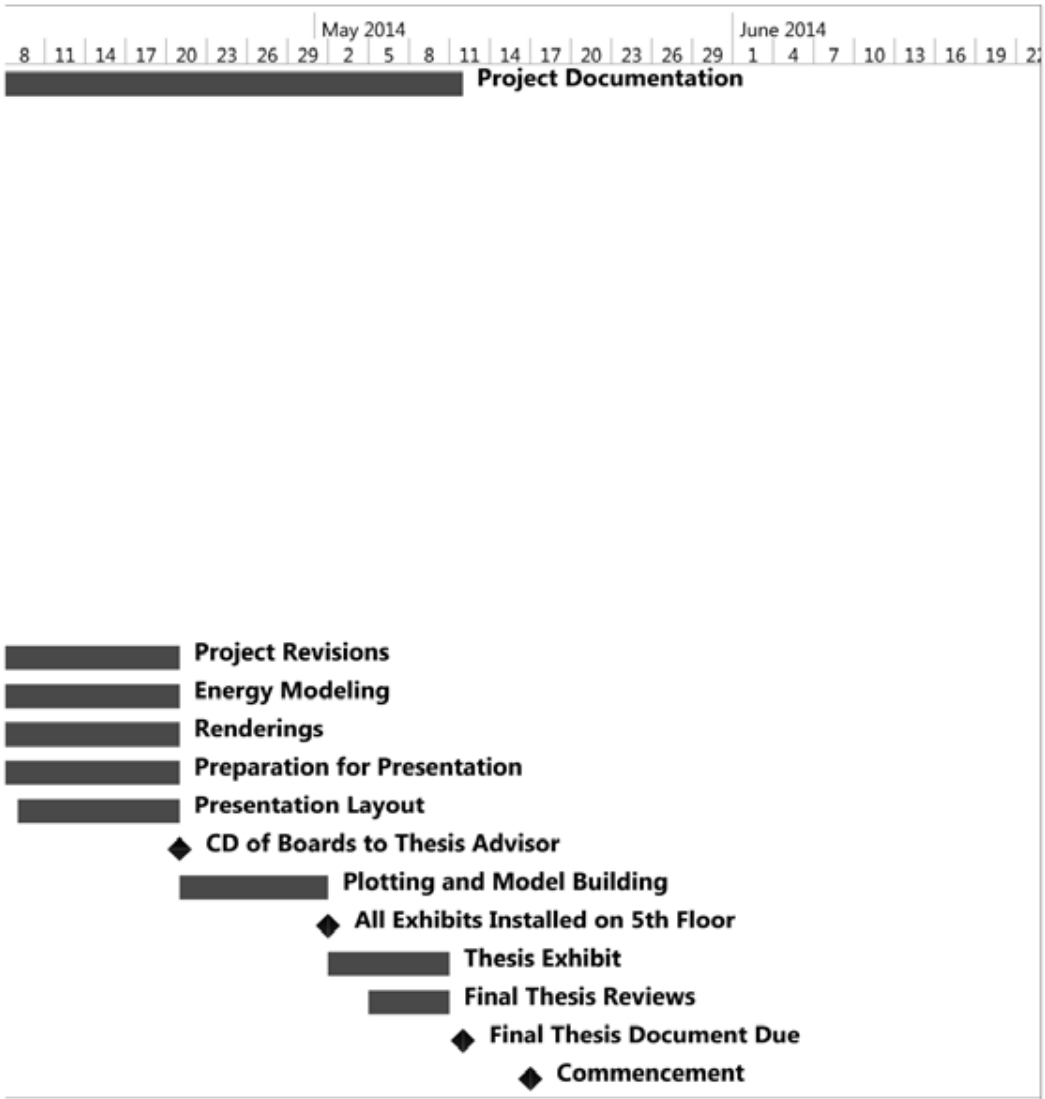
All work shall be preserved digitally, and all process will be made available on CD to be presented with the finalization of this Thesis Book.

The final presentation shall be presented in a way that feeds to as many of the senses as possible. The project will be displayed physically on boards, as well as in digital form, and accompanied by physical models. Sound will be utilized in a manner deemed both worthy and appropriate.



TASK SCHEDULE

Below: Figure 20
Spring Gantt Chart



Task Name	Duration	Start	Finish
Project Documentation	86 days	Mon 1/13/14	Sun 5/11/14
Context Analysis	7 days	Mon 1/13/14	Tue 1/21/14
Conceptual Analysis	7 days	Mon 1/13/14	Tue 1/21/14
Spatial Analysis	7 days	Mon 1/13/14	Tue 1/21/14
My Birthday	0 days	Fri 1/17/14	Fri 1/17/14
ECS Passive Analysis	5 days	Wed 1/22/14	Tue 1/28/14
ECS Active Analysis	5 days	Wed 1/22/14	Tue 1/28/14
Context Redevelopment	35 days	Wed 1/22/14	Tue 3/11/14
Floor Plan Development	20 days	Wed 1/22/14	Tue 2/18/14
Structural Development	15 days	Wed 1/29/14	Tue 2/18/14
Envelope Development	12 days	Mon 2/3/14	Tue 2/18/14
Materials Development	12 days	Mon 2/3/14	Tue 2/18/14
Structural Redevelopment	15 days	Wed 2/19/14	Tue 3/11/14
Section Development	10 days	Wed 2/26/14	Tue 3/11/14
Midterm Reviews	0 days	Wed 3/12/14	Wed 3/12/14
Project Revisions	26 days	Mon 3/17/14	Sun 4/20/14
Energy Modeling	26 days	Mon 3/17/14	Sun 4/20/14
Renderings	26 days	Mon 3/17/14	Sun 4/20/14
Preparation for Presentation	16 days	Mon 3/31/14	Sun 4/20/14
Presentation Layout	9 days	Wed 4/9/14	Sun 4/20/14
CD of Boards to Thesis Advisor	0 days	Mon 4/21/14	Mon 4/21/14
Plotting and Model Building	9 days	Mon 4/21/14	Thu 5/1/14
All Exhibits Installed on 5th Floor	0 days	Fri 5/2/14	Fri 5/2/14
Thesis Exhibit	7 days	Fri 5/2/14	Sat 5/10/14
Final Thesis Reviews	6 days	Mon 5/5/14	Sat 5/10/14
Final Thesis Document Due	0 days	Mon 5/12/14	Mon 5/12/14
Commencement	0 days	Sat 5/17/14	Sat 5/17/14

Figure 21
Spring Schedule

PREVIOUS STUDIO EXPERIENCE

SECOND YEAR

- Fall 2010 *Joan Vorderbruggen*
Tea House
fargo, nd
Minnesota Rowing Club
minneapolis, mn
- Spring 2011 *Darryl Booker*
Montessori School
fargo, nd
Birdhouse/Pritzker Prize project
fargo, nd
Unconventional Dwelling
marfa, tx

THIRD YEAR

- Fall 2011 *Regin Schwaen*
Zombie Safe House competition
bismark, nd
Artist in Residence
West of grand forks, nd
- Spring 2012 *Milt Yergens*
Research and Development Center
langdon, nd
Urban Infill
fargo, nd

FOURTH YEAR

- Fall 2012 *Bakr M. Aly Ahmed*
Highrise competition
san francisco, ca
DLR Group competition
fargo, nd
- Spring 2013 *Don Faulkner/Frank Kratky*
Marvin Windows competition
jema, ghana
Group Sketch Project
fargo, nd

FIFTH YEAR

- Fall 2013 *Ganapathy Mahalingam*
Graduate Research Assistantship w/ KHA
medina, wa/palm desert, ca



Figure 22
Grass Picture; Taken by Matthew J. Weiss on Oct. 9, 2013



THEORETICAL RESEARCH

How can Impactful Phenomenologies lead to a Greater Experience of Space?

The Problem: Design Trends for the Worse; Phenomenological Discord

As the study of the five senses in relation to one's surroundings, Phenomenology remains a blurry and subliminal topic. With most theoretical methodologies toward architectural knowledge/form, it is abandoned for quicker, perhaps more pragmatic solutions. It is viewed not as a relative necessity among professionals, rather as a luxury item which sometimes receives praise, but is ultimately rarely used.

In this age of brevity, economy dictates the life of the living, and indeed non-living, world. Cars are produced arguably faster than human beings in the United States. Marriages are seen as unnecessary, troublesome and expensive for America's youth. Interest rates are still remarkably low: savings accounts are a laughable memory. Chain-restaurants receive grossly immense revenue from a lazy demographic. Board games have been mostly erased, as with non-digital toys, as the youth of the world continues to expect the newest electronic with the highest frame rate and clearest resolution. Cheap is our language, fast is our pace, and simple is our mind set. Just give us something bright and shiny.

'Economy' should not have a negative connotation; consider that many things produced economically have successfully changed the world for the better, like more universal healthcare for third world countries. But in the architectural profession, economy is a topic of two faces. Like our lives, architecture which is 'fast-tracked' or 'value-engineered' has the merit of economy.

Row houses in Japan, the grey suburban hills of Texas, fluorescent-green office buildings...it is made for storage. Indeed when one thinks of storage, he/she may think of the small space under the stairwell, and all of the neatly tucked history forgotten within it.. To think of today's built residences as storage for people may seem harsh. Yet, this couldn't be further from the truth.

Everyday life has become marginalized for thousands of working Americans. Due to recent debate within the past few decades, it has been proposed that past architectural theories (namely, Architecture as a Machine for Living) are a primary cause for the current plight of humanity. National fast food chains such as Burger King receive the grossly immense attention of the masses, as do the 'efficient' office spaces and cheap housing. Though it is easy to track the many health problems associated with the over-consumption of fast food, detailing the health problems associated with cheap housing and poor work conditions is much more challenging, because everyday people do not normally connect the dots between surrounding and emotion.

Looking at a case study, we might examine moments from fine American cinema. A perfect example of institutionalized, unintentional life is the story of

Truman Burbank's 'meaningless' existence in *The Truman Show*. Though the film is primarily about transparency of our existence as humans in a larger system, the movie's cinematic elements bear resemblance to a set-up lifestyle in which a seemingly perfect life is actually eating away Truman from the inside out. Another case for this illness would be the more recent thinker movie, *The Secret Life of Walter Mitty*. This spectacular film speaks of a daydreamer, a creative soul, caught in a meaningless urban life that he has no control over.

With as much seriousness illustrated in the image below entitled 'Cigarettes for Kids,' poorly designed space is a legitimate cause for concern among design professionals worldwide. Not only does it plague our profession with economically driven competition for important built works in progress, but it negatively affects each and every user. Our over-consumption of 'fatty' architecture has led to a "large ship syndrome," where once moving it is nigh impossible to turn around. This is not to say that quality design is futile, nor is it to say that all architects have bowed their heads to poor, cheap design. This is simply to illustrate the nature of the situation we are now in, and arguably have been in for quite some time.

A look towards Phenomenology is an entirely different architectural process, one that involves the cognition of each detail. It looks toward providing a rich sense of space, giving our sensory perception a quality environment to sift through. With a phenomenological outlook, a designer seeks to pursue the engagement of each of the five senses to the best of his/her ability. Many designers worldwide believe in Phenomenology as a viable solution for quality architecture, and not only as a shield against poor design.

Furthermore, it is imperative to understand the complex relationship between the experiential qualities, or datum, given by all architectural elements and the individual that is doing the experiencing. It is suggested that all built elements provide experiential datum; one must only take the time to consciously be aware of it. However, it is first important to analyze the medium of travel between object and thought. Where does it happen, and how, and indeed why?



Figure 23
Cigarettes for Kids
(Google Image Search)

Material as Medium. The Transfer of Data

“The skin reads the texture, weight, density and temperature of matter. The surface of an old object, polished to perfection by the tool of the craftsman and the assiduous hands of its users, seduces the stroking of our hand. It is pleasurable to press a door handle shining from the thousand hands that have entered the door before us; the clean shimmer of ageless wear has turned into an image of welcome and hospitality. The door handle is the handshake of the building. The tactile sense connects us with time and tradition; through marks of touch we shake the hands of countless generations.”

-Holl, Questions of Perception, pg. 33-

The gentle brush of one’s hand against the aged embossment of polished brass has an effect entirely different than, say, a wooden pedestal on a new stair railing. Everybody knows this to be true. But why is this so? Why is it that we think there’s a clear difference between the two finishes?

Materials are experienced differently because of one reason: they are different materials! How complex does the conversation of phenomenological processes have to go? Only as far as one wants to go. Indeed, most people, when asked the difference between two such elements, will only go to say the obvious: they’re different materials, different surface patterns, different feels, smells, looks... But what is actually going on during these brief interactions with the physical world?

While in an active construction zone, a person may perchance to run their hand along the long grain of a rough-hewn wooden post beam. That person feels a number of things that they are supposed to. Each raw element that man uses for his purposes is selected, reformed and shaped to his desire. The person feels the strength of the unit, and the fragility of its surface. He sees the imperfections, hears the gentle sound of his hand against the grain. It’s possible that he may be prone to lick his hand after the contact, either out of respect for the element, curiosity, or for some other unknown reason. Mixed with the salt of his sweat and the remains of things recently touched in the past, he will notice the bitterness of the wood, the dryness impressed upon him. He smells the pine, or is maybe deceived by the site’s allure into thinking the post he touched was in fact what he smelled. All of this he may have experienced cognizably, thinking upon his interaction with the post, and what impressions it made upon his psyche.

However, perhaps the interaction he experienced with the wooden post was

nothing but mere coincidence, and it meant just as much to him as it did to the post. Perhaps he didn't even realize he was touching it intuitively. Perhaps his mind was elsewhere, away from his haptic realm or away from any exterior senses altogether.

Perhaps the man did realize he touched the post and that the post touched him, but thought little else of the matter.

What he may or may not have thought is what we can consider to be the understanding, or lack thereof, of the language of materiality. Let us consider this sentence. Materiality lacks a voice. It lacks a personality, a soul, or any sense of actual biological liveliness. It cannot smile back at us, nor can it frighten us with any intentions inherent within itself.

Or is this not true? Can a material frighten us? It absolutely can. A rusty mirror in an ancient vacated Victorian house may ask us to recall our scariest cinematic moments, though the mirror did not intend it. A gigantic cantilevered concrete mass from a building may frighten a viewer, so much that the person will never dare venture below it, yet the concrete mass had no intention. Materials may be considered to smile back at us. Consider the sheen of a kitchen floor, freshly mopped after a person's labor to clean it. The polish represents a peacefulness of mind in the polisher; the task is done and the person happy, though the terrazzo tiling did not intend this. The same may be said of a freshly painted wall, though the wall doesn't think. It also lacks a soul, and yet the character of the paint chosen represents the soul of the human who painted it. It represents design choices based on what comforts the painter. Does the wall then not have a soul? Does a concrete substructure have a voice? In the physical sense, it actually may. It echoes the noises around it, so that the wall, through incidental contact, actually 'produces' sound from its surface much like the vibrating of vocal chords. Characteristically, that same concrete wall may also have a voice, and that is of distinction. The wall has obvious purpose as a support for that above it, and the viewer understands this. Thus it communicated its properties, thus perhaps it has a 'voice.' "The smell and resonant sounds of space, the bodily relations of scale and proportion. All these sensations combine within one complex experience, which becomes articulate and specific, though wordless. The building speaks through the silence of perceptual phenomena" (Holl, 2006).

When a person considers these facts in an everyday object (the floor upon which your chair rests) they communicate with that object through the senses. In the design of architecture, certain realms of sense are more prevalent, just as the culinary arts have their own predominant focus of communication. Architecturally, the floor upon which a person stands, without even the visual connection of the eyes, expresses its strength, obvious intentionality, the care given to finish its surface properly, and the design choices behind the selection of its materials.

Ultimately, it is up to the viewer to make a decision upon how they are to view any space. Is a person dense if they deny or misunderstand this inherent communication between element and inhabitant? Not necessarily. Is a person enlightened if he or she chooses to cognize the immediate environment? Also not necessarily. What a person should eventually come to realize, either through personal philosophies or the writings of others, is that these connections exist. That ought to be enough to satisfy most people, and provide an understanding toward new design trends, choices, and styles unknown to the viewer.

What is ultimately preferred is for everybody to come to a general understanding that the communications of these pervading elements is important to the human soul. Going back to the opening quote for this section, “It is pleasurable to press a door handle shining from the thousand hands that have entered the door before us; the clean shimmer of ageless wear has turned into an image of welcome and hospitality” (Holl, 2006).

Perhaps the touch of an aged brass door handle is a pleasure only to Holl and not to others around him at the time. Consider the abrasiveness of exposed concrete. Not everybody will appreciate its look and feel. The same could even be said of the lack of clutter in a minimalist’s residence. The sheer lack of sensory information may drive some viewers crazy.

It may also be of equal importance to realize what most people do not find perceptively pleasurable. This is of special significance when designing institutional buildings/spaces, where care must be taken to facilitate growth of person health and satisfaction, as is clear with the designing of prison wards.

The communication between building does not exist by means of the element itself. If a viewer is actually convinced that walls are speaking or expressing themselves, that does not represent a deeper intelligence, rather it illustrates a deeper problem of self conflict.

Building components speak to us, communicate via the senses, only because of a human presence of mind. A wall cannot communicate with a tree, though its roots may touch it and its leaves may fall against it. Neither can a brick communicate with another brick, though its expression of intentional uniformity is quite clear. Only the human mind, or the unforeseen equivalent from other intelligent animals, can connect and communicate with building elements.

In this manner of discussion, this means that a window must first be spoken to, in order to respond back. Is it at all possible that an element can speak to us before we make a cognitive realization of the element’s existence? This is an important note for conversation, if the project’s goal is to capture respect from the viewer, or to impress intentions upon the viewer, as is a unifying goal of the Minnesota Marching Arts Facility.

If we are to solve the debate, we must look at the problem in the most basic sense. When solving a time-based problem, the answer is in time as well. An inference has been made that an element may exert its phenomenological presence to a person before that person has time enough to answer it. There are proposed three frames: the frame while the element is speaking, the frame moment of impression, and the frame of human awareness and answering communication. Let us place this question into the context of a passenger in a bus, riding through a foreign city, who sees the illustrious capitol building for her first time.

The first frame, as discussed before, is illogical because the capitol building does not exist within the mind of the individual until realized in true form. The second frame is the exact moment, which is incalculable in physical terms but qualitatively definable, is where contact is made. As discussed before, a building element (or complete building in this case), cannot express itself without the recognition of a viewer.

But if the viewer does not understand the language, then the intention is lost for the space, or material, and there results no connection of impression. Thus it comes to no surprise that a phenomenological viewpoint will dictate that design must cater to the philosophical abilities of its intended audience. Yet it should still challenge the client's perceptions (within reason).

The proper design of any space must create this connection with its user-clients, in order to maintain the intentionality of the building elements and the spaces they create. This in turn will not only raise awareness and respect for the space and its design concepts, but also in turn create a more livable atmosphere for which the user-client can work, live, and play within.

Thus we come not to the meager expectations of the user-client, but to the expectations of the designer, the giver of intent. Holl explains architecture as the sole form of art that can "simultaneously awaken all the senses- all the complexities of perception." This is very true, and salient of the potential impact of an architect upon his/her culture.

Without the generative force of intentionality behind design, what then can be learned or experienced from quality architecture? Holl then goes to culminate his discussion, by stating that intention equals architectural perception. That impactful, perceptual space can only result from impactful, perceptual intention.

It is the duty of the architect to direct the inherent intentionality of a conceptual design into the materiality, the detailing, and the ultimate symphony of the idea in built form, in order to properly illustrate the intentionality toward the user-client.

Impact as Memory
Memory as Phenomenology
Phenomenology as Impact

When one entity is impacted by another entity, there are a couple of scenarios that can result.

An impact between two entities firstly requires motion of either one entity or two. Like to motion is the expression of phenomenological processes toward the impact upon another entity. We have described thus far the relationship between the intended audience, the building elements and the intentionality/communication expressed between the two entities. This process is not unlike many other processes dictating ‘impact.’

We consider the classic example of billiards balls. In the case of architectural phenomenology, we can thus break the analogy down. A ball at rest, or the object acted upon, can only be that which is impacted. Thus, the resting ball is the person viewing the space. There are, however, two other entities to consider in the billiards ball analogy: a pool cue and the cue ball. The building element is never actually moving; it is the datum inherent in the intentions of the element that is being moved. Thus, the communication between the viewer and the building element must then be the cue ball, or ball at motion. The cue is left to be the building element directing the communication.

This may seem to contradict previously decided pathways, that the viewer must be the pool cue for he/she is the one who initiates communication by existing in the space. It would seem that a fallacy in the argument exists. Therefore, let us look upon this with the same light. Imagine that the ball at rest (person) is never in the direct or indirect path of the ball in motion (communication pattern). Thus, an impact will never exist, because the person has never existed in the space, thus doesn’t know that the space exists. If contact is never made between the two entities, who is to say that the ball in motion was ever struck? This preserves the original argument, and strengthens its validity.

One ball, placed in motion by the shooter, strikes another to produce this ‘impact’ point in time and space. When an impact occurs, with any surface a resulting energy or differential will be created. Consider the analogy of a moving fist. If a boxer strikes an unmoving wall, the wall will deform only very slightly. Only minute differences in surface detail will change, especially considering the materiality of a heavier wall. However, if the boxer were to strike another boxer with enough force and in the right way, he may bruise the person, leaving semi-permanent deformations that only fade out with due time, but still leave a minute change in the receiver. The last potential is for the boxer to leave a scar on his victim, to create a permanently visible impression at the point of

incidence.

Thus, as is with the boxer, a phenomenological discourse between building element and viewer has three paths of impact upon the object: minute deformation, complete mental impermanence, minute deformation, temporary mental permanence, and lasting deformation.

It could then be inferred that all works of intention (let's narrow down to only that of architecture) impacts its viewer in one of these three ways. There is only to be determined the extent to which we measure temporary mental permanence over 'complete' mental permanence, as most things can be forgotten in due time, and the ability for memorization is to a different extent with each viewer. Because mental permanence should not then be measured in time duration for the sake of individual variance, the discretion between permanence and temporary permanence should be a qualitative judgment.

A qualitative analysis of impact is thus created, with the object being the viewer and the subject being the building element. Impact may then be interchanged with the communication of phenomenological datum. This is well, because the measure of phenomenological datum is nigh impossible, whereas impact can be assigned relative value.

Minute deformation with complete mental impermanence, expanded upon, means that the person has been impacted, but immediately forgets the space or building element. The idea of that thing is ingrained into the hard drive, or memory, of the viewer, but is not readily accessible due to lack of depth. With works of art, or architecture, this form of impact should be shunned if the architect wants to be successful or represent his/her profession well. There may only be certain circumstances where complete mental impermanence is suitable or acceptable.

Minute deformation with temporary mental permanence can be considered equivalent to above-average works of architecture or that which is noteworthy, but ultimately forgettable given a reasonable amount of time. An example of this half-way architectural feature might be the visible concrete columns that support a significant span. You recall their existence, but because it was not phenomenal to the extent to leave a true impressionable impact, the shape, color, finish detail, geometry and such is lost to memory. This description is not prescriptive nor is it complete, for this sort of impact is rather vague and hard to judge.

The third type is what is preferred and sought after with any detail of design. It is permanence of impact upon the individual. This could be compared to the very fine works of unforgettable architecture, their fine unforgettable details or building elements, or their phenomenal spaces created inside and between. Everybody can recall their own 'truly' impactful building elements of their own

memories. These are imprinted within our memory in one of two ways: repetition of exposure, and ‘pure’ phenomenal impact.

‘Repetition of exposure’ can be considered spaces, building elements, or works of architecture that by repetition we will never likely forget. Consider of course your own residence, or your parents’ house. It is very likely you remember the number of steps and the sound they make in the dead of night. I do not recall my best friend’s parents’ stairway nor how it sounds, because I was not exposed to it often enough.

Repetition of exposure may also negatively affect the chances for permanent impact. Imagine a truly phenomenal column, holding up a roof structure as you fly past it in a public tram. There are hundreds of them, and in just seconds you have passed them all. Do you recall the shape and color of the columns? The chances are the opposite, unless you have paid special attention or were a member of the design or construction of them.

‘Pure’ phenomenal impact is separate from repetition of exposure in that they are quite opposite. ‘Pure’ impact is where it only takes one moment of exposure to engrave that building element, space, or building into one’s permanent memory. A classic example might be that inside the Pantheon, in Rome, the viewer recalls the squarish nature of the concrete dome’s relief pattern. Once seen or experienced, they may not soon be forgotten.

An interesting concept of memory is that of ‘memory cues.’ Memory cues help us recall certain events, however in architectural terms, they are details that help us recall the space or building itself. It is like the smell of seaweed recalling the fluctuation of the tide on the coasts of Maine, or an outfit one recalls of a long lost love when their exact face is lost to memory.

Memory cues are dependent upon impact, and due to their permanent nature, were impacted quite far into our conscious. Typically, the more memory cues one has of a space, the more memorable it will ultimately be. This could prove incredibly useful, yet assumed information for any designer.

If impact of phenomenology can then cause a greater sense of memory in a person, and that common memory (or lack of) can be mapped across a large body of viewers over the years, is it not reasonable to then gauge the phenomenological relevance of a design, or the impact it carries?

Conclusion

It is with this assumption that, after research, the current theory is proposed. That as designers focus on the phenomenal, or the recognition and celebration of the senses, their designs are strengthened, and ultimately validated as

successful built works of architecture, capable of captivating their viewers and instilling a sense of wonder. And that this wonder is able to be recalled, year after year, so that post-production advertisement may combust in the public demographic, expanding the recognition of the building and its typology/use, but also ensuring a sense of permanence for its relevance, and the growth of its functions.

Summary

The resultant formulas, or expressions, inferred as theory in the Theoretical Premise/Unifying Idea serve as the very basis for the Minnesota Marching Arts Facility.

Priority of research began with the culmination of written analyses on architectural phenomenological theories, but with emphasis on making my own theory based upon the core principles of phenomenology.

It was recognized that phenomenology has its constraints, notably the inexistence of a method of measurement for the relative worth of a project's phenomenal details. This led to the formation of a theory based upon a sense of value, or perhaps upon something that can be valued, such as memory recollection.

The general format of the thesis is that architectural elements, designed appropriately, may inherently translate my intentionality in the form of phenomenological datum to a viewer, and if done so well enough, may 'impact' the viewer in the highest sense, instilling depth of memory for the spaces that I have designed. Thus the actors are the designed building elements, the actions are the phenomenological transfers, and the objects are the viewers which are impacted.

The findings of the research were relatively helpful in catalyzing my own theory upon phenomenological discourse. However, there was little to be found of the implementations of either memory or impact with regards to the architecturally phenomenal. In this light, there is nothing wrong, rather the opposite, in that I may have developed my own branch in continuing the discussion upon architectural phenomenology and the measurement of the stimulated senses.

This developed theory involves the premise that memory can actually be measured, and more. It speaks that memory toward a certain instance in time and space (for instance, the attendance of a MMAF competition) can be given value based upon the percentage of people that actually do recall certain elements' detail. This is again all based upon the judgement that memory can be developed through the phenomenological datum transferred between actor and object.

This theory is also developed with the premise that impactful environments are interchangeable with that of the architecturally phenomenal, that the transfer of data between entities is governed largely like the Laws of Motion, particularly the Second Law.

It is also developed with the premise that phenomenological data transfer from object to person involves first the existence of a human being within a site, that without human perception, such phenomenal datum does not exist without a recipient.

It is lastly developed with the premise that the phenomenological viewpoint, as has been developed through decades of debate, writing, and discourse between some of the greatest architectural and philosophical minds, actually operates as has been discussed previously. This is to say that the project's theory is developed with the understanding and acceptance of current phenomenological theory as defined by Steven Holl, Juhani Pallasmaa, and Alberto Perez-Gomez, in their book *Questions of Perception*, which does not describe a new theory itself, but rather elaborates on the works of others philosophers before them.

The document will proceed with the aforementioned theory, in the hopes that it will not only continue debate upon the philosophical theories of phenomenology and their growing extents, but that it may also provide a more appropriate, holistic design strategy toward a phenomenally designed Minnesota Marching Arts Facility.

RESULTS FROM THE TYPOLOGICAL RESEARCH

In the following pages, there are listed six case studies, aimed at the perpetuating the discussion of the programmatic requirements of the Minnesota Marching Arts Facility. This list is not an exhaustive list; it does not define the extents of the typological analysis. There are many more cases that were either viewed in person or by media, which also propose more background information toward the feasibility of the project, or how it should be carried out. This list also does not completely explain all of the core principles behind such a facility, but it does explain and illustrate the basic necessities of the project. There is a narrative for each case study, and also a set of analytical diagrams.

The following six case studies are separated into three distinct typologies:

Connecting Space



Community Residential



Performance Space





New York, NY

Renzo Piano Building Workshop

Morgan Library Expansion 2000-2006



Figure 24
Case 1 Site Plan

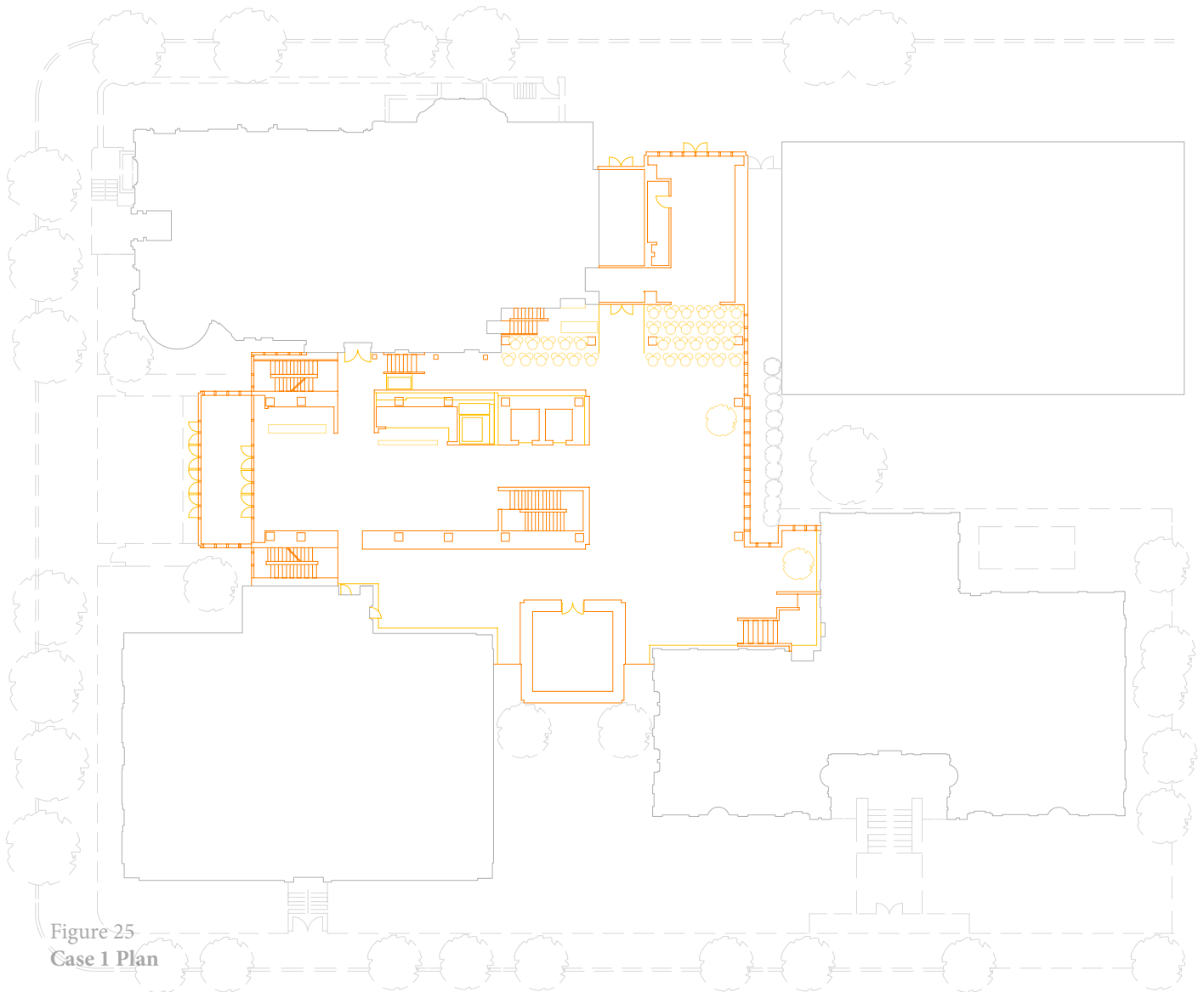


Figure 25
Case 1 Plan

When the tenants of the Morgan Library campus expressed interest in the connection of their spaces, only a few architects were brought to light. Renzo Piano, architect and Pritzker Prize recipient from Italy, was chosen to begin conceptual work. Immediately noting the age of the contextual buildings, Piano placed between them something rather stark in expression.

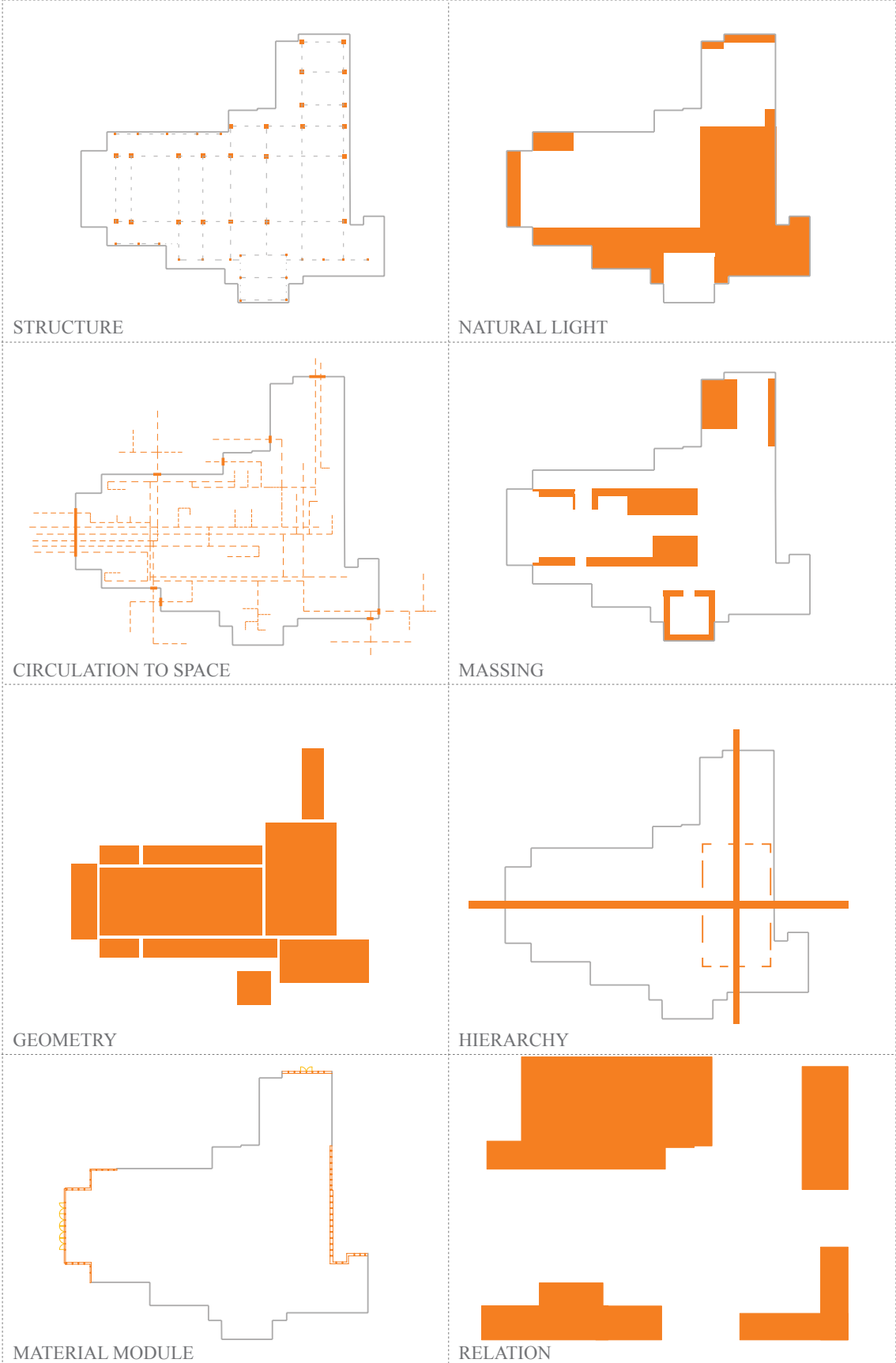
Piano has a certain style of design in which he is known and revered for. He is known for his sharp use of glass and steel, and for the many variations his firm has produced and instilled around the world. Compared to Piano's other works, the Morgan Library Expansion is not so odd. It is a smart use of limited space, with a somewhat juxtaposed expression from its environment. However, like most of his firm's work, it is later then to be said to 'define' the landscape, and encourage others to follow suit. The Morgan Library Expansion was never designed to mimic its predecessors, heavy masonry buildings, albeit their own designs were rather flawless themselves. It juxtaposes itself both historically, politically, and socially.

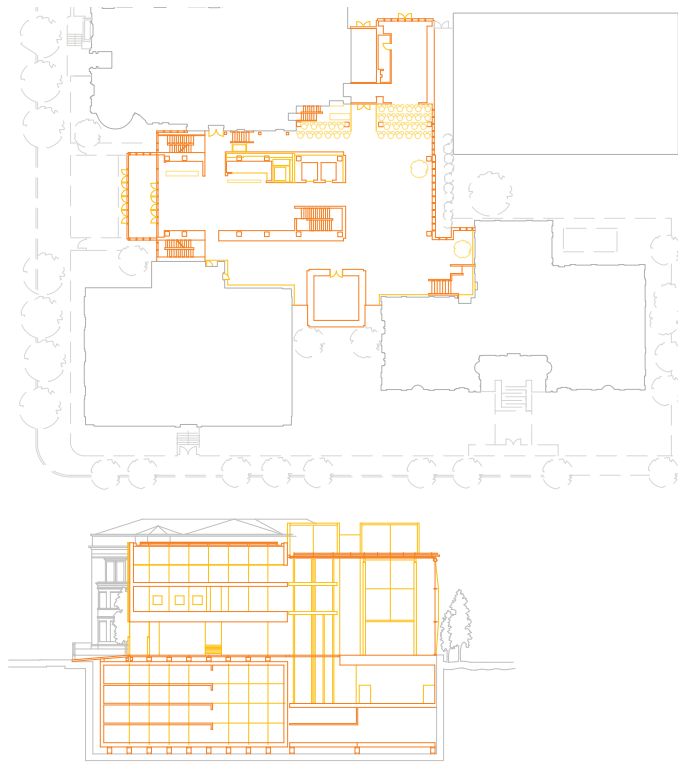
The Expansion is almost parasitic in expression, though not in form. In much the same style as his Chicago MoMA, the geometry is based around a definitive perpendicular, regimental schema, as were the preceding spaces. Yet the materiality of RPBW's Expansion building's expression is of lightness, and of impermanence, as if it could spread its wings and land in between another set of buildings, whereas the older library structures are so set into the surrounding landscape that they appear as monoliths.

However, this is not to say that the Expansion is not functional as a connecting space. Indeed, it was selected as a case study for just that. The space functions as the atrium, propelling people to the various segments of the library as necessary. The design of the space, and the inclusion of mostly glass facades, allows for maximum daylighting during peak hours. Even some of the roof structures were designed for daylighting, as illustrated by the diagrams on the following page.

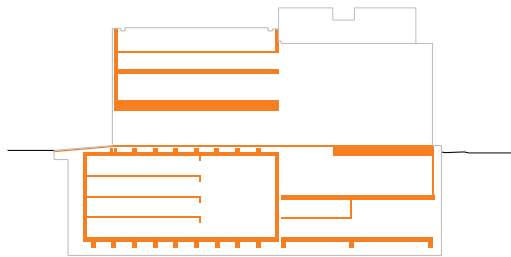
It's central core acts as the primary shear core, and is itself supported from any horizontal stresses by the moment steel frame, which is the primary means of structure, which is based upon a grid for maximum efficiency of materials. With most of Piano's built works, structure is not shunned or hidden from view; it is celebrated and embraced as an aesthetic. Thus, the Expansion is very reminiscent of Piano himself, and arguably favorable to a 'collector' client who has now collected a work of RPBW.

An interesting addition to the project was the revitalization, or replacement, of the Morgan Library recital hall. Barely usable and certainly not a preferred venue at the time, the clients sought to replace the space with a slightly larger and more appealing recital hall. Rather than disregard the existing foundations and





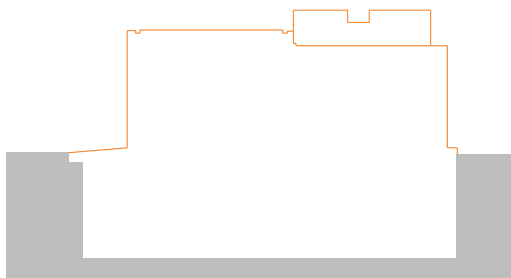
PLAN TO SECTION



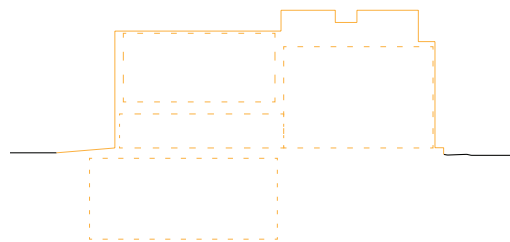
STRUCTURE



NATURAL LIGHT



MATERIAL TO GROUND



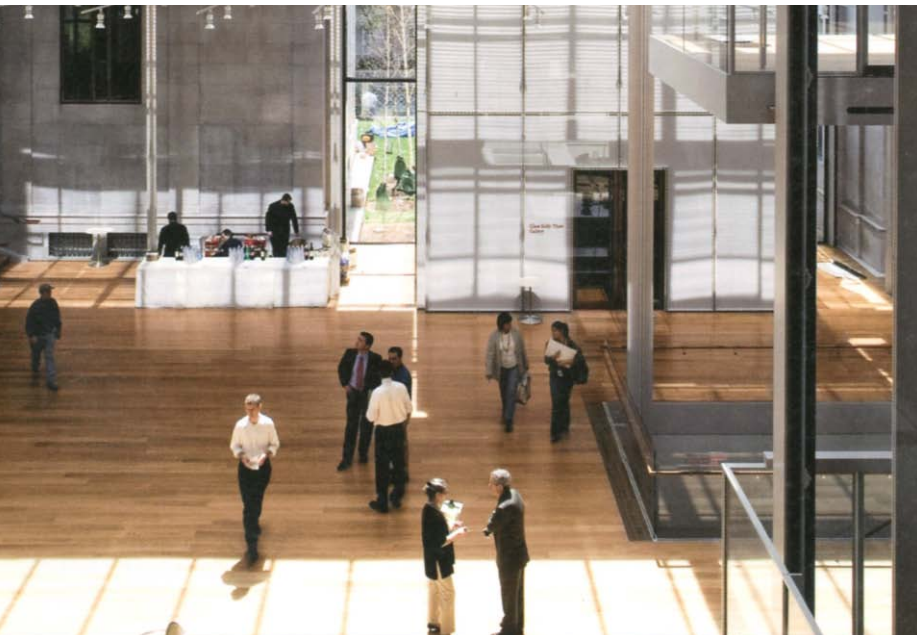
HIERARCHY

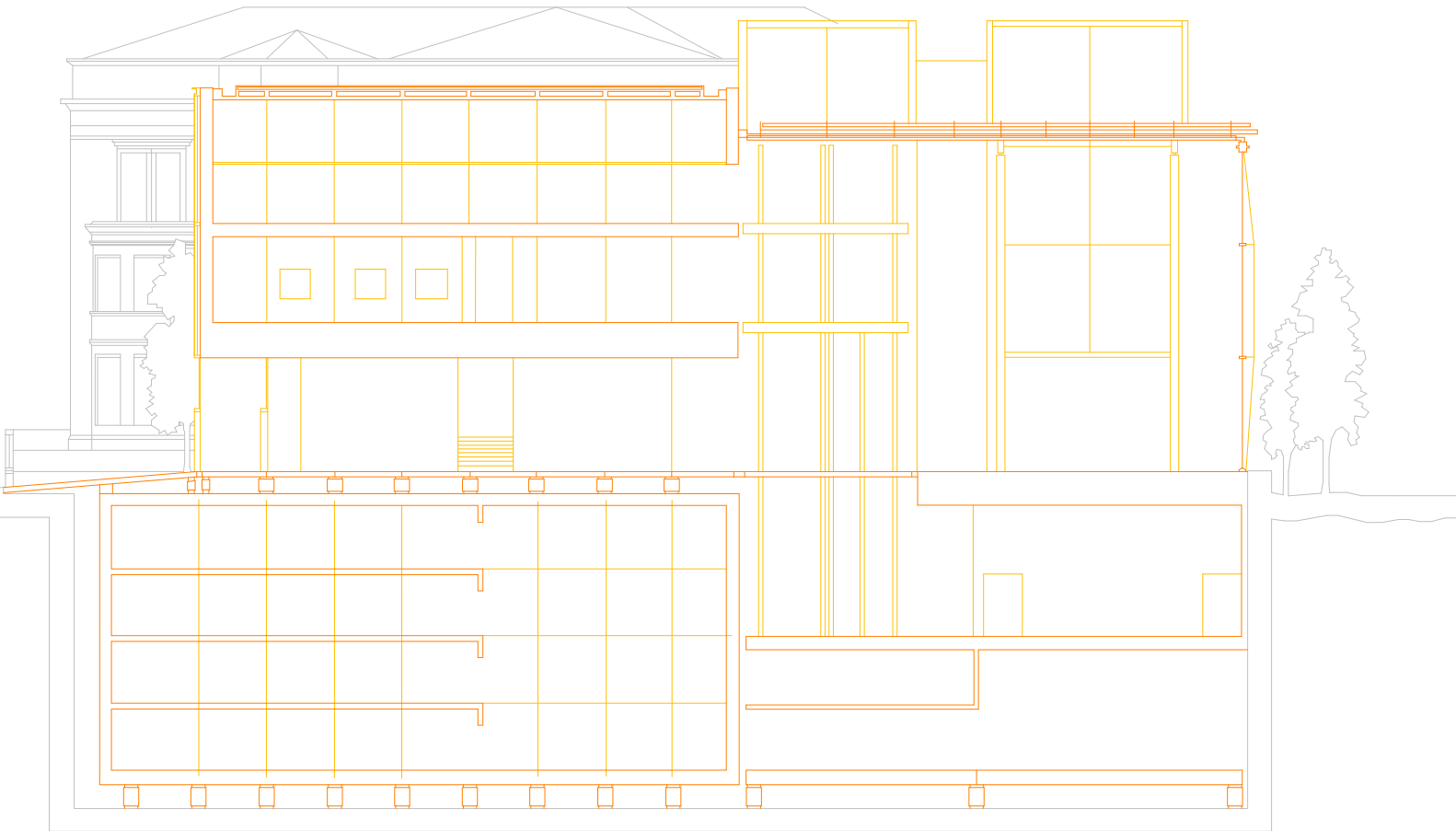
support spaces, Piano's team opted to extend and revitalize. Recladding the wall surfaces and adding Cherrywood paneling to the ceiling structure with the engineering help of Arup, they transformed the small space into a respectable recital hall with proper acoustics for this modern age. It comfortably seats 240 and has a capacity of 280. The finish is resemblant of any major concert hall, with red seating and dark cherrywood paneling. Expected use is from small recitals to possibly quintets.

This case study provides three primary means of communication toward the final design of the Minnesota Marching Arts Foundation. For one, it provides a clear understanding of 'connecting' space. It takes an existing set of programs and blends into them seamlessly, regardless of finish material, without disturbing the existing buildings' structure or facades. It took the structural capabilities of steel and used it to maximum extent, merging visibility, natural lighting, and minimalism (to small extent) into one.

It also provides a wonderful case study into the proper design of a recital hall, or rather how an architectural mind such as Renzo Piano would design one (with the obvious support of the collaborating engineering firms). Though smaller and fairly simpler than the intended recital hall to be in the MMAF, it is a clear understanding that such spaces are fundamental toward a cultural building of any sort, including the connecting spaces of a Library.

Lastly, and by simplicity, it provides a clear understanding of the programmatic components that make up connecting space: an elevator core, egress stairwells, other stairwells, receptionist areas, gathering/lounge area, cultural draw, etc. The Morgan Library Expansion is the result product of all of the elements that the client needed of a connecting space, and yet also provides so much to the everyday user that it is without a doubt a wonderful example for the project.





Page 68, from Left to Right, Top to Bottom: Figure 25, Case 1 Structure; Figure 26, Case 1 Natural Light; Figure 27, Case 1 Circulation to Space; Figure 28, Case 1 Massing; Figure 28, Case 1 Geometry; Figure 30, Case 1 Hierarchy; Figure 31, Case 1 Material Module; Figure 32, Case 1 Relation.

Page 69, from Left to Right, Top to Bottom: Figure 33, Case 1 Plan to Section; Figure 34, Case 1 Section Structure; Figure 35, Case 1 Section Natural Light; Figure 36, Case 1 Section Material to Ground; Figure 37, Case 1 Section Hierarchy.

Left: Figure 38, Morgan Library Expansion Interior Picture (<http://www.rpbw.com/project/57/renovation-and-expansion-of-the-morgan-library/#>); Figure 39, Morgan Library Expansion Exterior Picture (<http://www.rpbw.com/project/57/renovation-and-expansion-of-the-morgan-library/#>).

Above: Figure 40, Case 1 Section

BERNE, CH

Renzo Piano Building Workshop

Zentrum Paul Klee
1999-2005

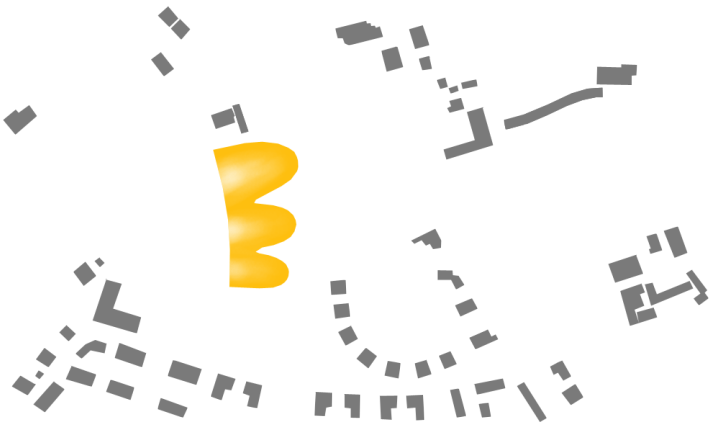


Figure 41
Case 2 Site Plan



Figure 42
Case 2 Plan

Paul Klee, 1879-1940 of Munchenbuchsee, Switzerland, was an artist influenced in the movements of cubism, surrealism, and expressionism who ultimately taught with Kandinsky at the Bauhaus, mostly for color theory. He was known for his childlike behavior.

Comprising more than 4000 of his works and displaying roughly 150 of them at a time, the Zentrum Paul Klee in Bern, SW, is another of Renzo Piano's works. Designed as a set of three distinct but unified "hills" (RPBW, 2005), the shape of the building itself is an integral part of the landscape, and very distinctly different depending on which direction one views it. This can be said to resemble the gentle undulation of the region, which is fairly similar to the undulation of Shoreview, MN.

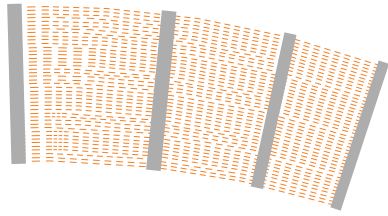
The three segments of the building are separated, somewhat, by typology of their contents. Klee was an artist, but also a poet and musician, and the three 'hills' of the building intentionally represent that.

Because of the fragile nature, or colors, of most of Klee's work, the architect utilizes a very technologically complex set of translucent screens within the undulating roof structure that diffuse the light to the client's request. This is not unlike many of RPBW's museum designs.

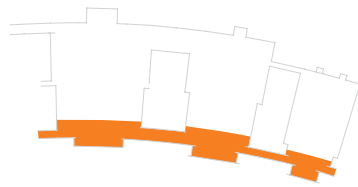
As a connecting space, the Zentrum Paul Klee, or Zentrum for short, is very distinct for a couple of reasons. It merges planar elements such as partition walls with the undulation of the structure, creating a paradox within the flow of the building. Most of the non-load bearing walls do not actually partition the building, which is something to note within the highly complex nature of a 'museum,' regardless of its contents.

The program of this museum incorporates another recital hall (of larger stature), space for temporary exhibits, and an education center within the display of Klee's many works and their respective display spaces. It segregates these ancillary areas primarily by floor, as the education center and recital hall is below normal grade. However, temporary exhibits are within the normal grade, but not among the works of Klee, noting that the client wanted clear distinction between the artist and his admiring followers.

The buildings are connected by a simple skywalk system that spans the difference between the undulating roof structure at its relative minima, or area below the main level finish face. This connection, to me, seems strangely out of place regardless of how well it was accomplished. It bears resemblance of a project rushed at the end, that the connecting skywalk is 'out of place' within the perfectly undulating roof structure. However, it's easy to understand why the architect and client decided upon a skywalk as opposed to a subterranean walk, necessitating the constant change in elevation, or even worse no connection



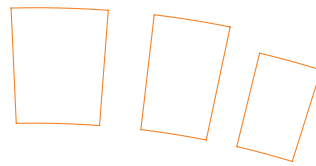
STRUCTURE



NATURAL LIGHT



CIRCULATION TO SPACE



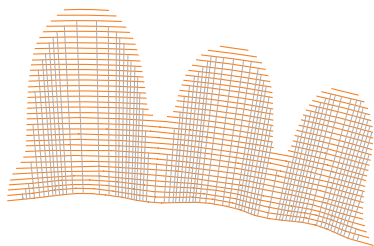
MASSING



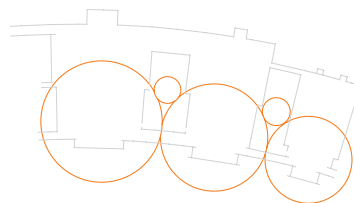
GEOMETRY



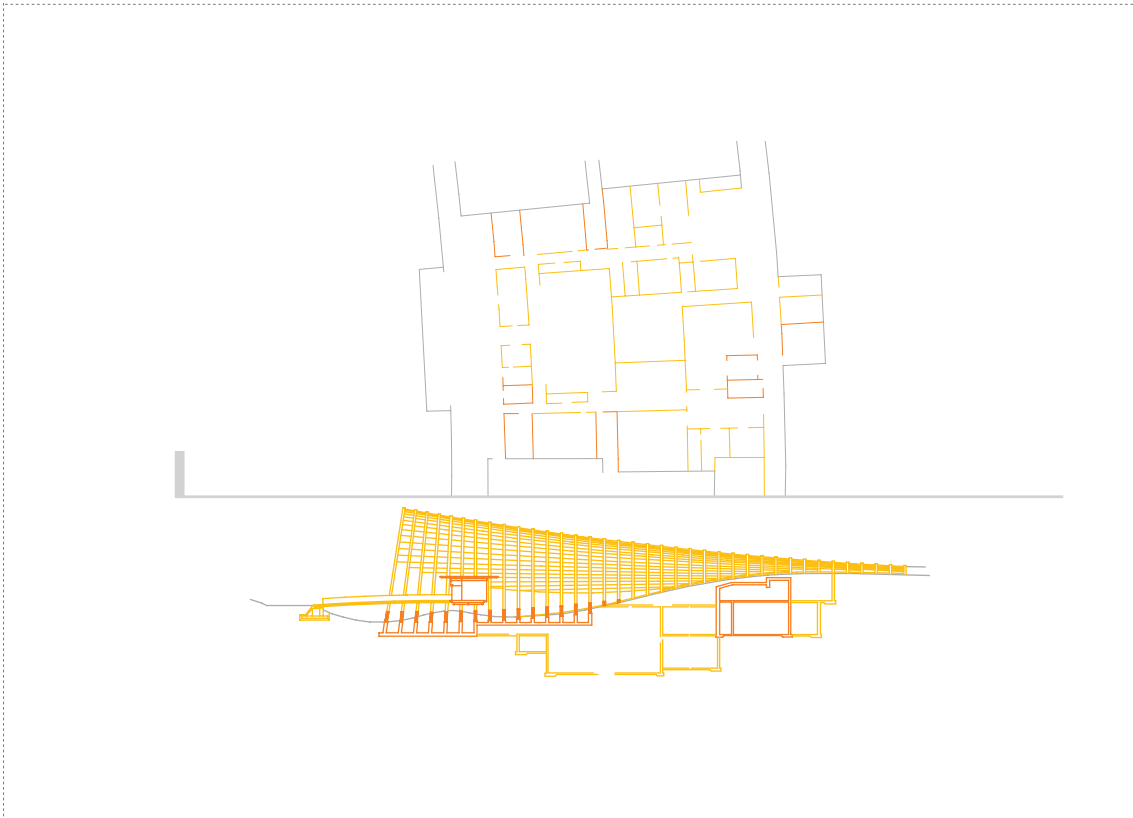
HIERARCHY



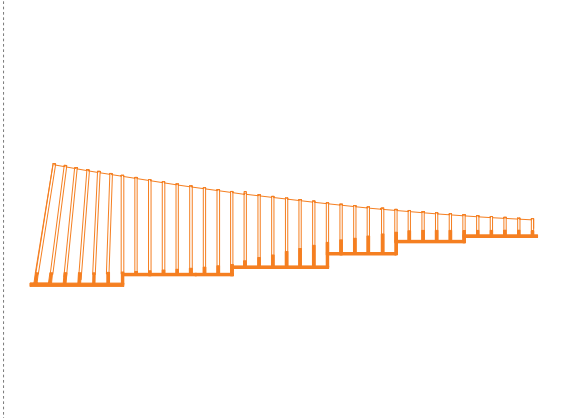
MATERIAL MODULE



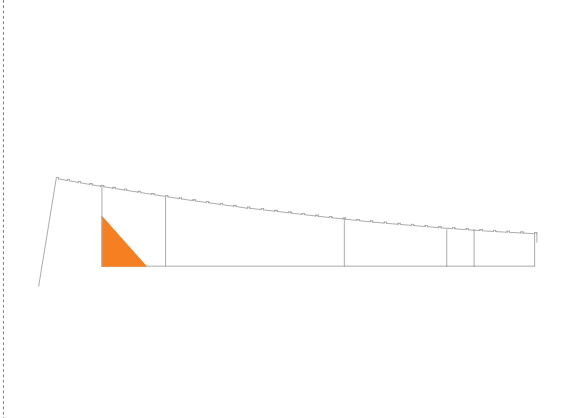
RELATION



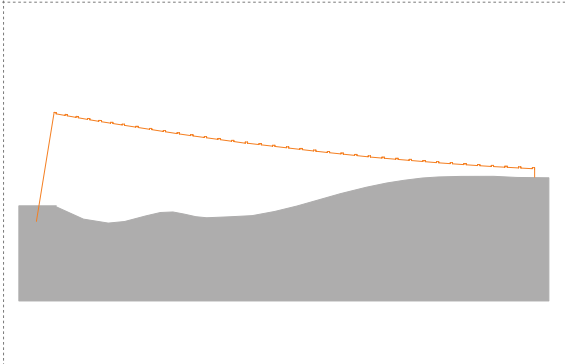
PLAN TO SECTION



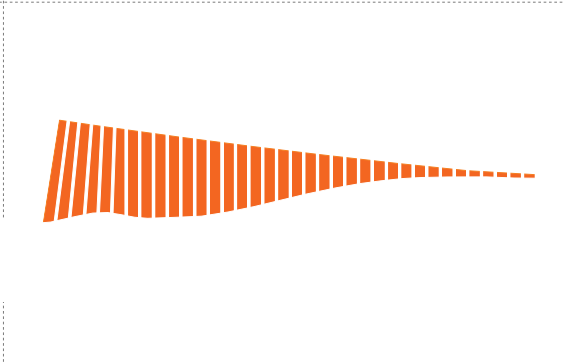
STRUCTURE



NATURAL LIGHT



MATERIAL TO GROUND



HIERARCHY

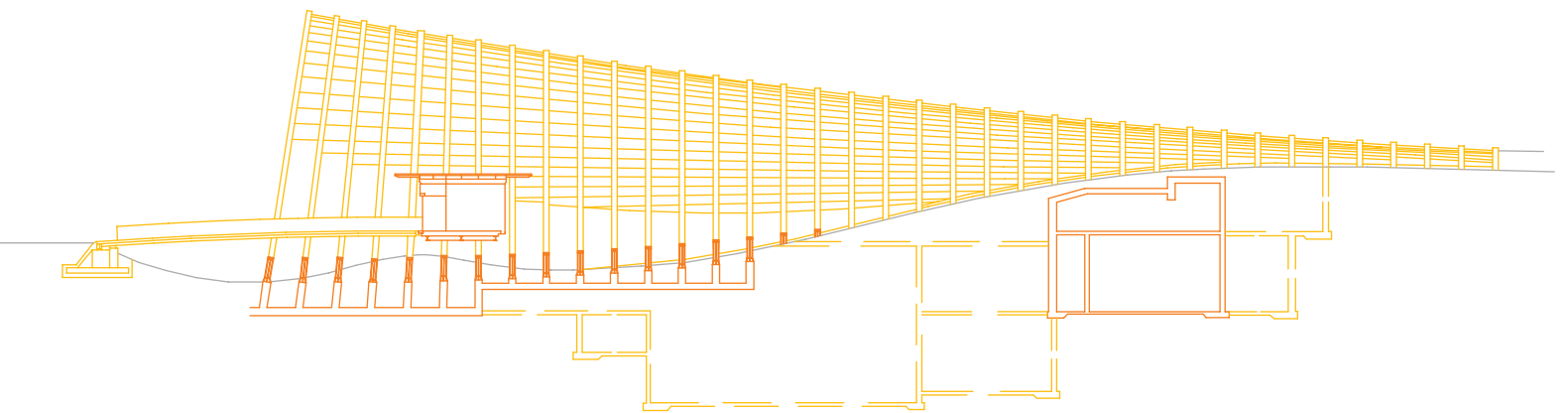
between the space whatsoever, necessitating a walk outdoors and the opening and closing of an otherwise important flow.

What is interesting is that from the ‘rear’ perspective (as illustrated below) these skywalks are barely recognizable unless a person is looking for them. This assuages the exterior debacle of ‘tainting’ the undulation, protecting the overall scheme of blending within the natural.

The Zentrum is important for the project because it illustrates the beginning intentions for the design of the Minnesota Marching Arts Facility. The natural blend between curved roof panel and wheat field is a beautiful transition, and executed very well in Piano’s design concept. The intentionality was carried out in such a way that it opened up upon the roadside. This is opposed to what is intended in the MMAF, which is to shelter the performance field from all outside distractions, and ‘open’ upon the shore side. However, the concept of an opening shell toward a vista is very clear in this project, and consistent toward one of the core principles of the MMAF: Minnesota’s natural beauty.

This project differentiates from the Morgan Library Expansion in that it does not operate upon a grid system. The architect utilized the fact that the layout didn’t have to conform to any sort of formality, and capitalized upon it, conforming only to the site’s slope itself. This opened up a wider range of possibilities for the flow of the spaces, which in turn allows the patrons of the Zentrum to slow down their regimented lives for a little while. That should be an important goal for any connecting space, that it is more than just a fast track toward a destination. Thus the Zentrum is a fine example for the Minnesota Marching Arts Foundation.





Page 74, from Left to Right, Top to Bottom: Figure 43, Case 2 Structure; Figure 44, Case 2 Natural Light; Figure 45, Case 2 Circulation to Space; Figure 46, Case 2 Massing; Figure 47, Case 2 Geometry; Figure 48, Case 2 Hierarchy; Figure 49, Case 2 Material Module; Figure 50, Case 2 Relation.

Page 75, from Left to Right, Top to Bottom: Figure 51, Case 2 Plan to Section; Figure 52, Case 2 Section Structure; Figure 53, Case 2 Section Natural Light; Figure 54, Case 2 Section Material to Ground; Figure 55, Case 2 Section Hierarchy.

Left: Figure 56, Zentrum Paul Klee Picture (<http://www.rpbw.com/project/53/zentrum-paul-klee/>).

Above: Figure 57, Case 2 Section



Rome, Italy

Luigi Moretti

Il Girasole
2000-2006



Figure 58
Case 3 Site Plan

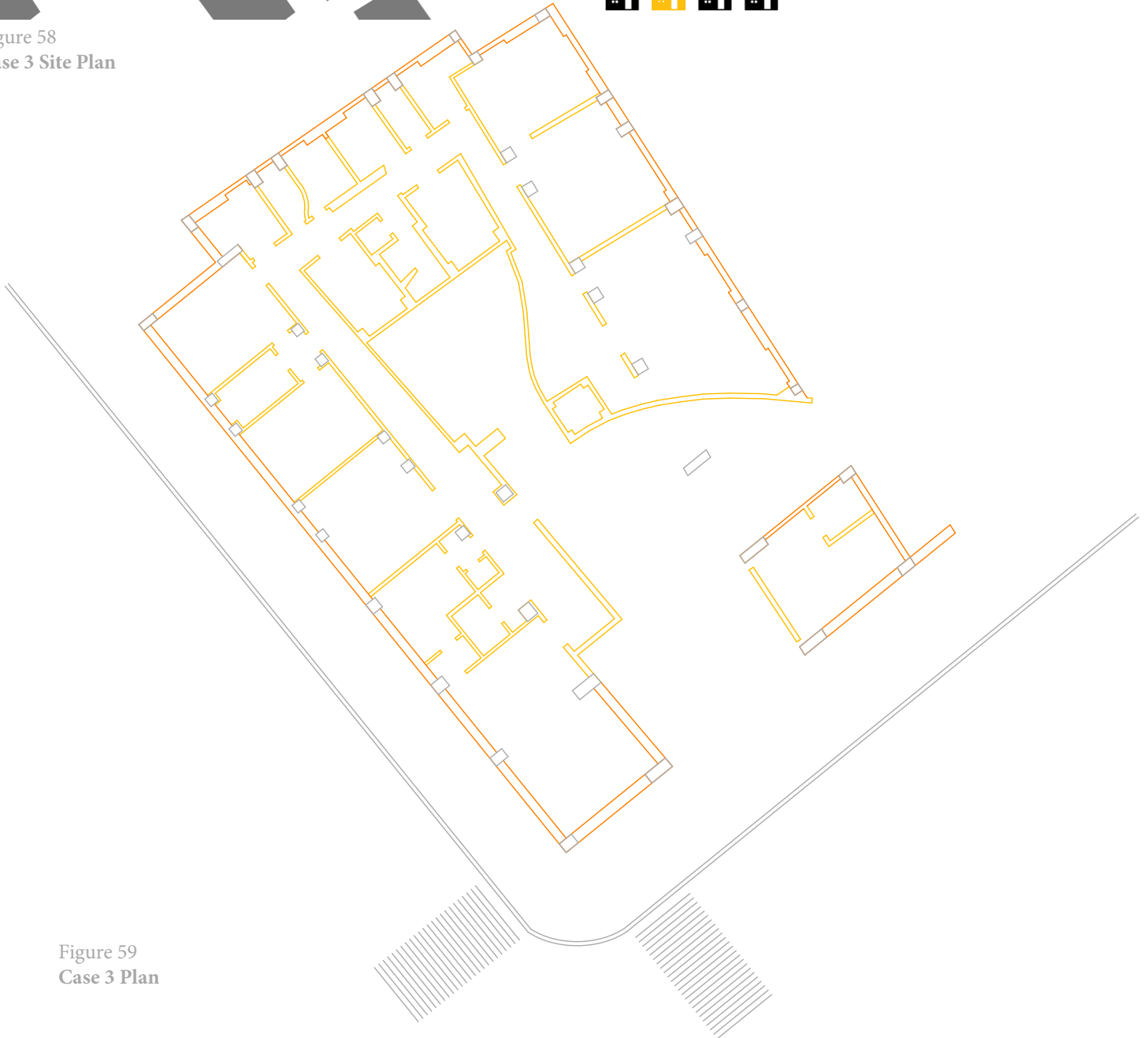


Figure 59
Case 3 Plan

Set amidst apartments of the same stature, height, and general shape and size as itself lies Il Girasole, designed at the turn of the century and completed in 2006. It was created in response to a pull for affordable housing in its region of Rome. Its spectacular design has credited it with national recognition, yet its outward appearance is little more than above normal for the area in which it is situated.

Most noteworthy of Il Girasole is its irregular grid. Serving as the primary structure of the apartment is a set of concrete columns of rather irregular interval and size. Also, nearly one half of them (those to the northeast) have been ‘rotated’ by nearly five degrees clockwise around the very eastern corner of the building. This rotation maximizes the usage of the space, quite literally. The entire site has been claimed, not unlike the other buildings of the area.

This irregular grid pattern does not compromise the structure. What it does do is add definition to the space, or character, for an otherwise rectangular block in a field of rectangular blocks.

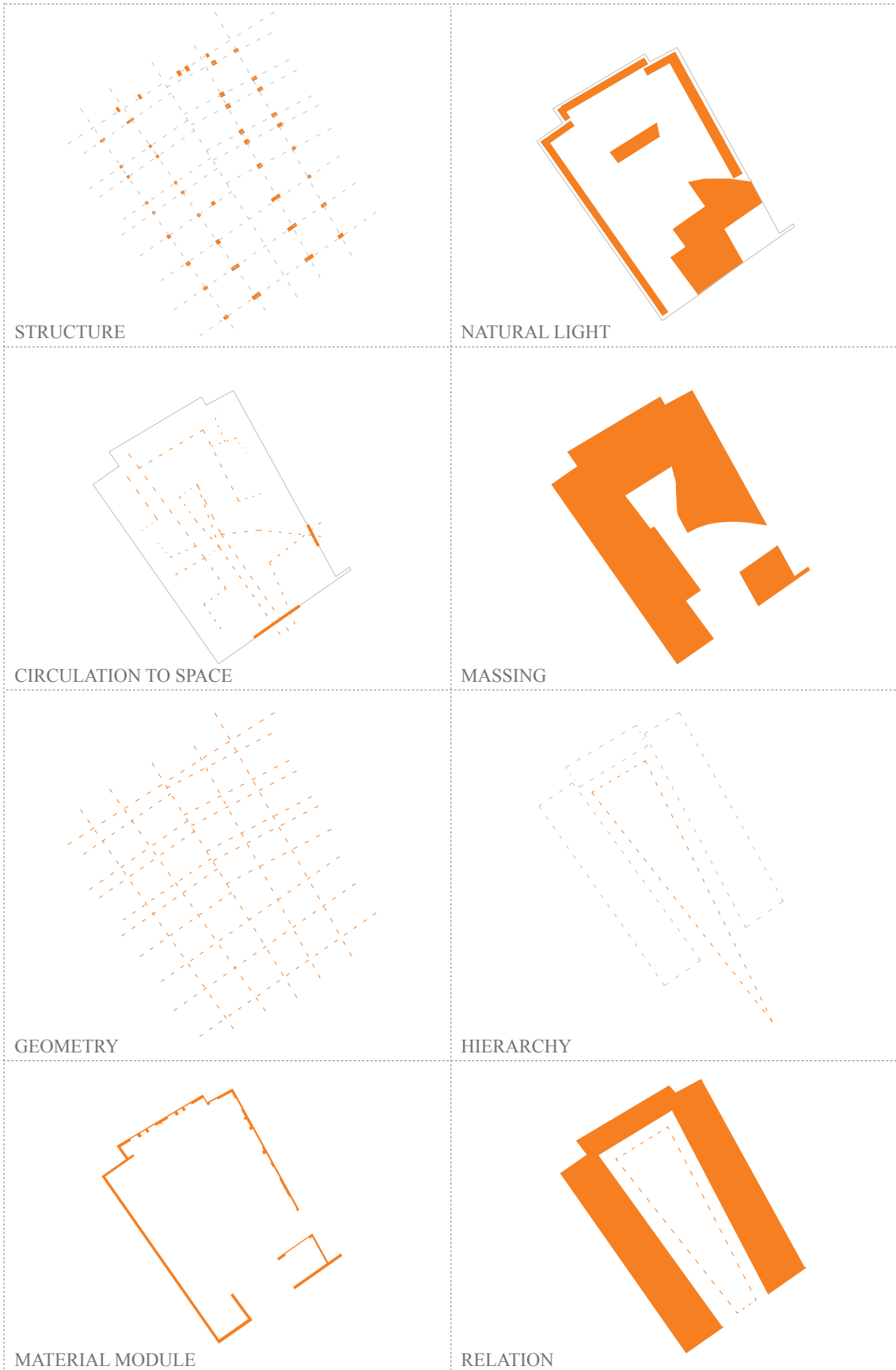
It also opens up the necessitation for a more complex facade system, and the design, by Luigi Moretti, does just that. On the last few levels is a system of protruding wall elements which jut out as if rotating away from the building much like the footprint does. This creates a sort of fan-like effect, which does a few things. It directs views toward, or perhaps away from, select elements in the Roman landscape. It also adds definition of detail, stealing the admiration of the public viewers.

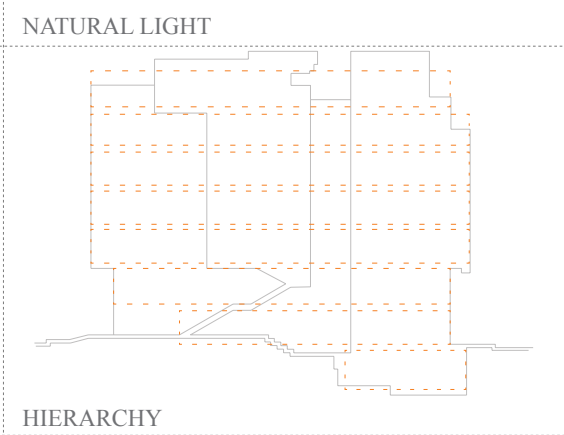
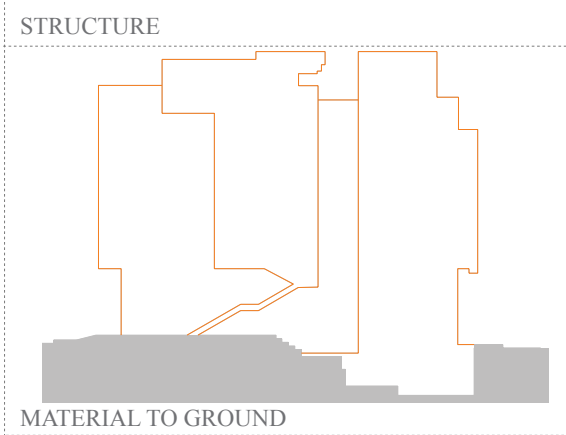
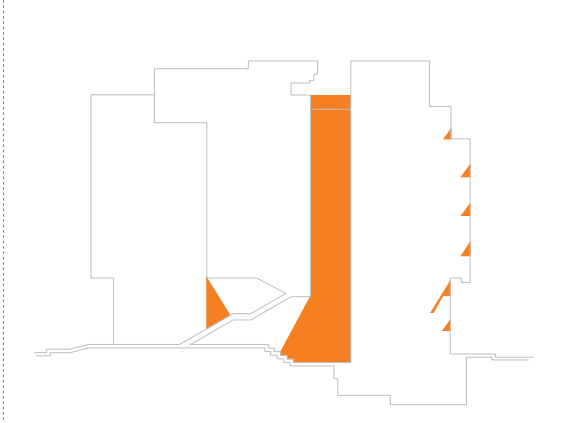
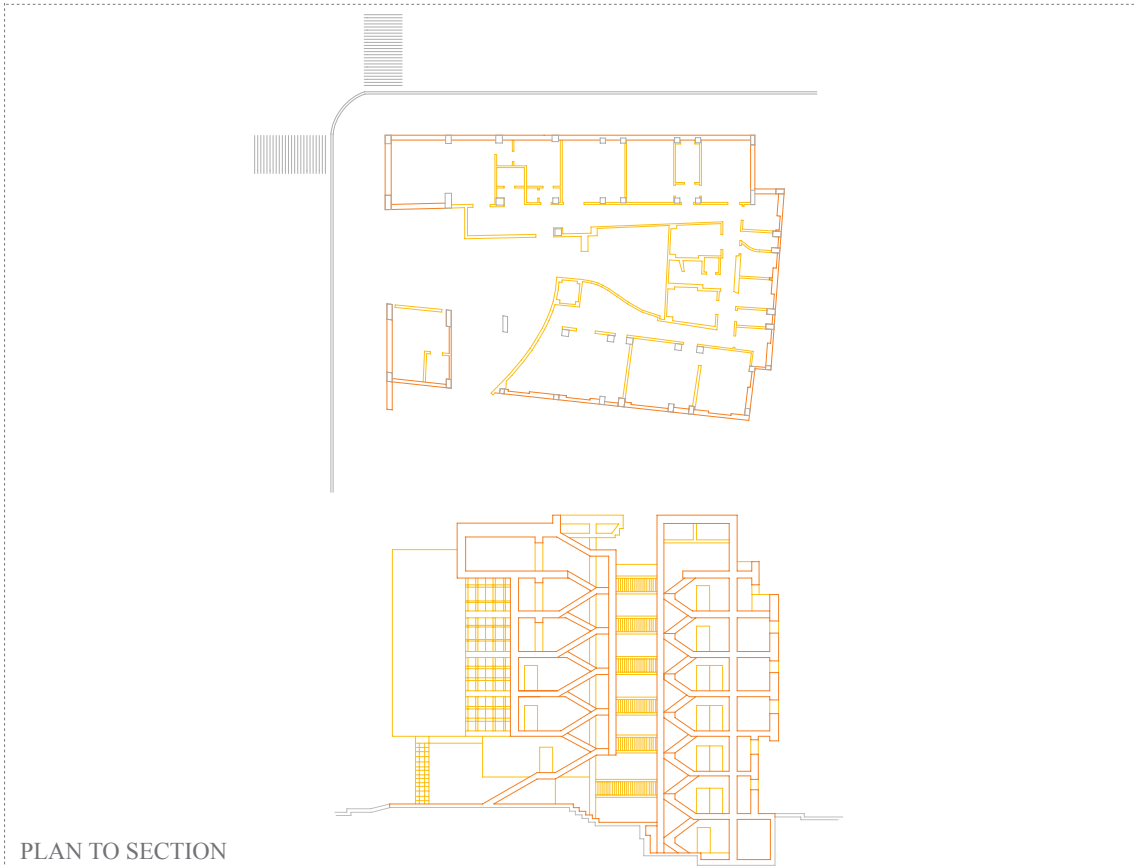
Each floor plate is different from the next, though in different amounts. The lower two levels are starkly different from the top three. All of the levels are centered around a core, or elevator shaft and open stairwell. Part of the core allows light to penetrate with an open roof, incorporating natural lighting into the heart of the design.

The project gains importance for the Minnesota Marching Arts Facility because it provides emphasis of detail to a community living building. There is abounding detail, particularly toward the haptic realm. This ‘touch-ability’ is the life of the structure. The masonry walls of the structure are designed with multiple face types, giving mixed expression. The gentle grid deformation garners curiosity in the viewer, as does its expansive atrium.

Il Girasole does seem a bit cold, or unfriendly, at first glance due to its materiality and rigidity. The color palate of the spaces does little to assuage this either. However, one can say that the spaces grow upon the individual.

The MMAF will house children, teens, and twenty-somethings. It should not aspire to be unlively or cold. However, the emphasis of exposure, of touch-ability and curiosity in Il Girasole is a perfect example of how to design a space for



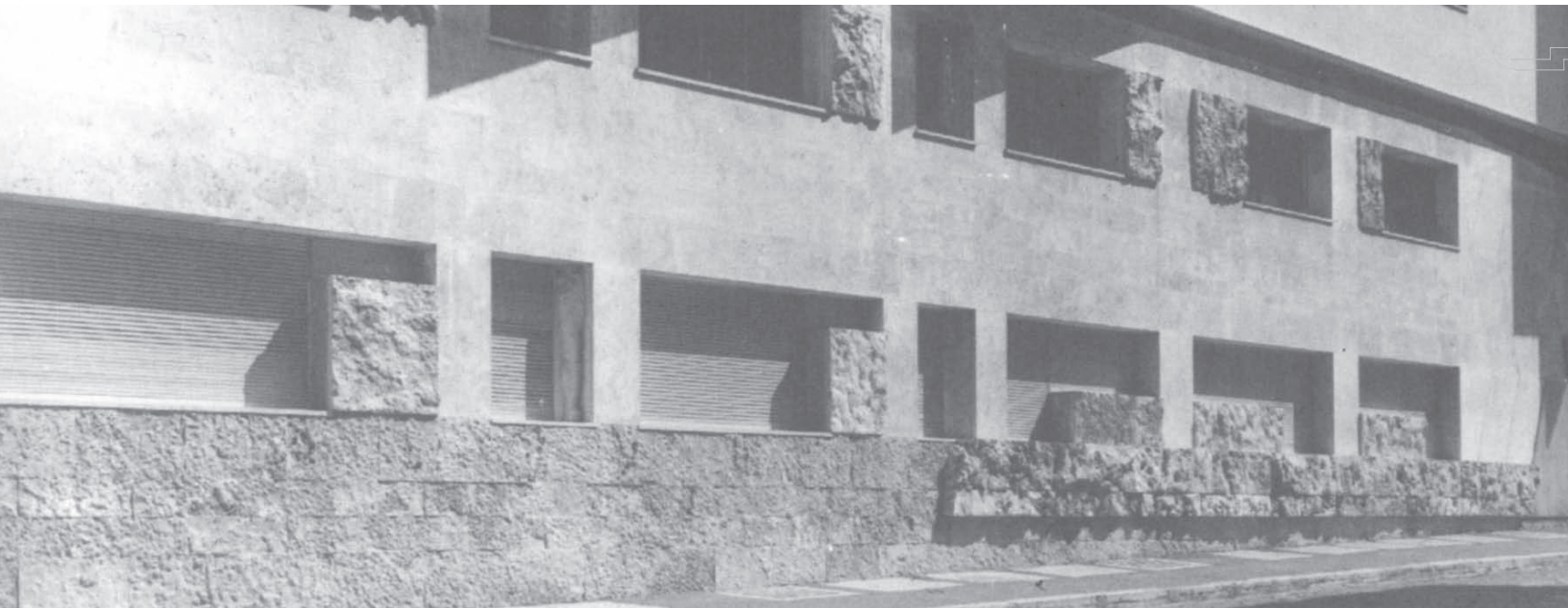


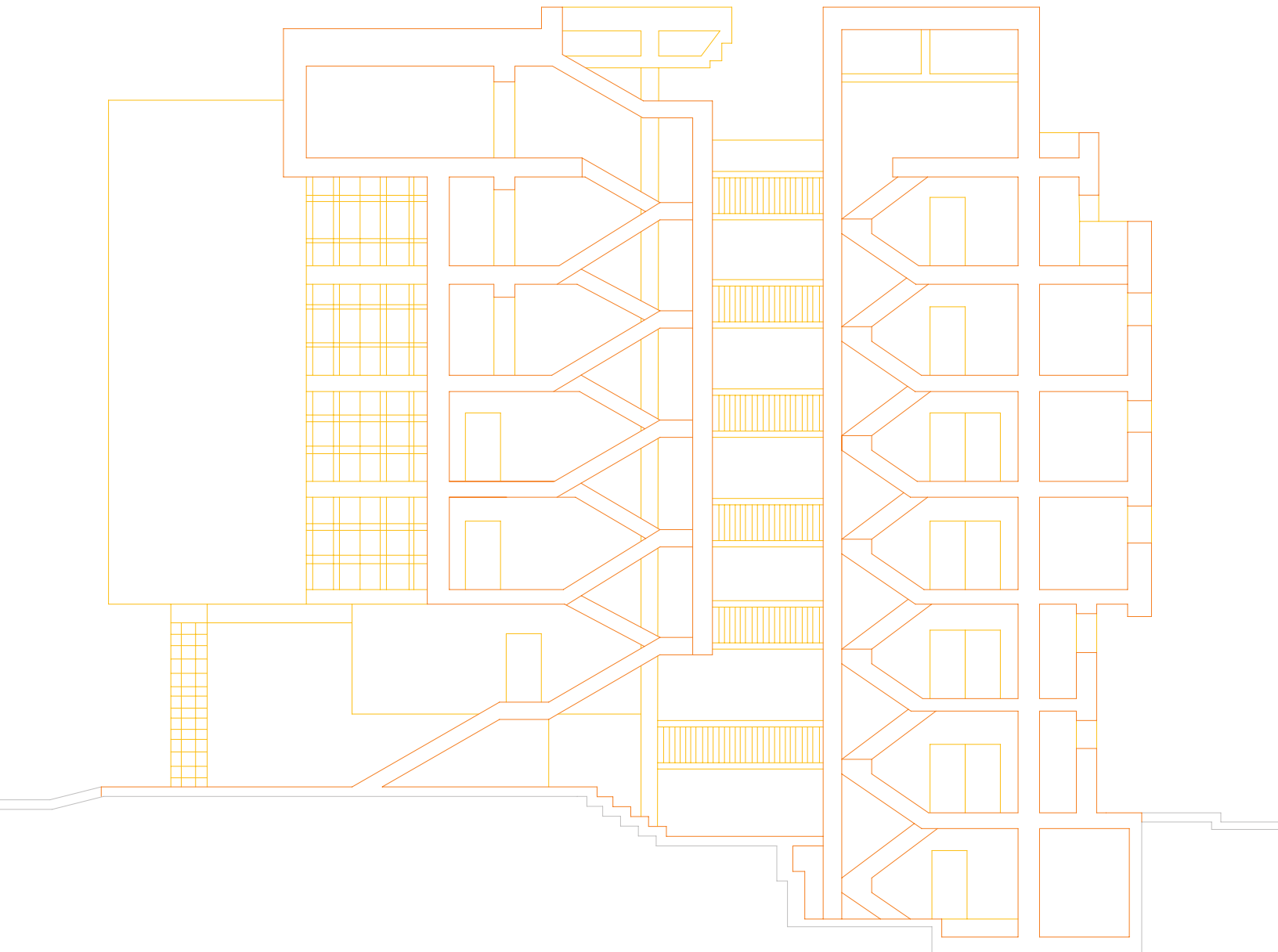
young people to inhabit. The vertical progression of the space is very grand yet unrefined. The sense of wonder lies in the detail of both grand and delicate scale.

Il Girasole's material emphasis brings to light the pieced together, haphazard nature of the building's geometry. It was as if the entire project could only be built with a random assortment of pieces, and this was the outcome. The materiality of many of the elements, whether they be floors, walls or ceilings, is very bare. There is little unnecessary effort within the entire project. Thus it might be considered 'minimalist' in its appearance, or in its means.

The project does not however bear resemblance of the scale needed to house 500 children. Il Girasole in fact appears to only house a few different inhabitants. However, the merging of its structure within its surrounding context is what can ultimately be taken from this. The project took a very strange site and converted its geometry to match it, rather than waste good potential. The MMAF's dormitory space will attempt to merge in such a way with its site, though undoubtedly by different means.

This project's materiality may be cold, but it is alive with precision and clarity. The use of its materials, as is visible in the picture below, is a beautiful juxtaposition between rough and smooth, refined and unrefined. It's not surprising that Il Girasole has been famed. Thus because of its use of materiality and its clever usage of site boundaries, it serves as a community living case study for the MMAF.





Page 80, from Left to Right, Top to Bottom: Figure 60, Case 3 Structure; Figure 61, Case 3 Natural Light; Figure 62, Case 3 Circulation to Space; Figure 63, Case 3 Massing; Figure 64, Case 3 Geometry; Figure 65, Case 3 Hierarchy; Figure 66, Case 3 Material Module; Figure 67, Case 3 Relation.

Page 81, from Left to Right, Top to Bottom: Figure 68, Case 3 Plan to Section; Figure 69, Case 3 Section Structure; Figure 70, Case 3 Section Natural Light; Figure 71, Case 3 Section Material to Ground; Figure 72, Case 3 Section Hierarchy.

Left: Figure 73, Il Girasole Exterior Picture (Ten Canonical Buildings).

Above: Figure 74, Case 3 Section



Clayton, MB, VA

BVN Donovan Hill

Monash University Student Housing 2011



Figure 76
Case 4 Site Plan

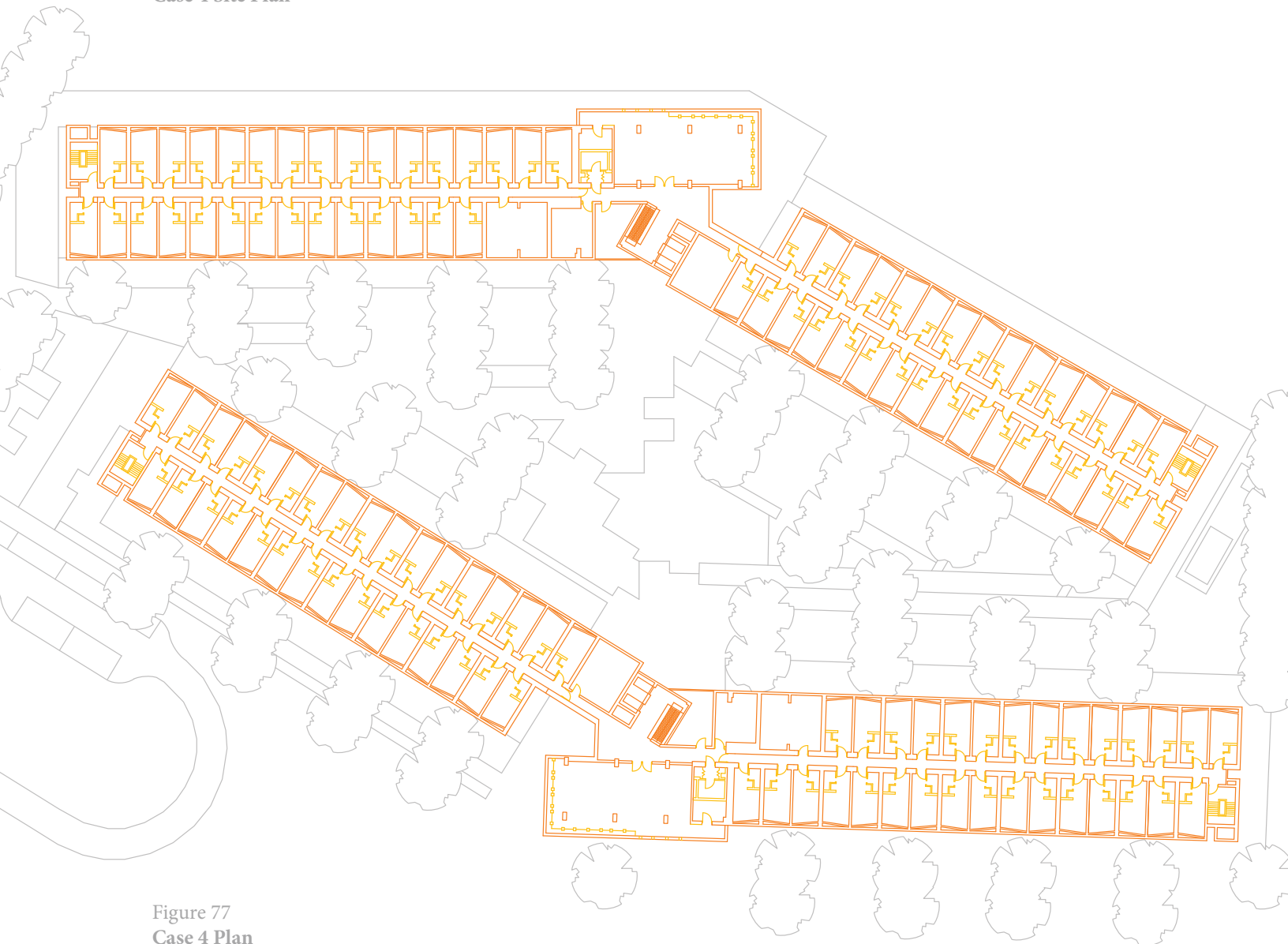


Figure 77
Case 4 Plan

Within the larger context of a booming bay town in the Victoria region of Australia lies Monash University. With an undergraduate student population rivaling the larger American universities, its need for student population seems ever to grow. This latest installment is on the far eastern portion of the Monash University campus, across the recreational facilities from the actual campus educational buildings. The design of the new Monash University Student Housing represents a very forward-thinking firm philosophy with limitless ambition toward sustainable design strategies. The new housing development, soon to be built, has aspirations of attaining high status as a 'green' structure, though its exact merits have yet to be tested.

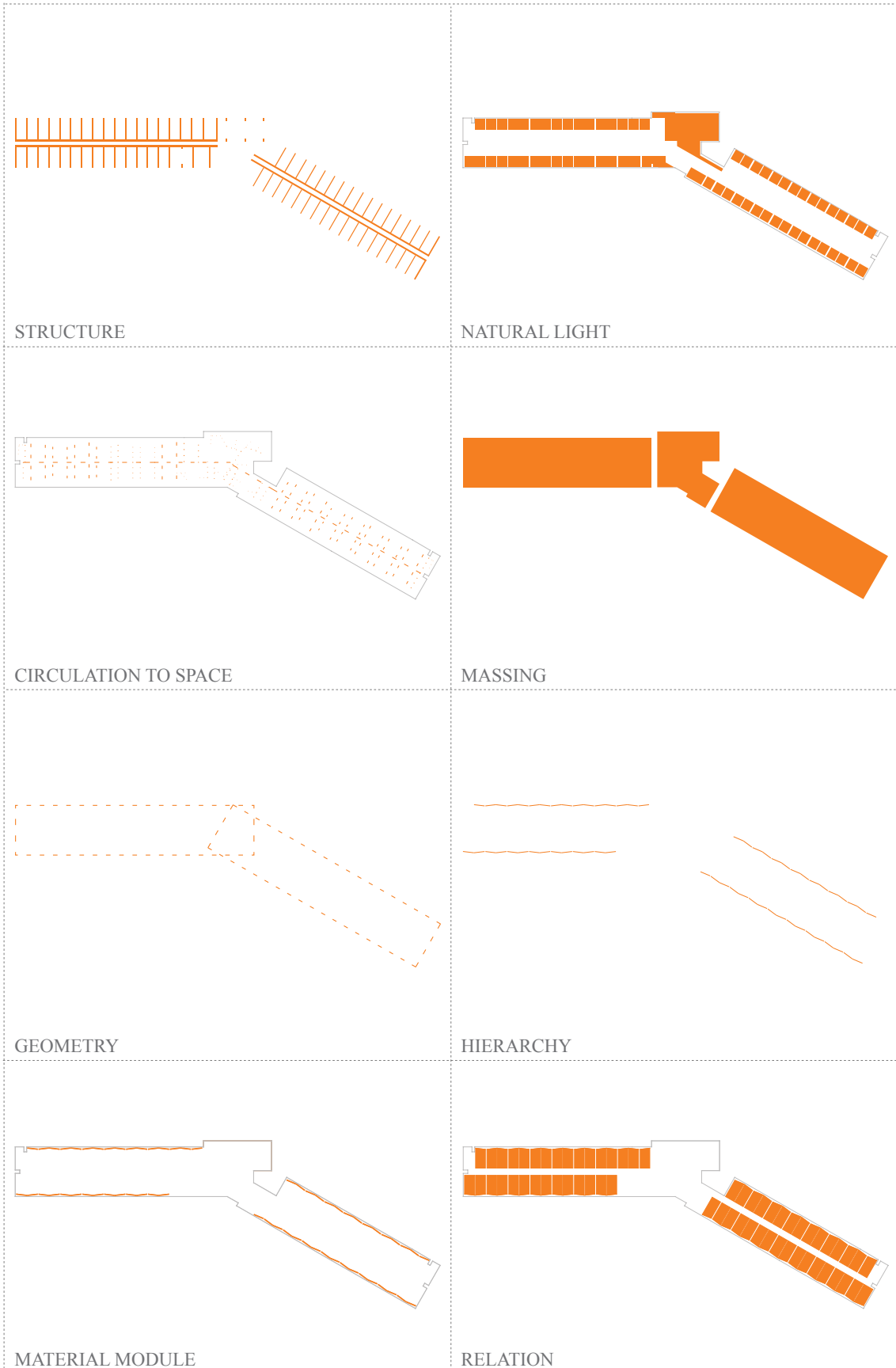
One look at the floor plan and it is easy to tell that this is to be a dormitory. Each 'residence' is of the exact same size and stature as the next. Each residence contains storage space and a bathroom.

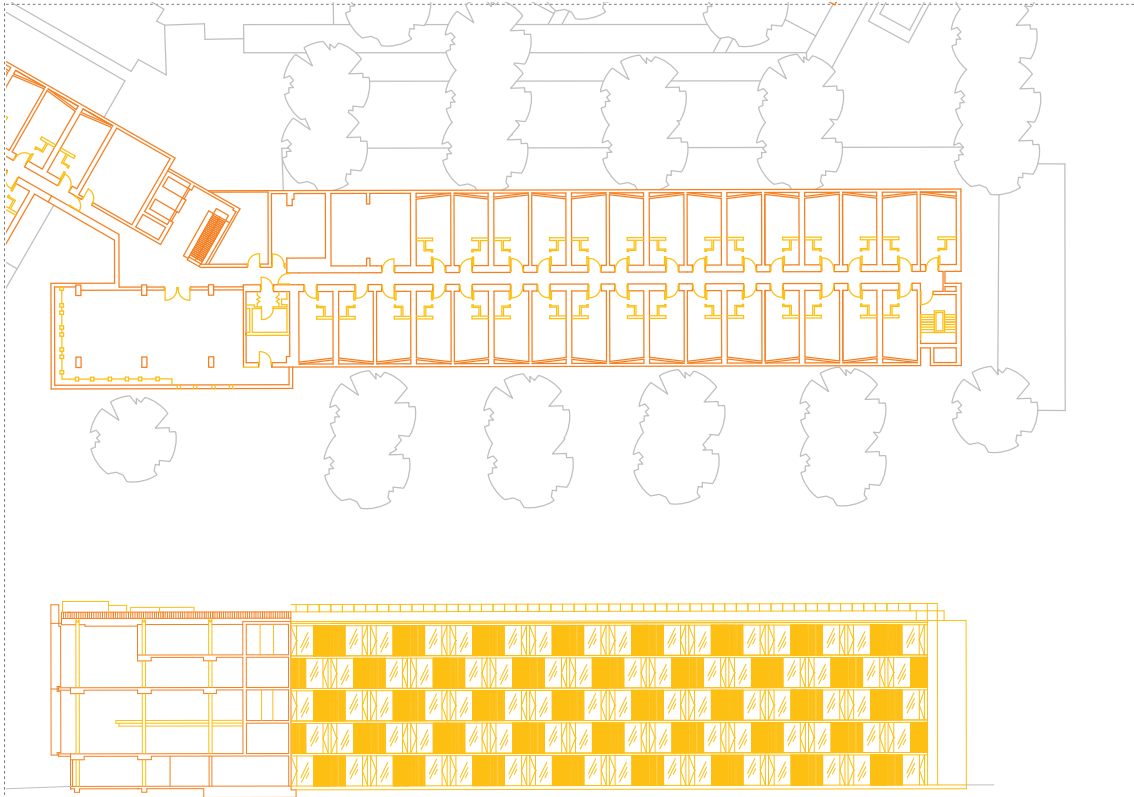
Programmatically, the MU Student Housing development is a near perfect match for the MMAF. Residence rooms are very similarly sized, the design includes a large recreational space, and supportive spaces are given in every floor.

This is not a perfect match of a case study. The primary differences between this and the primary intentions of the MMAF are: community bathrooms, compact design. The MU's housing, though only a small building on such an expansive site, sprawls somewhat arrogantly on its site. There are reasons for this, of course. The intended capacity far surpasses the MMAF's. However, it spans an absurd length. Also, each residence room in this student housing complex has its own full bathroom. This would also be absurd for the MMAF's dormitory scheme, being only temporary residence and for children segregated by age and gender.

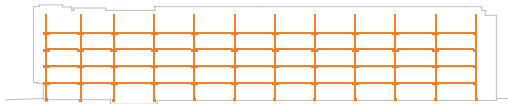
The primary draw for the MU student housing is its excellent use of clever cladding of the exterior. On the exterior side of each residence is a diagonal 'wall' which is mirrored at each party wall between residents. In that way, a diagonal zig zag pattern is produced on the exterior of each level of the building. This pattern is then offset by one dormitory from the floor below it. This in turn produces not a uniform zig zag for the whole building, like the folding of an accordion, but as a something more.

The second draw for this new development is its large gathering space (one per building) near the axis and center of each building. This commons space serves for the gathering of its residents as they may ever do so, and is designed with clear intentions of sustainable strategies. Notably, the large glazing facing outward to the beautiful Australian landscape is covered by a wooden slat system, protecting the space from excessive natural lighting. This patterning is a beautiful representation of current sustainable strategies, and represents a very basic principle of design in the hot Australian climate.

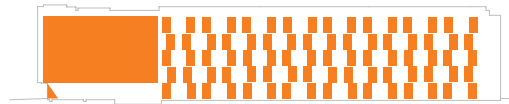




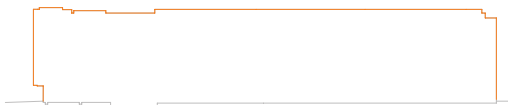
PLAN TO SECTION



STRUCTURE



NATURAL LIGHT



MATERIAL TO GROUND

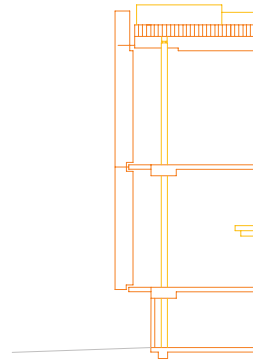


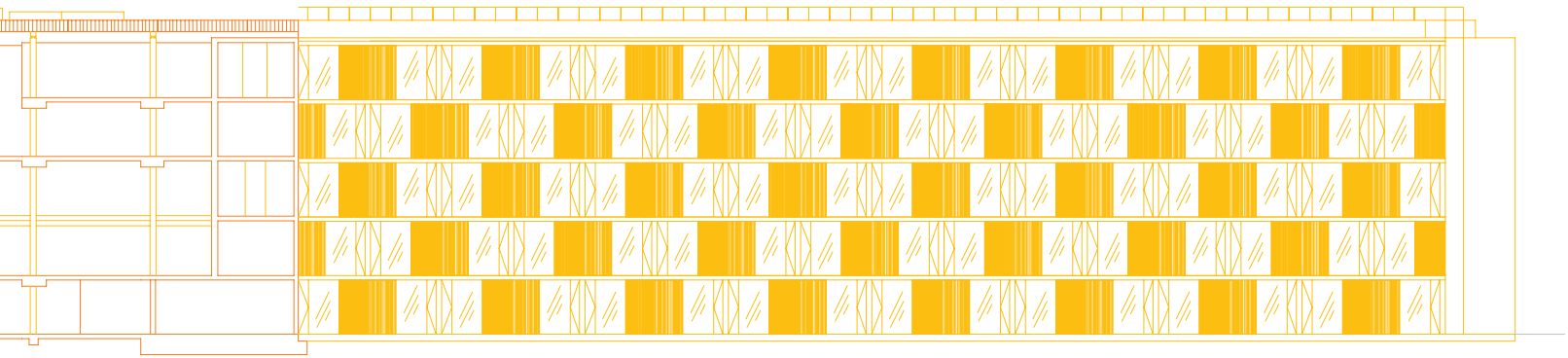
HIERARCHY

Much like Il Girasole, the project shares a desire to branch away from rigidity. Each of the two structures has a juxtaposition of geometries with itself, at a harsher angle than Il Girasole. This allows for a more unique definition of meeting space, as the gathering space itself is a gathering of two halves. Also, the angling of the two halves is said to actually expand the usable building area without simply fixing a boxy lump on the side of the space. This allows for more sight lines for all of the residents.

The project bears resemblance, however, to a different climate. A clear note is that the concrete slabs extend beyond the climate controlled zone, letting heat in, and heat out. There are examples of this in America as well, the most notable being the ‘wave building’ in Chicago. This is unacceptable for a design in the northern Midwest.

The Monash University Student Housing presents a vast wealth of study material, whether that be for the size and shape of a dormitory, the construction of a wooden slat system, or the gentle transition from one plane to the next, and of course why that is. It may represent a different style of community living as the intentions of the MMAF, but it certainly represents the current trends for sustainable dormitory design, being one of the newest campus housing buildings in the world.





Page 86, from Left to Right, Top to Bottom: Figure 78, Case 4 Structure; Figure 79, Case 4 Natural Light; Figure 80, Case 4 Circulation to Space; Figure 81, Case 4 Massing; Figure 82, Case 4 Geometry; Figure 83, Case 4 Hierarchy; Figure 84, Case 4 Material Module; Figure 85, Case 4 Relation.

Page 87, from Left to Right, Top to Bottom: Figure 86, Case 4 Plan to Section; Figure 87, Case 4 Section Structure; Figure 88, Case 4 Section Natural Light; Figure 89, Case 4 Section Material to Ground; Figure 90, Case 3 Section Hierarchy.

Left: Figure 91, Monash University Student Housing Exterior Picture (<http://www.arch-daily.com/228371/monash-university-student-housing-bvm-architects/>).

Above: Figure 92, Case 4 Section

TYOLOGICAL RESEARCH SUMMARY

As developed upon in the Case Study Introduction, there were three primary forms, or typologies, of case studies of importance to the Minnesota Marching Arts Formation: connecting space, residential space, and performance space. This is due to the fact that a complex designed around the needs of a temporary/permanent marching organization[s] must both accommodate residency and performance (all designs must incorporate connecting space). Each of the six cases were chosen based on their own criteria, but also because of their stimulation of the senses.

These six cases were not, however, the only buildings discovered in the research phase. Research for the marching typology could be said to have started at the start of this author's marching career at North Dakota State University. It was recognized that sound produced by a marching band sounds different in different stadiums, and that this variation in sound clarity and loudness (impressionism) can make a great deal of difference. Stadiums that the author has played in front of include the Fargodome, USD's playing field, SDSU's turf, UNI's, TCF Bank Stadium (University of Minnesota), Frisco's championship field, and a few local high schools in the Fargo/Moorhead area. Each stadium has its merits, and some have more of those than others. No stadium sounded worse than the Fargodome, however. Constantly being reminded of this fact was a reason for this project.

The University of Minnesota's TCF Bank Stadium was by far the perfect venue for a marching band. Its materiality is concrete structure and finish for most of the surfaces, with plastic sit-back chairs and an overhanging secondary tier of seating above, compiling the sound below and adding to the impressionism of the band's power without affecting clarity. I was able to witness DCI Minnesota the past two years, which is the DCI competition at the TCF Bank. The raw power inherent projected and received was surreal, and a life-changing event the first year. Powerful chords were almost as a drug, addicting the soul, which years ever for more.

The effect the six given case studies had upon the theoretical premise was of confirmation toward my goals. It is entirely possible to design all three typologies with the senses in mind, and for maximum impact, and that is inherent in the six cases. Each demonstrated a clear use of materiality to benefit the space. What is more is that most of the designers chose not to conceal the structure. This may then seem to be an important trait of phenomenological design: the celebration of structure. This was learned through the cases, not before them. Also learned was that phenomenal spaces come in many hues, but are always tailored to their clients' purposes. Consider the difference of design between Piano's lightness to Moretti's clever morbidity. Yet each is celebrated by its user.

In each analysis, the site truly helped define the program's finish. Take the slope of Rome's streets for example. In the region, the difference between one side of the site and the other might be a whole floor. Il Girasole formatted its approach to tailor to the site, and the unique access it offers to the building's program. The Zentrum Paul Klee even merged within the site, and from the rear almost appears as a natural set of entities, were it not for the silver sheen in the sunlight. The Monash University Student Housing's site is nearly flat, with the only undulation happening away from the immediate site to the north. Considering this, the building's approach was rather simple, or was allowed to be. One interesting note of site importance upon design is of the need for elevation change in a performance venue. Consider the ancient amphitheater. In order to allow for maximum spectator numbers and for the clarity of sound, the design was shaped to elevate the spectator from the field. Modern football fields are no different, but are only designed for football games and very little else [typically]. Each of the two Piano buildings incorporate a recital hall. What's of interest is that when a slope already exists, like in his Zentrum Paul Klee, he elects to utilize the undulation for orientation of the hall. This of course minimizes excavation costs and therefore also the labor of foundation pours. As performance space is of great importance within the project scope, the utilization of the site's natural undulation is very crucial toward the placement of the performance field.

The cultural differences between case study are of obvious interest, however none of them necessarily conform to the Minnesota 'cultural aesthetic.' Piano's works are of a separate culture themselves, as he has established his own typology through decades of fantastic works. His works are allowed to disregard cultural vernacular, in their own clever ways. Il Girasole is very different, and bears resemblance to its surrounding structures, both culturally and politically. Its social impact is perhaps not so great as the Monash University housing development, which does not bear close resemblance to the buildings around it. Therefore the MU student housing has higher expectations and cultural implications within its site.

All sense of function in each of the projects is dictated largely by its use, but not wholly. Each of the projects spares a little bit toward the unexpected, which is completely expected of case-worthy architecture. The relevance of non-functional aesthetic within each of the case studies is to a different degree in all of the works. Looking at Piano's two cases, there is a stark difference in geometry. The Morgan Library Expansion is very 'functionally' designed for economy of space and of materials, whereas the Zentrum Paul Klee has nearly 17' ceilings at times, and wide hallways with little in them. However, both of the designs spare no expense in their own ways, providing a fair amount of flair, or what some may consider frivolity.

The spatial relationships are also very different depending on the case. This is most evident in the community housing case studies; where the MU's housing

is very standardized and simplistic in organization and structure, Il Girasole is quite random. This is due completely based upon program, but also provides an analysis toward the pocket depth of the client.

The technical issues involved with each case study can be traced toward its complexity. The complexity of Il Girasole is completely different from the Morgan Library Expansion, primarily based upon materiality, but also to detail. The technical details to be faced in the MMAF are not determined at this time, but may bear resemblance to one or all of the case studies (of materiality). If that is to be the case, then attention will certainly be granted to the case studies, and inferences drawn based upon the constructability or feasibility of their own design strategies, in order to come up with a suitable solution for the problem at hand.

HISTORICAL CONTEXT

To begin a historical background check of the Minnesota Marching Arts Facility involves the careful analysis of four branches of pertinent information:

- 1: The Marching Arts
- 2: Physical Context of the Site
- 3: The combination of the two above.
- 4: Facilities

A thorough analysis of the rich history of any activity involves the pursuit of its origins to best understand the confrontation involved with any dramatic shifts in tradition. Indeed, there have been many transformations involved with the action and art of marching, as is described in full, later in this historical narrative. These shifts in appearance and behavior indicate a change in demographic that represents the ideals and thoughts of their respective times, be it the religious Crusades period or that of the Civil War and its changing mind set.

Marching bands, though the term ‘band’ is used very broadly in historical context, have played a part in nearly all important historical events. As such, the historical background of this facility spans a rather long duration of time, ranging somewhat from the dawn of war to the present extents today. Therefore, the narration is not an exhaustive analysis of marching’s past, but a brief overlook of its many forms and extents.

The Marching Arts

Some have made inferences that the beginning of marching as an activity of rather a verb was, in full, caused by the necessity to move warriors at a steady pace. A common definition of marching involves the movement of step to a steady beat. It has been very well documented that many armies of many nations have employed marching to a great effect. Marching is mentioned in the folklore of many nations, if not all of them, in the histories of the current countries today, and of their tribes that constitute them. The Bible makes clear mention to the art of marching, within the story of Joshua’s assault of the stronghold of Jericho:

“12 Joshua got up early the next morning and the priests took up the ark of the Lord. 13 The seven priests carrying the seven trumpets went forward, marching before the ark of the Lord and blowing the trumpets. The armed men went ahead of them and the rear guard followed the ark of the Lord, while the trumpets kept sounding. 14 So on the second day they marched around the city once and returned to the camp. They did this for six days.” (Holy Bible)

Such references have been made for many cavalcades and fronts of battle: for the Roman empire, for the armies of Napoleon, the battles of the English homeland from Scottish assault, the American Revolution, and all that follow. Fifes and snares drums, trumpets and bugles; instruments have been prevalent in battle since the dawn of time.

Styles of company front marching in military have been largely dictated by government. Look to the differences between the American revolutionaries to that of the British forces. No marching style has been made iconic quite like the ‘Goose Step,’ used by the forces under Adolf Hitler; though still “emblematic of military discipline and efficiency” (Davies, 1996), it is taboo to recreate it under many circumstances, and even punishable to do so in some countries.

“The lines of jack-booted soldiers were trained to point their toes on every upward beat, raising their legs to a high horizontal position. In order to keep their balance, they had to lean forward, swinging their arms like cantilevers, and holding their chins and a characteristic jutting posture. Since every step required enormous effort, the musical tempo had to be moderate to slow; and the march was performed with a grim, deliberate air of latent menace. Fierce facial expressions were an essential adjunct to the soldiers exertions” (Davies, 1996).

With clear indication of marching, there is always a beat, an instrument, some force that drives the core forward with uniformity and precision. America history has clear documentation of marching, and perhaps even marching bands, at its earliest stages of European expansion. American march music can be said to have emerged during the Revolutionary War, in which a fife and snare drum would play while the troops marched to battle. American cinema has faithfully rendered this many times, thus whenever a snare and fife/flute are in tandem, its sound is then always attributed to a militarist background. The abrupt halt of the use of marching bands in American war history is at the culmination of the Civil War, due to changing technologies and the introduction of travel by automotive means and more sophisticated battle techniques. Thus the use of “military march” music was held to ceremonies and other related events. It was then that military music began its roots as a form of entertainment (Smith, 1993).

As such, we begin the narrative of modern military march music after the Civil War. From the transition we can derive the branching of musical style within the military, as it continually shifted away from the battlefield and toward the concert hall. It is here that the John Phillip Sousa era began, in the late 1800’s. In many Universities and Colleges, early ROTC programs date their use of “Field Marching” during football events around the early 1890s, with the earli-

est instance being the University of Illinois “Marching Illini.” Eventually, most college ROTC programs dropped their field marching requirements due in part to lack of funding and also in favor of changing musical styles and popularity. Thence came the modern college marching band we see today, being comprised of normal students. For reference, the Purdue Student Army Training Corps, whose marching band program began in 1886, was the first University band to break away from its ROTC roots, having done so in 1907 and forming the first non-military drill set in the nation, the Purdue “P” (Purdue University, 2013). Not all college marching bands have shed their military roots. Only a few still exist in the nation, with the notable “Fightin’ Texas Aggie Band” from Texas A&M and the “Hightie Tights” band of Virginia Tech.

As American culture began to branch during the Industrial Revolution, collegiate marching bands themselves branched into four primary styles: Military, Corps, Show, and Scatter marching bands. Military bands still promoted the deep traditions inherent in their ROTC programs, though slowly incorporated more modern techniques as pop culture grew. Corps style marching band, explained in full later on, were expressly interested in competitions and thus continually provide the latest trends and interests of bands the world over. Their field formations were complex and their marching styles were very varied to accommodate different musical styles each year. Show marching bands were around expressly for crowd entertainment, and are known today as “Traditional Style Bands.” These marching bands are now a staple of collegiate football events, as they were then. Their routine would feature a “Pregame” show directly before the game, a Halftime show (different for each game), and occasionally other events as per the band and the region. Show bands make up the majority of University and College bands in America, and are growing in popularity today. Scatter bands are a variation of Show bands, in that they have less rigorous marching and instead scatter from set to set, often employing comedy into their routines. All of these styles of collegiate marching bands contain a Pregame and Halftime routine.

As interest and recognition grew for collegiate marching bands, the art of marching band gradually grew into popularity among high schools around 1950, and is still alive today. However, due to lack of student numbers and/or funding, they are less prevalent. Many high schools who have larger marching bands enter into competitions, and most if not all of them only perform one show for all of the Halftimes their school’s football games. Marching band in high school is much more prevalent in the south and eastern regions of the United States, with notable states such as Texas and Ohio placing special interest in marching band. Hundreds of high school marching programs are forced into dismemberment due to lack of funding and interest, though pockets of prevalence are still alive and well in regions of higher population.

While collegiate marching programs continued their own traditions and high sc-

ool marching programs continued their own, there began a push for professional marching programs and for national competition, international with the addition of Canada. Shortly after World War 1, such competitions were held, sponsored always by organizations such as the American Legion, Scout Troops, and the VFW. As such, these organizations expected all competitive groups, or corps, to perform military marches and march very traditionally.

Unlike most collegiate marching bands, the competition season for these leagues was in the summer months, with preparation beginning as early as November of the last year. Like other types of field marching units, they practiced and performed on a football field. Members practiced and performed away from home, and were generally waylaid in competitions for roughly 8 weeks, traveling all around America. The age of most members was in the vicinity of late teens to early twenties (the age of an average college today).

This style of competition lasted for a few decades, but in the early 1960s, there was rising criticism for the strict stipulations and traditionalism expected by those hosting entities. Also, there was widespread dissatisfaction over the small reimbursement given to the corps for competitions attended, always given based on merit or finishing place. Therefore, in the early 1960s a small number of the corps formed an alliance led by Don Warren of The Cavaliers (and his toughest competition), that “unionized” against the judging organizations in favor of more freedom of expression (Waerzeggar, 2007). 13 organizations (the largest and most influential) joined in the movement that year, and effectively began cutting ties with the original judging organizations, creating a flux period between the late 1960s and early ‘70s. Eventually forming a workable structure and judging system, Drum Corps Association was formed in 1965 and later morphed into Drum Corps International in 1972, hosting their own competitive circuit away from the VFW and Legion, which would only falter out soon after.

The changes were immediate, though this led to many corps to falter and become inactive due to rising expectations and excellence. However, the instrumentation and marching styles that DCI was recognized for has remained largely consistent. The instrumentation is of all brass and percussion, with a front-line “battery” of stationary percussion. All horns are front-facing, and include: Trumpet, Mellophone, Baritone, and Contrabass (which eventually replaced the G Bugle). All but Mellophones are pitched in concert Bflat key; mellophones are pitched in concert F key. As DCI transitioned away from the pre-modern stipulations, corps added color guard to the mix, complimenting the musical styles of the brass and percussion with visual representation. Today, modern corps are the epitome of the marching arts, combining visual excellence with stunning clarity of music. There is then little wonder why Drum Corps International is otherwise referred to as “Marching Music’s Major League.”

Current trends in marching band range vastly upon the extents to which the

marching band can actually carry them out. Just as the economy of our capitalist system is growing polarized, so is there developing an “excellence gap” in marching bands across America.

Beginning with high school and collegiate marching programs, the current style is to mimic that which has already been done before. Because of the technological age we live in and the speed at which news is shared, it is growing easier for entities to copy each other, and perform largely the same shows as others before them. Though this is at first glance a problematic feature, it represents the growing trend for all current forms of music to mix up what has already been done before. It is why thousands of marching bands the world over performed Michael Jackson’s ‘Thriller’ in 2009, and why the Beatles will be the trend for next year.

Not only is there a trend toward revival, but there is also a rising trend for the admiration of collegiate marching programs, and for DCI groups. As websites such as Youtube and Vimeo continue to gain use within the larger American demographic, it becomes easier for certain marching band programs to gain popularity on a national and global level. The most recent example of this trend is the widespread recognition of The Ohio State University Marching Band, also known as The Best Damn Band In The Land (or TBDBITL), and their ability to have a figure ‘moonwalk’ across their football field.

Such forms of excellence of course deserve widespread recognition. The moonwalk was displayed across many national news reports, as well as having a feature in ESPN (which is exciting history itself). Thus the ability for our generation to transport global information from one person to the next with lightning speed has renewed a recognition for marching band as a popular activity in America’s educational system.

There are however some negative trends associated with today’s current marching programs. As information of other schools’ traditions quickly radiates within other programs, this results not only in a higher recognition of other traditions, but also of a loss of localized tradition within that entity, as other ideas are instilled from other bands. Though every tradition has its own unique birthday, the dissipation of ideas between bands has resulted in the loss of many fine traditions.

Another reason for loss of tradition comes with the dawn of a new demographic. Certain sayings are no longer acceptable, as certain activities are also now considered largely illegal. Though not limited to marching bands, there’s a quick growth of concern for hazing and substance abuse within programs. This is not a bad change, as it has resulted in friendlier organizations and more personal security within a larger ensemble; however, it is a noticeable change that has many older band members at loss for words.

As there now is a rising concern for personal integrity in America (of which is an entirely different argument altogether), there now are less formalities between professor/director and normal band members. This may not of course be true with all institutions or corps, but it signifies a different attitude and reverence; there is less stratification within a typical marching band. This is generally more true for collegiate organizations as it is for high school, as there is (or was) more demand for stratification within a larger and thus more challenging ensemble.

The national importance of marching bands, though more recognizable as technological communications improve, has remained rather the same as it ever was. Collegiate marching bands have largely remained within the same standards of achievement and recognition as they garnered nearly 100 years ago. Though high school marching programs have regionalized expectations, their involvement with school activities, parades, football games and the like has remained the same. DCI continues its relevance to people who know what it is and where it operates.

Marching as an art only appeals to certain individuals, though everybody at their respective events appreciates their presence. Much like any sport, once a person gets involved, they remain faithful and acute to the goings on. Therefore, the deeper a program is ingrained into its region through faithful alumni, the more recognition and respect that program typically receives in years to come.

In some states or school districts (or regions), the popularity of marching is rather high. The recognition of one high school's excellent marching program may very well earn the respect of a region and define the school itself. Conversely, the popularity of another school's marching band may be very low, due to poor performance, low numbers, or lack of regional awareness for the art. Therefore, to some extent, the popularity for the growth or continuation of the art of marching in one school district is largely based on how well they perform.

The excellence of many collegiate marching bands relies heavily upon the respect given them. Many of the most successful marching bands in America, such as that of Big 10 university bands, have such great respect and reverence from their region that they have to hold auditions for admittance. Therefore, they continue their excellence. Other less fortunate programs the nation over have the opposite problem. Due to lack of excellence, they cannot get the respect of high school marchers, to join their ranks after graduation to boost numbers and productivity.

This polarization within collegiate marching programs is counteracted by a general fact. Before WW1, if a person was not destined to be a music major or similar, that person would never think of joining their college's band, nor

would they be allowed to. Now, the vast majority of collegiate marching band members are non-music majors, meaning that while the majority of band members did not choose their college for the band, they were drawn towards it because it welcomed them in. Thus, excellent players and naturally talented individuals may find themselves at ‘lesser’ marching bands and as such contribute positively toward a dying program.

The future of marching band is largely regional, and based upon regional popularity. If one high school program shuts down its marching program, that represents the higher chances that other schools within earshot may follow suit. Conversely if one high school begins or reinstitutes a marching program, that provides reference and initiative for other schools of that region to do likewise.

If marching band security is regionally based, then it comes to no surprise that directors, alumni, and students alike share a need to strengthen the regional awareness and promote growth in the marching arts. This is more true for high school programs than that of collegiate programs, whose futures are more directly tied into a longer history and a wider fan base and support. However, the future of any marching band is greatly dependent upon its excellence and recognition within the society it exists.

The future of marching band is also dependent upon the funding granted to such programs. Many marching organizations are lost yearly due to lack of funding. The lack of funding is directly attributable to lack of interest in the institution. However, the support and constant interest in Drum Corps International organizations seems clear to survive any economic crisis, as the audition process alone indicates a demand for even more corps nationwide. Hundreds of aspiring youth are turned down from their goals of being a part of one of these organizations, though most continue the arts throughout their academic life.

Regardless, the near future of the art of marching itself seems a traditional role that will be hard-put to extinguish within the fibers of American life.

Physical Context of the Site

Site-specific historical context will begin with a broader view of the history of the Twin Cities Metro Area, and narrow down to the ultimate history of the site itself.

Within the Louisiana Purchase of 1803, “federally-financed expeditions” explored the large expanse of seemingly open nothingness. 1805 brought the first long-term traveller to the area of St. Paul. Lieutenant Zebulon M. Pike explored the area now known as Pike Island and its surrounding land and negotiated an agreement with the Sioux people of the area, which eventually cleared way for

Fort Snelling, constructed by Colonel Leavenworth in 1819. This was a small army post which eventually grew into a trading post. It soon brought in more white settlers and missionaries. One particular white settlement, of French descent, was “Pig’s Eye,” named after a certain French Canadian’s nickname. In 1841 this town was later renamed Saint Paul, after a local patron of the catholic church at the time. Saint Paul was later named the Minnesota territory capitol in 1849, and later the state capitol, as Minnesota became part of the union in 1858. By the start of the Civil War, 10,000 persons lived in Saint Paul alone (Minnesota Historical Center, 2009).

Minneapolis’ historical background is very much like to that of Saint Paul’s, though centered around St. Anthony Falls (so named because of Fort Anthony, later to become Fort Snelling in 1825). Because of the hydroelectric potential, the settlements located around the falls thrived off lumber production and milling. In 1849, the village of All Saints was founded. This would later become Minneapolis in 1860. “In one short generation Minneapolis emerged as a great American City” (Hennepin History Museum Library, 2009) due to innovation in milling and the logging enterprise. Minneapolis was once the world’s foremost producer of lumber. Thus it began to vastly outweigh its sister city, Saint Paul.

Eastern newspapers slowly recognized the area for its industrial potential and vast beauty along the riverfront. For decades, the growth of Minneapolis/St. Paul continued gracefully, as this was one of the few areas that train travel could proceed over the mighty Mississippi River, quite narrow at this location. Travel to and from this region by train reached its peak in the 1880s, with its connection to Chicago.

Up until 1872, the two cities were referred to as the ‘Dual Cities’ by outsiders, later to be referred to as the Twin Cities. The two municipalities are quite distinct and always have been, with Minneapolis always in constant growth and modernism and St. Paul with its more historic nature. For quite some time, a heated rivalry existed between the two cities boiled. The rivalry is best known to have caused inner-city violence over a 1923 baseball game between the Minneapolis Millers and the St. Paul Saints. Even in 1950, both teams vied for the same major league baseball franchise (leading to both cities building stadiums. In the 1960s the two cities could not commit to the same calendar for daylight savings time, which of course led to widespread frustration.

It is said that the “mutual antagonism” was erased with the simultaneous arrival of the Minnesota Twins and the Minnesota Vikings in 1961, respectively for baseball and football (both national leagues).

There are still traces of tension between the two cities, as their stark differences define them. Minneapolis is a quickly growing metropolis, accepting the

modernism of the skyscraper, of steel and glass design. St. Paul still is still largely a more quaint collection of neighborhoods with well-preserved Victorian architecture. Its roots are influenced by French, Irish and German Catholic descent, whereas Minneapolis' cultural background is largely Scandinavian Lutheran. It is doubtful that these cultural backgrounds have remained as separated as they once were.

The expansion of the larger metro area to what it is today is largely attributable to the location on which it sits. With the obvious proximity to the St. Croix, Minnesota, and Mississippi rivers, and because it established itself as a major hub in the development of the railroad system branching out west, Minneapolis/Saint Paul gradual began to expand outwards. After World War 2, Minneapolis became known for its forward-thinking progress. The region was a technological hub, and soon to follow many corporations (both national and international) located themselves within the area.

The area is known for a few distinct modern innovations and buildings, namely the Niccolet Mall skywalk system (the longest in the world at over 8 miles) and the Mall of America, which is still the largest indoor mall in America and a landmark toward the region.

Today's larger Minneapolis-St. Paul-Bloomington census division is the country's 15th largest metropolitan area, composed of 11 counties in Minnesota and of two in Wisconsin, at 3,422,262 people (2010 Census). Its density is roughly 489 people/square mile, spanning 6,364 total square miles and six area codes. There is an inner ring of suburbs and an outer ring. Each is vastly different in nature.

It is said that over half of all Minnesota residents live in the MSP region. All residents that do not live within these limits refer to the Twin Cities as 'The Cities' and most that do live within the Twin Cities metro area also refer to their origins to outsiders as 'The Cities.' Many western Wisconsin and Northern Iowa residents, as well as many North and South Dakota residents, also refer to the Twin Cities in the same likeness, as it is the largest metro area in the local region. The Twin Cities is considered a special destination, for shopping, entertainment, sports, food, fine arts,, or a pleasant mixture of them all.

Minneapolis and St. Paul are equally known for their high rate of per capita attendance of theater and arts events. This can perhaps be in part due to a very large number of local universities and colleges- 35 in all, most notably the University of Minnesota, one of the larger universities in the United States and certainly one of the more prevalent in research today. Minneapolis is also known for its exceptionally high literacy rates, second in the nation only to Seattle. It is also a blossoming city of environmentalism, instilling many policies making it one of the more pedestrian-friendly cities in the nation.

Shoreview's history is little older than the annexation of Minnesota as a state in the union. In February of 1850, a man by the name of Socrates A. Thompson left Saint Paul in search of farmland with the help of a native American friend. He was effectually the first person to settle within the border of what is now considered Shoreview. Later to follow were peoples of all sorts of cultures, namely English, Irish and German (City of Shoreview, 2013).

The first railroad to run through the area was the Soo Line, built during the 1880s. Shoreview was considered part of Mounds View Township up until 1957, when a small group of provocative citizens presented a petition to the Ramsey County Board of Commissioners to create the village of Shoreview. These citizens felt that they had an inadequate township government, and therefore they were not receiving the proper services as other members of Mounds View. The election was held at Snail Lake School and their dispute was settled, rather closely, by a vote of 853 in favor to 748 opposed. April 23, 1957 marks the birth of Shoreview. The population has since grown substantially, eclipsing 14,000 from the original 5000.

Interstate 694 cut through Shoreview in December of 1963, changing the state of its citizens for good or for worse. General opinion among townfolk is that the proximity to the interstate is relatively helpful, and that it does not detract from the city. It does however sever the city in two, with the much larger portion of the town's extents north of the interstate. There is a small disconnect between the two halves, however well they may be connected by overpass capillary roads.

The city of Shoreview, based upon a 2010 Community Survey, is "one of the highest rated suburbs in the Metropolitan Area, with 96% of residents approving their quality of life" (Decision Resources, Ltd., 2010). And in 2009, Shoreview as ranked among the best family towns in the region by Family Circle, an American women's magazine by Meredith Corporation, at fourth place (Weiss, 2008). Its residents are served by separate public school districts (Mounds View and Roseville). Each are recognized as fantastic institutions in the Twin Cities metro area.

Recently, the growth of Shoreview has been relatively nonexistent since the 1970s, when residential development tripled. Now, the city has placed focus on infill and redevelopment, showing not only a physical respect for its natural backdrop but also sense of forward progress and commitment toward revitalization and smart growth control.

There is no formalized date available when Snail Lake Regional Park was established. However, when it was established, it must have preceded the infill of residential sprawl, which encapsulated the park's extents as best it could. To date, there is relatively little undeveloped parcels of land available for buy in

the immediate portion of Shoreview that the site lies within (that North of the Interstate and South of 96th Avenue). The selected site is seemingly just such a site. However, it does currently have a tenant on its property.

KMSP Tower was constructed in 1971 to satisfy the regional needs for several broadcasters. It is owned by KMSP channel 9 of Eden Prairie. Its use of the local land is however very sparse and on the very edge of the site, as if beckoning for their undeveloped land to be used or preserved. The tower is the second-tallest structure in Minnesota at 1466 feet high.

The site property originally sold for 2,008,800 dollars, and is considered to be valued at 5.8 million (GIS data, 2013).

The Marching Arts and the Twin Cities metro area: a rich History

The historical uprising of marching bands within the Twin Cities metro area largely was determinant upon news brought about by train, though any military presence in the area brought with it a rich tradition of military marching styles into the region, governed by the territory and later by the state/nation.

The University of Minnesota can be said to have been the first modern marching presence in the metro area and potentially the state of Minnesota. Forming in 1892, its own history begins as an ROTC program, called the University Cadet Band (Regents of the University of Minnesota, 2011). Not surprising for its time, the Cadet band started with 29 members and primarily marched only ceremonially. This continued until 1910 when they performed the very first formations in a halftime show during a Gopher football game. Within this set of formations was the “Block M” set, which now serves as the college’s logo and is honored still in the UMMB pregame. The timing of the first football halftime performance was not unlike most colleges, however falls a staggering 16 years after the first Wisconsin halftime show and likewise for many other Big 10 marching bands.

The UMMB has continued its regional excellence, claiming most excellent marchers in the region who are serious about pursuing the art well into college. They have heavy expectations of their members, as any BIG 10 college, and therefore are the shining example of pride and prowess in a wider Midwest region. Their band alumni, at roughly 350 members per year, is estimated just short of 30,000 people throughout the years.

There are only two collegiate marching bands in the state of Minnesota, an odd fact due to the number of large universities. The other band is Southwest Minnesota State University, located in Marshall, MN, which in turn is located

the very southwest corner of the state. Its own history is largely unknown and not displayed, though its size has always been dwarfed by the UMMB in Minneapolis. Nonetheless, it faithfully serves its University and performs services not unlike any other University. Current numbers are below 40 members, which is small for high school standards, but still impressive granted the size of SMSU.

High school marching prevalence in the state of Minnesota is largely based upon three criteria: tradition, region, and population. It is interesting to map the progress of prevalence throughout the state, when one knows the background of each town and its respective relations within a larger conference of schools.

Tradition within high school marching bands is always considered less deep than what is expected from a college program. This stems from a number of different factors, such as age, maturity, scope of depth, and typically less people. However, it's a general fact that any organization is more prone to excel and attract new members if its traditions are deeper. This goes along with loyalty. However, tradition plays small role in high school marching prevalence, when viewing the larger picture.

The region of Minnesota upon which a marching band plays is largely determinant upon the ultimate success of its program. Consider Marshall, MN. It is a relatively healthy town located far from the Twin Cities. However, due to cultural expectations in the region, marching bands play a heavier role. Postville, IA, a town of only a few thousand, still supports a marching band even when its numbers are little over 10 members. Yet Fergus Falls and Detroit Lakes, two towns of relatively similar stature and located only 45 minutes from each other (mid-west Minnesota), have not had a field marching band for some time.

For the state of Minnesota, the southern portion of the state (St. Cloud southward) still largely honors the marching arts. The northern portion of Minnesota has largely disbanded their marching programs or never had them, because it was not within their regional culture. There are pockets of activity scattered rather sparsely within the northern portions of the state. These towns are doing so either because they always have had a program, or because they have brought in young, energetic marching band enthusiasts for general music teachers. A notable instance is Alexandria, MN.

In the Twin Cities metro area, there has always been a very fine cultural relevance toward the marching arts. Indeed almost all school districts have a marching band, and some have two. Due to the size of some of the circling suburbs, some high school bands in the region are even larger than the UMMB. Lakeville South High School, for instance, has an annual number of marching band members around 400 people for a school size of around 1200 students per year. Such programs as these will never die. There are many outstanding band

programs the region over. This large demographic of high school marching band kids has even led to the prevalence of multiple regional competitions, pitting bands state-wide against each other in much the same way as is done in DCI. Champions are reigned, rivalries are formed, and programs continue to expand and excel, attracting new members each year who want to be part of an excellent program. The Twin Cities metro area will continue to support the art of marching. There is rarely any instance of marching programs cut within 'The Cities.'

These competitive high school marching bands are typically the most prolific, and garner the most respect from their regions. Thus it is inferred that competitions have played a large part to the regional success of the Twin Cities metro area marching programs. Many metro high school host their own 'invite' competitions yearly, to a schedule determined largely by the faculty themselves.

Consider the 24th annual Rosemount High School Marching Band Festival, which anticipates a crowd of over 5000 spectators, who will be watching a performance of marching bands from around the metro area and even from other Midwest states slated to last from 4:00-10:00. The kids love what they do, and the parents/fan base love watching it also.

The success of regional competitions in the more recent history of the metro area marching arts peaks with the annual Youth In Music competition. Held this year on October 13th in the Metrodome in Minneapolis (previous stadium for the Minnesota Vikings), the event has "grown from 9 to 20 bands and 1400 to 6000 in attendance. The YIM Championships have quickly become one of the premier marching band events in the Midwest" (Turner, 2013).

Below is the 2013 competition results and attending bands:

CLASS A

73.4 Hastings HS, MN
71.9 Andover HS, MN
70.3 Champlin Park HS, MN
67.3 Anoka HS, MN
65.7 Minnetonka HS, MN
65.0 Coon Rapids HS, MN

CLASS AA

78.2 Waseca HS, MN
77.5 Rochester Lourdes HS, MN
69.9 West De Pere HS, WI
62.2 Pipestone Area HS, MN

CLASS AAA

90.0 Rosemount HS, MN
88.6 Eden Prairie HS, MN
86.3 Irondale HS, MN
84.7 Sioux Falls Lincoln HS, SD
83.7 Marshall HS, MN
82.7 Bellevue East HS, NE
75.8 Davenport Central HS, IA

EXHIBITION

Minne-Brass Drum Corps
University of Minnesota
University of Wisconsin-LaCrosse

YIM 2013 YIMMYs

Best Performer: Madison Holtze, Rosemount HS, MN
Drum Major: Rosemount HS, MN
Spirit of YIM: Waseca HS, MN
Butch Dufault Memorial, Lifetime Achievement Award: Family of Butch Dufault

YIM 2013 SCHOLARSHIP WINNERS

Molly Westerberg, Eden Prairie HS, MN
Eric Severeide, Eden Prairie HS, MN
Rachel Seiler, West De Pere HS, WI
Henry Wei, Sioux Falls Lincoln HS, SD

YIM GRAND CHAMPIONSHIPS (Evening Show)

90.0 Rosemount, MN (Guard)
88.7 Eden Prairie, MN (Winds, Percussion)
87.8 Irondale HS, MN
83.7 Sioux Falls Lincoln HS, SD
82.0 Bellevue East HS, NE
80.3 Marshall, MN
75.2 Waseca, MN
71.9 Davenport Central HS, IA
71.4 Rochester Lourdes HS, MN
70.4 Hastings, MN

EXHIBITION

University of Minnesota-Duluth
University of Wisconsin-Eau Claire Blugold Band

2013 Participating Bands

Andover HS, MN
Anoka HS, MN
Bellevue East HS, NE
Champlin Park HS, MN
Coon Rapids HS, MN
Davenport Central HS, IA
Eden Prairie HS, MN
Hastings HS, MN
Irondale HS, MN
Marshall HS, MN
Minnetonka HS, MN
Pipestone Area HS, MN
Rochester Lourdes HS, MN
Rosemount HS, MN
Sioux Falls Lincoln HS, SD
Waseca HS, MN
West De Pere HS, WI
Minne-Brass
University of Minnesota
University of Minnesota-Duluth
University of Wisconsin-Eau Claire
University of Wisconsin-La Crosse

Numbers like this barely exist in sporting events. The massive nature of this competition bears resemblance of a youth Swimming league state competition, yet its point system and program classification are resemblant of any other sort of high school sporting competition.

There are dozens of metro area competitions, though in smaller stature, such as the Youth In Music Competition, yet in the region there still remains no permanent facility to incorporate this very relevant and tangible art form.

Ultimately, the future of marching bands in the metro area and indeed elsewhere depends upon how young people, or those grade school kids just beginning to learn their instrument, view the art of marching. If marching band is treated very poorly or has a negative connotation in a school district, it will always be hard-pressed to keep its nostrils above water, or away from the cutting board, so to speak.

Yet within the metro area, we see a large demographic of people advently dedicated to this activity at the high school level. It should come to no surprise that a facility is necessary to bolster this long-standing traditional region of marching to a solid foundation, and to sure future.

The history of Drum Corps International in Minnesota is regionalized within the greater metro area, starting with the Minnesota Brass, which can be traced back to 1946. Originally called the ‘Legion Corps,’ Minnesota Brass, Incorporated, or MBI for short, became a self-supporting entity in 1969, and in the same year was the senior first corps to welcome female marchers in the United States.

The late seventies and early eighties brought an entertaining vibe to the organization. Known for its jazzy style and party traditions, talent was never hard to come by. Instrumentalists were attracted from local high schools and largely from the UMMB, with their all-female color guard from local organizations such as the ‘Debutantes’ and the ‘Rosettes.’ The zesty attitude in the organization even led to the MBI being fined for silent protest tactics in 1990, after they had felt their placement unfair the year before.

Since that bleak year, MBI has remained a constant competitor and within the top ten of their tier. Their current numbers are said to be around 110.

“The importance of Minnesota Brass to the musical performance and educational tapestry of the Midwest has been extended by alumni and a few current corps members in the popular Minne-Brass performance group. The talents of MBI members are now continually in demand for teaching in the school districts throughout Minnesota and performing in commercials and musical productions in Minnesota, Wisconsin and beyond” (MBI, 2013).

Minnesota Brass has always been an all-ages band, meaning that it is not strictly part of the DCI standings. Rather, it is part of Drum Corps Associates, or DCA, which govern all-age drum corps. 2011 marked the first year the corps won its first DCA World Championship, with 2008-2010 being the runner up. Within the past decade, they have demonstrated their dominance within the DCA league standings. Their official location for practices is typically at a number of St. Paul high schools, and has part-time commitments.

The other DCA class corps in Minnesota are the Govenaires, located out of St. Peter, MN, a short drive out of the metro area southward. Though their sense of history and tradition would seem less apparent, this will be their 87th season in competition. This traces their origin back to 1926 (long into the histories of the pre-modern age of drum corps). However, this is only their 10th season as a member of the DCA. They are considered part of the ‘A Class,’ and are therefore a tier below Minnesota Brass.

The ‘Govies’s’ training schedule is like to that of MBI, but their travel competi

tions are in lesser number. That being said, they still hold a strong presence within the metro area, and certainly within the region around St. Peter. In fact, one of their current influential annuals, Pat Mayer, became the owners of a local pub in St. Peter, Patrick's, which became and still is the home base for Govenaires and is decorated with corps memorabilia, becoming an integral location to the Govenaires and its membership, and a 'watering hole' for its alumni and older members.

The more recent history since their transition into DCA is noteworthy. In 1990, member numbers were at an all-time low at 17 members. That year, they focused on "entertainment over competition" and have stuck with the tradition of being a more whimsical presence on field ever since. The following 15 years showed amazing growth. In 2004, the Govies decided to make the jump from their regional competition schedule into DCA. With only 38 performers, they garnered second place in their Class A division, and "sparked a national following that was previously nonexistent." This excellence continued until 2006 when they took first in the Class A championship. Their consistent placement within the top of their bracket ever since their transition up into DCA has been what is considered an anomaly, and the citizens of St. Peter are exceptionally proud of their corps.

Both the Govenaires and Minnesota Brass are present at most regional DCA competitions in the Midwest, and play host to DCI Minnesota, an annual event hosted at TCF Bank Stadium at the University of Minnesota. There, the best of DCI and DCA intermix to form one of the biggest, longest, and most talented concert/competition a person could ever imagine. Both corps also regionally represent themselves with booths at all major high school marching competitions, for support and for recognition.

The History of the Modern Marching Band Facility

Henceforth covered are three primary types of marching bands: high school, collegiate, and competitive professional. Each of these types has its own set of constraints, its own set of needs, and thenceforth its own set of facilities.

At the very beginning of the modern marching band is the collegiate band. In servitude toward their respective colleges, these bands were and are still stationary entities. Many colleges still have the same policies of facility use as they did when their marching programs began.

What is very standard of college marching bands is that they typically lack true built spaces designated completely for themselves. What is common is that the marching band will share storage spaces and indoor practice spaces with their other band ensembles on campus. Storage, though limited, suits the purposes of the band as that band grows, but due to the nature of most campus layouts, these

storage and indoor facilities are typically a great distance from the athletic training fields and stadiums shared between the football team and the marching band. Therefore, there is often need of limited mobility (trucks, vans) to transport some of the instruments and practice equipment, namely sousaphones, percussion, front line, ladders, and PA equipment.

A new, hopeful trend is being set with some of the nation's larger colleges. New stadiums being designed and built today are incorporating designated marching band into their design. Such a facility includes all necessary storage, practice rooms, changing and locker rooms, and rehearsal space, all branched in one convenient location.

An example of this new trend is the University of Minnesota Marching Band; with the completion of the TCF Bank Stadium in 2009. Providing its band with over 10,000 square feet of facility space, the University of Minnesota can claim to be one of the first to ever pull this off, and perhaps with the greatest skill with the design expertise of Populous architectural group.

However, where Universities are generally well-off with facilities, high school organizations are not nearly as lucky. Almost all high school marching bands lack two things: a designated practice space, and adequate uniform storage.

It's important to note that marching bands are always there for the support of the football team. Therefore, it's completely understandable that football teams generally receive all rights to the practice facility of their choice, and the band left to claim a different space. Depending upon the size of the high school, this may even result in the transport to another local high school or regional park to satisfy practice needs before a performance.

There has always been a lack of formalized space for marching bands at the high school level, thus we have come only to expect as much from our school districts. Yet, marching ensembles the nation over still continue to amaze their fans week after week during halftime performances, without even the blink of an eye given to how they put it all together. Even within the organizations, there's an incredible amazement for the ability of marching bands to pull through in the end.

Professional drum corps groups, such as Minnesota Brass and the Govenaires, are perhaps the least lucky of all groups, being run as non-profit organizations without government or institutional support. All funds come from either substantial yearly dues or private donations. During travel and practice times of the year, corps members have always been forced to sleep in high school gymnasiums and the like. Practices are held at local high schools in the region. Because of the poor state of most of these organizations, little money is to spare for the future, and certainly little thought is put toward a permanent practice facility.

GOALS FOR ARCHITECTURAL IMPACT

The design for Impact employs our body and mind to active servitude, that a person is conscious of his/her surroundings and acts thus in a more meaningful manner. The purpose of such demanding design is to strengthen the awareness of architectural discourse with intent- that is, that any person may look to a structure and understand it. The act of seeking architectural knowledge while within a space is the first step toward its appreciation. It could well be assumed that the demand of a viewer's perception fits within the duties of an architect, that of protecting the well-being of the client, by tailoring to that person's interests, pleasures, and excitement. Provoking excitement is hoped to prolong memory of the space that does so, which in turn provides a 'higher yield' for the knowledge and admiration of the built work, leading toward greater satisfaction.

The Personal Realm

Designing a space, or set of spaces, toward the benefit of marching bands region wide is a vast ambition. The action of marching upon my life is that of a wholeness imparted upon my being as a college student. I could not imagine my life differently without the time spent on the field behind a 1964 Olds Studio trumpet. Now a fifth year veteran in the Band, the pursuit of my own perfection has led to a series of achievements of which I am very proud; in no other facet of my life have I felt more elevated, and it's with such pride that I now wish to devote my architectural thesis, my time and energy toward the betterment of this wonderful activity.

The typology of a facility strictly designated for the Marching Arts quite possibly has never been accomplished in the same fashion as I intend. Prior to this project, past examples feature day camps which sprawl across many acres with little or no design expertise, or campus facilities without any need for additional housing or performance space. To this author's knowledge, a Marching Arts Facility incorporating true performance space and living space within a mixed-use shell does not exist anywhere...yet.

It's quite possible that this typology and the research conducted here will provide the initial push toward and actual reality where such facilities are a standard for all major metropolis centers. This would further the excellence and passion within each individual who touches its walls, who communicates with the space. No sport can fully blossom without a facility that matches its specific needs. As any marcher will not reach his/her potential without the guidance of a superb director, likewise would a true facility bolster this traditional activity to a bright future of regional growth and excellence.

To describe the nature of a lead trumpet is to define one who exists within his sur-

roundings, but goes above and beyond the group. This is not to say that the sound produced from a lead horn is brash or uncouth. Indeed, that is a matter of opinion and widely a topic for humor. A lead is meant to stand out, but only when acceptable...only for the greater good. A lead must be willing to push the boundaries. In order to achieve fame or recognition, he must seize and hold on to any chances given him. It is not only a matter of pride among leads (who typically share similar character traits) but a matter of personal pride and self-perpetuation.

Professional Realm

It is in such a manner that any successful architectural endeavor must address its constraints. A look toward the great architectural works of our time suggests just such a mentality as expressed in all famous lead trumpets: in order to achieve fame, a project must address its parameters successfully but it must transcend customs. A successful endeavor must never completely blend. Instead, it breaks tradition, seeks to push limitations or that generally accepted by its population. The high note of a structure, bordering on failure, is that which captivates us. Without it, the structure is just 'normal:' another of its kind, nothing special.

Though there are shining examples of architectural discourse constructed yearly, the vast majority of built work dwells on average standards, hence average results. Instead of seeking the uniqueness of impact and memory, many projects are accepted with little or no impact, either due to the cost of construction, a lack of standards, or worse- to personal taste. This is evident not only in the minds of the consumer culture but also unfortunately in many architectural firms worldwide who sell their designs online for a quick living. It's evident in the rows upon rows of standardized suburban human farms. It's evident in the extreme standardization of parts toward the most economical means, evident in the overuse of extruded plastic for cladding, evident in our lack of sustainable energy production. The lack of impact in our built environment continues to ease our culture into the accepting arms of fast-tracked life. Time is rarely spent in the slow lane; our surroundings rarely excite us enough to invoke imagination. Without time spent in and around fantastic works of architecture, it's easy to slip into a pattern of unwholesome life.

It's very important to look upon the professional realm of architectural theory with critical optimism. Anybody can be pessimistic of the current plight of the architectural profession; it takes a professional to advance the state of the local building practices. In order to conduct oneself and his/her work toward the advancement of architectural discourse, the work should address the need for impact and memorability. It must act upon the human need for wonder.

Academic Realm

The pursuit of excellence within the academic scope of work seemingly rests less upon cold fact and more upon the understanding of meaning, of parti, and of the

underlying principles of design. Whether this is to shelter students from the brutal awakening received after graduation or the actual need for better theoretical knowledge, one student cannot tell. Truthfully, it's very tempting for an academic endeavor to pursue completeness of design, to illustrate not only the *why*, but the *how*. This is not only for the sake of experience but out of personal ambition and pride. While the pursuit toward formality of design is not an ugly ambition, it can result in a loss of quality given the typical parameters set by academia. Time constraints and the loss of collaboration should not be taken lightly, lest the project lose quality in favor of quantity. It is with this knowledge that I do not rashly consider this project to ever be complete, though I would wish it so. Rather, it should pursue quality of design above quantity of information, as the project itself is of course only a crude set of instructions for further debate.

There seems a growing trend toward the refined 'surface' of architecture. Like a vast lake, this surface may seem very refined and picturesque on a calm morning's sunrise, yet dare we plunge into the sickly green, cold depths? Many would not. Indeed, most would feel nervous or scared. Some can hardly open their eyes underwater. However, all people love the serenity of a lake's surface. Such is the plight of our competitive architectural schools. Our presentations are surfaces of the vast lake of building information below: building information modeling, detailing, and systems integration. This comes to no surprise to current architectural students. Many classmates have illustrated concern for the lack of said education, but because there is little knowledge of how to teach these topics in a changing architectural demographic from 2D to 3D, the implementation of that change is easier said than done. The intent of this project is to further the proper use of such underwater material, to be a case study for those that follow.

QUALITATIVE SITE ANALYSIS

“Man lives and moves in what he sees, but he only sees what he wants to see. Try different types of people in the midst of any landscape. A philosopher will only vaguely see phenomena; a geologist, crystallized, confused, ruined and pulverized epochs; a soldier, opportunities and obstacles; and for a peasant it will only represent acres, and perspiration and profits but all of them will have this in common, that they will see nothing as simply a view.” (Valery, 1964)

In a sea of grey clouds, people travel to and fro. Intentionality dictates behavior. From work to sleep to sleep to work and there and back again, a ritual brings us into a circuit lifestyle. Like ants we march to gather food for our queens, the road being so familiar that it one can simply ‘smell’ his way back. It is on the interstate byway 694 that my mind was stolen momentarily from the food drive.

The wind had died. A blue sky was encapsulated in its watery cell, bearded of russet brown reeds. A temporary breeze and the mirror of the heavens was joined with a tumult of gentle ripples. The reeds imitated the wind as well, swaying, beckoning lucidly to all watching. Briefly, the smell of city was refreshed with the smell of water, of grass, and of wood. The call of the wild was in the smell of it; a juvenile feeling, one of life and adventure. Brisk was the day with the wind down, yet not so as to call for the prudence of a closed window. Were it a top-down car, it would’ve been a top-down drive.

Even so, as I passed the smallish wetland, I couldn’t help but feel that it was only a broken reality. Did true beauty really exist on a capillary of humanity’s incessant ambitions? A pimple was allowed to be, where others had been cleared long ago for the pursuit of humanist growth and desire. To a person who has existed outside of the callous city life for much of his entirety, the pond was a calling home. It revived me, in my anxious and worried state driving at high speeds among all of the ants, busy with their busy lives.

I couldn’t help but wonder what this pond meant to somebody more accustomed to its beauty. Was it still an excitable scene? Was the wind they smelled as like to my own senses, joyous and peaceful, or was it an inherent reminder that they had to exit in a few miles? What could be inferred upon the pond and its meaning to the inhabitants of the area?

What was to be inferred was that the beauty of this pond and its surrounding wild was important enough that it was not squished for housing or for the de

velopment of a corporate building. This body of water was elected above the people of the area, a sacred place of worship, perhaps, for those troubled with the quick life. The interstate itself seemed glad to hug its southern shore, as if the engineers had intended this wetland for the bereavement of the spirit of the road's travellers. In this little body of water was a fire that the larger community of inhabitants would rather keep fed. The importance of the site from the road's perspective seemed clear. But inquisitiveness will win the heart of any man.

A quick turn off the interstate onto the resurfaced residential capillary Victoria Street gave the impression of a forwarded society in which community development and the beauty of the area's achievements were very important. The road was fresh, new. The houses and company buildings were crisp and clean. Nothing was dated. The area seemed young and professional. Shortly, I took the first turn to the right. Though the road left behind was impressive in its acuity, the road currently travelled was indeed a mark of money well spent. Black as night yet invitingly straight and well-done. Bordered by clean sidewalks, clean-cut lawns and surrounding dense forest. The neighborhood was beautiful, pristine. Passing a few off-chute cul-de-sac's, the narrow path opened up to the right suddenly to a hill of waving bronzes, sheltering from view the body of water it hails.

For a time, this road took me straight. A stop sign governed me to halt; before me stood three options. I could continue straight onward to the end of the road, which seemingly led to much the same result as what had taken me here. Left forbode a small residential community surrounded completely by untouched forest. Right was the calling, a paved drive lured me as many before up a tall hill to a small parking lot of the highest standards, set to the edge of a forest bordering the wetland below.

One foot out of the car and upon the pavement brought happiness, the second stability. It was upon the solid ground below that sanctuary from the task of transportation was found, a wholesome feeling not unlike the arrival following a long drive to a relative's house. Surrounding the parking lot was prairie grasses of the most exquisite type. Taller than a person, let alone taller than the view from a driver's seat. Remarkably sturdy grasses considering their length. Amidst this foliage were the dapplings of other native grasses, or what could be assumed native. A close look upon the hills and one could see cultivator rows; this rolling sea of beautiful prairie land was once planted, and now well-maintained. Were it not for the subtle row lines, a person could be deceived, yet the final result was no less satisfying than something perhaps more "real."

The place that held our sway was Snail Lake Regional Park, a sprawling member of the local community, bordered by the rigidity of Gramsie Rd, that was just exited, the wetland to its immediate south, to the east another road, condominium unit and railroad. The immediate west border was undeveloped, yet

maintained prairie, that itself bordered by forest and residential neighborhoods. Sadly, the sound of traffic could still be heard, though only a far off rumor of the musing ants to the south on their interstate. It was muted, nigh inaudible and perhaps thus nonexistent to some. The smell was like to what could be expected. The fresh gathering of nature, cultivated on a hilltop overlooking the pond. A kept concrete path led away from the parking lot, stealing the pedestrian into the forest. To the left, or East, it led, and ambled out of the forest. This path, untidy yet not so much as to detract from the experience, led me on a journey not soon to be forgotten, which is a remarkable thing to say for such a modest park path. With dignified distance from the water, the path led me among one grove of forest to the next, ambling up and down the hilly region. Though not at all a hike by most standards, to traverse the extents of the park was a fulfilling afternoon of steady admiration for nature's beauty.

Deep greens of heavy forest, old and unkempt, bordered parts of the trail, bringing with it the cool of shade and the musk of dead wood. Yet the forests were not dying. Upon exit of the bands of forest, a light shone upon me and once again I was bathed in the prairies. One's soul is away from the path and into the thick of it all, climbing the large oaks, rolling in the grasses, and lying among the reeds beside the waves, out of view and out of one's own existence in the metro area. Yet the brain prevails, and man's convention of natural preservation is upheld respectfully.

Such is the nature of the park. It is an oasis for the weary. Strangely for such a small park, I met many fellow goers along the way, each equally polite and seemingly happy. The views to the surrounding landscape speak to the reverence of the area as a natural phenomena in a gray cloud of suburban cityscape. Ambling back to the parking lot, I had decided that I was not content.

Being adventurous and perceiving the end of the day close at hand, I decided to stray west into the open prairie. Trails had been made off the drive, to no explanation, unpaved, seeming of the sort that might faithfully accommodate an ATV. It was in this way I came to be upon the site selected for the current project. Though much in the same natural style as the park to the east, it was not so much alike in the sense that it felt largely undeveloped, and that humanity was at the time not to be within it. Near Gramsie road upon the northernmost reaches of the site was the paved sidewalk, which did little but nudge the existence of the beauty beside it. The site cradled the wetland, and in turn was nurtured and showed signs of health.

To the southeast lay a transmission tower, the KSMP Tower, one of the highest man-made structures in the metro area, though slim and often unnoticed. Its supports branch off below it, claiming little fenced off regions of their own. Though unknown still, the land I had now walked upon seemed to be under the jurisdiction of the radio tower, although it was faithfully undeveloped. Far be

yond the tower's supports, the trail wound on and indeed beyond my own yearning, for it led almost right to the interstate or just beside it. Though a clumsy walk among uneven ground and sometimes through the mud of rains the day before, it led me among the forest of a truly untouched land, as close as can be in that area. It often brushed right up to the very brink of water. Oft because this area felt less restricting, I strayed from the path and adventured in whatever way I chose. Such freedom I had not expected nor had for many months of dull routine. It was with solemnity that I left that site, and write of it now, for I wish to go back, and indeed plan on doing so soon.

BUILT FEATURES

The site lies amidst a host of different building typologies, yet never will a person find a more rural site in such an urban environment, regardless of which city ring one is in. On the site, there is one namely built feature, the KMSP Tower, which of course towers over the region. However, it's only a very slim structure, and not very imposing upon the rest of the local area. In fact, it remains a very dismissable item in the landscape. However, this built feature serves as a landmark to locals and travellers alike. Beyond the tower, the site is lined with older residential tracts, of the '80s on the Western border and as early as the '20s on the Northern border.



LIGHT QUALITY

On a rather sunny day, the site seems very alive and well, yet on less appealing days the site may seem quiet, tense or fragile in the dim light with little shadows. Late evening stretches long shadows across the site, but most other times of day are in full sunlight. As always, the light quality, as a primarily open site, is largely determinant upon the time of year and cloud cover. The temperature of the hot summer sun is responded well in the fields of gold plant life, and is even further alive in the fall, when site usage could be at its peak.



Clockwise: Figures 93, 94, 95, 96: Qualitative Analysis 1, 2, 3, 4.
(All taken by Matthew J. Weiss on Oct. 9, 2013)

HUMAN CHARACTERISTICS

As described in the site narrative in the latter few pages, the site shows remarkably little human intervention given its proximity within a larger urban context. The small signs of human intervention include a paved walkway directly south of Gramsie Road to the site's northern border, an unpaved cross country ski trail skirting the border of Grass lake (to which little care is given in the summer), a few birdhouses scattered among the hilltops in the midst of the site, and little else. On the eastern border is the paved drive up to the parking lot for Snail Lake Regional Park, and this seems very adequately maintained.



SOILS

Based upon regional data and the lack of site-anomaly vegetation, the soils of the site can safely be considered non-plastic silt, with limestone and sandstone being the most predominant rock types. This soil type supports the varied ecosystem sitting atop it. It is relatively easy to move this earth type, and supports weight well. The foundational system of the KMSP tower did not have to go through any special hoops to stand faithfully upright. The soil is pleasant to the touch and dries relatively quickly after rainfall, an important note for marching surfaces.



UTILITIES

Based upon the fact that the site is largely undeveloped, its own utilities are undeveloped. However, it is in very close proximity to the power grid (located along Gramsie Road to the north). This is seemingly the only surface utility. No doubt is there a public water source main underneath the road as well, servicing the public and residential buildings of the local area.



PEDESTRIAN TRAFFIC

As mentioned before, the extent of pedestrian traffic is to the extent of park goers to the east. There is rarely much pedestrian traffic across the site by way of either the cross country ski trails on the lake border or the paved sidewalk bordering Gramsie Road. But the rest of the site has been completely untarnished from human footfall. As there is not a great draw of people from any direction in the local area, there should not be expected much exterior pedestrian traffic, unless the typology bring it itself.



Clockwise: Figures 97, 98, 99, 100: Qualitative Analysis 5, 6, 7, 8.
(All taken by Matthew J. Weiss on Oct. 9, 2013)

SITE CHARACTER

The character of the site is mostly that of new growth, or of youth. The primary site area is covered in undulating prairie grasses, with few trees sparsely mixed here and there. One has to go toward the forests on the western border to find older growth. Also on this western side are a few gullies filled with ponds, which to some may represent ugliness. There are no signs of erosion or obviously dying/dead trees on the site. Therefore, the overall character can be considered youthful and exciting.



VISUAL FORM

The visual form of the site is that of a hybridized lake front shoreline plot. The connection with Grass Lake to its southeast is very strong, and should be utilized in the orientation of the project. The visual form of the surrounding landscape is moderate undulation, not mountainous by any means, nor by the standards further to the north. It is a more peaceful, workable land that has as such led to its conquer quite early on in the region.



BUILT FEATURES

The site lies amidst a host of different building typologies, yet never will a person find a more rural site in such an urban environment, regardless of which city ring one is in. On the site, there is one namely built feature, the KMSP Tower, which of course towers over the region. However, it's only a very slim structure, and not very imposing upon the rest of the local area. In fact, it remains a very dismissable item in the landscape. However, this built feature serves as a landmark to locals and travellers alike.



DISTRESS

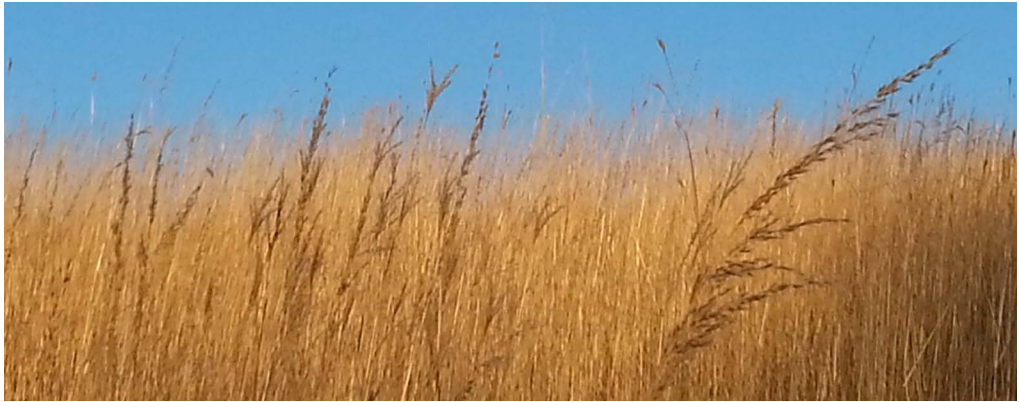
The serenity of the site is matched well with the age and wildness of the site. For the most part, the site is left to tend to itself, and therefore there does seem to be some natural distress, depending on the viewer and his/her thoughts. Some gullies are the home of unsightly ponds, which to others signifies a healthy ecosystem supporting more varieties of life. Others may remark at the clarity of the shoreline as not being fit for human interaction, however this also in turn signifies a healthy ecosystem untouched by man for the sake of preservation.



Clockwise: Figures 101, 102, 103: Qualitative Analysis 9, 10, 11.
(All taken by Matthew J. Weiss on Oct. 9, 2013)

WIND

Largely determinant upon the micro climate and upon the undulations of the very local site within the site, wind will be hard to map on such a site. The bottoms of small ravines or gullies will experience much less wind than the tops of the small hills, just as there will be less wind experienced with tree cover to the southwest and further to the southeast. The time of day has some telling in the wind patterns. It is common for winds to pick up in the afternoon hours, after a typically peaceful morning. Qualitatively, the wind is what makes the site alive; it is the swaying of the tall grasses in the wind that is the captivating feature of this site, and ultimately why it was chosen.



PHOTOGRID

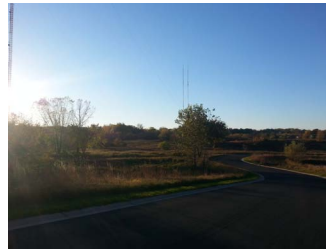
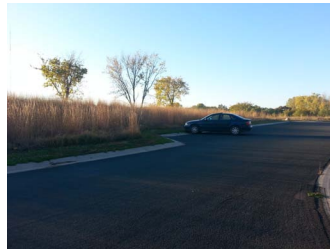
N

E

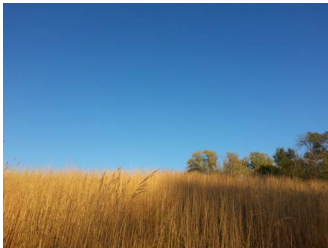
S

W

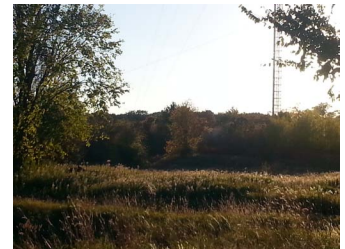
1



2



3



4



5



Above: Figure 104: Photogrid (All photographs taken by Matthew J. Weiss on Oct. 9, 2013)

Right: Figure 105: Photogrid Map

N

E

S

W



6



7



CLIMATE DATA

The project's site, chosen within the upper Midwest region of the United States, is expected to produce hazardous weather. The extremes, with wind-chill, can span 140 degrees. Mostly, cold weather is of little concern to the primary usage of the facility. Most patrons will use the facility during the Spring, Summer, and Fall. All patrons are anticipated to know the region's climate and accommodate as necessary, though the design will help assuage the extremes as need be.

As a micro climate, the summer winds prevailing over the body of water adjacent the site will moderate the temperature somewhat, helping cool the air when necessary.

Figure 106, Temperature Chart

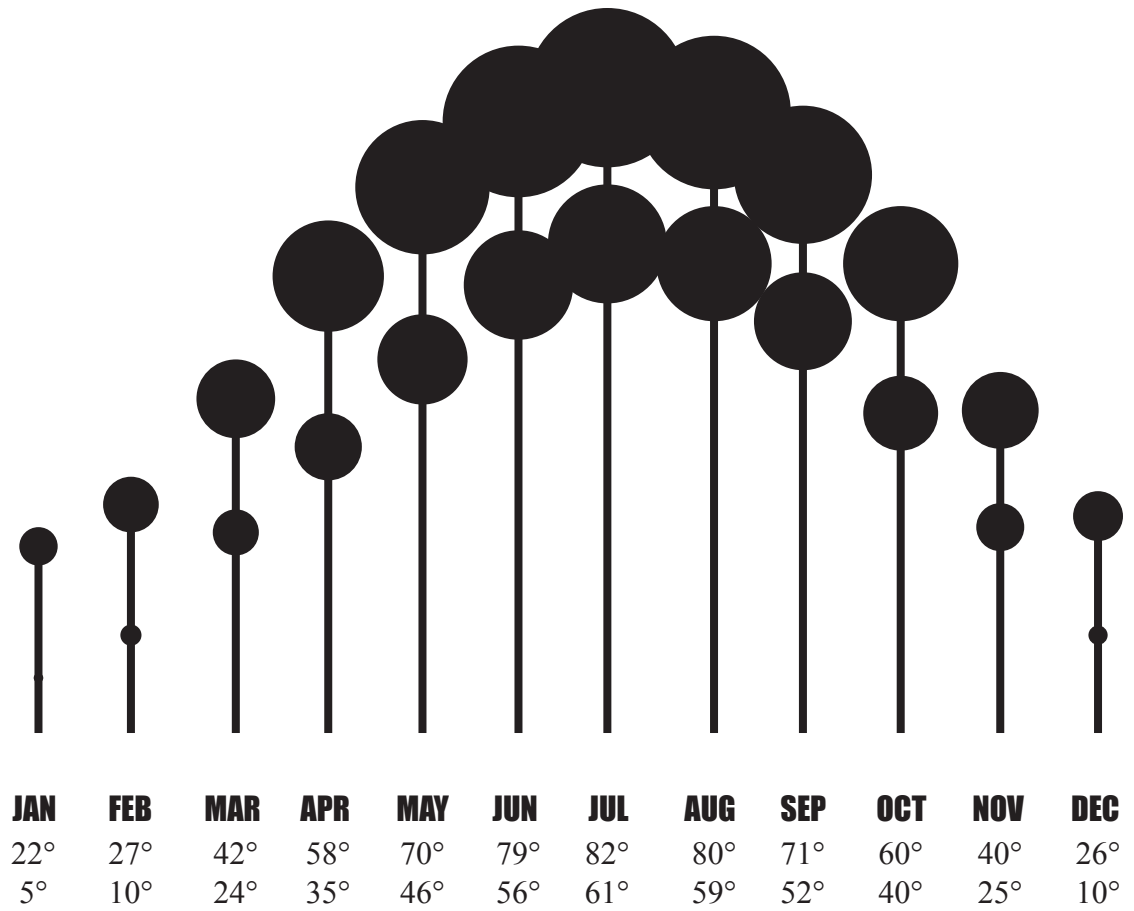


Figure 106
 Climate Analysis Temperature Chart
 (<http://www.city-data.com/city/Shoreview-Minnesota.html>)

Precipitation (rainwater as solid dots, snow/sleet as hollow dots) is no different for Shoreview and the site as for any city in the region. It strikes some odd that snow can still fall within the months of May and October; snow removal may become a concern while in the design phase.

The most snowfall can be expected between the months of December and March. Winters in the region bring hazardous driving conditions, as snowfall tends to fall thicker in this area than it does in areas of Minnesota west and north of the Twin Cities.

The rainy season of the area falls between the months of June and August. Rainfall is typically substantial for plant irrigation or rainwater harvesting, and is usually non-acidic though should still be purified before consumption. As many of the project's branches are either outdoor spaces or in between, special care must be taken for rainwater management with proper drainage and shelter between spaces.

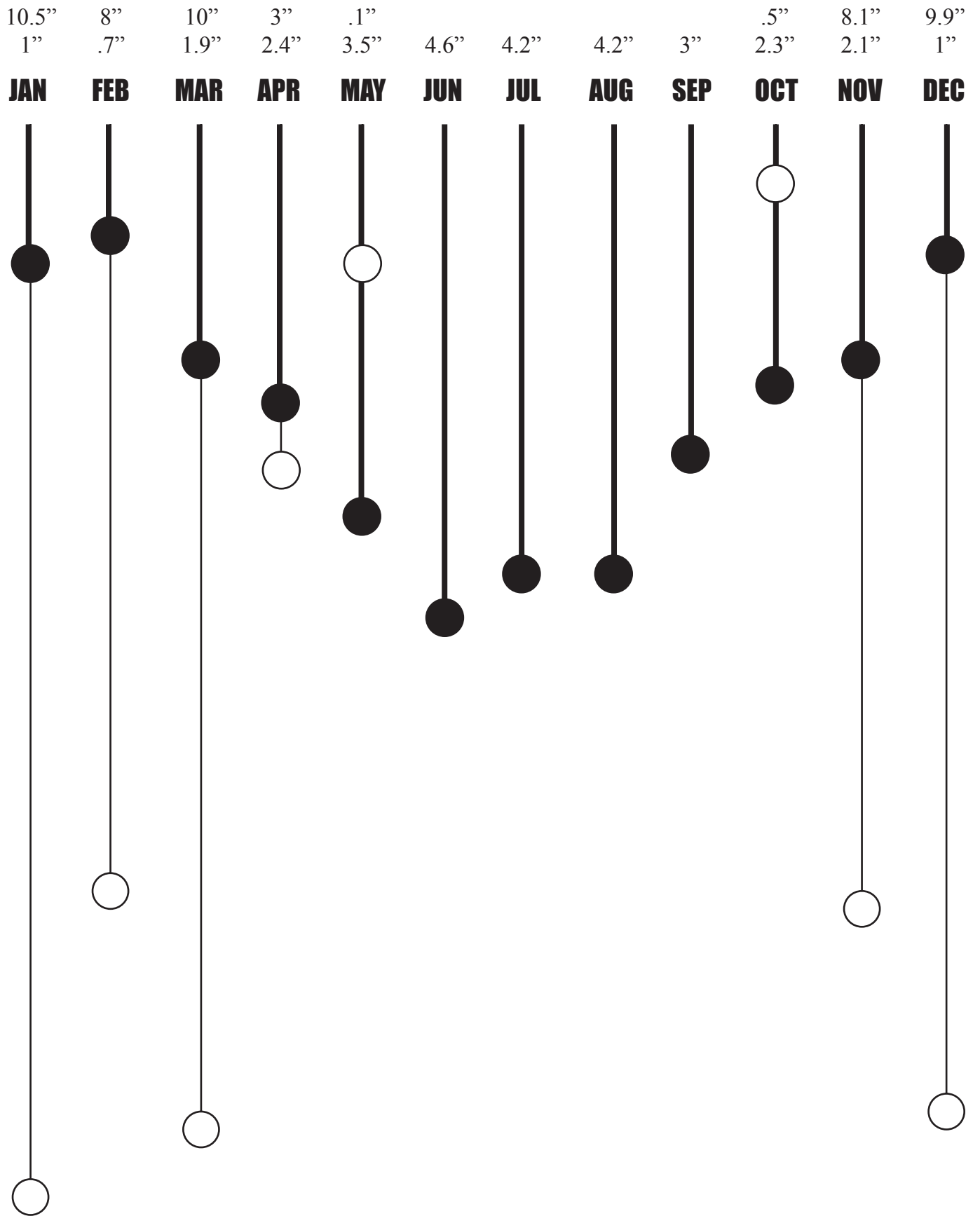
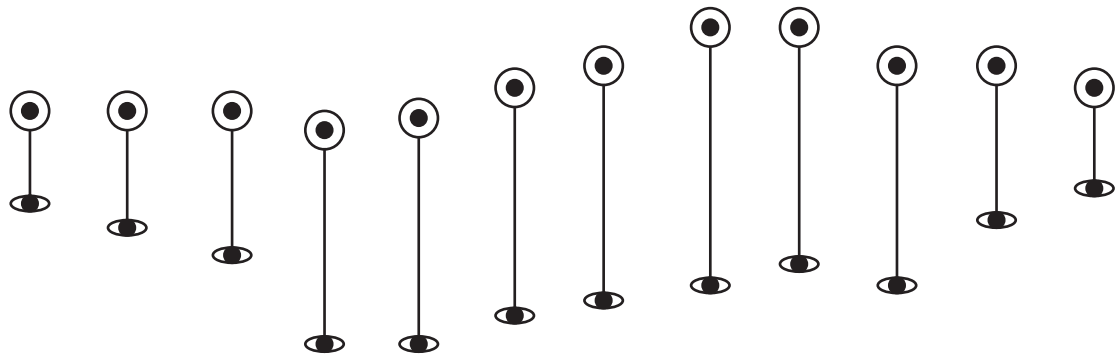


Figure 107
 Climate Analysis Precipitation/Snow Chart
 (<http://www.city-data.com/city/Shoreview-Minnesota.html>)

The humidity of the Twin Cities metro area, being studded with many lakes, is typically fairly high for the region, bearing into the mid 80% range. However, in comparison to less desirable regions of the United States, the site will undoubtedly provide a comfortable range of humidity for its outdoor spaces and indoor spaces alike. Due to the topological changes and proximity to a water source, the humidity will likely be very comfortable year round, with micro climates being the concern for debate. Special care must be taken to ensure that the safety of children is not at stake during hot summer days.

The chart to the right illustrates both morning humidity averages for each month, as well as those for afternoon humidities..

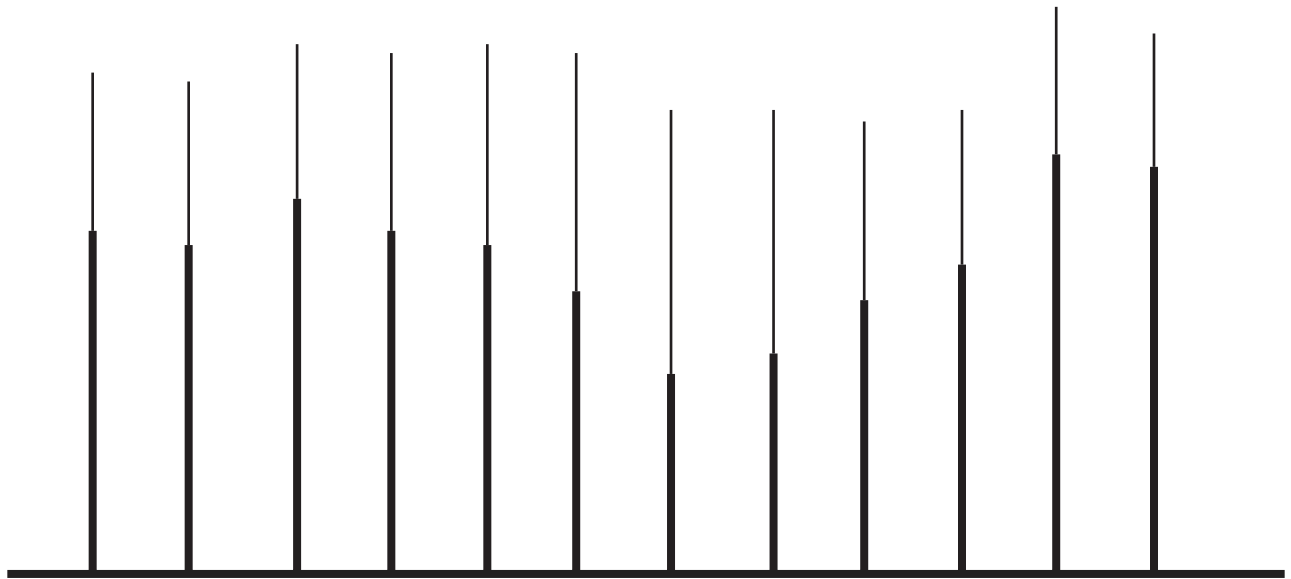


JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
76	76	76	74	75	78	81	84	84	80	80	78
68	66	64	55	55	58	59	61	63	61	68	70

Figure 108
Climate Analysis Humidity Chart
 (<http://www.city-data.com/city/Shoreview-Minnesota.html>)

During the primary usage months, there is a striking amount of cloudy/ partial cloudy days on site. To the right, the chart illustrates both numerically and graphically the unit values for each month. At the base are cloudy days (a notably high percentage during the winter months); the thinner lines illustrate partially cloudy days. The vertical lines are on a percentage system. Therefore, were there 'sunny' lines to fill the void on top, the lines would form a perfect rectangle. Numerical values are given in opposite order of the line system: sunny days are on the bottom, with cloudy days on top.

The project's intention, primarily as an outdoor venue for marching band concerts, will certainly adjust to daylighting issues.



JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
50	49	55	50	49	44	30	33	40	47	64	62
24	23	22	25	28	31	38	35	27	21	22	18
26	28	23	25	23	25	32	32	33	32	14	20

Figure 109
 Climate Analysis Sunny Days vs. Cloudy Chart
 (<http://www.city-data.com/city/Shoreview-Minnesota.html>)

The percentage of sun per day is a chart related but unrelated to that previously covered in the last couple pages: the design must cater to sun protection during the hot summer months in convenient and applicably permanent ways with economical means.

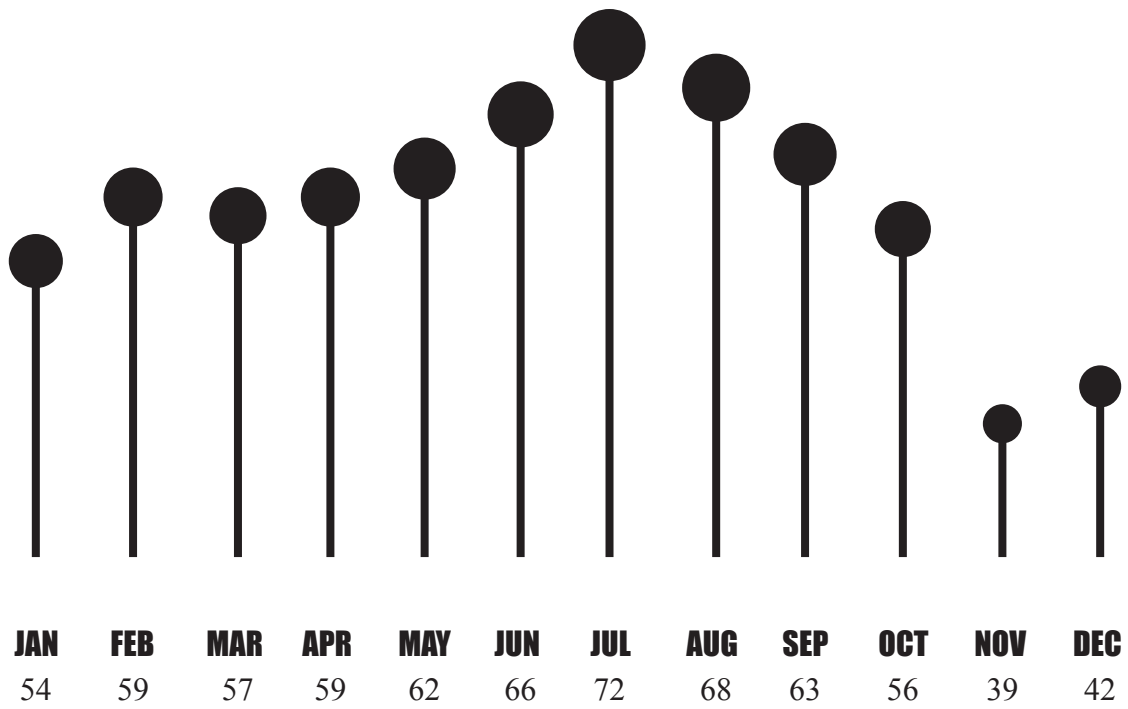


Figure 110
 Climate Analysis Sun Percentage/day Chart
 (<http://www.city-data.com/city/Shoreview-Minnesota.html>)

A wind rose study of the area will not provide news to any local of the upper Midwest. As is typical, the wind will predominantly come from the North in the winter, and from the warmer, humid South in the summer. Wind speeds are generally moderate for the area, with any variance coming from the site's undulation and the site's micro climate.

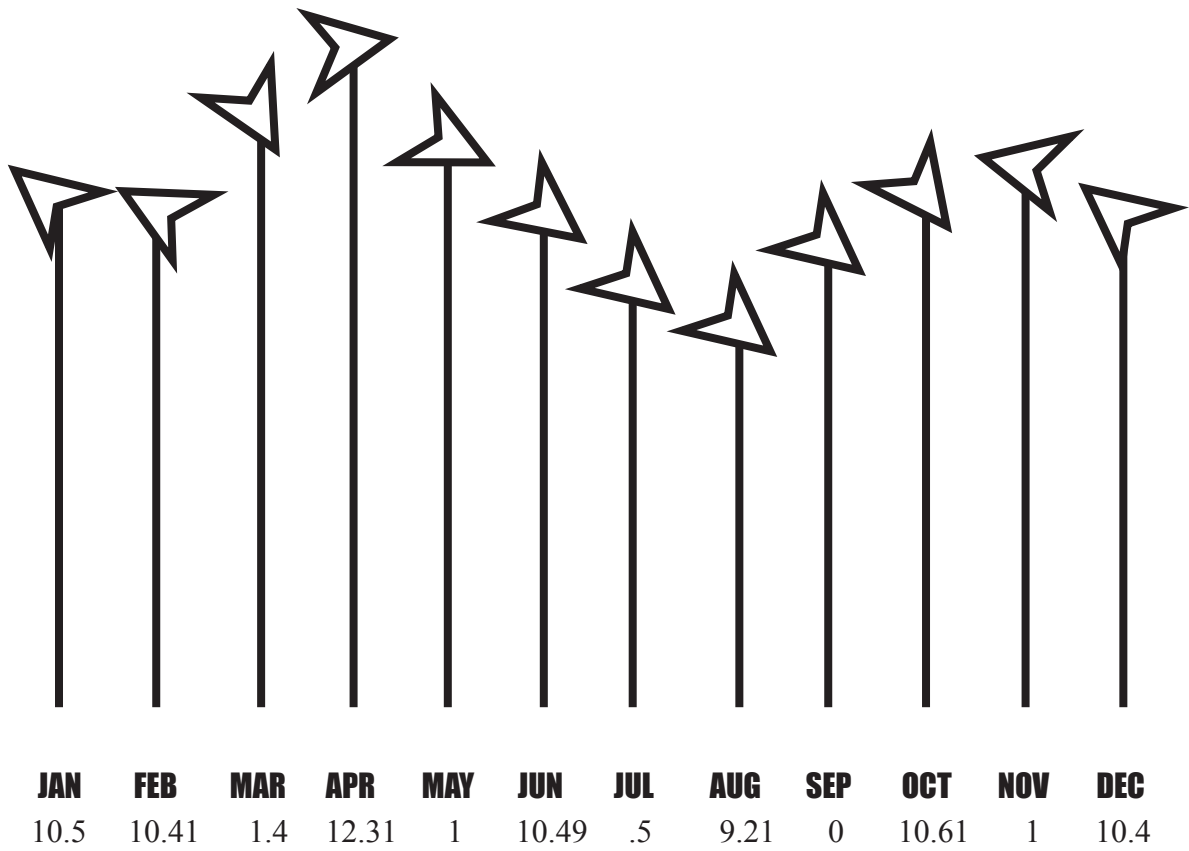


Figure 111
 Climate Analysis Wind Speed/Direction Chart
 (<http://www.city-data.com/city/Shoreview-Minnesota.html>)

With anticipated outdoor usage falling within the times of 8:00 AM to perhaps 9:00 PM, special care must be taken to ensure the safety of fans and marchers alike. Consider the potential of sitting in the stands for over 8 hours of performance time, or the heat of a full day's practice in the baking June sun. Estimated Monthly outdoor usage will fall between the beginning of the summer toward mid-October.

Micro climate will provide more useful, and the close proximity of dense forest to the projected building site will prove itself to be a contributing factor to building orientation and design in its due course.

The sloping of the lot is very undulating, but the primary slope is that of a relatively gradual grade toward Grass Lake from Gramsie Road. This slope, facing south, is the perfect orientation for capturing sun, but may prove a challenge later in the design phase.

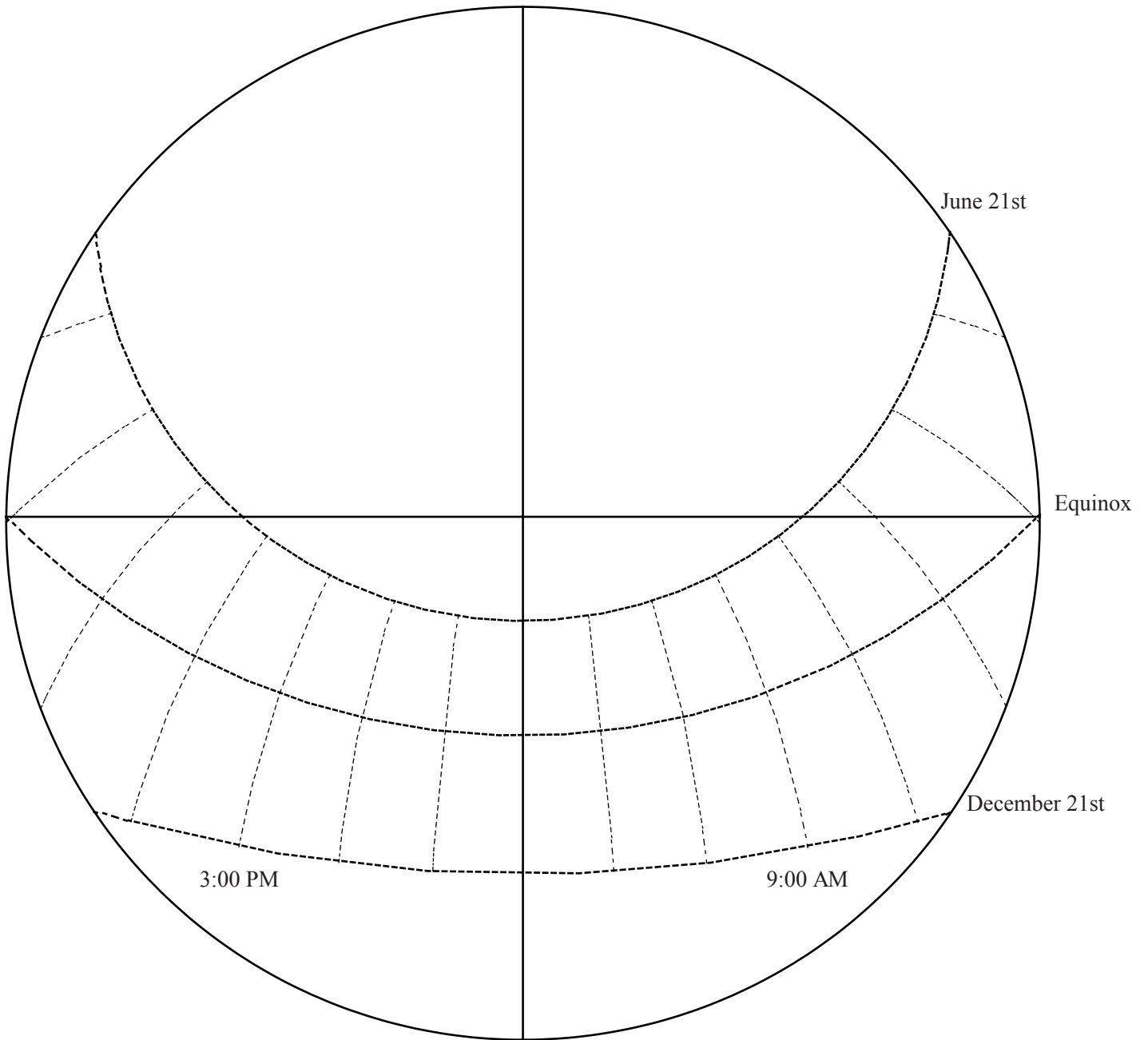


Figure 112
Climate Analysis Solar Diagram Chart
(http://www.jaloxa.eu/resources/daylighting/docs/sunpath_45_north.pdf)

While on site, a person can just barely perceive the noises produced by the interstate byway 694, less than a mile from the site. As one gets closer to the water, the lake's colder air transports the sound clearer: likewise, the further from the body of water, the less exterior sound one can perceive. The road directly North of the site produces little traffic and is not bothersome in any way. A fairly large corporation lies to the SE, with parking lots on the opposite end of the building. No noise was perceived from the building, so it is to be assumed that little noise could be expected.

Of all noises expected from a metro area, that of airplane travel was most prevalent. Though on the opposite extremity of the Twin Cities area, the MSP runways still produce unwanted noise, though this is an uncontrollable event.

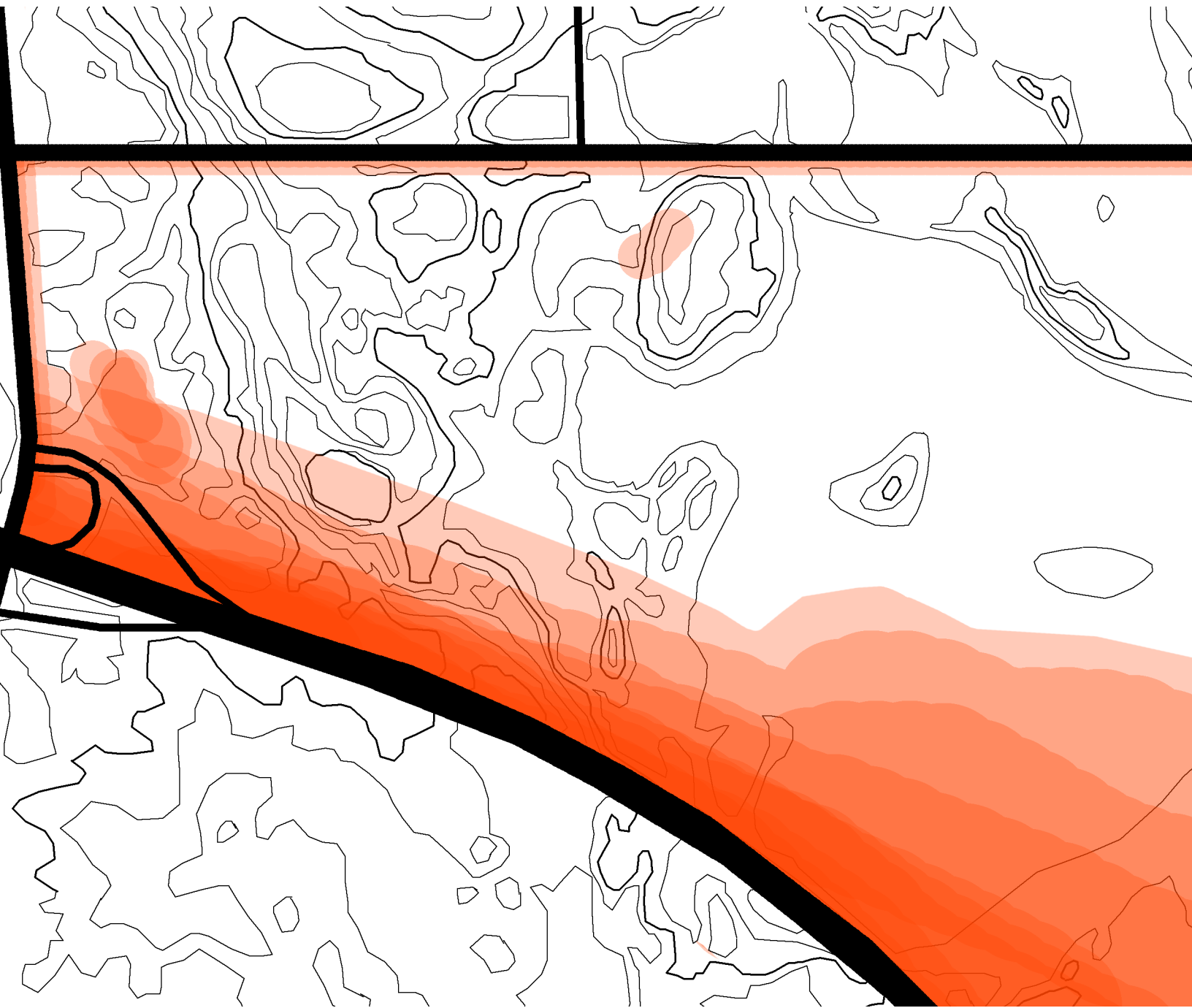


Figure 113

Climate Analysis Topology/Noise Map

(<http://www.topoquest.com/map.php?lat=45.05871&lon=-93.12073&datum=nad27&zoom=2&map=auto&coord=d&mode=zoomin&size=m>)

A quick look at the site plan's vegetation pattern governs a very simple flow chart for wind conditions to be expected. With the undulation of the hills and the large bands of deciduous forests, wind tunnels will undoubtedly occur, with the exception being on the crests of each hill, which can be expected to have a constant breeze. Wind patterns, as previously stated, are from the NW in the winter months and SE in summer months. Based upon solely summer usage outdoors, breeze will likely wish to be curbed in favor of calm conditions. The forest directly South of the site extrudes itself as a natural barrier for strong southern winds. Northern winds or those coming from the east will be tougher to manage, but plausible considering the topography of the site.

The vegetation of the site is a pleasant mix between natural/semi natural prairie and untouched deciduous forest. Most common are large, ancient oak trees scattered throughout the site. Other notable tree varieties include birch, maple, and a small number of conifers, though due to less sandy soils on site, conifers are limited to only a few dozen. The forests are a satisfying mix of old growth and new growth. Little to no effort is given to clean the site of dead tree matter, with the exception being to keep the paths clear. The prairies of the site are composed of a healthy variety of many grass species, with notables such as big blue stem, indian grass, and switchgrass, with purpletop less prevalent.

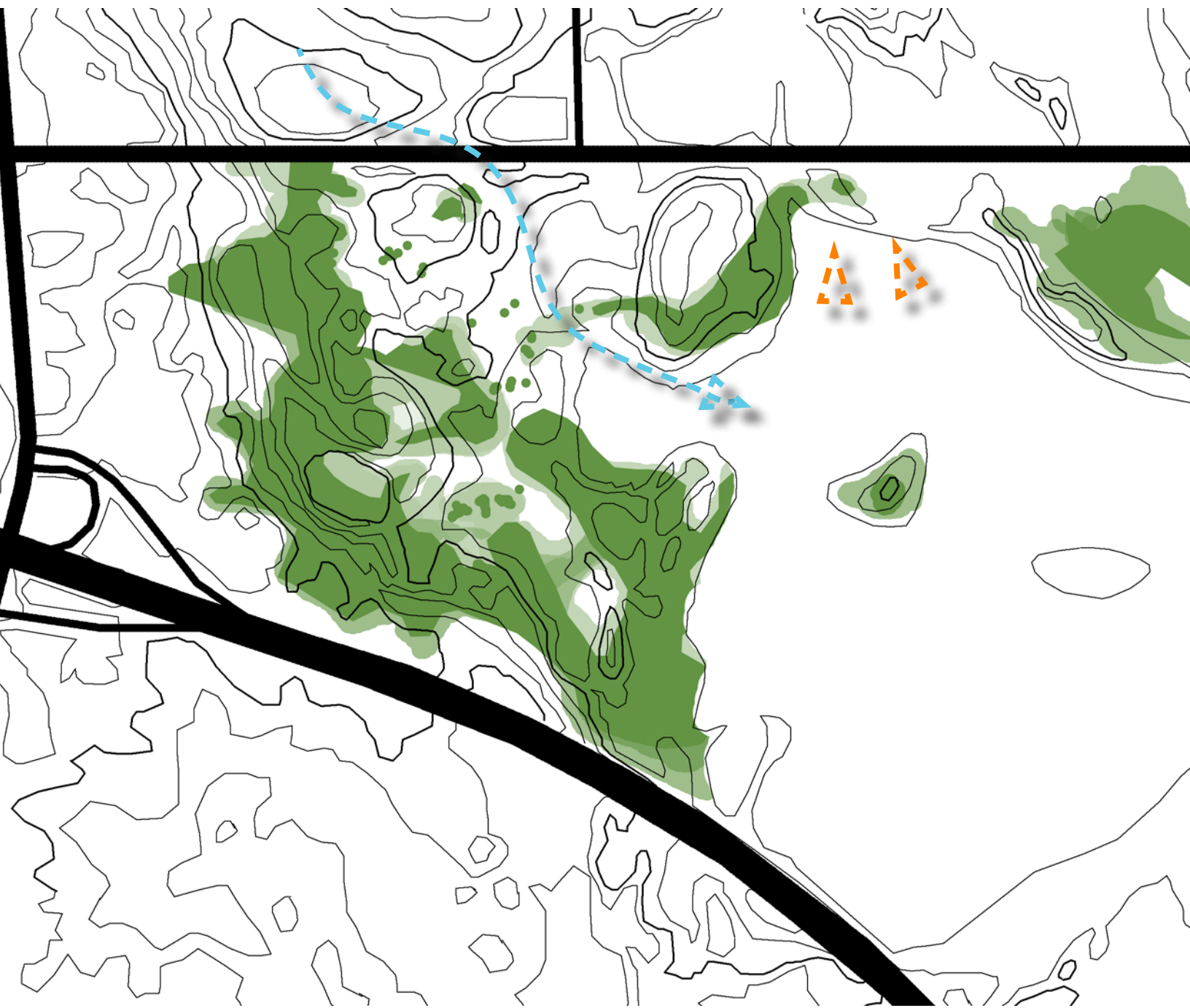


Figure 114
Climate Analysis Vegetation/Wind Map
(<http://www.topoquest.com/map.php?lat=45.05871&lon=-93.12073&datum=nad27&zoom=2&map=auto&coord=d&mode=zoomin&size=m>)

The geology of the site and of the entire region is largely sedimentary, being composed of silts deposited after the retreat of the glaciers during the last ice age. The bedrock is unrealistically deep to reach, for the scope of the project. The site lies upon the Douglas Fault, which extends from Lake Superior and past the St. Croix river. It is a relatively harmless fault zone, having caused little to no serious structural failure in past development in the region. The dominant rock type for the site is a 60/40 mix of Sandstone and Limestone, respectively. Beyond an occasional patch of harder ground, there is little to be concerned with the site, given the scope of the project. (UofM, 2013)

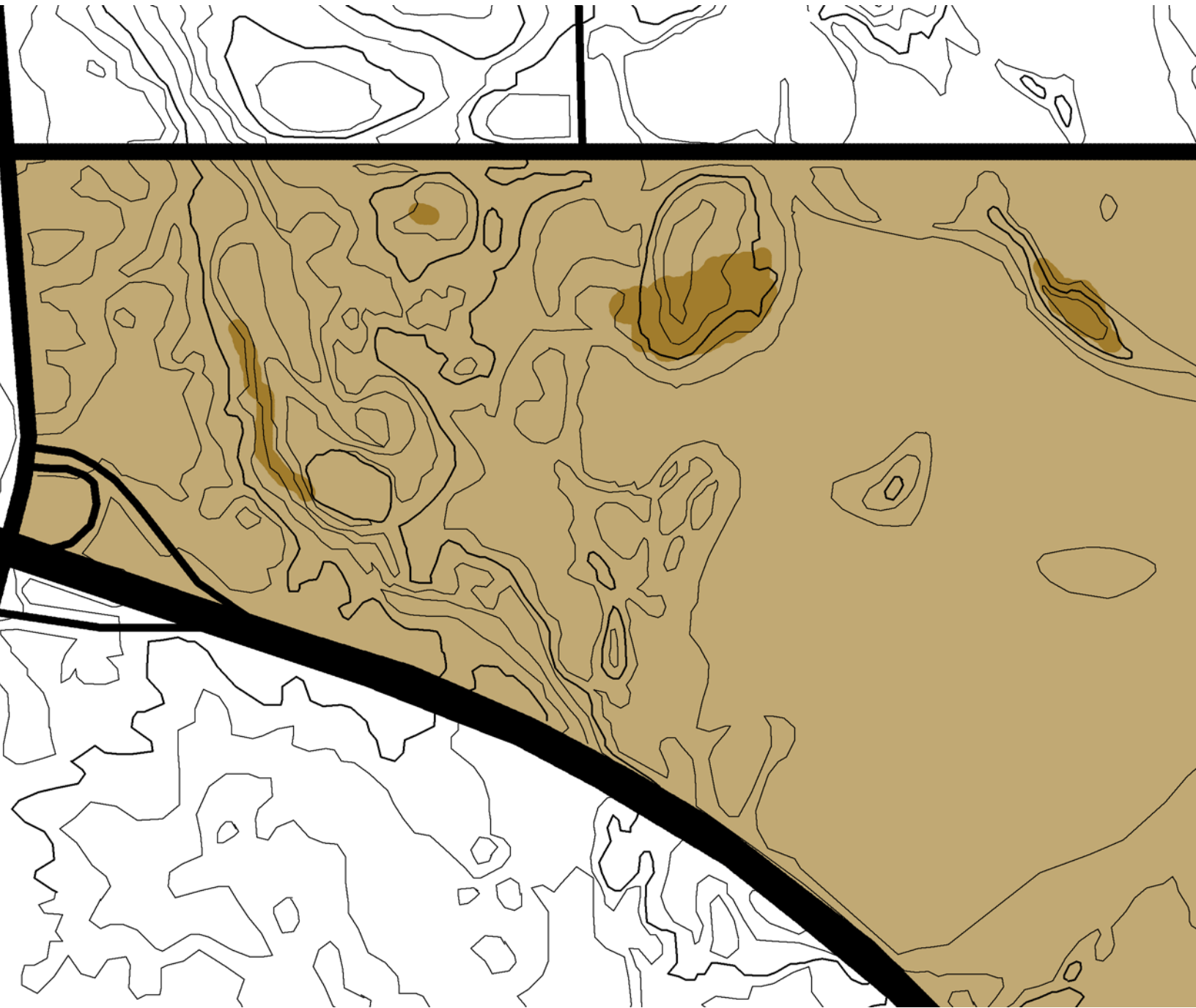
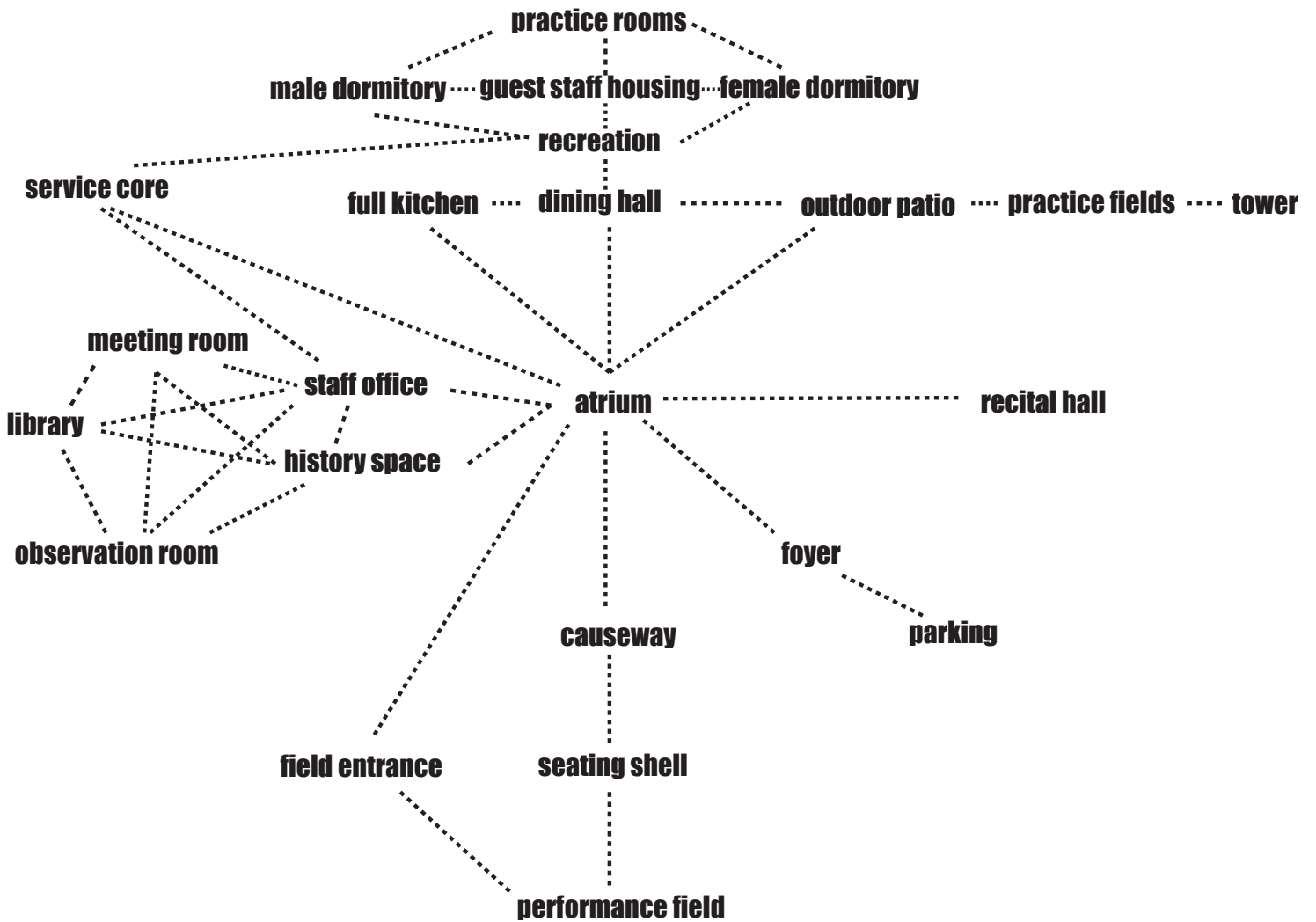


Figure 115
Climate Analysis Geology Map
(<http://www.mnngs.umn.edu/mngeology.htm>)

PROGRAM SPACE ALLOCATION

	Total SF	Dimensions	%Error	Indv. SF	#Units
Performance Field	57600	360x160	0		1
Seating Shell	28000		15	3.5	8000
Recital Hall	4500		5	10	450
Field Entrance	1600	10x80	10	800	2
Practice Fields	115200	360x160	0		2
Practice Rooms	1120	6x7	0	35	32
Tower	30	5x6	0		1
Male Dormitory	60000		10	240	250
Female Dormitory	60000		10	240	250
Guest Staff Housing	2880		10	240	12
Recreation	1500		30	1500	1
Dining Hall	10000		15	20	500
Full Kitchen	400		35		1
Outdoor Patio	1000		10		1
Atrium	10000		25		1
Foyer	3000		10		1
History Space	1500		5		1
Circulation					
Library	240		0		1
Staff Office	2000		10	100	20
Meeting Room	480		5		1
Observation Room	480		5		1

Figure 116
Program Space Allocation



INTERACTION NET

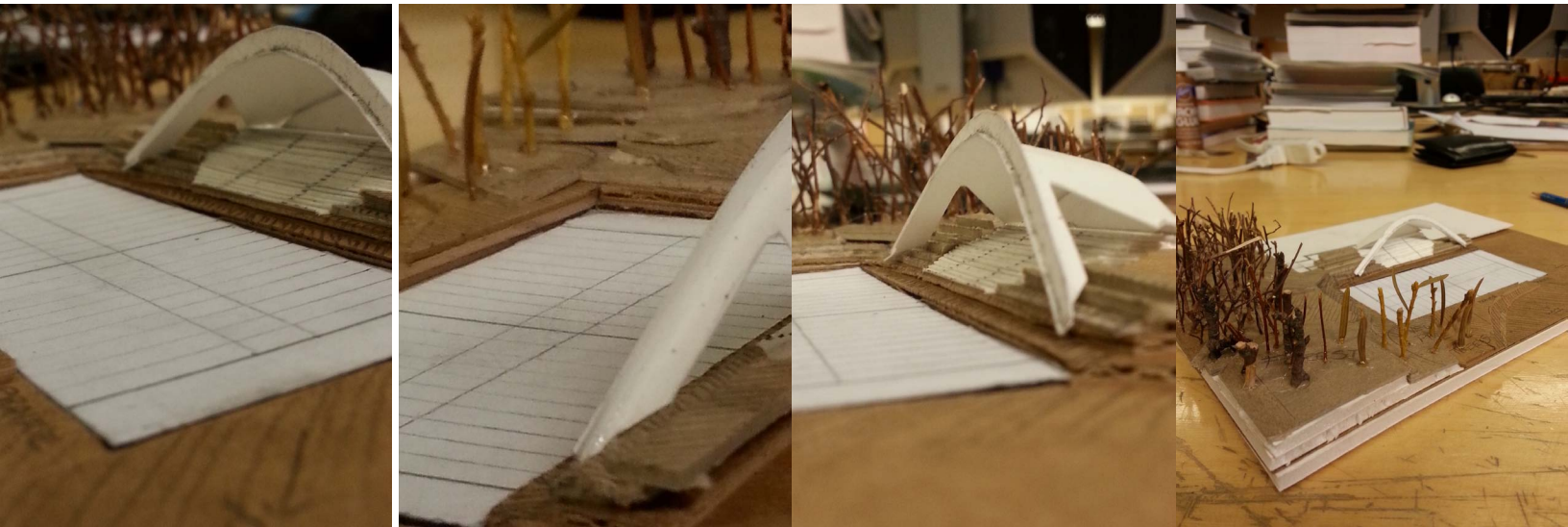
Above: Figure 117, Interaction Net
 Right: Figure 118, Interaction Matrix

	RESTROOMS	PARKING	MECHANICAL STORAGE	SERVICE CORE	PERFORMANCE FIELD SEATING SHELL CAUSEWAY	RECITAL HALL FIELD ENTRANCE	PRACTICE FIELD/ISIPRACTICE ROOMS TOWER	MALE DORMITORY	FEMALE DORMITORY	GUEST STAFF HOUSING	RECREATION DINING HALL FULL KITCHEN	OUTDOOR PATIO	ATRIUM FOYER	HISTORY SPACE CIRCULATORY	LIBRARY STAFF OFFICE MEETING ROOM	OBSERVATION ROOM
PERFORMANCE FIELD SEATING SHELL CAUSEWAY					■	■						■				
RECITAL HALL FIELD ENTRANCE					■								■			
PRACTICE FIELD/ISIPRACTICE ROOMS TOWER							■									
MALE DORMITORY FEMALE DORMITORY GUEST STAFF HOUSING							■	■	■						■	
RECREATION DINING HALL FULL KITCHEN							■	■	■		■					
OUTDOOR PATIO											■					
ATRIUM FOYER											■		■			
HISTORY SPACE CIRCULATORY													■	■		
LIBRARY STAFF OFFICE MEETING ROOM															■	
OBSERVATION ROOM																■

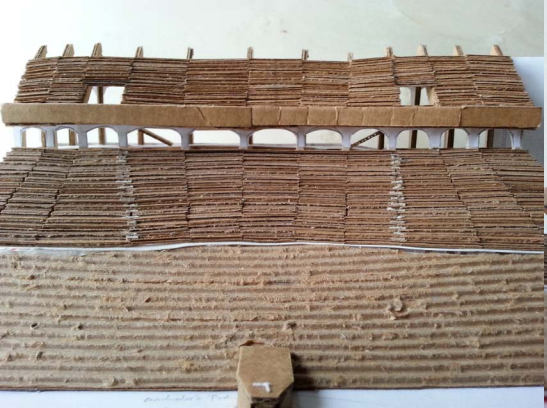
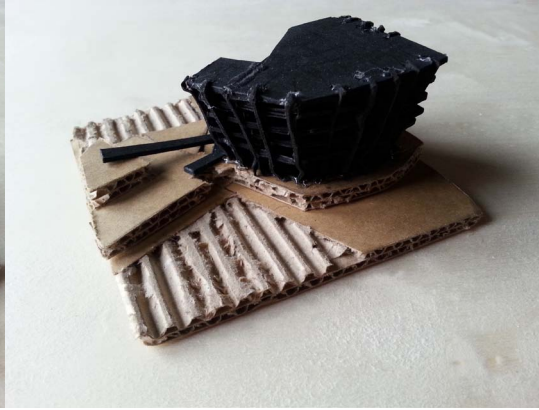
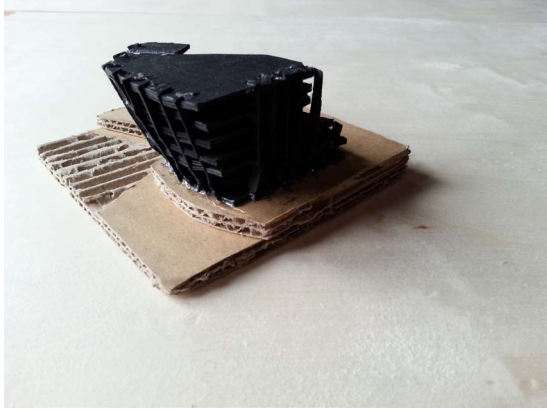
INTERACTION MATRIX



PROCESS WORK



Above: Figure 119, Process Work 1
Right: Figure 120, Process Work 2



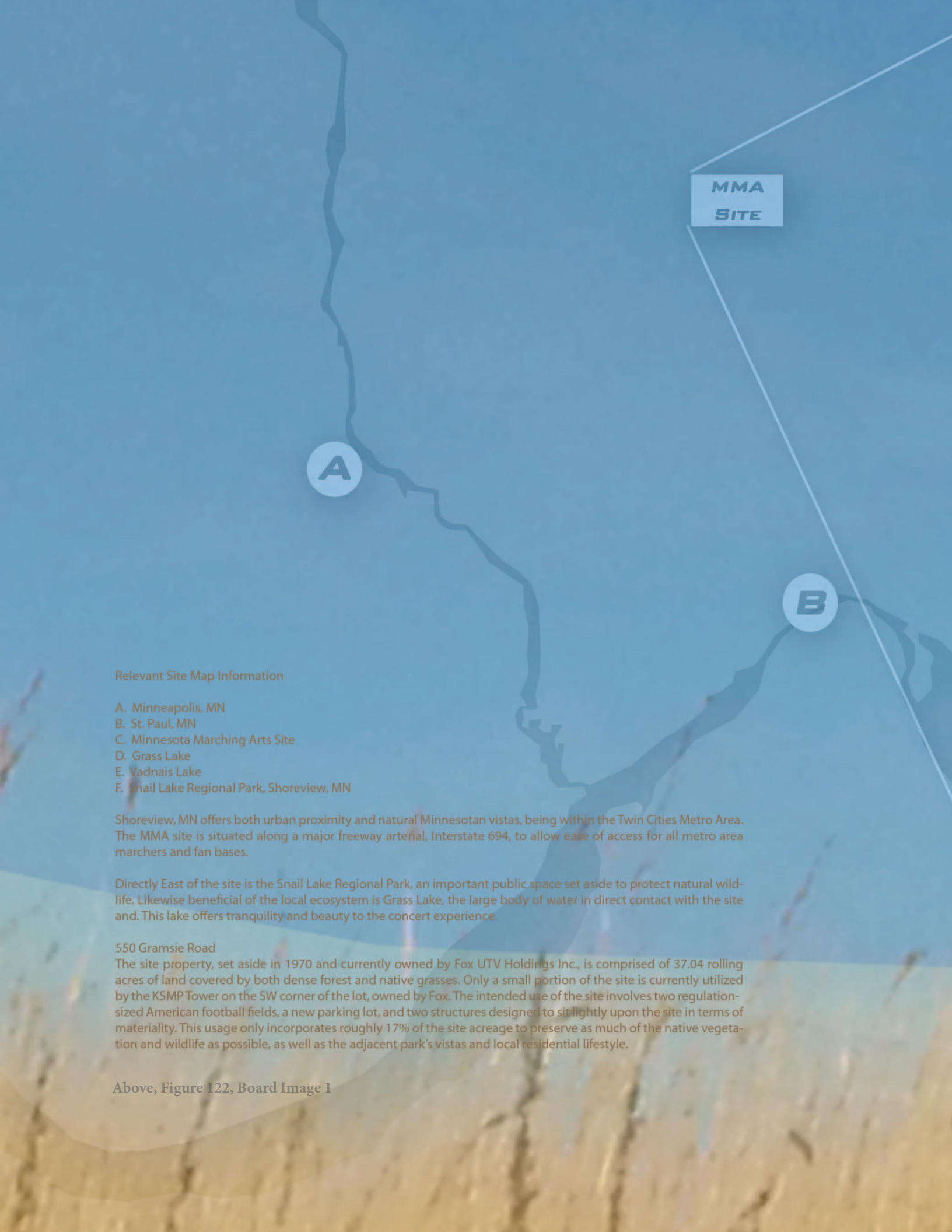
PROJECT SOLUTION

The following pages are clippings of board images. On the following page 168 begin a series of full-page spreads in graphical order, beginning with 'Board 1,' then so on and so fourth. Pages 196-197 contain graphics produced from an acoustical simulation software called EASE, which I used to analyze the performance shell. Page 198 contains the installation photo.

Right: Figure 121, Minnesota Marching Arts Process Sketch



MINNESOTA
MARCHING
ARTS



**MMA
SITE**

A

B

Relevant Site Map Information

- A. Minneapolis, MN
- B. St. Paul, MN
- C. Minnesota Marching Arts Site
- D. Grass Lake
- E. Vadnais Lake
- F. Snail Lake Regional Park, Shoreview, MN

Shoreview, MN offers both urban proximity and natural Minnesotan vistas, being within the Twin Cities Metro Area. The MMA site is situated along a major freeway arterial, Interstate 694, to allow ease of access for all metro area marchers and fan bases.

Directly East of the site is the Snail Lake Regional Park, an important public space set aside to protect natural wild-life. Likewise beneficial of the local ecosystem is Grass Lake, the large body of water in direct contact with the site and. This lake offers tranquility and beauty to the concert experience.

550 Gramsie Road

The site property, set aside in 1970 and currently owned by Fox UTV Holdings Inc., is comprised of 37.04 rolling acres of land covered by both dense forest and native grasses. Only a small portion of the site is currently utilized by the KSMP Tower on the SW corner of the lot, owned by Fox. The intended use of the site involves two regulation-sized American football fields, a new parking lot, and two structures designed to sit lightly upon the site in terms of materiality. This usage only incorporates roughly 17% of the site acreage to preserve as much of the native vegetation and wildlife as possible, as well as the adjacent park's vistas and local residential lifestyle.

Above, Figure 122, Board Image 1



GRAMSIE ROAD

VICTORIA STREET NORTH

VICTORIA STREET NORTH

INTERSTATE 694





GRAMSIE ROAD

F

D

Above, Figure 123, Board Image 2

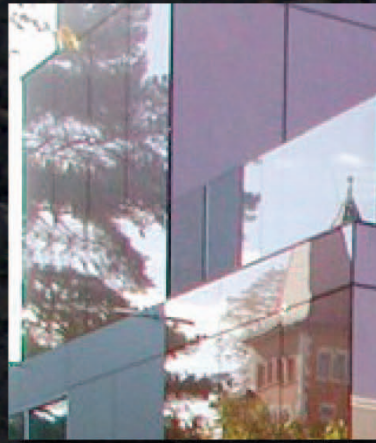
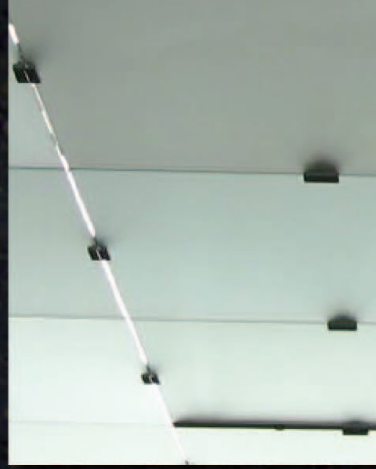


E

500 ft

1000 ft

2000 ft

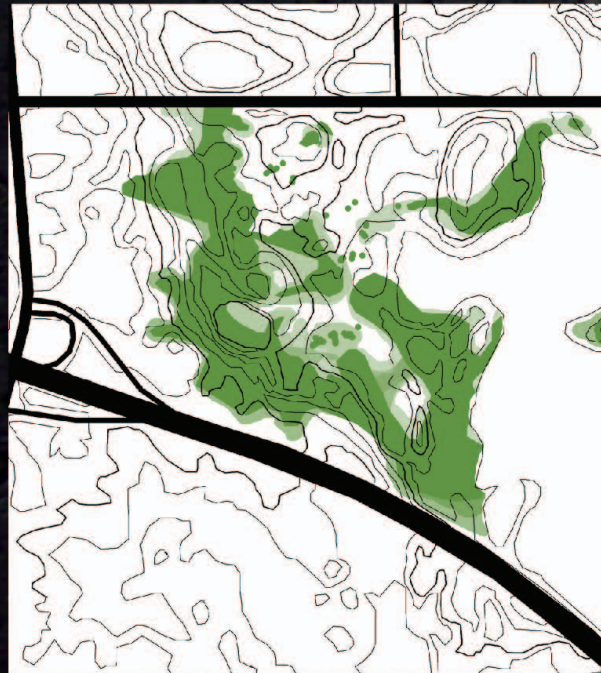


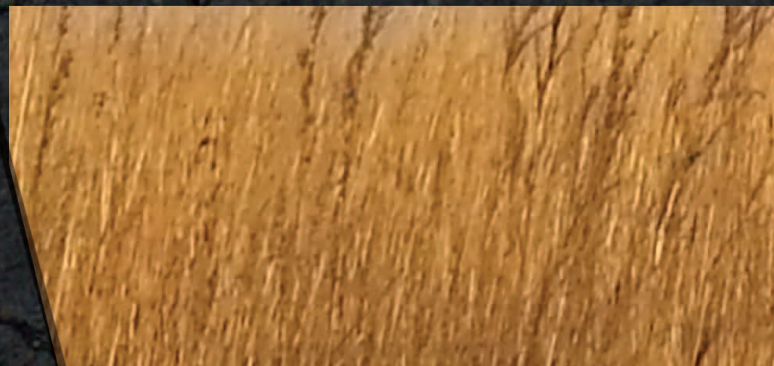
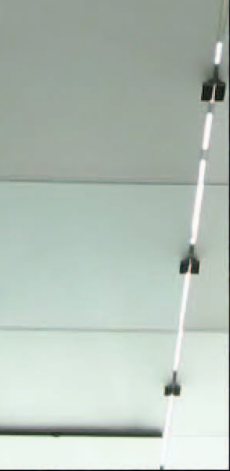
Glass- Semi Translucent. Adapts to the solar geometry... animating light.
Chosen for excellent sound reflectance and variant light patterns.

Concrete- That which borrow the detail of its mold for eternity.
Chosen as predominant structural material and for sound absorption.

Glazing over Wood Paneling Spec.- Sleek, modern. Absorbs the light.
Effervescent and layered.
Chosen to reflect the sunset and natural surrounding beauty.

Stone Pavers. Of whom do I owe the pleasure of traversing over?
They have reshaped our world.
Chosen for tactility, timelessness, durability and slight imperfections.





ates a space. Creates differentiability. Solves architectural problems.
transparency depending on solar geometry.

y. Strength, stability, elegance behind brawn. An Intrepid Material. Heroic.
nd reflectance properties.

the sunset; captivates the mind. A venture of faith for an emergent wall type.

beauty while encapsulating the gleam of wooden paneling.

er this russet path of labor and time? Bring me the masons, for they it is who

regularity.



bove, Figure 124, Board Image 3





Above, Figure 125, Board Image 4



IMP PHENOM



MINNESOTA MARCHING



Above, Figure 126, Board Image 5

IMPACTFUL PHENOMENOLOGY

ARTS

Unto a field, swaying in the breeze, do I thus supplant a structure intended to honor a timeless event upon a sea of gold. The scent of the concessions wafting between layers of forest and masonry, speaks of nights at the ballpark and cherished memories long dismissed... The slight echo of a stadium, rippling with the desire and passion of the moment, ensnares the audience for the kill. As the sky darkens, the canopy brightens, emanating a startling structure patiently waiting for the sun to leave. The prairie grass... words cannot explain. The weave toward the stadium, upon pavement set with skill, tell of ancient arenas once occupied and still standing. A walk from the entrance to the seat is a sensory and tactile journey that we must make, and that all must remember. A trip to the concessions, two hot dogs in hand, making our way back to cozy up for our daughter's performance.

There is a recurring debate upon the value of phenomenology, the study of the senses and of space, toward the understanding of architectural theory. As it is, the topic is ever-expanding as we progress toward new specifications, new expectations, and changing social values. Yet, within all great stadiums there exists a sense of timelessness, encapsulated in the details, completely cerebral yet very tangible. Greatness is to emanate from the structures of all arenas. Honor, loyalty, power, wealth... a stadium is a cultural knot, tying together the values and heritage of generations before and beyond. The phenomenal realm is both lost in scale, yet grown in feel, when one enters a space of impact.

The Minnesota Marching Arts complex is not intended to solve the debate of phenomenological value. It is intended to create an impactful environment that spectators and players alike will perceive and remember for years to come. It is to bolster the activity of Marching Bands to a strong foundation- as it has never had before. Set upon a beautiful natural vista of prairie, forest, and lake, the MMA will radiate a phenomenological awareness and provide for a concert setting unlike anything we have ever felt before.

IES

ons,
the
nat-
vers
t all
ber-

ural
with
ma-
e of

iful
and
co-

Above, Figure 127, Board Image 6





West Facade Render at Sunrise during Mid-October. The design wakes up with the sun.



Above, Figure 128, Board Image 7



Dormitory Section Perspective

Precast Custom Concrete Panels; adhered to cast-in-place structural column by ties and grout, designed to shed water and also act as a thermal break as opposed to a monolithic concrete column.

Custom Wall Sweep; defined as glazing over marine-grade plywood. Provides interesting play on local vistas with reflections of glazing while maintaining the rugged look of plywood. Blends well with local vegetation and designed as a rainscreen.

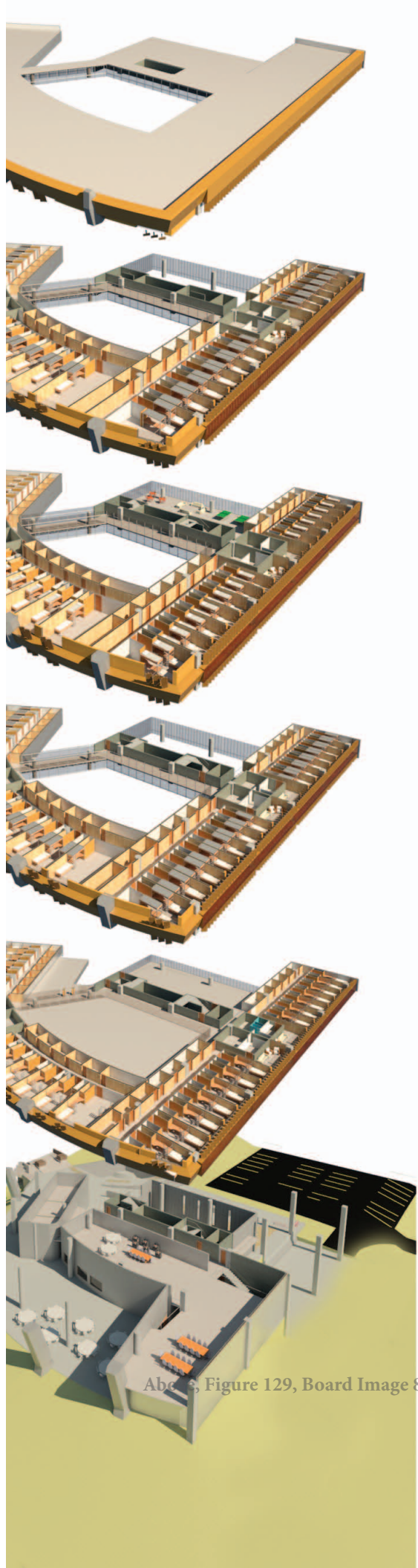
Linear Louver Array; protects privacy during evening hours, nearly negates cooling demands. Defined as glazing over marine-grade plywood. When closed, the building is one jagged object, polished into its cantilevering shape. When open, the building breathes life and creates interest. Designed to respond with the sun. 10' arrays operated automatically via building systems computer.

Custom Bunk Bed; designed for fast erection and economy. Douglas Fir veneer on aluminum frame. Below top bunk is a work station of similar construction.

Cabin Ceiling; designed to instill a sense of intimacy and comfort, wooden interior paneling disrupts the cold nature of the concrete superstructure. The ceiling, pitched at 1:5, cuts the volume of area the MMA has to heat and cool by roughly 9%. Also relates well to the traditional camp feel.

Dormitory Curtain Wall; highly modular, double-glazed low-e window glass@ 8.5'x4.5'. In combination with louvers, gives ample privacy. Recessed into the wall by more than 2.5'; the MMA's glazing will have minimal light impact on the surrounding area during the night.

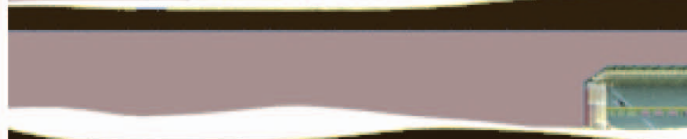
Partition Wall; double metal stud wall with batt insulation provides adequate noise disruptance between each dorm. Finished with locally reclaimed wood from site excavation and/or douglas fir. Finish quality intentionally low to give the wall depth and touch.



North Elevation



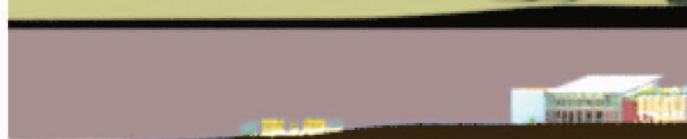
South Elevation



East Elevation

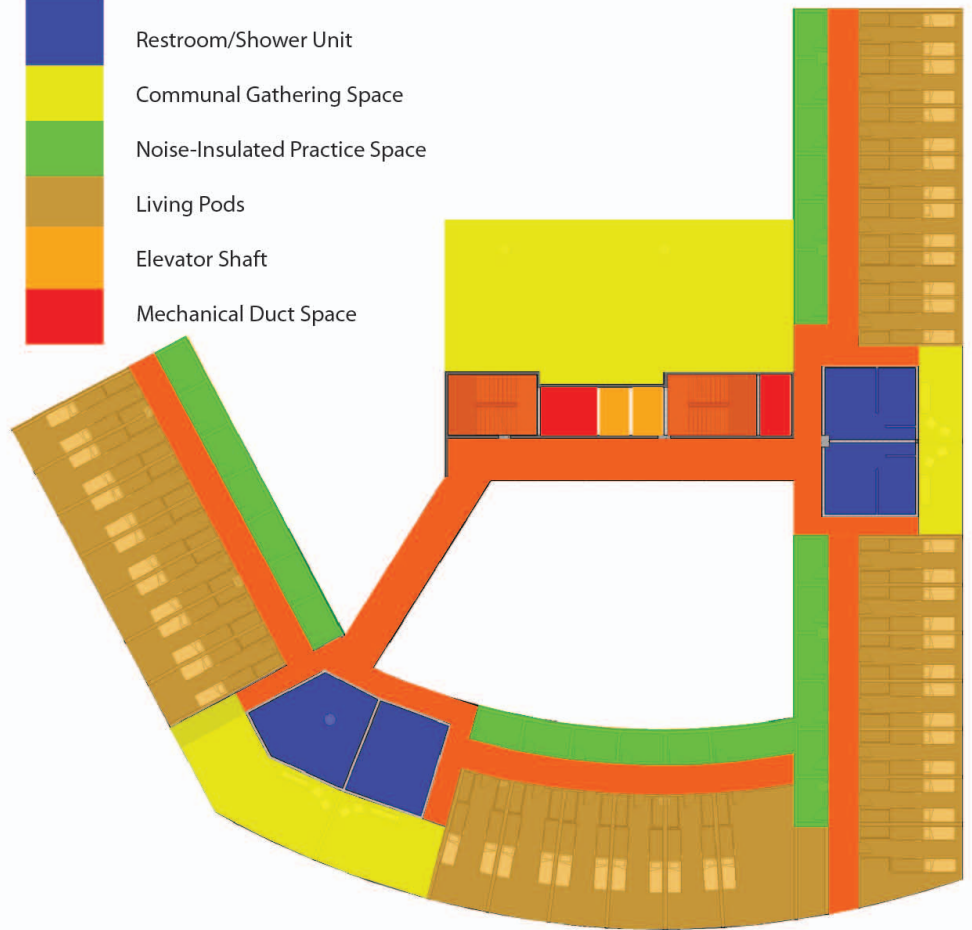


West Elevation

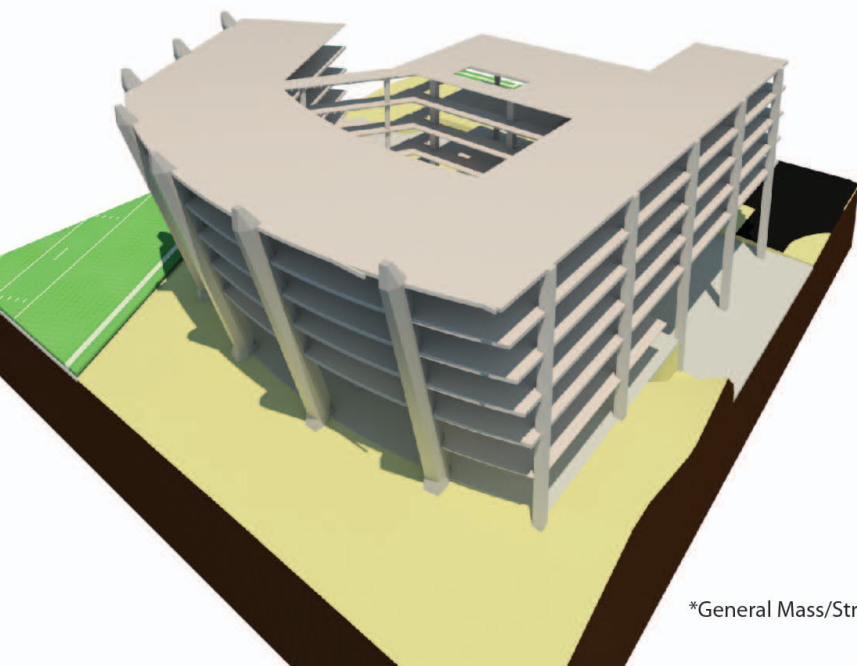
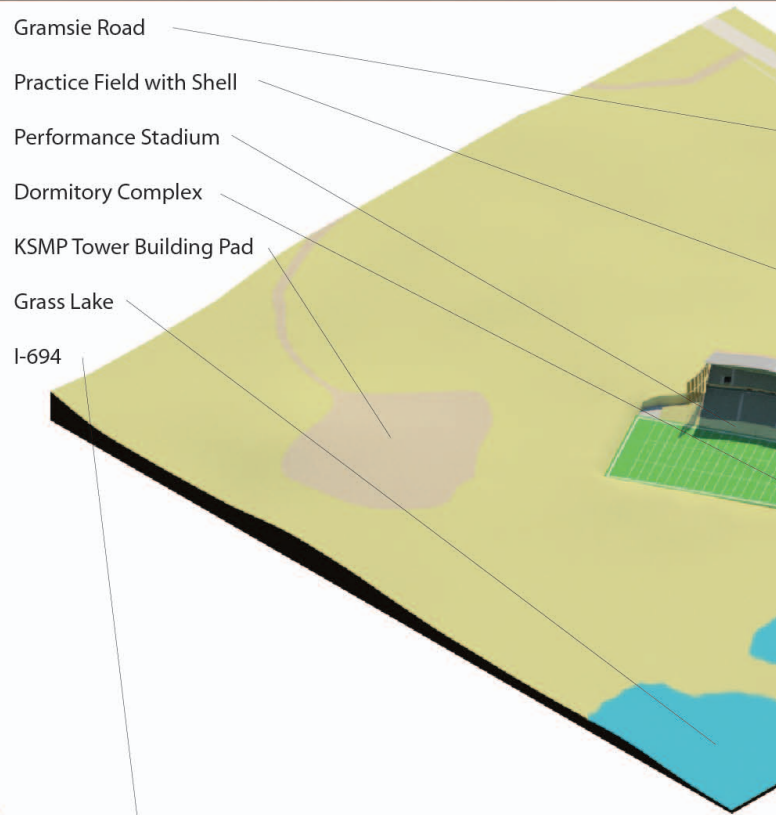
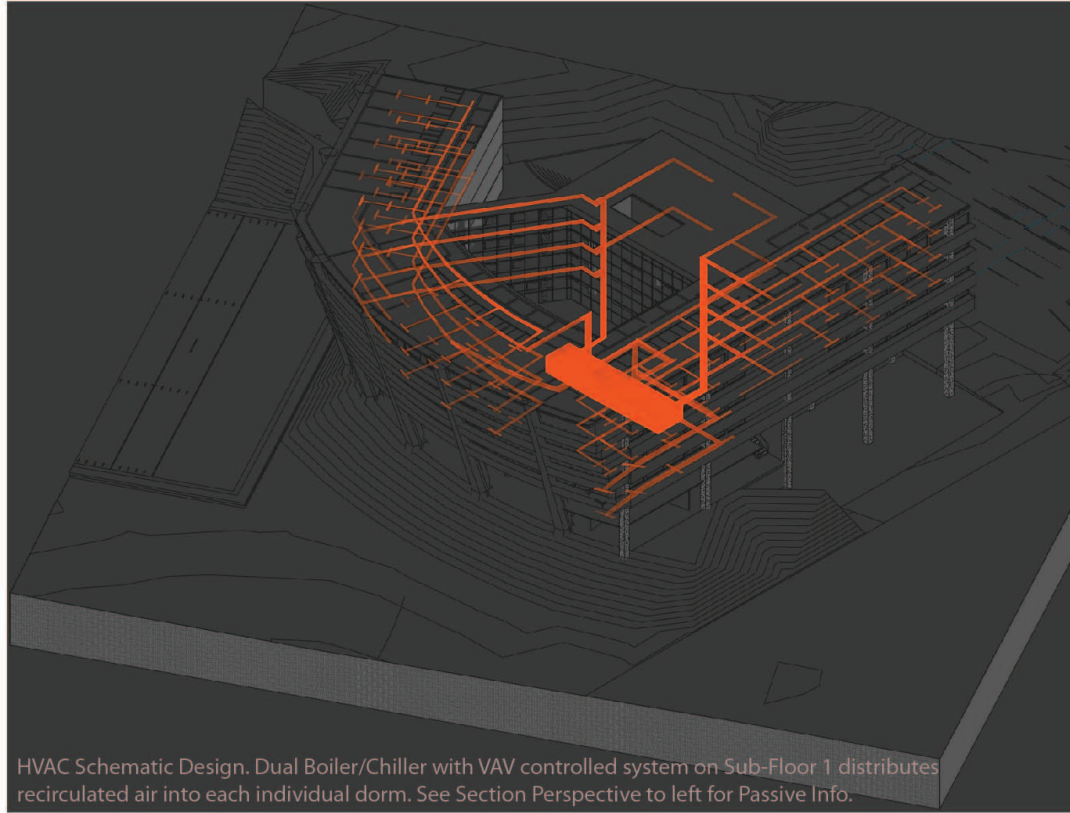
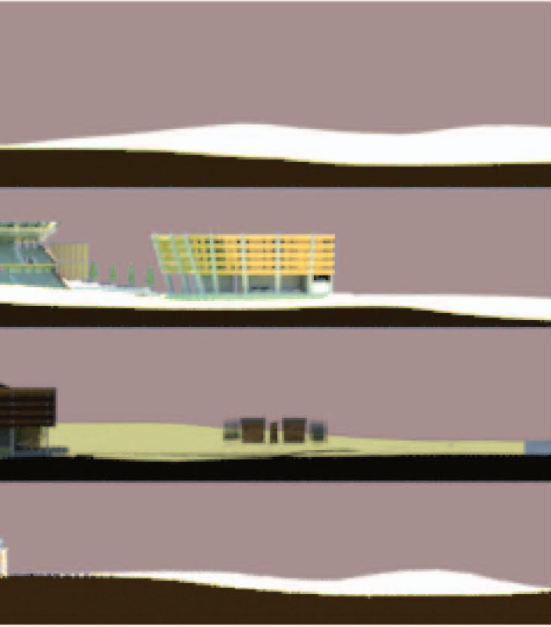


SPATIAL CONFIGURATION: Dormitory

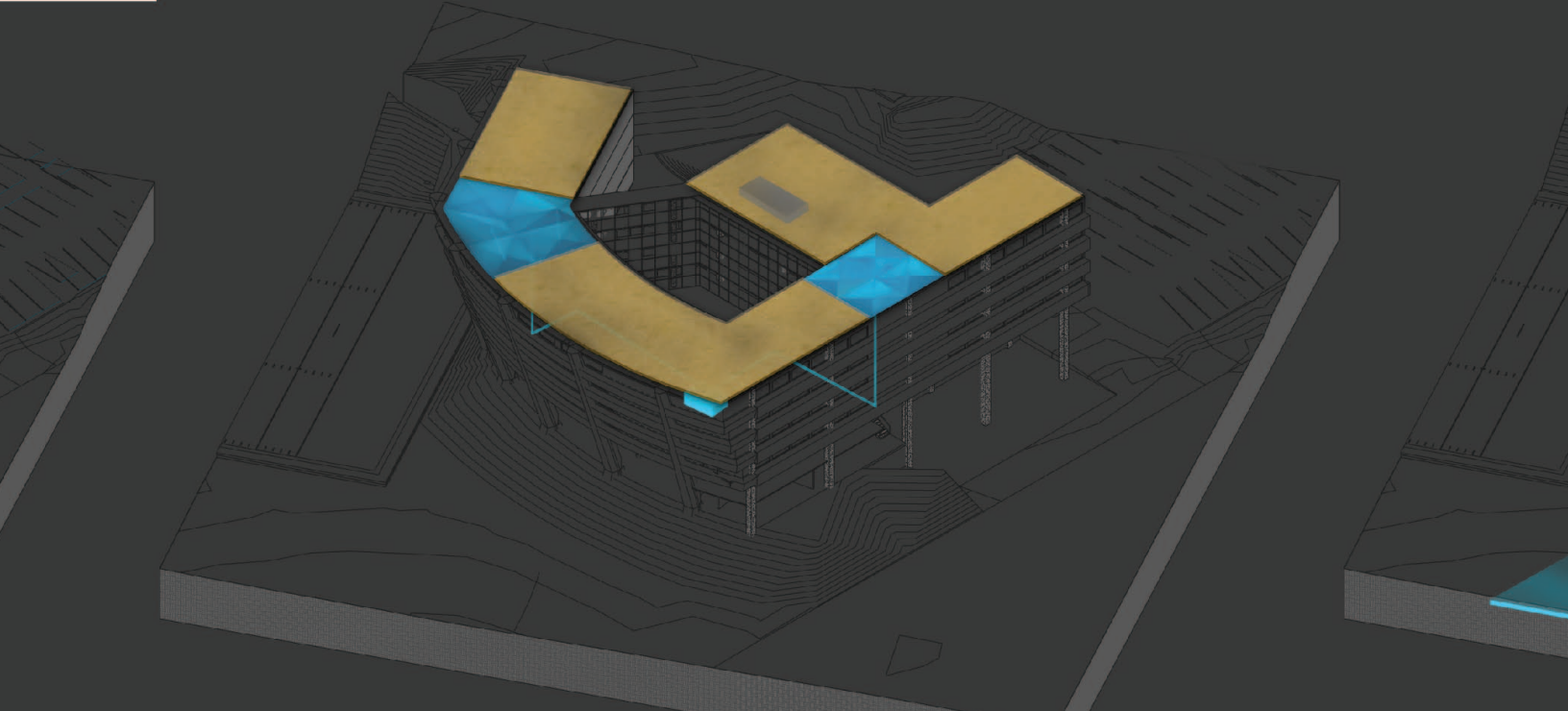
- Restroom/Shower Unit
- Communal Gathering Space
- Noise-Insulated Practice Space
- Living Pods
- Elevator Shaft
- Mechanical Duct Space



Abc 3, Figure 129, Board Image 8

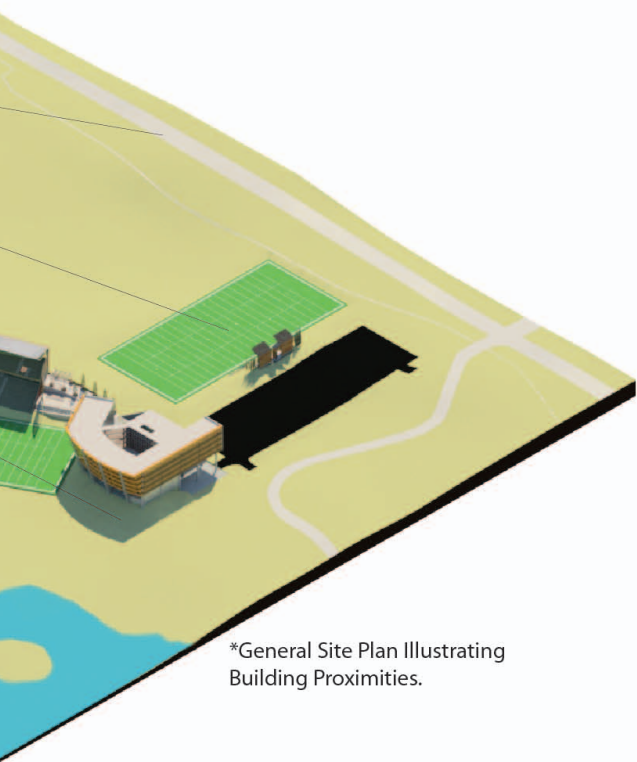


*General Mass/Structure Study



Roof Extents; emphasis on quality vs. economy. Natural Greenroof using local vegetation on built-up roof with proper sealant. Some water catchment located above communal space and bathrooms to assuage non-potable water usage.

Plumbing Schematic Diagram. Excess runs into drainage.

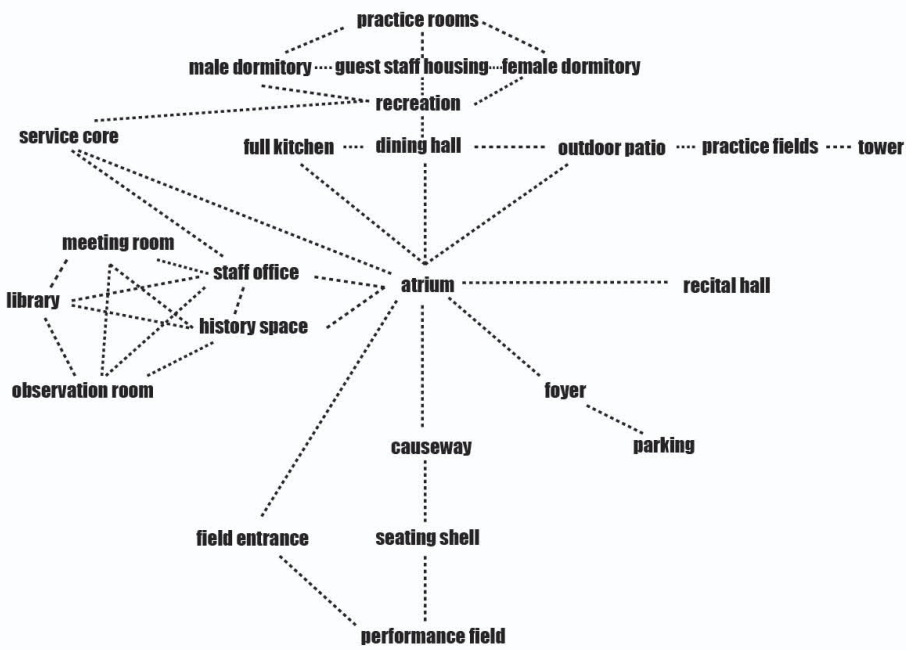
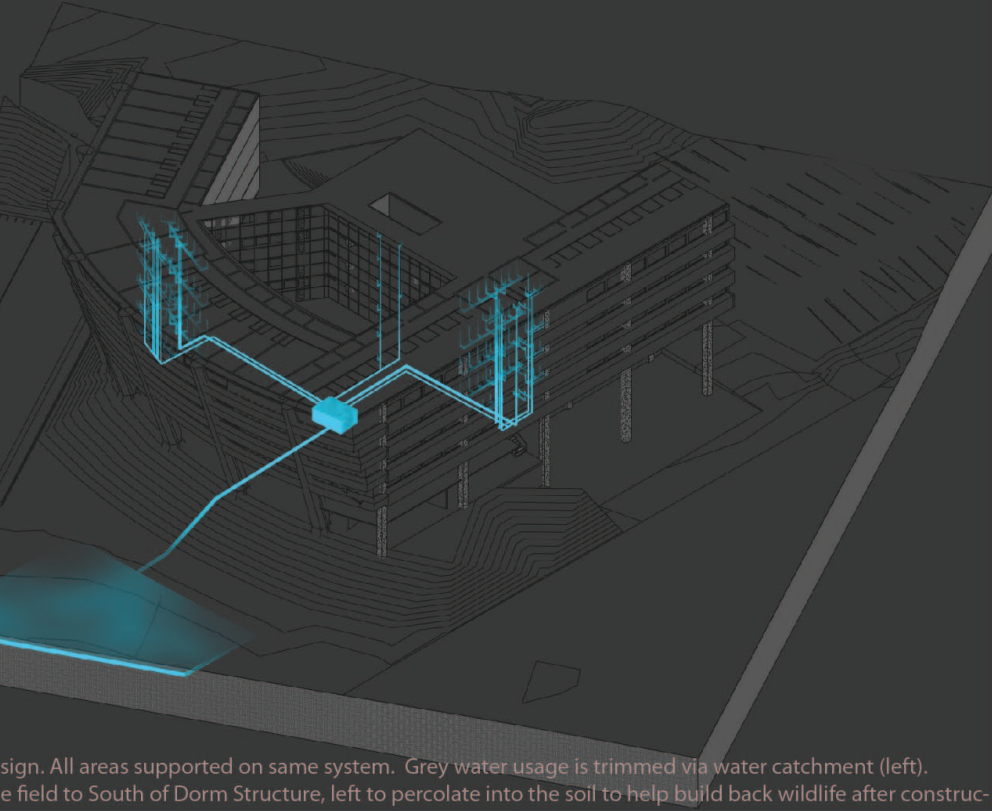


*General Site Plan Illustrating Building Proximities.

	RESTROOMS	PARKING	MECHANICAL STORAGE	SERVICE CORE	PERFORMANCE FIELD SEATING SHELL	CAUSEWAY	RECITAL HALL	FIELD ENTRANCE	PRACTICE FIELD(S)	PRACTICE ROOMS	TOWER	MALE DORMITORY	FEMALE DORMITORY	GUEST STAFF HOUSING	RECREATION	DINING HALL	FULL KITCHEN	OUTDOOR PATIO	ATRIUM	FOYER	HISTORY SPACE	CIRCULATORY	LIBRARY	STAFF OFFICE	MEETING ROOM	OBSERVATION ROOM	
PERFORMANCE FIELD																											
SEATING SHELL					■																						
CAUSEWAY																											
RECITAL HALL																											
FIELD ENTRANCE																											
PRACTICE FIELD(S)																											
PRACTICE ROOMS																											
TOWER																											
MALE DORMITORY																											
FEMALE DORMITORY																											
GUEST STAFF HOUSING																											
RECREATION																											
DINING HALL																											
FULL KITCHEN																											
OUTDOOR PATIO																											
ATRIUM																											
FOYER																											
HISTORY SPACE																											
CIRCULATORY																											
LIBRARY																											
STAFF OFFICE																											
MEETING ROOM																											
OBSERVATION ROOM																											

INTERACTION MATRIX

Above, Figure 130, Board Image 9



INTERACTION NET



Above, Figure 131, Board Image 10

Arch 7722 Design Thesis Spring Semester 2014, Matthew Weiss, Ganapathy Mahalingam (Instructor). Software Used:





Practice Field Section Perspective

Laminated Buffer; curved to cater to the trajectory of a marching band and set to radiate sound back to the performers providing aural feedback and giving a target to aim toward. Materiality is laminated beechwood on suitable backer material for an orange gossamer glow during most lighting conditions.

Practice Tower; Minimalist design with little extraneosity. Interior is resemblant of a hunting blind and connects well with local prairie grasses. The tower incorporates a small series of solar panels and the roof is sloped south at a 2:5 slope to provide electricity for the space's small expected load.

Field; Comprised exactly as the Performance Field for memorization purposes. Designed as fake turf over a 4 in. layer of loose gravel, over compacted soil, which drains west into an already existing depression in the topography.

Concrete Spanish Steps; built roughly and unadorned. The intent is to mimic the nature of the Thingplatzes of Nazi Germany, which were built economically but still exist today and are national monuments. The surrounding earth is encouraged to overlap the steps to illustrate age.

Crushed Gravel Path; leading from the practice field to the performance field, this path is ADA accessible and ties into the Parking Lot, Gate Entry, and Dormitory building.

*After reconsideration, specialty components such as speakers were left out of the design for theft considerations. Also, the space lacks a formal Drum Major pedestal. This is so the design can adapt toward any user's standards.





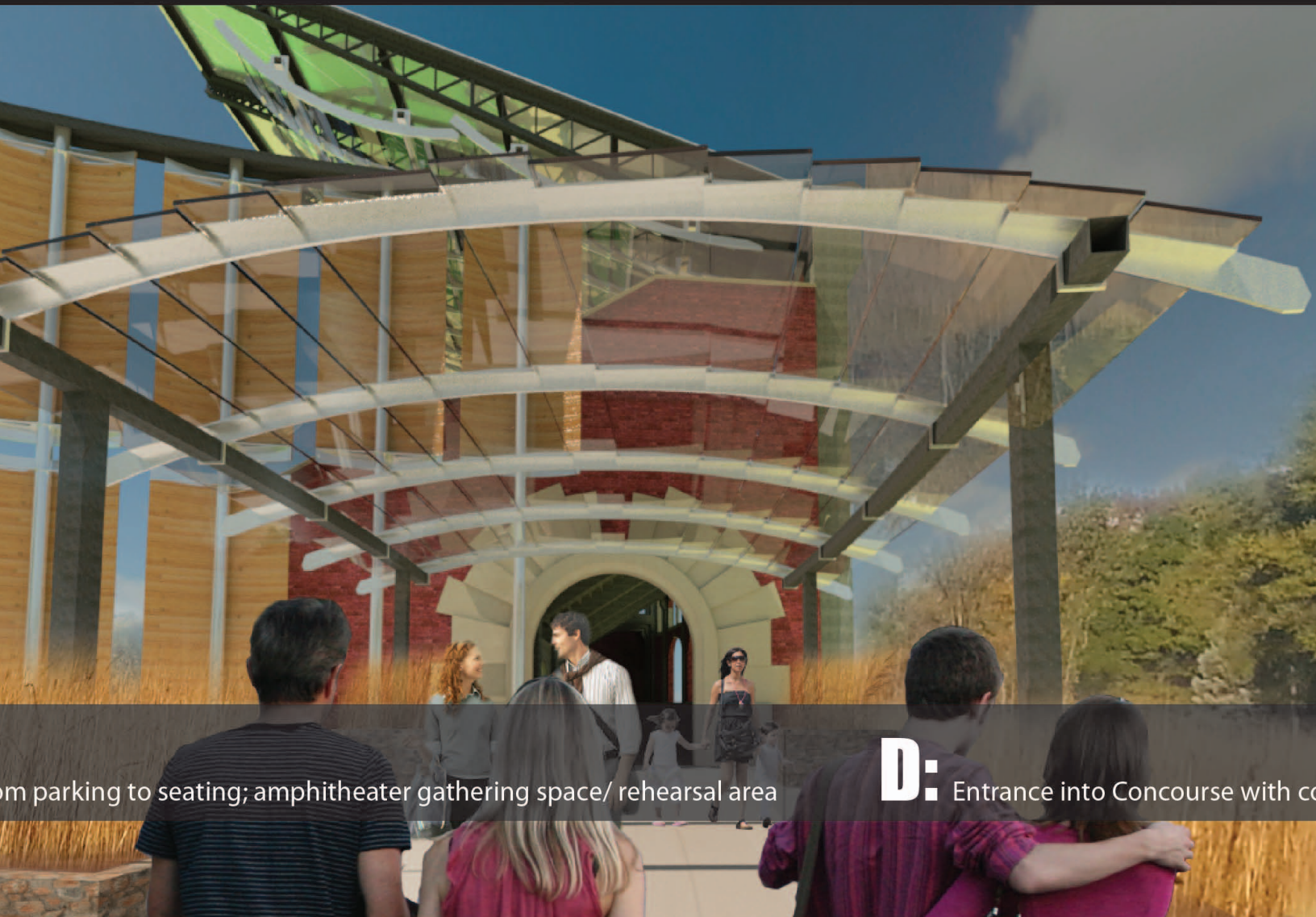
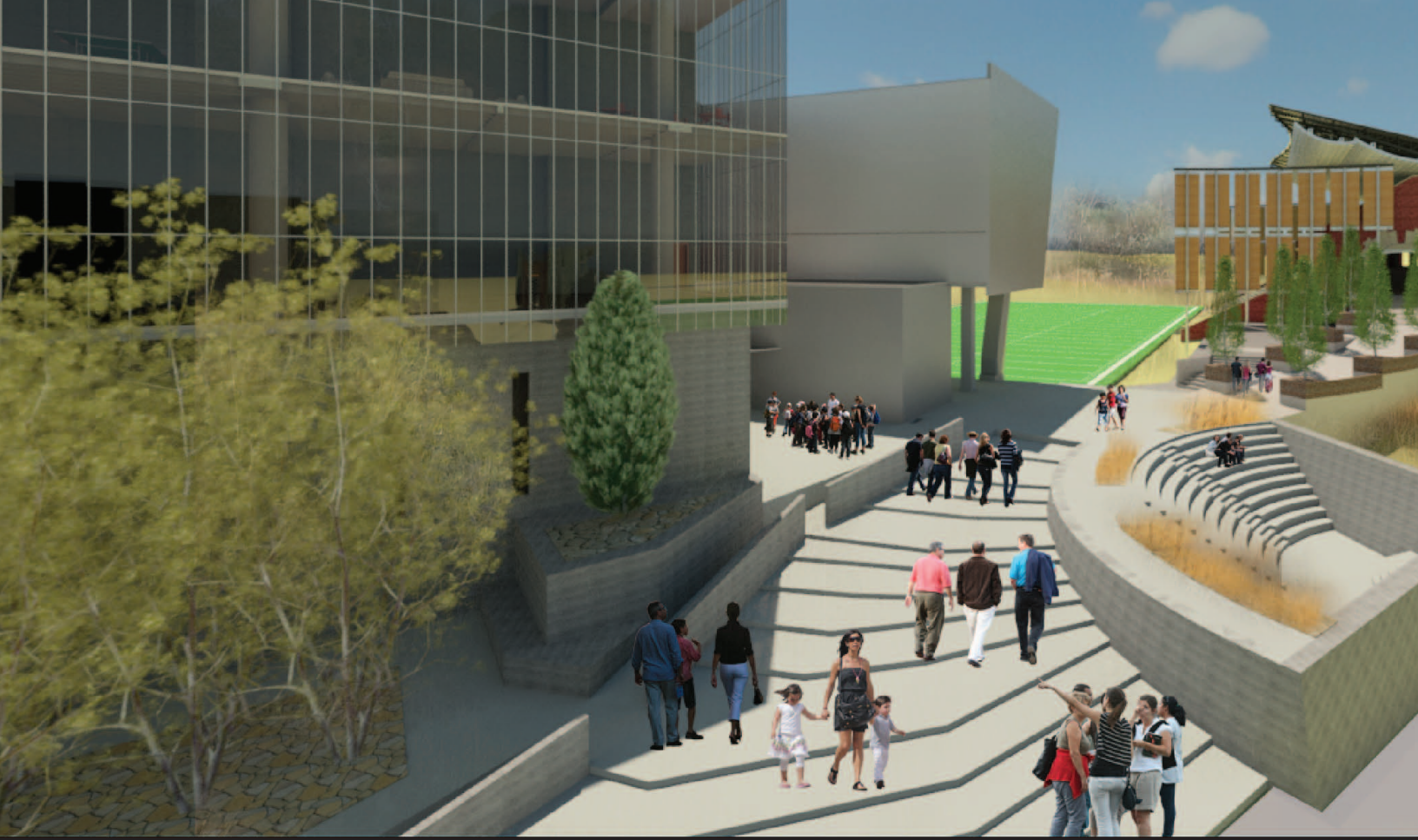
Above, Figure 132, Board Image 11

B: Dormitory Interior Render at 3:00 PM, Summer Solstice



C: Complex's entrance way from

e-Up



From parking to seating; amphitheater gathering space/ rehearsal area

D: Entrance into Concourse with co

Performance Stadium Section Perspective

Columns; Columns and footings are cast in-situ, and arranged in a triple-arc array. This facilitates two performance loads: that of maximum occupancy and a smaller house.

Beams/Girders; All other superstructure elements are of Precast Concrete-standard weight.

Concrete Risers; All risers are triple-risers, facilitating fast construction for other subcontractors to begin work, such as installing seating.

Concourse Floor; built up of Precast Hollow Core Concrete Planks, waterproofed, given a vapor barrier, and then covered with small sand layer of 1.5 in. This is then finished with stone pavers.

Canopy Structure; Heavy steel trusses, triangulated against the force of gravity, are cantilevered away from the rear-most concrete columns, where they have been cast into the column to resist bending. Steel cross beams at 10' O.C. hold corrugated steel roofing in place. Below the Trusses is a custom steel profile to hold the glazing in place.

Canopy Finish Material; Glass, a material not often found in performance halls, has recently been utilized for acoustical treatments in more modern designs. Glass provides a very crisp sound and reflects well, which tailors to this installation very well. The glass is tempered and at modular panel sizes of 5'x2'. It has been coated with a bronze finish, reflecting views toward the field by day and permitting stadium lights to radiate through by night.

Side Buffer Panels; Douglas Fir on suitable backer material, supported by custom aluminum profile on a fixed railing system. Douglas Fir is bountiful in northern Minnesota and also economical. Its orange-yellow glow helps this stadium glow.

Masonry Walls; Complex masonry is slowly dying out of contemporary design, a bittersweet passing for many. In stadium construction, it is my belief that traditional motifs and complex brick facades still define the traditional stadiums, such as Los Angeles Coliseum and that of Notre Dame. Russet, Red, Travertine, Tan...All colors were chosen to reflect the color patterns of the surrounding prairie grass.

Above, Figure 133, Board Image 12

covered walkway and scenic vistas.



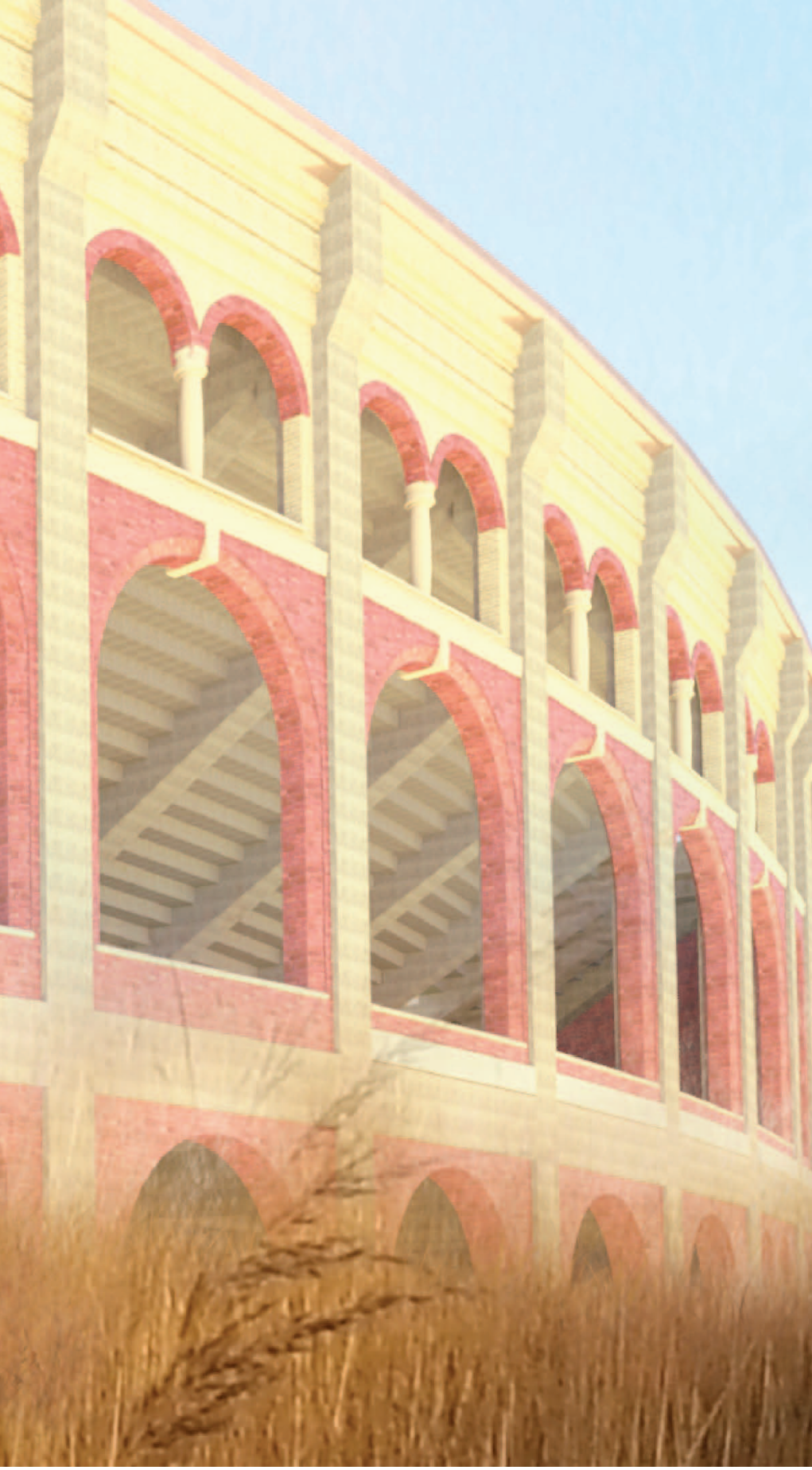
Looking up at Drum Major from Field elevation, 7:00 Summer Solsti



View of Rear Stadium Facade



Above, Figure 134, Board Image 13

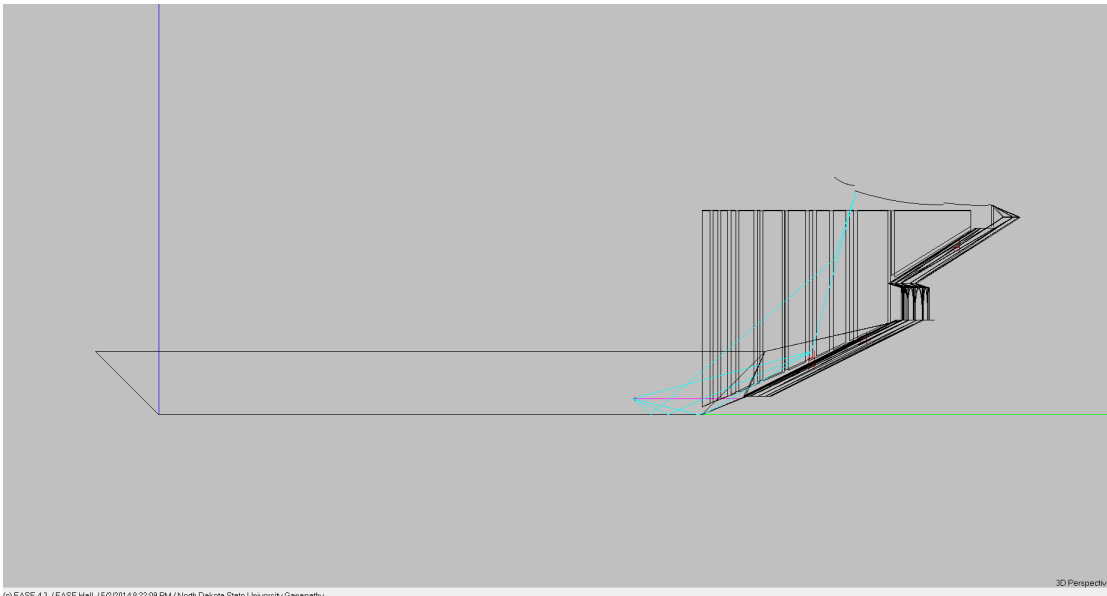
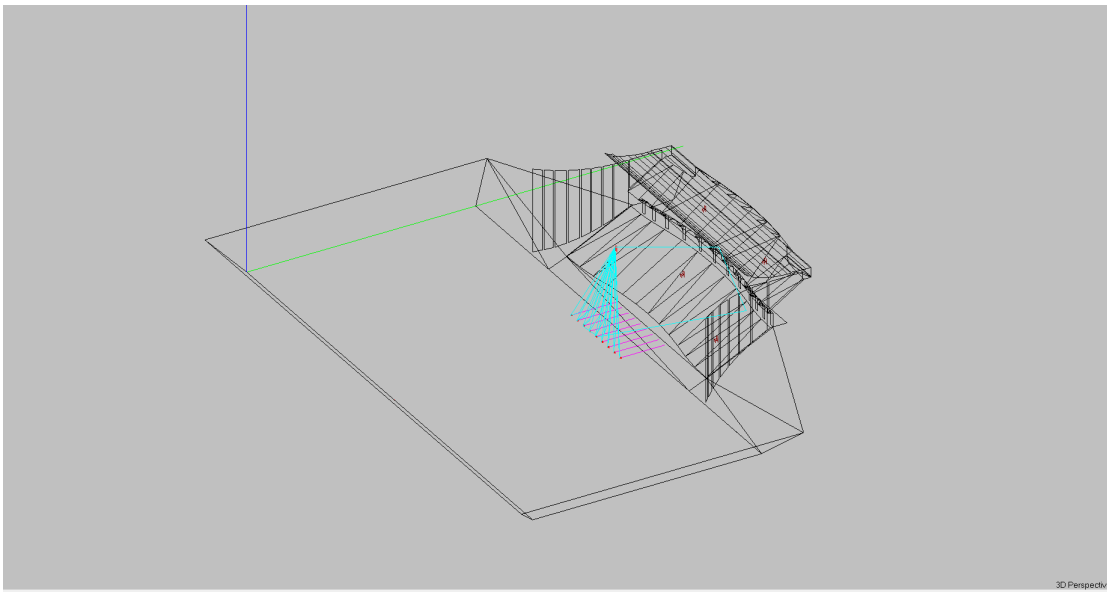




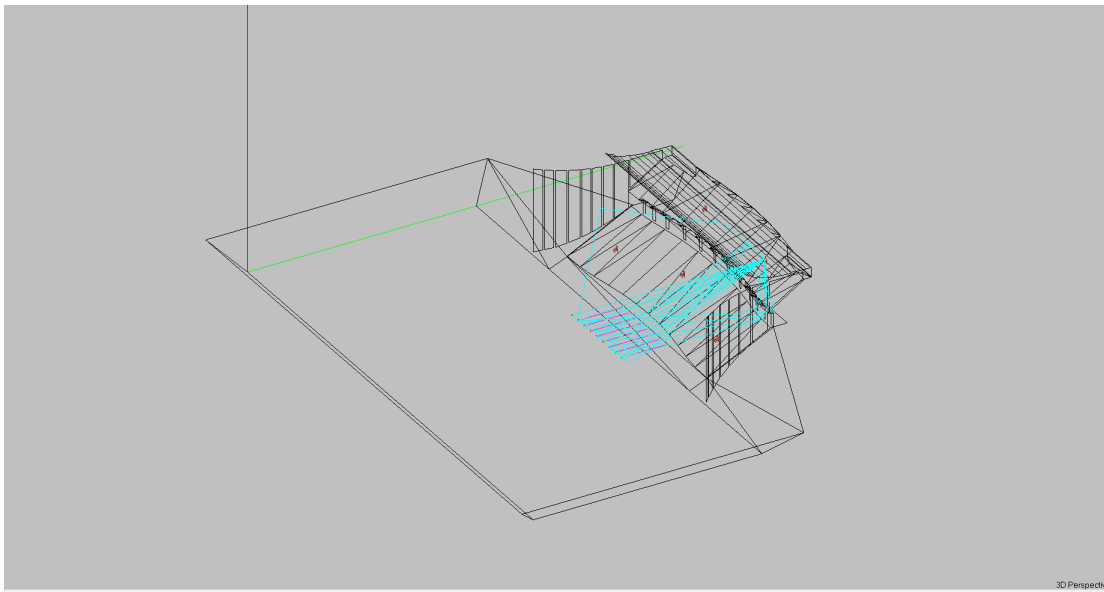
Above, Figure 135, Board Image 14



E

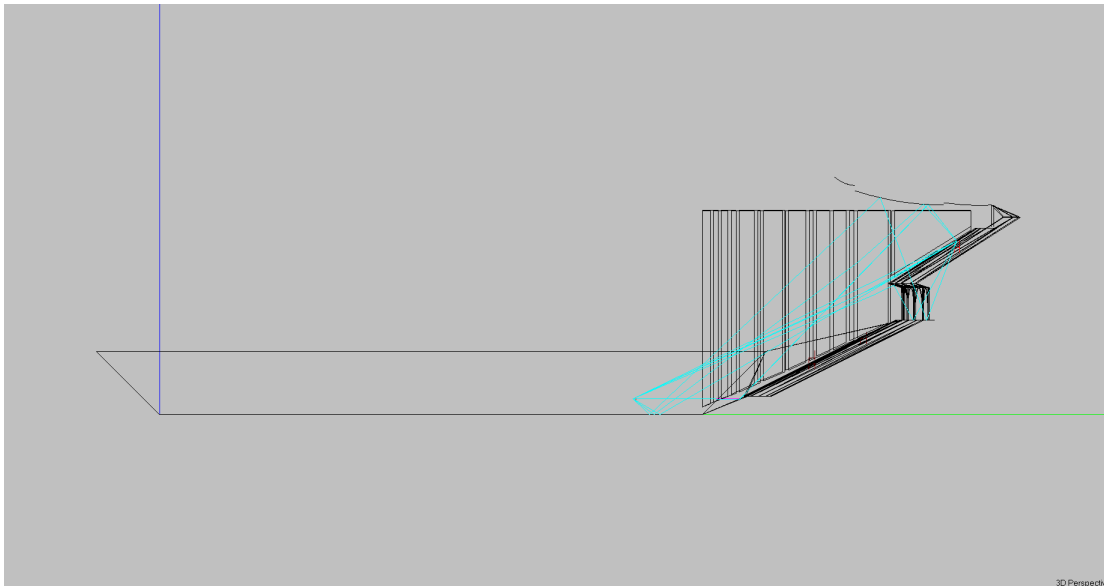


Above, Figures 136, EASE Test 1 Axon; 137, EASE Test 1 Section
Right, Figures 138, EASE Test 2 Axon; 139, EASE Test 2 Section



(c) EASE 4.3 / EASE Hall / 5/2/2014 6:19:09 PM / North Dakota State University / Ganapathy

3D Perspective



(c) EASE 4.3 / EASE Hall / 5/2/2014 6:19:21 PM / North Dakota State University / Ganapathy

3D Perspective

EASE Acoustical Simulations



Figure 140
Installation Photo; Fargo, ND
(Matthew Weiss, May 5, 2014)

INSTALLATION PHOTO

REFERENCES

- Holl, S., Pallasmaa, J., Perez-Gomez, A. (2006) *Questions of Perception: Phenomenology of Architecture*. San Francisco, CA: William Stout Publishers
- Edginton, B. (2010). Architecture as Therapy: A Case Study in the Phenomenology of Design. *Journal of Design History*, 23(1), 83-97.
- Author Not Found. (Date Not Found). Schools. *Shoreview MN Government*. Retrieved October 4, 2013, from <http://www.shoreviewmn.gov/about-us/schools>
- Author Not Found. (2013). Recreation Finder. *Minnesota Department of Natural Resources*. Retrieved October 5, 2013, from <http://www.dnr.state.mn.us/maps/compass.html>
- Author Not Found. (2013). KMSp Tower. *Emporis GMBH*. Retrieved October 5, 2013, from <http://www.emporis.com/building/kmsp-tower-shoreview-mn-usa>
- Norman Davies (1996). *Europe: A History*. Oxford UP. p. 612.
- Norman E. Smith "March Music Notes" Copyright 1993. Published by Program Note Press.
- Weiss, Michael J. "10 Best Towns for Families: 2008". Family Circle. Retrieved April 24, 2011.



name: Matthew James Weiss
address: 1609 University Drive N,
Fargo, ND, 58102
phone: [218] 234-0953
email: weissmatthew10@gmail.com
hometown: Detroit Lakes, MN

Figure 141
Profile Image; Fargo, ND
(Matthew Lunde, Sept. 7, 2013)

**“So do all who live to see such times.
But that is not for them to decide. All
we have to decide is what to do with
the time that is given us.”**